

**HARTZELL PROPELLER INC.**

One Propeller Place  
Piqua, Ohio 45356-2634 U.S.A.  
Telephone: 937.778.4200  
Fax: 937.778.4365

**MANUAL REVISION TRANSMITTAL**  
**Manual 113B (61-10-13)**  
**Compact and Lightweight Compact Non-Feathering (-1)**  
**and Aerobatic (-4) Propeller Overhaul Manual**  
**REVISION 54 dated November 2023**

**Remove Pages:**

**COVER**

cover and inside cover

**REVISION HIGHLIGHTS**

pages 1 thru 4

**LIST OF EFFECTIVE PAGES**

pages 1 thru 2

**CHECK**

pages 5-51 thru 5-52  
pages 5-57 thru 5-62

**ASSEMBLY**

pages 7-1 thru 7-4  
pages 7-13 thru 7-16  
pages 7-39 thru 7-40  
pages 7-55 thru 7-62

**FITS AND CLEARANCES**

pages 8-1 thru 8-8

**ILLUSTRATED PARTS LIST**

pages 10A-1 thru 10A-2  
pages 10A-3 thru 10A-4  
pages 10A-13 thru 10A-16  
pages 10A-33 thru 10A-34  
pages 10A-101 thru 10A-104  
pages 10A-107 thru 10A-122  
pages 10A-125 thru 10A-128  
pages 10A-131 thru 10A-158  
pages 10B-1 thru 10B-2.2  
pages 10B-101 thru 10B-134  
pages 10C-3 thru 10C-4

**Insert Pages:**

**COVER**

cover and inside cover

**REVISION HIGHLIGHTS**

pages 1 thru 4

**LIST OF EFFECTIVE PAGES**

pages 1 thru 4

**CHECK**

pages 5-51 thru 5-52  
pages 5-57 thru 5-62

**ASSEMBLY**

pages 7-1 thru 7-4  
pages 7-13 thru 7-16  
pages 7-39 thru 7-40  
pages 7-55 thru 7-64

**FITS AND CLEARANCES**

pages 8-1 thru 8-8

**ILLUSTRATED PARTS LIST**

pages 10A-1 thru 10A-2  
pages 10A-3 thru 10A-4  
pages 10A-13 thru 10A-16  
pages 10A-33 thru 10A-34  
pages 10A-101 thru 10A-104  
pages 10A-107 thru 10A-122  
pages 10A-125 thru 10A-128  
pages 10A-131 thru 10A-156  
pages 10B-1 thru 10B-2.2  
pages 10B-101 thru 10B-130  
pages 10C-3 thru 10C-4

- NOTE 1:** Record the removal of a Temporary Revision on the Record of Temporary Revisions pages in this manual.
- NOTE 2:** When the manual revision has been inserted in the manual, record the information required on the Record of Revisions pages in this manual.
- NOTE 3:** Pages distributed in this revision may include pages from previous revisions if they are on the opposite side of revised pages. This is done as a convenience to those users who wish to print a two-sided copy of the new revision.

(Blank Page)

Manual No. 113B  
 61-10-13  
 Revision 54  
 November 2023



# Compact and Lightweight Compact Non-Feathering (-1) and Aerobatic (-4) Propeller Overhaul Manual

| Compact<br>Two Blade                       | Compact<br>Three Blade                     | Compact<br>Four Blade |
|--|--|-----------------------|
| ( )HC-( )2Y( )-1( )<br>( )HC-( )2Y( )-4( ) | ( )HC-( )3Y( )-1( )<br>( )HC-( )3Y( )-4( ) | ( )HC-( )4Y( )-1( )   |
|  | Lightweight Compact<br>Three Blade         |                       |
|  | ( )HC-( )3Y1( )-1( )                       |                       |

**Hartzell Propeller Inc.**  
 One Propeller Place  
 Piqua, Ohio 45356-2634 U.S.A.  
 Phone: 937.778.4200  
 Fax: 937.778.4215

HARTZELL PROPELLER OVERHAUL MANUAL  
113B

© 1997, 1999, 2000, 2001, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2012, 2014, 2015,  
2016, 2017, 2018, 2019, 2021, 2022, 2023 Hartzell Propeller Inc. - All rights reserved

REVISION 54 HIGHLIGHTS

Revision 54, dated November 2023, incorporates the following:

Front matter (Cover, Revision Highlights, etc.), has been revised to match this revision.

Minor language/format changes and renumbering, if applicable are marked with a revision bar, but are not listed below.

- CHECK
  - Revised the Figure 5-17, "Hub Plug"
- ASSEMBLY
  - Revised the section, "General"
  - Revised the section, "Compact/Lightweight Compact Hub Assembly Procedures"
  - Revised the section, "Hydraulic Pitch Change Unit Assembly"
  - Revised the section, "Counterweight Slug Installation"
- FITS AND CLEARANCES
  - Revised the section, "Torque Values"
  - Revised Table 8-1, "Torque Values"
  - Revised the section, "Blade Tolerances"
  - Revised Figure 8-2, "Blade Play"
- ILLUSTRATED PARTS LIST
  - Added Hub Model D-2201-17 to propeller parts lists, where applicable
  - Revised the Counterweights/Mounting Bolts and Counterweight Slugs/Mounting Hardware sections for all (-4) propellers
  - Added Hub Model D-2201-2 to propeller parts lists, where applicable

(Blank Page)

REVISION 54 HIGHLIGHTS

1. Introduction

A. General

This is a list of current revisions that have been issued against this manual. Please compare to RECORD OF REVISIONS page to ensure that all revisions have been added to the manual.

B. Components

- (1) Revision No. indicates the revisions incorporated in this manual.
- (2) Issue Date is the date of revision.
- (3) Comments indicates the level of the revision.
  - (a) New Issue is a new manual distribution. The manual is distributed in its entirety. All the revision dates are the same and no change bars are used.
  - (b) Reissue is a revision to an existing manual that includes major content and/or major format changes. The manual is distributed in its entirety. All the revision dates are the same and no change bars are used.
  - (c) Major Revision is a revision to an existing manual that includes major content or minor format changes over a large portion of the manual. The manual is distributed in its entirety. All the revision dates are the same, but change bars are used to indicate the changes incorporated in the latest revision of the manual.
  - (d) Minor Revision is a revision to an existing manual that includes minor content changes to the manual. Only the revised pages of the manual are distributed. Each page retains the date and the change bars associated with the last revision to that page.

| <u>Revision No.</u> | <u>Issue Date</u> | <u>Comments</u> |
|---------------------|-------------------|-----------------|
| Revision 17         | Nov/97            | Total rewrite   |
| Revision 18         | Feb/99            | Minor Revision  |
| Revision 19         | Mar/99            | Minor Revision  |
| Revision 20         | Apr/99            | Minor Revision  |
| Revision 21         | Aug/99            | Minor Revision  |
| Revision 22         | Jun/00            | Major Revision  |
| Revision 23         | Dec/00            | Minor Revision  |
| Revision 24         | Apr/01            | Minor Revision  |
| Revision 25         | Mar/03            | Minor Revision  |
| Revision 26         | Apr/03            | Minor Revision  |

HARTZELL PROPELLER OVERHAUL MANUAL  
113B

| <u>Revision No.</u> | <u>Issue Date</u> | <u>Comments</u> |
|---------------------|-------------------|-----------------|
| Revision 27         | Sep/03            | Minor Revision  |
| Revision 28         | Mar/04            | Minor Revision  |
| Revision 29         | Nov/04            | Minor Revision  |
| Revision 30         | Jun/05            | Minor Revision  |
| Revision 31         | Jun/06            | Minor Revision  |
| Revision 32         | Jul/06            | Minor Revision  |
| Revision 33         | Mar/07            | Minor Revision  |
| Revision 34         | Oct/08            | Minor Revision  |
| Revision 35         | Nov/08            | Minor Revision  |
| Revision 36         | Jan/09            | Minor Revision  |
| Revision 37         | Oct/09            | Minor Revision  |
| Revision 38         | Jul/10            | Minor Revision  |
| Revision 39         | Sep/10            | Minor Revision  |
| Revision 40         | Aug/12            | Minor Revision  |
| Revision 41         | Apr/14            | Minor Revision  |
| Revision 42         | Apr/15            | Minor Revision  |
| Revision 43         | Jul/16            | Minor Revision  |
| Revision 44         | May/17            | Minor Revision  |
| Revision 45         | Mar/18            | Minor Revision  |
| Revision 46         | Feb/19            | Minor Revision  |
| Revision 47         | Feb/21            | Major Revision  |
| Revision 48         | Jul/21            | Minor Revision  |
| Revision 49         | Feb/22            | Minor Revision  |
| Revision 50         | Mar/22            | Minor Revision  |
| Revision 51         | Oct/22            | Minor Revision  |
| Revision 52         | Apr/23            | Major Revision  |
| Revision 53         | Aug/23            | Minor Revision  |
| Revision 54         | Nov/23            | Minor Revision  |



(Blank Page)



(Blank Page)





AIRWORTHINESS LIMITATIONS

1. Airworthiness Limitations

A. Life Limits

- (1) Certain component parts, as well as the entire propeller, may have specific life limits established by the FAA. Such limits require replacement of items after a specific number of hours of use.
- (2) For airworthiness limitations information, refer to the applicable Hartzell Propeller Inc. Owner's Manual.
  - (a) For a propeller that has composite blades, refer to Hartzell Owner's Manual 145 (61-00-45).
  - (b) For a propeller that has metal blades, refer to Hartzell Owner's Manual 115N (61-00-15).

(Blank Page)

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

LIST OF EFFECTIVE PAGES

| Chapter                       | Page                   | Revision Level | Date   |
|-------------------------------|------------------------|----------------|--------|
| Cover and Inside Cover        | Cover and Inside Cover | Rev. 54        | Nov/23 |
| Revision Highlights           | 1 thru 4               | Rev. 54        | Nov/23 |
| Record of Revisions           | 1 thru 2               | Rev. 52        | Apr/23 |
| Record of Temporary Revisions | 1 thru 2               | Rev. 52        | Apr/23 |
| Service Document List         | 1 thru 2               | Rev. 52        | Apr/23 |
| Airworthiness Limitations     | 1 thru 2               | Rev. 52        | Apr/23 |
| List of Effective Pages       | 1 thru 4               | Rev. 54        | Nov/23 |
| Table of Contents             | 1 thru 2               | Rev. 52        | Apr/23 |
| Introduction                  | 1 thru 22              | Rev. 52        | Apr/23 |
| Description and Operation     | 1 thru 6               | Rev. 52        | Apr/23 |
| Testing and Fault Isolation   | 1-1 thru 1-8           | Rev. 52        | Apr/23 |
| Automatic Test Requirements   | 2-1 thru 2-2           | Rev. 52        | Apr/23 |
| Disassembly                   | 3-1 thru 3-12          | Rev. 52        | Apr/23 |
| Cleaning                      | 4-1 thru 4-4           | Rev. 52        | Apr/23 |
| Check                         | 5-1 thru 5-2           | Rev. 52        | Apr/23 |
|                               | 5-2.1 thru 5-2.2       | Rev. 52        | Apr/23 |
|                               | 5-3 thru 5-50          | Rev. 52        | Apr/23 |
|                               | 5-51                   | Rev. 54        | Nov/23 |
|                               | 5-52 thru 5-57         | Rev. 52        | Apr/23 |
|                               | 5-58                   | Rev. 54        | Nov/23 |
|                               | 5-59                   | Rev. 52        | Apr/23 |
|                               | 5-60 thru 5-61         | Rev. 54        | Nov/23 |
|                               | 5-62 thru 5-78         | Rev. 52        | Apr/23 |
| Repair                        | 6-1 thru 6-20          | Rev. 52        | Apr/23 |
| Assembly                      | 7-1 thru 7-2           | Rev. 54        | Nov/23 |
|                               | 7-2.1 thru 7-2.2       | Rev. 54        | Nov/23 |
|                               | 7-3                    | Rev. 52        | Apr/23 |
|                               | 7-4                    | Rev. 54        | Nov/23 |
|                               | 7-5 thru 7-7           | Rev. 53        | Aug/23 |
|                               | 7-8                    | Rev. 52        | Apr/23 |
|                               | 7-9                    | Rev. 53        | Aug/23 |
|                               | 7-10                   | Rev. 52        | Apr/23 |
|                               | 7-11                   | Rev. 53        | Aug/23 |
|                               | 7-12 thru 7-13         | Rev. 52        | Apr/23 |
|                               | 7-14                   | Rev. 54        | Nov/23 |

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

LIST OF EFFECTIVE PAGES

| Chapter                                | Page                 | Revision Level | Date    |
|--|----------------------|----------------|---------|
| Assembly                               | 7-15                 | Rev. 53        | Aug/23  |
|  | 7-16                 | Rev. 54        | Nov/23  |
|  | 7-17 thru 7-19       | Rev. 52        | Apr/23  |
|  | 7-20                 | Rev. 53        | Aug/23  |
|  | 7-21                 | Rev. 52        | Apr/23  |
|  | 7-22                 | Rev. 53        | Aug/23  |
|  | 7-23                 | Rev. 52        | Apr/23  |
|  | 7-24 thru 7-27       | Rev. 53        | Aug/23  |
|  | 7-28                 | Rev. 52        | Apr/23  |
|  | 7-29 thru 7-32       | Rev. 53        | Aug/23  |
|  | 7-33                 | Rev. 52        | Apr/23  |
|  | 7-34                 | Rev. 53        | Aug/23  |
|  | 7-35                 | Rev. 52        | Apr/23  |
|  | 7-36 thru 7-38       | Rev. 53        | Aug/23  |
|  | 7-39                 | Rev. 54        | Nov/23  |
|  | 7-40 thru 7-45       | Rev. 53        | Aug/23  |
|  | 7-46                 | Rev. 52        | Apr/23  |
|  | 7-47 thru 7-55       | Rev. 53        | Aug/23  |
|  | 7-56 thru 7-64       | Rev. 54        | Nov/23  |
|  | Fits and Clearances  | 8-1 thru 8-8   | Rev. 54 |
| Special Tools, Fixtures, and Equipment | 9-1 thru 9-4         | Rev. 52        | Apr/23  |
| Illustrated Parts List                 | 10-1 thru 10-10      | Rev. 52        | Apr/23  |
|  | 10A-1                | Rev. 52        | Apr/23  |
|  | 10A-2                | Rev. 54        | Nov/23  |
|  | 10A-2.1 thru 10A-2.2 | Rev. 52        | Apr/23  |
|  | 10A-3 thru 10A-4     | Rev. 54        | Nov/23  |
|  | 10A-3 thru 10A-12    | Rev. 52        | Apr/23  |
|  | 10A-13               | Rev. 54        | Nov/23  |
|  | 10A-14 thru 10A-15   | Rev. 52        | Apr/23  |
|  | 10A-16               | Rev. 54        | Nov/23  |
|  | 10A-17 thru 10A-32   | Rev. 52        | Apr/23  |
|  | 10A-33               | Rev. 54        | Nov/23  |
|  | 10A-34 thru 10A-100  | Rev. 52        | Apr/23  |
|  | 10A-101              | Rev. 54        | Nov/23  |
|  | 10A-102 thru 10A-103 | Rev. 52        | Apr/23  |

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

LIST OF EFFECTIVE PAGES

| Chapter                | Page                  | Revision Level | Date   |
|------------------------|-----------------------|----------------|--------|
| Illustrated Parts List | 10A-104               | Rev. 54        | Nov/23 |
|                        | 10A-105 thru 10A-106  | Rev. 52        | Apr/23 |
|                        | 10A-107               | Rev. 54        | Nov/23 |
|                        | 10A-108 thru 10A-109  | Rev. 52        | Apr/23 |
|                        | 10A-110 thru 10A-111  | Rev. 54        | Nov/23 |
|                        | 10A-112               | Rev. 52        | Apr/23 |
|                        | 10A-113 thru 10A-114  | Rev. 54        | Nov/23 |
|                        | 10A-115               | Rev. 52        | Apr/23 |
|                        | 10A-116 thru 10A-117  | Rev. 54        | Nov/23 |
|                        | 10A-118               | Rev. 52        | Apr/23 |
|                        | 10A-119 thru 10A-120  | Rev. 54        | Nov/23 |
|                        | 10A-121               | Rev. 53        | Aug/23 |
|                        | 110A-122              | Rev. 54        | Nov/23 |
|                        | 10A-123 thru 10A-124  | Rev. 52        | Apr/23 |
|                        | 10A-125               | Rev. 54        | Nov/23 |
|                        | 10A-126 thru 10A-127  | Rev. 52        | Apr/23 |
|                        | 10A-128               | Rev. 54        | Nov/23 |
|                        | 10A-129 thru 10A-130  | Rev. 52        | Apr/23 |
|                        | 10A-131               | Rev. 54        | Nov/23 |
|                        | 10A-132               | Rev. 52        | Apr/23 |
|                        | 10A-133 thru 10A-156  | Rev. 54        | Apr/23 |
|                        | App-A-1 thru App-A-16 | Rev. 52        | Apr/23 |
|                        | 10B-1                 | Rev. 52        | Apr/23 |
|                        | 10B-2                 | Rev. 54        | Nov/23 |
|                        | 10B-2.1               | Rev. 52        | Apr/23 |
|                        | 10B-2.2               | Rev. 54        | Nov/23 |
|                        | 10B-3                 | Rev. 52        | Apr/23 |
|                        | 10B-4 thru 10B-6      | Rev. 53        | Aug/23 |
|                        | 10B-7 thru 10B-101    | Rev. 52        | Apr/23 |
|                        | 10B-102 thru 10B-130  | Rev. 54        | Nov/23 |
|                        | App-B-1 thru App-B-18 | Rev. 52        | Apr/23 |
|                        | 10C-1 thru 10C-3      | Rev. 52        | Apr/23 |
|                        | 10C-4                 | Rev. 54        | Nov/23 |
|                        | 10C-5 thru 10C-8      | Rev. 52        | Apr/23 |
| App-C-1 thru App-C-8   | Rev. 52               | Apr/23         |        |

LIST OF EFFECTIVE PAGES

| Chapter                  | Page              | Revision Level | Date   |
|--------------------------|-------------------|----------------|--------|
| ■ Illustrated Parts List | 10D-1 thru 10D-12 | Rev. 52        | Apr/23 |
|                          | 10E-1 thru 10E-2  | Rev. 52        | Apr/23 |
|                          | 10E-3             | Rev. 53        | Aug/23 |
|                          | 10E-4             | Rev. 52        | Apr/23 |
|                          | 10E-5             | Rev. 53        | Aug/23 |
|                          | 10E-6 thru 10E-7  | Rev. 52        | Apr/23 |
|                          | 10E-8             | Rev. 53        | Aug/23 |

TABLE OF CONTENTS

|  |      |
|--|------|
| REVISION HIGHLIGHTS .....                  | 1    |
| RECORD OF REVISIONS .....                  | 1    |
| RECORD OF TEMPORARY REVISIONS.....         | 1    |
| SERVICE DOCUMENTS LIST .....               | 1    |
| AIRWORTHINESS LIMITATIONS .....            | 1    |
| LIST OF EFFECTIVE PAGES .....              | 1    |
| TABLE OF CONTENTS.....                     | 1    |
| INTRODUCTION.....                          | 1    |
| DESCRIPTION AND OPERATION.....             | 1    |
| TESTING AND FAULT ISOLATION.....           | 1-1  |
| AUTOMATIC TEST REQUIREMENTS.....           | 2-1  |
| DISASSEMBLY .....                          | 3-1  |
| CLEANING .....                             | 4-1  |
| CHECK.....                                 | 5-1  |
| REPAIR .....                               | 6-1  |
| ASSEMBLY .....                             | 7-1  |
| FITS AND CLEARANCES .....                  | 8-1  |
| SPECIAL TOOL, FIXTURES, and EQUIPMENT..... | 9-1  |
| ILLUSTRATED PARTS LIST .....               | 10-1 |

(Blank Page)

INTRODUCTION - CONTENTS

|   |    |
|---|----|
| 1. General .....                                      | 3  |
| A. Statement of Purpose.....                          | 3  |
| B. Item References .....                              | 4  |
| 2. Reference Publications.....                        | 4  |
| A. Hartzell Propeller Inc. Publications.....          | 4  |
| B. Vendor Publications.....                           | 5  |
| 3. Personnel Requirements .....                       | 6  |
| 4. Special Tooling and Consumable Materials.....      | 6  |
| A. Special Tooling .....                              | 6  |
| B. Consumable Materials.....                          | 6  |
| 5. Safe Handling of Paints and Chemicals .....        | 7  |
| 6. Calendar Limits and Long Term Storage .....        | 7  |
| A. Calendar Limits .....                              | 7  |
| B. Long Term Storage.....                             | 7  |
| 7. Component Life and Overhaul.....                   | 8  |
| A. Component Life .....                               | 8  |
| B. Overhaul.....                                      | 9  |
| 8. Damage/Repair Types .....                          | 10 |
| A. Airworthy/Unairworthy Damage.....                  | 10 |
| B. Minor/Major Repair.....                            | 10 |
| 9. Propeller Critical Parts .....                     | 11 |
| 10. Warranty Service .....                            | 11 |
| 11. Hartzell Propeller Inc. Contact Information ..... | 12 |
| A. Product Support Department.....                    | 12 |
| B. Technical Publications Department .....            | 12 |
| C. Recommended Facilities .....                       | 12 |
| 12. Definitions .....                                 | 13 |
| 13. Abbreviations .....                               | 20 |

(Blank Page)

1. General (Rev. 1)

A. Statement of Purpose

- (1) This manual has been reviewed and accepted by the FAA. Additionally, this manual contains data that has been approved in a manner acceptable to the FAA administrator.
- (2) This manual provides maintenance and overhaul procedures for use in propeller repair stations by personnel that are trained and experienced with Hartzell Propeller Inc. products.
  - (a) This manual does not provide complete information for an inexperienced technician to attempt propeller overhaul without supervision.
- (3) This manual is intended to be the primary source of maintenance and overhaul information for the applicable Hartzell propeller/component models.
  - (a) Propeller models addressed in this manual may be Type Certificated by the FAA, or may be experimental. Experimental parts must not be installed on a Type Certificated propeller. Always use the current illustrated parts list for the assembly of any propeller. Always refer to the aircraft Type Certificate (TC) or Supplemental Type Certificate (STC) to determine installation eligibility of any propeller. If installation eligibility is not identifiable, an additional installation approval, such as FAA form 337 field approval or Supplemental Type Certificate may be required. If in doubt, contact Hartzell Propeller Inc. Product Support.
  - (b) Information published in Service Bulletins, Service Letters, Service Advisories, and Service Instructions may supersede information published in this manual. The reader must consult active Service Bulletins, Service Letters, Service Advisories, and Service Instructions for information that may have not yet been incorporated into the latest revision of this manual.
- (4) This manual makes reference to other Hartzell Propeller Inc. manuals that provide important details for procedures such as anodizing, penetrant inspection, and overhaul procedures for hub units.
- (5) Where possible, this manual is written in the format specified by ATA iSpec 2200.

**B. Item References**

- (1) Item references throughout the text in this manual refer to item numbers in the Illustrated Parts List chapter of this manual. The item numbers appear in parentheses directly following the part name. Only the item base number will appear in the text of the manual. Item base numbers and the alpha variants of the base numbers will appear in the illustrated parts list. There are two reasons for the use of alpha variants:
  - (a) A part may be superseded, replaced, or obsoleted by another part. For example, the pitch change block unit (105733) that is item 320 was superseded by the pitch change block unit (105733-1) that is item 320A.
  - (b) An Illustrated Parts List may contain multiple configurations. Effectivity codes are used to distinguish different part numbers within the same list. For example, one configuration may use a piston (B-2419) that is item 80, yet another configuration uses a piston (104256) that is item 80A. Effectivity codes are very important in the determination of parts in a given configuration.

**2. Reference Publications**

**A. Hartzell Propeller Inc. Publications**

- (1) Information published in Service Bulletins, Service Letters, Service Advisories, and Service Instructions may supersede information published in this manual. The reader must consult active Service Bulletins, Service Letters, Service Advisories, and Service Instructions for information that may have not yet been incorporated into the latest revision of this manual.
- (2) In addition to this manual, one or more of the following publications are required for information regarding specific recommendations and procedures to maintain propeller assemblies that are included in this manual.

| <b>Manual No.<br/>(ATA No.)</b> | <b>Available at<br/>www.hartzellprop.com</b> | <b>Hartzell Propeller Inc. Manual Title</b>   |
|---------------------------------|--|---|
| n/a                             | Yes  | Active Service Bulletins, Service Letters, Service Instructions, and Service Advisories |
| Manual 115N<br>(61-00-15)       | Yes  | Owner's Manual and Logbook for Compact Models with Aluminum Blades                      |
| Manual 127<br>(61-16-27)        | Yes  | Metal Spinner Maintenance Manual  |
| Manual 133C<br>(61-13-33)       | -  | Aluminum Blade Overhaul Manual  |

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| <b>Manual No.<br/>(ATA No.)</b> | <b>Available at<br/>www.hartzellprop.com</b> | <b>Hartzell Propeller Inc. Manual Title</b>   |
|---------------------------------|--|---|
| Manual 135F<br>(61-13-35)       | -  | Composite Blade Overhaul Manual   |
| Manual 145<br>(61-00-45)        | Yes  | Owner's Manual and Logbook for Compact and Lightweight Compact Propeller Models with Composite Blades |
| Manual 148<br>(61-16-48)        | Yes  | Composite Spinner Maintenance Manual  |
| Manual 159<br>(61-02-59)        | Yes  | Application Guide   |
| Manual 165A<br>(61-00-65)       | Yes  | Illustrated Tool and Equipment Manual   |
| Manual 170<br>(61-13-70)        | Yes  | Composite Propeller Blade Field Maintenance and Minor Repair Manual                                   |
| Manual 180<br>(30-61-80)        | Yes  | Propeller Ice Protection System Manual  |
| Manual 202A<br>(61-01-02)       | Vol. 7, Yes,<br>Vol. 11, Yes                 | Standard Practices Manual,<br>Volumes 1 through 11  |

**B. Vendor Publications**

None.

3. Personnel Requirements (Rev. 1)

A. Service and Maintenance Procedures in this Manual

- (1) Personnel performing the service and maintenance procedures in this manual are expected to have the required equipment/tooling, training, and certifications (when required by the applicable Aviation Authority) to accomplish the work in a safe and airworthy manner.
- (2) Compliance to the applicable regulatory requirements established by the Federal Aviation Administration (FAA) or international equivalent is mandatory for anyone performing or accepting responsibility for the inspection and/or repair of any Hartzell Propeller Inc. product.
  - (a) Maintenance records must be kept in accordance with the requirements established by the Federal Aviation Administration (FAA) or international equivalent.
  - (b) Refer to Federal Aviation Regulation (FAR) Part 43 for additional information about general aviation maintenance requirements.

4. Special Tooling and Consumable Materials (Rev. 1)

A. Special Tooling

- (1) Special tooling may be required for procedures in this manual. For further tooling information, refer to Hartzell Propeller Inc. Illustrated Tool and Equipment Manual 165A (61-00-65).
  - (a) Tooling reference numbers appear with the prefix “TE” directly following the tool name to which they apply. For example, a template that is reference number 133 will appear as: template TE133.

B. Consumable Materials

- (1) Consumable materials are referenced in certain sections throughout this manual. Specific approved materials are listed in the Consumable Materials chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).
  - (a) Consumable material reference numbers appear with the prefix “CM” directly following the material to which they apply. For example, an adhesive that is reference number 16 will appear as: adhesive CM16. Only the material(s) specified can be used.

5. Safe Handling of Paints and Chemicals (Rev. 1)

A. Instructions for Use

- (1) Always use caution when handling or being exposed to paints and/or chemicals during propeller overhaul and/or maintenance procedures.
- (2) Before using paint or chemicals, always read the manufacturer's label on the container(s) and follow specified instructions and procedures for storage, preparation, mixing, and/or application.
- (3) Refer to the product's Material Safety Data Sheet (MSDS) for detailed information about physical properties, health, and physical hazards of any paint or chemical.

6. Calendar Limits and Long Term Storage (Rev. 2)

A. Calendar Limits

- (1) The effects of exposure to the environment over a period of time create a need for propeller overhaul regardless of flight time.
- (2) A calendar limit between overhauls is specified in Hartzell Propeller Inc. Service Letter HC-SL-61-61Y.
- (3) Experience has shown that special care, such as keeping an aircraft in a hangar, is not sufficient to permit extension of the calendar limit.
- (4) The start date for the calendar limit is when the propeller is first installed on an engine.
- (5) The calendar limit is not interrupted by subsequent removal and/or storage.
- (6) The start date for the calendar limit must not be confused with the warranty start date, that is with certain exceptions, the date of installation by the first retail customer.

B. Long Term Storage

- (1) Propellers that have been in storage have additional inspection requirements before installation. Refer to the Packaging and Storage chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

7. Component Life and Overhaul (Rev. 2)

**WARNING:** CERTAIN PROPELLER COMPONENTS USED IN NON-AVIATION APPLICATIONS ARE MARKED WITH DIFFERENT PART NUMBERS TO DISTINGUISH THEM FROM COMPONENTS USED IN AVIATION APPLICATIONS. DO NOT ALTER THE PART NUMBERS SHOWN ON PARTS DESIGNATED FOR NON-AVIATION APPLICATIONS OR OTHERWISE APPLY THOSE PARTS FOR USE ON AVIATION APPLICATIONS.

A. Component Life

- (1) Component life is expressed in terms of hours of service (Time Since New, TSN) and in terms of hours of service since overhaul (Time Since Overhaul, TSO).

**NOTE:** TSN/TSO is considered as the time accumulated between rotation and landing, i.e., flight time.

- (2) Time Since New (TSN) and Time Since Overhaul (TSO) records for the propeller hub and blades must be maintained in the propeller logbook.
- (3) Both TSN and TSO are necessary for defining the life of the component. Certain components, or in some cases and entire propeller, may be "life limited," which means that they must be replaced after a specified period of use (TSN).
- (a) It is a regulatory requirement that a record of the Time Since New (TSN) be maintained for all life limited parts.
- (b) Refer to the Airworthiness Limitations chapter in the applicable Hartzell Propeller Inc. Owner's Manual for a list of life limited components.
- (4) When a component or assembly undergoes an overhaul, the TSO is returned to zero hours.
- (a) Time Since New (TSN) can never be returned to zero.
- (b) Repair without overhaul does not affect TSO or TSN.
- (5) Blades and hubs are sometimes replaced while in service or at overhaul.
- (a) Maintaining separate TSN and TSO histories for a replacement hub or blade is required.
- (b) Hub replacement
- 1 If the hub is replaced, the replacement hub serial number must be recorded (the entry signed and dated) in the propeller logbook.
  - 2 The propeller will be identified with the serial number of the replacement hub.

**NOTE:** Propeller assembly serial numbers are impression stamped on the hub. For stamping information, refer to the Parts Identification and Marking chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

- 3 The TSO and TSN of the replacement hub must be recorded and maintained in the propeller logbook.
- 4 If tracking any component(s) other than the hub/blades, maintain these TSN/TSO records separately in the propeller logbook.

NOTE: Hub replacement does not affect the TSN/TSO of any other propeller components.

#### B. Overhaul

- (1) Overhaul is the periodic disassembly, cleaning, inspecting, repairing as necessary, reassembling, and testing in accordance with approved standards and technical data approved by Hartzell Propeller Inc.
- (2) The overhaul interval is based on hours of service, i.e., flight time, or on calendar time.
  - (a) Overhaul intervals are specified in Hartzell Propeller Inc. Service Letter HC-SL-61-61Y.
  - (b) At such specified periods, the propeller hub assembly and the blade assemblies must be completely disassembled and inspected for cracks, wear, corrosion, and other unusual or abnormal conditions.
- (3) Overhaul must be completed in accordance with the latest revision of the applicable component maintenance manual and other publications applicable to, or referenced in, the component maintenance manual.
  - (a) Parts that are not replaced at overhaul must be inspected in accordance with the check criteria in the applicable Hartzell Propeller Inc. component maintenance manual.
  - (b) Parts that must be replaced at overhaul are identified by a "Y" in the O/H column of the Illustrated Parts List in the applicable Hartzell Propeller Inc. component maintenance manual.
- (4) The information in this manual supersedes data in all previously published revisions of this manual.

8. Damage/Repair Types (Rev. 1)

A. Airworthy/Unairworthy Damage

- (1) Airworthy damage is a specific condition to a propeller component that is within the airworthy damage limits specified in the applicable Hartzell Propeller Inc. component maintenance manual.
  - (a) Airworthy damage does not affect the safety or flight characteristics of the propeller and conforms to its type design.
  - (b) Airworthy damage does not require repair before further flight, but should be repaired as soon as possible to prevent degradation of the damage.
- (2) Unairworthy damage is specific condition to a propeller component that exceeds the airworthy damage limits specified in the applicable Hartzell Propeller Inc. component maintenance manual
  - (a) Unairworthy damage can affect the safety or flight characteristics of the propeller and does not conform to its type design.
  - (b) Unairworthy damage must be repaired before the propeller is returned to service.

B. Minor/Major Repair

- (1) Minor Repair
  - (a) Minor repair is that which may be done safely in the field by a certified aircraft mechanic.
    - 1 For serviceable limits and repair criteria for Hartzell propeller components, refer to the applicable Hartzell Propeller Inc. component maintenance manual.
- (2) Major Repair
  - (a) Major repair cannot be done by elementary operations.
  - (b) Major repair work must be accepted by an individual that is certified by the Federal Aviation Administration (FAA) or international equivalent.
    - 1 Hartzell recommends that individuals performing major repairs also have a Factory Training Certificate from Hartzell Propeller Inc.
    - 2 The repair station must meet facility, tooling, and personnel requirements and is required to participate in Hartzell Propeller Inc. Sample Programs as defined in the Approved Facilities chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

9. Propeller Critical Parts (Rev. 1)

A. Propeller Critical Parts

- (1) Procedures in this manual may involve Propeller Critical Parts (PCP).
  - (a) These procedures have been substantiated based on Engineering analysis that expects this product will be operated and maintained using the procedures and inspections provided in the Instructions for Continued Airworthiness (ICA) for this product.
  - (b) Refer to the Illustrated Parts List chapter in the applicable Hartzell Propeller Inc. maintenance manual to identify the Propeller Critical Parts.
- (2) Numerous propeller system parts can produce a propeller Major or Hazardous effect, even though those parts may not be considered as Propeller Critical Parts.
  - (a) The operating and maintenance procedures and inspections provided in the ICA for this product are, therefore, expected to be accomplished for all propeller system parts.

10. Warranty Service (Rev. 1)

A. Warranty Claims

- (1) If you believe you have a warranty claim, contact the Hartzell Propeller Inc. Product Support Department to request a *Warranty Application* form. Complete this form and return it to Hartzell Product Support for evaluation **before proceeding with repair or inspection work**. Upon receipt of this form, the Hartzell Product Support Department will provide instructions on how to proceed.
  - (a) For Hartzell Propeller Inc. Product Support Department contact information, refer to the “Contact Information” section in this chapter.

11. Hartzell Propeller Inc. Contact Information (Rev. 2)

A. Product Support Department

- (1) Contact the Product Support Department of Hartzell Propeller Inc. about any maintenance problems or to request information not included in this publication.

NOTE: When calling from outside the United States, dial (001) before dialing the telephone numbers below.

(a) Hartzell Propeller Inc. Product Support may be reached during business hours (8:00 a.m. through 5:00 p.m., United States Eastern Time) at (937) 778-4379 or at (800) 942-7767, toll free from the United States and Canada.

(b) Hartzell Propeller Inc. Product Support can also be reached by fax at (937) 778-4215, and by e-mail at [techsupport@hartzellprop.com](mailto:techsupport@hartzellprop.com).

(c) After business hours, you may leave a message on our 24 hour product support line at (937) 778-4376 or at (800) 942-7767, toll free from the United States and Canada.

1 A technical representative will contact you during normal business hours.

2 Urgent AOG support is also available 24 hours per day, seven days per week via this message service.

(d) Additional information is available on the Hartzell Propeller Inc. website at [www.hartzellprop.com](http://www.hartzellprop.com).

B. Technical Publications Department

- (1) For Hartzell Propeller Inc. service literature and revisions, contact:

|   |  |
|---|--|
| Hartzell Propeller Inc.                 | Telephone: 937.778.4200  |
| Attn: Technical Publications Department | Fax: 937.778.4215  |
| One Propeller Place                     | E-mail: <a href="mailto:manuals@hartzellprop.com">manuals@hartzellprop.com</a> |
| Piqua, Ohio 45356-2634 U.S.A.           |  |

C. Recommended Facilities

- (1) Hartzell Propeller Inc. recommends using Hartzell-approved distributors and repair facilities for the purchase, repair, and overhaul of Hartzell propeller assemblies or components.
- (2) Information about the Hartzell Propeller Inc. worldwide network of aftermarket distributors and approved repair facilities is available on the Hartzell website at [www.hartzellprop.com](http://www.hartzellprop.com).

12. Definitions (Rev. 4)

A basic understanding of the following terms will assist in maintaining and operating Hartzell Propeller Inc. propeller systems.

| <b>Term</b>           | <b>Definition</b>   |
|-----------------------|---|
| Annealed              | Softening of material due to overexposure to heat   |
| Aviation Certified    | Intended for FAA or international equivalent type certificated aircraft applications. A TC and PC number must be stamped on the hub, and a PC number must be stamped on blades.   |
| Aviation Experimental | Intended for aircraft/propeller applications not certified by the FAA or international equivalent. Products marked with an "X" at or near the end of the model number or part number are not certified by the FAA or international equivalent and are not intended to use on certificated aircraft.   |
| Beta Operation        | A mode of pitch control that is directed by the pilot rather than by the propeller governor   |
| Beta Range            | Blade angles between low pitch and maximum reverse blade angle  |
| Beta System           | Parts and/or equipment related to operation (manual control) of propeller blade angle between low pitch blade angle and full reverse blade angle  |
| Blade Angle           | Measurement of blade airfoil location described as the angle between the blade airfoil and the surface described by propeller rotation  |
| Blade Centerline      | An imaginary reference line through the length of a blade around which the blade rotates  |
| Blade Station         | Refers to a location on an individual blade for blade inspection purposes. It is a measurement from the blade "zero" station to a location on a blade, used to apply blade specification data in blade overhaul manuals.<br><u>Note:</u> Do not confuse blade station with reference blade radius; they may not originate at the same location. |
| Blemish               | An imperfection with visible attributes, but having no impact on safety or utility  |
| Brinelling            | A depression caused by failure of the material in compression   |

| <b>Term</b>          | <b>Definition</b>   |
|----------------------|---|
| Bulge                | An outward curve or bend  |
| Camber               | The surface of the blade that is directed toward the front of the aircraft. It is the low pressure, or suction, side of the blade. The camber side is convex in shape over the entire length of the blade.  |
| Chord                | A straight line distance between the leading and trailing edges of an airfoil   |
| Chordwise            | A direction that is generally from the leading edge to the trailing edge of an airfoil  |
| Co-bonded            | The act of bonding a composite laminate and simultaneously curing it to some other prepared surface   |
| Composite Material   | Kevlar <sup>®</sup> , carbon, or fiberglass fibers bound together with, or encapsulated within an epoxy resin   |
| Compression Rolling  | A process that provides improved strength and resistance to fatigue   |
| Constant Force       | A force that is always present in some degree when the propeller is operating   |
| Constant Speed       | A propeller system that employs a governing device to maintain a selected engine RPM  |
| Corrosion (Aluminum) | The chemical or electrochemical attack by an acid or alkaline that reacts with the protective oxide layer and results in damage of the base aluminum. Part failure can occur from corrosion due to loss of structural aluminum converted to corrosion product, pitting, a rough etched surface finish, and other strength reduction damage caused by corrosion.   |
| Corrosion (Steel)    | Typically, an electrochemical process that requires the simultaneous presence of iron (component of steel), moisture and oxygen. The iron is the reducing agent (gives up electrons) while the oxygen is the oxidizing agent (gains electrons). Iron or an iron alloy such as steel is oxidized in the presence of moisture and oxygen to produce rust. Corrosion is accelerated in the presence of salty water or acid rain. Part failure can occur from corrosion due to loss of structural steel converted to corrosion product, pitting, a rough etched surface finish and other strength reduction damage caused by corrosion. |

| <b>Term</b>                  | <b>Definition</b>   |
|------------------------------|---|
| Corrosion Product (Aluminum) | A white or dull gray powdery material that has an increased volume appearance (compared to non-corroded aluminum). Corrosion product is not to be confused with damage left in the base aluminum such as pits, worm holes, and etched surface finish.   |
| Corrosion Product (Steel)    | When iron or an iron alloy such as steel corrodes, a corrosion product known as rust is formed. Rust is an iron oxide which is reddish in appearance and occupies approximately six times the volume of the original material. Rust is flakey and crumbly and has no structural integrity. Rust is permeable to air and water, therefore the interior metallic iron (steel) beneath a rust layer continues to corrode. Corrosion product is not to be confused with damage left in the base steel such as pits and etched surface finish. |
| Crack                        | Irregularly shaped separation within a material, sometimes visible as a narrow opening at the surface   |
| Debond                       | Separation of two materials that were originally bonded together in a separate operation  |
| Defect                       | An imperfection that affects safety or utility  |
| Delamination                 | Internal separation of the layers of composite material   |
| Dent                         | The permanent deflection of the cross section that is visible on both sides with no visible change in cross sectional thickness   |
| Depression                   | Surface area where the material has been compressed but not removed   |
| Distortion                   | Alteration of the original shape or size of a component   |
| Edge Alignment               | Distance from the blade centerline to the leading edge of the blade   |
| Erosion                      | Gradual wearing away or deterioration due to action of the elements   |
| Exposure                     | Leaving material open to action of the elements   |

| <b>Term</b>                | <b>Definition</b>   |
|----------------------------|---|
| Face                       | The surface of the blade that is directed toward the rear of the aircraft. The face side is the high pressure, or thrusting, side of the blade. The blade airfoil sections are normally cambered or curved such that the face side of the blade may be flat or even concave in the midblade and tip region. |
| Face Alignment             | Distance from the blade centerline to the highest point on the face side perpendicular to the chord line  |
| Feathering                 | The capability of blades to be rotated parallel to the relative wind, thus reducing aerodynamic drag  |
| Fraying                    | A raveling or shredding of material   |
| Fretting                   | Damage that develops when relative motion of small displacement takes place between contacting parts, wearing away the surface  |
| Galling                    | To fret or wear away by friction  |
| Gouge                      | Surface area where material has been removed  |
| Hazardous Propeller Effect | The hazardous propeller effects are defined in Title 14 CFR section 35.15(g)(1)   |
| Horizontal Balance         | Balance between the blade tip and the center of the hub   |
| Impact Damage              | Damage that occurs when the propeller blade or hub assembly strikes, or is struck by, an object while in flight or on the ground  |
| Inboard                    | Toward the butt of the blade  |
| Intergranular Corrosion    | Corrosion that attacks along the grain boundaries of metal alloys   |
| Jog                        | A term used to describe movement up/down, left/right, or on/off in short incremental motions  |
| Laminate                   | To unite composite material by using a bonding material, usually with pressure and heat   |
| Lengthwise                 | A direction that is generally parallel to the pitch axis  |
| Loose Material             | Material that is no longer fixed or fully attached  |
| Low Pitch                  | The lowest blade angle attainable by the governor for constant speed operation  |

| <b>Term</b>               | <b>Definition</b>   |
|---------------------------|---|
| Major Propeller Effect    | The major propeller effects are defined in Title 14 CFR section 35.15(g)(2)   |
| Minor Deformation         | Deformed material not associated with a crack or missing material   |
| Monocoque                 | A type of construction in which the outer skin carries all or a major part of the load  |
| Nick                      | Removal of paint and possibly a small amount of material  |
| Non-Aviation Certified    | Intended for non-aircraft application, such as Hovercraft or Wing-in-Ground effect (WIG) applications. These products are certificated by an authority other than FAA. The hub and blades will be stamped with an identification that is different from, but comparable to TC and PC. |
| Non-Aviation Experimental | Intended for non-aircraft application, such as Hovercraft or Wing-In-Ground effect (WIG) applications. Products marked with an "X" at or near the end of the model number or part number are not certified by any authority and are not intended for use on certificated craft.       |
| Onspeed                   | Condition in which the RPM selected by the pilot through the propeller control/condition lever and the actual engine (propeller) RPM are equal  |
| Open Circuit              | Connection of high or infinite resistance between points in a circuit which are normally lower  |
| Outboard                  | Toward the tip of the blade   |
| Overhaul                  | The periodic disassembly, inspection, repair, refinish, and reassembly of a propeller assembly to maintain airworthiness  |
| Overspeed                 | Condition in which the RPM of the propeller or engine exceeds predetermined maximum limits; the condition in which the engine (propeller) RPM is higher than the RPM selected by the pilot through the propeller control/condition lever  |
| Pitch                     | Same as "Blade Angle"   |
| Pitting                   | Formation of a number of small, irregularly shaped cavities in surface material caused by corrosion or wear   |

| Term                     | Definition   |
|--------------------------|--|
| Pitting (Linear)         | The configuration of the majority of pits forming a pattern in the shape of a line   |
| Porosity                 | An aggregation of microvoids. See “voids”.   |
| Propeller Critical Parts | A part on the propeller whose primary failure can result in a hazardous propeller effect, as determined by the safety analysis required by Title 14 CFR section 35.15  |
| Reference Blade Radius   | Refers to the propeller reference blade radius in an assembled propeller, e.g., 30-inch radius. A measurement from the propeller hub centerline to a point on a blade, used for blade angle measurement in an assembled propeller. An adhesive stripe (blade angle reference tape CM160) is usually located at the reference blade radius location.<br><u>Note:</u> Do not confuse <i>reference blade radius</i> with <i>blade station</i> ; they may not originate at the same point. |
| Reversing                | The capability of rotating blades to a position to generate reverse thrust to slow the aircraft or back up   |
| Scratch                  | Same as “Nick”   |
| Short Circuit            | Connection of low resistance between points on a circuit between which the resistance is normally much greater   |
| Shot Peening             | Process where steel shot is impinged on a surface to create compressive surface stress, that provides improved strength and resistance to fatigue  |
| Single Acting            | Hydraulically actuated propeller that utilizes a single oil supply for pitch control   |
| Split                    | Delamination of blade extending to the blade surface, normally found near the trailing edge or tip   |
| Station Line             | See "Blade Station"  |
| Synchronizing            | Adjusting the RPM of all the propellers of a multi-engine aircraft to the same RPM   |
| Synchrophasing           | A form of propeller sychronization in which not only the RPM of the engines (propellers) are held constant, but also the position of the propellers in relation to each other  |

| <b>Term</b>               | <b>Definition</b>  |
|---------------------------|--|
| Ticking                   | A series of parallel marks or scratches running circumferentially around the diameter of the blade   |
| Track                     | In an assembled propeller, a measurement of the location of the blade tip with respect to the plane of rotation, used to verify face alignment and to compare blade tip location with respect to the locations of the other blades in the assembly |
| Trailing Edge             | The aft edge of an airfoil over which the air passes last  |
| Trimline                  | Factory terminology referring to where the part was trimmed to length  |
| Underspeed                | The condition in which the actual engine (propeller) RPM is lower than the RPM selected by the pilot through the propeller control/condition lever   |
| Unidirectional Material   | A composite material in which the fibers are substantially oriented in the same direction  |
| Variable Force            | A force that may be applied or removed during propeller operation  |
| Vertical Balance          | Balance between the leading and trailing edges of a two-blade propeller with the blades positioned vertically  |
| Voids                     | Air or gas that has been trapped and cured into a laminate   |
| Windmilling               | The rotation of an aircraft propeller caused by air flowing through it while the engine is not producing power   |
| Woven Fabric              | A material constructed by interlacing fiber to form a fabric pattern   |
| Wrinkle (aluminum blade)  | A wavy appearance caused by high and low material displacement   |
| Wrinkle (composite blade) | Overlap or fold within the material  |

13. Abbreviations (Rev. 2)

| <b>Abbreviation</b> | <b>Term</b>                              |
|---------------------|--|
| AD                  | Airworthiness Directives                 |
| AMM                 | Aircraft Maintenance Manual              |
| AOG                 | Aircraft on Ground                       |
| AR                  | As Required                              |
| ATA                 | Air Transport Association                |
| CSU                 | Constant Speed Unit                      |
| FAA                 | Federal Aviation Administration          |
| FH                  | Flight Hour                              |
| FM                  | Flight Manual                            |
| FMS                 | Flight Manual Supplement                 |
| Ft-Lb               | Foot-Pound                               |
| HMI                 | Human Machine Interface                  |
| ICA                 | Instructions for Continued Airworthiness |
| ID                  | Inside Diameter                          |
| In-Lb               | Inch-Pound                               |
| IPL                 | Illustrated Parts List                   |
| IPS                 | Inches Per Second                        |
| kPa                 | Kilopascals                              |
| Lb(s)               | Pound(s)                                 |
| Max.                | Maximum                                  |
| Min.                | Minimum                                  |
| MIL-X-XXX           | Military Specification                   |
| MPI                 | Major Periodic Inspection (Overhaul)     |
| MS                  | Military Standard                        |
| MSDS                | Material Safety Data Sheet               |
| N                   | Newtons                                  |

| <b>Abbreviation</b> | <b>Term</b>                                    |
|---------------------|--|
| N/A                 | Not Applicable                                 |
| NAS                 | National Aerospace Standards                   |
| NASM                | National Aerospace Standards, Military         |
| NDT                 | Nondestructive Testing                         |
| NIST                | National Institute of Standards and Technology |
| N•m                 | Newton-Meters                                  |
| OD                  | Outside Diameter                               |
| OPT                 | Optional                                       |
| PC                  | Production Certificate                         |
| PCP                 | Propeller Critical Part                        |
| PLC                 | Programmable Logic Controller                  |
| PMB                 | Plastic Media Blasting (Cleaning)              |
| POH                 | Pilot's Operating Handbook                     |
| PSI                 | Pounds per Square Inch                         |
| RF                  | Reference                                      |
| RPM                 | Revolutions per Minute                         |
| SAE                 | Society of Automotive Engineers                |
| STC                 | Supplemental Type Certificate                  |
| TBO                 | Time Between Overhaul                          |
| TC                  | Type Certificate                               |
| TSI                 | Time Since Inspection                          |
| TSN                 | Time Since New                                 |
| TSO                 | Time Since Overhaul                            |
| UID                 | Unique Identification                          |
| WIG                 | Wing-In-Ground-Effect                          |

(Blank Page)

DESCRIPTION AND OPERATION - CONTENTS

|  |   |
|--|---|
| 1. General .....   | 3 |
| A. Propeller/Blade Model Designation .....                     | 3 |
| 2. Operation .....   | 4 |
| A. Compact Constant Speed Non-Feathering Propellers (-1) ..... | 4 |
| B. Constant Speed Aerobatic Propellers (-4).....               | 4 |
| 3. Model Designation System .....                              | 5 |
| A. Propeller Model Designation .....                           | 5 |
| B. Blade Shank Designation .....                               | 5 |
| 4. R-flange Hub Substitution for K-flange Hub.....             | 5 |
| A. Hub Substitutions .....                                     | 5 |
| 5. Lightweight Compact Propellers .....                        | 6 |
| A. Description of a Lightweight Compact Propeller .....        | 6 |

(Blank Page)

1. General (Rev. 1)

A. Propeller/Blade Model Designation

- (1) Hartzell Propeller Inc. uses a model number designation system to identify specific propeller and blade assemblies. The propeller model number and blade model number are separated by a slash ( / ).
  - (a) Example: *propeller model number / blade model number*
- (2) The propeller model number is impression stamped on the propeller hub.
  - (a) For additional information about the propeller model number designation system, refer to the applicable Hartzell Propeller Inc. owner's manual.
- (3) The blade model number is impression stamped on the butt end of the blade, and also identified by a label on the cylinder.
  - (a) For additional information about the model number designation system for composite blades, refer to Hartzell Propeller Inc. Composite Blade Overhaul Manual 135F (61-13-35).
  - (b) For additional information about the model number designation system for aluminum blades, refer to Hartzell Propeller Inc. Aluminum Blade Overhaul Manual 133C (61-13-33).

## 2. Operation

### A. Compact Constant Speed Non-Feathering Propellers (-1 )

- (1) Constant speed non-feathering propellers utilize oil pressure from an engine mounted governor to move the blades into high pitch or reduced RPM. A spring and centrifugal twisting moment of the blades moves them to low pitch in the absence of governor oil pressure.

### B. Constant Speed Aerobatic Propellers (-4)

- (1) Constant speed aerobatic propellers utilize oil pressure from an engine mounted governor to move the blades into low pitch to increase engine RPM. Counterweights on the blade shanks move the propeller to high pitch to decrease engine RPM. This arrangement is necessary because aerobatic aircraft occasionally encounter situations where the engine is supplying little or no oil pressure. If sufficient oil pressure for blade pitch control is lost at any time, the propeller blade pitch will move to high pitch to avoid overspeeding. Movement to high pitch occurs because the blade counterweights are no longer opposed by hydraulic oil pressure. The blade counterweights are then free to increase blade pitch toward high pitch.
- (2) Constant speed aerobatic propellers utilizing an accumulator (HC-C3YR-1A) work in the same manner as constant speed non-feathering propellers. Oil pressure from an engine mounted governor moves the blades to high pitch or reduced RPM. The centrifugal twisting moment of the blades moves them to low pitch in the absence of governor oil pressure. During inverted flight or in maneuvers which cause engine oil pressure to be less than the pressure from the accumulator, a check valve allows accumulator oil to be supplied to the governor to maintain the appropriate pitch and prevent overspeed.

### 3. Model Designation System

#### A. Propeller Model Designation

- (1) Hartzell Propeller Inc. uses a propeller model number designation system to identify specific propeller and blade assemblies. An example of a propeller model number would be HC-C3YR-1RF/F8468A-6R, with the slash mark separating the propeller designation from the blade designation.
- (2) The propeller model number is impression stamped on the propeller hub. The blade model number is impression stamped on the butt end of the blade, as well as ink stamped or identified by a label on the camber side of the blade.
- (3) Refer to Hartzell Propeller Inc. Application Guide Manual 159 (61-02-59) or the applicable owner's manual for additional information about the model number designation system.

#### B. Blade Shank Designation

- (1) For more information about blade shank designs, refer to Hartzell Propeller Inc. Aluminum Blade Overhaul Manual 133C (61-13-33) or Composite Blade Overhaul Manual 135F (61-13-35).

### 4. R-flange Hub Substitution for K-flange Hub

#### A. Hub Substitutions

- (1) Two similar flange designs have been used to mount Hartzell propellers to Lycoming engines -- the K-flange and the R-flange. The flange type is part of the propeller model designation system.
- (2) Hartzell Propeller Inc. has been manufacturing an improved design of the R-flange propeller hub for installation on K-flange and R-flange applications. This permits the manufacturing of one flange shape without requiring the Aircraft Type Certificates to be changed to add additional propeller model designations.
- (3) R-flange propeller hubs will fit and operate properly on K-flange engines; however, K-flange propellers manufactured with the original hub design will not fit on R-flange engines.
- (4) If the replacement of the hub is required, the overhauling facility must make sure that the propeller model designation, i.e., K or R, is correct according to the aircraft type certificate. Overhaul facilities may reidentify R-flange hubs as K-flange hubs (when required by the model designation) by restamping the hub model designation.
- (5) Converting an original design K-flange to an R-flange hub is not permitted.

5. Lightweight Compact Propellers

A. Description of a Lightweight Compact Propeller

- (1) A lightweight compact propeller has a unique structure that is only compatible with certain blade models.
  - (a) For example, a three-blade lightweight compact propeller uses 9 hub clamping bolts instead of 15 hub clamping bolts that are used for a compact hub.

TESTING AND FAULT ISOLATION - CONTENTS

|   |     |
|---|-----|
| 1. Troubleshooting Guide .....                                | 1-3 |
| A. Pitch Control Difficulty .....                             | 1-3 |
| B. Friction.....  | 1-3 |
| C. Abnormal Propeller Vibration .....                         | 1-5 |
| D. Blades Not Tracking .....                                  | 1-5 |
| E. End Play (Leading Edge to Trailing Edge) of the Blade..... | 1-5 |
| F. End Play (Fore-and-Aft) of the Blade .....                 | 1-5 |
| G. In-and-Out Play of the Blade .....                         | 1-5 |
| H. Radial Play in the Blade.....                              | 1-6 |
| I. Oil Leakage .....  | 1-6 |
| J. External Grease Leakage.....                               | 1-6 |
| 2. Lightning Strike on Hub or Blade .....                     | 1-7 |

LIST OF FIGURES

|                           |                  |     |
|---------------------------|------------------|-----|
| Checking Blade Play ..... | Figure 1-1 ..... | 1-4 |
|---------------------------|------------------|-----|

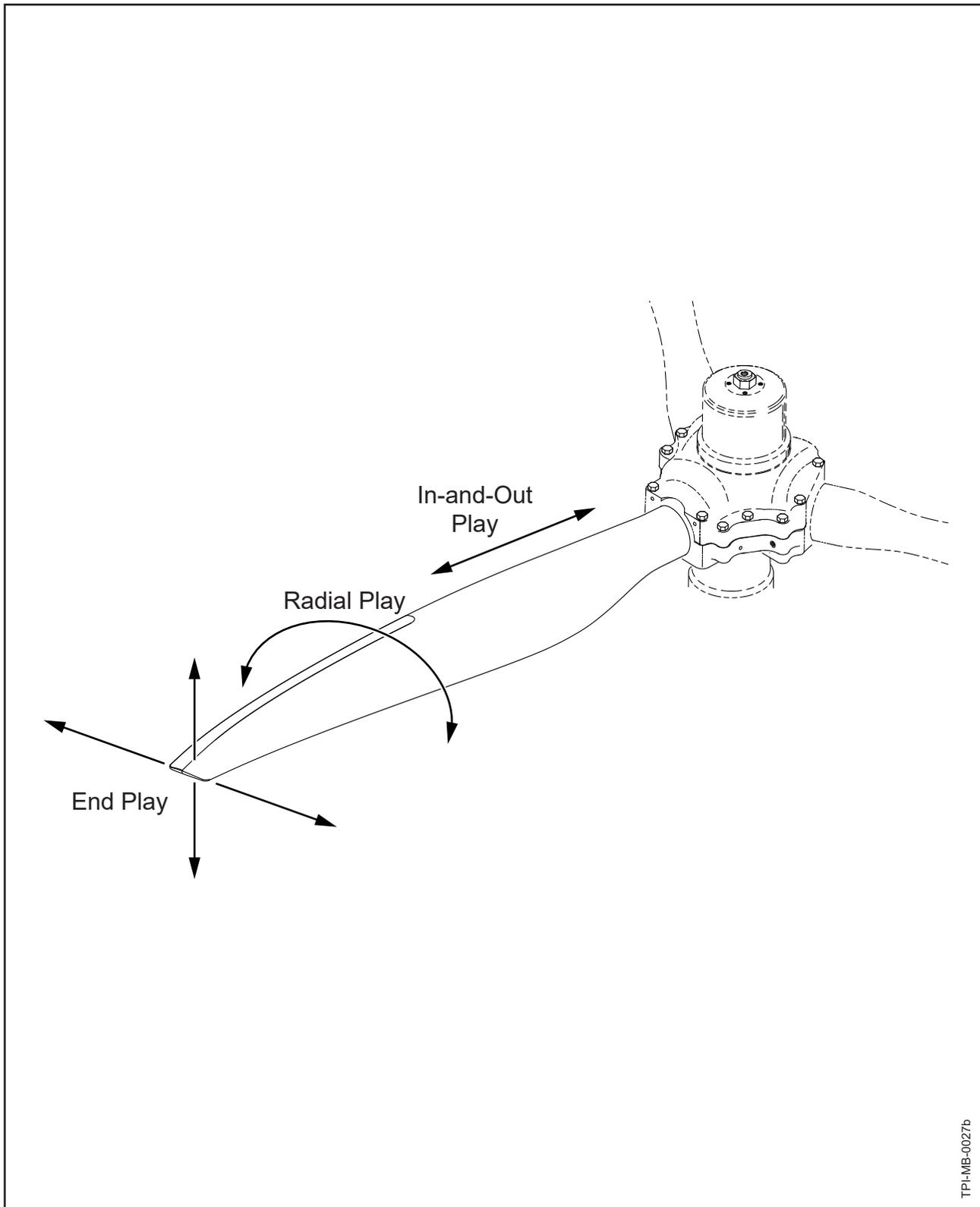
(Blank Page)

1. Troubleshooting Guide

**CAUTION:** INSTRUCTIONS AND PROCEDURES IN THIS CHAPTER MAY INVOLVE PROPELLER CRITICAL PARTS. REFER TO THE INTRODUCTION CHAPTER OF THIS MANUAL FOR INFORMATION ABOUT PROPELLER CRITICAL PARTS. REFER TO THE ILLUSTRATED PARTS LIST IN THIS MANUAL FOR IDENTIFICATION OF PROPELLER CRITICAL PARTS.

The purpose of this chapter is to isolate probable causes and suggest remedies for common propeller service problems. In all cases, the remedy for a problem should follow the procedures detailed in the applicable section of this manual.

| <b>Problem</b>              | <b>Probable Cause</b>   | <b>Remedy</b>   |
|-----------------------------|---|---|
| A. Pitch Control Difficulty | Excessive friction in moving parts.   | Refer to problem B. Friction.   |
|                             | Oil leaking past piston causing underspeed (-4 propeller). Oil will leak out of the low pitch stop bleeder hole.  | Disassemble the propeller and inspect the piston O-rings and piston-to-cylinder sealing surfaces. Replace the defective O-ring(s).  |
|                             | Oil leaking past the piston, between the pitch change rod and hub (engine-side), or between the pitch change rod and shaft plug causing overspeed (-1 propeller). Hub will fill with oil. | Using caution because the grease/oil may be under pressure, verify by removing a lubrication fitting from the hub; a dark grease/oil mixture will run out.<br>Disassemble the propeller and inspect the hub-to-pitch change rod O-rings and the piston O-rings, as applicable. Inspect the piston-to-cylinder sealing surfaces and the pitch change rod sealing surfaces, as applicable. Replace the O-ring(s). |
| B. Friction                 | Lack of lubrication.  | Add approved lubrication.   |
|                             | Blade preload is excessive.   | Disassemble the propeller and readjust the blade preload.   |
|                             | Balls in the blade retention split bearing are unusually rough, corroded, or chipped.   | Replace the blade retention split bearing assembly.   |
|                             | Insufficient clearance between the various moving parts in the pitch change mechanism.  | Check/increase the clearances between the individual parts as necessary to decrease friction in the mechanism.  |



TPI-MB-0027b

Checking Blade Play  
Figure 1-1

**HARTZELL PROPELLER OVERHAUL MANUAL**  
**113B**

| <b>Problem</b>   | <b>Probable Cause</b>                 | <b>Remedy</b>   |
|--|---------------------------------------|---|
| C. Abnormal Propeller Vibration  | Bent, cracked, or damaged blade.      | Refer to Hartzell Propeller Inc. Aluminum Blade Overhaul Manual 133C (61-13-33) or Composite Blade Overhaul Manual 135F (61-13-35).                             |
|  | Cracked or damaged hub.               | Refer to the Aluminum Hub Overhaul chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).  |
|  | Incorrect balance of the propeller.   | Refer to the Static and Dynamic Balance chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).   |
| D. Blades Not Tracking   | Foreign object strike damage.         | For foreign object strike inspection procedures, refer to the Special Inspections chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). |
| E. End Play (Leading Edge to Trailing Edge) of the Blade<br>Refer to Figure 1-1. | Buildup of wear or repair tolerances. | Disassemble the propeller and reset the preload.  |
|  | Blade retention bearing is worn.      | Inspect/replace the blade retention bearing.  |
|  | Blade alignment bearing is worn.      | Replace the blade alignment bearing.  |
| F. End Play (Fore-and-Aft) of the Blade<br>Refer to Figure 1-1.                  | Buildup of wear or repair tolerances. | Disassemble the propeller and reset the preload.  |
|  | Blade retention bearing is worn.      | Inspect/replace the blade retention bearing.  |
|  | Blade alignment bearing is worn.      | Replace the blade alignment bearing.  |
| G. In-and-Out Play of the Blade<br>Refer to Figure 1-1.                          | Buildup of wear or repair tolerances. | Disassemble the propeller and reset the preload.  |
|  | Blade retention bearing is worn.      | Inspect/Replace the blade retention bearing.  |

**HARTZELL PROPELLER OVERHAUL MANUAL**  
**113B**

| <b>Problem</b>              | <b>Probable Cause</b>   | <b>Remedy</b>  |
|-----------------------------|---|--|
| H. Radial Play in the Blade | Pitch change fork is worn.  | Disassemble the propeller. Inspect and replace parts, as required.   |
|                             | Pitch change knob bushing is worn.  | Disassemble the propeller. Inspect and replace parts, as required.   |
|                             | Pitch change block is worn.   | Disassemble the propeller. Inspect and replace parts, as required.   |
| I. Oil Leakage              | Faulty O-ring seal between the engine flange and the propeller mounting flange.           | Remove the propeller from the engine and inspect the O-ring and the sealing surface. Replace the defective O-ring.                             |
|                             | Engine crankshaft seal leaking.   | Refer to the engine manufacturer's manual for the appropriate action.  |
|                             | Faulty O-ring seal on the hub extension plug.   | Disassemble the propeller and inspect the O-rings and the sealing surfaces. Replace the defective O-ring(s).                                   |
|                             | Faulty O-ring seal between the cylinder-side hub-half and the cylinder (-4 propeller).    | Remove the cylinder and inspect the O-ring and the sealing surface. Replace defective O-ring.  |
|                             | Faulty internal propeller O-ring between the hub and the pitch change rod (-4 propeller). | Disassemble the propeller and inspect the piston O-ring and pitch change rod-to-hub sealing surface (cylinder side). Replace defective O-ring. |
|                             | Faulty seal between the nut and the cylinder (-1 propeller).                              | Remove the nut and replace the seal.   |
| J. External Grease Leakage  | Improperly torqued or loose/missing lubrication fitting.                                  | Replace the lubrication fitting. Torque lubrication fitting in accordance with Table 8-1.  |
|                             | Ball not seated properly in the lubrication fitting.                                      | Replace the lubrication fitting. Torque lubrication fitting in accordance with Table 8-1.  |
|                             | Grease leaking between the blade and the hub.   | Disassemble the propeller and inspect the hub-to-blade seal and sealing surfaces. Replace the defective seal.                                  |

2. Lightning Strike on Hub or Blade (Rev. 1)

A. Before Further Flight

- (1) In the event of a propeller lightning strike, an inspection is required before further flight.
  - (a) A lightning strike on the propeller usually leaves arcing damage on the blade, as evidence of where it entered or left the tip of the blade.
  - (b) Refer to the Special Inspections chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02) for lightning strike inspection criteria.

(Blank Page)

AUTOMATIC TEST REQUIREMENTS (NOT APPLICABLE) (Rev. 1)

NOTE: In accordance with ATA iSpec 2200 specification, this space is reserved for automatic test requirements. Such requirements are not applicable to the Hartzell Propeller Inc. propellers included in this manual.

(Blank Page)

DISASSEMBLY - CONTENTS

|   |      |
|---|------|
| 1. Important Information.....                                     | 3-3  |
| A. Removing the Propeller.....                                    | 3-3  |
| B. Record Serial Number/Blade Location Before Disassembly.....    | 3-3  |
| C. Ice Protection System (if applicable).....                     | 3-4  |
| 2. Propeller Disassembly.....                                     | 3-4  |
| A. Disassembly of the Propeller Pitch Change Parts.....           | 3-4  |
| B. Hub Disassembly.....   | 3-7  |
| C. Pitch Change Fork Disassembly.....                             | 3-7  |
| D. Pitch Change Block Disassembly.....                            | 3-9  |
| E. Split-Hub Unit Disassembly.....                                | 3-9  |
| F. C-1576 Damper Disassembly.....                                 | 3-9  |
| 3. Blade Disassembly.....   | 3-10 |
| A. Blade Bearing System Disassembly.....                          | 3-10 |
| B. Blade Plug Removal, ( )HC-( )( )Y( )( )-1N Propeller Only..... | 3-10 |
| C. Preload Plate Disassembly.....                                 | 3-11 |
| D. Blade Disassembly.....   | 3-11 |

LIST OF FIGURES

|                                |                 |     |
|--------------------------------|-----------------|-----|
| C-1576 Damper Disassembly..... | Figure 3-1..... | 3-8 |
|--------------------------------|-----------------|-----|

(Blank Page)

1. Important Information (Rev. 3)

WARNING: ADHESIVES AND SOLVENTS ARE FLAMMABLE AND TOXIC TO THE SKIN, EYES, AND RESPIRATORY TRACT. SKIN AND EYE PROTECTION ARE REQUIRED. AVOID PROLONGED CONTACT AND BREATHING OF VAPORS. USE SOLVENT RESISTANT GLOVES TO MINIMIZE SKIN CONTACT AND WEAR SAFETY GLASSES FOR EYE PROTECTION. USE IN A WELL VENTILATED AREA AWAY FROM SPARKS AND FLAME. READ AND OBSERVE ALL WARNING LABELS.

CAUTION: INSTRUCTIONS AND PROCEDURES IN THIS CHAPTER MAY INVOLVE PROPELLER CRITICAL PARTS. REFER TO THE INTRODUCTION CHAPTER OF THIS MANUAL FOR INFORMATION ABOUT PROPELLER CRITICAL PARTS. REFER TO THE Illustrated Parts List IN THIS MANUAL FOR IDENTIFICATION OF PROPELLER CRITICAL PARTS.

A. Removing the Propeller

- (1) Remove the propeller from the aircraft in accordance with the applicable Hartzell Propeller Inc. owner's manual.

B. Record Serial Numbers/Blade Location Before Disassembly

- (1) Make a record of the serial number and model number of the hub, blades, and any other serial-numbered parts and compare with the data in the propeller logbook.
  - (a) For the location of the serial number on the hub, refer to the Parts Identification and Marking chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

CAUTION 1: DO NOT ETCH, SCRIBE, PUNCH MARK, OR SIMILARLY IDENTIFY PARTS IN ANY MANNER THAT MAY BE HARMFUL TO THE STRENGTH OR FUNCTION OF THE PROPELLER.

CAUTION 2: GRAPHITE ("LEAD") PENCIL MARKS WILL CAUSE CORROSION. ALL MARKS MADE ON PARTS MUST BE MADE WITH A CRAYON OR SOFT, NON-GRAPHITE PENCIL SUCH AS CM162.

- (2) Before disassembly, use a crayon or soft, non-graphite pencil such as CM162 to number the blades counterclockwise from the propeller serial number impression stamped on the propeller hub unit.
  - (a) Make a record of each blade serial number and the hub socket/arm from which it was removed.

C. Ice Protection System (if applicable)

- (1) If the propeller is equipped with an ice protection system supplied by Hartzell, refer to Hartzell Propeller Inc. Ice Protection System Manual 180 (30-61-80) for technical information about the applicable ice protection system.
- (2) If the propeller is equipped with an ice protection system not supplied by Hartzell Propeller Inc., refer to the applicable TC or STC holder's Instructions for Continued Airworthiness (ICA) for technical information about the applicable ice protection system.

2. Propeller Disassembly

**WARNING:** THE USE OF BLADE PADDLES TO MOVE BLADES CAN RESULT IN THE OVERLOAD AND DAMAGE OF THE BLADE PITCH CHANGE MECHANISM. THIS DAMAGE IS NOT REPAIRABLE AND CAN RESULT IN SEPARATION BETWEEN THE BLADE AND THE PITCH CHANGE MECHANISM, CAUSING LOSS OF PITCH CONTROL DURING FLIGHT.

**CAUTION 1:** INSTRUCTIONS AND PROCEDURES IN THIS CHAPTER MAY INVOLVE PROPELLER CRITICAL PARTS. REFER TO THE INTRODUCTION CHAPTER OF THIS MANUAL FOR INFORMATION ABOUT PROPELLER CRITICAL PARTS. REFER TO THE ILLUSTRATED PARTS LIST IN THIS MANUAL FOR IDENTIFICATION OF PROPELLER CRITICAL PARTS.

**CAUTION 2:** USE COMPRESSED AIR THAT HAS BEEN FILTERED FOR MOISTURE, OR NITROGEN TO ACTUATE THE PROPELLER.

**CAUTION 3:** DO NOT USE MORE THAN 175 PSI (12.06 BARS) OF PRESSURE WHEN ACTUATING PROPELLERS INCLUDED IN THIS MANUAL.

**CAUTION 4:** USE ENOUGH PRESSURE TO MAKE SURE THAT THE PROPELLER ACTUATES AGAINST EACH POSITIVE STOP.

A. Disassembly of the Propeller Pitch Change Parts

**NOTE:** To simplify the assembly process and minimize the effort required to set the required blade angles, make a record of the location and orientation (where applicable) of each part in the propeller hub assembly.

- (1) Remove the self-locking nut (10).
- (2) Remove the seal (20) from the low pitch stop set screw (40).

CAUTION: THE LOW PITCH STOPS IN AEROBATIC PROPELLERS MAY DEFORM DUE TO CONTACT BETWEEN THE PITCH CHANGE ROD AND THE LOW PITCH STOP. DEFORMATION OF THE END OF THE LOW PITCH STOP COULD CAUSE THE CYLINDER LOW PITCH STOP THREADS TO BE DEFORMED DURING REMOVAL OF THE LOW PITCH STOP. IF RESISTANCE INCREASES DURING NORMAL REMOVAL OF THE LOW PITCH STOP, REMOVE THE LOW PITCH STOP BY TURNING IT INTO THE CYLINDER AFTER REMOVAL OF THE CYLINDER.

(3) Remove the low pitch stop set screw (40) from the cylinder.

CAUTION: CYCLE THE PROPELLER BEFORE BEGINNING THE CYLINDER REMOVAL PROCESS. FAILURE TO CYCLE THE PROPELLER MAY CAUSE THE PITCH CHANGE ROD TO PREMATURELY DISENGAGE FROM THE FORK.

(4) Cycle the propeller through the entire range of movement.

(5) Using the cylinder wrench TE153 or equivalent, remove the cylinder (50).

(6) Removal of the hub plug (300), if applicable

(a) Rotate the blades by hand to move the propeller to high pitch.

(b) Using a sling, remove the propeller from the rotatable fixture TE125 on the assembly table TE129.

(c) Turn the propeller over and put it on a support so the propeller mounting flange is accessible.

NOTE: A sturdy barrel or drum with the rim well padded may be used as a support.

(d) Using puller TE98, or equivalent, remove the hub plug (300).

1 Put the puller TE98 on the end of the pitch change rod (140), with the O-ring of the puller TE98 on the pitch change rod.

2 Put the pulling ends of the puller TE98 firmly in the recesses of the hub plug (660).

3 Tighten the puller TE98 until the hub plug (300) is removed from the bore of the hub.

(e) Remove and discard the hub plug OD O-ring (670).

(f) Remove and discard the hub plug ID O-ring (680).

(7) Remove and discard the cotter pin (60) from the pitch change rod nut (70).

- (8) For an aerobatic (-4) propeller only:
  - (a) Remove the pitch change rod nut (70) from the pitch change rod (140).
  - (b) Remove the piston (90) from the pitch change rod (140).
  - (c) Remove the stop collar or stop sleeve (120).
  - (d) Remove the stop collar split keeper (130).
  - (e) Remove the pitch change rod (140).
- (9) For a non-feathering (-1) propeller that uses the 101322 spring or the 101330 spring only:

**CAUTION:** PISTON IS UNDER SLIGHT FORCE IN -1 MODELS.

- (a) Loosen the pitch change rod (140).
  - (b) Remove the piston/sleeve/rod assembly from the propeller.
  - (c) Remove the spring (110).
  - (d) Reinstall the piston/sleeve/rod assembly in the propeller.
  - (e) Remove the pitch change rod nut (70) from the pitch change rod (140).
  - (f) Remove the piston (90) from the pitch change rod (140).
  - (g) Remove the spring spacer (125) or the spring seat (126), if applicable.
  - (h) Remove the stop collar or stop sleeve (120).
  - (i) Remove the spring seat (105) or the spring guide (106), if applicable.
  - (j) Remove the stop collar split keeper (130).
  - (k) Remove the pitch change rod (140).
- (10) For a non-feathering (-1) propeller that uses the A-2213-( ) spring only:

**CAUTION:** PISTON IS UNDER SLIGHT FORCE IN -1 MODELS.

- (a) Remove the pitch change rod nut (70) from the pitch change rod (140).
  - (b) Remove the piston (90) from pitch change rod (140).
  - (c) Remove the spring spacer (125) or the spring seat (126), if applicable.
  - (d) Remove the spring (110).
  - (e) Remove the stop collar or stop sleeve (120).
  - (f) Remove the spring seat (105) or the spring guide (106), if applicable.
  - (g) Remove the stop collar split keeper (130).
  - (h) Remove the pitch change rod (140).
- (11) Remove and discard the nuts (280), and washers (270).
  - (12) Remove the hub bolts (250, 260).
    - (a) If the spinner bulkhead is mounted to the propeller with the hub bolts, remove the spinner bulkhead.

**CAUTION:** TO AVOID BLADE DAMAGE, IT IS RECOMMENDED TO USE BLADE STANDS TO SUPPORT THE BLADES.

- (13) Remove the cylinder half of the hub unit (180).
- (14) Remove blade number one from the hub.
- (15) Remove the fork (190).
- (16) Remove the pitch change block (200) from each pitch change knob.
- (17) Remove the remaining blades from the hub.

#### B. Hub Disassembly

**CAUTION:** DO NOT TRY TO REMOVE THE EXTENSION SHAFT FROM HUBS WITH BOLT-ON EXTENSIONS. EXTENSION SHAFTS ARE PRESSED TOGETHER AND THE BOLTS ARE PRESSED THROUGH THE HOLES.

- (1) Disassemble the hub in accordance with the Compact, Lightweight Compact, and Lightweight Turbine Hubs chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

#### C. Pitch Change Fork Disassembly

- (1) Two-Bladed Propeller Pitch Change Fork Disassembly
  - (a) Remove and discard the plastic rubbing plates (192) from the pitch change fork (190).
  - (b) Visually inspect each spring pin (193) for damage that may affect the ability of the pin to retain the rubbing plate (192).
    - 1 Remove any damaged spring pin(s) (193).

**NOTE:** Replacement spring pin(s) will be installed when the rubbing plate (192) is installed at assembly.
  - (c) Pitch change forks with steel plates and brass rivets must be upgraded to the current configuration.
    - 1 For information about upgrading pitch change forks to the current configuration, refer to the Special Adhesive and Bonding Procedures chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).
- (2) Three-Bladed and Four-Bladed Propeller Pitch Change Fork Disassembly
  - (a) Remove the pitch change fork bumpers (195).



D. Pitch Change Block Disassembly

- (1) Remove and discard the pitch change block button (210) from the pitch change block (200), if applicable.

E. Split-Hub Unit Disassembly

- (1) Remove the engine-side hub half from the rotatable fixture.
- (2) Remove the spinner bulkhead from the rotatable fixture, if applicable.

F. C-1576 Damper Disassembly

NOTE: Refer to Figure 3-1

- (1) Remove and discard the eight screws (990).
- (2) Remove the hex head spacer tubes (910) from the damper weight (950) and the silicone grommet (960).
- (3) Remove the flanged bushing (935) and the spring adjust washer (945).
- (4) Remove and discard the springs (920).
- (5) Remove the sealant CM92 from between the damper weight (950) and the damper plate (980).
- (6) Separate the damper weight (950) and the damper plate (980).
- (7) Remove and discard the silicone grommets (960) and the friction disk (970).

### 3. Blade Disassembly

**CAUTION:** INSTRUCTIONS AND PROCEDURES IN THIS CHAPTER MAY INVOLVE PROPELLER CRITICAL PARTS. REFER TO THE INTRODUCTION CHAPTER OF THIS MANUAL FOR INFORMATION ABOUT PROPELLER CRITICAL PARTS. REFER TO THE ILLUSTRATED PARTS LIST IN THIS MANUAL FOR IDENTIFICATION OF PROPELLER CRITICAL PARTS.

#### A. Blade Bearing System Disassembly

- (1) Remove and discard the blade seal (540).
- (2) Remove the hub-side bearing race (530).
- (3) Remove and discard the ball bearings (520).
- (4) Remove and discard the ball spacer (510).
- (5) Remove and discard the pitch change knob bushing (565) from the blade.
- (6) Remove the pitch change knob bracket (composite blades only).
  - (a) Remove and discard the pitch change knob bracket bolts (570) and washers (567).
  - (b) Remove the pitch change knob bracket (560) from the blade.
    - 1 If the dowel pin (550) remains in the blade, remove the dowel pin from the blade.
    - 2 If the dowel pin (550) remains in the pitch change knob bracket, dowel pin removal from the bracket is not required.
- (7) Remove and discard the nut (420) and set screw (430) from each preload plate (440).
- (8) Remove the preload plate (440).
- (9) If installed, remove and discard the O-ring (465).
- (10) If installed, remove the blade seal (463).
- (11) Using a gear puller, brass drift, or equivalent tooling, remove the bearing retaining ring (460).
- (12) Remove the blade-side bearing race (490).
  - (a) If the bearing race is not easy to remove, position a brass punch at the bearing split and carefully tap to loosen the race.

#### B. Blade Plug Removal, ( )HC-( )Y( )(-1N Propeller Only

- (1) Using plug puller TE454, or equivalent and a hydraulic or pneumatic press, remove the blade plug from the blade bore.

C. Preload Plate Disassembly

- (1) If installed, remove the anti-rotation plate (433) from the preload plate (440).
  - (a) Remove and discard the spring pins (435) from the preload plate (440).

D. Blade Disassembly

- (1) For aluminum blade procedures, refer to Hartzell Propeller Inc. Aluminum Blade Overhaul Manual 133C (61-13-33).
- (2) For composite blade procedures, refer to Hartzell Propeller Inc. Composite Blade Overhaul Manual 135F (61-13-35).

(Blank Page)

CLEANING - CONTENTS

1. Cleaning Procedures .....4-3

- A. General Cleaning .....4-3
- B. Cleaning Steel Parts for Magnetic Particle Inspection .....4-3
- C. Cleaning Steel Parts for Cadmium Replating Procedures .....4-3
- D. Cleaning Aluminum Parts for Penetrant Inspection.....4-3
- E. Cleaning Titanium Parts for Penetrant Inspection .....4-3
- F. Cleaning Aluminum Parts for Chromic Acid Anodizing .....4-3
- G. Cleaning Cylinder Threads.....4-3

(Blank Page)

1. Cleaning Procedures (Rev. 3)

**WARNING:** ADHESIVES AND SOLVENTS ARE FLAMMABLE AND TOXIC TO THE SKIN, EYES, AND RESPIRATORY TRACT. SKIN AND EYE PROTECTION ARE REQUIRED. AVOID PROLONGED CONTACT AND BREATHING OF VAPORS. USE SOLVENT RESISTANT GLOVES TO MINIMIZE SKIN CONTACT AND WEAR SAFETY GLASSES FOR EYE PROTECTION. USE IN A WELL VENTILATED AREA AWAY FROM SPARKS AND FLAME. READ AND OBSERVE ALL WARNING LABELS.

A. General Cleaning

- (1) Refer to the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

B. Cleaning Steel Parts for Magnetic Particle Inspection

- (1) Refer to the Magnetic Particle Inspection chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

C. Cleaning Steel Parts for Cadmium Replating Procedures

- (1) Refer to the Cadmium Replating chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

D. Cleaning Aluminum Parts for Penetrant Inspection

- (1) Refer to the Penetrant Inspection chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

E. Cleaning Titanium Parts for Penetrant Inspection

- (1) Refer to the Penetrant Inspection chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

F. Cleaning Aluminum Parts for Chromic Acid Anodizing

- (1) Refer to the Chromic Acid Anodizing chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

G. Cleaning Cylinder Threads

**CAUTION:** DO NOT USE GLASS BEAD OR OTHER ABRASIVE CLEANING METHODS, AS THEY MAY CAUSE EXCESSIVE DAMAGE TO THE CYLINDER THREADS.

- (1) It is preferable that the cylinder threads be cleaned only with solvent CM23; however, removal of sealant in the threaded area can be difficult.
- (2) Plastic media may be used to remove the sealant from the cylinder threads, if minimal pressure and duration is used to minimize possible abrasion of the aluminum threads.

(Blank Page)

CHECK - CONTENTS

|  |      |
|--|------|
| 1. Inspection Interval Requirements .....              | 5-3  |
| 2. Dimensional Inspection.....                         | 5-3  |
| A. Diameter Measurements .....                         | 5-3  |
| B. Decimal Places.....                                 | 5-3  |
| 3. Inspection Criteria/Procedures .....                | 5-4  |
| A. Propeller Components.....                           | 5-4  |
| B. Hubs .....  | 5-4  |
| C. Blades .....  | 5-4  |
| D. Ice Protection System .....                         | 5-4  |
| E. Spinner Assemblies.....                             | 5-4  |
| F. Special Inspections .....                           | 5-4  |
| 4. Propeller Component Checks.....                     | 5-4  |
| A. Cylinder .....                                      | 5-6  |
| B. Fork .....  | 5-7  |
| C. Stop Sleeve or Stop Collar.....                     | 5-8  |
| D. Hub Unit .....                                      | 5-8  |
| E. Hex Head Bolt.....                                  | 5-10 |
| F. Set Screw (Low Pitch Stop) .....                    | 5-14 |
| G. Piston .....  | 5-16 |
| H. Pitch Change Block.....                             | 5-18 |
| I. Pitch Change Rod .....                              | 5-20 |
| J. Preload Plate Assembly with Inner Bearing Race..... | 5-24 |
| K. Preload Plate Assembly with Threaded Insert .....   | 5-30 |
| L. A-2204 and B-1041 Bearing Retaining Ring .....      | 5-34 |
| M. B-7071 and 101512 Bearing Retaining Ring .....      | 5-36 |
| N. Blade Seal.....                                     | 5-38 |
| O. Blade Plug.....                                     | 5-40 |
| P. Bearing Race .....                                  | 5-42 |
| Q. 101388 Spring Seat .....                            | 5-45 |
| R. 101378 Spring Guide .....                           | 5-46 |
| S. 102959 Spring Guide .....                           | 5-47 |

CHECK - CONTENTS, CONTINUED

|     |   |      |
|-----|---|------|
| T.  | 101390 Spring Spacer .....                            | 5-48 |
| U.  | 101430 Spring Seat .....                              | 5-49 |
| V.  | Spring.....   | 5-50 |
| W.  | Hub Plug .....  | 5-52 |
| X.  | Pitch Change Knob Bracket and Dowel Pin.....          | 5-54 |
| Y.  | Counterweight Slug -C-7249 (Brass Base Metal) .....   | 5-58 |
| Z.  | Counterweight Slug -A-890-( ) (Steel Base Metal)..... | 5-61 |
| AA. | Spacer, "F" Flange .....                              | 5-63 |
| AB. | Hex Head Spacer Tube.....                             | 5-68 |
| AC. | Damper Weight .....                                   | 5-70 |
| AD. | Damper Plate .....                                    | 5-72 |
| AE. | Spring Adjust Washer.....                             | 5-74 |
| AF. | Flanged Bushing .....                                 | 5-76 |
| AG. | Balance Weight.....                                   | 5-77 |
| AH. | Wire Harness Bracket.....                             | 5-78 |

LIST OF FIGURES

|   |                   |      |
|---|-------------------|------|
| Cylinder .....                                    | Figure 5-1 .....  | 5-5  |
| Hex Head Bolt .....                               | Figure 5-2 .....  | 5-9  |
| A-2043-1 Nut Modification .....                   | Figure 5-3 .....  | 5-11 |
| Low Pitch Stop Set Screws .....                   | Figure 5-4 .....  | 5-13 |
| Pitch Change Block Chamfer Location .....         | Figure 5-5 .....  | 5-18 |
| Pitch Change Rod .....                            | Figure 5-6 .....  | 5-19 |
| Pitch Change Rod Through Holes .....              | Figure 5-7 .....  | 5-21 |
| Preload Plate with Inner Bearing Race .....       | Figure 5-8 .....  | 5-23 |
| Preload Plate Lip Measurement .....               | Figure 5-9 .....  | 5-27 |
| Preload Plate Assembly with Threaded Insert ..... | Figure 5-10 ..... | 5-29 |
| Preload Plate Lip Measurement .....               | Figure 5-11 ..... | 5-31 |
| A-2204 and B-1041 Bearing Retaining Ring .....    | Figure 5-12 ..... | 5-33 |
| B-7071 and 101512 Bearing Retaining Ring .....    | Figure 5-13 ..... | 5-35 |
| Blade Seal .....                                  | Figure 5-14 ..... | 5-37 |
| Blade Plug Inspection Area .....                  | Figure 5-15 ..... | 5-39 |
| Bearing Race .....                                | Figure 5-16 ..... | 5-41 |
| Hub Plug .....                                    | Figure 5-17 ..... | 5-51 |
| Pitch Change Knob Bracket and Dowel Pin .....     | Figure 5-18 ..... | 5-53 |
| Pitch Change Knob Bracket .....                   | Figure 5-19 ..... | 5-55 |
| Counterweight Slug Identification .....           | Figure 5-20 ..... | 5-57 |
| Counterweight Slug Through Hole Wear .....        | Figure 5-21 ..... | 5-59 |
| Spacer, "F" Flange .....                          | Figure 5-22 ..... | 5-62 |
| Hex Head Spacer Tube .....                        | Figure 5-23 ..... | 5-67 |
| Damper Weight .....                               | Figure 5-24 ..... | 5-69 |
| Damper Plate .....                                | Figure 5-25 ..... | 5-71 |
| Spring Adjust Washer .....                        | Figure 5-26 ..... | 5-73 |
| Flanged Bushing .....                             | Figure 5-27 ..... | 5-75 |

LIST OF TABLES

|   |                 |      |
|---|-----------------|------|
| Component Inspection Criteria .....                         | Table 5-1 ..... | 5-6  |
| Piston Dimensional Inspection Criteria.....                 | Table 5-2.....  | 5-15 |
| Pitch Change Block Identification/Dimensional Criteria..... | Table 5-3.....  | 5-17 |
| Pitch Change Rod Identification .....                       | Table 5-4.....  | 5-20 |

1. Inspection Interval Requirements (Rev. 1)

A. General

- (1) For information about life limited components and mandatory inspections, refer to the Airworthiness Limitations chapter of the applicable Hartzell Propeller Inc. owner's manual.
- (2) For overhaul periods of Hartzell Propeller Inc. propeller, refer to Hartzell Propeller Inc. Service Letter HC-SL-61-61Y.

2. Dimensional Inspection (Rev. 1)

A. Diameter Measurements

- (1) When measuring the diameter of a part with a two point measuring instrument, take at least two measurements unless specified differently.
  - (a) Obtaining a measurement outside the specified tolerance at any point of measurement is cause for retirement of the part when a minimum of two measurements are taken.
  - (b) Alternately, take eight evenly spaced measurements, unless specified differently.
    - 1 Obtaining a measurement outside the specified tolerance on three or more measurements is cause for retirement of the part when eight measurements are taken (two of eight measurements may be out of specified tolerance).
    - 2 This alternate method may not be used to accept a diameter that has obvious damage beyond repairable (serviceable) limits.
- (2) When measuring the diameter of a part with a three point measuring instrument, take one measurement. A measurement outside the specified tolerance is cause for retirement of the part.

B. Decimal Places

- (1) Inspect the part features to the number of decimal places specified. If three decimal places are specified, inspect the part to three decimal places only.

3. Inspection Criteria/Procedures (Rev. 2)

A. Propeller Components (Except for those listed separately in this section)

- (1) Refer to Table 5-1, "Component Inspection Criteria" in this chapter.

B. Hubs

- (1) Aluminum Hubs: Refer to the Aluminum Hub Overhaul chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

C. Blades

- (1) Aluminum Blades: Refer to Hartzell Propeller Inc. Aluminum Blade Overhaul Manual 133C (61-13-33).

- (2) Composite Blades: Refer to Hartzell Propeller Inc. Composite Blade Overhaul Manual 135F (61-13-35).

D. Ice Protection Systems

- (1) For ice protection systems supplied by Hartzell, refer to Hartzell Propeller Inc. Ice Protection System Manual 180 (30-61-80).
- (2) For ice protection systems not supplied by Hartzell, refer to the applicable TC or STC holder's Instructions for Continued Airworthiness (ICA).

E. Spinner Assemblies

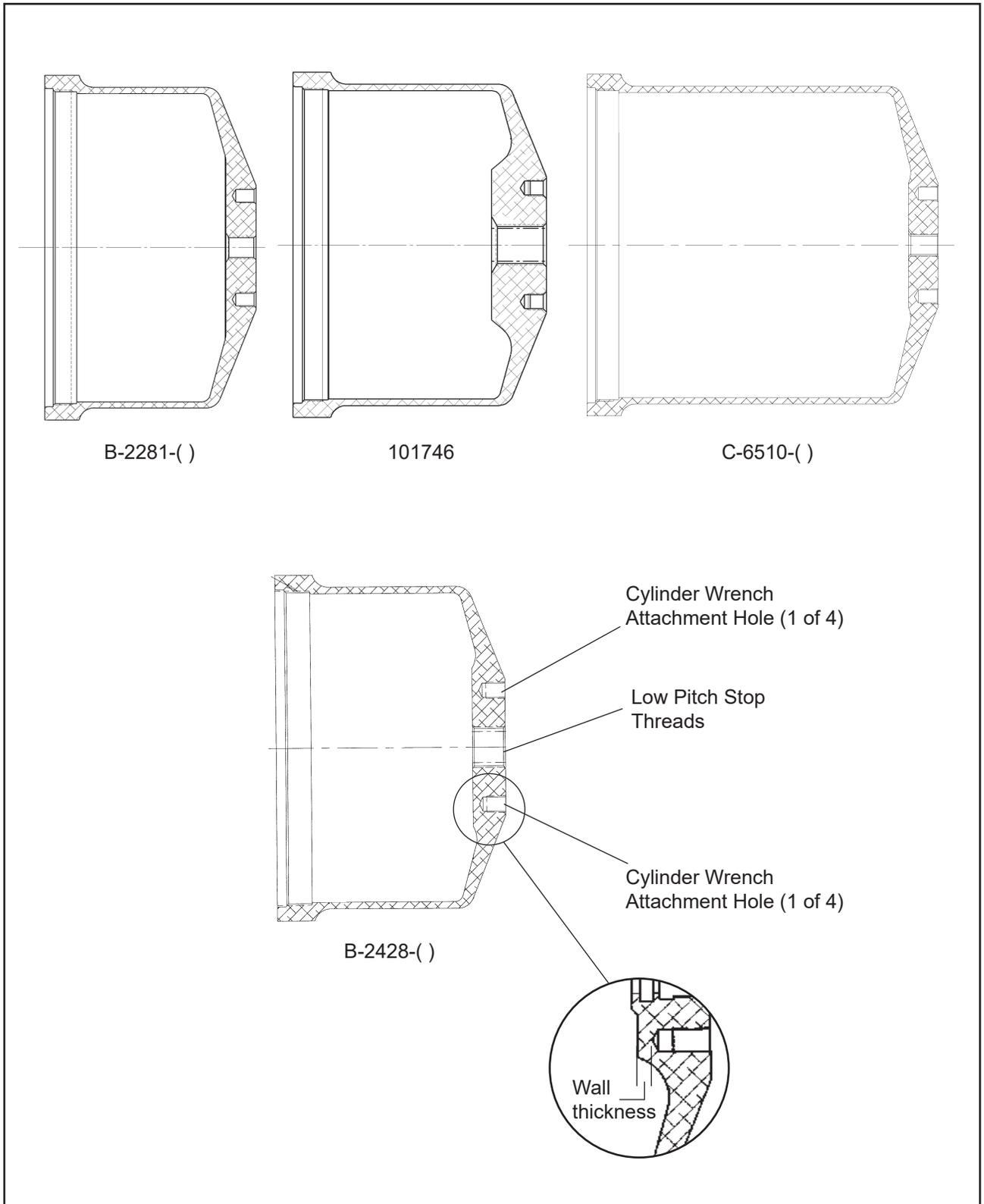
- (1) Metal Spinners: Refer to Hartzell Propeller Inc. Metal Spinner Maintenance Manual 127 (61-16-27).
- (2) Composite Spinners: Refer to Hartzell Propeller Inc. Composite Spinner Maintenance Manual 148 (61-16-48)

F. Special Inspections (Lightning Strike, Foreign Object Strike, etc.)

- (1) Refer to the Special Inspections chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

4. Propeller Component Checks

**CAUTION:** INSTRUCTIONS AND PROCEDURES IN THIS CHAPTER MAY INVOLVE PROPELLER CRITICAL PARTS. REFER TO THE INTRODUCTION CHAPTER OF THIS MANUAL FOR INFORMATION ABOUT PROPELLER CRITICAL PARTS. REFER TO THE ILLUSTRATED PARTS LIST IN THIS MANUAL FOR IDENTIFICATION OF PROPELLER CRITICAL PARTS.



**Cylinder  
Figure 5-1**

Component Inspection Criteria  
Table 5-1

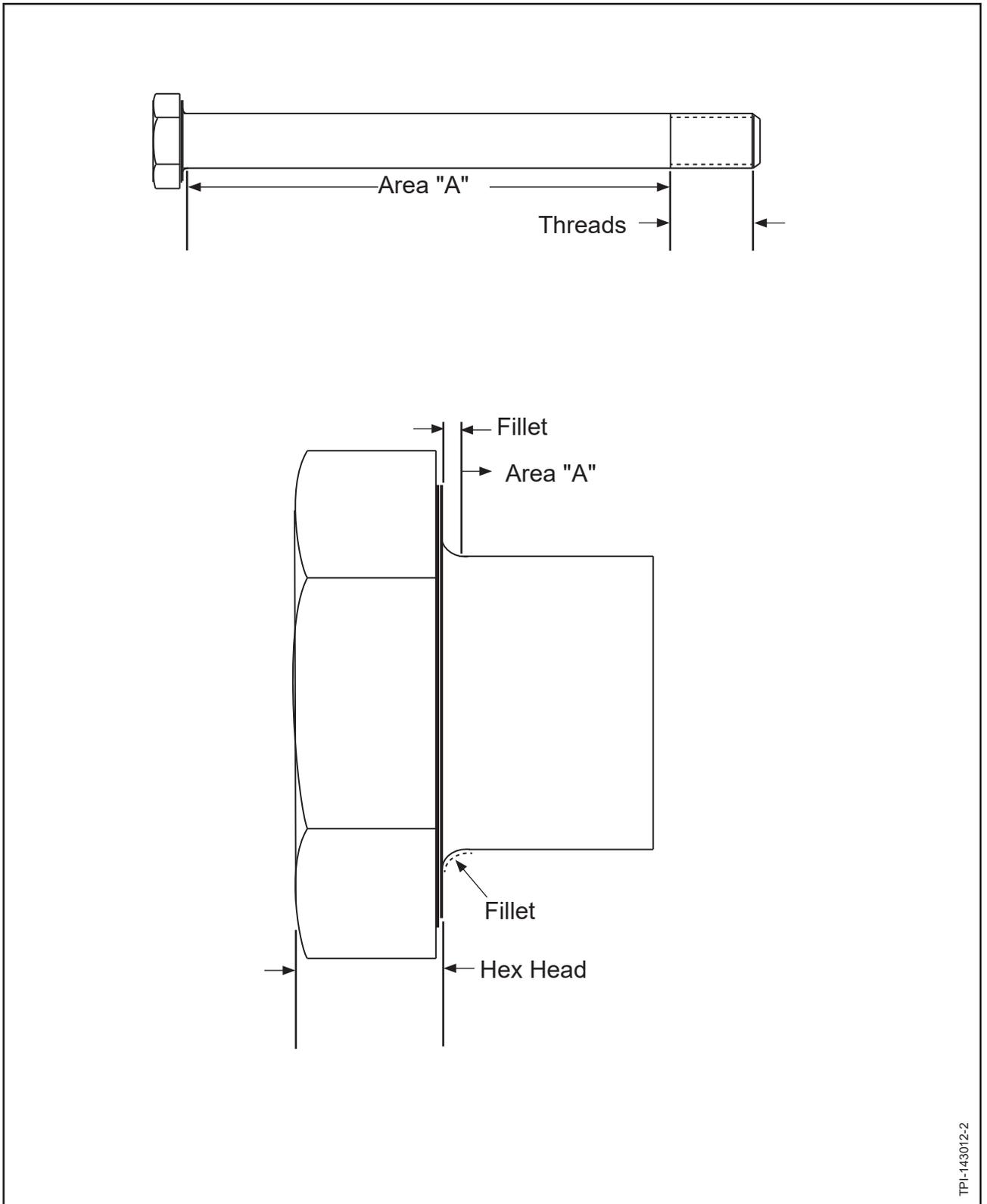
| Inspect  | Serviceable Limits   | Corrective Action   |
|--|--|---|
| A. <u>CYLINDER</u><br>(Item 50)<br>Refer to Figure 5-1.  |  |   |
| (1) Visually examine the anodized coating of the cylinder for wear, nicks, scratches or other damage.                        | On the OD, the maximum permitted depth of damage is 0.003 inch (0.07 mm); otherwise, noticeable damage is not permitted.   | If damage is greater than the permitted serviceable limits, replace the cylinder.   |
| (2) Visually examine the cylinder wrench attachment holes for thread damage.   | If there is damage, install a 1/4-28UNF-3B screw and verify that it will tighten to secure the cylinder wrench for installation and removal  | If the damage is greater than the permitted serviceable limits, repair the cylinder wrench attachment holes in accordance with the section "Repair of Damaged Cylinder Wrench Attachment Holes" in the Repair chapter of this manual. If a previously repaired hole has damage that is greater than the permitted serviceable limits, replace the cylinder. |
| (3) If repaired with a thin wall insert, measure the wall thickness under the point of the cylinder wrench attachment holes. | The minimum wall thickness permitted under the point (center) of the hole is:<br>for the B-2281-( ) cylinder - 0.080 inch (2.04 mm)<br>for the B-2428-( ) cylinder - 0.080 inch (2.04 mm)<br>for the C-6510-( ) cylinder - 0.080 inch (2.04 mm)<br>for the 101746 cylinder - 0.410 inch (10.41 mm) | If the wall thickness under the point of the hole is less than the permitted serviceable limits, replace the cylinder.  |
| (4) Visually examine the low pitch stop threads for damage.  | 1/2 of one thread total accumulated damage is permitted.   | If damage is greater than the permitted serviceable limits, replace the cylinder.   |

Component Inspection Criteria  
Table 5-1

| Inspect   | Serviceable Limits   | Corrective Action   |
|---|--|---|
| <p>B. <u>FORK</u><br/>(Item 190)</p>  |  |   |
| <p>(1) Visually examine the fork (excluding the slots, threaded bore and tapered section of the bore) for wear, scratches, or other damage.</p> | <p>The maximum permitted depth of wear, scratches, or other damage is 0.003 inch (0.07 mm).</p>  | <p>Wear, scratches, or other damage may be repaired to a maximum depth of 0.004 inch (0.10 mm). Refer to the Repair chapter in this manual for general repair procedures of steel parts. Some surfaces may appear rough (in the "as forged" condition), repair of such surfaces is not required.</p> <p>If repaired, replate the fork and bake in accordance with the Cadmium Replating chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).</p> <p>If wear, scratches, or other damage is greater than the permitted corrective action, replace the fork.</p> |
| <p>(2) Visually examine the threaded portion of the fork bore for damage.</p>   | <p>One damaged thread is permitted.</p>  | <p>If damage is greater than the permitted serviceable limits, replace the fork.</p>  |
| <p>(3) Visually examine the tapered portion of the fork bore for wear, nicks, fretting or other damage.</p>                                     | <p>The maximum permitted depth of wear, nicks, fretting or other damage is 0.003 inch (0.07 mm).<br/>Pushed-up material from the damage that may interfere with the pitch change rod taper is not permitted.</p> | <p>Remove pushed-up material until flush with machined surrounding surfaces.</p> <p>If repaired, replate the fork and bake in accordance with the Cadmium Replating chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).</p> <p>If the depth of wear, nicks, fretting or other damage is greater than the permitted serviceable limits, replace the fork.</p>  |
| <p>(4) Visually examine the fork slots for damage.</p>  | <p>The maximum permitted depth of damage is 0.006 inch (0.15 mm).</p>  | <p>If damage is greater than the permitted serviceable limits, replace the fork.</p>  |

**Component Inspection Criteria  
Table 5-1**

| Inspect   | Serviceable Limits   | Corrective Action  |
|---|--|--|
| <b>B. <u>FORK, CONTINUED</u></b><br>(Item 190)  |  |  |
| (5) Magnetic particle inspect the fork in accordance with Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).  | A relevant indication is not permitted.  | If there is a relevant indication, replace the fork.   |
| (6) Visually examine the fork for cadmium plate coverage.   | A few random scratches, corners with plating missing, normal wear of the plating from the threads, internal taper, and fork slots are permitted; otherwise, cadmium plating must cover the fork. | If the cadmium plating coverage is less than the permitted serviceable limits, cadmium replating the fork in accordance with the Cadmium Replating chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). |
| <b>C. <u>STOP SLEEVE OR STOP COLLAR</u></b><br>(Items 120)  |  |  |
| (1) Visually examine the surface of the stop collar for wear, nicks, scratches, corrosion, or other damage.   | The maximum permitted depth of damage is 0.05 inch (1.2 mm).   | Refer to the Repair chapter of this manual for repair procedures.  |
| (2) Visually examine the stop collar for material pushed up above the surrounding surface.  | Pushed up material may not be above or outside the machined surface of the part.   | Blend the pushed up material with the surrounding area. Refer to the Repair chapter in this manual for repair procedures.  |
| <b>D. <u>HUB UNIT</u></b><br>Perform the inspection of the hub in accordance with the Aluminum Hub Overhaul chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). |  |  |



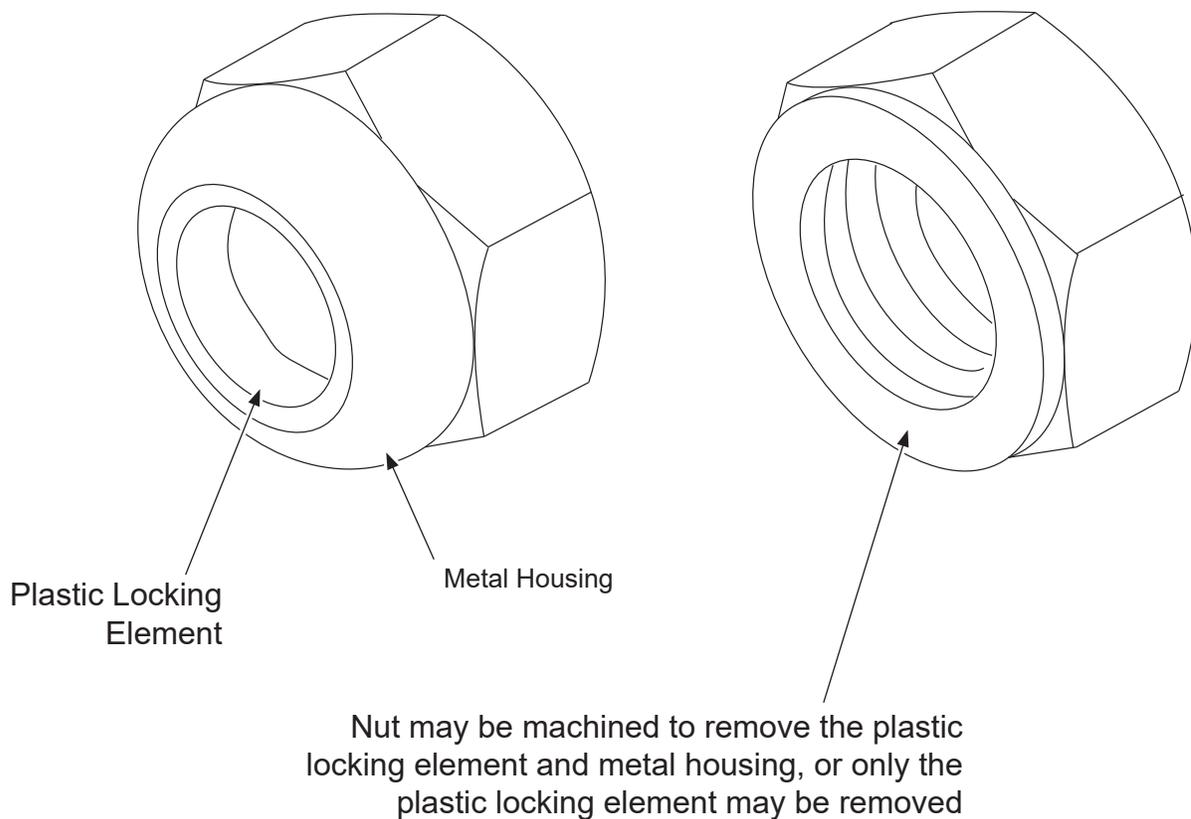
TPI-143012-2

Hex Head Bolt  
Figure 5-2

**Component Inspection Criteria  
Table 5-1**

| Inspect   | Serviceable Limits  | Corrective Action  |
|---|---|--|
| <p>E. <u>HEX HEAD BOLT</u><br/>(Items 250, 260)<br/>Refer to Figure 5-2 and Figure 5-3.</p>                                 |   |  |
| <p>(1) Visually examine the hex head bolt for corrosion product and pitting.</p>  | <p>Corrosion product is not permitted.</p> <p>The maximum permitted depth of pitting is 0.002 inch (0.05 mm). No more than 5% of the total unthreaded surface may be pitted. The maximum permitted diameter of an individual pit is 0.032 inch (0.81 mm). Pitting is not permitted in the fillet between the hex head and the grip, Area "A". Pitting must not affect the fit or function of the hex head bolt.</p> | <p>Remove corrosion product using glass bead cleaning in accordance with the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).</p> <p>If corrosion product cannot be removed, replace the hex head bolt.</p> <p>If the pitting is greater than the permitted serviceable limits, replace the hex head bolt.</p> |
| <p>(2) Except for the threads, visually examine the hex head bolt for damage or scratches.</p>                              | <p>The maximum permitted depth of damage or a scratch is 0.002 inch (0.05 mm). Scratches or damage must not affect the fit or function of the hex head bolt. Pushed up material is not permitted.</p>   | <p>Pushed up material may be removed with a thread file. Use of the thread file must not affect the fit or function of the hex head bolt. If the depth of a scratch or damage is greater than the permitted serviceable limits or if the scratch, damage, or repair affects the fit or function of the hex head bolt, replace the hex head bolt.</p> |
| <p>(3) Visually examine the hex head bolt for circumferential scoring caused by installation and removal.</p>               | <p>Circumferential scoring that reduces the diameter of the hex head bolt is not permitted. The minimum permitted OD in Area "A" is 0.370 inch (9.40 mm).</p>   | <p>If scoring is greater than the permitted serviceable limits or if the OD in Area "A" is less than the permitted serviceable limits, replace the hex head bolt.</p>  |
| <p>(4) Visually examine the wrenching surfaces of the head of the hex head bolt for metal movement caused by wrenching.</p> | <p>Limited damage from wrenching is permitted, but it must be possible to torque the hex head bolt and metal movement must not interfere with the installation of the hex head bolt or cause damage to the hub.</p>   | <p>Remove metal movement with a file or equivalent. Only corners may be repaired. Refacing a complete surface is not permitted. If metal movement is greater than the permitted serviceable limits, replace the hex head bolt.</p>   |

**CAUTION:** DO NOT USE MODIFIED A-2043-1 NUTS ON THE PROPELLER ASSEMBLY. A-2043-1 NUTS THAT HAVE BEEN MODIFIED ARE TO BE USED ONLY FOR THE HEX HEAD BOLT THREAD CHECK.

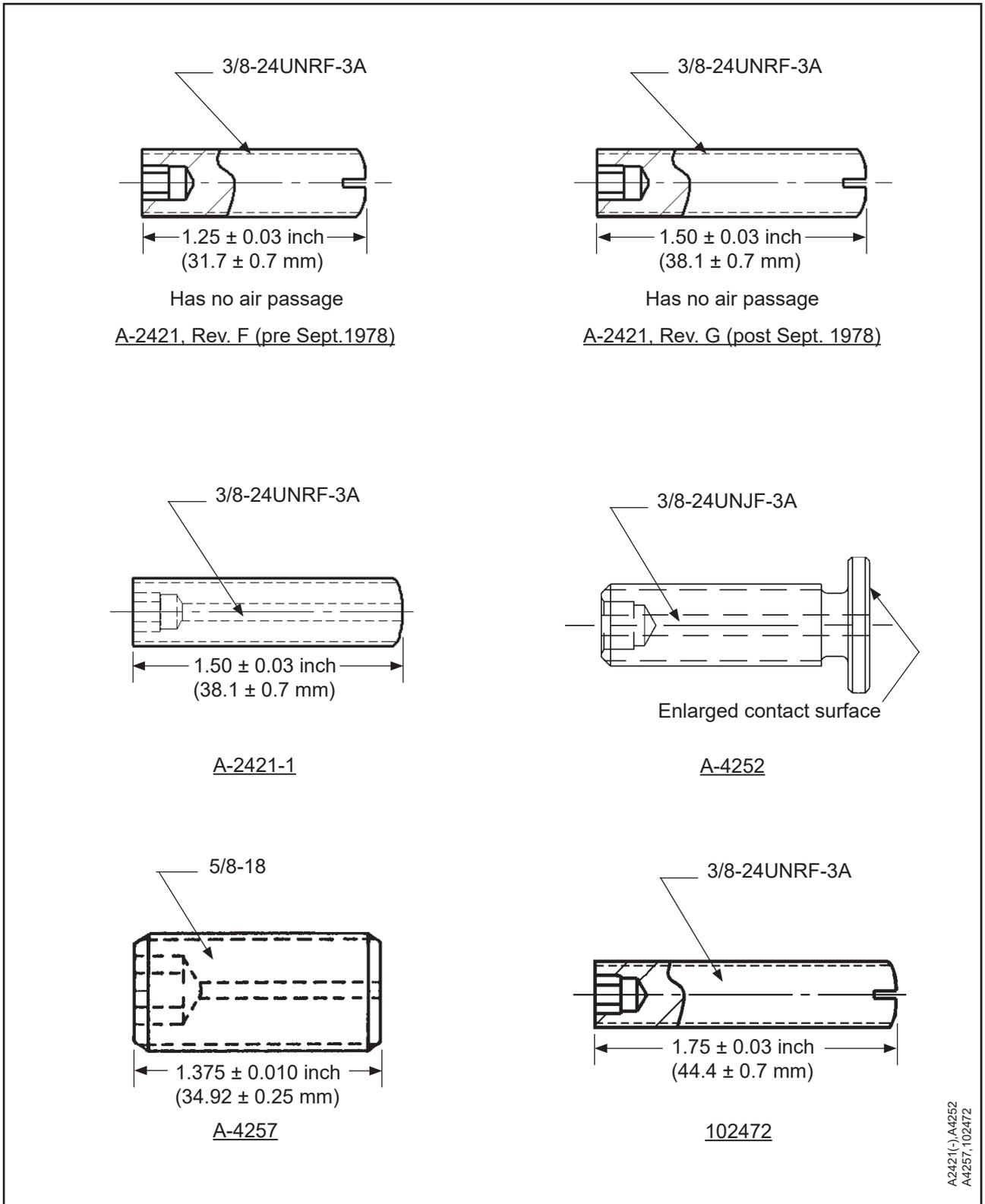


TPI-143011-1

**A-2043-1 Nut Modification**  
**Figure 5-3**

**Component Inspection Criteria  
Table 5-1**

|     | <b>Inspect</b>  | <b>Serviceable Limits</b>  | <b>Corrective Action</b>   |
|-----|---|--|--|
| E.  | <u>HEX HEAD BOLT, CONTINUED</u><br>(Items 250, 260)<br>Refer to Figure 5-2 and Figure 5-3.  |  |  |
| (5) | Visually examine the threads of the hex head bolt for damage and pitting.   | A maximum total accumulation of 3/4 thread of damage and pitting is permitted. Thread damage must not cause damage to the mating part. An A-2043-1 nut with the plastic locking element removed should be able to be freely rotated by hand on the bolt threads. For the modification of the nut, refer to Figure 5-3. | Limited thread file repair is permitted, but must be considered as thread damage. If the damage and pitting is greater than the permitted serviceable limits, replace the hex head bolt.   |
| (6) | Magnetic particle inspect each bolt in accordance with the Magnetic Particle Inspection chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). | A relevant indication is not permitted.  | If there is a relevant indication, replace the hex head bolt.  |
| (7) | Visually examine the hex head bolt for cadmium plate coverage.  | Cadmium plate must completely cover the hex head bolt with the following exceptions: A few scratches and corners with cadmium plating missing, minor abrading of cadmium plating on the threads, or minor abrading of the cadmium plating on the hex head because of wrenching are permitted.                          | If the cadmium plating coverage is less than the permitted serviceable limits, cadmium replate and bake for a minimum of 23 hours within four hours after plating the hex head bolt in accordance with the Cadmium Replating chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). |

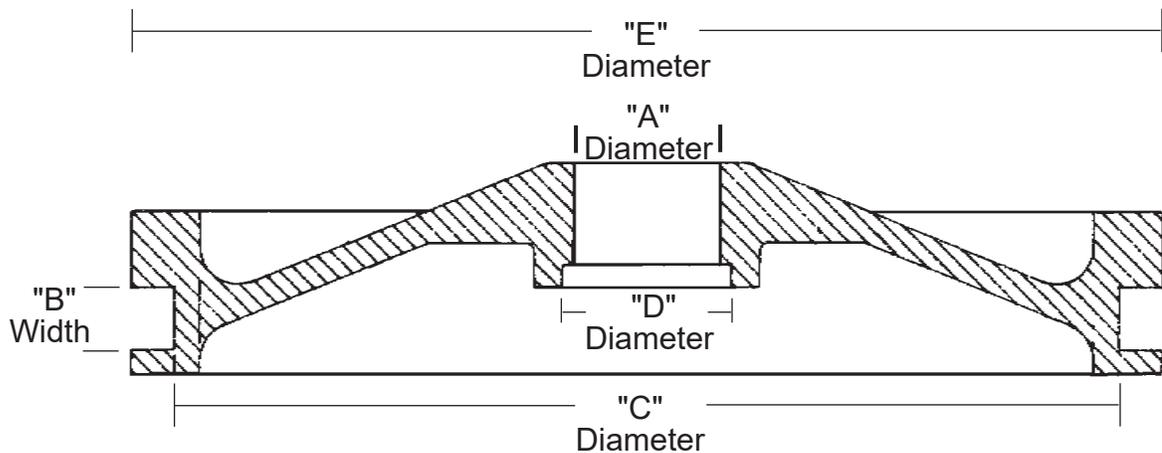


A2421(-),A4252  
A4257,102472

Low Pitch Stop Set Screws  
Figure 5-4

Component Inspection Criteria  
Table 5-1

| Inspect   | Serviceable Limits   | Corrective Action   |
|---|--|---|
| <p>F. <u>SET SCREW. (LOW PITCH STOP)</u><br/>(Item 40)<br/>Refer to Figure 5-4.</p>   |  |   |
| <p><u>NOTE 1:</u> A-2421-1, A-4252, and A-4257(-1) Low Pitch Stop Set Screws have an air bleed hole. A-2421 and 102472 Low Pitch Stop Set Screws do not have an air bleed hole.</p>   |  |   |
| <p><u>NOTE 2:</u> All A-2421-1 Low Pitch Stop Set Screws are obsolete for installation on aerobatic (-4) propellers and must be replaced with a A-4252 Low Pitch Stop Set Screw. The A-4252 Low Pitch Stop Set Screw has an enlarged contact surface for the pitch change rod and are used with B-2428-1 Cylinders.</p> |  |   |
| <p>(1) Examine the pitch change rod contact surface of the low pitch stop set screw for damage.</p>   | <p>Slight damage is permitted. Damage must not affect the performance of the low pitch stop set screw.</p>                                   | <p>If the damage is greater than the permitted serviceable limits, replace the low pitch stop set screw.</p>  |
| <p>(2) Examine the threaded part of the low pitch stop set screw for damage.</p>  | <p>One damaged thread is permitted.</p>  | <p>If the damage is greater than the permitted serviceable limits, replace the low pitch stop set screw.</p>  |
| <p>(3) For Aerobatic (-4) Propellers Only: Examine the air bleed hole in the center of the low pitch stop set screw.</p>  | <p>The air bleed hole must be clear and unobstructed.</p>  | <p>If the air bleed hole cannot be cleared, replace the low pitch stop set screw.</p>   |
| <p>(4) Examine the low pitch stop set screw for cadmium plating coverage.</p>   | <p>Minor wear on corners and a few light random scratches are permitted; otherwise cadmium plating must completely cover the blade plug.</p> | <p>If the cadmium plating coverage is less than the permitted serviceable limits, replate the low pitch stop set screw in accordance with the Cadmium Replating chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).</p> |



APS2280  
PISTON.XLS

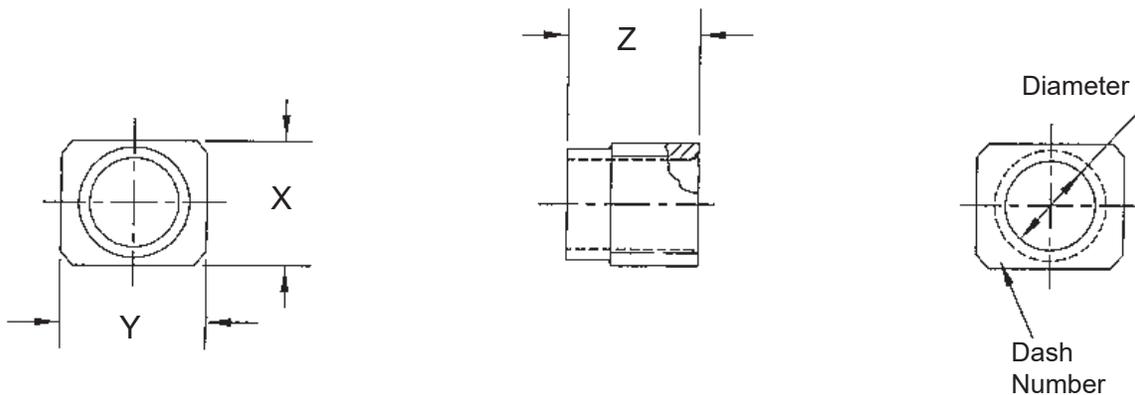
| Part Number   | "A"<br>Maximum<br>Diameter | "B"<br>Maximum<br>Width | "C"<br>Minimum<br>Diameter | "D"<br>Maximum<br>Diameter | "E"<br>Minimum<br>Diameter |
|---------------|----------------------------|-------------------------|----------------------------|----------------------------|----------------------------|
| <b>B-2280</b> | 0.738 inch<br>(18.74 mm)   | 0.335 inch<br>(8.50 mm) | 4.725 inch<br>(120.02 mm)  | 0.856 inch<br>(21.74 mm)   | 5.165 inch<br>(131.20 mm)  |
| <b>B-2419</b> | 0.738 inch<br>(18.74 mm)   | 0.270 inch<br>(6.85 mm) | 4.358 inch<br>(110.70 mm)  | 0.856 inch<br>(21.74 mm)   | 4.706 inch<br>(119.54 mm)  |
| <b>B-6511</b> | 0.738 inch<br>(18.74 mm)   | 0.335 inch<br>(8.50 mm) | 4.725 inch<br>(120.02)     | 0.856 inch<br>(21.74 mm)   | 5.165 inch<br>(131.20 mm)  |

**Piston Dimensional Inspection Criteria**  
**Table 5-2**

**Component Inspection Criteria  
Table 5-1**

| Inspect  | Serviceable Limits   | Corrective Action   |
|--|--|---|
| <p>G. <u>PISTON</u><br/>(Item 90)<br/>Refer to Table 5-2.</p>  |  |   |
| <p><u>NOTE</u> :      Pistons were originally manufactured with a felt seal groove. Current production pistons no longer have a felt seal groove, however, the original pistons were not made obsolete by this improvement. A piston does not have to be retired if it has a felt seal groove.</p> |  |   |
| (1) Measure dimension "A" of the piston.   | Refer to Table 5-2 for the "A" dimensional limit.                        | If the measurement is greater than the serviceable limits, replace the piston.      |
| (2) Visually examine the surface of the piston for nicks, scratches or other damage.   | The maximum permitted depth of damage is 0.005 inch (0.12 mm).           | If the damage is greater than the permitted serviceable limits, replace the piston. |
| (3) Visually examine the piston for wear in areas "B" through "E".   | Dimensionally inspect area(s) showing wear in accordance with Table 5-2. | If dimensions are beyond the serviceable limits, replace the piston.                |

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**



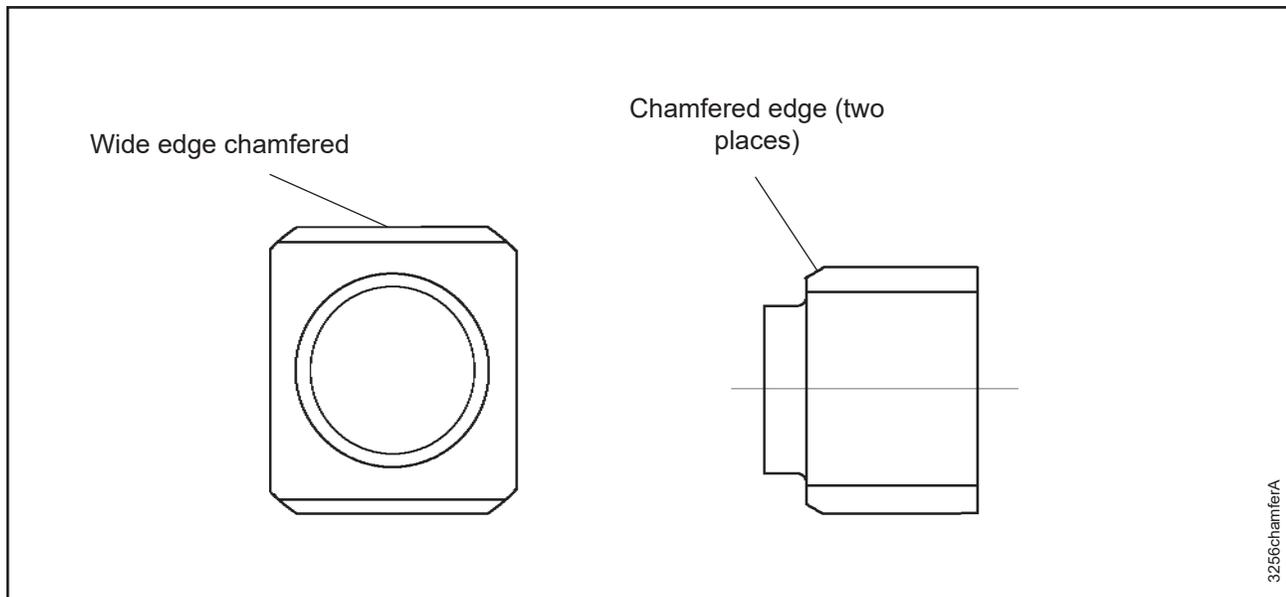
APS2058  
BLOCK.XLS

| Part Number     | "X" Minimum                                 | "Y" Minimum                                 | "Z" Minimum              | Hole Diameter Maximum      |
|-----------------|---|---|--------------------------|----------------------------|
| <b>A-2217-1</b> | Not a wear surface, no measurement required | 1.011 inch<br>(25.67 mm)                    | 0.905 inch<br>(22.98 mm) | 0.6250 inch<br>(15.875 mm) |
| <b>A-2217-2</b> | Not a wear surface, no measurement required | 1.009 inch<br>(25.62 mm)                    | 0.905 inch<br>(22.98 mm) | 0.6250 inch<br>(15.875 mm) |
| <b>A-2217-3</b> | 0.870 inch<br>(22.09 mm)                    | 0.870 inch<br>(22.09 mm)                    | 0.905 inch<br>(22.98 mm) | 0.6890 inch<br>(17.500 mm) |
| <b>A-2217-4</b> | 0.870 inch<br>(22.09 mm)                    | 0.870 inch<br>(22.09 mm)                    | 0.905 inch<br>(22.98 mm) | 0.6250 inch<br>(15.875 mm) |
| <b>A-3253</b>   | 0.871 inch<br>(22.12 mm)                    | Not a wear surface, no measurement required | 0.745 inch<br>(18.92 mm) | 0.6250 inch<br>(15.875 mm) |
| <b>A-3253-1</b> | 0.869 inch<br>(22.07 mm)                    | Not a wear surface, no measurement required | 0.745 inch<br>(18.92 mm) | 0.6250 inch<br>(15.875 mm) |
| <b>A-3253-2</b> | 0.869 inch<br>(22.07 mm)                    | Not a wear surface, no measurement required | 0.745 inch<br>(18.92 mm) | 0.6890 inch<br>(17.500 mm) |
| <b>A-3253-3</b> | 0.874 inch<br>(22.19 mm)                    | Not a wear surface, no measurement required | 0.745 inch<br>(18.92 mm) | 0.6890 inch<br>(17.500 mm) |

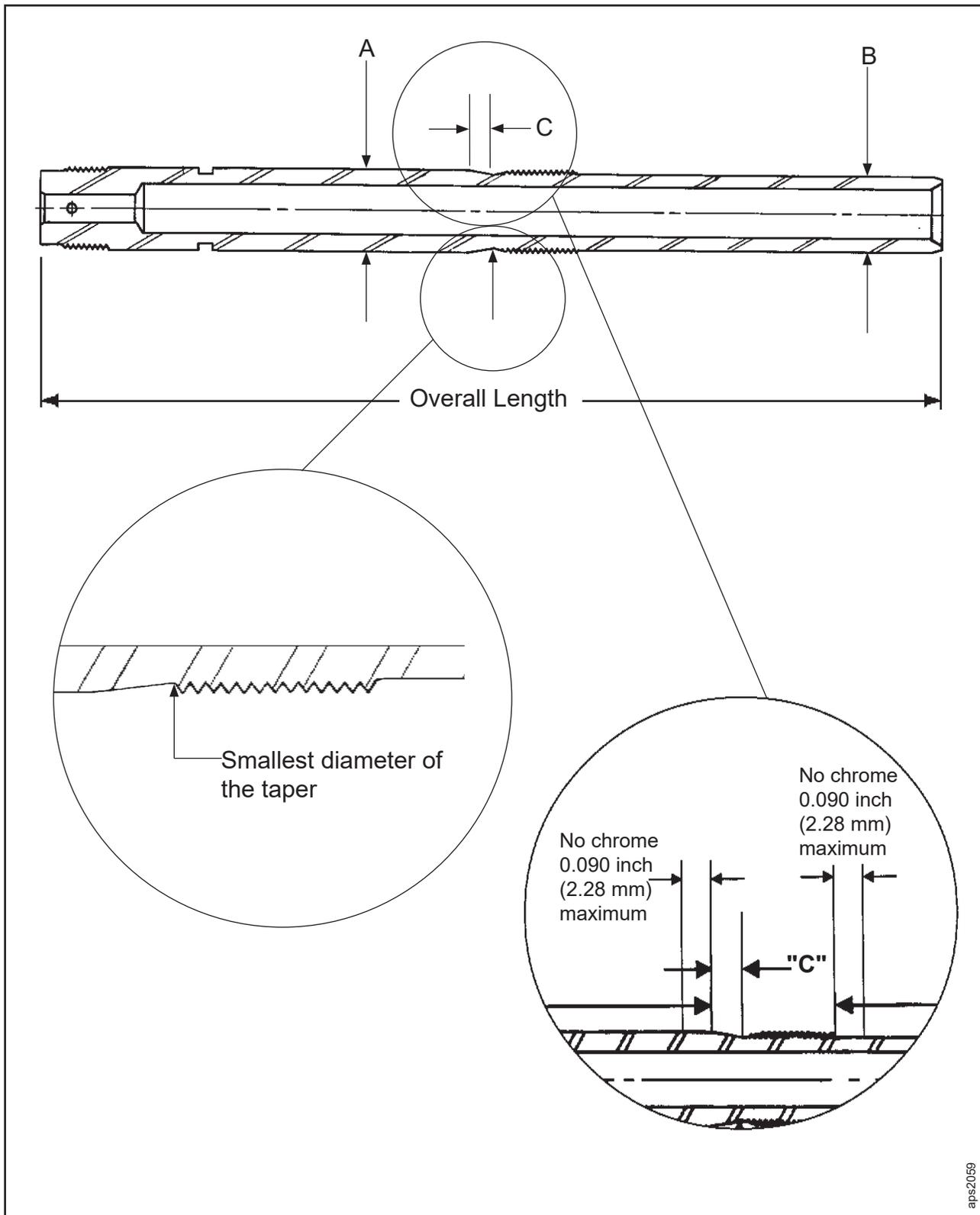
**Pitch Change Block Identification/Dimensional Criteria  
Table 5-3**

Component Inspection Criteria  
Table 5-1

| Inspect  | Serviceable Limits  | Corrective Action   |
|--|---|---|
| H. <u>PITCH CHANGE BLOCK</u><br>(Item 200)<br>Refer to Table 5-3 and Figure 5-5.   |   |   |
| (1) Visually examine the pitch change block for damage.  | The maximum permitted depth of damage is 0.005 inch (0.12 mm).  | If the depth of damage is greater than the permitted serviceable limits replace the pitch change block.   |
| (2) Visually examine the pitch change block for wear.  | If there is wear, dimensionally inspect according to Table 5-3. | If the wear is greater than the permitted serviceable limits replace the pitch change block.  |
| (3) For A-3253-( ) pitch change block only:<br>Visually examine the pitch change block for a chamfer.                                      | Refer to Figure 5-5 for chamfer location.                       | Modify the pitch change block in accordance with the section, "Modification of the A-3253-( ) Pitch Change Block" in the Repair chapter of this manual. |
| (4) Magnetic particle inspect the pitch change block in accordance with Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). | A relevant indications is not permitted.                        | If there is a relevant indication, replace the pitch change block.  |



Pitch Change Block Chamfer Location  
Figure 5-5



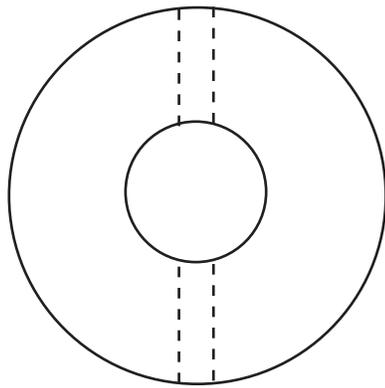
Pitch Change Rod  
Figure 5-6

**Component Inspection Criteria  
Table 5-1**

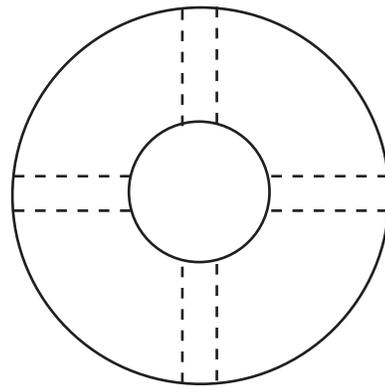
| Inspect   | Serviceable Limits   | Corrective Action   |
|---|--|---|
| <b>I. <u>PITCH CHANGE ROD</u></b><br>(Item 140)<br>Refer to Table 5-4, Figure 5-6 and Figure 5-7. |  |   |
| (1) Visually examine the chrome plating of the pitch change rod for damage.                       | Except for spots of missing chrome around the masking areas, for example the keeper groove or the threads, any area worn below the chrome plating is not permitted.                                      | If there is wear below the chrome plating, replace the pitch change rod.  |
| (2) Visually examine for damage to external threads (two locations).                              | One damaged thread in each location is permitted.  | If the damage is greater than the permitted serviceable limits, replace the pitch change rod.   |
| (3) Visually examine the taper area "C" for corrosion product, wear, and damage.                  | Corrosion product, wear, or damage is not permitted at the smallest diameter of the taper. Remaining taper surface may have a maximum damage depth of 0.004 inch (0.10 mm) over 25% of the surface area. | If damage causes high spots above the existing surface, remove only the high spots. If corrosion product, wear, or damage is greater than the serviceable limits, replace the pitch change rod. |
| (4) Measure inspect area A of the pitch change rod.   | Minimum permitted diameter is 0.732 inch (18.59 mm).   | If the diameter is less than the permitted serviceable limits, replace the pitch change rod.  |

| Part Number | Overall Length (inch) | Overall Length (mm) | Difference if Same Length |
|-------------|-----------------------|---------------------|---------------------------|
| A-2418-1    | 8.225                 | 208.91              |                           |
| A-2418-2    | 8.600                 | 218.44              | Drilled through hex end   |
| A-2418-3    | 14.815                | 376.30              |                           |
| A-2418-4    | 12.815                | 325.50              | Drilled through hex end   |
| A-2418-5    | 8.600                 | 218.44              | Solid hex end             |
| A-2418-6    | 13.127                | 333.42              |                           |
| A-2418-7    | 12.815                | 325.50              | Solid hex end             |
| A-2418-8    | 8.850                 | 224.79              |                           |
| A-2418-9    | 13.565                | 344.55              |                           |
| C-6512      | 10.780                | 273.81              |                           |

**Pitch Change Rod Identification  
Table 5-4**



One Through Hole

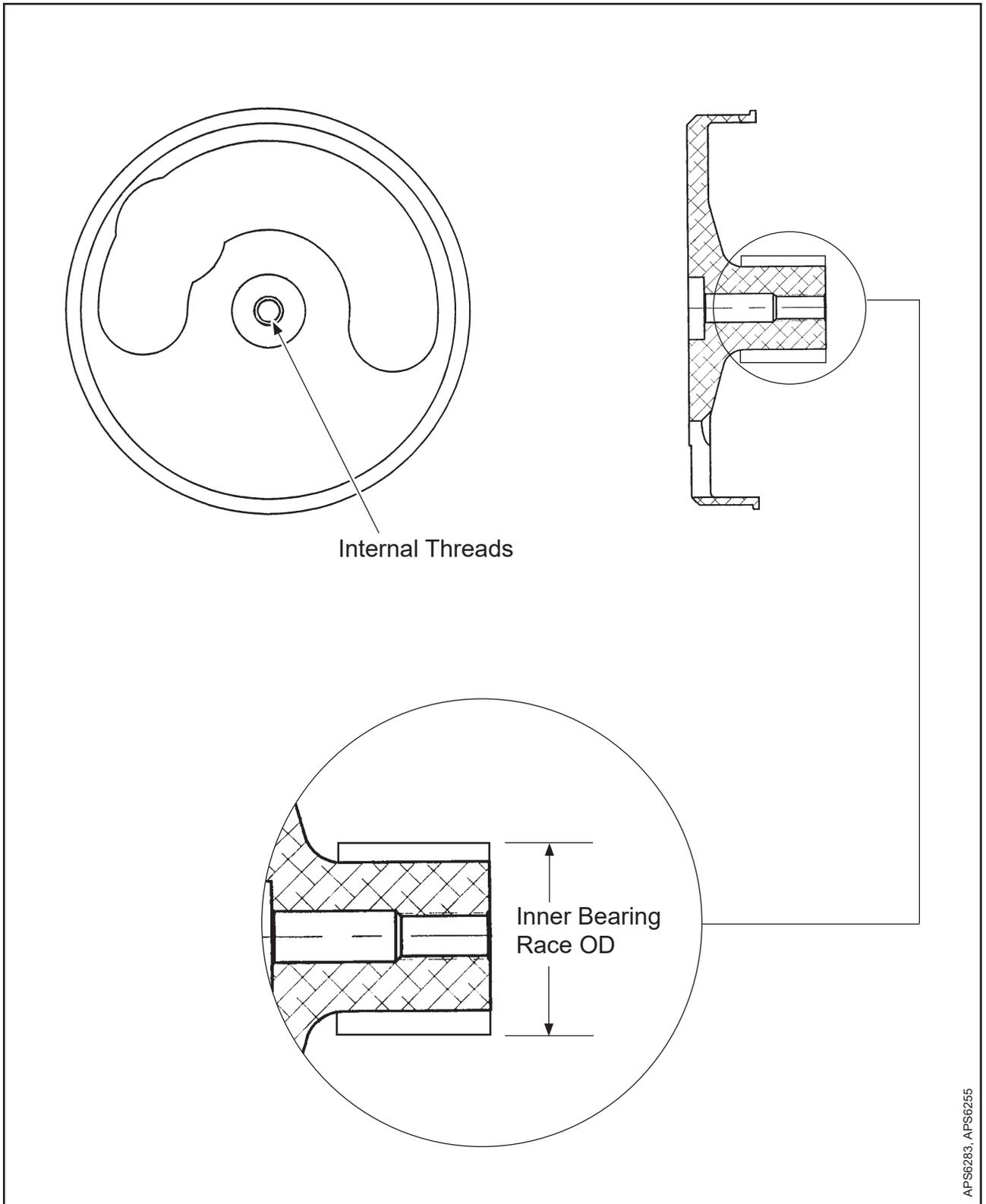


Two Through Holes

Pitch Change Rod Through Holes  
Figure 5-7

**Component Inspection Criteria  
Table 5-1**

| Inspect  | Serviceable Limits                                       | Corrective Action   |
|--|--|---|
| <p>I. <u>PITCH CHANGE ROD, CONTINUED</u><br/>(Item 140)<br/>Refer to Table 5-4, Figure 5-6 and Figure 5-7.</p>   |  |   |
| (5) Measure diameter B of the pitch change rod.  | The minimum permitted diameter is 0.662 inch (16.81 mm). | If the diameter is less than the permitted serviceable limits, replace the pitch change rod.  |
| (6) Visually examine the pitch change rod for two cotter pin through holes. Refer to Figure 5-6.   | There must be two cotter pin through holes.              | If there is only one cotter pin through hole, modify the pitch change rod in accordance with the section "Modification of the Pitch Change Rod" in the Repair chapter of this manual. |
| (7) Perform a magnetic particle inspection of the pitch change rod in accordance with Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). | A crack is not permitted.                                | If there is a crack, replace the pitch change rod.  |
| (8) Visually examine the oil supply bore using a borescope or fiber-optic flashlight.  | Unwanted material is not permitted.                      | Remove all unwanted material.   |



AFS6283, AFS6255

**Preload Plate with Inner Bearing Race**  
**Figure 5-8**

**Component Inspection Criteria  
Table 5-1**

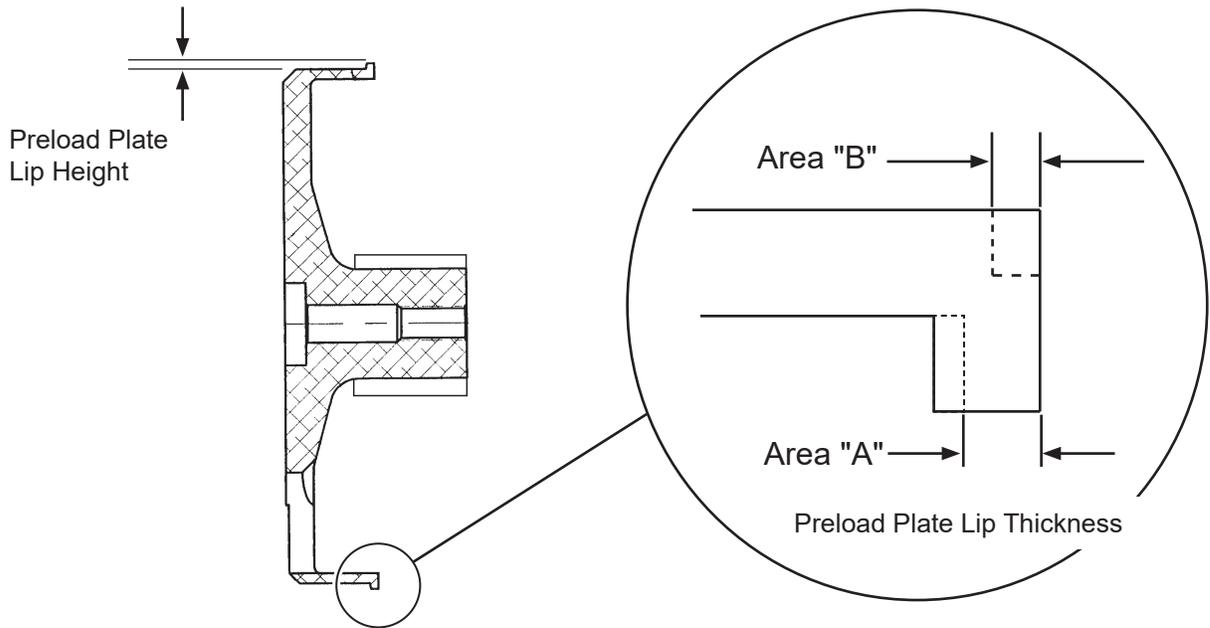
| Inspect  | Serviceable Limits  | Corrective Action  |
|--|---|--|
| <p>J. <u>PRELOAD PLATE ASSEMBLY WITH INNER BEARING RACE</u><br/>(Item 440)<br/>Refer to Figure 5-8 and Figure 5-9.</p> |   |  |
| <p>(1) Visually examine the aluminum part of the preload plate assembly for corrosion product.</p>                     | <p>Corrosion product is not permitted. If there is corrosion product, remove it in accordance with the corrective action repair limits.</p> | <p>Mask the internal threads then remove corrosion product using glass bead cleaning in accordance with the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). If the corrosion product cannot be removed, replace the preload plate assembly.</p> |
| <p>(2) Visually examine the aluminum part of the preload plate assembly for pitting.</p>                               | <p>The maximum permitted depth of pitting is 0.004 inch (0.10 mm).</p>  | <p>Pitting may be removed by polishing using an abrasive pad CM47 or equivalent, up to 0.007 inch (0.17 mm) deep. If the depth of pitting or polishing is greater than the permitted serviceable limits, replace the preload plate assembly.</p>                                       |
| <p>(3) Visually examine the internal threads for damage.</p>   | <p>A maximum of two threads of total accumulated damage are permitted.</p>  | <p>If the damage is greater than the permitted serviceable limits, replace the preload plate assembly.</p>   |

Component Inspection Criteria  
Table 5-1

| Inspect   | Serviceable Limits   | Corrective Action   |
|---|--|---|
| <p>J. <u>PRELOAD PLATE ASSEMBLY WITH INNER BEARING RACE, CONTINUED</u></p>  |  |   |
| <p>(Item 440)</p>   |  |   |
| <p>Refer to Figure 5-8 and Figure 5-9.</p>  |  |   |
| <p>(4) Visually examine the OD of the inner bearing race (450) for corrosion product, brinelling, pitting and damage.</p> | <p>Corrosion product is not permitted. If there is corrosion product, remove it in accordance with the corrective action repair limits.</p> <p>Raised material is not permitted.</p> <p>The maximum permitted depth of brinelling is 0.003 inch (0.07 mm).</p> <p>The maximum permitted depth of pitting and damage is 0.005 inch (0.12 mm).</p> <p>The maximum permitted total area of brinelling, pitting, and damage is 5%.</p> | <p>Mask the internal threads then remove corrosion product using glass bead cleaning. Refer to the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).</p> <p>Polish raised material using an abrasive pad CM47 or equivalent.</p> <p><b>B-6679 inner bearing race:</b><br/>If corrosion product cannot be removed, or if raised material, brinelling, pitting, or damage of the inner bearing race is greater than the permitted serviceable limits, remove the inner bearing race in accordance with the Repair chapter of this manual, then examine the preload plate spindle in accordance with the applicable step in this Preload Plate Assembly inspection criteria.</p> <p><b>A-1272 inner bearing race:</b><br/>If corrosion product cannot be removed, or if raised material, brinelling, pitting, or damage of the inner bearing race is greater than the permitted serviceable limits, replace the preload plate assembly.</p> |

Component Inspection Criteria  
Table 5-1

| Inspect   | Serviceable Limits   | Corrective Action   |
|---|--|---|
| <p>J. <u>PRELOAD PLATE ASSEMBLY WITH INNER BEARING RACE, CONTINUED</u></p>  |  |   |
| <p>(Item 440)</p>   |  |   |
| <p>Refer to Figure 5-8 and Figure 5-9.</p>  |  |   |
| <p>(5) Measure the OD of the inner bearing race (450).</p>  | <p><b>B-6679 inner bearing race:</b><br/>The minimum permitted OD is 1.249 inch (31.73 mm).</p> <p><b>A-1272 inner bearing race:</b><br/>The minimum permitted OD is 1.124 inch (28.55 mm).</p>  | <p><b>B-6679 inner bearing race:</b><br/>If the OD is less than the permitted serviceable limits, remove the inner bearing race in accordance with the Repair chapter of this manual, then examine the preload plate spindle in accordance with the applicable step in this Preload Plate Assembly inspection criteria.</p> <p><b>A-1272 inner bearing race:</b> If the OD is less than the permitted serviceable limits, replace the preload plate assembly.</p>                   |
| <p>(6) If the inner bearing race (450) is removed, visually examine the preload plate spindle for corrosion product, raised material, and damage.</p> | <p>Corrosion product is not permitted. If there is corrosion product, remove it in accordance with the corrective action repair limits.</p> <p>Raised material is not permitted.</p> <p>The maximum permitted depth of damage is 0.004 inch (0.10 mm).</p> | <p>Mask the internal threads then remove corrosion product using glass bead cleaning in accordance with the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).</p> <p>Polish raised material using an abrasive pad CM47 or equivalent.</p> <p>If the corrosion product cannot be removed or if raised material or damage to the preload plate spindle is greater than the permitted serviceable limits, replace the preload plate assembly.</p> |



| Lip Thickness in Area "A"       | Maximum Permitted Depth of Damage in Area "B" |
|---------------------------------|---|
| 0.060 inch (1.53 mm)            | 0.013 inch (0.33 mm) or less                  |
| 0.061 inch (1.55 mm)            | 0.014 inch (0.35 mm)                          |
| 0.062 inch (1.58 mm)            | 0.015 inch (0.38 mm)                          |
| 0.063 inch (1.61 mm)            | 0.016 inch (0.40 mm)                          |
| 0.064 inch (1.63 mm)            | 0.017 inch (0.43 mm)                          |
| 0.065 inch (1.66 mm)            | 0.018 inch (0.45 mm)                          |
| 0.066 inch (1.68 mm)            | 0.019 inch (0.48 mm)                          |
| 0.067 inch (1.71 mm) or greater | 0.020 inch (0.50 mm)                          |

**Example 1:** Lip thickness in Area "A" is greater than 0.063 inch (1.61 mm)  
Depth of damage in Area "B" is 0.016 inch (0.40 mm).  
Preload plate is within permitted serviceable limits.

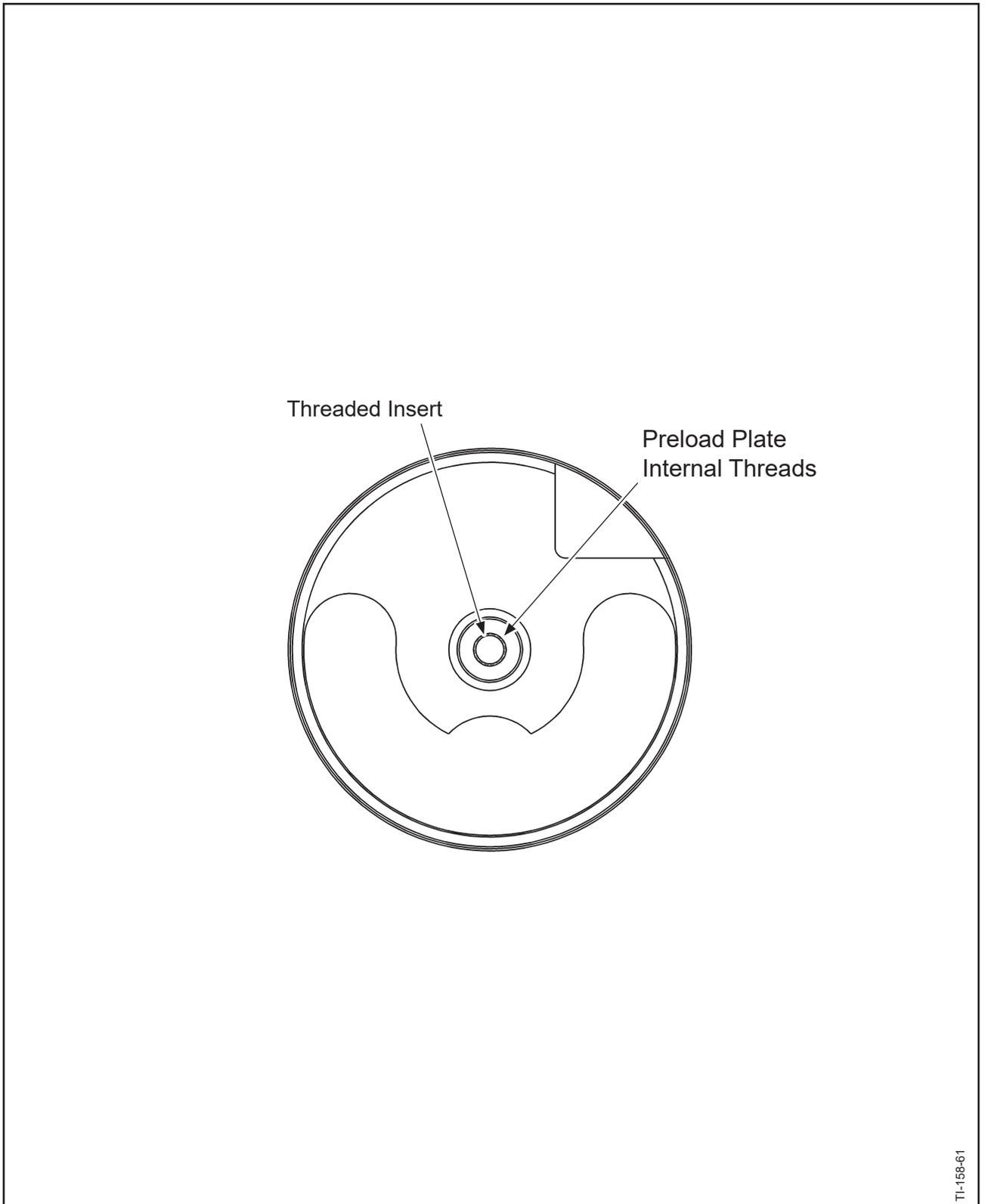
**Example 2:** Lip thickness in Area "A" is less than 0.063 inch (1.61 mm)  
Depth of damage in Area "B" is 0.018 inch (0.45 mm).  
Damage is greater than the permitted serviceable limits,  
replace the preload plate.

AFS6283, AFS6284

**Preload Plate Lip Measurement  
Figure 5-9**

**Component Inspection Criteria  
Table 5-1**

|     | <b>Inspect</b>  | <b>Serviceable Limits</b>   | <b>Corrective Action</b>  |
|-----|---|---|---|
| J.  | <u>PRELOAD PLATE ASSEMBLY WITH INNER BEARING RACE, CONTINUED</u><br>(Item 440)<br>Refer to Figure 5-8 and Figure 5-9.   |   |   |
| (7) | Visually examine the preload plate lip for damage. If the lip is damaged, measure the height.   | The minimum permitted lip height is 0.040 inch (1.02 mm).   | Remove any rough edges or evidence of fretting. If damage or repair is greater than the permitted serviceable limits, or the lip height is less than the permitted serviceable limits, replace the preload plate assembly.                      |
| (8) | Visually examine the preload plate lip for damage. If the lip is damaged, measure the lip thickness.  | The minimum lip thickness in Area "A" is 0.060 inch (1.53 mm).<br>The maximum permitted depth of damage in Area "B" of the preload plate lip is dependent on the thickness in Area "A" of the preload plate lip. Use the information and examples in Figure 5-8 to find the maximum permitted depth of damage in Area "B" when lip thickness in Area "A" is equal to or greater than the dimension specified in Figure 5-8. | If the lip thickness in Area "A" is less than the permitted serviceable limits, replace the preload plate assembly.<br>If the depth of damage in Area "B" is greater than the permitted serviceable limits, replace the preload plate assembly. |
| (9) | Penetrant inspect the preload plate in accordance with the Penetrant Inspection chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). | A relevant indication is not permitted.   | If there is a relevant indication, replace the preload plate assembly.  |

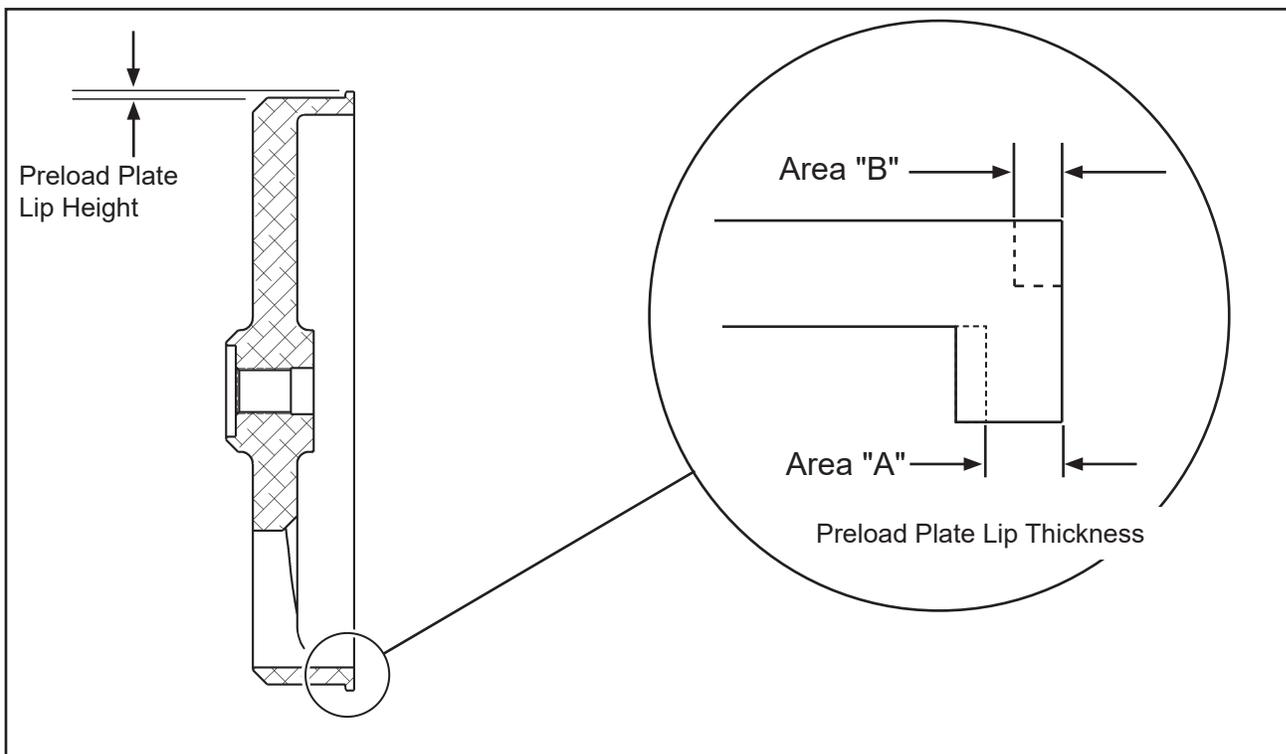


TI-158-61

**Preload Plate Assembly with Threaded Insert**  
**Figure 5-10**

Component Inspection Criteria  
Table 5-1

|     | Inspect  | Serviceable Limits   | Corrective Action   |
|-----|--|--|---|
| K.  | <u>PRELOAD PLATE ASSEMBLY WITH THREADED INSERT</u><br>(Item 440 and 445)<br>Refer to Figure 5-10.        |  |   |
| (1) | Visually examine the preload plate for corrosion product.  | Corrosion product is not permitted. If there is corrosion product, remove it in accordance with the corrective action repair limits. | Mask the threads. Remove corrosion product using glass bead cleaning in accordance with the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). If corrosion product cannot be removed, replace the preload plate. |
| (2) | Visually examine the preload plate for pitting.  | The maximum permitted depth of pitting is 0.004 inch (0.10 mm).  | Using an abrasive pad CM47 or equivalent remove pitting by polishing up to 0.007 inch (0.17 mm) deep. If the pitting or polishing is greater than the permitted serviceable limits or the corrective action limits, replace the preload plate.        |
| (3) | Visually examine the threaded insert for thread damage.  | Thread damage is not permitted.  | If damage is greater than the permitted serviceable limits, replace the threaded insert in accordance with the section "Replacement of Preload Plate Threaded Inserts" in the Repair chapter of this manual.  |
| (4) | If the threaded insert has been removed, visually examine the preload plate threads for damage.          | A maximum 1/4 of one thread of total accumulated damage is permitted. Damage must not interfere with the threaded insert.            | If damage is greater than the permitted serviceable limits, replace the preload plate.  |
| (5) | Visually examine the lip of the preload plate for damage. If the lip is damaged, measure the lip height. | The minimum permitted lip height is 0.040 inch (1.02 mm).  | If the lip height is less than the permitted serviceable limits, replace the preload plate.   |



| Lip Thickness<br>in Area "A"    | Maximum Permitted Depth of Damage<br>in Area "B" |
|---------------------------------|--|
| 0.060 inch (1.53 mm)            | 0.013 inch (0.33 mm) or less                     |
| 0.061 inch (1.55 mm)            | 0.014 inch (0.35 mm)                             |
| 0.062 inch (1.58 mm)            | 0.015 inch (0.38 mm)                             |
| 0.063 inch (1.61 mm)            | 0.016 inch (0.40 mm)                             |
| 0.064 inch (1.63 mm)            | 0.017 inch (0.43 mm)                             |
| 0.065 inch (1.66 mm)            | 0.018 inch (0.45 mm)                             |
| 0.066 inch (1.68 mm)            | 0.019 inch (0.48 mm)                             |
| 0.067 inch (1.71 mm) or greater | 0.020 inch (0.50 mm)                             |

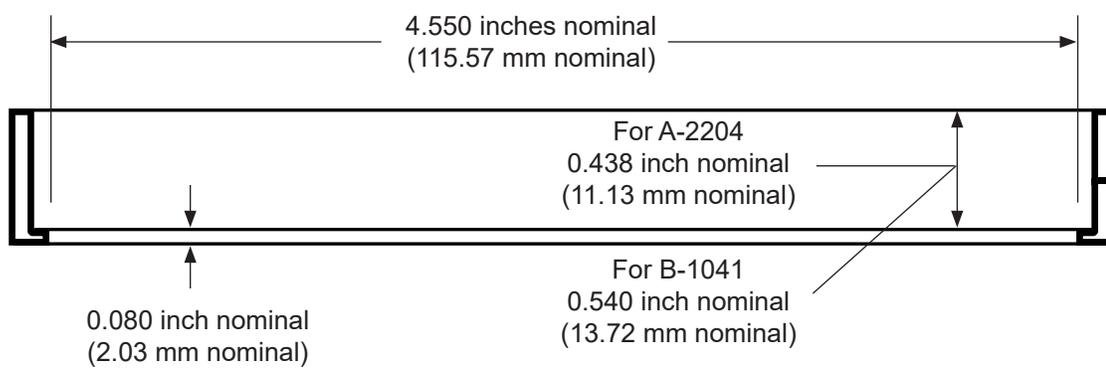
**Example 1:** Lip thickness in Area "A" is greater than 0.063 inch (1.61 mm)  
Depth of damage in Area "B" is 0.016 inch (0.40 mm).  
Preload plate is within permitted serviceable limits.

**Example 2:** Lip thickness in Area "A" is less than 0.063 inch (1.61 mm)  
Depth of damage in Area "B" is 0.018 inch (0.45 mm).  
Damage is greater than the permitted serviceable limits,  
replace the preload plate.

**Preload Plate Lip Measurement**  
**Figure 5-11**

Component Inspection Criteria  
Table 5-1

| Inspect  | Serviceable Limits  | Corrective Action  |
|--|---|--|
| K. <u>PRELOAD PLATE ASSEMBLY WITH THREADED INSERT, CONTINUED</u>   |   |  |
| (Item 440 and 445)   |   |  |
| Refer to Figure 5-10 and Figure 5-11.  |   |  |
| (6) Visually examine the lip of the preload plate for damage. If the lip is damaged, measure the lip thickness.  | The minimum lip thickness in Area "A" is 0.060 inch (1.53 mm).<br><br>The maximum permitted depth of damage in Area "B" of the preload plate lip is dependent on the thickness of the preload plate lip in Area "A". Use the information and examples in Figure 5-11 to find the maximum permitted depth of damage in Area "B" when lip thickness in Area "A" is equal to or greater than the dimension specified in Figure 5-11. | If the lip thickness in Area "A" is less than the permitted serviceable limit, replace the preload plate.<br><br>If the depth of damage in Area "B" is greater than the permitted serviceable limits, replace the preload plate. |
| (7) Penetrant inspect the preload plate in accordance with the Penetrant Inspection chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).<br><u>NOTE:</u> The threaded insert does not need to be removed for this inspection. | A relevant indication is not permitted.   | If there is a relevant indication, replace the preload plate.  |



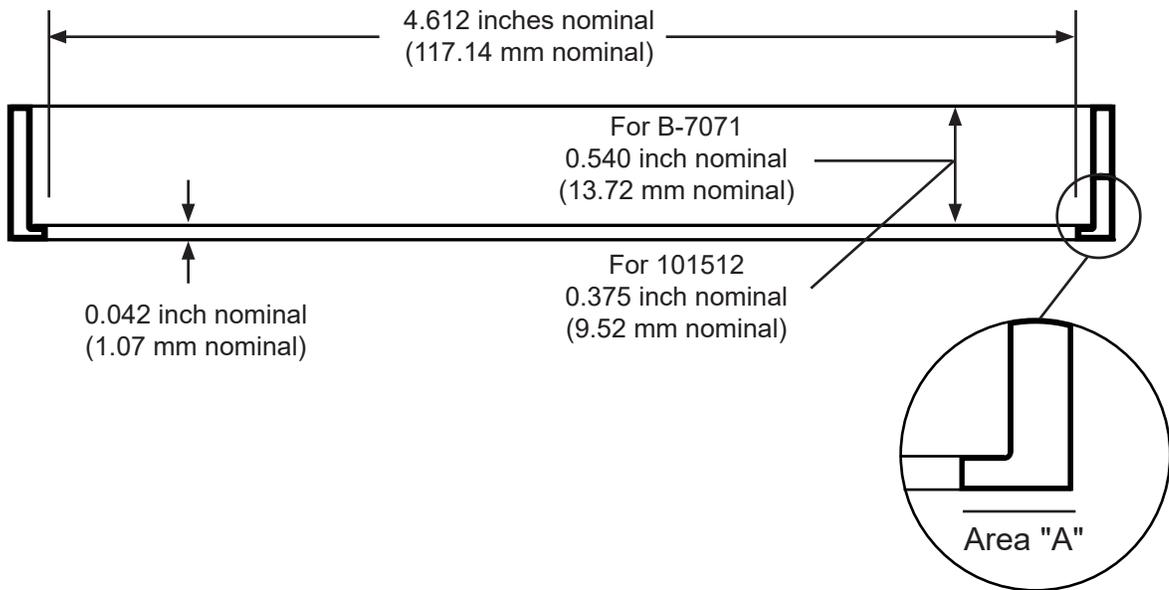
**NOTE:** Dimensions are for identification purposes only.

B-7071.eps

**A-2204 and B-1041 Bearing Retaining Ring  
Figure 5-12**

**Component Inspection Criteria  
Table 5-1**

|     | <b>Inspect</b>   | <b>Serviceable Limits</b>   | <b>Corrective Action</b>   |
|-----|--|---|--|
| L.  | <u>A-2204 AND B-1041 BEARING RETAINING RING</u><br>(Item 460)<br>Refer to Figure 5-12. |   |  |
| (1) | Visually examine the bearing race retention ring for corrosion product and pitting.    | Corrosion product is not permitted.<br><br>The maximum permitted depth of pitting is 0.005 inch (0.12 mm). Pitting must not interfere with the ability of the bearing race retention ring to fit tightly to the blade and the bearing race. | Remove corrosion product using glass bead cleaning in accordance with the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). If the corrosion product or pitting is greater than the permitted serviceable limits, replace the bearing retaining ring. |
| (2) | Visually examine the bearing race retention ring for wear, damage, or fretting.        | The bearing ring must fit tightly to the blade and the bearing race when installed over the blade and bearing race.   | If wear, damage, or fretting is greater than the permitted limits, replace the bearing race retention ring.  |
| (3) | Visually examine the bearing race retention ring for cadmium plating coverage.         | A few random scratches and corners with cadmium plating missing are permitted; otherwise, complete coverage is required.  | If cadmium plating coverage is less than the permitted serviceable limits, replate the bearing race retention ring in accordance with the Cadmium Replating chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).  |



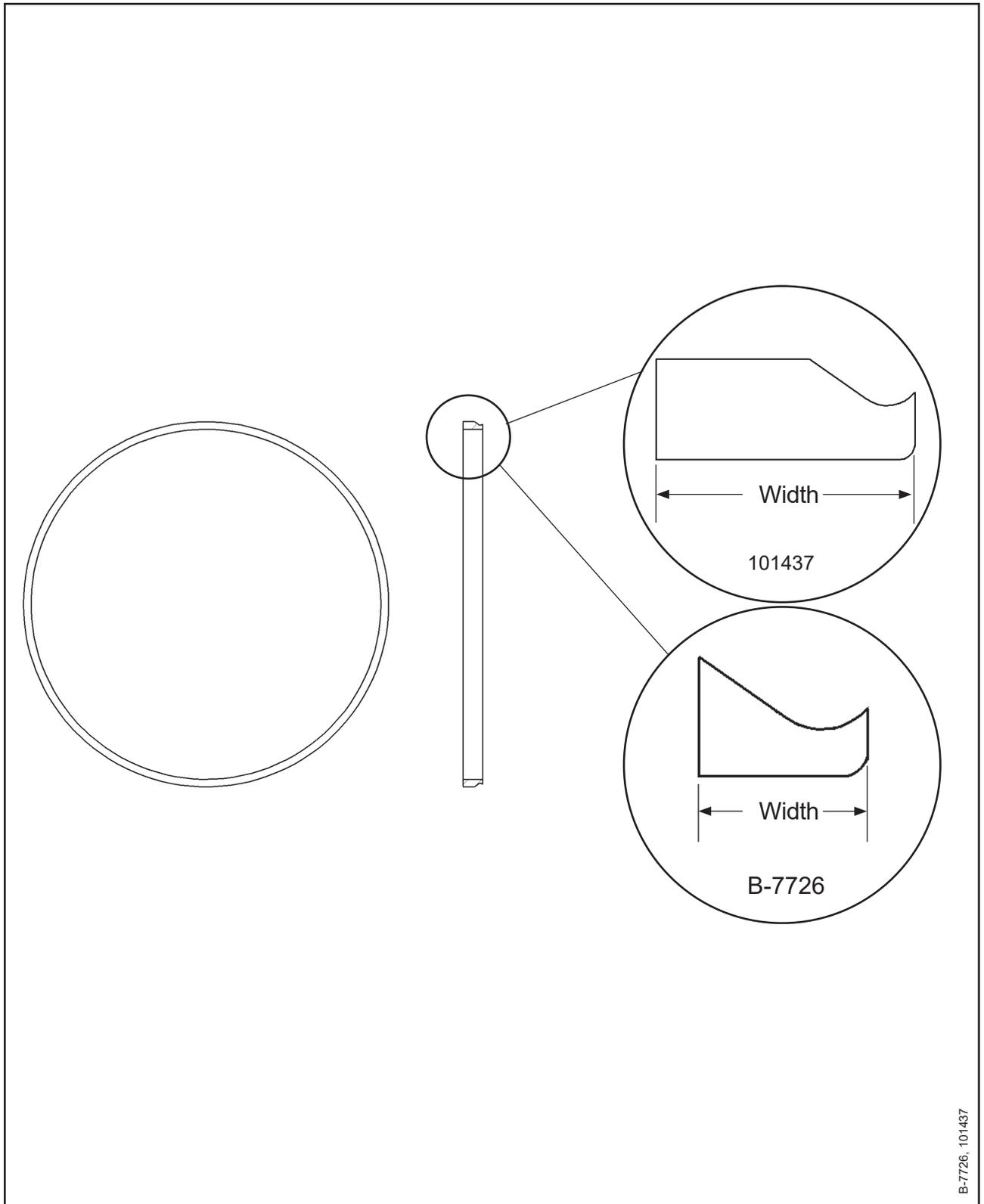
NOTE: Dimensions are for identification purposes only.

B-7071.eps

**B-7071 and 101512 Bearing Retaining Ring**  
**Figure 5-13**

**Component Inspection Criteria  
Table 5-1**

| Inspect   | Serviceable Limits  | Corrective Action  |
|---|---|--|
| <b>M. <u>B-7071 AND 101512 BEARING RETAINING RING</u></b>   |   |  |
| (Item 460)  |   |  |
| Refer to Figure 5-13.   |   |  |
| (1) Except for Area "A", visually examine the bearing retaining ring for corrosion product and pitting. | Corrosion product is not permitted.<br><br>The maximum permitted depth pitting is 0.005 inch (0.12 mm). Pitting must not interfere with the ability of the bearing retaining ring to fit tightly to the blade and the bearing race. | Remove corrosion product using glass bead cleaning in accordance with the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). If the corrosion product or pitting is greater than the permitted serviceable limits, replace the bearing retaining ring. |
| (2) Visually examine the bearing retaining ring for corrosion product, pitting, or wear in Area "A".    | Corrosion product, pitting, damage, or wear is not permitted.   | If there is corrosion product, pitting, or wear, replace the bearing retaining ring.   |
| (3) Except for Area "A", visually examine the bearing retaining ring for wear, damage, or fretting.     | If there is wear, damage, or fretting, examine the fit of the bearing retaining ring. The bearing retaining ring must fit tightly to the blade and the bearing race when installed over the blade and the bearing race.             | If the fit of the bearing retaining ring is not within the permitted serviceable limits, replace the bearing retaining ring.   |
| (4) Visually examine the entire bearing retaining ring for cadmium plating coverage.                    | A few random scratches and corners with cadmium plating missing are permitted; otherwise, complete cadmium plating coverage is required.  | If cadmium plating is not on all surfaces, replating the bearing retaining ring in accordance with the Cadmium Replating chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).   |

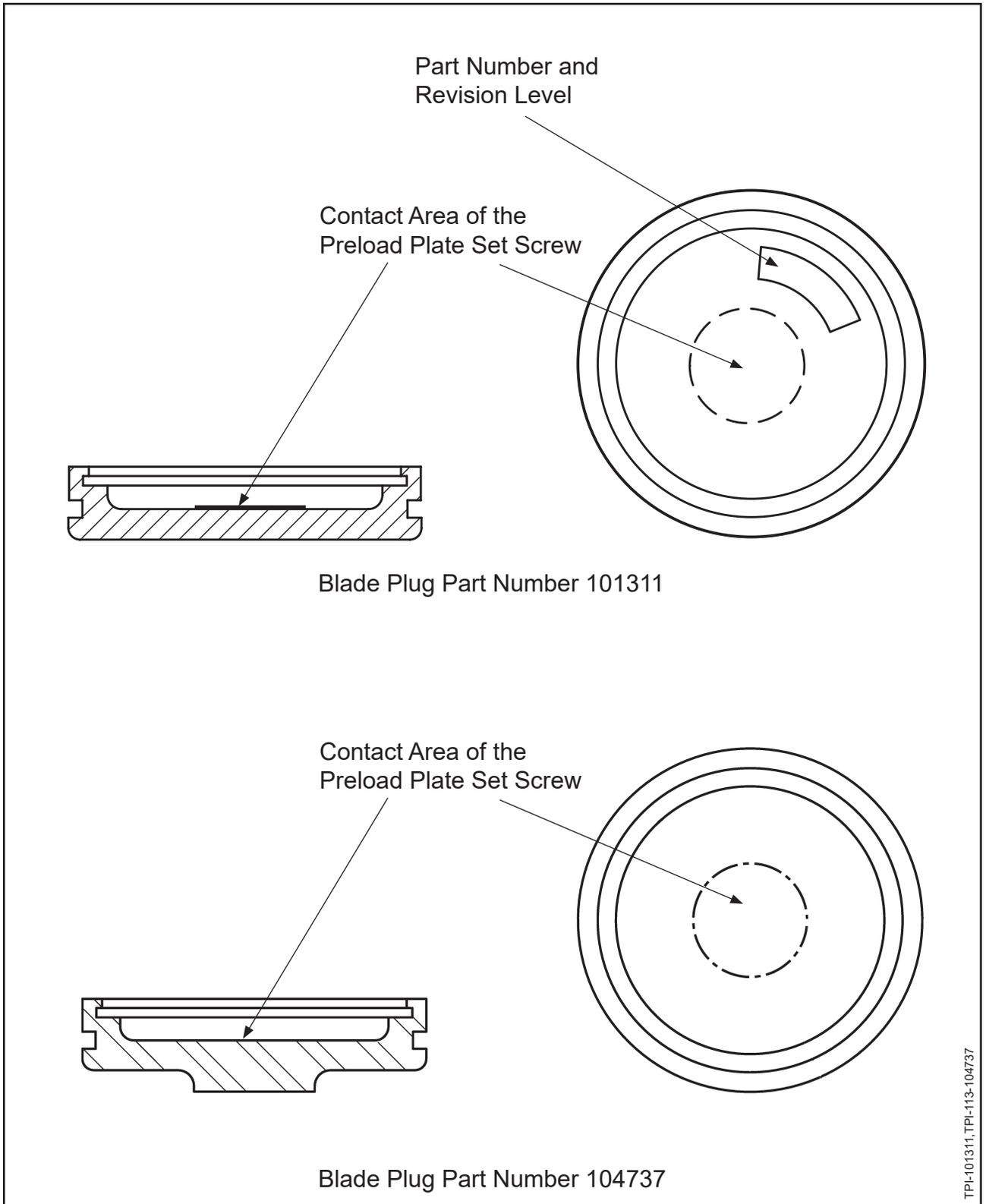


B-7726, 101437

**Blade Seal**  
**Figure 5-14**

**Component Inspection Criteria  
Table 5-1**

| Inspect  | Serviceable Limits   | Corrective Action  |
|--|--|--|
| <p>N. <u>BLADE SEAL</u><br/>(Item 463)<br/>Refer to Figure 5-14.</p>   |  |  |
| <p>(1) Using 10X magnification and an appropriate light source, visually examine the blade seal for damage, missing material, separation, or form irregularities of the continuous ring.</p> | <p>Damage, missing material, separation, or significant form irregularities are not permitted.</p>   | <p>If the blade seal is not within the permitted serviceable limits, replace the blade seal.</p> |
| <p>(2) Visually examine the width of the blade seal for wear.</p>  | <p>If the blade seal is worn, dimensionally inspect. The minimum permitted width is:<br/>B-7726 - 0.090 inch (2.29 mm),<br/>101437 - 0.230 inch (5.84 mm).</p> | <p>If the wear is greater than the permitted serviceable limits, replace the blade seal.</p>     |



Blade Plug Part Number 101311

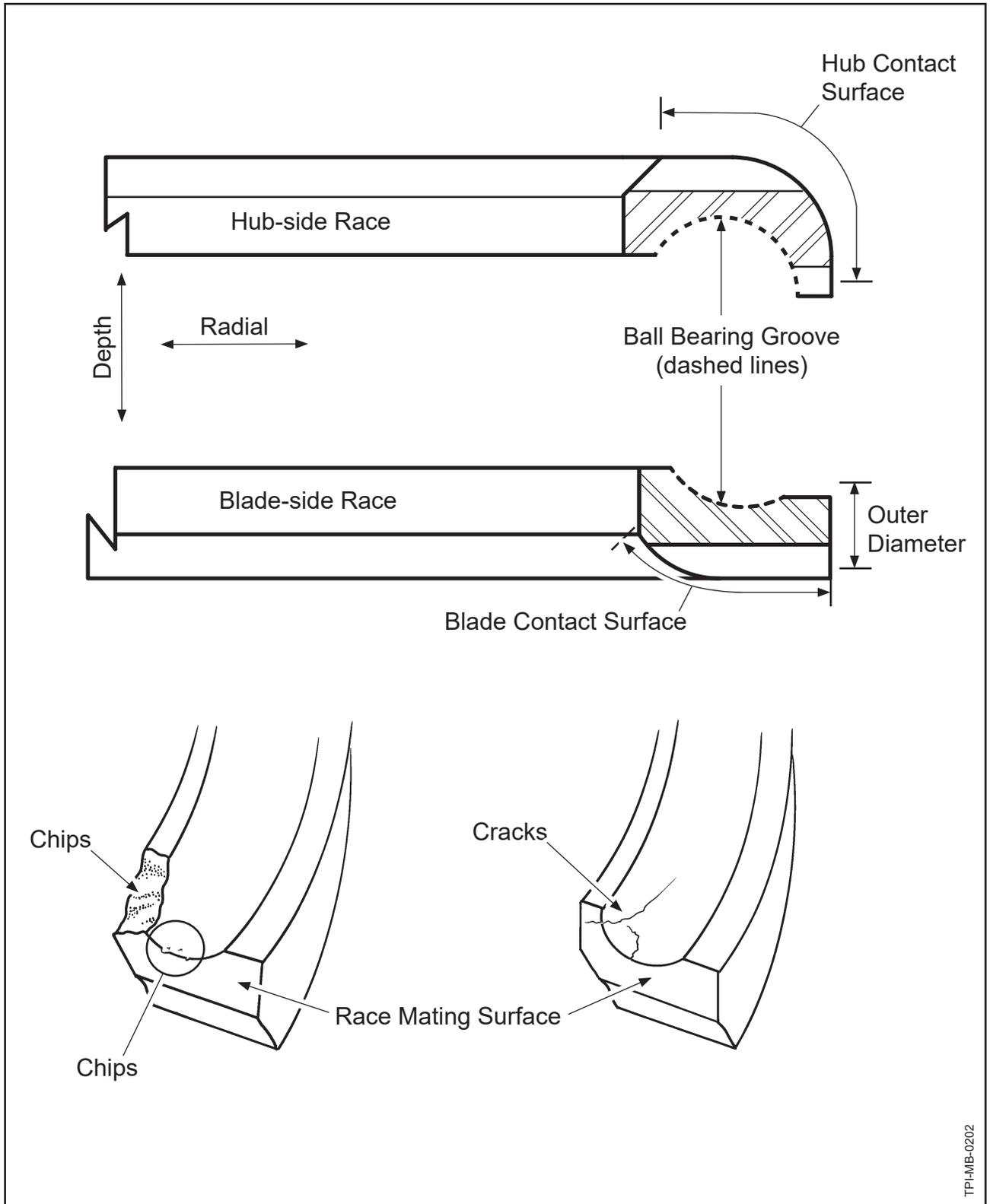
Blade Plug Part Number 104737

TPI-101311, TPI-113-104737

**Blade Plug Inspection Area**  
**Figure 5-15**

Component Inspection Criteria  
Table 5-1

| Inspect  | Serviceable Limits   | Corrective Action  |
|--|--|--|
| <p>O. <u>BLADE PLUG</u><br/>(Item 480)<br/>Refer to Figure 5-15.</p>   |  |  |
| <p>(1) For blade plug part number 101311 only, visually examine the blade plug for the revision level of the part number.</p>                          | <p>The revision level of blade plug part number 101311 must be "D" or later.</p>   | <p>If the revision level of blade plug part number 101311 is "C" or previous, replace the blade plug.</p>  |
| <p>(2) Visually examine the blade plug for corrosion product and pitting.</p>  | <p>Corrosion product is not permitted. If there is corrosion product, remove it in accordance with the corrective action repair limits. The maximum permitted depth of pitting is 0.005 inch (0.12 mm). Pitting is not permitted where it would interface with the preload plate set screw. Pitting may not cover more than 10% of the blade plug surface.</p> | <p>Remove corrosion product to a maximum depth of 0.005 inch (0.12 mm) using glass bead cleaning in accordance with the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). If the corrosion product cannot be removed, or if the depth of the damage is greater than the permitted serviceable limits, replace the blade plug.</p> |
| <p>(3) Visually examine the blade plug for wear or scoring damage in contact area of the preload plate set screw.</p>                                  | <p>If the blade plug is worn or damaged, dimensionally inspect the depth of wear or damage. The maximum permitted depth of wear or damage is 0.004 inch (0.10 mm) beyond the surrounding undamaged surface. The surface finish in the area of contact with the preload set screw must be 30 Ra or smoother.</p>  | <p>Using an abrasive pad CM47 or equivalent, polish to remove wear or damage and maintain a surface finish of 30 Ra or smoother. The maximum permitted depth of repair is 0.004 inch (0.10 mm) beyond the surrounding unrepaired surface. If wear or damage is greater than the permitted serviceable limits, replace the blade plug.</p>                              |
| <p>(4) Visually examine the blade plug for scratches, gouges, cracks, or other damage, outside of the contact area of the preload plate set screw.</p> | <p>The maximum permitted depth of damage is 0.005 inch (0.12 mm). Damage must not interfere with the blade plug fit into the blade bore. A crack is not permitted.</p>   | <p>Using an abrasive pad CM47 or equivalent, polish pushed up material to blend with the surrounding surfaces. If there is a crack or if damage is greater than the permitted serviceable limits, replace the blade plug.</p>  |
| <p>(5) Visually examine the blade plug for cadmium plating coverage.</p>   | <p>Minor wear on corners and a few light random scratches are permitted; otherwise, cadmium plating must completely cover the blade plug.</p>  | <p>If the cadmium plating coverage is less than the permitted serviceable limits, cadmium replate and bake (for a minimum of 23 hours) the blade plug in accordance with the Cadmium Replating chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).</p>   |



**Bearing Race**  
**Figure 5-16**

**Component Inspection Criteria  
Table 5-1**

| Inspect   | Serviceable Limits   | Corrective Action  |
|---|--|--|
| <p>P. <u>BEARING RACE</u><br/>(Items 490 and 530)<br/>Refer to Figure 5-16.</p>                                   |  |  |
| <p>(1) Visually examine the ball bearing groove in each bearing race for corrosion product.</p>                   | <p>Corrosion product is not permitted. If there is corrosion product, remove it in accordance with the corrective action repair limits.</p>  | <p>Remove corrosion product using glass bead cleaning. For glass bead cleaning refer to the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). If the corrosion product cannot be removed, replace the bearing race.</p> |
| <p>(2) Visually examine the ball bearing groove in each bearing race for pitting, wear, fretting, and damage.</p> | <p>The maximum permitted depth of pitting is 0.003 inch (0.076 mm) in the ball bearing groove.</p> <p>The maximum permitted diameter of a pit is 0.032 inch (0.81 mm).</p> <p>The maximum permitted total area of pitting in the ball bearing groove on a complete bearing race is 0.12 square inch (77.4 square mm) (two bearing races for each bearing set). Pitting must not interfere with ball bearing movement or support.</p> | <p>If the pitting is greater than the permitted serviceable limits, replace the bearing race.</p>  |
|   | <p>If the ball bearing groove has wear, measure the wear. The maximum permitted depth of wear is 0.005 inch (0.12 mm).</p>   | <p>If the wear is greater than the permitted serviceable limits, replace the bearing race.</p>   |
|   | <p>Fretting damage is not permitted.</p>   | <p>If there is fretting damage, replace the bearing race.</p>  |
|   | <p>For damage other than pitting or fretting, the maximum permitted depth of damage is 0.003 inch (0.076 mm) and must not interfere with ball bearing movement or support.</p>   | <p>If the damage is greater than the permitted serviceable limits, replace the bearing race.</p>   |

Component Inspection Criteria  
Table 5-1

| Inspect  | Serviceable Limits   | Corrective Action  |
|--|--|--|
| <p>P. <u>BEARING RACE, CONTINUED</u><br/>(Items 490 and 530)<br/>Refer to Figure 5-16.</p>   |  |  |
| <p>(3) Except for the ball bearing groove, visually examine all other surfaces of each bearing race for corrosion product.</p>                   | <p>Corrosion product is not permitted. If there is corrosion product, remove it in accordance with the corrective action repair limits.</p>  | <p>Remove corrosion product using glass bead cleaning. For glass bead cleaning refer to the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). If the corrosion product cannot be removed, replace the bearing race.</p> |
| <p>(4) Except for the ball bearing groove, visually examine all other surfaces of each bearing race for pitting, wear, fretting, and damage.</p> | <p>The maximum permitted depth of pitting is 0.005 inch (0.12 mm).</p>   | <p>If the pitting is greater than the permitted serviceable limits, replace the bearing race.</p>  |
|  | <p>The maximum permitted diameter of a pit is 0.062 inch (1.57 mm).</p>  |  |
|  | <p>The maximum permitted total area of pitting on all surfaces except the ball bearing groove of a complete bearing race is 0.25 square inch (161.2 square mm) (two bearing races for each bearing set).</p> |  |
|  | <p>Fretting damage is permitted on the outer diameter of the bearing races that interface with the bearing retaining ring (460). Fretting must not loosen the tight fit with the bearing retaining ring.</p> | <p>Clean the fretted area thoroughly using an abrasive pad CM47 or equivalent to decrease fretting damage to a minimum. If the fit of the bearing retaining ring (460) to the bearing race is not tight, replace the bearing race.</p>                       |
|  | <p>Wear is not permitted.</p>  | <p>If there is wear, replace the bearing race.</p>   |
|  | <p>For damage other than pitting, the maximum permitted depth of damage is 0.005 inch (0.12 mm) and must not interfere with the mating surfaces.</p>   | <p>If the damage is greater than the permitted serviceable limits, replace the bearing race.</p>   |

**Component Inspection Criteria  
Table 5-1**

| Inspect   | Serviceable Limits  | Corrective Action   |
|---|---|---|
| P. <u>BEARING RACE, CONTINUED</u><br>(Items 490 and 530)<br>Refer to Figure 5-16.   |   |   |
| (5) Visually examine the bearing race for chips or cracks that are adjacent to the mating surfaces of the bearing race.   | Chips or cracks that are adjacent to the mating surfaces of the bearing race are not permitted. | If there are chips or cracks adjacent to the mating surfaces of the bearing race, replace the bearing race. |
| (6) Magnetic particle inspect each bearing race in accordance with the Magnetic Particle Inspection chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). | A relevant indication is not permitted.   | If there is a relevant indication, replace the bearing race.  |

Component Inspection Criteria  
Table 5-1

| Inspect   | Serviceable Limits   | Corrective Action  |
|---|--|--|
| Q. <u>101388 SPRING SEAT</u><br>(Item 105)  |  |  |
| (1) Visually examine the spring seat for corrosion product and pitting.             | Corrosion product is not permitted. If there is corrosion product, remove it in accordance with the corrective action repair limits. Pitting may not cover more than 10% of the spring seat surface. Damage that extends all the way through the spring seat is not permitted.                       | Remove corrosion product using glass bead cleaning. Refer to the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). If the corrosion product cannot be removed, or if pitting is greater than the permitted serviceable limits, replace the spring seat. |
| (2) Visually examine the spring seat for wear.                                      | If there is wear, dimensionally inspect. Maximum permitted depth of wear is 0.020 inch (0.50 mm). When there is wear on both sides of the spring seat, the total of both wear depths must not be greater than 0.020 inch (0.50 mm). Wear that could affect correct fit or function is not permitted. | If the depth of wear is greater than the permitted serviceable limits, replace the spring seat.  |
| (3) Visually examine the spring seat for nicks, scratches, gouges, or other damage. | Damage that extends all the way through the part is not permitted. The maximum permitted total area of accumulated damage for both sides of the spring seat is 0.5 square inch (322 square mm). Damage that could affect correct fit or function is not permitted.                                   | If damage is greater than the permitted serviceable limits, replace the spring seat.   |
| (4) Visually examine the spring seat for cadmium plating coverage.                  | Minor wear on corners and random light scratches are permitted; otherwise, the spring seat must have complete cadmium plating coverage.  | If the cadmium plating coverage is less than the permitted serviceable limits, replat the spring seat in accordance with the Cadmium Replating chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).   |

**Component Inspection Criteria  
Table 5-1**

|     | <b>Inspect</b>  | <b>Serviceable Limits</b>   | <b>Corrective Action</b>  |
|-----|---|---|---|
| R.  | <u>101378 SPRING GUIDE</u><br>(Item 106)  |   |   |
| (1) | Visually examine the spring guide for corrosion and pitting.                        | Corrosion is not permitted. Pitting may not cover more than 10 percent of the spring guide surface. Damage that extends all the way through the spring guide is not permitted.  | Remove corrosion using glass bead cleaning. Refer to the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). If damage is greater than the permitted serviceable limits, replace the spring guide. |
| (2) | Visually examine the spring guide for wear.   | If there is wear, dimensionally inspect. Maximum permitted depth of wear is 0.010 inch (0.25 mm). When there is wear on both sides of the spring guide, the total of both wear depths must not be greater than 0.010 inch (0.25 mm). Wear that could affect correct fit or function is not permitted. | If the depth of wear is greater than the permitted serviceable limits, replace the spring guide.  |
| (3) | Visually examine the spring guide for nicks, scratches, and gouges or other damage. | Damage that extends all the way through the spring guide is not permitted. The maximum permitted total area of accumulated damage for both sides of the spring guide is 0.25 square inch (161 square mm). Damage that could affect correct fit or function is not permitted.                          | If damage is greater than the permitted serviceable limits, replace the spring guide.   |

**Component Inspection Criteria  
Table 5-1**

|     | <b>Inspect</b>  | <b>Serviceable Limits</b>  | <b>Corrective Action</b>  |
|-----|---|--|---|
| S.  | <u>102959 SPRING GUIDE</u><br>(Item 106)  |  |   |
| (1) | Visually examine the spring guide for corrosion and pitting.                        | Corrosion is not permitted.<br>Pitting may not cover more than 10 percent of the surface of the spring guide. Damage that extends all the way through the spring guide is not permitted.   | Remove corrosion using glass bead cleaning. Refer to the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).<br>If pitting is greater than the permitted serviceable limits, replace the spring guide. |
| (2) | Visually examine the spring guide for wear.   | If the spring guide is worn, dimensionally inspect the wear. Maximum permitted depth of wear is 0.010 inch (0.25 mm). Wear that could affect correct fit or function is not permitted.   | If the depth of wear is greater than the permitted serviceable limits, replace the spring guide.  |
| (3) | Visually examine the spring guide for nicks, scratches, and gouges or other damage. | Damage that extends all the way through the spring guide is not permitted. The maximum permitted total area of accumulated damage for both sides of the spring guide is 0.25 square inch (161 square mm). Damage that could affect correct fit or function is not permitted. | If damage is greater than the permitted serviceable limits, replace the spring guide.   |

**Component Inspection Criteria  
Table 5-1**

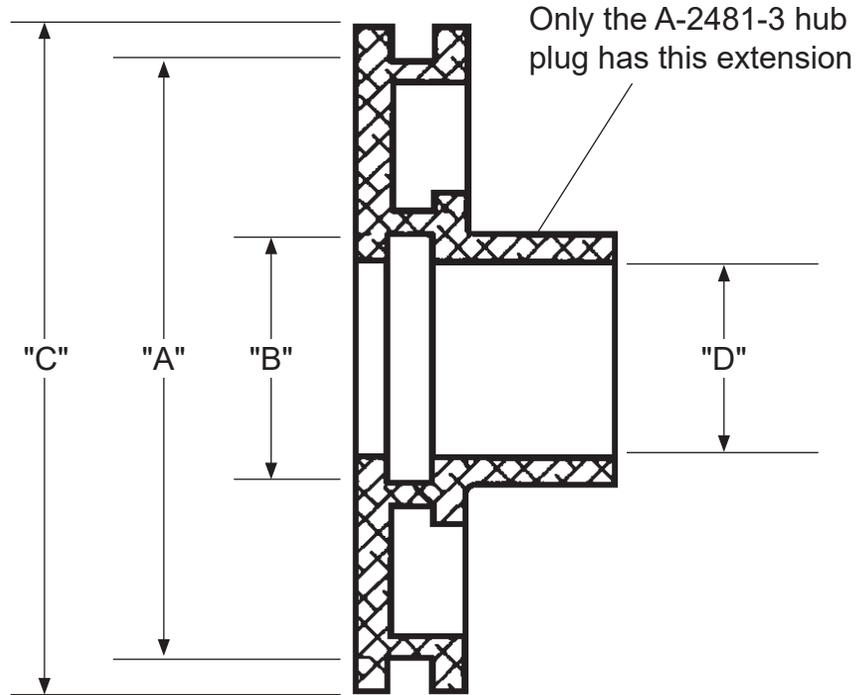
|     | <b>Inspect</b>  | <b>Serviceable Limits</b>  | <b>Corrective Action</b>  |
|-----|---|--|---|
| T.  | <u>101390 SPRING SPACER</u><br>(Item 125)   |  |   |
| (1) | Visually examine the spring spacer for corrosion and pitting.                     | Corrosion is not permitted. The maximum permitted depth of damage is 0.005 inch (0.12 mm). Pitting may not cover more than 10 percent of the spring spacer surface.  | Remove corrosion up to a maximum depth of 0.005 inch (0.12 mm) using glass bead cleaning. Refer to the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). If pitting is greater than the permitted serviceable limits, replace the spring spacer. |
| (2) | Visually examine the spring spacer for wear.                                      | If the spring spacer is worn, dimensionally inspect. The maximum permitted depth of wear is 0.040 inch (1.01 mm). When there is wear on both sides of the spring spacer, the total of both wear depths must not be greater than 0.040 inch (1.01 mm). Wear that could affect correct fit or function is not permitted. | If wear is greater than the permitted serviceable limits, replace the spring spacer.  |
| (3) | Visually examine the spring spacer for nicks, scratches, gouges, or other damage. | The maximum permitted depth of damage is 0.20 inch (0.50 mm).<br>The maximum permitted total area of accumulated damage for all surfaces combined is 0.5 square inch (322 square mm). Damage that could affect correct fit or function is not permitted.   | If damage is greater than the permitted serviceable limits, replace the spring spacer.  |

**Component Inspection Criteria  
Table 5-1**

| Inspect  | Serviceable Limits   | Corrective Action  |
|--|--|--|
| U. <u>101430 SPRING SEAT</u><br>(Item 126)   |  |  |
| (1) Visually examine the spring seat for corrosion and pitting.                        | Corrosion is not permitted. The maximum permitted depth of damage is 0.005 inch (0.12 mm). Pitting may not cover more than 10 percent of the spring seat surface.  | Remove corrosion up to a maximum depth of 0.005 inch (0.12 mm) using glass bead cleaning. Refer to the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). If damage is greater than the permitted serviceable limits, replace the spring seat. |
| (2) Visually examine the spring seat for wear.   | If the spring seat is worn, dimensionally inspect. The maximum permitted depth of wear is 0.015 inch (0.38 mm). When there is wear on both sides of the spring seat, the total of both wear depths must not be greater than 0.015 inch (0.38 mm). Wear that could affect correct fit or function is not permitted. | If wear is greater than the permitted serviceable limits, replace the spring seat.   |
| (3) Visually examine the spring seat for nicks, scratches, and gouges or other damage. | The maximum permitted depth of damage is 0.015 inch (0.38 mm). The maximum permitted total area of accumulated damage for all surfaces combined is 0.5 square inch (322 square mm). Damage that could affect correct fit or function is not permitted.   | If damage is greater than the permitted serviceable limits, replace the spring seat.   |

**Component Inspection Criteria  
Table 5-1**

| Inspect   | Serviceable Limits  | Corrective Action   |
|---|---|---|
| V. <u>SPRING</u>  |   |   |
| (Item 110)  |   |   |
| <u>CAUTION:</u> Do not strip the zinc plating from the 101322-( ) spring or the 101330 spring. If plating is removed, replace the spring.                                   |   |   |
| (1) Visually examine the A-2213-( ) and the 101330 spring for wear, corrosion, or other damage.   | Maximum permitted depth of damage is 0.003 inch (0.07 mm).  | If the damage is deeper than the permitted serviceable limit, replace the spring.                         |
| (2) Visually examine the 101322-( ) spring for wear, corrosion, or other damage.  | Maximum permitted depth of damage is 0.005 inch (0.12 mm).  | If the damage is deeper than the permitted serviceable limit, replace the spring.                         |
| (3) Visually examine the spring for zinc plating or zinc chromate primer coverage.  | A few random scratches are permitted, otherwise, complete coverage of zinc plating or zinc chromate primer on all surfaces is required. | Apply a layer of zinc chromate primer to the spring in accordance with the Repair chapter of this manual. |
| (4) Measure the free length of the A-2213-( ) spring.   | The minimum permitted free length is 3.00 inches (76.2 mm).   | If the free length is less than the permitted serviceable limit, replace the spring.                      |
| (5) Measure inspect the free length of the 101330 spring.   | The minimum permitted free length is 2.85 inches (72.4 mm).   | If the free length is less than the permitted serviceable limit, replace the spring.                      |
| (6) Measure inspect the free length of the 101322-( ) spring.   | The minimum permitted free length is 3.88 inches (98.6 mm).   | If the free length is less than the permitted serviceable limit, replace the spring.                      |
| (7) Magnetic particle inspect the spring in accordance with the Magnetic Particle Inspect chapter of the Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). | A crack is not permitted.   | If there is a crack, replace the spring.  |



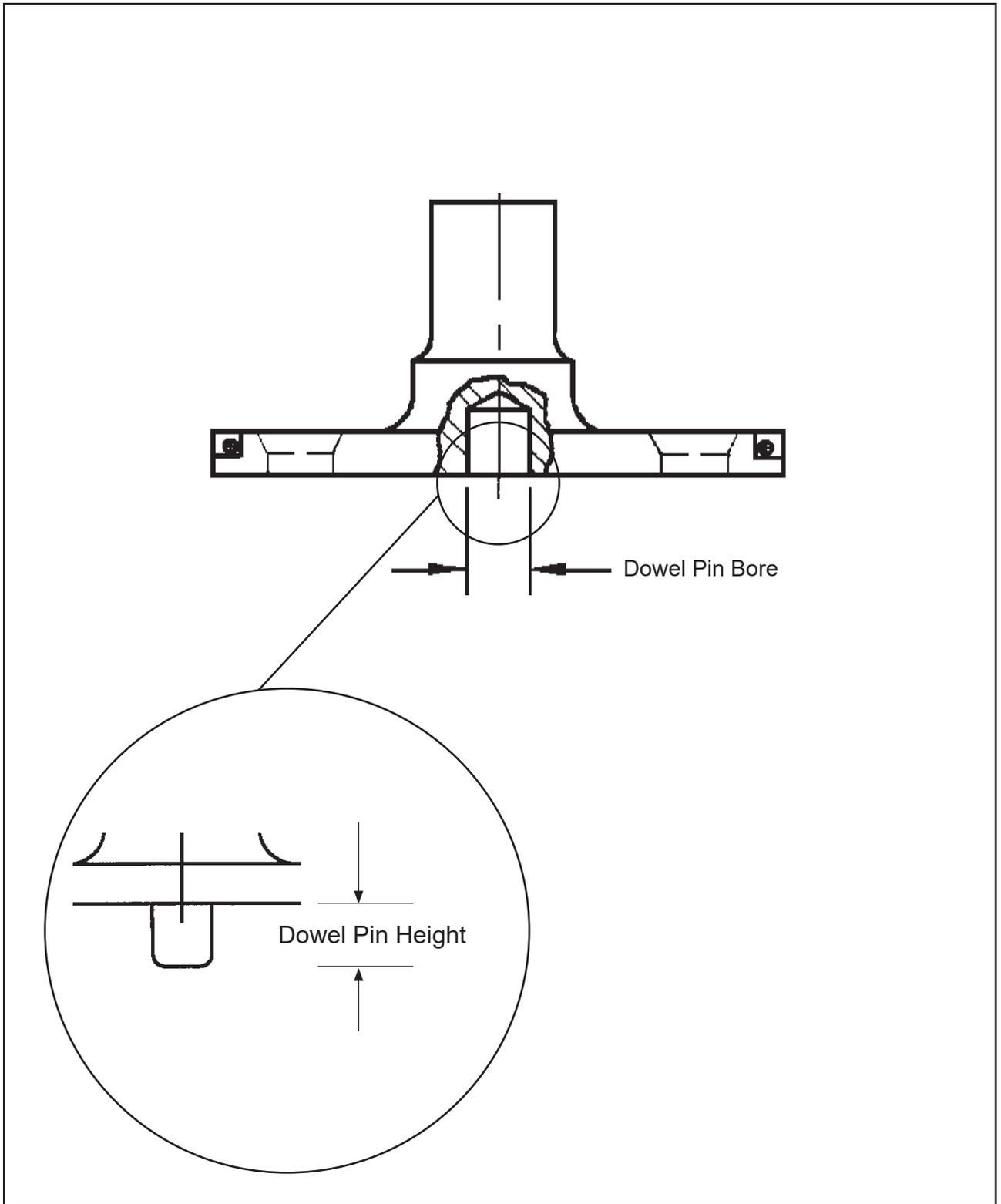
AFS6285  
PLUG.XLS

| Part Number | "A"<br>Minimum O-ring<br>Groove OD | "B"<br>Maximum O-ring<br>Groove ID | "C"<br>Minimum Plug OD   | "D"<br>Maximum Bore ID   |
|-------------|------------------------------------|------------------------------------|--------------------------|--------------------------|
| A-2481      | 2.015 inch<br>(51.18 mm)           | 0.846 inch<br>(21.49 mm)           | 2.246 inch<br>(57.05 mm) | 0.670 inch<br>(17.02 mm) |
| A-2481-1    | 2.326 inch<br>(59.08 mm)           | 0.846 inch<br>(21.49 mm)           | 2.557 inch<br>(64.95 mm) | 0.670 inch<br>(17.02 mm) |
| A-2481-3    | 2.015 inch<br>(51.18 mm)           | 0.846 inch<br>(21.49 mm)           | 2.246 inch<br>(57.05 mm) | 0.670 inch<br>(17.02 mm) |

Hub Plug  
Figure 5-17

**Component Inspection Criteria  
Table 5-1**

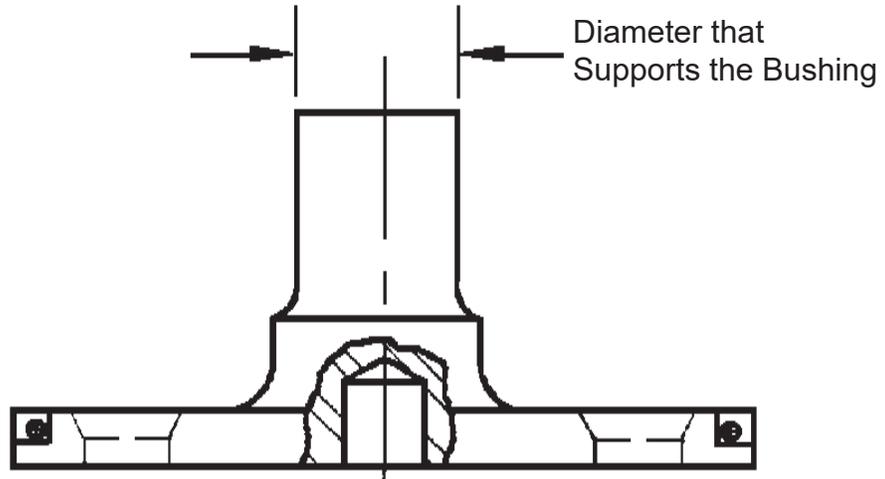
|     | <b>Inspect</b>   | <b>Serviceable Limits</b>   | <b>Corrective Action</b>   |
|-----|--|---|--|
| W.  | <b>HUB PLUG</b><br>(Item 300)<br>Refer to Figure 5-17. |   |  |
| (1) | Visually examine the hub plug for corrosion.           | Corrosion is not permitted.   | If there is corrosion, replace the hub plug.   |
| (2) | Visually examine the O-ring groove ID ("A").           | If the hub plug is worn or damaged, dimensionally inspect in accordance with Figure 5-17.   | If the depth of wear or damage is greater than the permitted serviceable limits, replace the hub plug. |
| (3) | Visually examine the O-ring groove OD ("B").           | If the shaft plug is worn or damaged, dimensionally inspect in accordance with Figure 5-17. | If the depth of wear or damage is greater than the permitted serviceable limits, replace the hub plug. |
| (4) | Visually examine the hub plug OD diameter ("C").       | If the hub plug is worn or damaged, dimensionally inspect in accordance with Figure 5-17.   | If the depth of wear or damage is greater than the permitted serviceable limits, replace the hub plug. |
| (5) | Visually examine the ID of the hub plug bore ("D").    | If the hub plug is worn or damaged, dimensionally inspect in accordance with Figure 5-17.   | If the depth of wear or damage is greater than the permitted serviceable limits, replace the hub plug. |



Pitch Change Knob Bracket and Dowel Pin  
Figure 5-18

**Component Inspection Criteria  
Table 5-1**

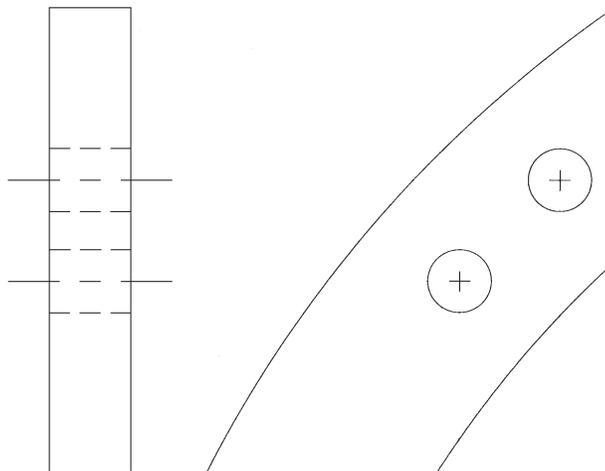
| Inspect   | Serviceable Limits   | Corrective Action  |
|---|--|--|
| X. <u>PITCH CHANGE KNOB BRACKET AND DOWEL PIN</u>   |  |  |
| (Items 560 and 550)   |  |  |
| Refer to Figure 5-18 and Figure 5-19.   |  |  |
| (1) Visually examine the pitch change knob bracket for damage or corrosion.   | Except for a few light scratches, damage or corrosion is not permitted.  | Remove corrosion using glass bead cleaning. Refer to the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A, (61-01-02). If glass bead cleaning is used, refer to the section "C-1862-( ) Pitch Change Knob Plating Repair" in the Repair chapter of this manual for instructions about replating the pitch change knob bracket. If there is damage that cannot be removed within the serviceable limits, replace the pitch change knob. |
| (2) Visually examine the exposed portion of the dowel pin OD for wear.  | If there is wear, dimensionally inspect. Minimum permitted diameter is 0.3126 inch (7.940 mm).   | If the OD is less than the permitted serviceable limits, replace the dowel pin.  |
| (3) Visually examine the OD of the exposed portion of the dowel pin for damage or corrosion.  | Damage or corrosion is not permitted.  | If there is damage or corrosion, replace the dowel pin.  |
| (4) Examine the fit of the dowel pin in the pitch change knob bracket by checking for pin looseness in the pitch change knob bracket. | Movement is not permitted. If there is movement, dimensionally inspect the dowel pin and the dowel pin bore in the pitch change knob bracket.<br><br>For the dowel pin, the minimum permitted dowel pin OD is 0.3126 inch (7.940 mm). For the dowel pin bore in the pitch change knob bracket, the maximum permitted bore is 0.3125 inch (7.937 mm). | If the dowel pin OD is smaller than the permitted serviceable limits, replace the dowel pin. If the dowel pin bore in the pitch change knob bracket is larger than the permitted serviceable limits, replace the pitch change knob bracket.  |
| (5) Dimensionally inspect the dowel pin height when installed in the pitch change knob bracket.                                       | The permitted dowel pin height is 0.330 ± 0.010 inch (8.38 ± 0.25 mm).   | If the dowel pin height is not within the permitted serviceable limits, replace the dowel pin.   |



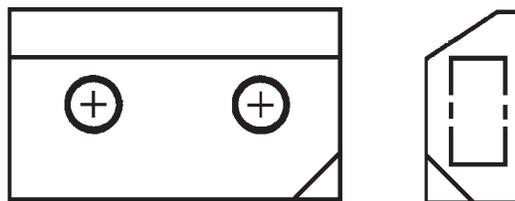
Pitch Change Knob Bracket  
Figure 5-19

**Component Inspection Criteria  
Table 5-1**

| Inspect  | Serviceable Limits   | Corrective Action   |
|--|--|---|
| X. <u>PITCH CHANGE KNOB BRACKET AND DOWEL PIN, CONTINUED</u>   |  |   |
| (Items 560 and 550)  |  |   |
| Refer to Figure 5-18 and Figure 5-19.  |  |   |
| (6) Measure the diameter that supports the bushing.  | Minimum permitted diameter is 0.6210 inch (15.774 mm).                                     | If the diameter is smaller than the permitted serviceable limits replace the pitch change knob bracket.   |
| (7) Perform a magnetic particle inspection of the pitch change knob bracket in accordance with the Magnetic Particle Inspection chapter of Hartzell Propeller Inc. Manual 202A (61-01-02). | A crack is not permitted.  | If there is a crack, replace the pitch change knob bracket.   |
| (8) Visually examine the pitch change knob bracket for nickel or cadmium plating coverage.   | Either nickel or cadmium plating must cover all surfaces of the pitch change knob bracket. | If there is nickel plating that does not cover the entire pitch change knob bracket, refer to the Repair chapter of this manual for instructions for replating of the pitch change knob bracket. If cadmium plating coverage is less than the serviceable limits, cadmium plate the pitch change knob bracket accordance with the Cadmium Replating chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). |



C-7249 (brass base metal)



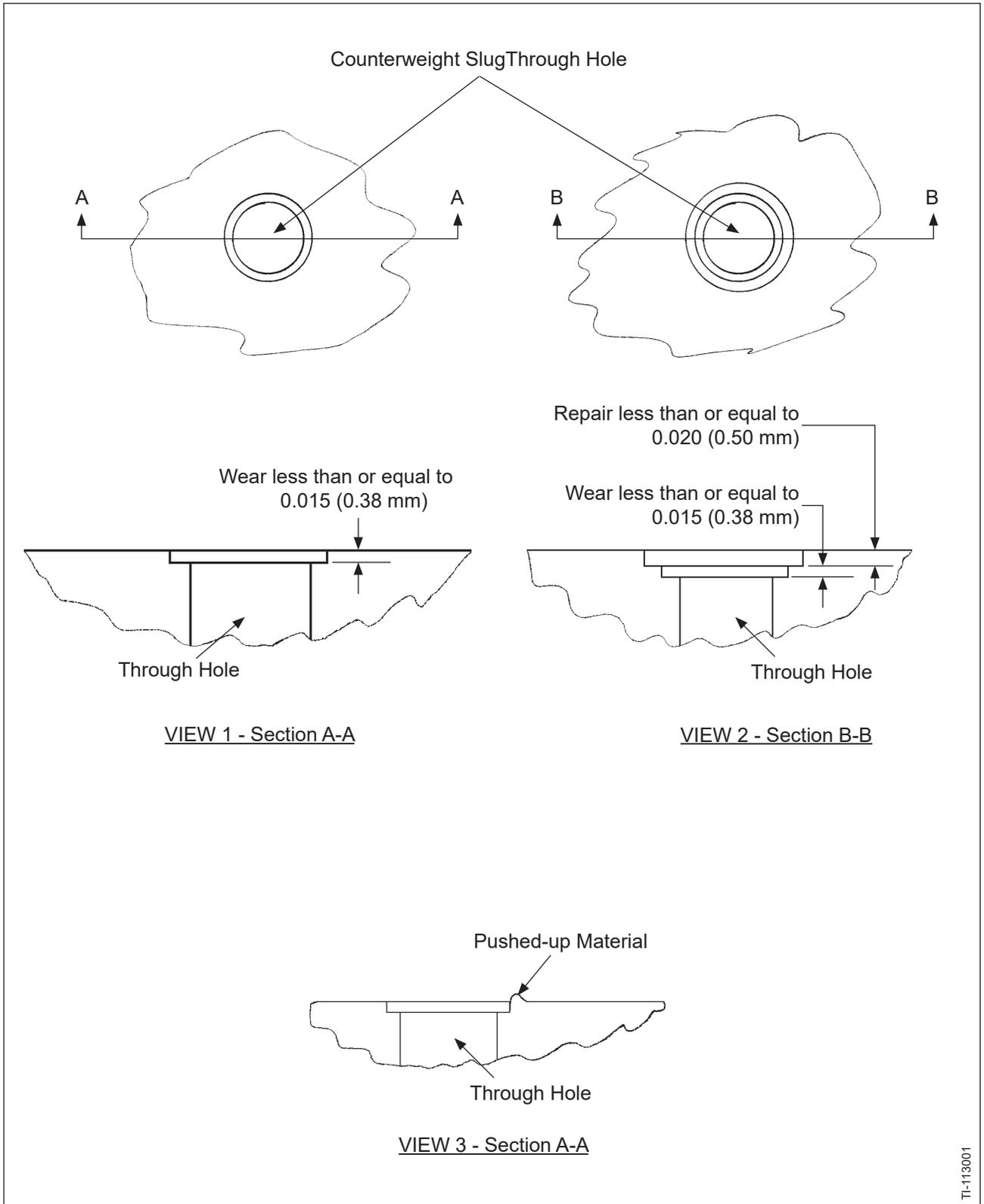
A-890-( ) (steel base metal)

C-7249  
A-890

Counterweight Slug Identification  
Figure 5-20

Component Inspection Criteria  
Table 5-1

| Inspect   | Serviceable Limits   | Corrective Action   |
|---|--|---|
| <p>Y. <u>COUNTERWEIGHT SLUG -C-7249 (BRASS BASE METAL)</u><br/>(Item 9050)<br/>Refer to Figure 5-20 and Figure 5-21.<br/><b>CAUTION:</b> DO NOT USE CHEMICAL STRIPPING TO REMOVE THE CADMIUM PLATING FROM A BRASS COUNTERWEIGHT.<br/>Before inspection of the C-7249 counterweight slug, remove the cadmium plating by mechanically stripping using glass bead cleaning in accordance with the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).</p> |  |   |
| (1) Visually examine the counterweight slug for removal of the cadmium plating.   | Cadmium plating must be completely removed from the counterweight slug.  | Using glass bead cleaning, remove the cadmium plating. Refer to Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).  |
| (2) Visually examine the counterweight slug for corrosion.  | Corrosion is not permitted. If there is corrosion, remove it in accordance with the corrective action repair limits.   | Remove corrosion using glass bead cleaning. Refer to the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). If corrosion cannot be removed, replace the counterweight slug.   |
| <p><b>CAUTION:</b> MAJOR MATERIAL REMOVAL WILL AFFECT WEIGHT AND COULD AFFECT PROPELLER DYNAMIC BALANCE AS BLADES CHANGE ANGLE DURING PROPELLER ROTATION.</p>   |  |   |
| (3) Visually examine the counterweight slug for pitting or wear.  | The maximum permitted depth of pitting or wear is 0.005 inch (0.12 mm).  | Pitting or wear may be polished up to 0.010 inch (0.25 mm) deep using an abrasive pad CM47 or equivalent. If the depth of pitting, wear, or polishing is greater than the permitted serviceable limits or the corrective action limits, replace the counterweight slug.       |
| (4) Visually examine each counterweight slug for scratches, gouges, or other damage.  | The maximum permitted depth of a scratch, gouge, or damage is 0.050 inch (1.27 mm). Damage that interferes with installation, fit, or function of the counterweight slug is not permitted. | Material that pushed up above the normal surface is not permitted. Remove all pushed up material by polishing with an abrasive pad CM47 or equivalent. If a scratch, gouge, or other damage is greater than the permitted serviceable limits, replace the counterweight slug. |



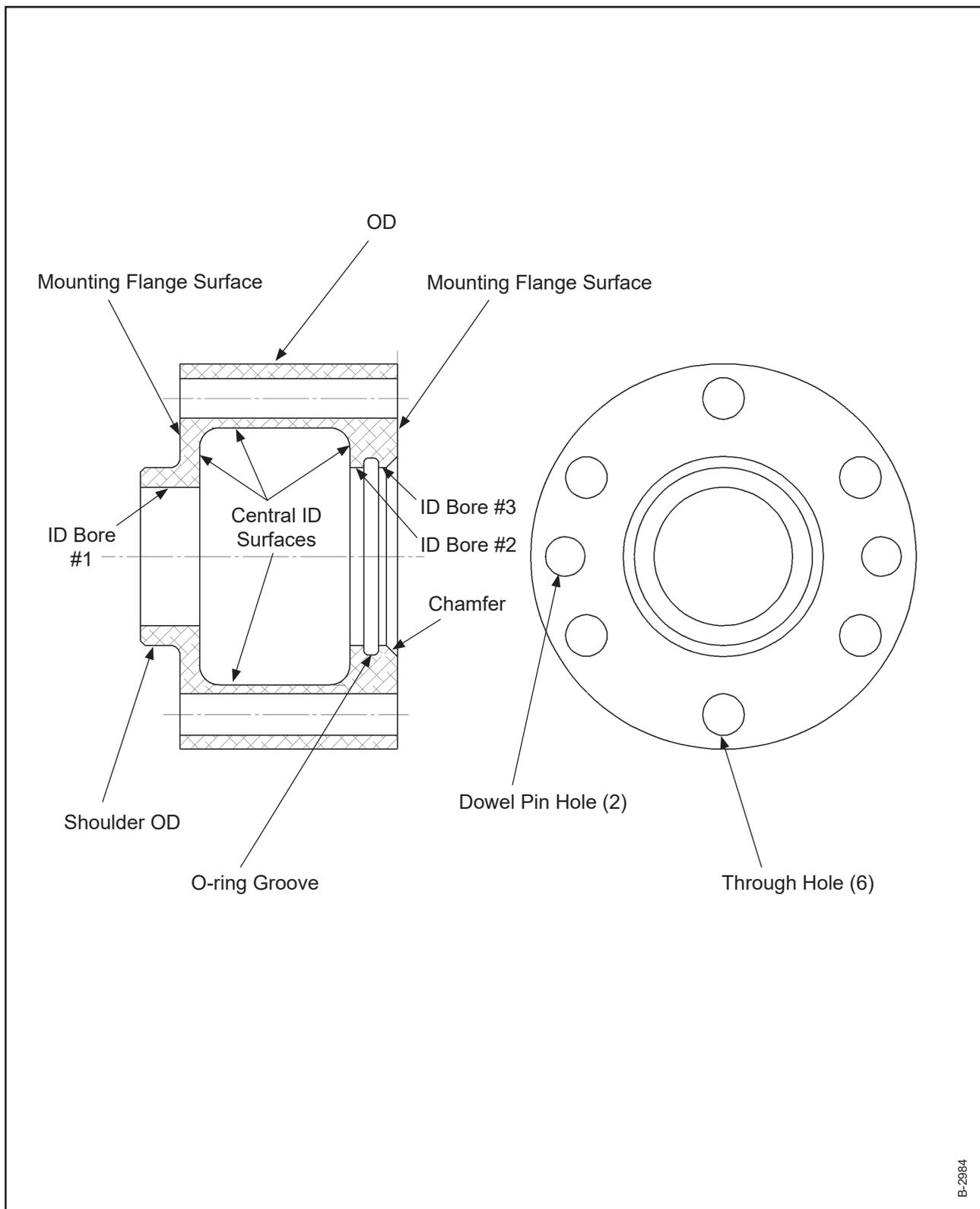
Counterweight Slug Through Hole Wear  
Figure 5-21

**Component Inspection Criteria  
Table 5-1**

| Inspect   | Serviceable Limits   | Corrective Action   |
|---|--|---|
| <b>Y. COUNTERWEIGHT SLUG -C-7249 (BRASS BASE METAL), CONTINUED</b>  |  |   |
| (Item 9050)<br>Refer to Figure 5-20 and Figure 5-21.  |  |   |
| (5) Visually examine around each through hole for wear caused by the retention bolt or nut.   | The maximum permitted depth of wear is 0.015 inch (0.38 mm). Refer to Figure 5-21, View 1 and View 2.<br><br>Material that is pushed-up above the normal surface is not permitted. Refer to Figure 5-21, View 3. | Remove all pushed-up material by polishing with an abrasive pad CM47 or equivalent. If wear is greater than the permitted serviceable limits, repair the counterweight slug in accordance with the section "Brass Counterweight Slug Mounting Hole Repair" in the Repair chapter of this manual. If the wear and repair are collectively greater than the permitted serviceable limits and repair limits, replace the counterweight slug. |
| After successfully completing the inspections required in paragraphs Y.(1) through Y.(5), cadmium plate to Type II, Class 1, the C-7249 counterweight slug in accordance with the Cadmium Replating chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). |  |   |
| (6) Visually examine the counterweight slug for cadmium plating, especially in the through holes for attachment.  | Complete cadmium plating coverage is required, especially in the through holes for attachment.   | If the cadmium plating coverage is less than the permitted serviceable limits, remove the cadmium plating by mechanically stripping using glass bead cleaning. Cadmium plate the counterweight slug with Type II, Class 1 coverage in accordance with the Cadmium Replating chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).   |

Component Inspection Criteria  
Table 5-1

| Inspect   | Serviceable Limits   | Corrective Action   |
|---|--|---|
| <p>Z. <u>COUNTERWEIGHT SLUG -A-890-( ) (STEEL BASE METAL)</u><br/>(Item 9050)<br/>Refer to Figure 5-20.</p>   |  |   |
| (1) Visually examine each counterweight slug for corrosion.   | Corrosion is not permitted. If there is corrosion, remove it in accordance with the corrective action repair limits.   | Remove corrosion using glass bead cleaning. Refer to the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). If corrosion cannot be removed, replace the counterweight slug.   |
| <p><b>CAUTION:</b> MAJOR MATERIAL REMOVAL WILL AFFECT WEIGHT AND COULD AFFECT PROPELLER DYNAMIC BALANCE AS BLADES CHANGE ANGLE DURING PROPELLER ROTATION.</p> |  |   |
| (2) Visually examine each counterweight slug for pitting or wear.   | The maximum permitted depth of pitting or wear is 0.005 inch (0.12 mm).  | Pitting or wear may be polished up to 0.010 inch (0.25 mm) deep using an abrasive pad CM47 or equivalent. If the depth of pitting, wear, or polishing is greater than the permitted serviceable limits or the corrective action limits, replace the counterweight slug.       |
| (3) Visually examine each counterweight slug for scratches, gouges, or other damage.  | The maximum permitted depth of a scratch, gouge, or other damage is 0.050 inch (1.27 mm). Damage that interferes with installation, fit, or function of the counterweight slug is not permitted. | Material that pushed up above the normal surface is not permitted. Remove all pushed up material by polishing with an abrasive pad CM47 or equivalent. If a scratch, gouge, or other damage is greater than the permitted serviceable limits, replace the counterweight slug. |
| (4) Visually examine each counterweight slug for cadmium plating coverage.  | Except for a few scratches and corners with cadmium plating missing, complete coverage is required.  | If the coverage is less than the permitted serviceable limits, replating the counterweight slug in accordance with the Cadmium Replating chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).  |



B-2884

Spacer, "F" Flange  
Figure 5-22

**Component Inspection Criteria  
Table 5-1**

| Inspect  | Serviceable Limits   | Corrective Action  |
|--|--|--|
| <p>AA. <u>SPACER, "F" FLANGE</u><br/>(Item 345)<br/>Refer to Figure 5-22.</p>  |  |  |
| <p>(1) Visually examine the "F" flange spacer for corrosion.</p>   | <p>Corrosion is not permitted.</p>   | <p>Remove corrosion using glass bead cleaning. Refer to the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).</p>   |
| <p>(2) Visually examine the OD of the "F" flange spacer for nicks, scratches, gouges, pitting, or other damage.</p>                        | <p>The maximum permitted depth of a nick, scratch, gouge, pitting, or damage is 0.004 inch (0.10 mm). The maximum permitted diameter of an individual pit is 0.062 inch (1.58 mm). Linear pitting is not permitted. The maximum permitted total area of all described damage is 1.0 sq. inch (645 sq. mm).</p> | <p>Repair is permitted to a depth of 0.010 inch (0.25 mm). The maximum permitted total area of damage and repair is 1.0 square inch (645 sq. mm). If the damage or repair is greater than the permitted serviceable limits or the corrective action limits, replace the "F" flange spacer.</p>   |
| <p>(3) Visually examine both mounting flange surfaces of the "F" flange spacer for nicks, scratches, gouges, pitting, or other damage.</p> | <p>The maximum permitted depth of a nick, scratch, gouge, pitting, or damage is 0.002 inch (0.05 mm). Material may not be pushed up above the undamaged adjacent surfaces. The maximum permitted diameter of an individual pit is 0.062 inch (1.58 mm). Linear pitting is not permitted.</p>                   | <p>Repair is permitted to a depth of 0.005 inch (0.12 mm). The maximum permitted total area of damage and repair is 1.0 square inch (645 sq. mm). The maximum permitted area of an individual repair is 0.25 sq. inch and must be at least 0.250 inch (6.35 mm) from any other repaired area. If the damage or repair is greater than the permitted serviceable limits or the corrective action limits, replace the "F" flange spacer.</p> |
| <p>(4) Visually examine for wear on the shoulder OD of the "F" flange spacer that interfaces with the propeller hub.</p>                   | <p>If there is wear, measure the OD of the shoulder. The minimum permitted diameter is 2.2475 inch (57.087 mm).</p>  | <p>If the OD is less than the permitted serviceable limits, replace the "F" flange spacer.</p>   |
| <p>(5) Visually examine for wear on the ID of the O-ring groove of the "F" flange spacer that interfaces with the engine.</p>              | <p>If there is wear, measure the ID of the O-ring groove. The maximum permitted ID is 2.500 inches (63.50 mm).</p>   | <p>If "F" flange spacer is not within the permitted serviceable limits, replace the "F" flange spacer.</p>   |

Component Inspection Criteria  
Table 5-1

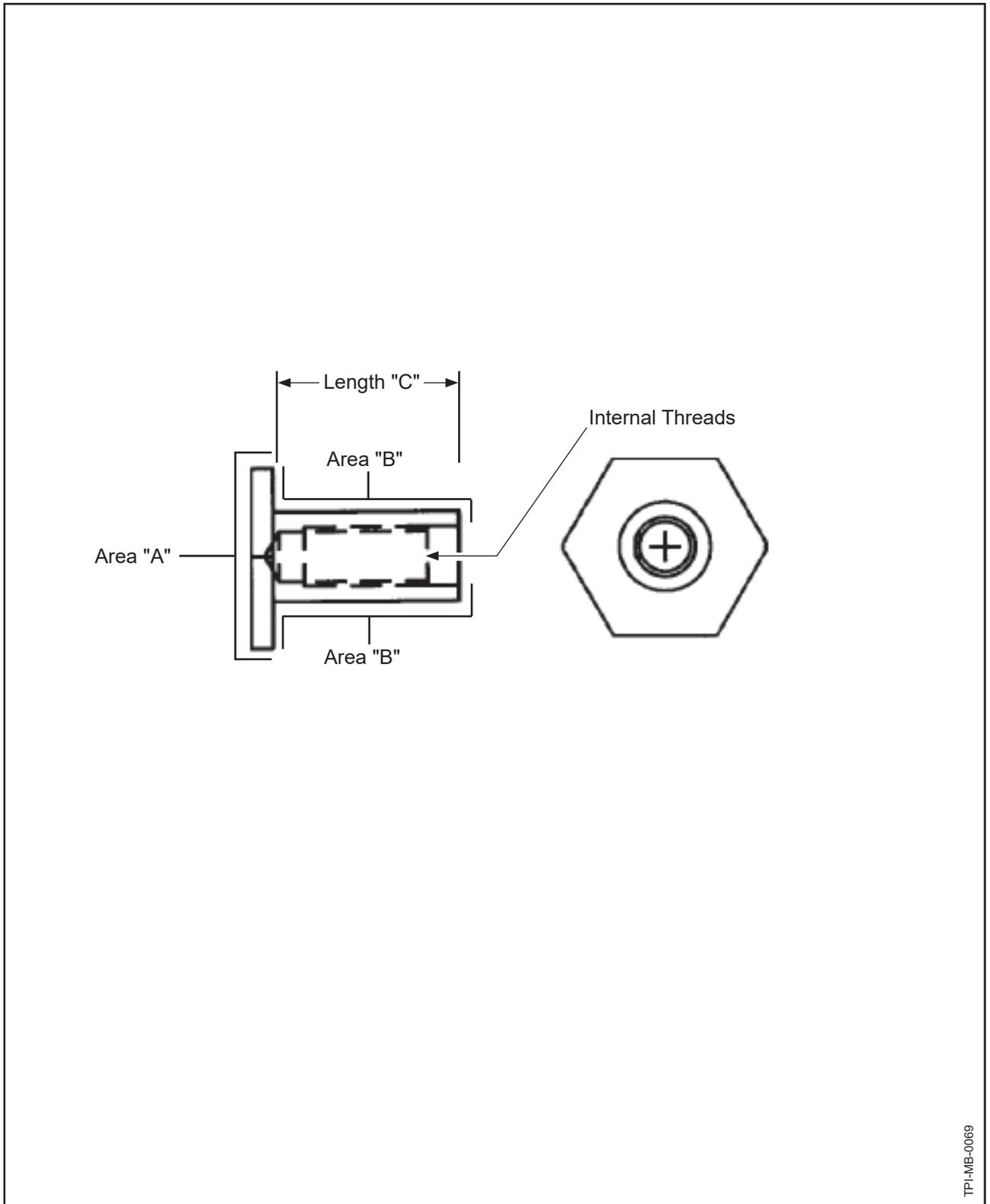
| Inspect   | Serviceable Limits  | Corrective Action   |
|---|---|---|
| AA. <u>SPACER, "F" FLANGE, CONTINUED</u><br>(Item 345)<br>Refer to Figure 5-22.   |   |   |
| (6) Visually examine the ID bore #1 of the "F" flange spacer for nicks, scratches, gouges, pitting, or other damage.                  | The maximum permitted depth of a nick, scratch, gouge, pitting, or damage is 0.002 inch (0.05 mm). The maximum permitted diameter of an individual pit is 0.062 inch (1.58 mm). Linear pitting is not permitted. The maximum permitted total area of all described damage is 1.0 sq. inch (645 sq. mm). | Repair is permitted to a depth of 0.005 inch (0.12 mm). The maximum permitted total area of damage and repair is 0.5 square inch (322 sq. mm). If the damage or repair is greater than the permitted serviceable limits or the corrective action limits, replace the "F" flange spacer. |
| (7) Visually examine the central ID surfaces of the "F" flange spacer for nicks, scratches, gouges, pitting, or other damage.         | The maximum permitted depth of a nick, scratch, gouge, pitting, or damage is 0.004 inch (0.10 mm). The maximum permitted diameter of an individual pit is 0.062 inch (1.58 mm). Linear pitting is not permitted. The maximum permitted total area of all described damage is 1.0 sq. inch (645 sq. mm). | Repair is permitted to a depth of 0.010 inch (0.25 mm). The maximum permitted total area of damage and repair is 1.0 square inch (645 sq. mm). If the damage or repair is greater than the permitted serviceable limits or the corrective action limits, replace the "F" flange spacer. |
| (8) Remove the dowel pins and visually examine each dowel pin hole of the "F" flange spacer for nicks, scratches, damage, or pitting. | The maximum permitted depth of a nick, scratch, damage, or pitting is 0.002 inch (0.05 mm). The maximum permitted diameter of an individual pit is 0.062 inch (1.58 mm). Linear pitting is not permitted.   | Repair is permitted to a depth of 0.005 inch (0.12 mm). Damage or repair must not affect the tight fit of the dowel pin. If the "F" flange spacer is not within the permitted serviceable limits or the corrective action limits, replace the "F" flange spacer.                        |
| (9) Examine the dowel pin hole of the "F" flange spacer for the fit of a dowel pin.   | A dowel pin must not be able to be inserted or removed from the dowel pin hole without using tools.   | If a dowel pin can be inserted or removed from the dowel pin hole without using tools, replace the "F" flange spacer.   |

Component Inspection Criteria  
Table 5-1

| Inspect  | Serviceable Limits  | Corrective Action   |
|--|---|---|
| AA. <u>SPACER, "F" FLANGE, CONTINUED</u><br>(Item 345)<br>Refer to Figure 5-22.                                      |   |   |
| (10) Visually examine the ID of each through hole of the "F" flange spacer for nicks, scratches, damage, or pitting. | The maximum permitted depth of a nick, scratch, damage, or pitting is 0.002 inch (0.05 mm). The maximum permitted diameter of an individual pit is 0.062 inch (1.58 mm). Linear pitting is not permitted. | Repair is permitted to a depth of 0.004 inch (0.10 mm). Damage or repair must not affect the fit of the "F" flange spacer with the mating part. If the "F" flange spacer is not within the permitted serviceable limits or the corrective action limits, replace the "F" flange spacer.               |
| (11) Measure the ID of each through hole of the "F" flange spacer.   | The maximum permitted ID is 0.540 inch (13.71 mm).  | If the ID is greater than the permitted serviceable limits, replace the "F" flange spacer.  |
| (12) Visually examine ID bore #2 and ID bore #3 of the "F" flange spacer for nicks, scratches, damage, or pitting.   | The maximum permitted depth of a nick, scratch, damage, or pitting is 0.002 inch (0.05 mm). The maximum permitted diameter of an individual pit is 0.062 inch (1.58 mm). Linear pitting is not permitted. | Repair is permitted to a depth of 0.003 inch (0.07 mm). The maximum total damage or repair is 25 percent of each circumference for ID bore #2 and ID bore #3. If the "F" flange spacer is not within the permitted serviceable limits or the corrective action limits, replace the "F" flange spacer. |

Component Inspection Criteria  
Table 5-1

| Inspect  | Serviceable Limits  | Corrective Action   |
|--|---|---|
| AA. <u>SPACER, "F" FLANGE, CONTINUED</u><br>(Item 345)<br>Refer to Figure 5-22.  |   |   |
| (13) Visually examine the chamfer of the "F" flange spacer for nicks, scratches, damage, or pitting.   | The maximum permitted depth of a nick, scratch, damage, or pitting is 0.002 inch (0.05 mm). The maximum permitted diameter of an individual pit is 0.062 inch (1.58 mm). Linear pitting is not permitted. | Repair is permitted to a depth of 0.005 inch (0.12 mm). Damage or repair must not affect the fit of the "F" flange spacer with the mating part. If the "F" flange spacer is not within the permitted serviceable limits or the corrective action limits, replace the "F" flange spacer.   |
| (14) Perform penetrant inspection of the "F" flange spacer in accordance with the Penetrant Inspection chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). | A relevant indication is not permitted.   | If there is a relevant indication that cannot be removed within all the serviceable limits and corrective action limits given for the "F" flange spacer in this section, replace the "F" flange spacer.   |
| (15) Visually examine the "F" flange spacer for anodize coverage.  | A minimum of 95% anodize coverage is required.  | Anodize the "F" flange spacer or repair by applying chemical conversion coating to bare aluminum in accordance with the Chromic Acid Anodizing chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). A maximum of 5 percent of bare aluminum may be covered with chemical conversion coating. If using anodizing, complete the penetrant inspection before anodizing the "F" flange spacer. |

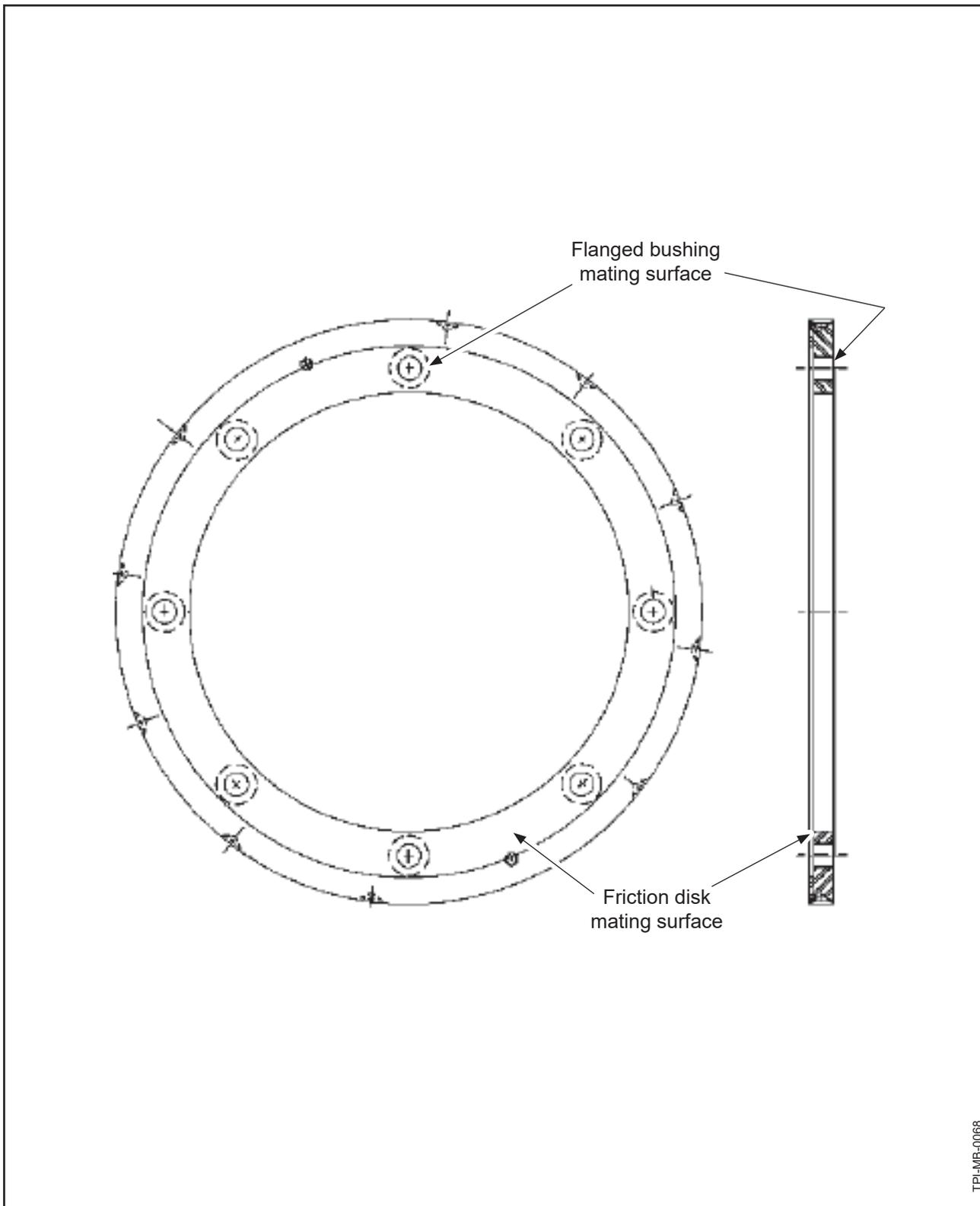


TPI-MB-0069

Hex Head Spacer Tube  
Figure 5-23

**Component Inspection Criteria  
Table 5-1**

| Inspect   | Serviceable Limits   | Corrective Action   |
|---|--|---|
| <p>AB. <u>HEX HEAD SPACER TUBE</u><br/>(Item 910)<br/>Refer to Figure 5-23.</p> |  |   |
| (1) Visually examine the hex head spacer tube for corrosion product.            | Corrosion product is not permitted. If there is corrosion product, remove it in accordance with the corrective action repair limits. | Remove corrosion product using an abrasive pad CM47 or equivalent. Glass bead cleaning is not permitted. If corrosion product cannot be removed, replace the hex head spacer tube.  |
| (2) Visually examine Area "A" for pitting, wear, or damage.                     | The maximum permitted depth of pitting, wear, or damage is 0.004 inch (0.10 mm).   | If the depth of pitting, wear, or damage is greater than the permitted serviceable limits, replace the hex head spacer tube.  |
| (3) Visually examine Area "B" for pitting, wear, or damage.                     | Pitting, wear, or damage is permitted to a maximum depth of 0.003 inch (0.07 mm).  | If the depth of pitting, wear or damage is greater than the permitted serviceable limits, replace the hex head spacer tube.   |
| (4) Examine the internal threads with a screw (990).                            | Internal threads of the hex head spacer tube are not permitted to bind on the screw (990) threads.                                   | If the thread fit to the screw (990) is greater than the permitted serviceable limit, replace the hex head spacer tube.   |
| (5) Measure length "C".   | The minimum permitted length "C" is 0.777 inch (19.74 mm).   | If length "C" is less than the permitted serviceable limits, replace the hex head spacer tube.  |
| (6) Visually examine the hex head spacer tube for cadmium plating coverage.     | Except for a few scratches and corners with cadmium plating missing, complete coverage is required.                                  | If cadmium plating coverage is less than the permitted serviceable limits, cadmium replate and bake the hex head spacer tube in accordance with the Cadmium Replating chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). |
| (7) Magnetic particle inspect the hex head spacer tube.                         | A relevant indication is not permitted.  | If there is a relevant indication, replace the hex head spacer tube.  |

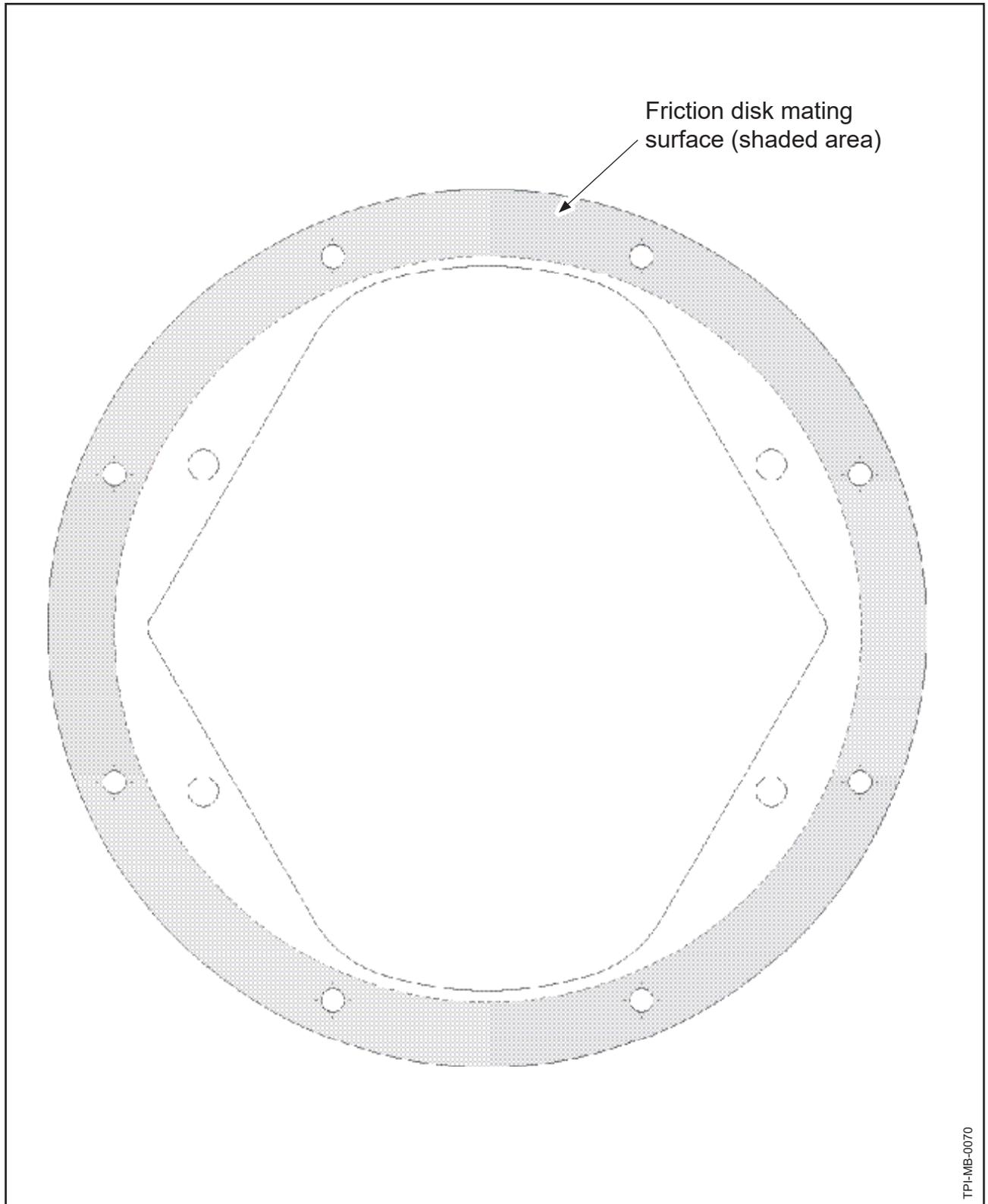


TPI-MB-0068

**Damper Weight**  
**Figure 5-24**

**Component Inspection Criteria  
Table 5-1**

| Inspect   | Serviceable Limits  | Corrective Action  |
|---|---|--|
| <p>AC. <u>DAMPER WEIGHT</u><br/>(Item 950)<br/>Refer to Figure 5-24.</p>                                |   |  |
| <p>(1) Visually examine the damper weight for corrosion.</p>  | <p>Corrosion is not permitted.</p>  | <p>If there is corrosion on the friction disk mating surface or on any of the eight flanged bushing mating surfaces, replace the damper weight.</p> <p>On all other surfaces, remove corrosion using an abrasive pad CM47 or equivalent. The maximum depth of material removal is 0.005 inch (0.012 mm). The maximum permitted weight of material removal is 1% of the total weight of the damper weight. If the corrective action repair is greater than the allowable limits, replace the damper weight.</p> |
| <p>(2) Visually examine the damper weight for pitting or damage in the form of nicks and/or gouges.</p> | <p>Damage is not permitted on the friction disk mating surface or on any of the eight flanged bushing mating surfaces. On all other surfaces the maximum permitted depth of damage of 0.005 inch (0.12 mm).</p> | <p>If the depth of pitting or damage is more than the permitted serviceable limits, replace the damper weight.</p>   |
| <p>(3) Visually examine the damper weight for wear caused by the eight (8) flanged bushings.</p>        | <p>Wear is not permitted.</p>   | <p>If there is wear, replace the damper weight.</p>  |
| <p>(4) Measure the thickness of the damper weight for wear caused by the friction disk.</p>             | <p>The minimum thickness from the friction disk mating surface to the opposite surface is 0.396 inch (10.06 mm).</p>  | <p>If the thickness is less than the permitted serviceable limits, replace the damper weight.</p>  |
| <p>(5) Visually examine the damper weight for cadmium plating coverage.</p>                             | <p>Except for a few scratches and corners with cadmium plating missing, complete coverage is required.</p>  | <p>If the cadmium plating coverage is less than the permitted serviceable limits, cadmium plate the damper weight in accordance with the Cadmium Replating chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).</p>   |

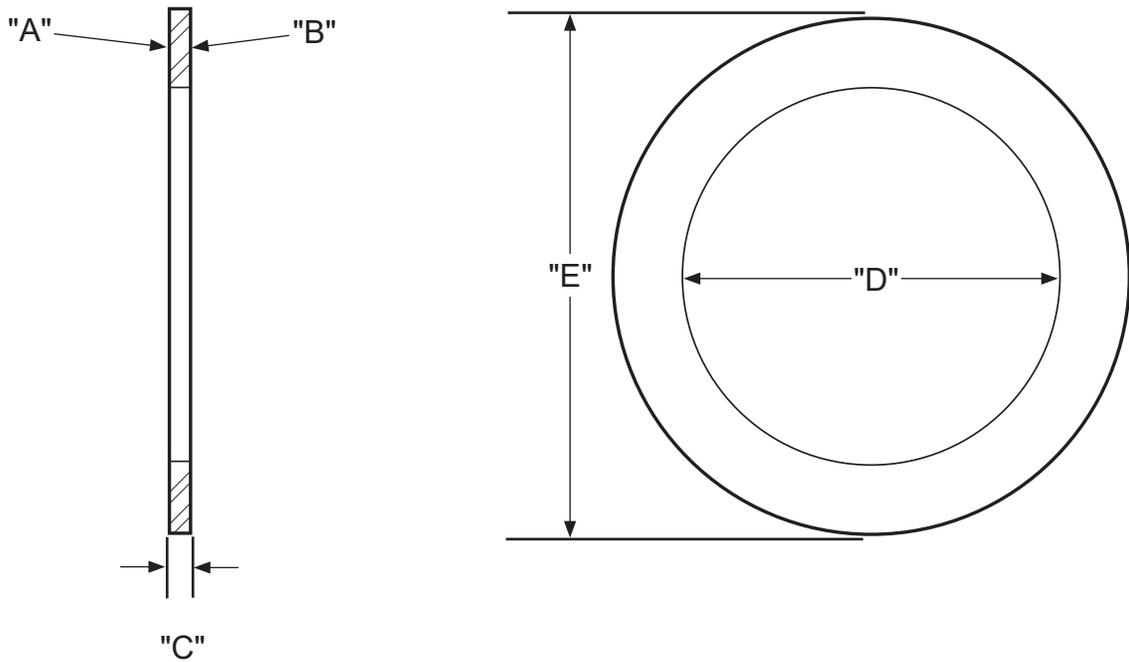


TPI-MB-0070

**Damper Plate**  
**Figure 5-25**

**Component Inspection Criteria  
Table 5-1**

| Inspect   | Serviceable Limits   | Corrective Action   |
|---|--|---|
| <p>AD. <u>DAMPER PLATE</u><br/>(Item 980)<br/>Refer to Figure 5-25.</p>               |  |   |
| <p>(1) Visually examine the damper plate for corrosion, pitting, wear, or damage.</p> | <p>Corrosion, pitting, wear, or damage on the friction disk mating surface is not permitted.</p>   | <p>If there is corrosion, pitting, wear, or damage on the friction disk (970) mating surface, replace the damper plate.</p>   |
|   | <p>On all other surfaces, the maximum permitted depth of pitting, wear, or damage is 0.005 inch (0.12 mm).<br/><br/>Corrosion is not permitted. If there is corrosion, remove it in accordance with the corrective action repair limits.</p> | <p>On all other surfaces, remove corrosion using an abrasive pad CM47 or equivalent. If the depth of pitting, wear, or damage is more than the permitted serviceable limits, replace the damper plate.</p>                              |
| <p>(2) Visually examine the damper plate for cadmium plating coverage.</p>            | <p>Except for a few scratches and corners with cadmium plating missing, complete coverage is required.</p>   | <p>If cadmium plating coverage is less than the permitted serviceable limits, cadmium plate the damper plate in accordance with the Cadmium Replating chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).</p> |
| <p>(3) Magnetic particle inspect the damper plate.</p>                                | <p>A relevant indication is not permitted.</p>   | <p>If there is a relevant indication, replace the damper plate.</p>   |

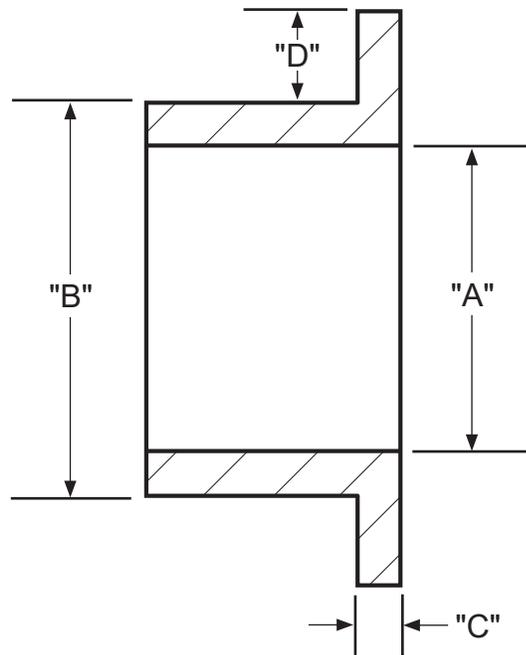


TPI-MB-0237

Spring Adjust Washer  
Figure 5-26

Component Inspection Criteria  
Table 5-1

| Inspect   | Serviceable Limits   | Corrective Action   |
|---|--|---|
| <p>AE. <u>SPRING ADJUST WASHER</u><br/>(Item 935)<br/>Refer to Figure 5-26.</p>                     |  |   |
| <p>(1) Visually examine the spring adjust washer surfaces "A" and "B" for scratches and damage.</p> | <p>The maximum permitted area of scratches or damage is 10% of either surface "A" or "B".</p> <p>Damage is not permitted to penetrate the spring adjust washer thickness or to upset the even support of the spring on the flanged bushing.</p> <p>Pushed up material above the surrounding undamaged material is not permitted.</p> | <p>If scratches or damage are greater than the permitted serviceable limits, replace the spring adjust washer.</p>    |
| <p>(2) Visually examine the spring adjust washer surfaces "A" and "B" for wear.</p>                 | <p>If there is wear, measure the thickness "C" of the spring adjust washer.</p> <p>The minimum permitted spring adjust washer thickness is 0.008 inch (0.21 mm). The minimum permitted thickness applies to wear and not to scratches and damage.</p>  | <p>If the thickness "C" is less than the permitted serviceable limits, replace the spring adjust washer.</p>          |
| <p>(3) Visually examine the spring adjust washer surfaces "A" and "B" for flatness.</p>             | <p>If the spring adjust washer does not appear flat on a known flat surface, then measure the deviation.</p> <p>Maximum deviation from flat is 0.003 inch (0.07 mm).</p>   | <p>If the deviation from flat is greater than the permitted serviceable limits, replace the spring adjust washer.</p> |
| <p>(4) Visually examine the spring adjust washer ID "D" for wear.</p>                               | <p>If there is wear, measure the ID "D".</p> <p>The maximum permitted ID with two point measurement is 0.524 inch (13.30 mm).</p>  | <p>If the ID "D" is greater than the permitted serviceable limits, replace the spring adjust washer.</p>              |
| <p>(5) Visually examine the spring adjust washer OD "E" for wear.</p>                               | <p>If there is wear, measure the OD "E".</p> <p>The minimum permitted OD is 0.705 inch (17.91 mm) with two point measurement.</p>  | <p>If the OD "E" is less than the permitted serviceable limits, replace the spring adjust washer.</p>                 |



TPI-MB-0236

Flanged Bushing  
Figure 5-27

Component Inspection Criteria  
Table 5-1

| Inspect   | Serviceable Limits  | Corrective Action  |
|---|---|--|
| <p>AF. <u>FLANGED BUSHING</u><br/>(Item 945)<br/>Refer to Figure 5-27.</p>                        |   |  |
| (1) Visually examine the flanged bushing ID "A" for damage.                                       | <p>The maximum permitted area of damage is 25% of the ID bore surface.</p> <p>The maximum permitted depth of damage is 0.005 inch (0.12 mm).</p>                    | <p>If the damage is greater than the permitted serviceable limits, replace the flanged bushing.</p>  |
| (2) Visually examine the flanged bushing ID "A" for wear.   | <p>If there is wear, measure the flanged bushing ID "A".</p> <p>The maximum permitted ID "A" is 0.400 inch (10.16 mm) when measured with two point measurement.</p> | <p>If the ID "A" is greater than the permitted serviceable limits, replace the flanged bushing.</p>  |
| (3) Visually examine the flanged bushing shaft OD "B" for damage or wear.                         | <p>The maximum permitted depth of damage or wear is 0.020 inch (0.50 mm).</p>   | <p>If the damage or wear is greater than the permitted serviceable limits, replace the flanged bushing.</p>  |
| (4) Visually examine the flange "C" on the flanged bushing for wear.                              | <p>If there is wear, measure the thickness of the flange "C".</p> <p>The minimum permitted flange thickness is 0.040 inch (1.02 mm).</p>                            | <p>If the flange thickness is less than the permitted serviceable limits, replace the flanged bushing.</p> <p><u>NOTE:</u> A reduction of flange thickness may require a fourth spring adjust washer to achieve the required spring gap during assembly.</p> |
| (5) Visually examine the flanged bushing flange width "D" beyond the shaft OD for wear or damage. | <p>If there is wear or damage, measure the flange width "D".</p> <p>The minimum permitted flange width is 0.091 inch (2.32 mm).</p>                                 | <p>If the flange width is less than the permitted serviceable limits, replace the flanged bushing.</p>   |

Component Inspection Criteria  
Table 5-1

| Inspect  | Serviceable Limits  | Corrective Action  |
|--|---|--|
| AG. <u>BALANCE WEIGHT</u><br>(Item 9020)   |   |  |
| (1) Visually examine the balance weight for corrosion product.   | Corrosion product is not permitted.   | Remove corrosion product using glass bead cleaning. Refer to the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). If the corrosion product cannot be removed, replace the balance weight.          |
| (2) Visually examine the balance weight for pitting, wear, or damage.                                      | The maximum permitted depth of pitting, wear, or damage is 0.003 inch (0.07 mm).                    | Using an abrasive pad CM47 or equivalent, polish to a maximum depth of 0.005 inch (0.12 mm). If the depth of pitting, wear, or damage is greater than the permitted serviceable limits or corrective action, replace the balance weight. |
| (3) For an aluminum (gray color) balance weight: Visually examine the balance weight for anodize coverage. | Except for a few scratches and corners with anodize coating missing, complete coverage is required. | If the coverage is less than the permitted serviceable limits, re-anodize the balance weight in accordance with the Chromic Acid Anodizing chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).                 |
| (4) For a steel (silver color) balance weight: Visually examine for cadmium plating coverage.              | Except for a few scratches and corners with cadmium plating missing, complete coverage is required. | If the coverage is less than the permitted serviceable limits, replating the balance weight in accordance with the Cadmium Replating chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).                       |

Component Inspection Criteria  
Table 5-1

| Inspect   | Serviceable Limits   | Corrective Action  |
|---|--|--|
| AH. <u>WIRE HARNESS BRACKET</u><br>(ITEM 276)   |  |  |
| (1) Visually examine the wire harness bracket for corrosion product and pitting.  | Corrosion product is not permitted. If there is corrosion product, remove it in accordance with the corrective action repair limits. The maximum permitted depth of pitting is 0.007 inch (0.17 mm). | Remove corrosion product by using glass bead cleaning in accordance with the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). If the corrosion product cannot be removed, replace the wire harness bracket. If the pitting is greater than the permitted serviceable limits, replace the wire harness bracket. |
| (2) Visually examine the wire harness bracket for a crack.  | A crack is not permitted.  | If there is a crack, replace the wire harness bracket.   |
| (3) Visually examine the wire harness bracket surface that touches the nut and washer for damage.   | Individual radial impressions caused by the nut and washer are permitted. Circumferential gouging that removes material is not permitted.  | If the damage is greater than the permitted serviceable limits, replace the wire harness bracket.  |
| (4) Visually examine the wire harness bracket for cadmium plating coverage.<br><u>NOTE:</u> For the B-6265(L) bracket Revision O or later and the 105558(L) bracket Revision E or later, cadmium plating coverage check does not apply. | A maximum of 10% of visible base metal is permitted.   | If cadmium plate coverage is less than the permitted serviceable limits, cadmium replate the wire harness bracket in accordance with the Cadmium Replating chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).   |

REPAIR - CONTENTS

1. General Repair Requirements ..... 6-3

    A. Shot Peening..... 6-3

    B. Aluminum and Steel Parts..... 6-4

2. Repair/Modification Procedures..... 6-5

    A. Propeller Components..... 6-5

    B. Hubs ..... 6-5

    C. Blades ..... 6-5

    D. Spinner Assemblies..... 6-5

    E. Ice Protection Systems..... 6-5

3. Specific Repair Requirements ..... 6-6

    A. Repair of Damaged Cylinder Wrench Attachment Holes. .... 6-6

    B. Modification of the A-3253-( ) Pitch Change Block..... 6-7

    C. C-1862-( ) Pitch Change Knob Plating Repair ..... 6-8

    D. Replacement of Preload Plate Threaded Inserts ..... 6-8

    E. Spring Zinc Chromate Primer Repair ..... 6-10

    F. Modification of the Pitch Change Rod ..... 6-10

    G. Brass Counterweight Slug Mounting Hole Repair ..... 6-11

    H. B-2457-3 Fork Modification for Hub/Fork Interference ..... 6-15

    I. Preload Plate Modification for Set Screw/Fork Interference..... 6-17

    J. Preload Plate Assembly Inner Bearing Race Replacement ..... 6-18

LIST OF FIGURES

Pitch Change Block Modification ..... Figure 6-1 ..... 6-7

Brass Counterweight Slug Mounting Hole Repair ..... Figure 6-2 ..... 6-11

B-2457-3 Fork Modification Dimensions..... Figure 6-3 ..... 6-13

Hub/Fork Interference Locations ..... Figure 6-4 ..... 6-14

Preload Plate Modification..... Figure 6-5 ..... 6-16

Installation of the Inner Blade Bore Bearing Race ..... Figure 6-6 ..... 6-18

(Blank Page)

WARNING 1: DO NOT ATTEMPT IN THE FIELD ANY REPAIR, REPLACEMENT, REPLATING, RE-ANODIZING OR RE-SHOT PEENING PROCEDURE NOT SPECIFICALLY AUTHORIZED BY HARTZELL PROPELLER INC. OR NOT SPECIFICALLY REFERRED TO IN HARTZELL PROPELLER INC. MANUALS. CONTACT THE FACTORY FOR GUIDANCE ABOUT THE AIRWORTHINESS OF ANY PART WITH UNUSUAL WEAR OR DAMAGE.

WARNING 2: ADHESIVES AND SOLVENTS ARE FLAMMABLE AND TOXIC TO THE SKIN, EYES, AND RESPIRATORY TRACT. SKIN AND EYE PROTECTION ARE REQUIRED. AVOID PROLONGED CONTACT AND BREATHING OF VAPORS. USE SOLVENT RESISTANT GLOVES TO MINIMIZE SKIN CONTACT AND WEAR SAFETY GLASSES FOR EYE PROTECTION. USE IN A WELL VENTILATED AREA AWAY FROM SPARKS AND FLAME. READ AND OBSERVE ALL WARNING LABELS.

CAUTION: INSTRUCTIONS AND PROCEDURES IN THIS CHAPTER MAY INVOLVE PROPELLER CRITICAL PARTS. REFER TO THE INTRODUCTION CHAPTER OF THIS MANUAL FOR INFORMATION ABOUT PROPELLER CRITICAL PARTS. REFER TO THE ILLUSTRATED PARTS LIST IN THIS MANUAL FOR IDENTIFICATION OF PROPELLER CRITICAL PARTS.

1. General Repair Requirements (Rev. 2)

A. Shot Peening

CAUTION: THE PEENING MARKS ON CERTAIN PROPELLER PARTS ARE NOT TOOL MARKS AND SHOULD NOT BE REMOVED.

- (1) Some propeller assembly parts have been shot peened at Hartzell Propeller Inc. to improve fatigue strength.
- (2) Shot peened surfaces may require re-shot peening because of rust, corrosion, fretting, or nicks. For shot peening procedures, refer to the Shot Peening chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

**WARNING:** FAILURE TO CORRECTLY SHOT PEEN APPLICABLE PROPELLER PARTS MAY CREATE AN UNSAFE CONDITION THAT MAY RESULT IN DEATH, SERIOUS BODILY INJURY, AND/OR SUBSTANTIAL PROPERTY DAMAGE. A QUALITY SHOT PEENING PROCESS IS CRITICAL FOR FLIGHT SAFETY. SHOT PEENING OF PROPELLER PARTS REQUIRES SPECIAL TECHNIQUES, TRAINING, MATERIALS, AND EQUIPMENT.

- (a) Only repair stations that are properly certified by Hartzell Propeller Inc. should shot peen Hartzell propeller parts.
  - 1 For certification requirements, refer to the Approved Facilities chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).
  - 2 For a list of repair stations that are certified by Hartzell Propeller Inc. to perform shot peening on Hartzell propeller parts:
    - (a) Go to the Sample Program Approvals on the Hartzell Propeller Inc. website at [www.hartzellprop.com](http://www.hartzellprop.com)
    - (b) Contact Hartzell Propeller Inc. Product
      - (1) Refer to the section, "Contact Information" in the Introduction chapter of this manual.

#### B. Aluminum and Steel Parts

- (1) Remove scratches, nicks, burrs, and other minor damage by using a fine emery cloth or abrasive pad, such as CM47.
  - (a) Blend the polished area in with the surrounding area.
  - (b) Use extreme care to completely remove the damage while removing as little material as possible.
- (2) After any repair, inspect the part in accordance with the applicable inspection criteria to be sure it is within the permitted limits.

2. Repair/Modification Procedures (Rev. 2)

A. Propeller Components (Except for those listed separately in this section)

- (1) For repair and modification procedures of propeller components (except for those listed separately in this section), refer to the applicable section in this chapter.

B. Hubs

- (1) Aluminum Hubs: Refer to the Aluminum Hub Overhaul chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

C. Blades

- (1) Aluminum Blades: Refer to Hartzell Propeller Inc. Aluminum Blade Overhaul Manual 133C (61-13-33).
- (2) Composite Blades: Refer to Hartzell Propeller Inc. Composite Blade Overhaul Manual 135F (61-13-35).

D. Spinner Assemblies

- (1) Metal Spinners: Refer to Hartzell Propeller Inc. Metal Spinner Maintenance Manual 127 (61-16-27).
- (2) Composite Spinners: Refer to Hartzell Propeller Inc. Composite Spinner Maintenance Manual 148 (61-16-48)

E. Ice Protection Systems

- (1) For ice protection systems supplied by Hartzell, refer to Hartzell Propeller Inc. Ice Protection System Manual 180 (30-61-80).
- (2) For ice protection systems not supplied by Hartzell, refer to the applicable TC or STC holder's Instructions for Continued Airworthiness (ICA).

### 3. Specific Repair Requirements

NOTE: Balance weight attachment hole and grease fitting hole repair procedures are described in the Aluminum Hub Overhaul chapter of Hartzell Propeller Inc. Manual 202A (61-01-02).

#### A. Repair of Damaged Cylinder Wrench Attachment Holes.

##### (1) General

- (a) Several models of aluminum hub propellers have threaded holes in the forward end of the propeller cylinder for attachment of wrenches during assembly and disassembly. Damage to these holes is repairable in accordance with the following procedure.
- (b) Perform the procedure on cylinders with the following part numbers only.

B-2428-( )                      C-6510

B-2281-( )                      101746

##### (2) Procedure

- (a) Cut off the counterbored end of a thin wall insert TE410 (Hartzell Propeller Inc. P/N B-6986-258) to remove the counterbore and locking teeth.

CAUTION:    MAKE SURE THAT THE DRILL IS CENTERED AND SQUARE WITH THE HOLE.

- (b) With the drill centered and square with the hole, drill the damaged hole to diameter 0.281 +0.004 -0.001 inch (7.13 +0.101- 0.025 mm) with a maximum depth of 0.405 inch (10.28 mm) at the point (center) of the hole.
- (c) Inspect the wall thickness under the point of the hole in accordance with the Check chapter in this manual.
- (d) Thread the hole to 5/16-24UNF-3B using a bottom tap.

NOTE:    The resultant thread will be non-standard due to the larger than normal minor diameter of 0.280 - 0.285 inch (7.11 - 7.23 mm) produced by the previous drill operation.

- (e) Apply a layer of chemical conversion coating to the tapped hole. Refer to the Chromic Acid Anodizing chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).
- (f) Spray the thin wall insert and the tapped hole with primer CM127.
- (g) Apply a layer of thread locking compound CM74 to the thin wall insert.
- (h) Install the modified thin wall insert flush to 0.020 inch (0.50 mm) below the part surface, using installation tool TE314.

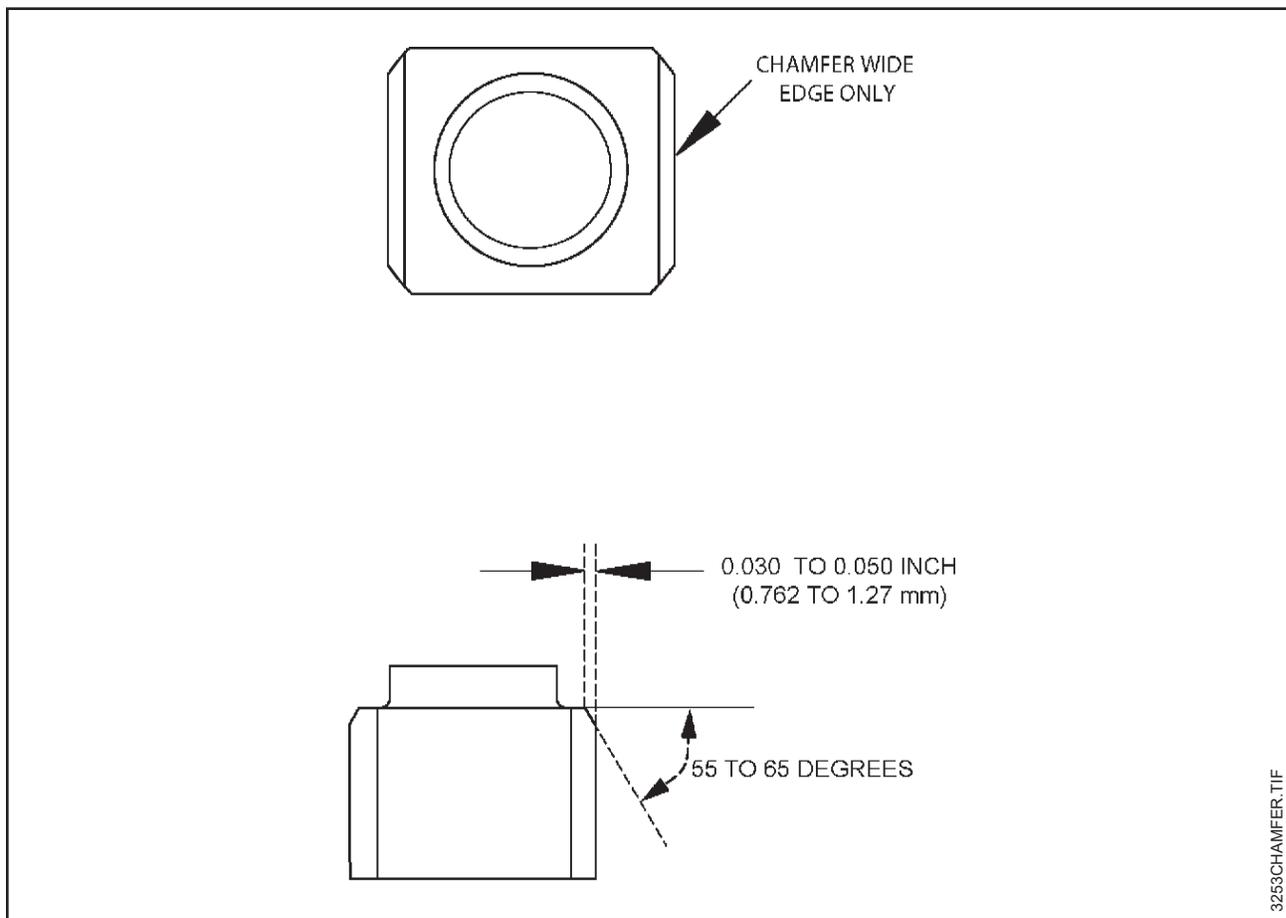
NOTE:    Step drill, reamer, and swage tool are not required because the counterbored end is cut off.

- (i) Check the installed thin wall insert using a 1/4-28 UNF-3A bolt.
- (j) Let the repaired parts cure for 12 hours before assembly.

B. Modification of the A-3253-( ) Pitch Change Block

- (1) Installation of the new pitch change knob bushings, C-7645 or C-7645-1, requires the modification of the A-3253-( ) pitch change block.
- (2) Modify the A-3253-( ) pitch change block in accordance with the dimensions specified in Figure 6-1.

**NOTE:** Pitch change block A-2217-( ) used with ( ) HC-( )2Y( )-( ) propellers, does not require modification.



**Pitch Change Block Modification  
Figure 6-1**

C. C-1862-( ) Pitch Change Knob Plating Repair

- (1) Apply copper sulfate test solution (refer to the note) to the surfaces that may not have nickel plating.

NOTE: Copper sulfate test solution: 64.0 grams copper sulfate in 250 ml. distilled water, add 22.5 grams sulfuric acid.

- (a) A bare steel surface with no nickel plating will turn a light iridescent orange when it comes in contact with the copper sulfate test solution.

- 1 If there is an incomplete coverage of nickel plating, go to step 5.C.(2).

- 2 If no nickel plating is present, go to step 5.C.(3).

- (b) Nickel plated surfaces will not change color and the copper sulfate test solution will remain clear.

- 1 If there is complete coverage of nickel plating, no replating is required.

- 2 Using soap and water or solvent CM23, clean the pitch change knob.

- 3 Using compressed air or a clean cloth, dry the pitch change knob.

- 4 Further steps in this section are not required.

CAUTION: DO NOT REMOVE THE STEEL BASE MATERIAL WHEN STRIPPING THE NICKEL PLATING.

- (2) If some surfaces of the pitch change knob bracket do not have nickel plating present, strip the remaining nickel plating before cadmium replating.
- (3) Apply masking material to the dowel pin, if installed.
- (4) Cadmium replate and bake the pitch change knob bracket in accordance with the Cadmium Replating chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

D. Replacement of Preload Plate Threaded Inserts

- (1) General

- (a) Some preload plate models incorporate a threaded insert in the set screw threaded hole. Replace the threaded inserts, as required, in accordance with the following procedure.

- (b) Perform the procedure on preload plates with the following part numbers only: 101304, 101304-1, 102610.

- (c) TE111 and TE409 are necessary tools to replace the preload plate threaded insert.

- (2) Insert Removal

- (a) Align the tapered end of the 1227-6 Removal Tool TE111 with the bore of the threaded insert.

- (b) Lightly tap TE111 into the threaded insert.
  - (c) Turn the T-handle end of TE111 counterclockwise to break loose the adhesive and remove the insert from the preload plate.
- (3) Thread Inspection
- (a) Inspect the threaded hole of the preload plate in accordance with the check section in this manual.
- (4) Insert Modification
- (a) Put the threaded insert in a lathe to machine the counterbore of the insert.
  - (b) Remove the counterbore end of the insert (445).
  - (c) Deburr the cut end of the modified insert.
- (5) Insert Installation
- (a) Using solvent CM106 or CM11, clean the preload plate threaded hole and exterior threads of the insert.
  - (b) Permit the solvent CM106 or CM11 to air dry completely.
  - (c) Apply a layer of primer CM127 to the preload plate threaded hole and the exterior threads of the modified insert.
  - (d) Permit the primer CM127 to air dry for 3 to 5 minutes.
  - (e) Apply a layer of retaining compound CM74 to the preload plate threaded hole and the exterior threads of the modified insert.
  - (f) Using installation tool TE389-8, install the modified insert into the preload plate threaded hole so that the modified end of the insert is flush to one thread below the preload plate hole chamfer. This is the side opposite of the counterbore.
  - (g) Using a clean, dry cloth, remove any excess retaining compound CM74.
  - (h) Using a 0.50 inch (1.27 mm) diameter customer supplied peening tool, peen the insert in from the counterbored side of the preload plate.
  - (i) Permit to air dry for 12 hours.
  - (j) Apply chemical conversion coating to the machined surface areas near either end of the modified insert in accordance with Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).
  - (k) Using a 3/8-24UNF-3B thread plug gage, inspect the internal threads of the modified insert to verify that the insert threads are not damaged.

E. Spring Zinc Chromate Primer Repair

(1) Cleaning

- (a) For procedures for cleaning the spring (110), refer to Cleaning of Steel Parts in the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).
- (b) Inspect the spring (110) for scratches, corrosion, and zinc plate coverage in accordance with the Check chapter of this manual.
- (c) Using 120 to 180 grit sandpaper, remove any loose material and feather the existing coating.
- (d) Using solvent CM106, clean the entire spring (110).
- (e) Permit the solvent CM106 to air dry.

(2) Painting

**NOTE:** For general information concerning painting procedures, refer to the Paint and Finish chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

- (a) Apply a layer of zinc chromate primer CM67, or equivalent, to the entire surface of the spring (110).
- (b) Permit the primer to dry for a minimum of 24 hours before handling.
- (c) Examine the spring (110) for complete primer coverage.

F. Modification of the Pitch Change Rod

**WARNING:** DO NOT DRILL A HOLE IN THE PITCH CHANGE ROD (140) WHEN THE PITCH CHANGE ROD IS ASSEMBLED IN THE PROPELLER.

(1) General

- (a) This procedure provides the instructions to add a second through hole to the pitch change rod (140) for installation of the cotter pin (60).

(2) Procedure

- (a) While holding the pitch change rod in a vise or by other suitable method, drill a 0.098 inch (2.4 mm) diameter through hole at 90 degrees from the existing cotter pin hole.
- (b) Deburr the newly drilled through hole on both the ID and OD of the pitch change rod (140).
- (c) Remove any debris from the bore of the pitch change rod (140).
- (d) Using solvent CM173 or equivalent, clean the ID of the pitch change rod (140).

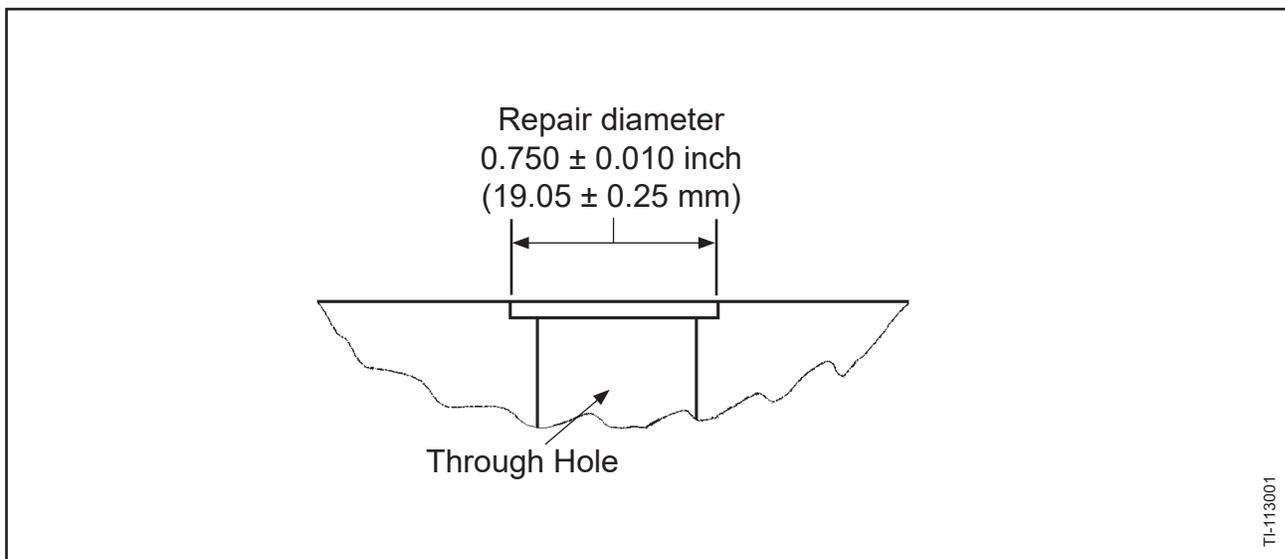
G. Brass Counterweight Slug Mounting Hole Repair

**CAUTION:** INSTRUCTIONS AND PROCEDURES IN THIS SECTION MAY INVOLVE PROPELLER CRITICAL PARTS. REFER TO THE INTRODUCTION CHAPTER OF THIS MANUAL FOR INFORMATION ABOUT PROPELLER CRITICAL PARTS. REFER TO THE ILLUSTRATED PARTS LIST IN THIS MANUAL FOR IDENTIFICATION OF PROPELLER CRITICAL PARTS.

- (1) General
  - (a) This procedure provides the instructions to remove wear around the counterweight slug mounting through hole.
- (2) Procedure
  - (a) Use a locally procured end mill cutter that is  $0.750 \pm 0.010$  inch ( $19.05 \pm 0.25$  mm) outside diameter.
    - 1 The corner radius blending between the outside diameter and the cutting end must be 0.005 to 0.033 inch (0.13 to 0.83 mm).
  - (b) Put the brass weight slug in the end mill.

**CAUTION:** MAKE SURE THAT THE BRASS WEIGHT SLUG IS HELD TIGHTLY IN PLACE WITH THE THROUGH HOLE CENTERED UNDER THE END MILL CUTTER.

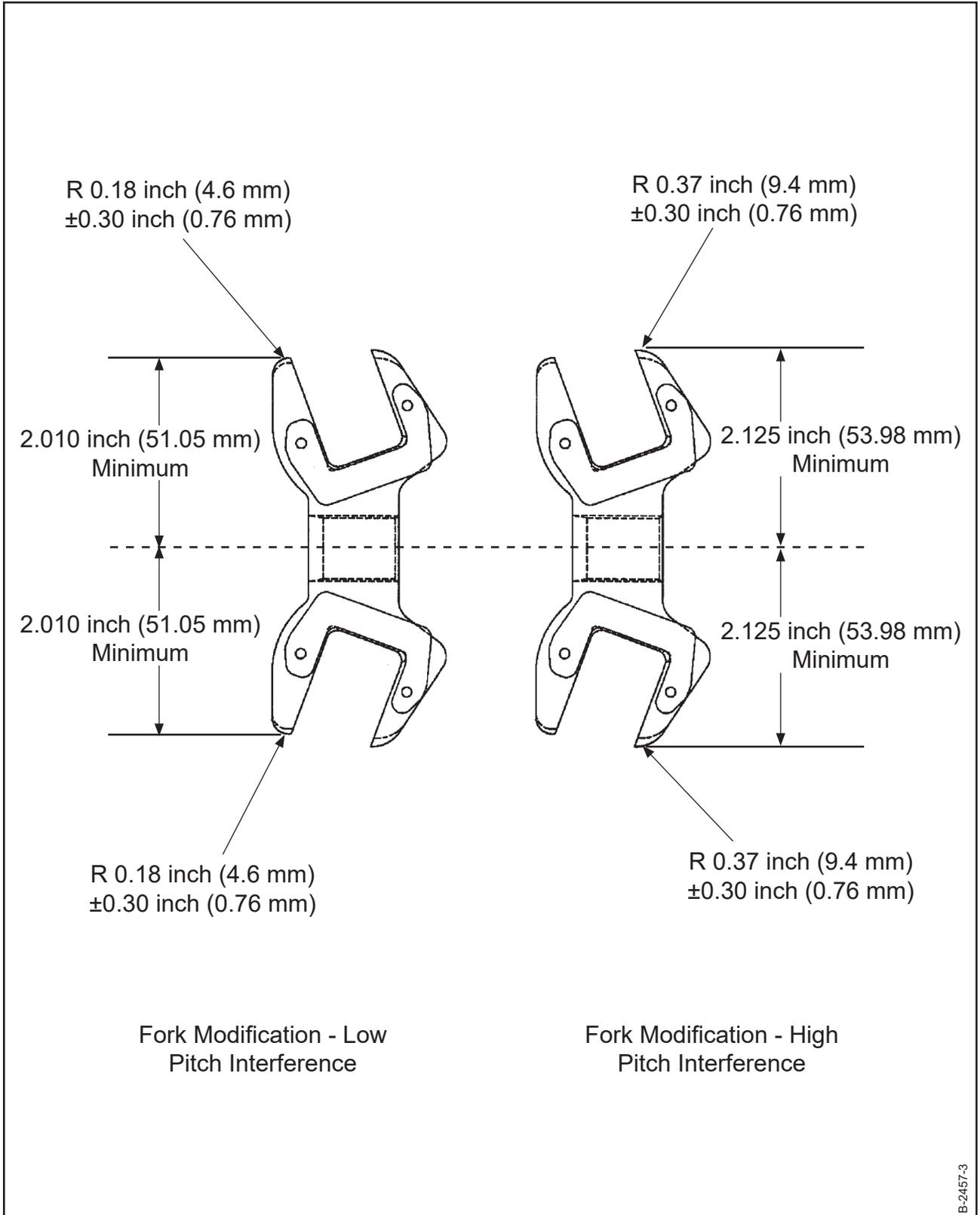
- (c) Center the through hole that is to be repaired under the end mill cutter and make sure that the brass weight slug is held tightly in place.



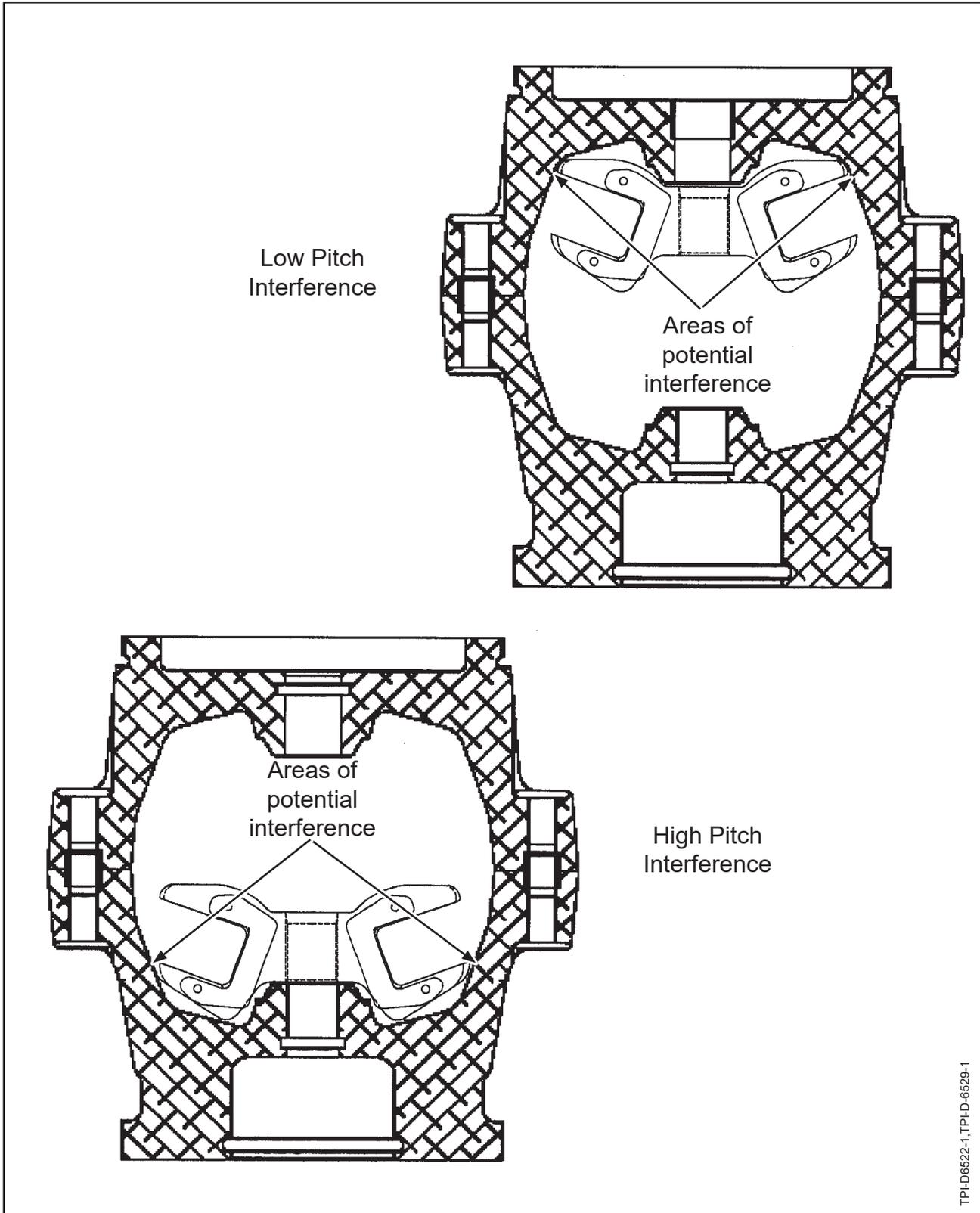
**Brass Counterweight Slug Mounting Hole Repair**  
**Figure 6-2**

CAUTION: DO NOT SPOTFACE DEEPER THAN THE MAXIMUM PERMITTED DEPTH.

- (d) Spotface the brass weight slug to remove wear damage.
  - 1 The maximum permitted depth of repair is 0.020 inch (0.50 mm). Refer to Figure 6-2.
  - 2 Spotface to a greater depth is not permitted.
  - 3 If the repair is greater than the maximum permitted depth of repair, replace the brass weight slug.
- (e) Remove all burrs.
- (f) Break any sharp corners.
- (g) Visually examine the repair to make sure that the repair is centered on the through hole.
- (h) Cadmium plate of any bare brass surface is required. Refer to the Check chapter of this manual.



**B-2457-3 Fork Modification Dimensions**  
**Figure 6-3**



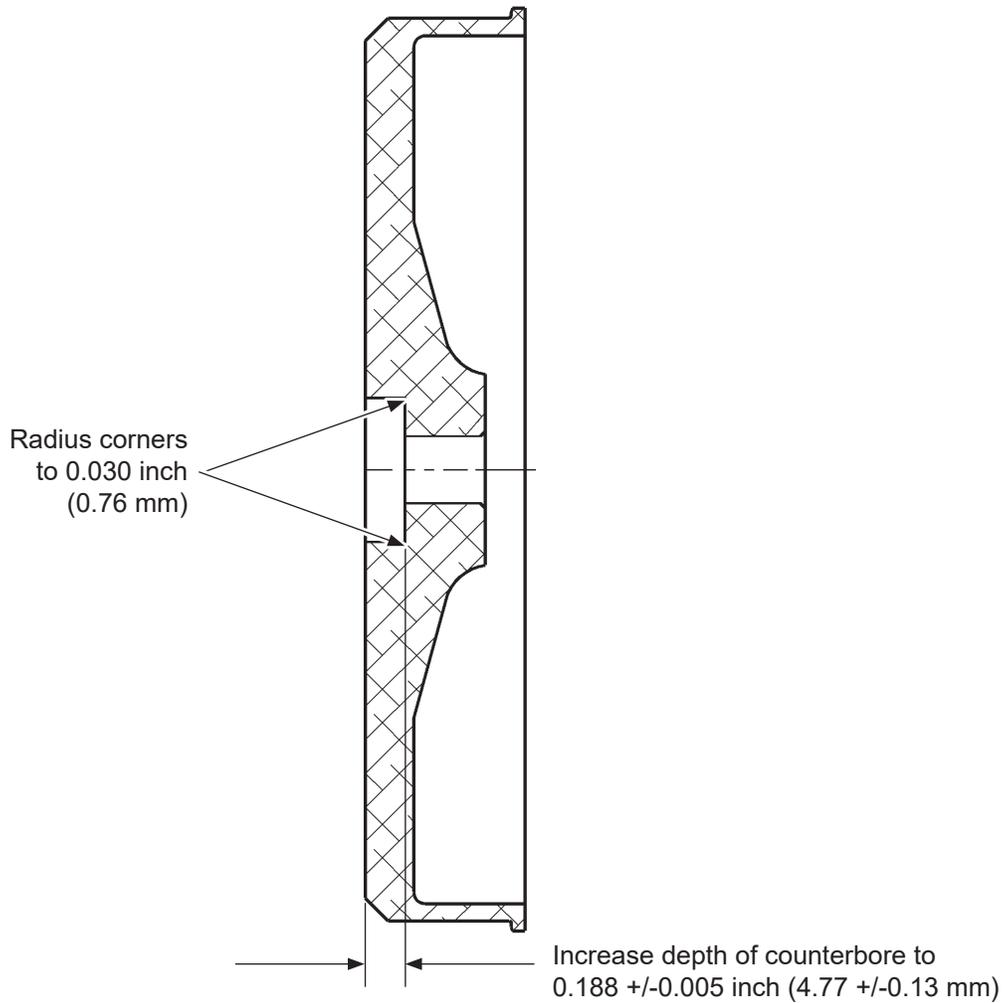
Hub/Fork Interference Locations  
Figure 6-4

## H. B-2457-3 Fork Modification for Hub/Fork Interference

- (1) B-2457-3 forks that are revision "AZ" or subsequent are not eligible for this modification.
  - (a) The revision number is pin stamped on the body of the fork. Some forks manufactured before revision "AZ" may not have a revision number pin stamped on the fork.
- (2) Interference between the hub and the fork may prevent setting the correct low, high, or feather blade angle. This condition occurs only when a fork manufactured before revision "AZ" is installed in a propeller hub with a "B" serial number suffix.

**WARNING:** CADMIUM IS TOXIC. PERSONS INVOLVED WITH GRINDING OF CADMIUM PLATED PARTS MUST WEAR ADEQUATE PERSONAL PROTECTIVE EQUIPMENT. DUST COLLECTION EQUIPMENT MUST BE AVAILABLE TO COLLECT CADMIUM REMOVED DURING THE GRINDING OPERATION.

- (3) If the part will be cadmium plated, disassemble the fork in accordance with the Disassembly chapter in this manual.
- (4) Using a bench mounted belt sander or equivalent tool, grind the appropriate fork tips to the dimension shown in Figure 6-3.
- (5) Put the fork into the hub as shown in Figure 6-4. Confirm that the fork does not contact the sides of the hub.
- (6) If there is still fork-to-hub contact, perform the hub modification procedures in the Aluminum Hub Overhaul chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).
- (7) After modification, the fork must either be cadmium plated or the ground areas must be coated with zinc chromate primer (CM67).
  - (a) If the fork will be cadmium plated:
    - 1 Cadmium replate and bake the fork in accordance with the Cadmium Replating chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).
    - 2 Assemble the fork in accordance with the Assembly chapter in this manual.
  - (b) If the fork will be coated with zinc chromate primer (CM7), apply the zinc chromate primer to the ground areas in accordance with the manufacturer's guidelines.



Tl-360-preload

**Preload Plate Modification**  
**Figure 6-5**

- I. Preload Plate Modification for Set Screw/Fork Interference
  - (1) Remove the preload plate (440) in accordance with the section, "Blade Bearing System Disassembly" in the Disassembly chapter of this manual.
  - (2) Remove the threaded insert (445) from the preload plate assembly (440) in accordance with the section, "Replacement of the Preload Plate Threaded Inserts" in the Repair chapter of this manual.
  - (3) Modify the preload plate (440). Refer to Figure 6-5.
    - (a) Machine the counterbore for the jam nut to a depth of  $0.188 \pm 0.005$  inch ( $4.77 \pm 0.13$  mm).
    - (b) Machine the radius to 0.030 inch (0.76 mm).
  - (4) Install a new threaded insert (445) in the preload plate (440) in accordance with the Repair chapter in this manual.
  - (5) Install the preload plate assembly (440) in accordance with the Assembly chapter in this manual.

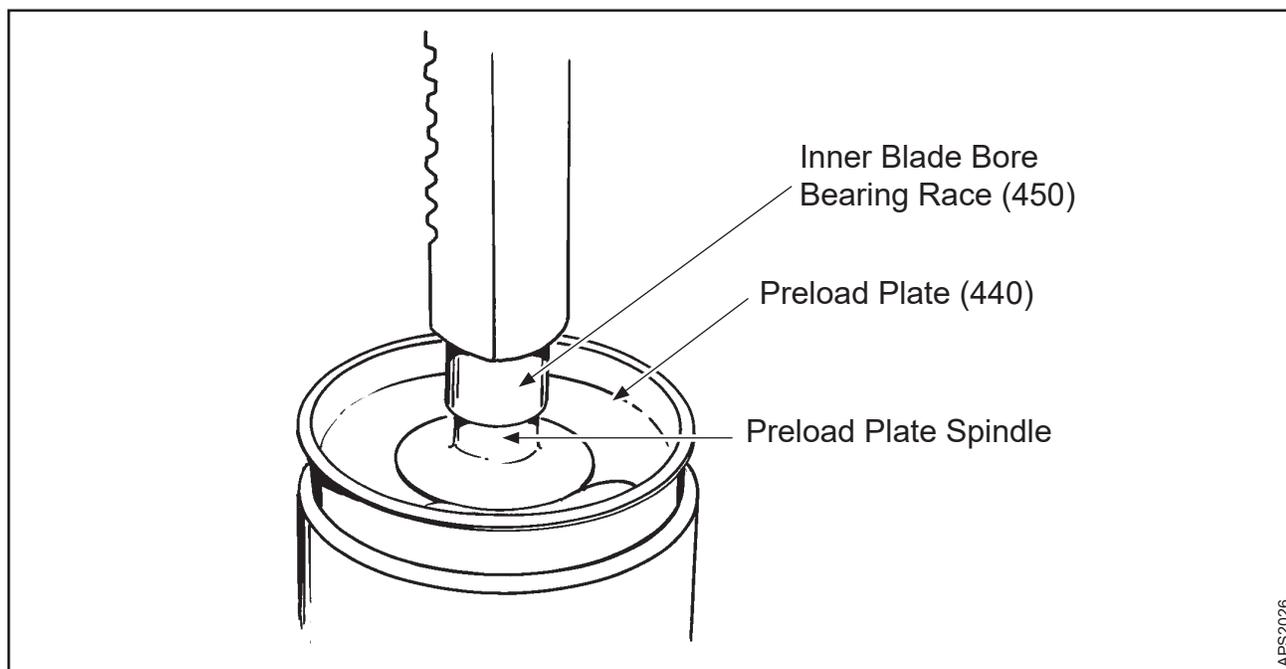
J. Preload Plate Assembly Inner Bearing Race Replacement

**CAUTION:** ONLY DO THIS PROCEDURE IF THERE IS ENOUGH SPACE BETWEEN THE BOTTOM OF THE INNER BEARING RACE (450) AND THE SURFACE OF THE PRELOAD PLATE (440). DO NOT DO THIS PROCEDURE IF THE BOTTOM OF THE INNER BEARING RACE IS TOUCHING THE PRELOAD PLATE.

- (1) Removing and Installing the Preload Plate Inner Bearing Race (450) to the Preload Plate Spindle

**CAUTION:** WHEN REMOVING THE INNER BEARING RACE (450), USE CARE TO NOT DAMAGE THE PRELOAD PLATE (440) THREADS.

- (a) Remove the inner bearing race (450) using the puller TE98 or a locally procured tool.
  - 1 If using the puller TE98, put a spacer below the collar of the puller TE98 to keep the puller TE98 from touching the preload plate (440) threads.
- (2) Discard the inner bearing race (450).
- (3) Do the required inspections of the preload plate spindle in accordance with the Check chapter of this manual.



**Installation of the Inner Blade Bore Bearing Race**  
**Figure 6-6**

- (4) Using number 4 Oil CM80, lubricate the inside diameter of the new inner bearing race (450).
- (5) Put the preload plate (440) in a locally procured fixture.

CAUTION 1: WHEN PUSHING THE INNER BEARING RACE (450) ONTO THE PRELOAD PLATE (440), THE FORCE MUST NOT BE GREATER THAN 5000 POUNDS.

CAUTION 2: WHEN PUSHING THE INNER BEARING RACE (450) ONTO THE PRELOAD PLATE SPINDLE, USE CARE TO NOT DAMAGE THE PRELOAD PLATE THREADS.

- (6) Push the inner blade bore bearing race (450) over the preload plate spindle. Refer to Figure 6-6.
  - (a) The top of the inner bearing race (450) must be flush to 0.005 inch (0.13 mm) below the top surface of the preload plate spindle.
- (7) Turn the set screw (430) into the preload plate (440) to test the preload plate threads.
  - (a) If the set screw (430) does not turn smoothly into the preload plate (440), replace the preload plate (440).
- (8) Twist, turn, and pull by hand the inner bearing race (450) to make sure it holds a press fit on the preload plate (440).
  - (a) If the inner bearing race (450) does not hold a press fit on the preload plate (440), replace the preload plate (440).

(Blank Page)

ASSEMBLY - CONTENTS

|   |      |
|---|------|
| 1. General .....  | 7-3  |
| A. Important Information .....  | 7-3  |
| B. Ice Protection Systems .....   | 7-4  |
| C. O-rings .....  | 7-4  |
| D. Blade Bore Plug/Bearing Installation .....   | 7-4  |
| E. Blade Angle Information .....  | 7-4  |
| 2. Blade Assembly Procedures .....  | 7-5  |
| A. General .....  | 7-5  |
| B. Installation of the Pitch Change Knob (Composite Blades Only).....                 | 7-6  |
| C. Pitch Change Knob Bushing Installation.....  | 7-6  |
| D. Blade Seal Assembly Installation .....   | 7-8  |
| E. Installation of the Blade Bearing Race and Balls .....                             | 7-10 |
| F. Installation of the Blade Plug, ( )HC-( )( )Y( )( )-1N Propeller Blades Only ..... | 7-10 |
| G. Preload Plate Assembly - Except for the ( )HC-( )( )Y( )( )-1N Propeller.....      | 7-12 |
| H. Preload Plate Assembly for the ( )HC-( )( )Y( )( )-1N Propeller.....               | 7-13 |
| 3. Compact/Lightweight Compact Hub Assembly Procedures .....                          | 7-14 |
| A. General .....  | 7-14 |
| B. Preparation of the Hub for Assembly .....  | 7-14 |
| C. Two Blade Compact Hub Blade Installation.....                                      | 7-20 |
| D. Three Blade Compact Hub Blade Installation.....                                    | 7-25 |
| E. Four Blade Compact Hub Blade Installation.....                                     | 7-30 |
| F. Application of Blade Angle Reference Tape (Optional).....                          | 7-36 |
| G. Hydraulic Pitch Change Unit Assembly.....  | 7-37 |
| 4. Leak Test .....  | 7-53 |
| 5. Counterweight Installation .....   | 7-54 |
| A. Aerobatic Installations Only .....   | 7-54 |
| 6. Counterweight Slug Installation .....  | 7-56 |
| A. General .....  | 7-56 |
| B. Propeller Models with C-7249 Counterweight Slugs.....                              | 7-56 |
| C. Propeller Models with A-890-( ) Counterweight Slugs .....                          | 7-56 |
| 7. Propeller Lubrication.....   | 7-56 |

ASSEMBLY - CONTENTS, CONTINUED

|  |      |
|--|------|
| 8. Static Balance.....                                       | 7-57 |
| 9. Labels .....  | 7-57 |
| 10. Propeller Disassembled for Shipping.....                 | 7-57 |
| A. General .....   | 7-57 |
| B. Preparing the Propeller for Shipping.....                 | 7-57 |
| 11. Reassembly of a Propeller Disassembled for Shipping..... | 7-59 |
| A. Unpacking the Propeller and Blades.....                   | 7-59 |
| B. Preparing Propeller for Reassembly .....                  | 7-59 |
| C. Propeller Reassembly.....                                 | 7-59 |
| 12. C-1576 Damper Assembly.....                              | 7-61 |
| A. General .....   | 7-61 |
| B. Damper Assembly Procedure .....                           | 7-61 |

LIST OF FIGURES

|   |                     |      |
|---|---------------------|------|
| Blade Seal Assembly Installation.....   | Figure 7-1 .....    | 7-7  |
| Installation of the Blade Retention Bearing .....                                   | Figure 7-2 .....    | 7-9  |
| Installing the Blade Plug.....  | Figure 7-3 .....    | 7-9  |
| Installing the Anti-rotation Plate .....  | Figure 7-4 .....    | 7-11 |
| Installation of the Preload Plate to the Blade Shank .....                          | Figure 7-5 .....    | 7-11 |
| Applying the Clamping Tool TE24 to the Blade Assembly.....                          | Figure 7-6 .....    | 7-13 |
| Spark Gap Screw, HC-E3YR-1(C,E), PHC-G3YF-1E,<br>and HC-I3YR-1(C,E) Propellers..... | Figure 7-7 .....    | 7-15 |
| Spark Gap Screw, HC-C3YR-4(A,G) and HC-C2YR-4(E,G).....                             | Figure 7-8 .....    | 7-15 |
| Installation of the Flange O-ring in the Engine Half Hub Flange .....               | Figure 7-9 .....    | 7-17 |
| Installation of the Engine-Side Hub Half on the Assembly Stand.....                 | Figure 7-10 .....   | 7-17 |
| Blade Number One Installed in the Hub.....  | Figure 7-11.....    | 7-19 |
| Installing the Cylinder-Side Hub Half.....  | Figure 7-12 .....   | 7-19 |
| Set Screw Thread Extension, ( )HC-( )2Y(F,R)-(1,4)N<br>Propellers Only.....         | Figure 7-12.1 ..... | 7-21 |
| Installation of Blade Number 1 .....  | Figure 7-13 .....   | 7-23 |
| Installation of Sealant on the Hub Parting Surface.....                             | Figure 7-14 .....   | 7-23 |
| Installing Hub Half in Preparation for Tightening Preload Plate .....               | Figure 7-15 .....   | 7-25 |
| Tightening Preload Plate Hex Head Screw and Jam Nut.....                            | Figure 7-16 .....   | 7-26 |
| Pitch Change Blocks Installed on Blades Two and Three .....                         | Figure 7-17 .....   | 7-27 |
| Pitch Change Fork Installed on Blades Two and Three .....                           | Figure 7-18 .....   | 7-28 |
| Installation of Blade One into Hub.....   | Figure 7-19 .....   | 7-29 |
| Installation of Front Half of Hub.....  | Figure 7-20 .....   | 7-30 |
| Installation of Pitch Change Fork.....  | Figure 7-21 .....   | 7-32 |
| Installation of Blade Number One into the Hub .....                                 | Figure 7-22 .....   | 7-33 |
| Installation of Sealant Between the Hub Halves .....                                | Figure 7-23 .....   | 7-33 |
| Blade Angle Reference Tape.....   | Figure 7-24 .....   | 7-35 |
| Wire Harness Bracket Location.....  | Figure 7-25 .....   | 7-39 |
| Installation of the Split Keeper.....   | Figure 7-26 .....   | 7-40 |
| Installation of Stop Collar or Stop Sleeve and O-rings .....                        | Figure 7-27 .....   | 7-40 |
| Installing the A-2213-( ) Spring.....   | Figure 7-28 .....   | 7-42 |
| Installing the Piston on the Pitch Change Rod.....                                  | Figure 7-29 .....   | 7-42 |
| Cotter Pin Installation .....   | Figure 7-30 .....   | 7-43 |
| Installing the Piston on the Pitch Change Rod.....                                  | Figure 7-31 .....   | 7-48 |

LIST OF FIGURES, CONTINUED

|  |                   |      |
|--|-------------------|------|
| Installing the 101322 or the 101330 Spring.....                            | Figure 7-32 ..... | 7-49 |
| Installing the Cylinder with Cylinder Torque Wrench<br>Adapter TE153 ..... | Figure 7-33 ..... | 7-50 |
| Installing the Low Pitch Stop .....  | Figure 7-34 ..... | 7-51 |
| Checking Blade Track.....  | Figure 7-35 ..... | 7-52 |
| Hub Leak Check.....  | Figure 7-36 ..... | 7-53 |
| Position of Counterweight Slugs.....                                       | Figure 7-37 ..... | 7-55 |
| C-1576 Damper Assembly.....  | Figure 7-38 ..... | 7-60 |
| Measuring the Spring Gap.....  | Figure 7-39 ..... | 7-62 |

LIST OF TABLES

|   |                 |      |
|---|-----------------|------|
| Alternate Part Numbers and Lengths for Set Screw (Item 430) ..... | Table 7-1 ..... | 7-21 |
| A-2420-( ) Stop Collar Heights .....                              | Table 7-2 ..... | 7-41 |
| 101324-( ) Stop Sleeve Heights .....                              | Table 7-3 ..... | 7-46 |
| 101335-( ) Stop Collar Heights .....                              | Table 7-4 ..... | 7-46 |

1. General (Rev. 5)

WARNING 1: ANY PART IDENTIFIED IN THIS MANUAL AS AN EXPERIMENTAL OR NON-AVIATION PART MUST NOT BE USED IN AN FAA OR INTERNATIONAL EQUIVALENT TYPE CERTIFICATED PROPELLER. A PART IDENTIFIED AS EXPERIMENTAL OR NON-AVIATION DOES NOT HAVE FAA OR INTERNATIONAL EQUIVALENT APPROVAL EVEN THOUGH IT MAY STILL SHOW AN AVIATION TC OR PC NUMBER STAMP. USE ONLY THE APPROVED ILLUSTRATED PARTS LIST PROVIDED IN THE APPLICABLE OVERHAUL MANUAL OR ADDITIONAL PARTS APPROVED BY AN FAA ACCEPTED DOCUMENT FOR ASSEMBLY OF A PROPELLER. THE OPERATOR ASSUMES ALL RISK ASSOCIATED WITH THE USE OF EXPERIMENTAL PARTS. USE OF EXPERIMENTAL PARTS ON AN AIRCRAFT MAY RESULT IN DEATH, SERIOUS BODILY INJURY, AND/OR SUBSTANTIAL PROPERTY DAMAGE.

WARNING 2: ADHESIVES AND SOLVENTS ARE FLAMMABLE AND TOXIC TO THE SKIN, EYES, AND RESPIRATORY TRACT. SKIN AND EYE PROTECTION ARE REQUIRED. AVOID PROLONGED CONTACT AND BREATHING OF VAPORS. USE SOLVENT RESISTANT GLOVES TO MINIMIZE SKIN CONTACT AND WEAR SAFETY GLASSES FOR EYE PROTECTION. USE IN A WELL VENTILATED AREA AWAY FROM SPARKS AND FLAME. READ AND OBSERVE ALL WARNING LABELS.

CAUTION 1: INSTRUCTIONS AND PROCEDURES IN THIS CHAPTER MAY INVOLVE PROPELLER CRITICAL PARTS. REFER TO THE INTRODUCTION CHAPTER OF THIS MANUAL FOR INFORMATION ABOUT PROPELLER CRITICAL PARTS. REFER TO THE ILLUSTRATED PARTS LIST IN THIS MANUAL FOR IDENTIFICATION OF PROPELLER CRITICAL PARTS.

CAUTION 2: THE USE OF BLADE PADDLES TO MOVE BLADES CAN RESULT IN THE OVERLOAD AND DAMAGE OF THE BLADE PITCH CHANGE MECHANISM. THIS DAMAGE IS NOT REPAIRABLE AND CAN RESULT IN SEPARATION BETWEEN THE BLADE AND THE PITCH CHANGE MECHANISM, CAUSING LOSS OF PITCH CONTROL DURING FLIGHT.

A. Important Information

- (1) Read all assembly instructions before beginning the assembly procedures.
- (2) Protect all unassembled components from damage.
- (3) Use applicable torque values. Refer to Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual.

- (4) Unless specified differently, safety wire in accordance with NASM33540 using 0.032 inch (0.81 mm) safety wire.
- (5) For information about additional counterweight slugs that may be required to be attached to the counterweight arms, refer to the Hartzell Propeller Inc. Application Guide Manual 159 (61-02-59).

**CAUTION:** BEFORE ASSEMBLING THE PROPELLER, DETERMINE IF AN ICE PROTECTION SYSTEM IS REQUIRED.

**B. Ice Protection Systems**

- (1) If installing an ice protection system supplied by Hartzell, refer to Hartzell Propeller Inc. Ice Protection System Manual 180 (30-61-80).
- (2) If installing an ice protection system not supplied by Hartzell, refer to the applicable TC or STC holder's Instructions for Continued Airworthiness (ICA).

**C. O-rings**

- (1) Unless specified differently, lubricate all O-rings with lubricant CM12 before installing them in the propeller assembly.
- (2) Hartzell Propeller Inc. recommends that the lot number and cure date for each O-ring be recorded with all work orders when an O-ring is installed in any propeller assembly.

**D. Blade Bore Plug/Bearing Installation**

- (1) For aluminum blades, refer to Hartzell Propeller Inc. Aluminum Blade Overhaul Manual 133C (61-13-33).
- (2) For composite blades, refer to Hartzell Propeller Inc. Composite Blade Overhaul Manual 135F (61-13-35).

**E. Blade Angle Information**

- (1) For specific blade angle information, refer to the Hartzell Propeller Inc. Application Guide Manual 159 (61-02-59).

CAUTION 1: ACTUATION OF PROPELLERS IS TO BE ACCOMPLISHED USING COMPRESSED AIR THAT HAS BEEN FILTERED FOR MOISTURE, OR NITROGEN.

CAUTION 2: DO NOT EXCEED A PRESSURE OF 175 PSI (12.06 BARS) WHEN ACTUATING PROPELLERS COVERED IN THIS MANUAL.

CAUTION 3: USE SUFFICIENT PRESSURE TO MAKE SURE THAT THE PROPELLER ACTUATES AGAINST EACH POSITIVE STOP.

NOTE 1: Lubricate all O-rings with approved lubricant CM12 unless otherwise stated.

NOTE 2: Read all instructions completely before beginning the ASSEMBLY procedures.

NOTE 3: Hartzell Propeller Inc. recommends that the lot number and cure date for each O-ring be written on all work orders when an O-ring is installed in any propeller assembly.

## 2. Blade Assembly Procedures

CAUTION: INSTRUCTIONS AND PROCEDURES IN THIS CHAPTER MAY INVOLVE PROPELLER CRITICAL PARTS. REFER TO THE INTRODUCTION CHAPTER OF THIS MANUAL FOR INFORMATION ABOUT PROPELLER CRITICAL PARTS. REFER TO THE ILLUSTRATED PARTS LIST IN THIS MANUAL FOR IDENTIFICATION OF PROPELLER CRITICAL PARTS.

### A. General

#### (1) Aluminum Blades

- (a) Refer to Hartzell Propeller Inc. Aluminum Blade Overhaul Manual 133C (61-13-33), for information on installing the blade bore plug, blade bore bearing, bearing race, and retention ring.

#### (2) Composite Blades

- (a) Refer to Hartzell Propeller Inc. Composite Blade Overhaul Manual 135F (61-13-35), for information on installing the blade bore plug, blade bore bearing, bearing race, and retention ring.

B. Installation of the Pitch Change Knob (Composite Blades Only).

- (1) Install the dowel pin (550) into the pitch change knob bracket (560).
- (2) Install the pitch change knob bracket.

**CAUTION:** THE SAFETY WIRE WHICH GOES THROUGH THE LOOP ON THE PITCH CHANGE KNOB BRACKET SHOULD NOT INTERFERE WITH THE TRAVEL OF THE BLADE OR CONTACT THE PRELOAD PLATE. INSTALL THE SAFETY WIRE WITH THE PIG-TAIL ON THE BOLT. IF THE SAFETY WIRE IS INSTALLED WITH THE PIG-TAIL ON THE PITCH CHANGE BRACKET LOOP, THE PIG-TAIL MAY INTERFERE WITH THE FIT BETWEEN THE PITCH CHANGE KNOB BRACKET AND THE PRELOAD PLATE SLOT.

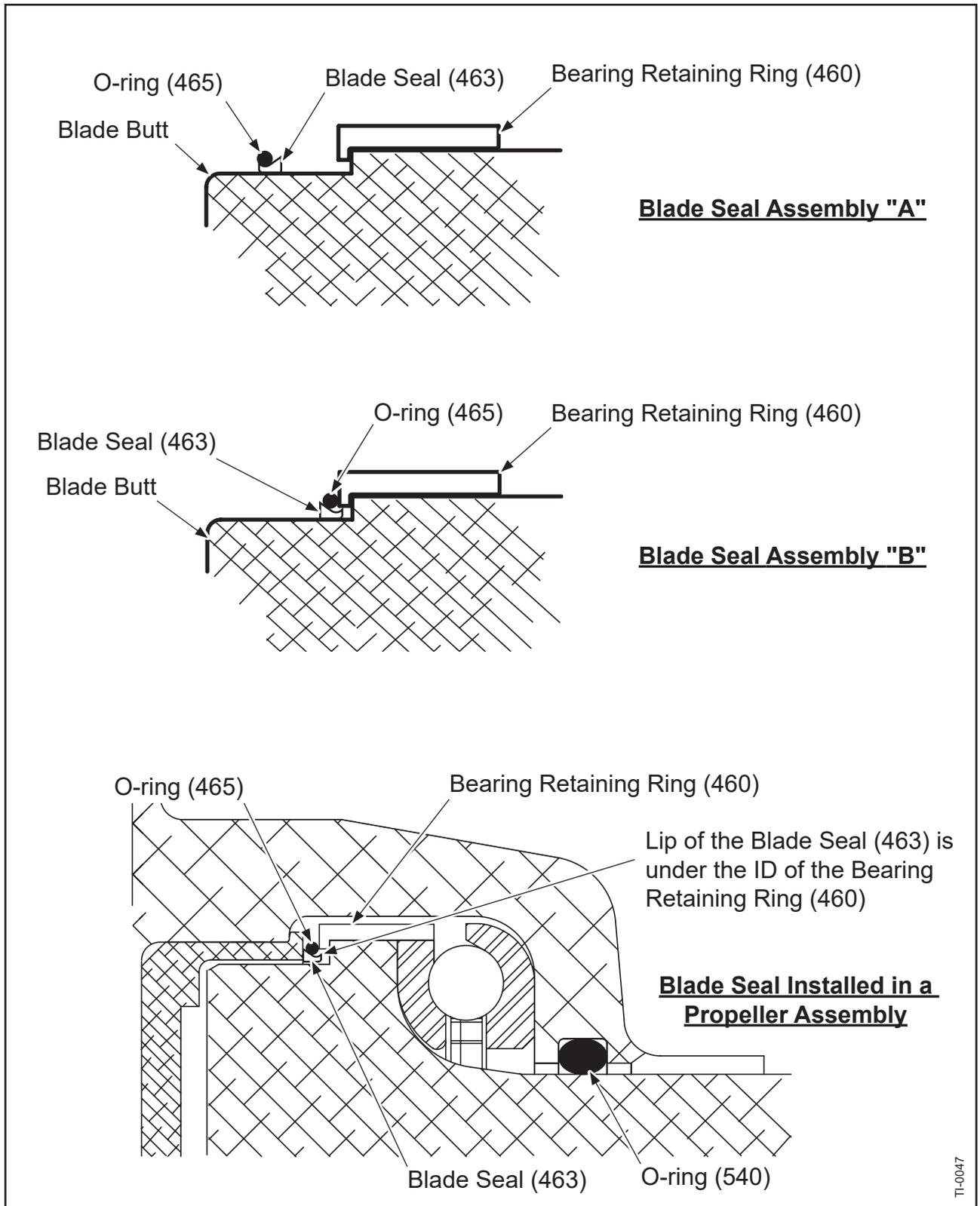
- (3) Install the pitch change knob bracket bolts (570).
  - (a) Torque the bolts (570) in accordance with Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual.
  - (b) Safety the bolts (570) with 0.020 inch stainless steel wire.

C. Pitch Change Knob Bushing Installation

- (1) Refer to the Special Adhesive and Bonding Procedures chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02), for pitch change knob bushing installation.

**CAUTION:** A BLADE WITH A SHOT PEENED PITCH CHANGE KNOB REQUIRES THE INSTALLATION OF THE C-7645-( ) BUSHING

- (2) When installing pitch change knob bushings, assemblies are permitted to have blades with both A-2413-( ) bushings and C-7645-( ) bushings.



**Blade Seal Assembly Installation**  
**Figure 7-1**

D. Blade Seal Assembly Installation

- (1) For a propeller with composite blades except the ( )HC-( )( )Y( )( )-1N propeller, installation of the blade seal assembly is optional.
- (2) For a ( )HC-( )( )Y( )( )-1N propeller, the blade seal assembly must be installed.

**CAUTION:** THE B-7071 OR THE 101512 BEARING RETAINING RING MUST BE INSTALLED WHEN USING THE BLADE SEALING METHOD.

- (3) Assemble the blade seal (463) and O-ring (465). Refer to Figure 7 - Blade Seal Assembly "A".

**CAUTION:** DO NOT OVER STRETCH OR TWIST THE BLADE SEAL OR THE O-RING DURING INSTALLATION.

- (a) Install the blade seal (463) on the butt of the blade with the recessed area of the blade seal facing away from the bearing retaining ring (460). If the blade seal stretches, replace the blade seal.

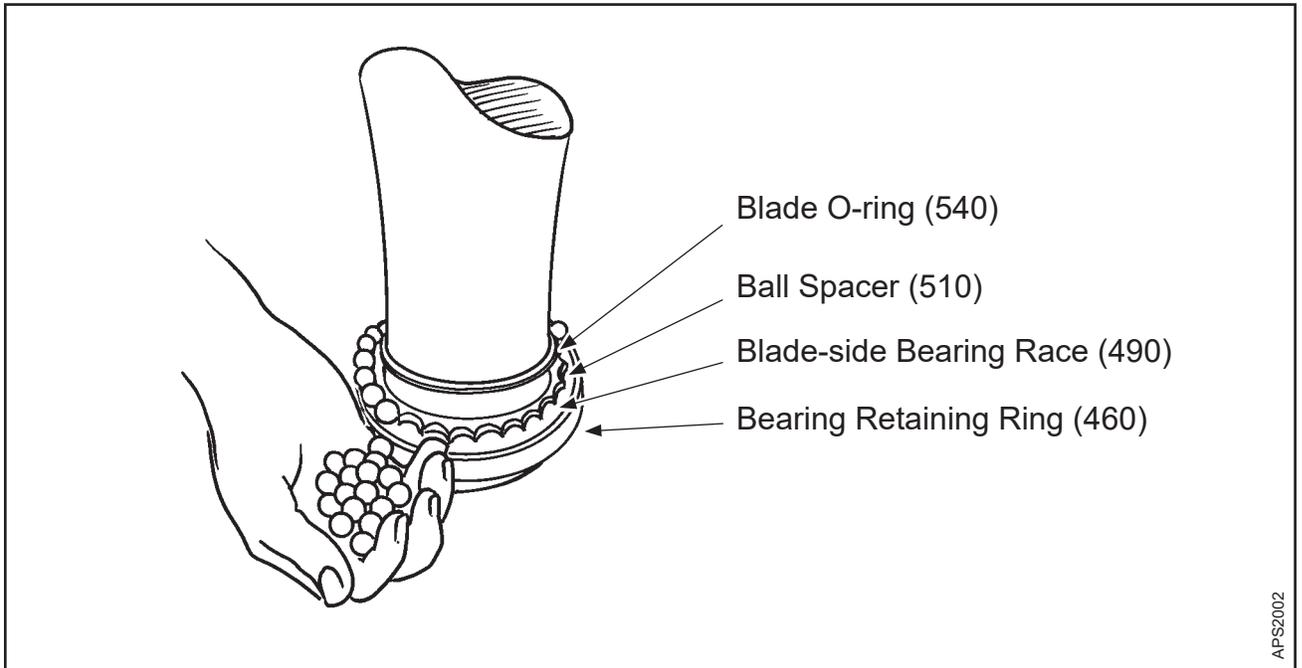
**NOTE:** Initially installing the blade seal with the recessed area facing away from the bearing retaining ring will make it easier to install the O-ring onto the blade seal. An optional method may be to pre-assemble the blade seal assembly on an unserviceable blade butt, or equivalent fixture.

- (b) Install the O-ring (465) into the recessed area of the blade seal (463). If the O-ring does not remain in place, replace the blade seal.
- (c) Remove the blade seal assembly from the butt of the blade or assembly fixture.

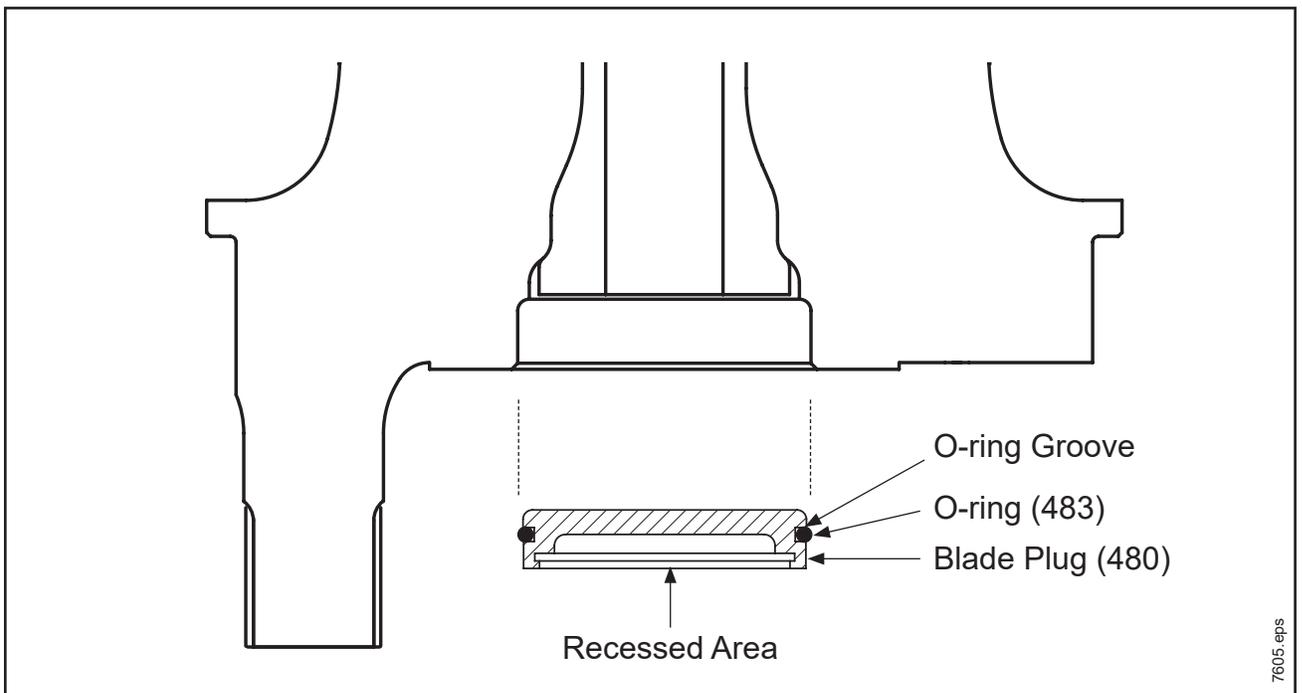
**CAUTION 1:** DO NOT USE EXCESSIVE FORCE THAT MIGHT DEFORM THE BLADE SEAL ASSEMBLY WHEN INSTALLING THE BLADE SEAL AND O-RING ASSEMBLY ONTO THE BLADE.

**CAUTION 2:** THE CORRECT INSTALLATION OF THE BLADE SEAL ASSEMBLY IS CRITICAL TO THE SEAL FUNCTION AND BLADE ROTATION.

- (4) Without using excessive force, reinstall the blade seal with O-ring onto the butt of the blade with the recessed area of the blade seal facing the bearing retaining ring (460). Refer to Figure 7-1 - Blade Seal Assembly "B".



**Installation of the Blade Retention Bearing  
Figure 7-2**



**Installing the Blade Plug  
Figure 7-3**

E. Installation of the Blade Bearing Race and Balls

- (1) Apply a layer of lubricant CM12 to the blade O-ring (540).
- (2) Install the blade O-ring (540) on the blade.
- (3) Install the ball spacer (510) on the blade flange.

**CAUTION:** ALL THE BEARING BALLS IN A SINGLE BEARING MUST BE OF THE SAME SIZE AND GAUGE. ALL BEARING BALLS SUPPLIED BY HARTZELL PROPELLER INC. ARE THE SAME GAUGE.

- (4) Using a small amount of grease around the bearing balls, put the bearing balls (520) in the openings of the ball spacer (510) on the blade-side bearing race (490). Refer to Figure 7-2.

**NOTE:** Composite blades use smaller balls and a different ball spacer than aluminum blades.

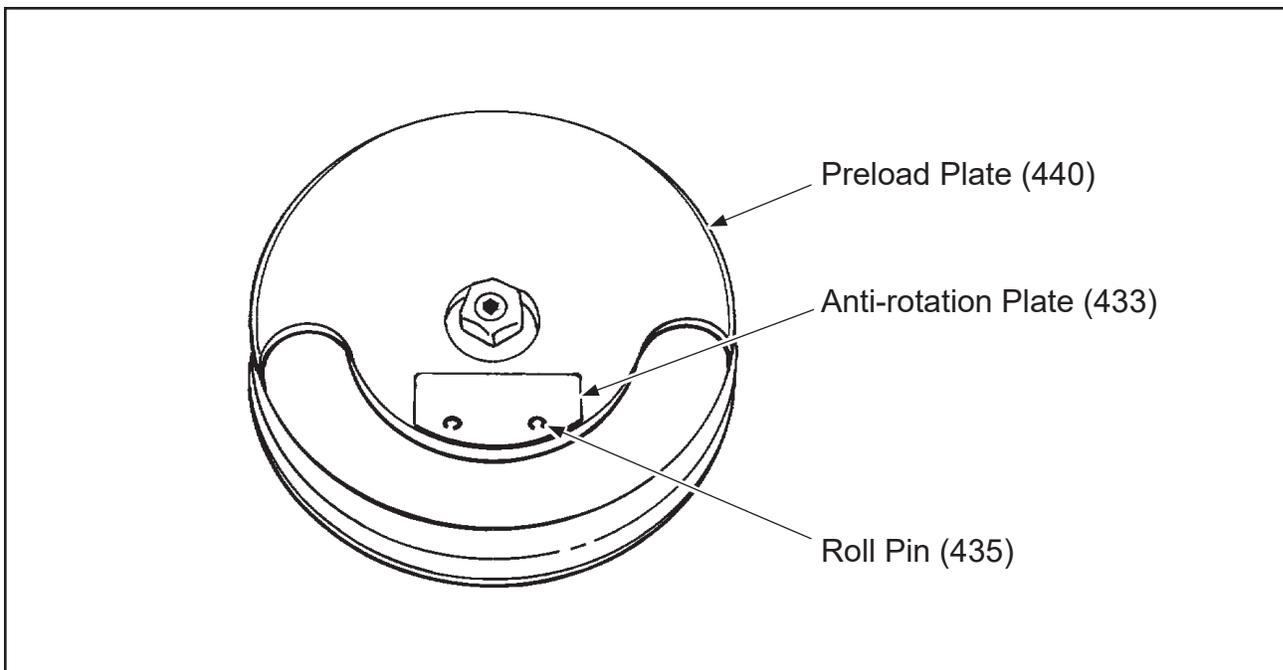
**CAUTION:** THE BEARING RACE HALVES MUST HAVE MATCHING SERIAL NUMBERS.

- (5) Put the blade retention bearing hub race (530) on the balls.
  - (a) Install the hub-side bearing race with the race parting line perpendicular to the hub parting line when installed in the hub.

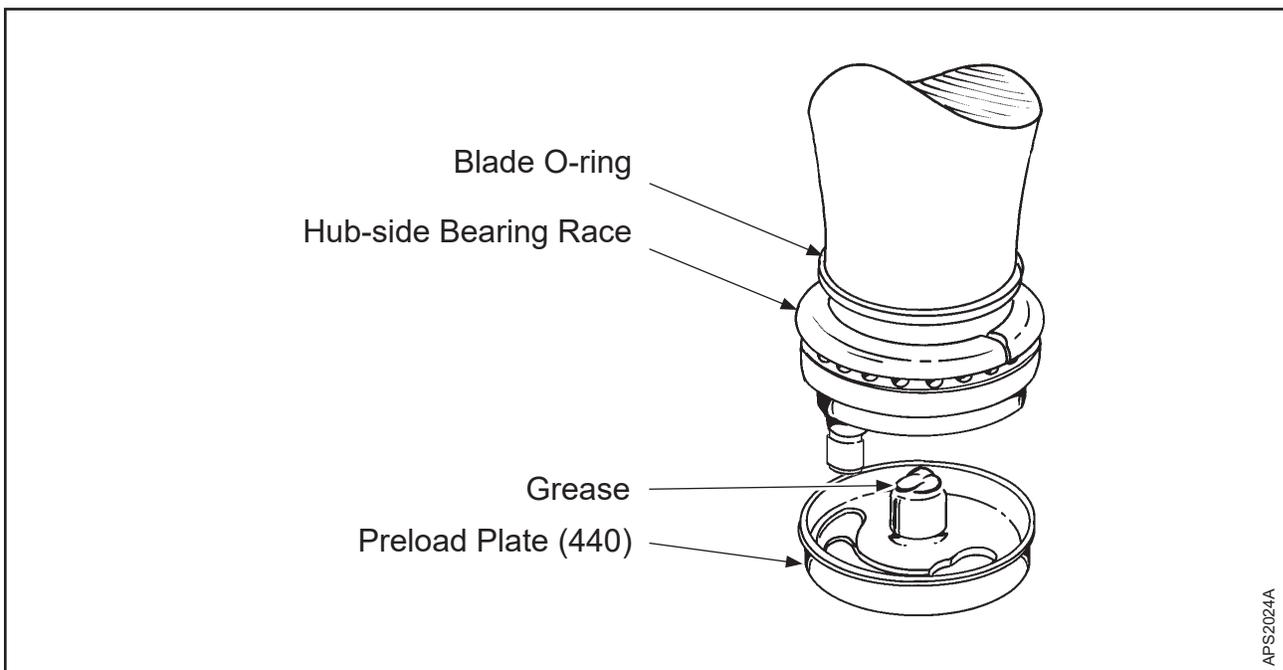
F. Installation of the Blade Plug, ( )HC-( )( )Y( )( )-1N Propeller Blades Only

- (1) Install the O-ring (483) in the O-ring groove in the blade plug (480).
- (2) Install the blade plug (480) with the recessed area facing out. Refer to Figure 7-3.

**NOTE:** Air pressure may push the plug back out slightly, but the final preload process will finalize the set.



**Installing the Anti-rotation Plate**  
**Figure 7-4**



**Installation of the Preload Plate to the Blade Shank**  
**Figure 7-5**

APS2024A

G. Preload Plate Assembly - Except for the ( )HC-( )Y( )-1N Propeller

NOTE: Specific Hartzell Propeller Inc. manuals and service documents are available on the Hartzell website at [www.hartzellprop.com](http://www.hartzellprop.com). Refer to the Required Publications section in the Introduction chapter of this manual for the identification of these publications.

- (1) If applicable, install the anti-rotation plate (433) on the preload plate (440). Refer to Figure 7-4.
  - (a) Install the roll pins (435) in holes provided for them in the anti-rotation plate (433).

CAUTION: DO NOT PERMIT THE PRELOAD PLATE TO BE IN PROLONGED CONTACT WITH THE SOLVENT.

- (b) Using solvent CM44 or CM106, thoroughly clean the preload plate (440).
- (c) Permit the solvent CM44 or CM106 to dry.
- (d) Using solvent CM44 or CM106, thoroughly clean the anti-rotation plate (433).
- (e) Permit the solvent CM44 or CM106 to dry.

WARNING 1: THE APPROVED ADHESIVE IS AN EYE IRRITANT, AND BONDS SKIN IN SECONDS. IN CASE OF EYE OR MOUTH CONTACT, HOLD EYE LID OR MOUTH OPEN AND FLUSH WITH WATER. IF FINGERS BECOME BONDED, APPLY SOLVENT (ACETONE OR NAIL POLISH REMOVER) TO CONTACT AREA AND CAREFULLY PRY SKIN APART.

WARNING 2: AVOID PROLONGED BREATHING OF VAPORS. USE WITH ADEQUATE VENTILATION.

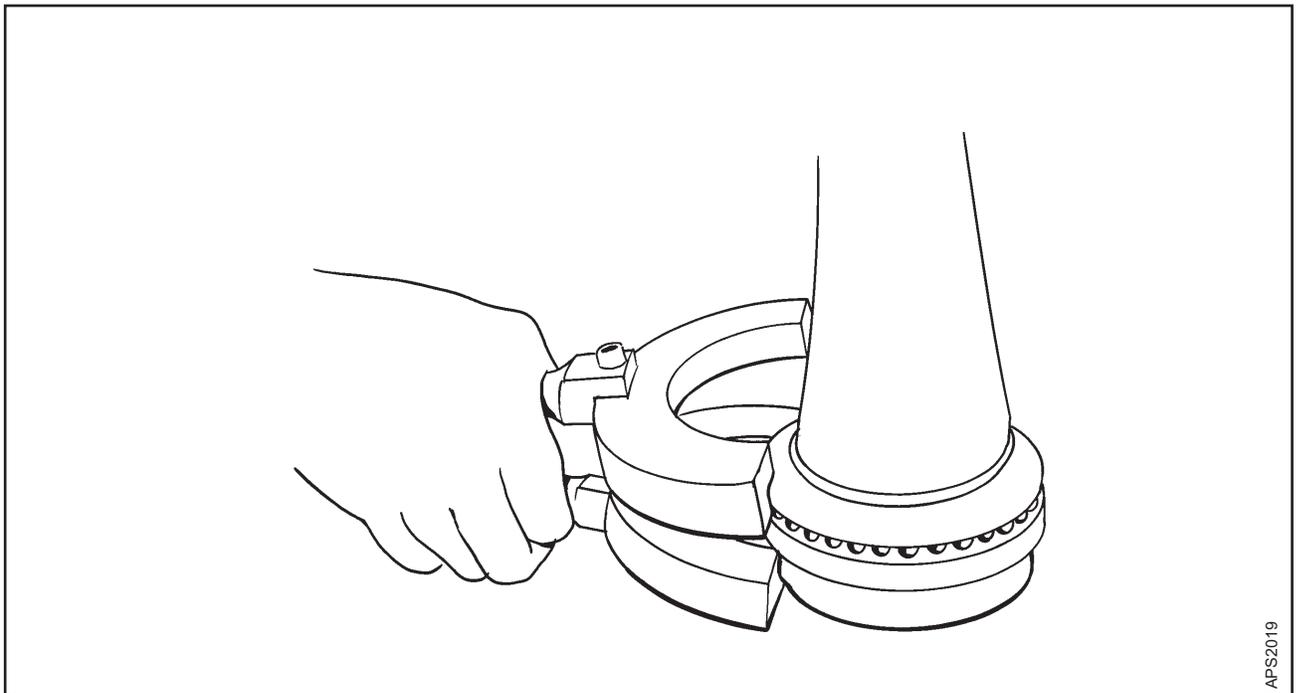
CAUTION: THE SURFACES OF THE PRELOAD PLATE AND THE ANTI-ROTATION PLATE MUST BE ABSOLUTELY CLEAN AND THOROUGHLY DRY.

- (f) Apply the adhesive CM71 over the protruding ends of the roll pins (435) and the bonding surface of the preload plate (440).
- (g) Align the ends of the roll pins (435) with the holes provided for them in the preload plate.
- (h) Applying firm finger pressure, install the anti-rotation plate (433) on the preload plate (440) and immediately put the preload plate in a clamping fixture.
- (i) Apply clamping pressure to anti-rotation plate and the preload plate until the adhesive CM71 is cured. For cure time, refer to the Consumable Materials chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

- (2) Install the socket head screw (430) in the preload plate (440).
- (3) Install the nut on the screw (420).
- (4) Put approximately one tablespoon of grease CM12 on top of the preload plate inner bearing race spindle. This will force grease into the blade bore bearing when the preload plate is installed on the blade.
- (5) Install the preload plate (440) onto the butt of the blade. Refer to Figure 7-5.
- (6) If desired, hold the bearing assembly to the blade butt, using clamping tool TE24. Refer to Figure 7-6.

H. Preload Plate Assembly for the ( )HC-( )( )Y( )( )-1N Propeller

- (1) Install the set screw (430) in the preload plate (440).
- (2) Install the nut (420) on the set screw (430).
- (3) Install the preload plate (440) onto the butt of the blade. Refer to Figure 7-5.
- (4) If desired, hold the bearing assembly to the blade butt, using clamping tool TE25. Refer to Figure 7-6.



**Applying the Clamping Tool TE24 to the Blade Assembly**  
**Figure 7-6**

### 3. Compact/Lightweight Compact Hub Assembly Procedures

**CAUTION:** INSTRUCTIONS AND PROCEDURES IN THIS CHAPTER MAY INVOLVE PROPELLER CRITICAL PARTS. REFER TO THE INTRODUCTION CHAPTER OF THIS MANUAL FOR INFORMATION ABOUT PROPELLER CRITICAL PARTS. REFER TO THE ILLUSTRATED PARTS LIST IN THIS MANUAL FOR IDENTIFICATION OF PROPELLER CRITICAL PARTS.

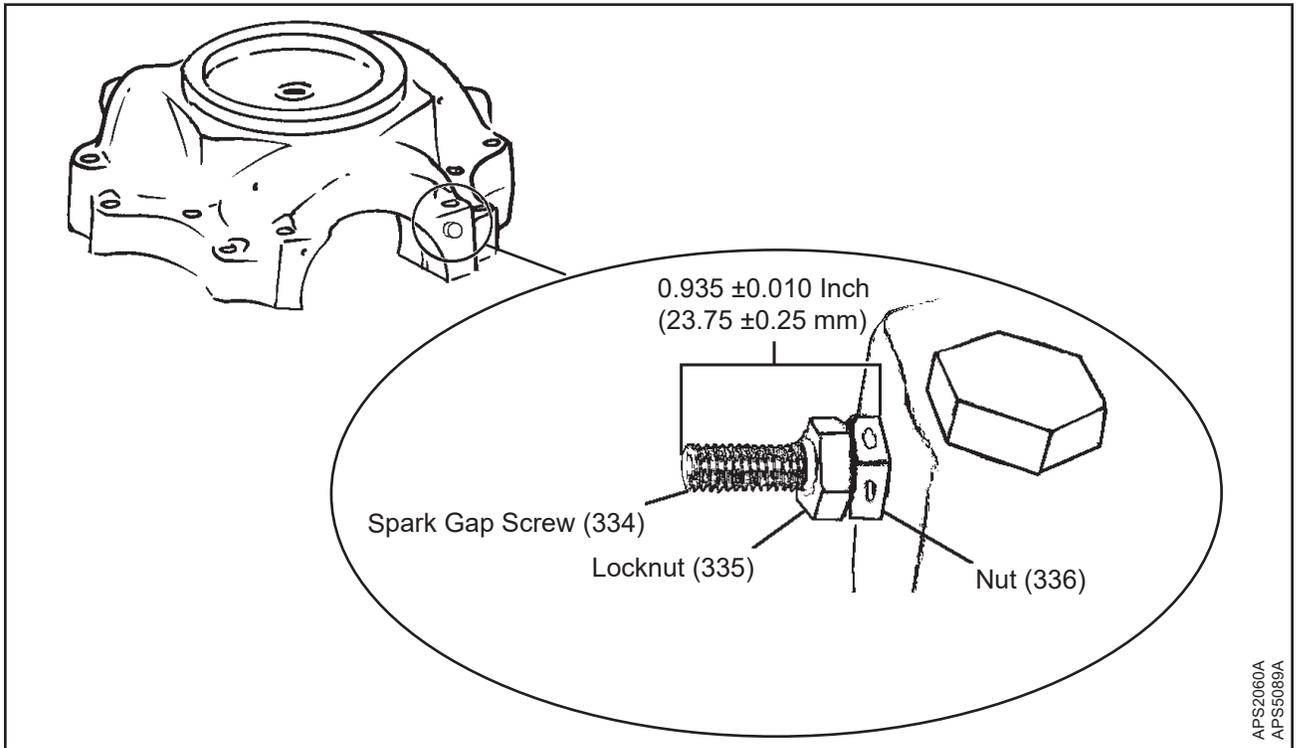
#### A. General

**NOTE:** Specific Hartzell Propeller Inc. manuals and service documents are available on the Hartzell website at [www.hartzellprop.com](http://www.hartzellprop.com). Refer to the Required Publications section in the Introduction chapter of this manual for the identification of these publications.

- (1) Verify the spinner and bulkhead assembly and installation procedures before beginning assembly of the hub. Use the alternate hub assembly nuts and bolts that are supplied with a spinner mounting kit, if applicable.
- (2) If the propeller is equipped with an ice protection system, applicable instructions and technical information can be found in Hartzell Propeller Inc. Ice Protection System Manual 180 (61-30-80) for those system components supplied by Hartzell Propeller Inc. Propeller ice protection system components not supplied by Hartzell Propeller Inc. are controlled by the applicable TC or STC holder's Instructions for Continued Airworthiness (ICA).
- (3) Use protractor TE96, TE97, or equivalent when measuring a blade angle. Refer to the Hartzell Propeller Inc. Illustrated Tool and Equipment Manual 165A (61-00-65).
- (4) A lightweight compact hub requires fewer hub clamping bolts to clamp the hub halves together than the compact hub.
  - (a) For example, a three blade lightweight compact hub requires 9 hub clamping bolts and a higher torque for the nuts used on the hub clamping bolts than a three blade compact hub that requires 15 hub clamping bolts.

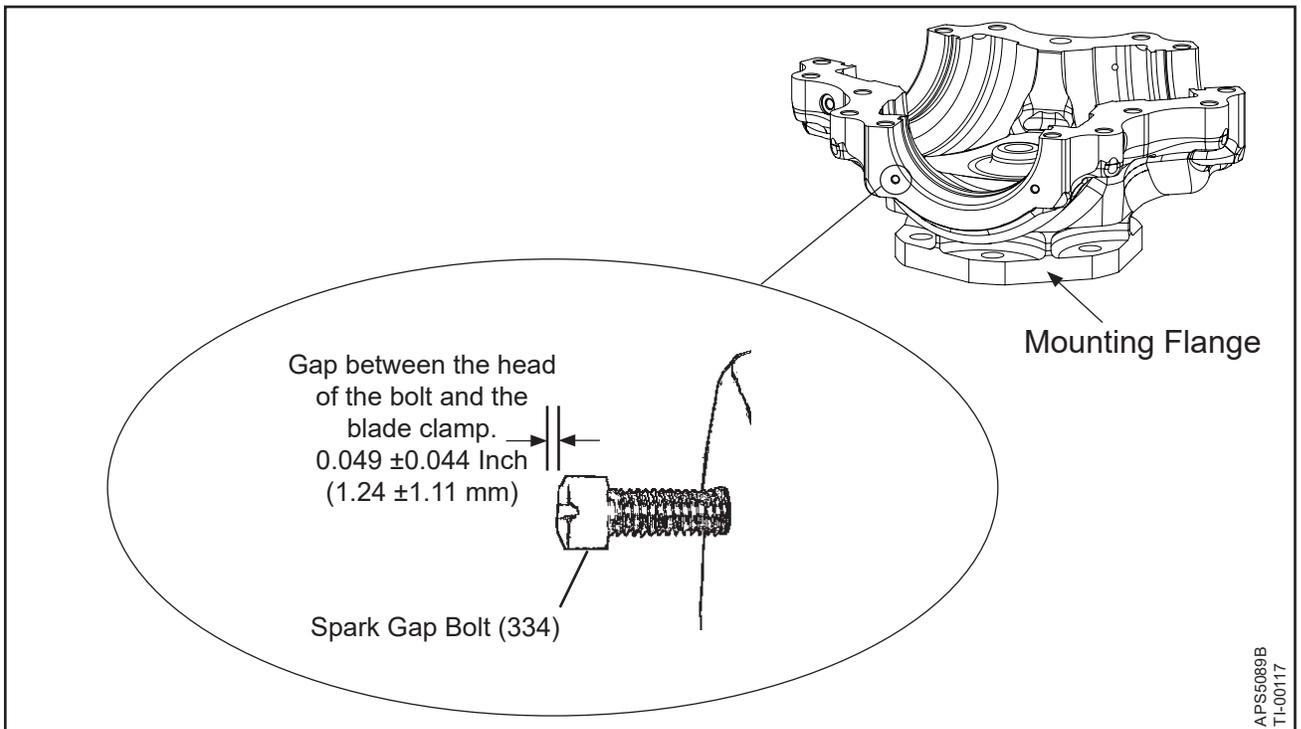
#### B. Preparation of the Hub for Assembly

- (1) Install the pitch change rod guide bushing (160) in the cylinder-side hub half of a non-feathering (-1) propeller. For installation instructions, refer to the Aluminum Hub Overhaul chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).
- (2) Install the pitch change rod guide bushing (230) into the engine-side hub half of a non-feathering (-1) propeller that has an extension. For installation instructions, refer to the Aluminum Hub Overhaul chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).



AFS2060A  
AFS5089A

Spark Gap Screw, HC-E3YR-1(C,E), PHC-G3YF-1E, and HC-I3YR-1(C,E) Propellers  
Figure 7-7



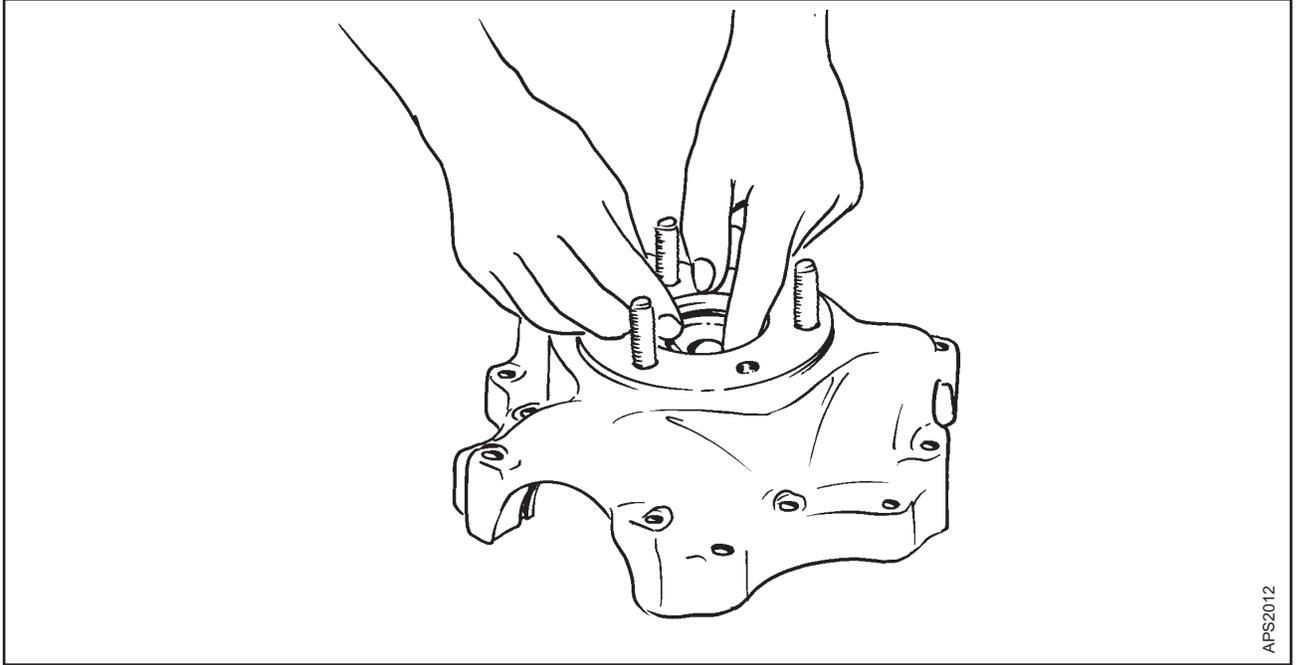
AFS5089B  
TI-00117

Spark Gap Screw, HC-C3YR-4(A,G) and HC-C2YR-4(E,G)  
Figure 7-8

- (3) For **HC-E3YR-1(C,E), PHC-G3YF-1E, and HC-I3YR-1(C,E) propellers only** - Install the spark gap screw (334) into cylinder-side hub half.
- (a) Turn a locknut (335) onto the spark gap screw (334) until the screw threads can be seen at both ends of the nut.
  - (b) Add the second nut (336) to the screw.
  - (c) With the hub resting on the parting line, install the screw (334), nut (336), and locknut (335) combination in the right balance hole of the cylinder-side hub half. Refer to Figure 7-7.
  - (d) Set a gap of  $0.935 \pm 0.010$  inch ( $23.75 \pm 0.25$  mm) between the head of the screw (334) and the hub.
  - (e) Holding the screw (334) in place to maintain the gap setting, hand tighten both nuts against the hub.
  - (f) Holding the screw in place to maintain the gap setting, torque the locknuts (335, 336) in accordance with Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual.
  - (g) Check the gap setting.
    - 1 If necessary, repeat steps B.(3)(d) through B.(3)(g) in this procedure, until the gap setting is within the permitted limits.
- (4) For **HC-C3YR-4[A,G] and HC-C2YR-4[E,G] propellers only**, install the spark gap bolt (334) into the engine-side hub half.
- (a) With the hub resting on the mounting flange, install the spark gap bolt (334) in the left balance hole of the engine-side hub half. Refer to Figure 7-8.

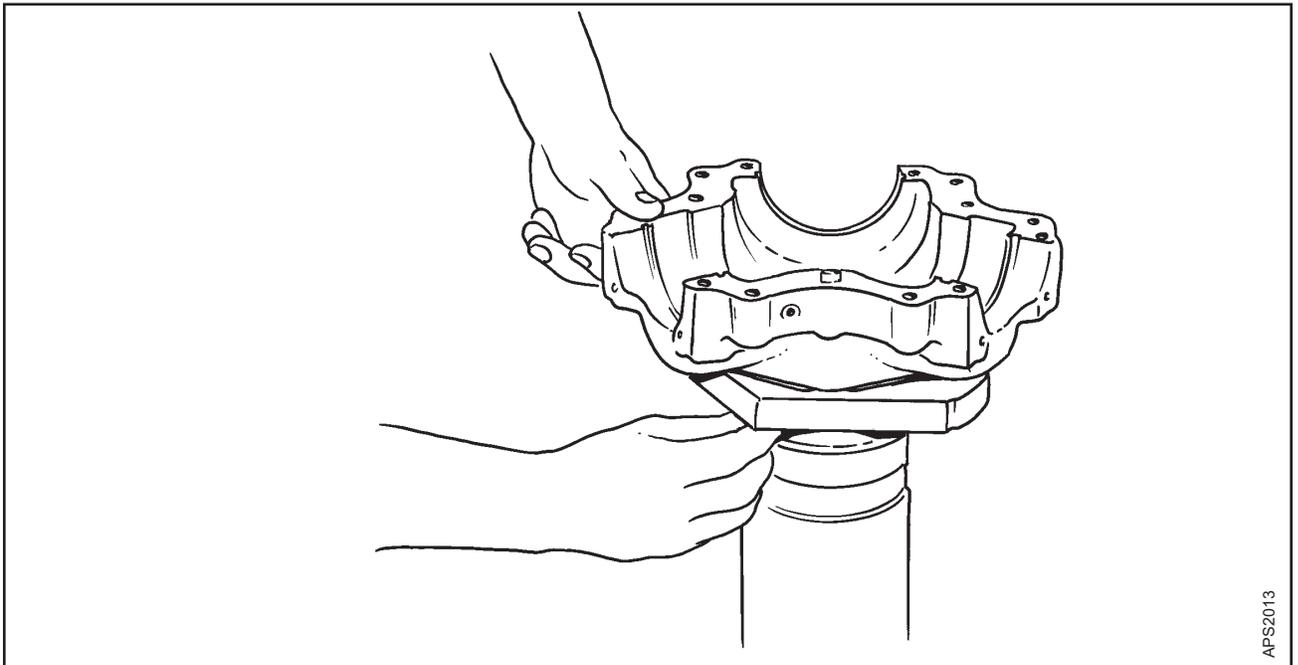
**CAUTION:** TO PREVENT DAMAGE TO THE BOLT LOCKING MECHANISM, DO NOT TORQUE THE BOLT IN THE BALANCE HOLE.

- (b) Turn the spark gap bolt (334) into the balance hole until the bolt bottoms out in the hole.
    - NOTE:** The locking mechanism causes resistance when turning the bolt in the hole. Stop turning the bolt when the resistance increases, indicating that the bolt has bottomed in the hole.
  - (c) The gap between the head of the bolt (334) and the blade clamp will be set later in the assembly procedure.
- (5) Install the propeller flange attaching hardware to the engine-side hub half. Refer to the Aluminum Hub Overhaul chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02) for procedures to install the propeller mounting hardware.



APS2012

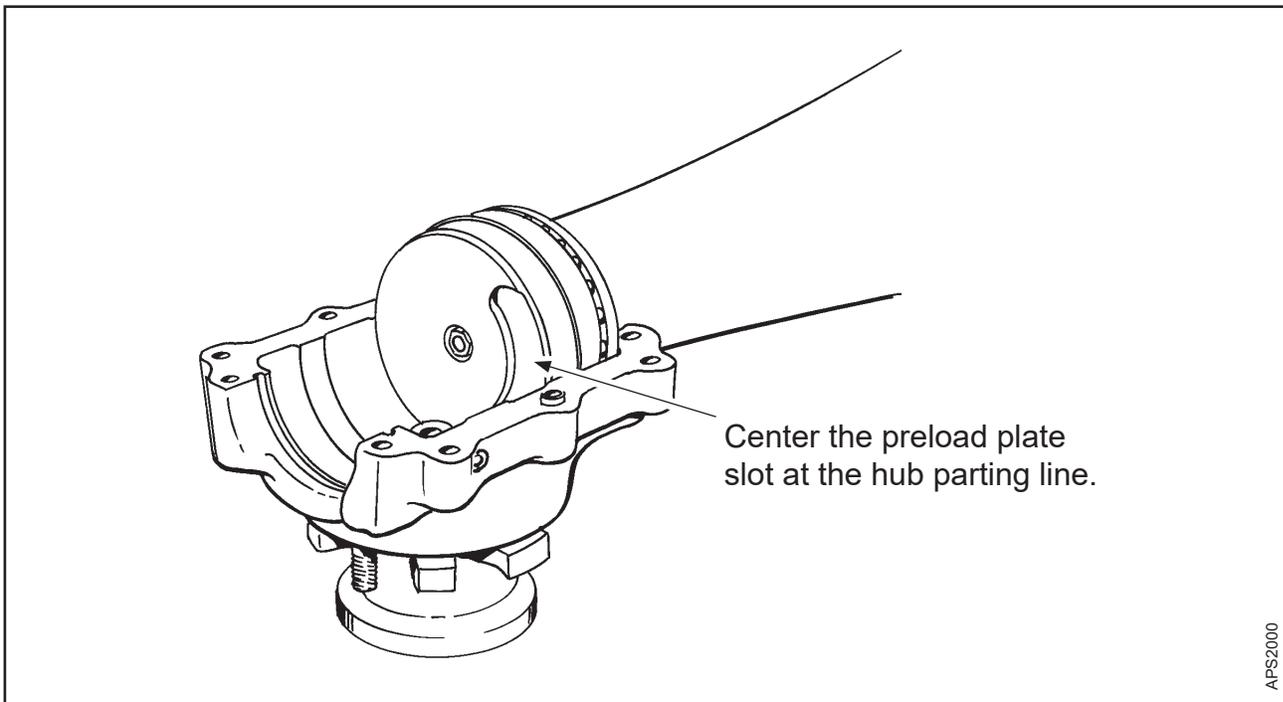
Installation of the Flange O-ring in the Engine Half Hub Flange  
Figure 7-9



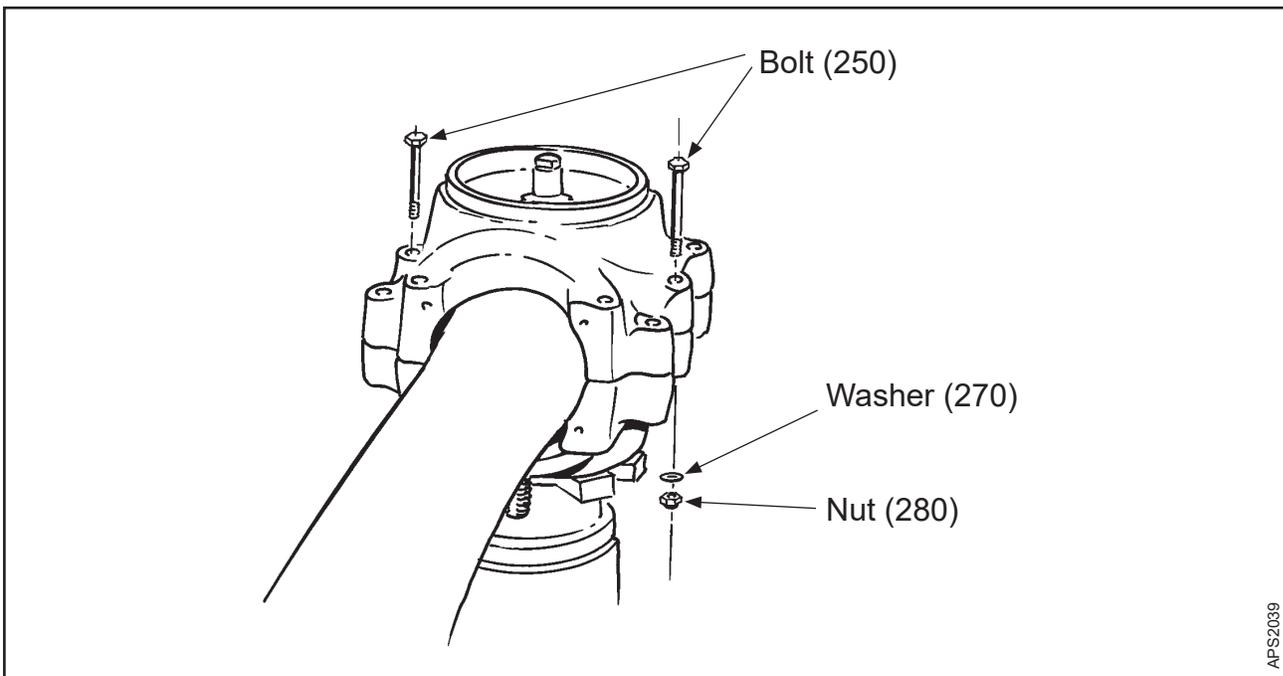
APS2013

Installation of the Engine-Side Hub Half on the Assembly Stand  
Figure 7-10

- (6) Install the pitch change rod O-ring (150) in the cylinder-side hub half where applicable. Aerobatic (-4) propellers use a pitch change rod O-ring, non-feathering (-1) propellers use a pitch change rod bushing.
- (7) Install the flange mounting O-ring (320) on the engine-side hub half. Refer to Figure 7-9.
- (8) Install the hub plug (300) into the engine-side hub half of hubs with extensions.
  - (a) Install the hub plug OD O-ring (290) on the hub plug.
  - (b) Install the hub plug ID O-ring (220) in the hub plug.
  - (c) Install the hub plug in the engine-side hub half.
- (9) Install the pitch change rod O-ring (220) in the engine-side hub half. If the hub is an extended hub design, the pitch change rod O-ring is installed in the hub extension plug ID.
- (10) Install the engine-side hub half on the propeller assembly stand. Refer to Figure 7-10.
- (11) Coat the bearing seats of the blade retention sockets with a thin film of grease CM12.
- (12) Coat the blade O-ring grooves with a thin film of grease CM12.



**Blade Number One Installed in the Hub**  
**Figure 7-11**



**Installing the Cylinder-Side Hub Half**  
**Figure 7-12**

C. Two Blade Compact Hub Blade Installation

**CAUTION:** TO AVOID BLADE DAMAGE, SUPPORT THE BLADE IN THE ENGINE-SIDE HUB HALF UNTIL THE BLADE IS PRELOADED OR UNTIL THE CYLINDER-SIDE HUB HALF IS INSTALLED.

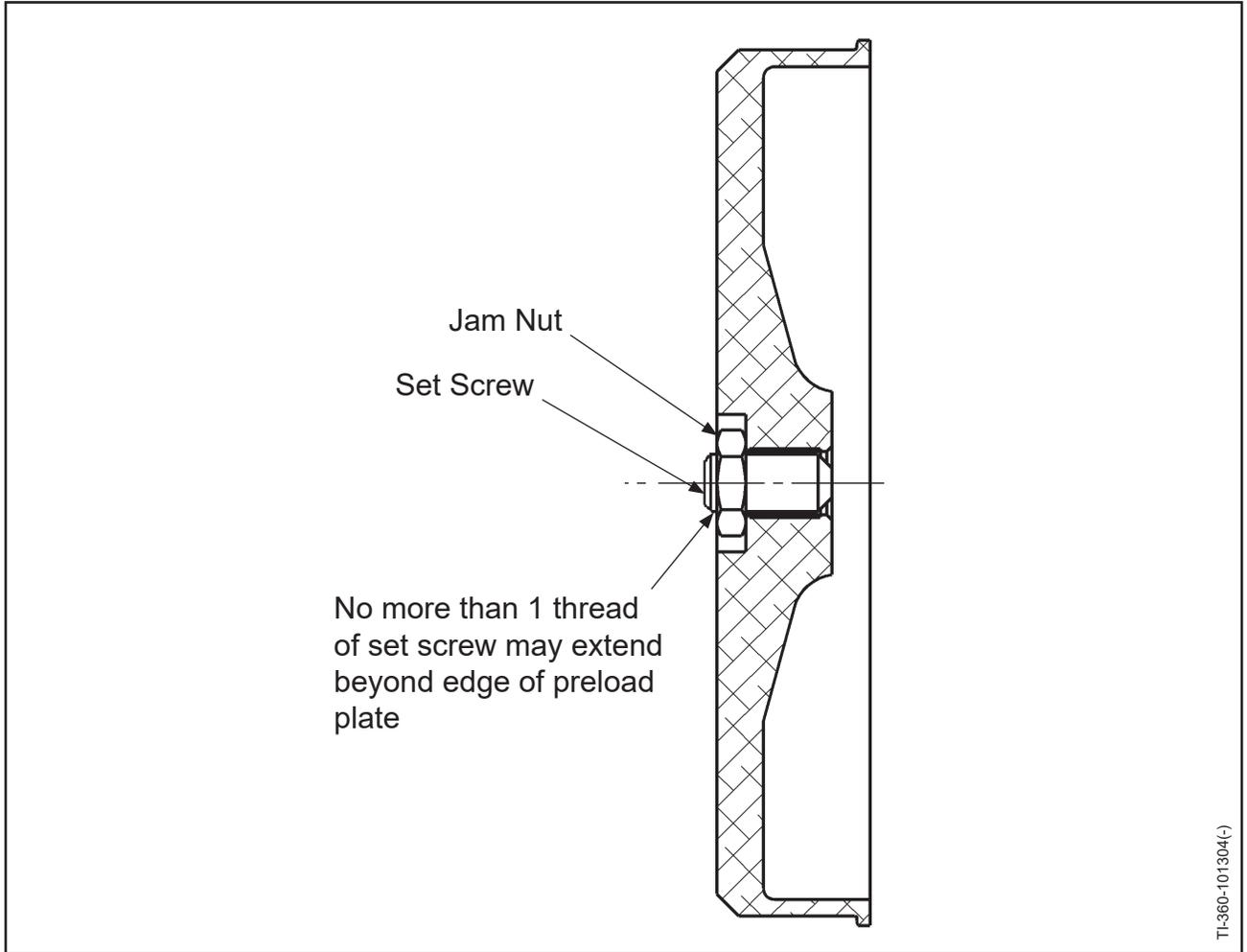
- (1) Install the number one blade assembly into the socket of the engine-side hub half. Refer to Figure 7-11.
- (2) Center the slot in the preload plate (440) at the hub parting line.

**NOTE:** The blade knob slot in the preload plate should be positioned to allow the blade to travel within the full blade angle range without restriction.

- (3) Install the cylinder-side hub half.
- (4) Install two bolts (250), two washers (270), and two nuts (280) in the hub and torque in accordance with Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual. Refer to Figure 7-12.

**CAUTION:** IMPROPER PRELOAD CAN CAUSE THE BLADES TO BE LOOSE IN THE HUB.

- (5) Tighten the preload socket set screw (430) through the open end of the hub. The loose blade will become rigid in the hub as the socket screw is tightened. Tighten the preload socket screw until the tip of the blade stops moving vertically. Gently move the tip of the blade to ensure that the blade is properly seated in the retention socket. Loosen the preload socket screw and retighten. Once the blade tip stops moving, turn the socket screw an additional  $\frac{1}{4}$  turn further into the preload plate. The Fits and Clearances chapter contains a torque table listing torque values.

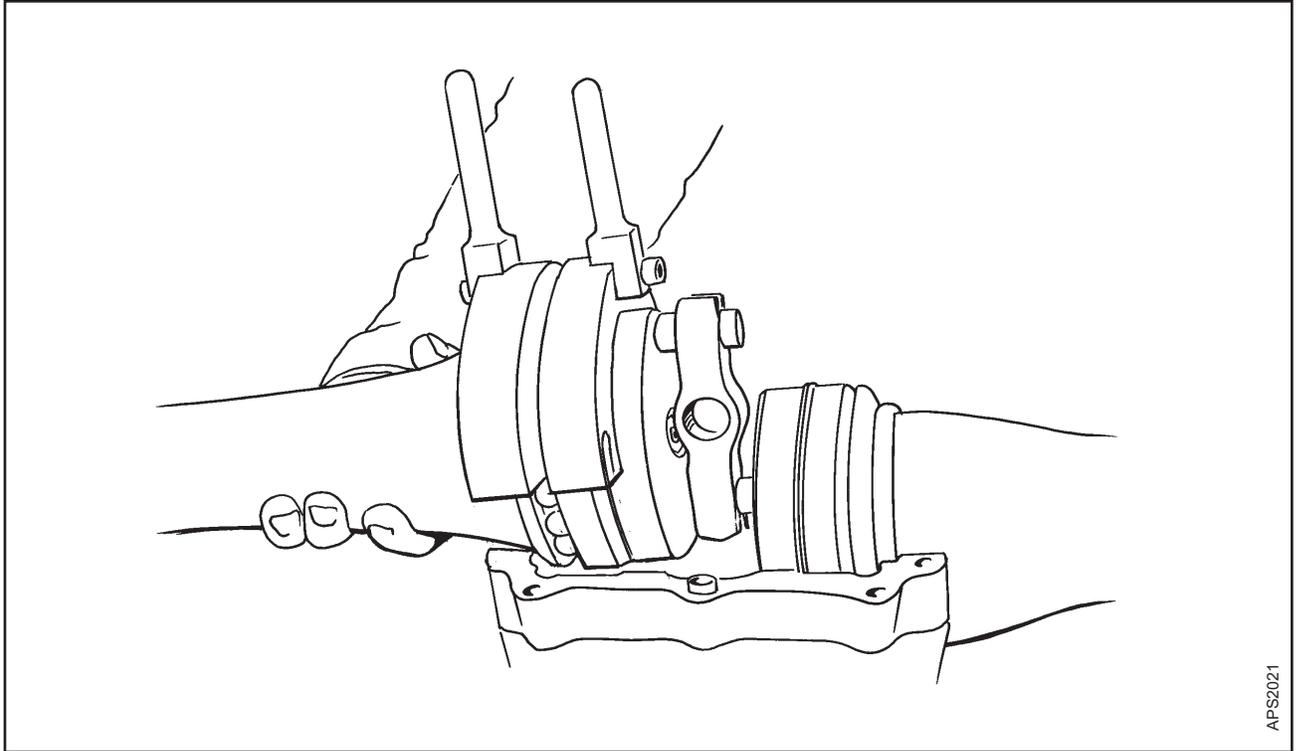


**Set Screw Thread Extension, ( )HC-( )2Y(F,R)-(1,4)N Propellers Only  
Figure 7-12.1**

| Part Number | Length                 |
|-------------|------------------------|
| 101667      | 0.650 inch (16.510 mm) |
| 101667-1    | 0.670 inch (17.018 mm) |
| 101667-2    | 0.700 inch (17.780 mm) |
| 101667-3    | 0.730 inch (18.542 mm) |
| 101667-4    | 0.760 inch (19.304 mm) |

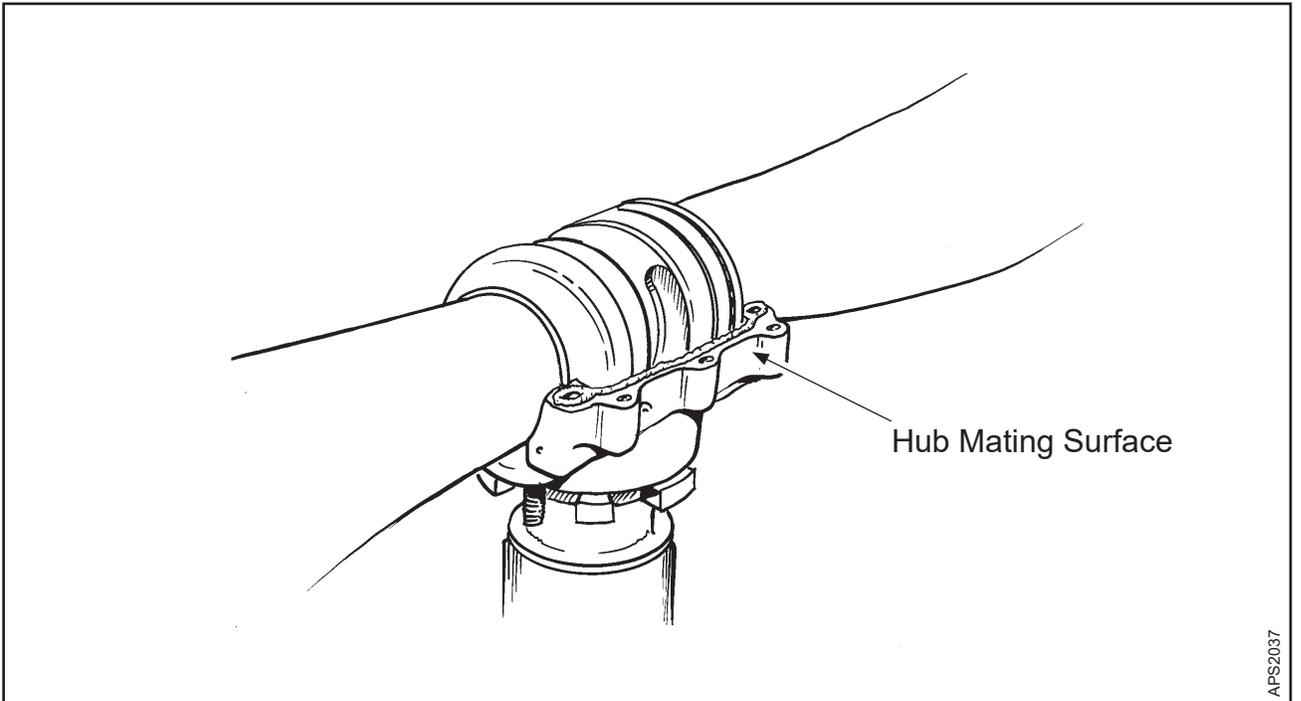
**101667( ) Set Screw Lengths  
Table 7-1**

- (6) **For ( )HC-( )2Y(F,R)-(1,4)N propellers only:** Make sure that a minimum of one thread of the set screw (430) extends beyond the jam nut (420) after the jam nut is torqued. Refer to Figure 7-12.1.
- (a) If less than one thread of the set screw (430) extends beyond the jam nut (420) after the jam nut is torqued, replace the set screw with a longer set screw to get a minimum of one thread extending beyond the jam nut.
- 1 For alternate part numbers and lengths for set screw (430), refer to Table 7-1.
- (b) If more than one thread of the set screw (430) extends beyond the edge of the preload plate (440) when the jam nut (420) is torqued, measure the clearance between the set screw and the fork. A minimum of 0.030 inch (0.762 mm) clearance is required.
- 1 If the clearance is equal to or greater than 0.030 inch (0.762 mm), continue with propeller assembly.
- 2 If the clearance is less than 0.030 inch (0.762 mm), replace the set screw (430) with a shorter set screw or modify the preload plate (440) to get a minimum of one thread extending beyond the jam nut.
- a For alternate part numbers and lengths for set screw (430), refer to Table 7-1.
- b For the preload plate modification procedure, refer to the section, "Preload Plate Modification for Set Screw/Fork Interference" in the Repair chapter of this manual.
- (7) Check the blade for free rotation. If the blade is not free, the following friction items should be checked:
- (a) Blade O-ring.
- (b) The needle rollers in the blade bore bearing may be skewed. Check the needle rollers to verify that they are parallel to the axis of rotation.
- (8) Remove the cylinder-side hub half.
- (9) Apply one drop of thread locking compound to the threads of the set screw (430).
- (a) **For all two blade propellers except ( )HC-( )2Y(F,R)-(1,4)N:**  
Apply thread locking compound CM21.
- (b) **For ( )HC-( )2Y(F,R)-(1,4)N propellers only:** Apply thread locking compound CM116.
- (10) Torque the nut (420) in accordance with Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual. Make sure to secure the set screw to prevent it from moving during the installation and torquing of the nut.
- (11) Remove blade number one. Use the blade retention components clamp TE24 to hold the bearing halves together.



APS2021

**Installation of Blade Number 1**  
**Figure 7-13**



APS2037

**Installation of Sealant on the Hub Parting Surface**  
**Figure 7-14**

- (12) Install blade number two into the hub and set the preload using the procedures outlined in steps C.(1) through C.(11) in this procedure.
- (13) Install blade number one and the pitch change parts. Refer to Figure 7-13.
  - (a) Install the block buttons (210) into the pitch change block (200).
  - (b) Apply anti-seize compound CM118 to the outside of each pitch change knob bushing.
  - (c) Apply anti-seize compound CM118 to each pitch change block groove of the pitch change fork (190) and to the fork threads.
  - (d) Install a pitch change block (200) on each pitch change knob, with the round extension away from the blade.

**NOTE:** When installing new pitch change blocks, verify the orientation of the pitch change block. Pitch change blocks should be installed in the fork with the thin wall toward the engine-side hub half during initial assembly. Blocks marked for orientation during disassembly should be reassembled following those markings.

- (e) Install the rubbing plate, if applicable, on the fork. For rubbing plate installation procedures, refer to the Special Adhesive and Bonding chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

**CAUTION:** MAKE SURE THE TAPER IN THE FORK MATCHES THE TAPER IN THE PITCH CHANGE ROD. IF THE PITCH CHANGE ROD IS IMPROPERLY ATTACHED TO THE FORK, THE SEATING AREA OF THE PITCH CHANGE ROD WILL BE DAMAGED.

- (f) Install the fork (190) on the pitch change block of blade number two.
  - (g) Slide the pitch change block for blade number one into the fork.
  - (h) Reinstall blade number one in the hub socket.
- (14) Installation of the Cylinder-Side Hub Half of the Two Blade Hub

**NOTE:** Hubs manufactured with a hub parting seal groove no longer use the A-2436 hub parting seal. Fill the groove with sealant CM92 and continue the assembly procedure.

- (a) Place a bead of sealant CM92 on the hub mating surfaces. The quantity of sealant applied to the mating surfaces must be sufficient to allow a small amount to be squeezed out along the entire parting surface when the hub bolts are properly torqued. Refer to Figure 7-14.

**CAUTION:** VERIFY THAT THE BLADE O-RING OR QUAD RING IS IN THE O-RING GROOVE WHEN INSTALLING THE CYLINDER-SIDE HUB HALF.

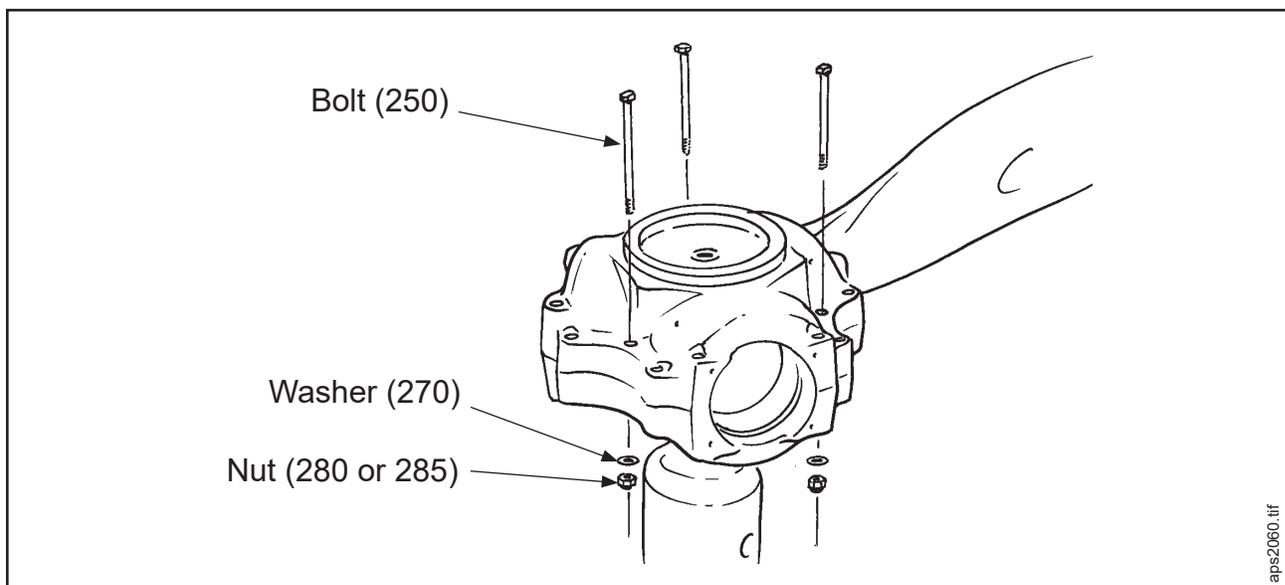
- (b) Install the cylinder-side hub half.

- (c) Install only two bolts (250), washers (270), and nuts (280) at the hub center.
  - 1 When the propeller is assembled without the bulkhead, as many as four additional washers (600) may be used to aid in clamping the hub halves during the cure of the sealant CM92.
- (d) Torque the nuts (280) in accordance with Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual.

D. Three Blade Compact Hub Blade Installation

**CAUTION:** TO AVOID BLADE DAMAGE, SUPPORT THE BLADE IN THE ENGINE-SIDE HUB HALF UNTIL THE BLADE IS PRELOADED OR UNTIL THE CYLINDER-SIDE HUB HALF IS INSTALLED.

- (1) Install the number one blade assembly into the socket of the engine-side hub half.
- (2) Center the slot of the preload plate (440) at the hub parting line.
  - (a) The blade knob slot in the preload plate should be positioned to permit the blade to travel within the blade angle range without restriction.
- (3) Install cylinder-side hub half.
- (4) Bolt the hub together using three bolts (250), three washers (270) and three nuts (280 or 285). Refer to Figure 7-15.



Installing Hub Half in Preparation for Tightening Preload Plate  
Figure 7-15

**CAUTION:** MAKE SURE TO USE THE CORRECT TORQUE WHEN TORQUING THE NUTS (280 OR 285). THE NUTS FOR A LIGHTWEIGHT COMPACT HUB [( )-( )3Y1( )-( ) ( )] HAVE A DIFFERENT TORQUE THAN THOSE FOR A COMPACT HUB [( )-( )3Y( )-( ) ( )].

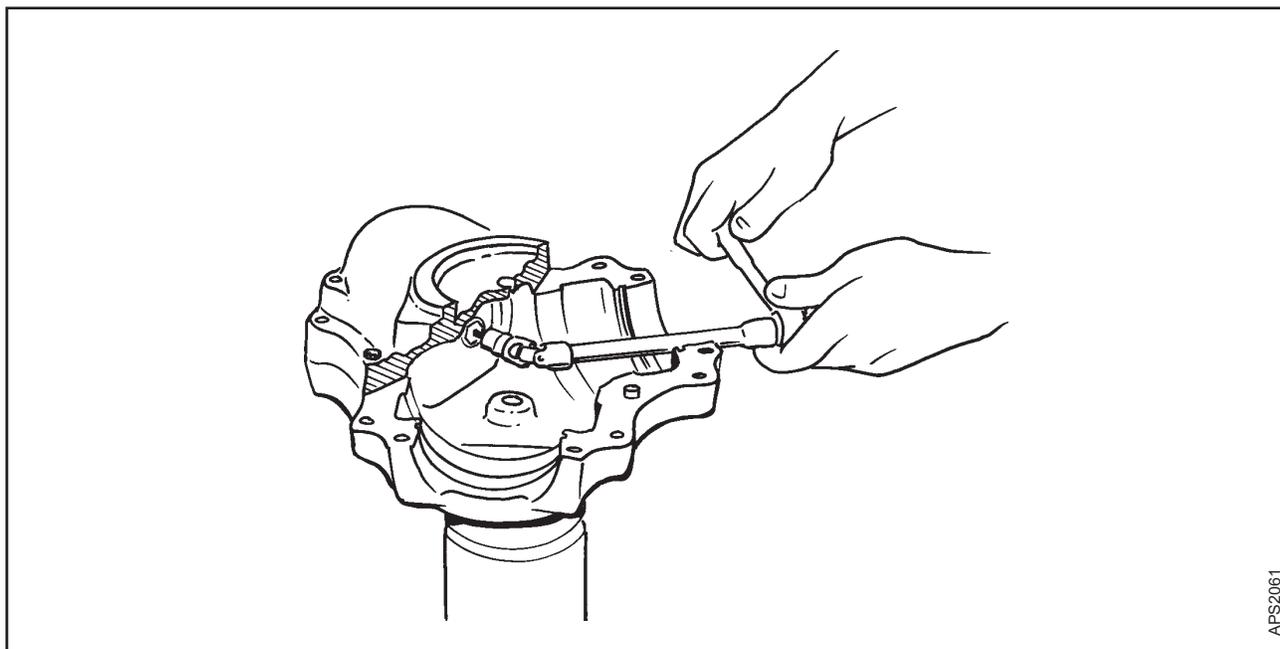
- (5) Torque the nuts (280, 285) in accordance with Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual.

**CAUTION:** IMPROPER PRELOAD CAN CAUSE THE BLADES TO BE LOOSE IN THE HUB.

- (6) Tighten the preload socket set screw (430) through the open end of the hub.

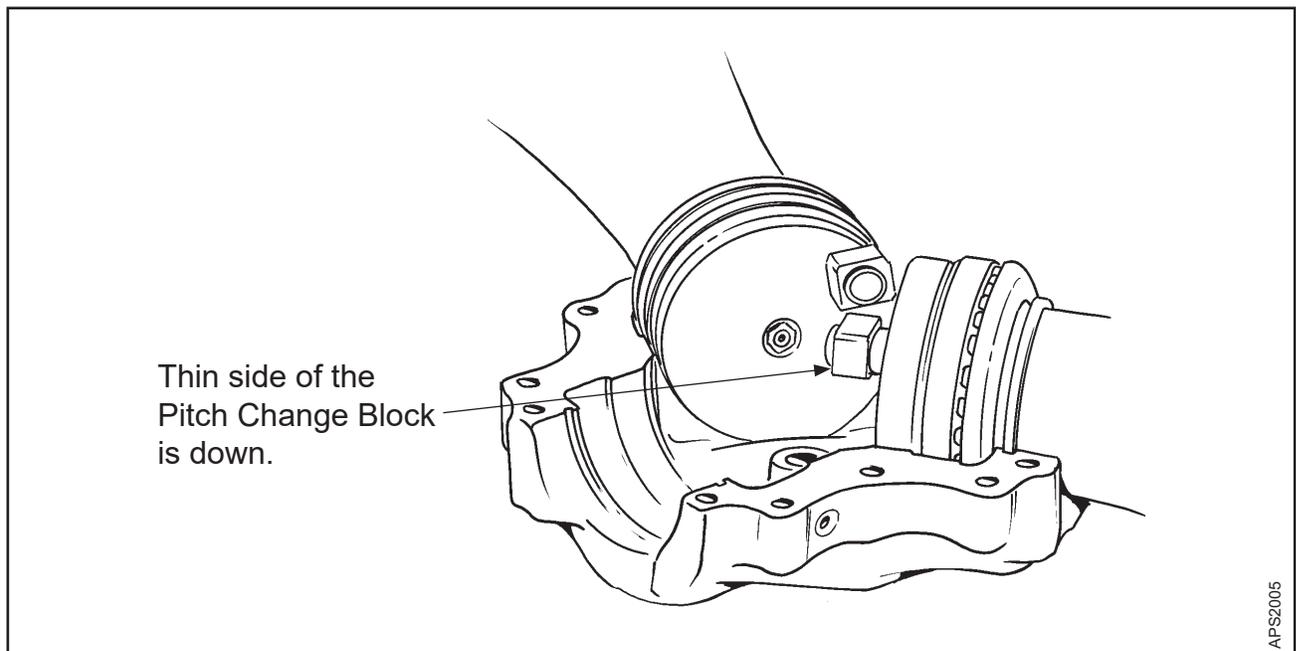
**NOTE:** The loose blade will become rigid in the hub as the socket screw (430) is tightened.

- (a) Torque the nuts (420) in accordance with Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual.
- (b) Tighten the preload socket screw (430) until the tip of the blade stops moving vertically.
- (c) Gently move the tip of the blade to make sure that the blade is correctly seated in the retention socket.
- (d) Loosen the preload socket screw (430) and retighten. When the blade tip stops moving, turn the socket screw an additional 1/4 turn into the preload plate (440). Refer to Figure 7-16.



**Tightening Preload Plate Hex Head Screw and Jam Nut**  
**Figure 7-16**

- (7) Check the blade for free rotation. If the blade is not free, check the following friction items:
  - (a) Blade O-ring.
  - (b) The needles in the blade bore bearing may be skewed. Examine the needles to verify that they are parallel to the axis of rotation.
- (8) Remove the cylinder-side hub half.
- (9) Apply one drop of thread locking compound CM21 on the threads of the socket set screw (430).
- (10) Turn the jam nut (420) on the socket set screw (430).
- (11) While holding the socket set screw (430) to prevent it from moving, torque the jam nut (420) in accordance with Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual.
- (12) Using blade retention components clamp TE24 if desired, remove blade number one.
- (13) Install blade numbers two and three into the hub using procedures outlined in steps D.(1) through D.(11) in this procedure.
- (14) Installation of Blade Number One Including Pitch Change Parts
  - (a) Install the pitch change fork buttons (210) on the pitch change fork (190).
  - (b) Apply anti-seize compound CM118 to the outside of each pitch change knob bushing (565).

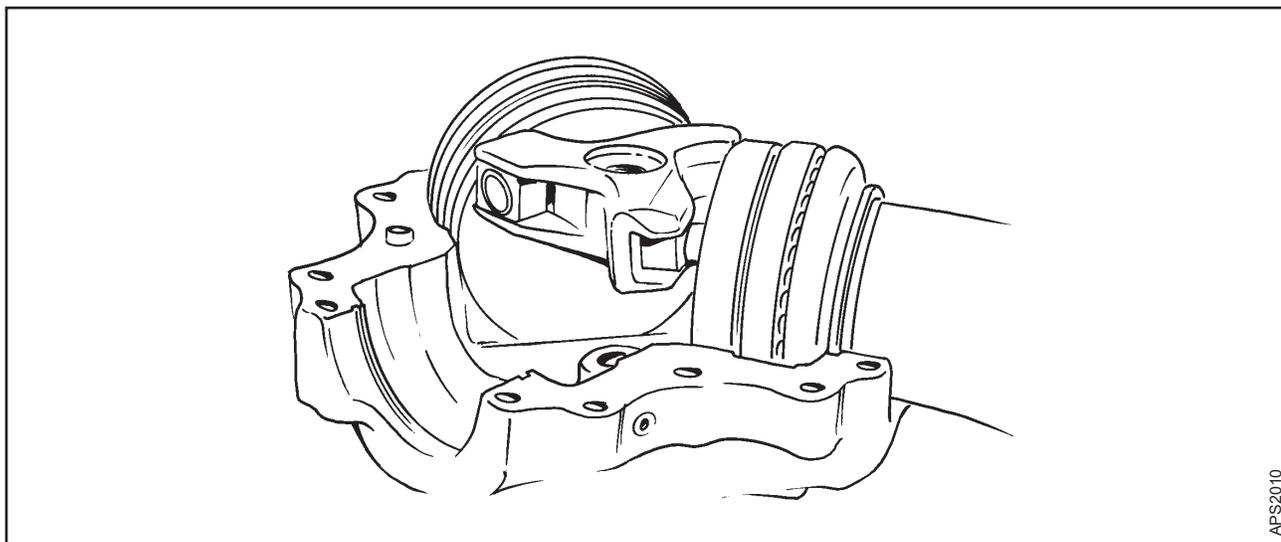


**Pitch Change Blocks Installed on Blades Two and Three**  
**Figure 7-17**

- (c) Apply anti-seize compound CM118 to the fork threads and to each pitch change block groove of the pitch change fork.
- (d) With the round extension of the pitch change block (200) away from the blade, install a pitch change block on each pitch change knob.
  - 1 Examine the pitch change block (200) for a chamfer.
    - a If the block (200) is not chamfered, rework the block in accordance with the Rework of the A-3253-( ) Pitch Change Block section of the Repair chapter of this manual. Refer to the Check chapter of this manual for pitch change block inspection criteria.
  - 2 When installing a new pitch change block (200), verify the orientation of the pitch change block.
    - a At initial assembly, install the pitch change blocks (200) in the fork with the thin wall toward the engine-side hub half.
    - b For a block (200) that has been marked for orientation during disassembly, reassemble the block in accordance with the marking.

**CAUTION:** MAKE SURE THAT THE TAPER IN THE FORK MATCHES THE TAPER IN THE PITCH CHANGE ROD. IF THE PITCH CHANGE ROD IS IMPROPERLY ATTACHED TO THE FORK, THE SEATING AREA OF THE PITCH CHANGE ROD WILL BE DAMAGED.

- (e) Install the fork (190) on the pitch change blocks of blade numbers two and three. Refer to Figure 7-18.



**Pitch Change Fork Installed on Blades Two and Three**  
**Figure 7-18**

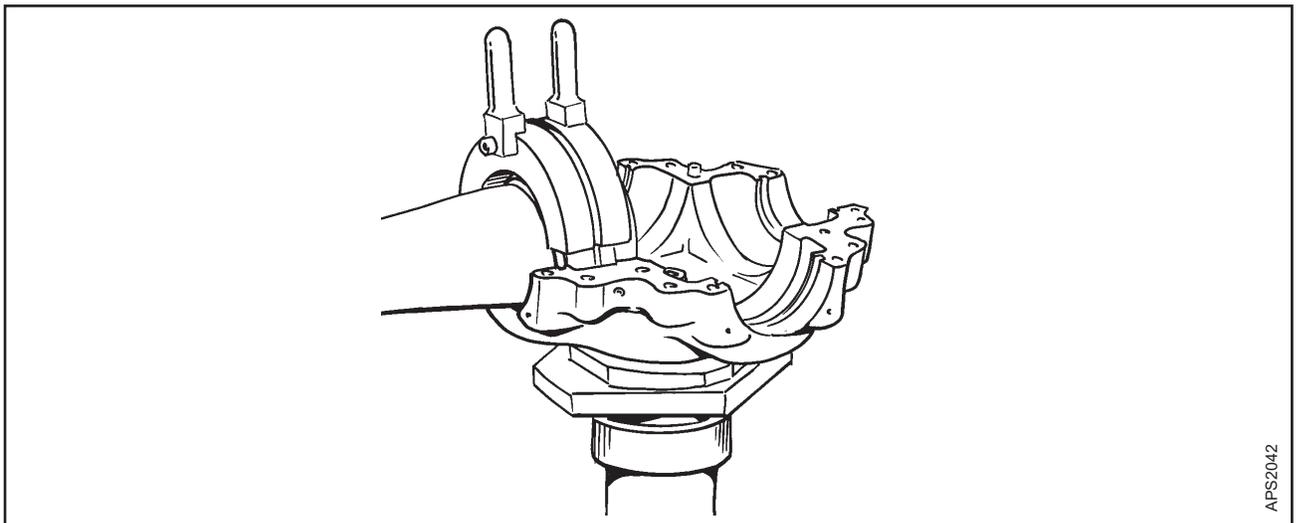
- (f) Reinstall blade number one in the engine-side hub half socket. Slide the pitch change block (200) into the fork (190).
  - (g) Position the center of the slots in the preload plate (440) on the plane of the parting line of the hub.
- (15) Installation of the Cylinder-Side Hub Half of the Three Blade Hub
- (a) Put a bead of sealant CM92 on the hub mating surfaces. The quantity of sealant applied to the mating surfaces must be sufficient to permit a small amount to be squeezed out along the entire parting surface when the hub bolts are properly torqued.

**CAUTION:** VERIFY THAT THE BLADE O-RING OR QUAD RING IS IN THE O-RING GROOVE WHEN INSTALLING THE CYLINDER-SIDE HUB HALF.

- (b) Install the cylinder-side hub half.
- (c) Install three bolts (250), washers (270), and nuts (280 or 285) at the hub center. Refer to Figure 7-15.
  - 1 When the propeller is assembled without the bulkhead, as many as four additional washers (600) may be used to aid in clamping the hub halves during the cure of the sealant CM92.

**CAUTION:** MAKE SURE TO USE THE CORRECT TORQUE WHEN TORQUING THE NUTS (280 OR 285). THE NUTS FOR A LIGHTWEIGHT COMPACT HUB [( )-( )3Y1( )-( ) ( )] HAVE A DIFFERENT TORQUE THAN THOSE FOR A COMPACT HUB [( )-( )3Y( )-( ) ( )].

- (d) Torque the nuts (280, 285) in accordance with Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual.



**Installation of Blade One into Hub  
Figure 7-19**

E. Four Blade Compact Hub Blade Installation

**CAUTION:** TO AVOID BLADE DAMAGE, SUPPORT THE BLADE IN THE ENGINE-SIDE HUB HALF UNTIL THE BLADE IS PRELOADED OR UNTIL THE CYLINDER-SIDE HUB HALF IS INSTALLED.

(1) Install blade number one and blade number two assemblies into the sockets of the engine-side hub half. Refer to Figure 7-19.

(2) Center the slot of the preload plate (440) at the hub parting line.

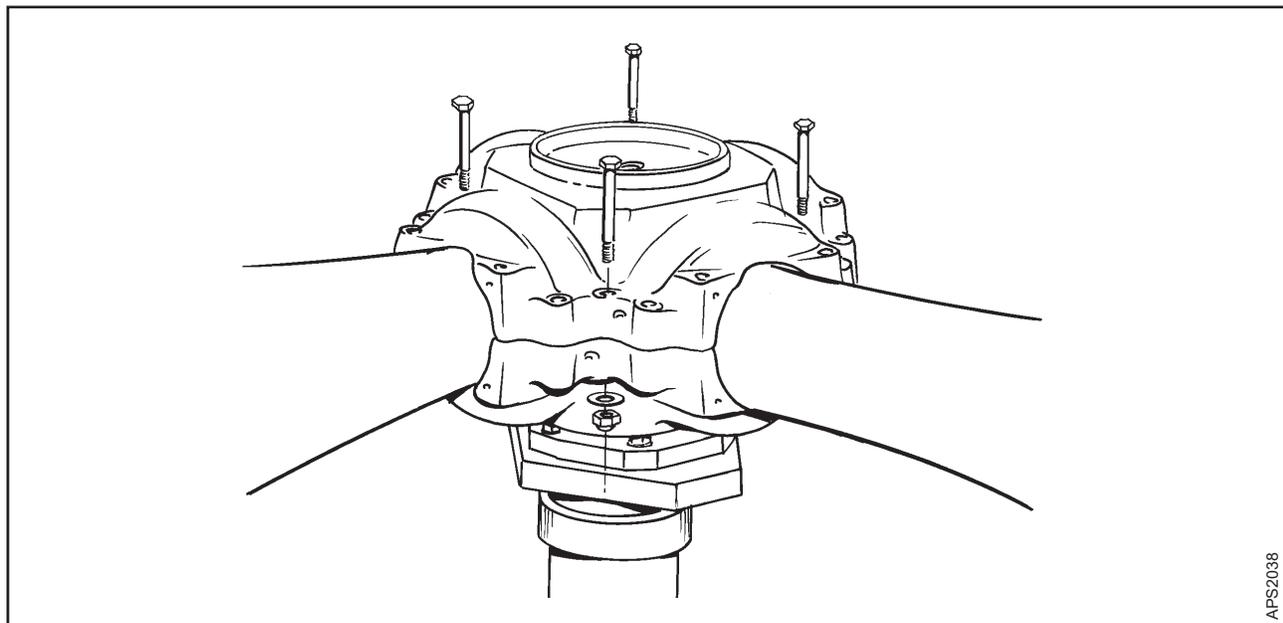
**NOTE:** The blade knob slot in the preload plate should be positioned to allow the blade to travel within the full blade angle range without restriction.

(3) Install the cylinder-side hub half.

(4) Install 4 bolts (250), 4 washers (270), and 4 nuts (280). Torque in accordance with Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual. Refer to Figure 7-20.

**CAUTION:** IMPROPER PRELOAD CAN CAUSE THE BLADES TO BE LOOSE IN THE HUB.

(5) Tighten the preload socket set screw (430) through the open end of the hub. The loose blade will become rigid in the hub as the socket screw is tightened. Tighten the preload socket screw until the tip of the blade stops moving vertically. Gently move the tip of the blade to ensure that the blade is properly seated in the retention socket. Loosen the preload socket screw and retighten. Once the blade tip stops moving, turn the socket screw an additional  $\frac{1}{4}$  turn further into the preload plate.



Installation of Front Half of Hub  
Figure 7-20

**HARTZELL PROPELLER OVERHAUL MANUAL**  
**113B**

- (6) Check blade for free rotation. If the blade is not free, the following friction items should be checked:
  - (a) Blade O-ring.
  - (b) The needles in the blade bore bearing may be skewed. Check the needles to verify that they are parallel to the axis of rotation.
- (7) Remove the cylinder-side hub half.
- (8) Apply one drop of thread locking compound CM21 on the threads of the socket screws.
- (9) Torque the jam nut (420) in accordance with Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual. Secure the set screw to prevent it from moving during the installation and torquing of the jam nut.
- (10) Remove blade numbers one and two. Use the blade retention components clamp TE24 tool to hold the blade retention bearing together.
- (11) Install blade numbers three and four into the hub using procedures outlined in steps E.(1) through E.(9) in this procedure.
- (12) Installation of Blades One and Two Including Pitch Change Parts
  - (a) Install blade number two into the engine-side hub half.
  - (b) Apply anti-seize compound CM118 to the outside of each pitch change knob bushing.

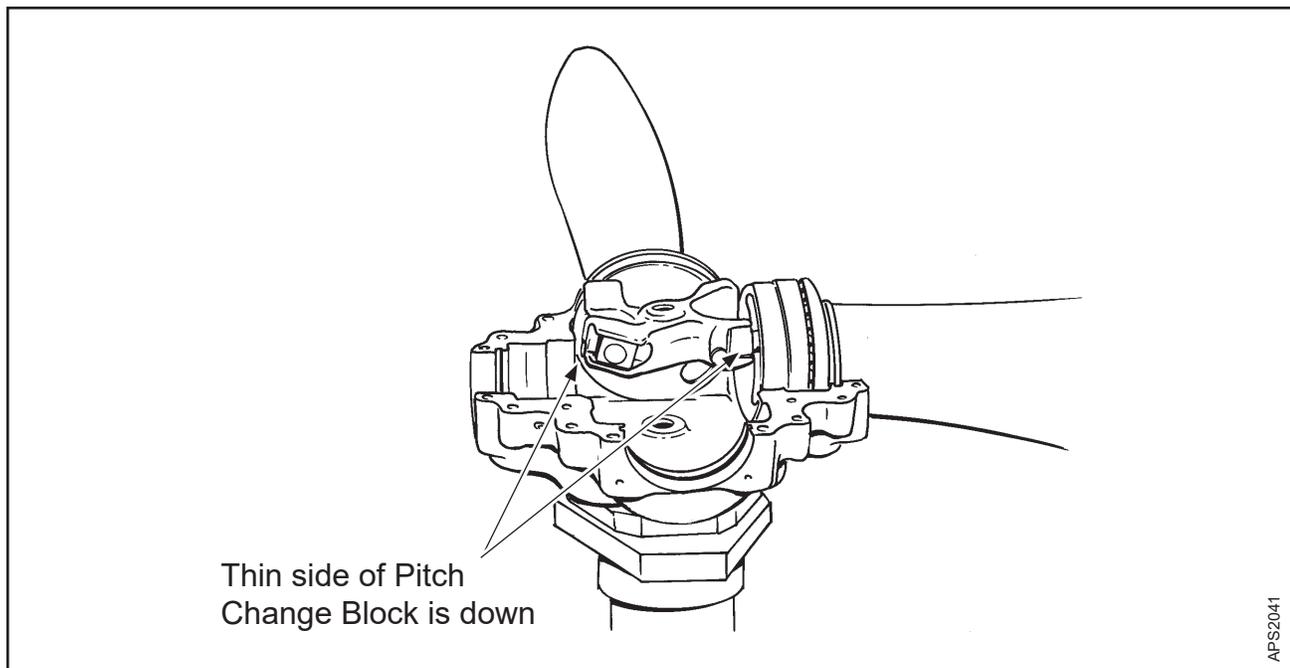
- (c) Apply anti-seize compound CM118 to each pitch change block groove of the pitch change fork and the fork threads.
- (d) Install a pitch change block (200) on each pitch change knob, with the round extension away from the blade.

**NOTE 1:** Inspect the pitch change block for a chamfer. If the block is not chamfered, rework the block in accordance with the Rework of the A-3253-( ) Pitch Change Block section of the Repair chapter of this manual. Refer to the Check chapter of this manual for pitch change block inspection criteria.

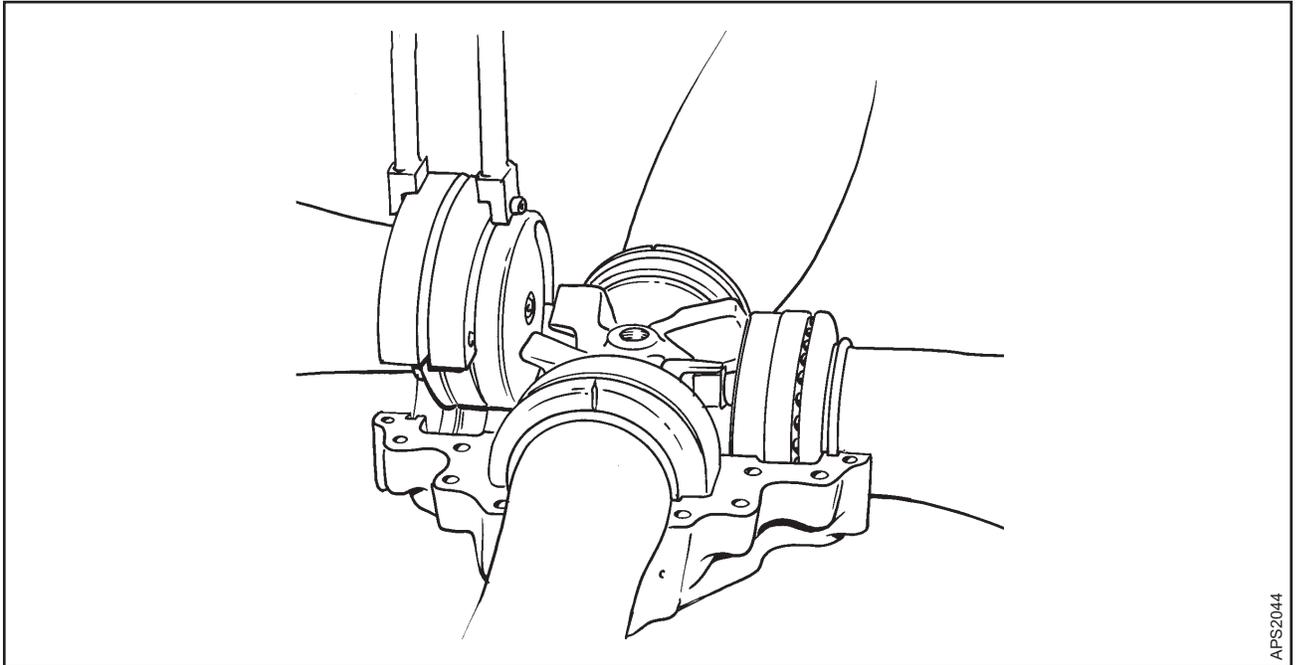
**NOTE 2:** When installing new pitch change blocks, verify the orientation of the pitch change block. Pitch change blocks should be installed in the fork with the thin wall toward the engine-side hub half during initial assembly. Blocks marked for orientation during disassembly should be reassembled following those markings.

**CAUTION:** MAKE SURE THE TAPER IN THE FORK MATCHES THE TAPER IN THE PITCH CHANGE ROD. IF THE PITCH CHANGE ROD IS IMPROPERLY ATTACHED TO THE FORK, THE SEATING AREA OF THE PITCH CHANGE ROD WILL BE DAMAGED.

- (e) Install the fork (190) on the pitch change blocks (200) of blade numbers two, three, and four (Figure 7-21).

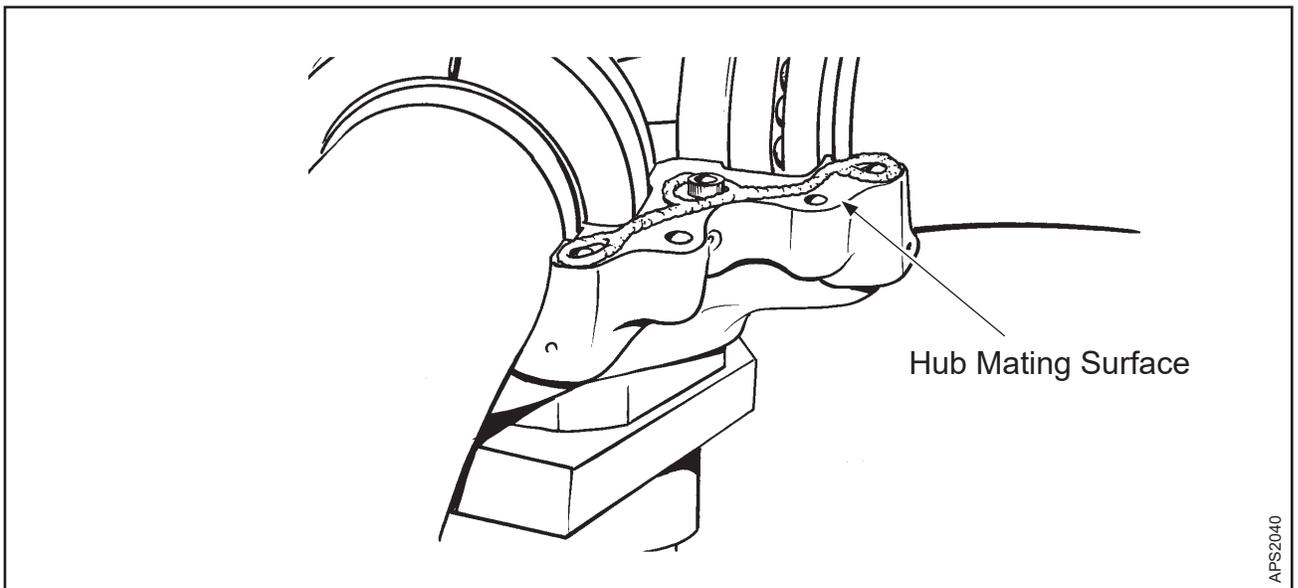


**Installation of Pitch Change Fork  
Figure 7-21**



APS2044

**Installation of Blade Number One into the Hub**  
**Figure 7-22**



APS2040

**Installation of Sealant Between the Hub Halves**  
**Figure 7-23**

- (f) Install the pitch change block for blade number one in the fork. Reinstall blade number one in the engine-side hub half socket. Refer to Figure 7-22.
- (g) Position the center of the slots in the preload plate on the plane of the parting line of the hub.

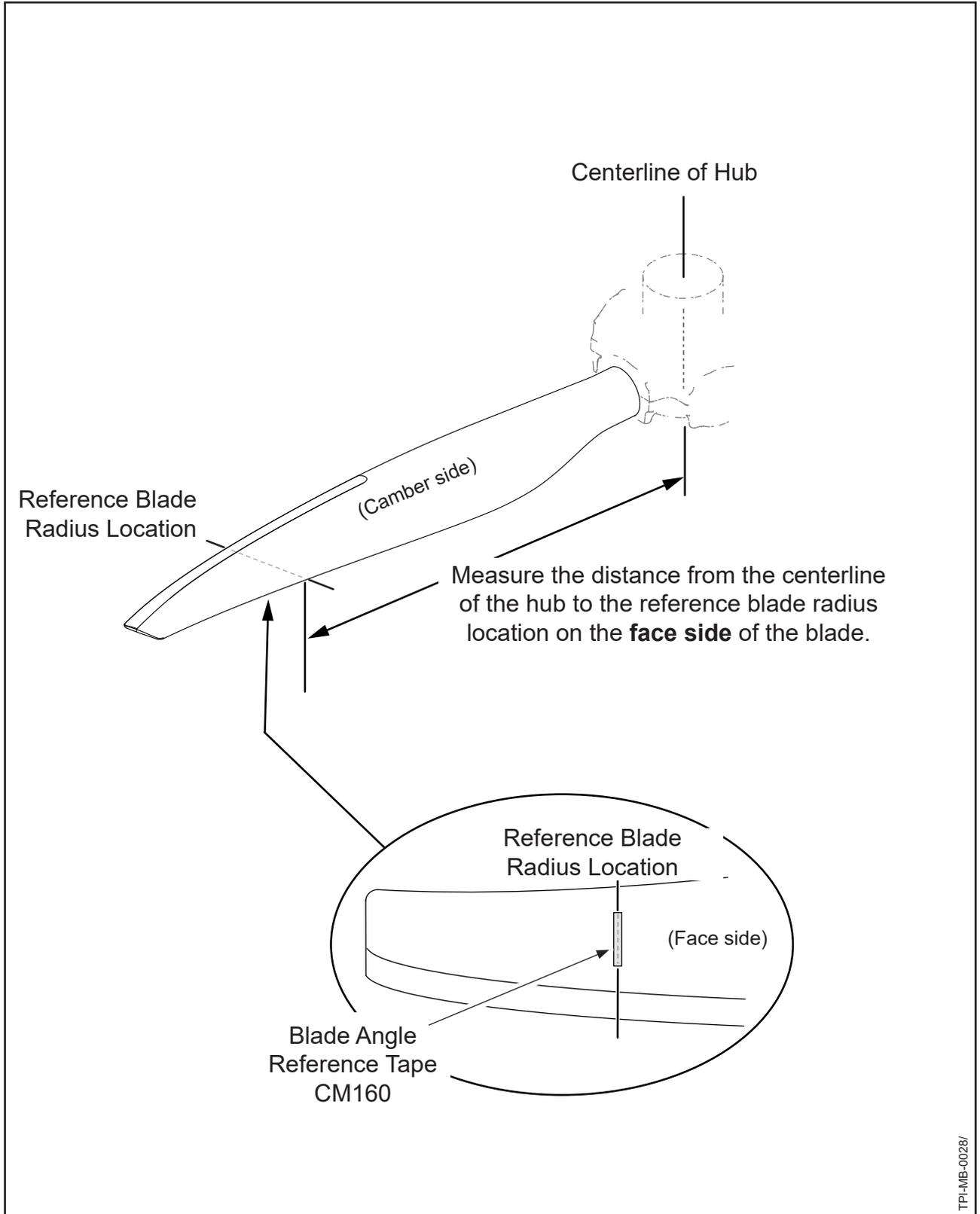
NOTE: The blade knob slot in the preload plate should be positioned to allow the blade to travel within the blade angle range without restriction.

(13) Installation of the Cylinder-Side Hub Half of the Four Blade Hub

- (a) Place a bead of sealant CM92 on the hub mating surfaces. The quantity of sealant applied to the mating surfaces must be sufficient to allow a small amount to be squeezed out along the entire parting surface when the hub bolts are properly torqued (Figure 7-23).

CAUTION: VERIFY THAT THE BLADE O-RING OR QUAD RING IS IN THE O-RING GROOVE WHEN INSTALLING THE CYLINDER-SIDE HUB HALF.

- (b) Install the cylinder-side hub half.
- (c) Install only four bolts (250), washers (270), and nuts (280) at the hub center.
  - 1 When the propeller is assembled without the bulkhead, as many as four additional washers (600) may be used to aid in clamping the hub halves during the cure of the sealant CM92.
- (d) Torque the nuts (280) in accordance with Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual.



TPI-MB-0028/

**Blade Angle Reference Tape**  
**Figure 7-24**

F. Blade Angle Reference Tape Application (Optional) Rev. 2

**CAUTION:** DO NOT CONFUSE REFERENCE BLADE RADIUS WITH BLADE STATION. REFERENCE BLADE RADIUS AND BLADE STATION OF THE SAME NUMBER MAY NOT ALWAYS INDICATE THE SAME LOCATION ON THE BLADE.

- (1) Reference blade radius is measured from the center of the propeller hub to a predetermined reference location on the blade for blade angle measurement.
- (2) Blade stations are used during the repair or overhaul process of a blade to define a blade span location for dimensional measurement.
- (3) Establish a reference blade radius location
  - (a) Refer to the Aircraft Type Certificate Data Sheet or the Hartzell Propeller Inc. Application Guide, Manual 159 (61-02-59), for the reference blade radius location specified for the applicable aircraft installation.
  - (b) Beginning with blade one, measure from the center of the propeller hub to the reference blade radius location specified. Refer to Figure 7-24.
  - (c) Apply a piece of reference tape CM160 to the face side of the blade at the reference blade radius location, perpendicular to the blade centerline as shown in Figure 7-24.
    - 1 Put the reference tape CM160 on the blade so that the reference blade radius location runs through the centerline of the tape.
  - (d) Repeat steps F.(3)(b) and F.(3)(c) in this procedure for the remaining blades in the hub assembly.
  - (e) Put a pattern cut-out over each piece of reference tape CM160.
  - (f) Spray each piece of reference tape CM160 with clear lacquer CM129 to prevent peeling.

G. Hydraulic Pitch Change Unit Assembly

- (1) Insert the pitch change rod (140) through the cylinder-side hub half and into the fork (190). Torque the pitch change rod in accordance with Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual.
- (2) Blade Angle Check
  - (a) **Compact Non-Feathering (-1) Propellers only.**
    - 1 Install the cylinder (50) hand tight on the cylinder-side hub half.
    - 2 Install the low pitch stop (40) into the cylinder (50). The low pitch stop does not have to be set to the appropriate low pitch angle. The cylinder and low pitch stop only provide a contact point for the pitch change rod while checking for 0.2 degrees tolerance between blades.
    - 3 Rotate the blades until the pitch change rod contacts the low pitch stop and check the blade angles at the 30 inch radius of all of the blades.
    - 4 Turn one or more of the pitch change blocks if the blade angle differs more than 0.2 degree between blades. To turn blocks, remove the cylinder (50), and front half of the hub. Make the appropriate adjustments to the pitch change blocks (200).
    - 5 Reassemble the propeller and recheck the blade angle tolerance between blades.

NOTE: Pitch change blocks should be installed in the fork with the thin wall toward the engine-side hub half during initial assembly. Rotating the pitch change block 180 degrees will decrease the pitch of the corresponding blade 0.3 to 0.4 degree on a tractor propeller. Rotating the pitch change block 180 degrees will increase the pitch of the corresponding blade 0.3 to 0.4 degree on a pusher propeller. It is also possible to bring the blades within tolerance by rotating the fork 180 degrees on two-blade and four-blade propellers.

(b) **Aerobatic (-4) Propellers only.**

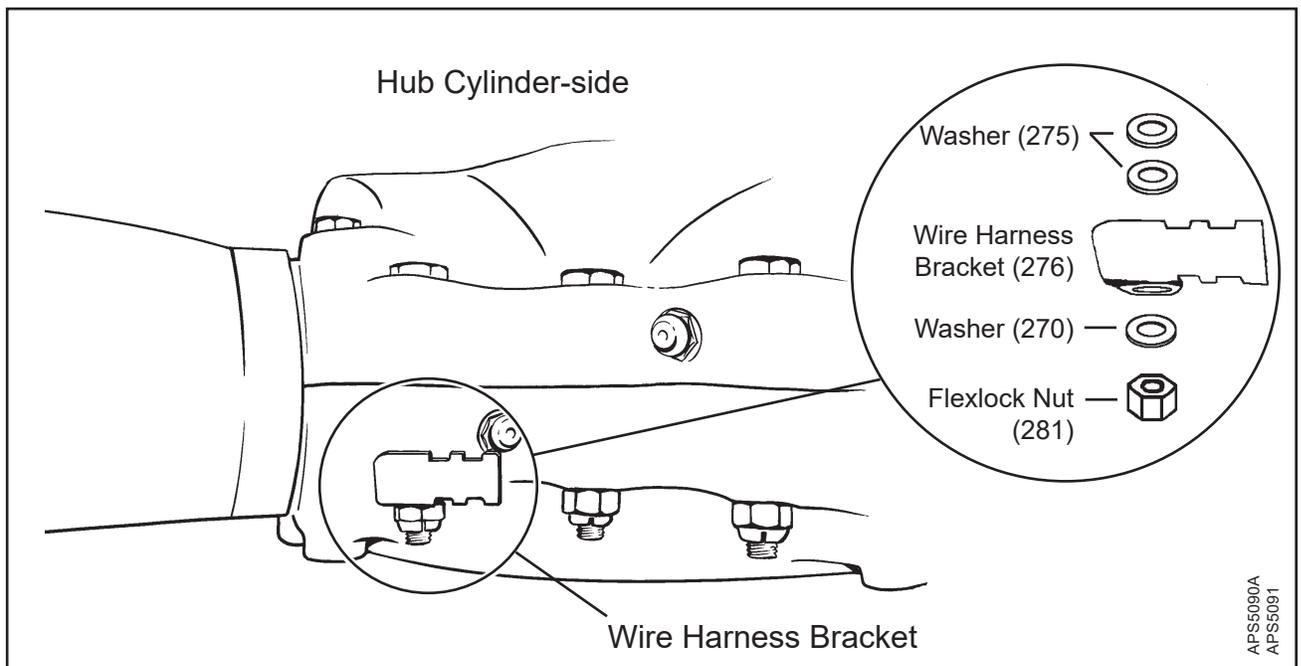
- 1 Install the split keeper (130) into the pitch change rod (140) groove.
- 2 Slide the stop collar (120) over the pitch change rod (140) and split keeper (130).
- 3 Thread the nut (70) finger tight onto pitch change rod (140).
- 4 Rotate blades toward high pitch until the nut (70) contacts the stop collar (120) and check blade angles at the 30 inch radius of all of the blades.
- 5 Turn one or more of the pitch change blocks if the blade angle differs more than 0.2 degree between blades. To rotate blocks, remove rod nut (70), stop collar (120), split keeper (130) and front half of the hub. Make the appropriate adjustments to the pitch change blocks (200).
- 6 Reassemble the propeller and recheck the blade angle tolerance between blades.

NOTE: Pitch change blocks should be installed in the fork with the thin wall toward the engine-side hub half during initial assembly. Rotating the pitch change block 180 degrees will decrease the pitch of the corresponding blade 0.3 to 0.4 degree on a tractor propeller. Rotating the pitch change block 180 degrees will increase the pitch of the corresponding blade 0.3 to 0.4 degree on a pusher propeller. It is also possible to bring the blades within tolerance by rotating the fork 180 degrees on two-blade and four-blade propellers.

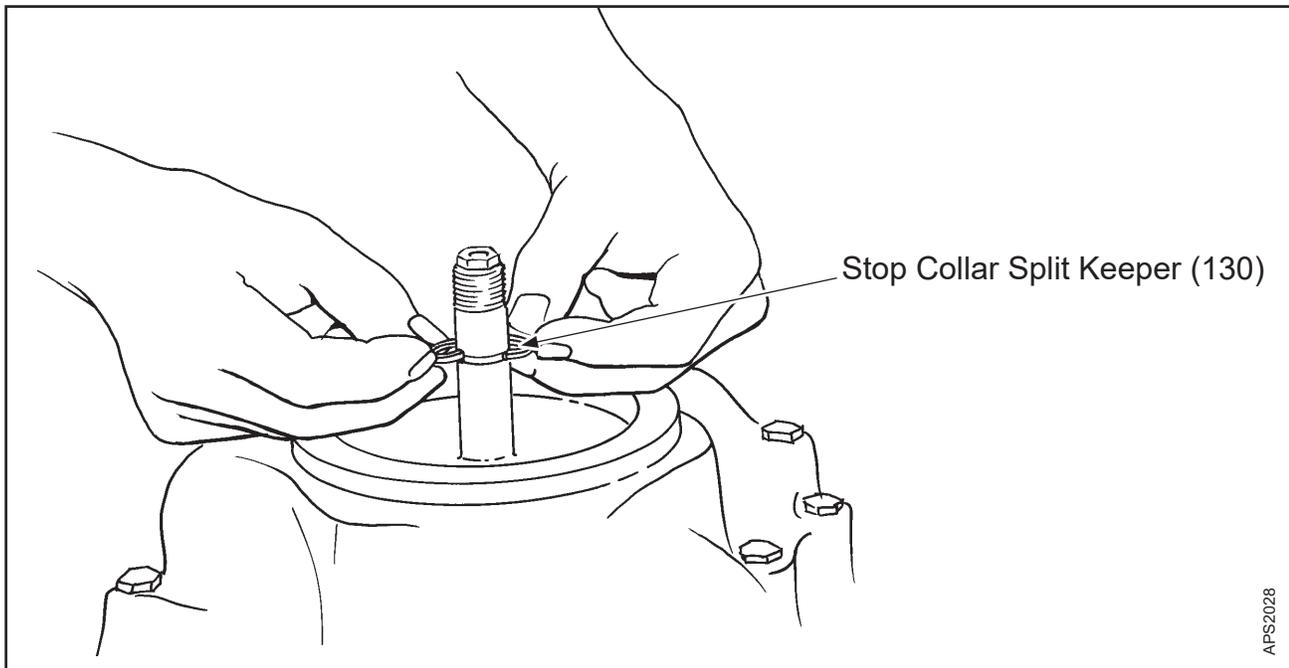
- (c) Remove the low pitch stop (40) from the cylinder (50) and remove the cylinder from the cylinder-side hub half.
- (d) Install the remaining hub bolts (250 and 260), washers (270), and nuts (280 or 285).
  - 1 It is the responsibility of the propeller maintenance facility to make sure that the appropriate spinner and mounting parts have been installed. Refer to the Hartzell Propeller Inc. Application Guide Manual 159 (61-02-59) for spinner assembly application information.
  - 2 Spinner bulkheads that are attached to the propeller with the hub clamping bolts will be installed at this time. Verify the location of all washers and spacers during this procedure.
- (e) For HC-E3YR-1(C,E), HC-I3YR-1E, and PHC-G3YF-1E propellers -
  - 1 Install two washers (275), wire harness bracket (276), one washer (270), and one flexlock nut (281). Refer to Figure 7-25.

**CAUTION:** MAKE SURE TO USE THE CORRECT TORQUE WHEN TORQUING THE NUTS (280, 281, OR 285). THE NUTS FOR A LIGHTWEIGHT COMPACT HUB [( ) ( ) - ( ) 3Y1 ( ) - ( ) ( ) ] HAVE A DIFFERENT TORQUE THAN THOSE FOR A COMPACT HUB [( ) ( ) - ( ) 3Y ( ) - ( ) ( ) ].

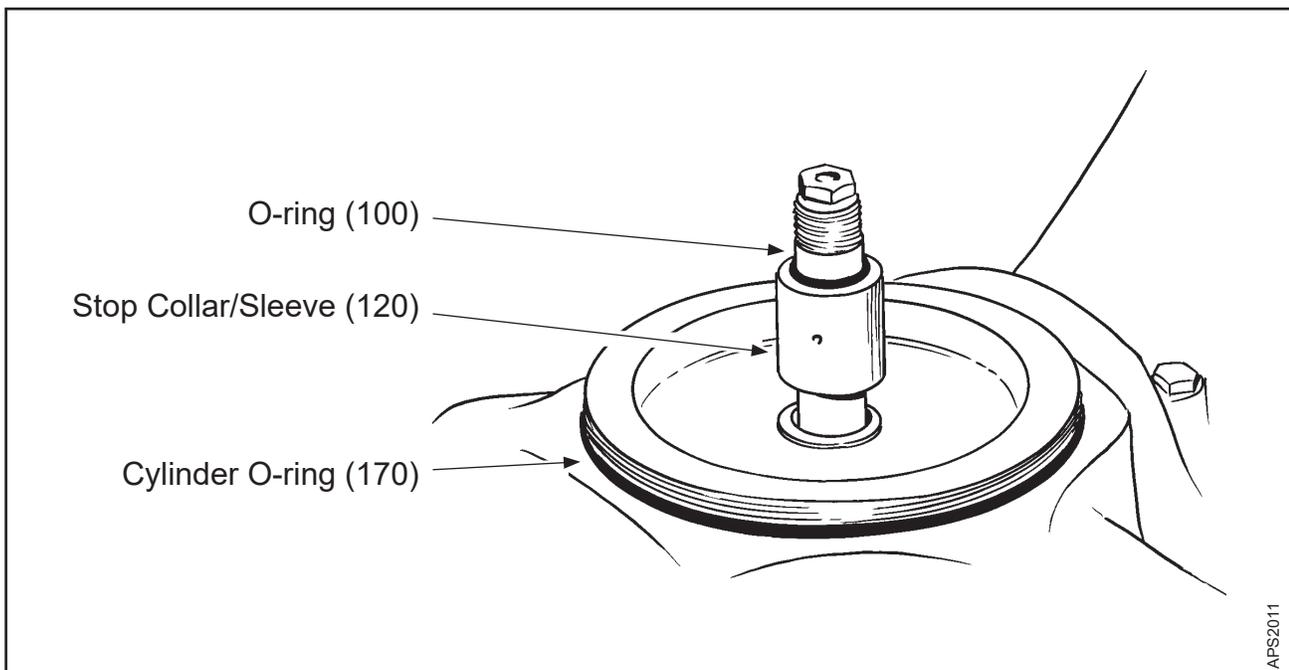
- (f) Torque the nuts (280, 281, or 285) in accordance with Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual.



**Wire Harness Bracket Location**  
**Figure 7-25**



**Installation of the Split Keeper  
Figure 7-26**



**Installation of Stop Collar or Stop Sleeve and O-rings  
Figure 7-27**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

(3) Installation of the piston and cylinder

(a) For Aerobatic (-4) propellers - Install the Stop Collar

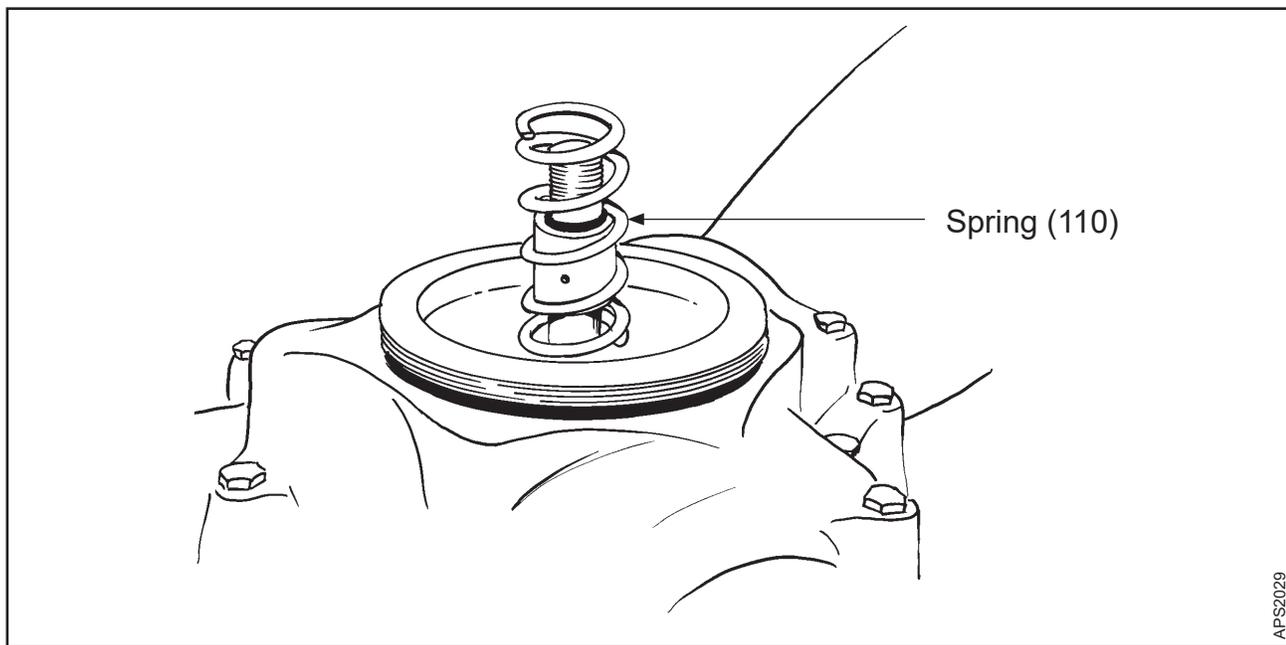
**NOTE:** Compact non-feathering propellers (-1) have springs.  
Compact aerobatic propellers (-4) do not have springs.

- 1 Install the split retainer (130) on the pitch change rod (140) groove. Refer to Figure 7-26.
- 2 Install the stop collar (120) over the pitch change rod (140) and split keeper (130). Refer to Figure 7-27.
  - a Use the correct stop collar for the high pitch stop angle required. Refer to Table 7-2 for stop collar dimensions and part numbers.
 

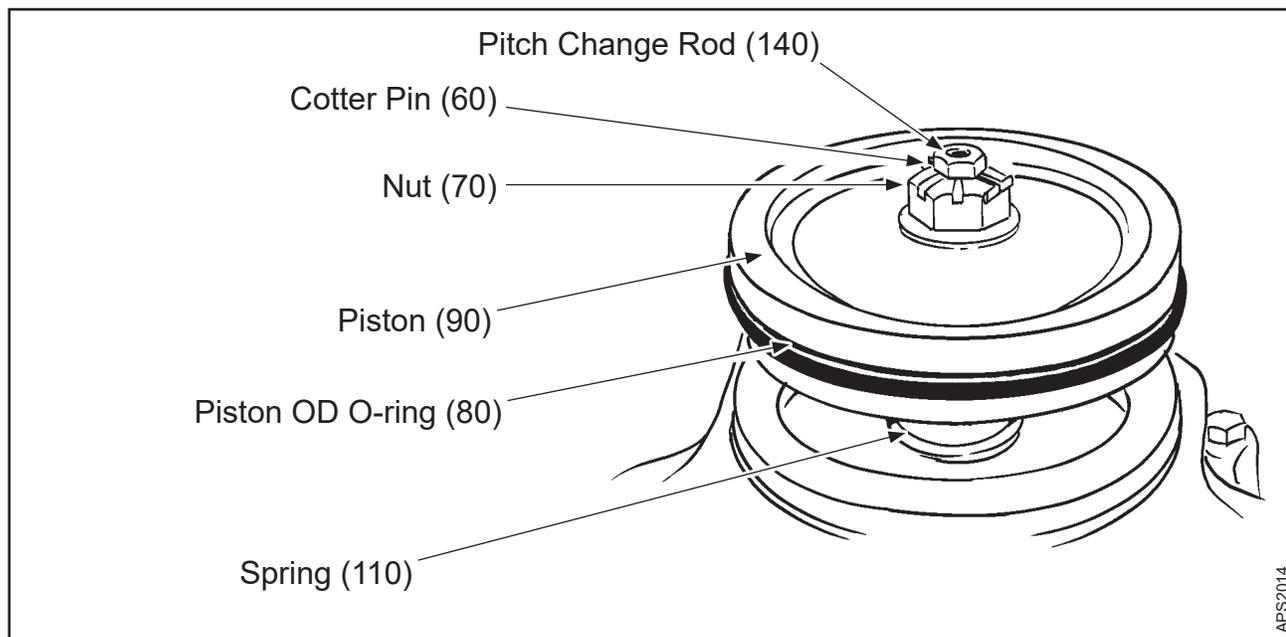
**NOTE:** A change in height of 0.031 inch (0.78 mm) yields a change in blade angle of approximately 1 degree.
- 3 Perform a preliminary check of blade high pitch stop angle.
  - a Move the blades into a low pitch position and then move the blades into high pitch by pushing down on the high pitch stop (120).
- 4 Install the O-ring (100) on the stop collar (120). Refer to Figure 7-27.

| Part Number | Height (inch) | Height (mm) | Part Number | Height (inch) | Height (mm) |
|-------------|---------------|-------------|-------------|---------------|-------------|
| A-2420-42   | 0.730         | 18.54       | A-2420-27   | 1.180         | 29.97       |
| A-2420-41   | 0.760         | 19.30       | A-2420-26   | 1.201         | 30.73       |
| A-2420-40   | 0.790         | 20.06       | A-2420-25   | 1.240         | 31.49       |
| A-2420-39   | 0.820         | 20.82       | A-2420-24   | 1.270         | 32.25       |
| A-2420-38   | 0.850         | 21.59       | A-2420-23   | 1.300         | 33.02       |
| A-2420-37   | 0.880         | 22.35       | A-2420-22   | 1.330         | 33.78       |
| A-2420-36   | 0.910         | 23.11       | A-2420-21   | 1.360         | 34.54       |
| A-2420-35   | 0.940         | 23.87       | A-2420-20   | 1.390         | 35.30       |
| A-2420-34   | 0.970         | 24.63       | A-2420-19   | 1.420         | 36.06       |
| A-2420-33   | 1.000         | 25.40       | A-2420-18   | 1.450         | 36.83       |
| A-2420-32   | 1.030         | 26.16       | A-2420-17   | 1.480         | 37.59       |
| A-2420-31   | 1.060         | 26.92       | A-2420-15   | 1.510         | 38.35       |
| A-2420-30   | 1.090         | 27.68       | A-2420-14   | 1.540         | 39.11       |
| A-2420-29   | 1.120         | 28.44       | A-2420-13   | 1.570         | 39.87       |
| A-2420-28   | 1.150         | 29.21       |             |               |             |

**A-2420-( ) Stop Collar Heights  
Table 7-2**



Installing the A-2213-( ) Spring  
Figure 7-28



Installing the Piston on the Pitch Change Rod  
Figure 7-29

- 5 Slide the piston (90) on the pitch change rod (140) with the piston ID O-ring groove facing the stop collar (120). Refer to Figure 7-29.

**CAUTION:** THE PITCH CHANGE ROD (140) MUST HAVE TWO COTTER PIN THROUGH HOLES.

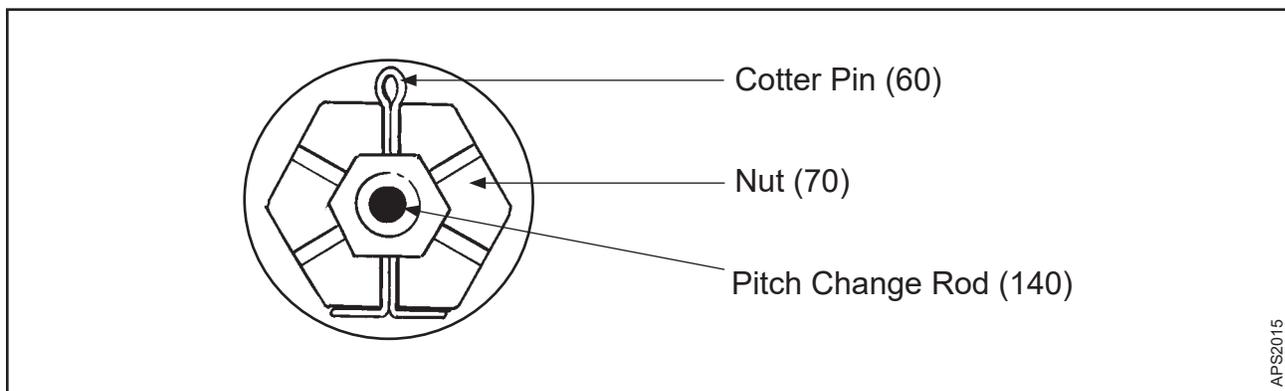
- 6 Examine the pitch change rod (140) for two cotter pin through holes. Refer to the Check chapter of this manual.
- 7 Install the piston nut (70) on the rod (140).
- 8 Torque the nut (70) to the minimum torque in accordance with Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual.

**CAUTION:** FOR NUT (70), DO NOT EXCEED THE MAXIMUM AMOUNT OF TORQUE PROVIDED IN TABLE 8-1.

- a If the hole in the pitch change rod (140) does not align with the slot in the nut (70):
- (1) Set the torque wrench to the maximum torque provided in Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual.
  - (2) Slowly torque the nut (70) until a slot in the nut aligns with the nearest hole in the pitch change rod (140).

**CAUTION:** DO NOT LET THE COTTER PIN TABS BEND OVER THE END OF PITCH CHANGE ROD. COTTER PIN TABS THAT ARE BENT OVER THE END OF THE PITCH CHANGE ROD WILL INTERFERE WITH THE LOW PITCH STOP.

- 9 Safety with the cotter pin (60) as shown in Figure 7-30.



**Cotter Pin Installation**  
**Figure 7-30**

- (b) For Non-feathering (-1) Propellers using the A-2213-( ) spring - Install the stop collar and spring

NOTE: Compact non-feathering propellers (-1) have springs.  
Compact aerobatic propellers (-4) do not have springs.

- 1 Install the split retainer (130) on the pitch change rod (140) groove  
Refer to Figure 7-26.
- 2 Install the stop collar (120) over the pitch change rod (140) and  
split keeper (130). Refer to Figure 7-27.
  - a Use the correct stop collar for the high pitch stop angle required.  
Refer to Table 7-2 for stop collar dimensions and part numbers.

NOTE: A change in height of 0.031 inch (0.78 mm) yields a  
change in blade angle of approximately 1 degree.
- 3 Perform a preliminary check of blade high pitch stop angle.
  - a Move the blades into a low pitch position and then move  
the blades into high pitch by pushing down on the high pitch  
stop (120).
- 4 Install the O-ring (100) on the stop collar (120). Refer to Figure 7-27.
- 5 Install the spring (110) over the pitch change rod (140). Refer to  
Figure 7-28.

CAUTION: THE PITCH CHANGE ROD (140) MUST HAVE TWO  
COTTER PIN THROUGH HOLES.

- 6 Examine the pitch change rod (140) for two cotter pin through holes.
- 7 Slide the piston (90) on the pitch change rod (140) with the piston ID  
O-ring groove facing the stop collar (120). Refer to Figure 7-29.
- 8 Compress the spring (110) with the piston (90) to expose enough  
threads on the pitch change rod (140) to permit the piston nut (70) to  
be started.
- 9 Install the nut (70) on the pitch change rod (140).

- 10 Torque the nut (70) to the minimum torque in accordance with Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual.

CAUTION: FOR NUT (70), DO NOT EXCEED THE MAXIMUM AMOUNT OF TORQUE PROVIDED IN TABLE 8-1, "TORQUE VALUES" IN THE FITS AND CLEARANCES CHAPTER OF THIS MANUAL.

- a If the hole in the pitch change rod (140) does not align with the slot in the nut (70):
- (1) Set the torque wrench to the maximum torque provided in Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual.
  - (2) Slowly torque the nut (70) until a slot in the nut aligns with the nearest hole in the pitch change rod (140).

CAUTION: DO NOT LET THE COTTER PIN TABS BEND OVER THE END OF PITCH CHANGE ROD. COTTER PIN TABS THAT ARE BENT OVER THE END OF THE PITCH CHANGE ROD WILL INTERFERE WITH THE LOW PITCH STOP.

- 11 Safety the nut (70) with the cotter pin (60) as shown in Figure 7-30.

| Part Number | Height (inch) | Height (mm) |
|-------------|---------------|-------------|
| 101324-8    | 3.267         | 82.98       |
| 101324-9    | 3.244         | 82.39       |
| 101324-7    | 3.222         | 81.83       |
| 101324-6    | 3.177         | 80.69       |
| 101324-5    | 3.132         | 79.55       |
| 101324-4    | 3.087         | 78.40       |
| 101324-3    | 3.042         | 77.26       |
| 101324-2    | 2.997         | 76.12       |
| 101324-1    | 2.952         | 74.98       |

**101324-( ) Stop Sleeve Heights**  
**Table 7-3**

| Part Number | Height (inch) | Height (mm) |
|-------------|---------------|-------------|
| 101335-9    | 1.270         | 32.26       |
| 101335-8    | 1.240         | 31.50       |
| 101335-7    | 1.210         | 30.73       |
| 101335-6    | 1.180         | 29.97       |
| 101335-5    | 1.150         | 29.21       |
| 101335-4    | 1.120         | 28.45       |
| 101335-3    | 1.090         | 27.69       |
| 101335-2    | 1.060         | 26.92       |
| 101335-1    | 1.030         | 26.16       |

**101335-( ) Stop Collar Heights**  
**Table 7-4**

HARTZELL PROPELLER OVERHAUL MANUAL  
113B

- (c) For Non-feathering (-1) Propellers using the 101322 spring or the 101330 spring - Install the stop sleeve and spring.

NOTE: Compact non-feathering propellers (-1) have springs. Compact aerobatic propellers (-4) do not have springs.

CAUTION: THE LOCATION OF THE SPRING SEAT IS PROPELLER SPECIFIC. REFER TO THE ILLUSTRATED PARTS LIST CHAPTER OF THIS MANUAL FOR THE APPLICABLE PROPELLER MODEL.

- 1 Apply lubricant CM12 to the spring seat (105), or spring guide (106) as applicable, and put it on the hub over the pitch change rod bore hole.
- 2 Install the split retainer (130) on the pitch change rod (140) groove. Refer to Figure 7-26.
- 3 Install the stop sleeve/stop collar (120), as applicable, over the pitch change rod (140) and split keeper (130). Refer to Figure 7-27.
  - a Use the correct stop sleeve/stop collar for the high pitch stop angle required. Refer to Table 7-3 or Table 7-4 for stop sleeve/collar dimensions and part numbers.

NOTE: A change in height of 0.031 inch (0.78 mm) yields a change in blade angle of approximately 1 degree.
- 4 Perform a preliminary check of blade high pitch stop angle.
  - a Move the blades into a low pitch position and then move the blades into high pitch by pushing down on the stop sleeve/stop collar (120), as applicable.
- 5 Install the O-ring (100) on the stop sleeve/stop collar (120), as applicable. Refer to Figure 7-27.
- 6 Apply lubricant CM12 to the spring spacer (125), or spring seat (126) as applicable, and put it over the pitch change rod and seat it on the stop sleeve, or stop collar as applicable.

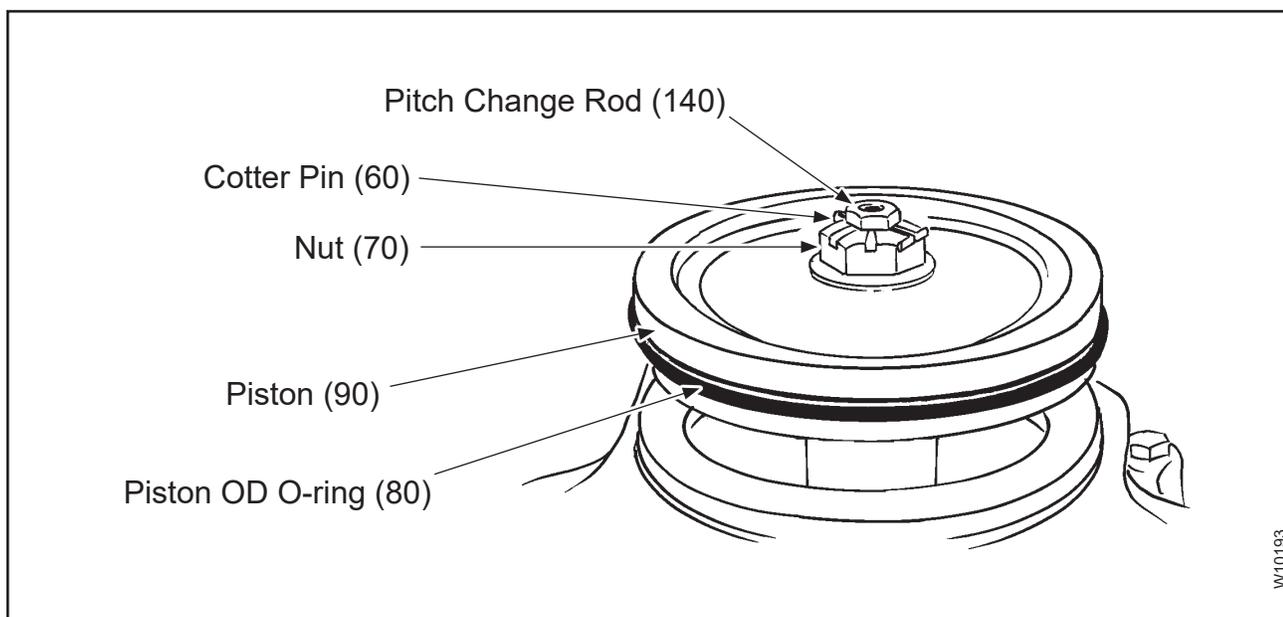
- 7 Slide the piston (90) onto the pitch change rod (140) with the piston ID O-ring groove facing the stop sleeve/stop collar (120), as applicable. Refer to Figure 7-31.

**CAUTION:** THE PITCH CHANGE ROD (140) MUST HAVE TWO THROUGH HOLES.

- 8 Examine the pitch change rod (140) for two cotter pin through holes.
- 9 Install the nut (70) on the pitch change rod (140).
- 10 Torque the nut (70) to the minimum torque in accordance with Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual.

**CAUTION:** FOR NUT (70), DO NOT EXCEED THE MAXIMUM AMOUNT OF TORQUE PROVIDED IN TABLE 8-1, "TORQUE VALUES" IN THE FITS AND CLEARANCES CHAPTER OF THIS MANUAL.

- a If the hole in the pitch change rod (140) does not align with the slot in the nut (70):
- (1) Set the torque wrench to the maximum torque provided in Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual.
  - (2) Slowly torque the nut (70) until a slot in the nut aligns with the nearest hole in the pitch change rod (140).



**Installing the Piston on the Pitch Change Rod**  
**Figure 7-31**

**CAUTION:** DO NOT LET THE COTTER PIN TABS BEND OVER THE END OF PITCH CHANGE ROD. COTTER PIN TABS THAT ARE BENT OVER THE END OF THE PITCH CHANGE ROD WILL INTERFERE WITH THE LOW PITCH STOP.

11 Safety with the cotter pin (60) as shown in Figure 7-30.

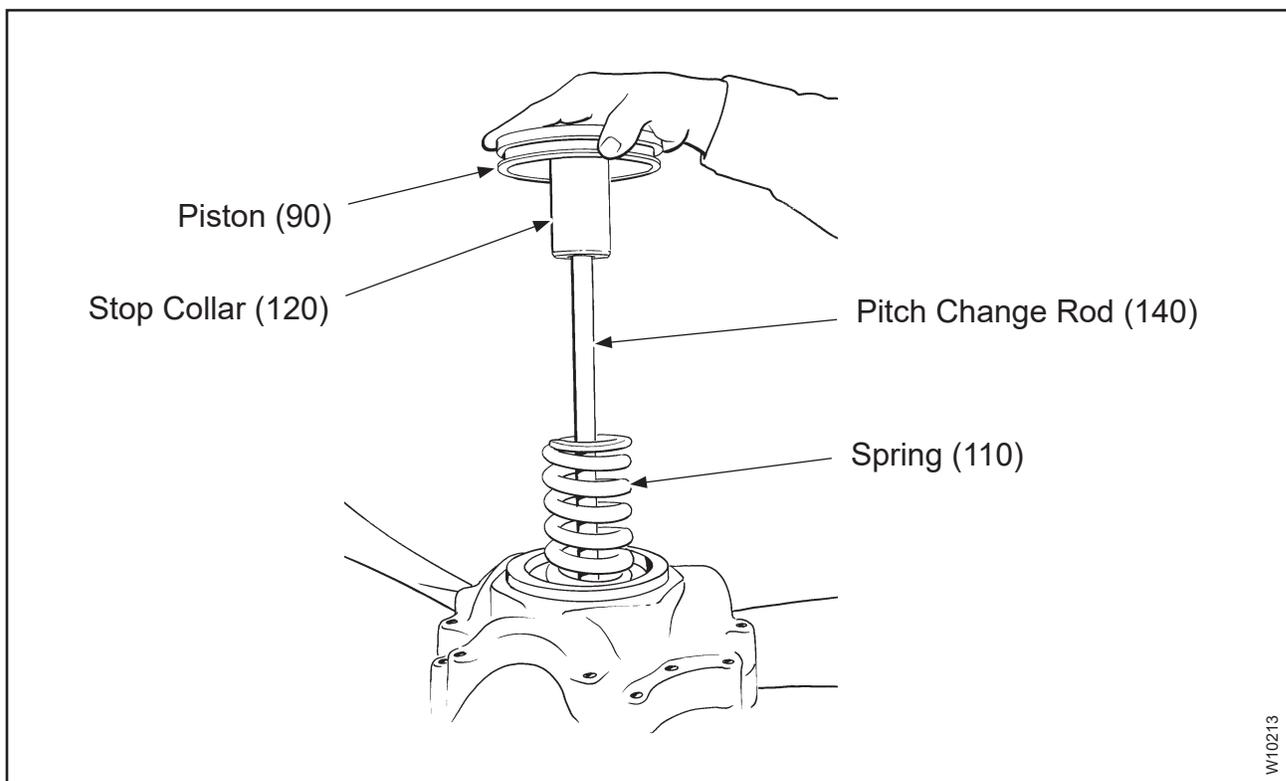
**CAUTION:** DO NOT REMOVE THE ASSEMBLED PITCH CHANGE ROD/PISTON BY ATTACHING A WRENCH TO THE COTTER-PINNED NUT (70); USE THE END OF THE PITCH CHANGE ROD.

12 Unthread the assembled pitch change rod/piston from the fork and remove from the hub.

13 Apply lubricant CM12 to each end of the spring (110).

14 Stand the spring (110) on the spring seat (105) over the pitch change rod bore hole in the hub.

15 Move the blades to low pitch position.



**Installing the 101322 or the 101330 Spring  
Figure 7-32**

**CAUTION:** DO NOT INSTALL THE ASSEMBLED PITCH CHANGE ROD/PISTON BY ATTACHING A WRENCH TO THE COTTER-PINNED NUT (70); USE THE END OF THE PITCH CHANGE ROD.

**16** Insert the assembled pitch change rod/piston through the spring (110), and the spring seat (105) into the cylinder-side hub half, and into the fork (190). Refer to Figure 7-32.

**NOTE:** The spring (110) is compressed when the pitch change rod/piston is turned into the fork (190).

**17** Torque the pitch change rod (140) in accordance with Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual.

(d) Install the piston OD O-ring (80) in the piston (90) O-ring groove.

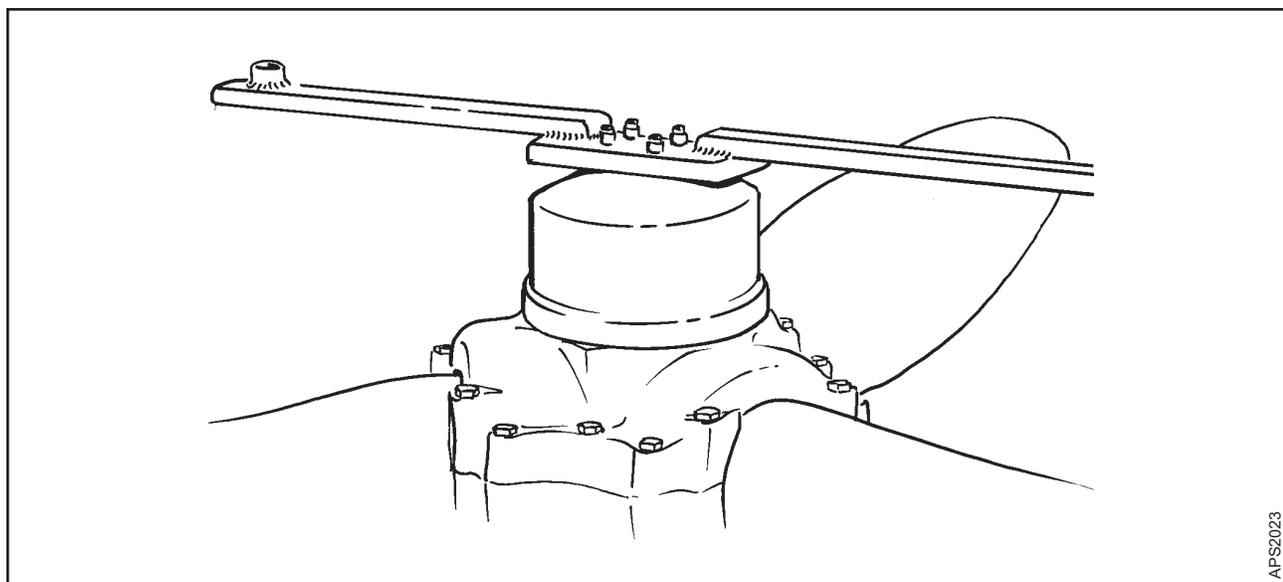
**1** Pistons were originally manufactured with a felt seal groove. Current production pistons no longer have a felt seal groove; however, the original pistons were not made obsolete by this improvement.

**2** For a piston that has a felt seal groove, make sure to install the O-ring in the correct groove.

**a** For a compact non-feathering propeller (-1), put the O-ring in the groove closest to the hub.

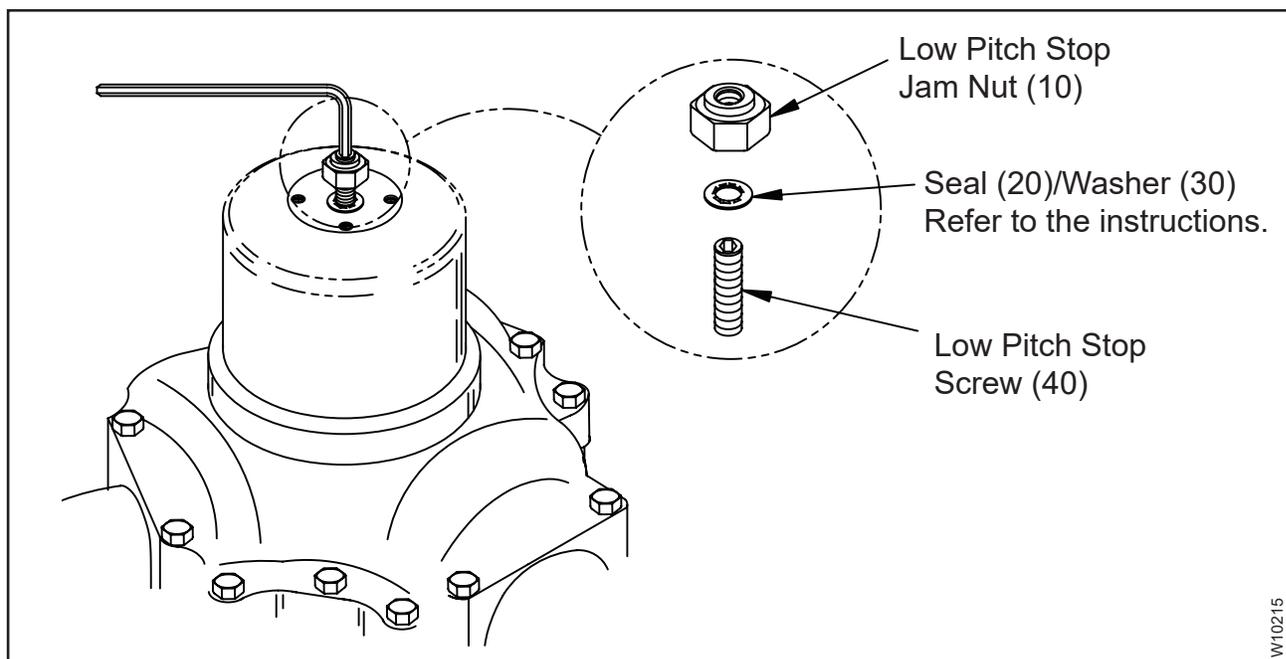
**b** For a compact aerobatic propeller (-4), put the O-ring in the groove farthest away from the hub.

(e) Install the cylinder O-ring (170) in the groove at the base of the cylinder attachment threads formed in the cylinder-side hub half.



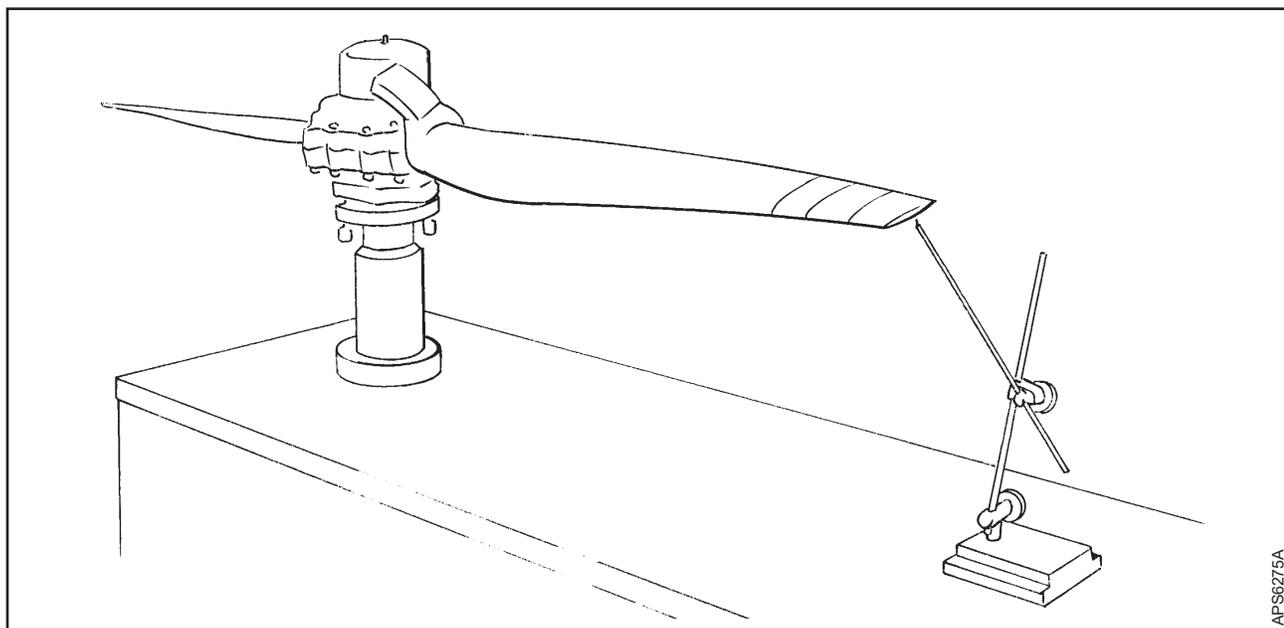
Installing the Cylinder with Cylinder Torque Wrench Adapter TE153  
Figure 7-33

- (f) For an Aerobatic (-4) Propeller only: apply a bead of sealant CM92 on the hub O-ring at the point where the cylinder and hub will meet at installation.
- (g) Apply lubricant CM12 to the cylinder (50) attachment threads.
- (h) Install the cylinder (50) onto the hub. Refer to Figure 7-33.
- (i) Attach the cylinder torque wrench adapter TE153 to the cylinder (50). Refer to Figure 7-33.
- (j) Torque the cylinder (50) in accordance with Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual.
- (k) Apply threadlocker CM21 to the threads of the low pitch stop screw (40).
- (l) Install the low pitch stop screw (40) in the cylinder. Refer to Figure 7-34.
- (m) Check the low pitch stop angle.
  - 1 Rotate the blades to the low pitch position and set the propeller pitch in accordance with the aircraft Type Certificate Data Sheet.
  - 2 Adjust the low pitch angle with the low pitch stop screw (40).
    - a To increase pitch, turn the low pitch stop screw (40) clockwise.
    - b To decrease pitch, turn the low pitch stop screw (40) counterclockwise.
  - 3 If changing the low pitch stop does not change blade angle, make sure that the slots in the preload plate are not interfering with the pitch angle.



Installing the Low Pitch Stop  
Figure 7-34

- (n) For Compact Non-Feathering (-1) Propellers only - install the seal (20) on the low pitch stop screw (40).
- (o) For Aerobatic (-4) Propellers only - install the washer (30) on the low pitch stop screw (40).
- (p) Install low pitch stop jam nut (10) and torque in accordance with Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual.
  - 1 Holding the low pitch stop screw (40) in place with an Allen wrench, apply torque to the low pitch stop jam nut (10).
- (q) For Non-Feathering (-1) Propellers only - Check for air leakage from around the seal (20) on the low pitch stop screw (40).
  - 1 If there is no air leakage, continue to step (3)(r) in this procedure.
  - 2 If there is air leakage, replace the seal (20) on the low pitch stop screw (40).
    - a Repeat the check for air leakage and replace the seal (20) on the low pitch stop screw (40) if necessary, until the check for air leakage is satisfactory.
    - b When the check for air leakage is satisfactory, continue to the next step.
- (r) Perform final low pitch angle check.
- (s) Check the blade track. Refer to Figure 7-35.
  - 1 Refer to the Fits and Clearances chapter in this manual for blade track limits.



Checking Blade Track  
Figure 7-35

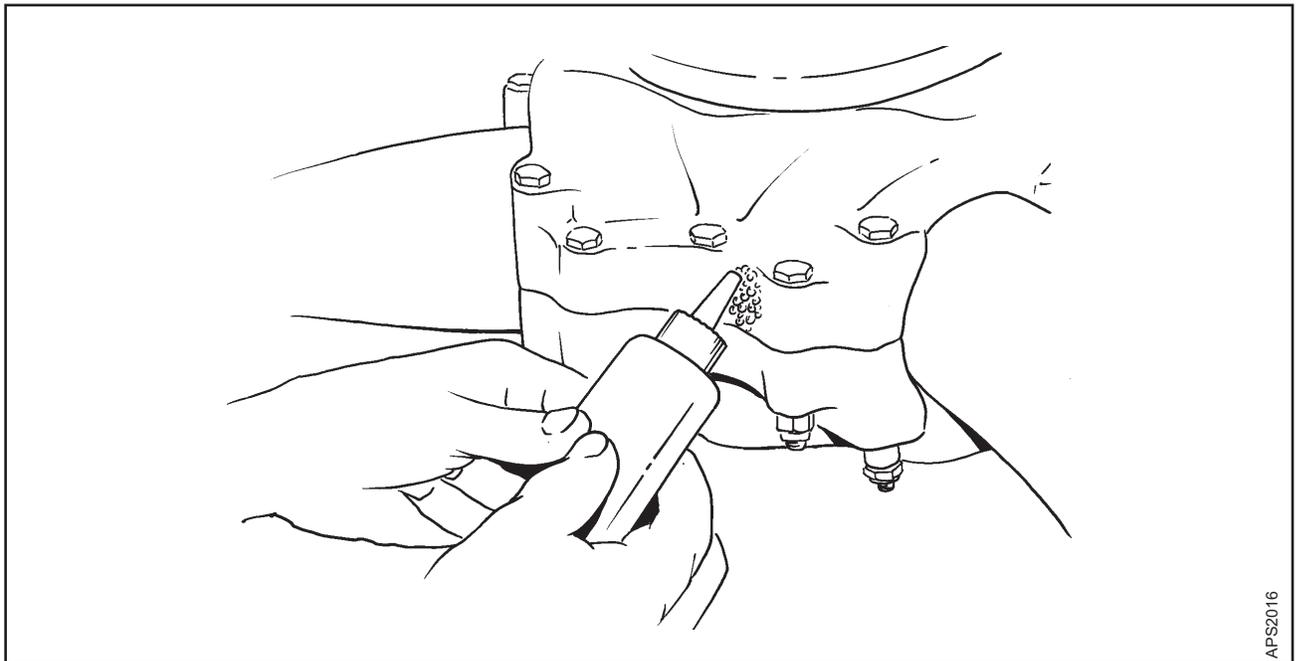
- (4) **For propellers HC-C3YR-(4A,4G) and HC-C2YR-(4E,4G) only** - Set a gap of  $0.049 \pm 0.044$  inch ( $1.24 \pm 1.11$  mm) between the head of the spark gap screw and the blade clamp. Refer to Figure 7-8.

4. Leak Test (Rev. 3)

A. Leak Test Procedure

**NOTE:** Refer to the Illustrated Parts List chapter of this manual for the location of the lubrication fittings and lubrication plugs (engine-side/cylinder-side) for the applicable propeller model.

- (1) Install the lubrication fittings (330) in the applicable side of the hub.
  - (a) Tighten each lubrication fitting (330) until finger-tight, then tighten one additional 360 degree turn.
- (2) Install the lubrication plugs (331) in the applicable side of the hub.
  - (a) Leave one lubrication plug hole open for leak testing.
  - (b) Tighten each lubrication plug (411) until finger-tight, then tighten one additional 360 degree turn.
- (3) While the hub installed on the propeller test stand, perform a leak test in accordance with the following steps:
  - (a) Move the propeller to high or low pitch as applicable.
    - 1 Non-feathering propellers (-1 propeller models): High pitch
    - 2 Feathering propellers (-4 propeller models): Low pitch



**Hub Leak Check**  
**Figure 7-36**

(b) Apply leak detector CM122 to the open lubrication plug hole.  
Refer to Figure 7-36.

1 If there is any indication of air exiting the hub, refer to the Testing and Fault Isolation chapter of this manual.

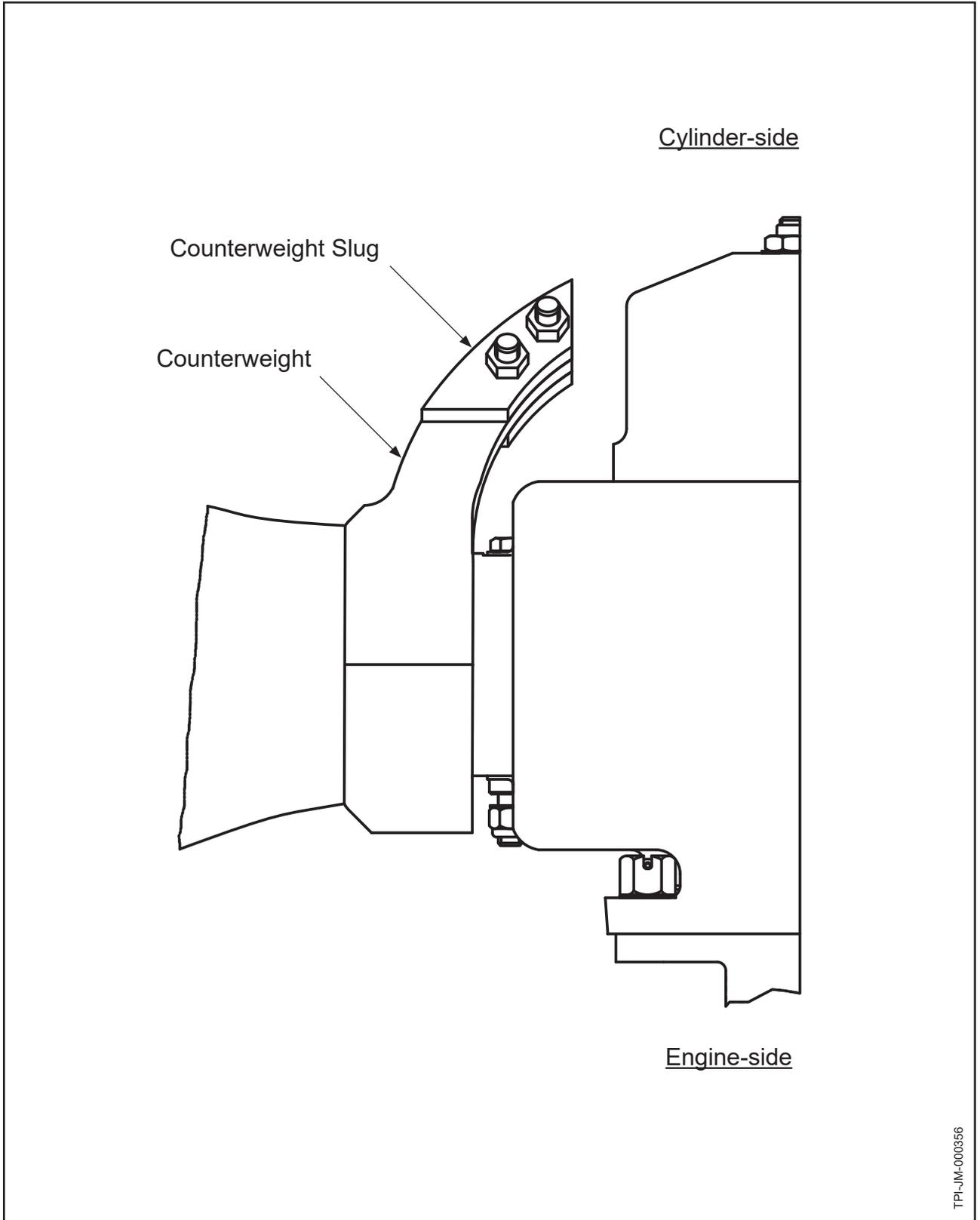
(4) After the leak test is complete, install the remaining lubrication plug (331) in the applicable side of the hub.

(a) Tighten the lubrication plug (331) until finger-tight, then tighten one additional 360 degree turn.

## 5. Counterweight Installation

### A. Aerobatic Installations Only

(1) For installation of counterweights, refer to Hartzell Propeller Inc. Aluminum Blade Overhaul Manual 133C (61-13-33) or Composite Blade Overhaul Manual 135F (61-13-35).



**Position of Counterweight Slugs**  
**Figure 7-37**

## 6. Counterweight Slug Installation

### A. General

- (1) For the applicable counterweight slugs and mounting hardware to be installed, refer to Hartzell Propeller Inc. Application Guide Manual 159 (61-02-59).
  - (a) Hartzell Propeller Inc. recommends the use of anti-corrosion compound CM345 on counterweight slug attachment bolts and counterweight slug nuts (if applicable).

### B. Propeller Models with C-7249 Counterweight Slugs

- (1) Install the counterweight slugs (9050) on each side of the counterweight arm. Refer to Figure 7-37.
  - (a) If desired, apply anti-corrosion compound CM345 to the entire surface of the counterweight slug attachment bolt (9060).

**CAUTION:** THE HEAD OF THE COUNTERWEIGHT SLUG ATTACHMENT BOLT (9060) MUST FACE TOWARD THE ENGINE-SIDE OF THE HUB. DAMAGE TO THE BULKHEAD MAY OCCUR IF THE COUNTERWEIGHT SLUG ATTACHMENT BOLT IS INSTALLED FROM THE CYLINDER-SIDE OF THE HUB.

- (2) From the engine-side of the hub, insert the counterweight slug mounting bolts (9060) through the counterweight slugs.
- (3) Install a nut (9070) on each counterweight slug mounting bolt.
  - (a) If desired, apply anti-corrosion compound CM345 to the entire surface of the nut.
- (4) Torque each nut in accordance with Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual.

### B. Propeller Models with A-890-( ) Counterweight Slugs

- (2) For counterweight slug installation, refer to the section, "Counterweight Installation" in Hartzell Propeller Inc. Aluminum Blade Overhaul Manual 133C (61-13-33)
  - (a) If desired, apply anti-corrosion compound CM345 on counterweight slug attachment bolts (9060) and counterweight slug nuts (if applicable).

## 7. Propeller Lubrication

### A. General Information

- (1) Lubricate the propeller in accordance with the Propeller Lubrication chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

8. Static Balance

A. General Information

- (1) Perform static balance of the propeller in accordance with the Static and Dynamic Balance chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

9. Labels

A. General Information

- (1) For installation of labels, refer to the Parts Identification and Marking chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02), and Hartzell Propeller Inc. Aluminum Blade Overhaul Manual 133C (61-13-33) or Composite Blade Overhaul Manual 135F (61-13-35).

10. Propeller Disassembled for Shipping

A. General

- (1) A propeller disassembled for shipping has had one or more blades removed from the propeller after assembly. The propeller was fully assembled, tested, inspected, lubricated, and statically balanced before blade removal and shipping.
- (2) A propeller disassembled for shipping must be assembled by trained personnel in accordance with Hartzell Propeller Inc. manuals.
- (3) For additional general assembly information, refer to the General section at the beginning of this chapter.

B. Preparing the Propeller for Shipping

NOTE 1: New hardware was installed during propeller assembly for shipping. When disassembling a propeller for shipping, it is not necessary to discard hardware that would require replacement at overhaul.

NOTE 2: New O-rings have been installed during propeller assembly for shipping. During propeller disassembly for shipping, it is not necessary to replace O-rings unless damaged during component installation or removal.

- (1) Before removal, make a mark to indicate alignment of each blade assembly, fork unit, spinner bulkhead, and balance weight location with the hub unit. Refer to the Marking before Disassembly section in the Disassembly chapter of this manual.
  - (a) Before removal, make a mark to indicate position and orientation of each pitch change block in the pitch change fork unit.
- (2) Remove all balance weight screws (9000) and balance weights (9020).
- (3) Disconnect the electric de-ice lead wires from the hub and bulkhead, if applicable.

- (4) Disassemble the propeller to the point of blade removal. Refer to the Propeller Disassembly section in the Disassembly chapter of this manual.
- (5) Propeller Reassembly with Blades Removed for Shipping
  - (a) When reassembling the propeller with the blades removed, do not accomplish procedures related to blade installation or setting of blade angles.  
NOTE: The pitch change blocks may be taped in place in the pitch change fork.
  - (b) Reassemble the propeller without the blade assemblies. Refer to the Assembly section in this chapter.
- (6) Packing the Propeller and Blades for Shipping
  - (a) Refer to the Packaging and Storage chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02), for packing the propeller and blades for shipping.
  - (b) Pack the propeller without blades for shipping.
  - (c) Pack the blades for shipping with the preload plate, blade seal, and grease on each blade shank.

11. Reassembly of a Propeller Disassembled for Shipping

A. Unpacking the Propeller and Blades

- (1) Carefully unpack the propeller and blades from shipping.
- (2) Visually inspect each propeller component for shipping damage.
  - (a) If damage is found, refer to the Check chapter of this manual for the inspection, serviceable limits, and corrective action criteria for the specific component.

B. Preparing Propeller for Reassembly

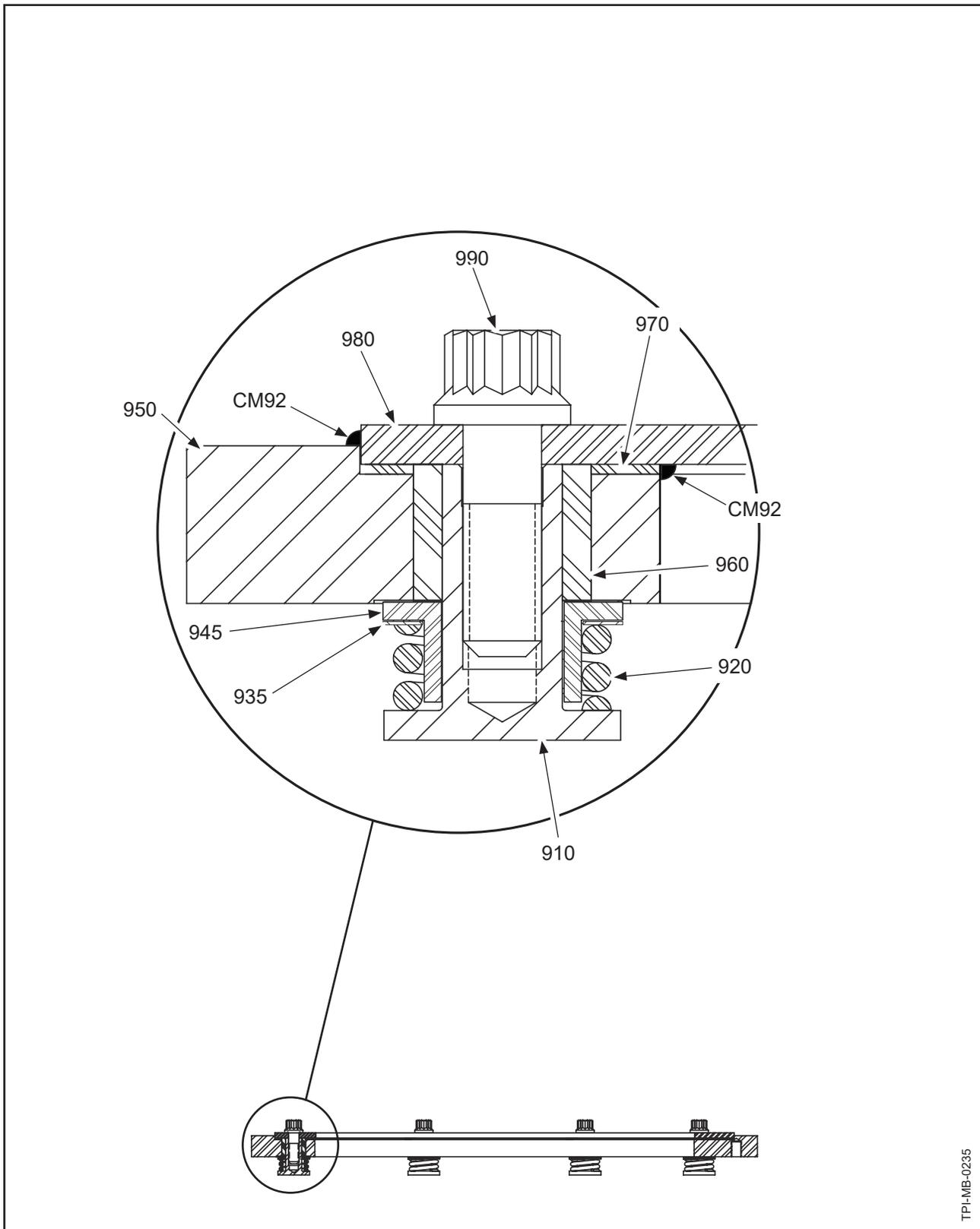
NOTE 1: New hardware was installed during propeller assembly for shipping. When disassembling a propeller from shipping, it is not necessary to discard hardware that would require replacement at overhaul.

NOTE 2: New O-rings have been installed during propeller assembly for shipping. During propeller disassembly from shipping, it is not necessary to replace O-rings, unless they were damaged during component installation or removal.

- (1) Make sure that each blade assembly, the fork unit, and each balance weight has been marked for alignment with the hub unit.
- (2) Remove all balance weight screws (9000) and balance weights (9020).

C. Propeller Reassembly

- (1) Reassemble the propeller in accordance with the Assembly instructions in this chapter.
- (2) Reconnect the electric de-ice lead wires to the bulkhead, if applicable.



TPLMB-0235

**C-1576 Damper Assembly**  
**Figure 7-38**

12. C-1576 Damper Assembly

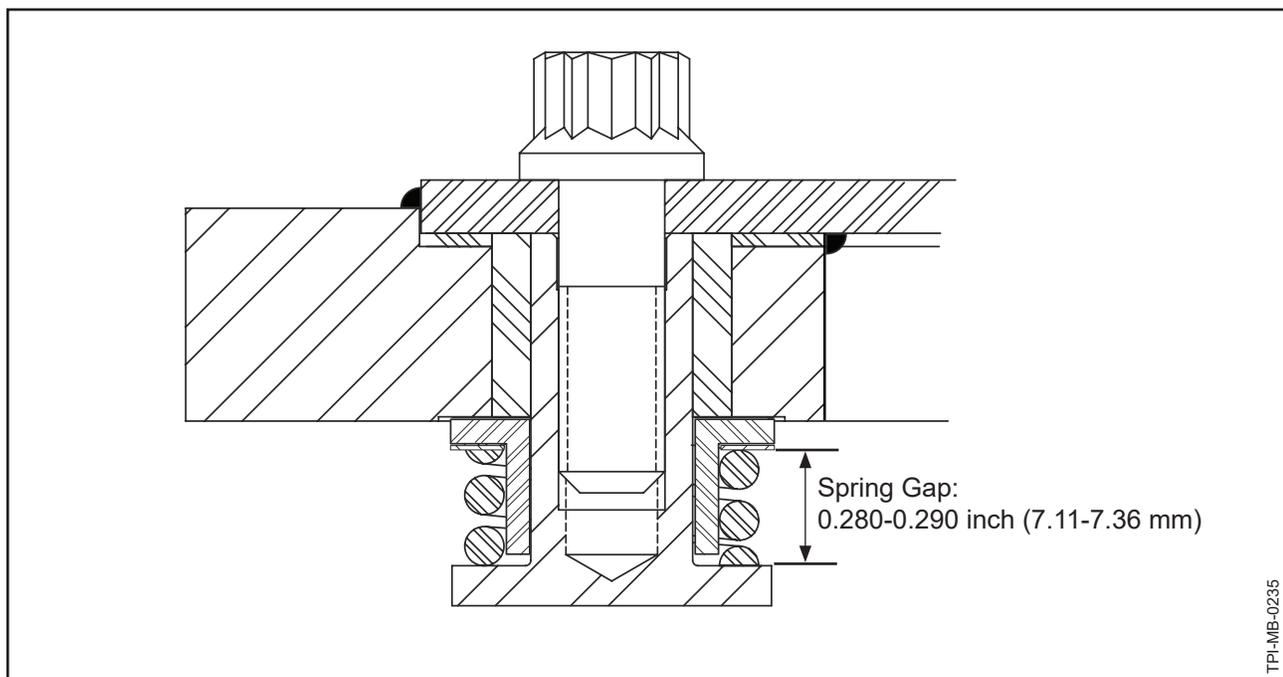
A. General

- (1) The damper assembly must be overhauled at the same time as the propeller.
  - (a) If the damper is not overhauled at the same time as the propeller, the propeller must not be returned to service.
- (2) For installation of the damper on the aircraft, refer to Hartzell Propeller Inc. Owner's Manual 115N (61-00-15).

B. Damper Assembly Procedure

- (1) Put the eight hex head spacer tubes (910) on a flat surface.
- (2) Put one compression spring (920), one spring adjust washer (935), and one flanged bushing (945) on each hex head spacer tube (910) in accordance with Figure 7-38.
- (3) Put the damper weight (950) in position over the hex head spacer tubes (910), flanged bushings (945), spring adjust washers (935), and compression springs (920).
  - (a) Put the damper weight/friction disk mating surface away from the hex head spacer tubes (910).
- (4) Install eight silicone grommets (960) into the holes in the damper weight (950) around the hex head spacer tubes (910).
- (5) Put the friction disk (970) onto the mating surface of the damper weight (950).
  - (a) Align the holes in the friction disk (970) with the silicone grommets (960).
- (6) Put the damper plate (980) onto the friction disc (970) with each screw hole centered on each of the hex head spacer tubes (910).
- (7) Install the eight screws (990) into the holes in the damper plate (980).

- (8) Measure the spring gap of each compression spring (920) in accordance with Figure 7-39.
- (a) The spring gap must be 0.280-0.290 inch (7.12-7.36 mm).
- 1 If the spring gap on all eight compression springs (920) is within the permitted limit:
    - a Go to step B.(9) in this procedure.
  - 2 If the spring gap is not within the permitted limit:
    - a Perform steps B.(8)(a)2 a (1) through B.(8)(a)2 a (8) at each location that is not within the permitted limit.
      - (1) Remove the screw (990) from the damper plate (980). Refer to Figure 7-39.
      - (2) Remove the hex head spacer tube (910), compression spring (920), flanged bushing (945), and spring adjust washer (935).
      - (3) Remove the flanged bushing (945) from the hex head spacer tube (910).
        - (a) The compression spring (920) and the spring adjust washer(s) (935) can stay on the hex head spacer tube (910).



**Measuring the Spring Gap**  
**Figure 7-39**

- (4) Add/remove spring adjust washer(s) (935) as required to get the required height of the compressed compression spring (920).
  - (a) The maximum permitted number of spring adjust washer(s) (935) is four.
  - (b) It is permitted to assemble the damper assembly with no spring adjust washer(s) (935) installed if necessary to get the required spring gap.
- (5) Put the flanged bushing (945) back onto the hex head spacer tube (910), spring adjust washer(s) (935) (if used), and compression spring (920).
- (6) Holding the hex head spacer tube (910), flanged bushing (945), spring adjust washer(s) (935) (if used), and compression spring (920) together, install the tube-end of the hex head spacer tube into the silicone grommet (960) in the damper weight (950) until it touches the damper plate (980).
- (7) Install the screw (990) into the hole in the damper plate (980) and tighten.
- (8) Go to step B.(8).
- (9) Remove one screw (990) from the damper plate (980) and apply sealant CM21 to the threads of the screw.
  - (a) Install the screw (990) back into the hole in the damper plate (980).
    - 1 Torque the screw (990) in accordance with Table 8-1, "Torque Values" in the Fits and Clearances chapter of this manual.
  - (b) Repeat steps B.(9) through B.(9)(a)1 in this procedure for each remaining screw (990).
- (10) Apply a bead of sealant CM92 between the damper weight (950) and the damper plate (980) on both inboard and outboard sides of the damper plate (980) in accordance with Figure 7-39.

(Blank Page)

FITS AND CLEARANCES - CONTENTS

1. Torque Values ..... 8-4  
2. Blade Tolerances..... 8-6

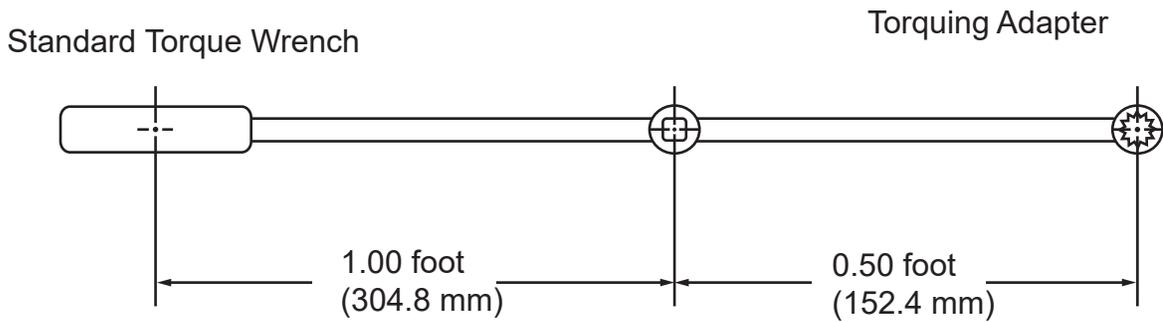
LIST OF FIGURES

Calculating Torque When Using a Torque Wrench Adaptor ....Figure 8-1 ..... 8-3  
Blade Play .....Figure 8-2 ..... 8-6

LIST OF TABLES

Torque Values..... Table 8-1 ..... 8-4

(Blank Page)



$$\frac{(\text{actual torque required}) \times (\text{torque wrench length})}{(\text{torque wrench length}) + (\text{length of adapter})} = \text{torque wrench reading to achieve required actual torque}$$

EXAMPLE:

$$\frac{100 \text{ Ft-Lb (136 N}\cdot\text{m)} \times 1 \text{ ft (304.8 mm)}}{1 \text{ ft (304.8 mm)} + 0.50 \text{ ft (152.4 mm)}} = 66.7 \text{ Ft-Lb (90.4 N}\cdot\text{m)}$$

reading on torque wrench with 6-inch (152.4 mm) adapter for actual torque of 100 Ft-Lb (136 N•m)

The correction shown is for an adapter that is aligned with the centerline of the torque wrench. If the adapter is angled 90 degrees relative to the torque wrench centerline, the torque wrench reading and actual torque applied will be equal.

APS212

Calculating Torque When Using a Torque Wrench Adaptor  
Figure 8-1

1. Torque Values (Rev. 2)

A. Important Information

- (1) The structural integrity of joints in the propeller that are held together with threaded fasteners is dependent upon proper torque application.
  - (a) Vibration can cause an incorrectly tightened fastener to fail in a matter of minutes.
  - (b) Correct tension in a fastener depends on a variety of known load factors and can influence fastener service life.
  - (c) Correct tension is achieved by application of measured torque.
- (2) Use accurate wrenches and professional procedures to make sure of correct tensioning.
- (3) For the torque values to use when assembling a Hartzell Propeller Inc. propeller, refer to Table 8-1, "Torque Values" in this chapter.
- (4) When an adapter is used with a torque wrench, use the equation in Figure 8-1 to determine the correct torque value.

**CAUTION 1:** TORQUE VALUES ARE BASED ON NON-LUBRICATED THREADS, UNLESS SPECIFIED IN TABLE 8-1.

**CAUTION 2:** FOR TORQUE READING WHEN USING A TORQUE WRENCH ADAPTER, REFER TO FIGURE 8-1.

**NOTE:** Torque tolerance is  $\pm 10\%$  unless otherwise noted.

| Item No. | Part Number | Description                                     | Torque Ft-Lb | Torque In-Lb | Torque N•m |
|----------|-------------|---|--------------|--------------|------------|
| 10       | A-2043-1    | Nut, 3/8-24, hex, self-locking (-4 application) | 30           | 360          | 41         |
|          | A-2043-1    | Nut, 3/8-24, hex, self-locking (-1 application) | 15           | 180          | 21         |
|          | B-3359      | Nut, 3/8-24, hex, self-locking (-4 application) | 30           | 360          | 41         |
|          | B-3359      | Nut, 3/8-24, hex, self-locking (-1 application) | 15           | 180          | 21         |
|          | B-3599      | Nut, 3/8-24, hex, self-locking (-4 application) | 30           | 360          | 41         |
|          | B-3599      | Nut, 3/8-24, hex, self-locking (-1 application) | 15           | 180          | 21         |
|          | B-3807      | Nut, 5/8-18, hex, self-locking (-4 application) | 30           | 360          | 41         |

**Torque Values  
Table 8-1, Page 1 of 2**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| <b>Item No.</b> | <b>Part Number</b> | <b>Description</b>  | <b>Torque Ft-Lb</b> | <b>Torque In-Lb</b> | <b>Torque N•m</b> |
|-----------------|--------------------|---|---------------------|---------------------|-------------------|
| 50              | B-2428-( )         | Cylinder  | 120 - 150 wet       | 1440 - 1800 wet     | 163 - 203 wet     |
|                 | B-2281-( )         | Cylinder  | 120 - 150 wet       | 1440 - 1800 wet     | 163 - 203 wet     |
|                 | C-6510             | Cylinder  | 120 - 150 wet       | 1440 - 1800 wet     | 163- 203 wet      |
|                 | 101746             | Cylinder  | 120 - 150 wet       | 1440 - 1800 wet     | 163- 203 wet      |
| 70              | A-2211             | Nut/Pitch change rod  | 40 minimum          | 480 minimum         | 55 minimum        |
|                 |                    |   | 55 maximum          | 660 maximum         | 74 maximum        |
| 140             | A-2418-( )         | Rod, pitch change   | 40 wet              | 480 wet             | 55 wet            |
|                 | C-6512             | Rod, pitch change   | 40 wet              | 480 wet             | 55 wet            |
|                 | D-6869             | Rod, pitch change   | 40 wet              | 480 wet             | 55 wet            |
| 280             | A-2043-1           | Hub clamping nut  | 20 - 22             | 240 - 264           | 28 - 29           |
| 281             | B-3599             | Hub clamping nut  | 20 - 22             | 240 - 264           | 28 - 29           |
| 285             | A-2043-1           | Hub clamping nut  | 24 - 26             | 288 - 312           | 33 - 35           |
| 335             | B-3808-3           | Self-locking Hex nut  | ---                 | 20                  | 2.3               |
| 336             | B-3839-3           | Hex nut   | ---                 | 20                  | 2.3               |
| 420             | B-3368             | Preload lock nut  | ---                 | 120                 | 13.6              |
| 570             | B-3830             | Pitch Chg. Knob Bracket Screw   | 20                  | 240                 | 28                |
|                 | B-3385-5H          | Pitch Chg. Knob Bracket Screw   | 28                  | 336                 | 38                |
| 990             | A-2038-6           | Screw, 1/4-28, Cap (damper)   | ---                 | 96 - 120            | 10.9 - 13.5       |
| 9070            | A-2043-1           | Self-locking Nut<br>3/8-24 Hex Head Bolt<br>(C-7249 Counterweight Slug) | 22                  | ---                 | 29                |

**Torque Values  
Table 8-1, page 2 of 2**

2. Blade Tolerances (Rev. 5)

A. Blade Play

(1) Limits for blade play are specified below. Refer to Figure 8-2.

(a) End Play for Composite Blades:

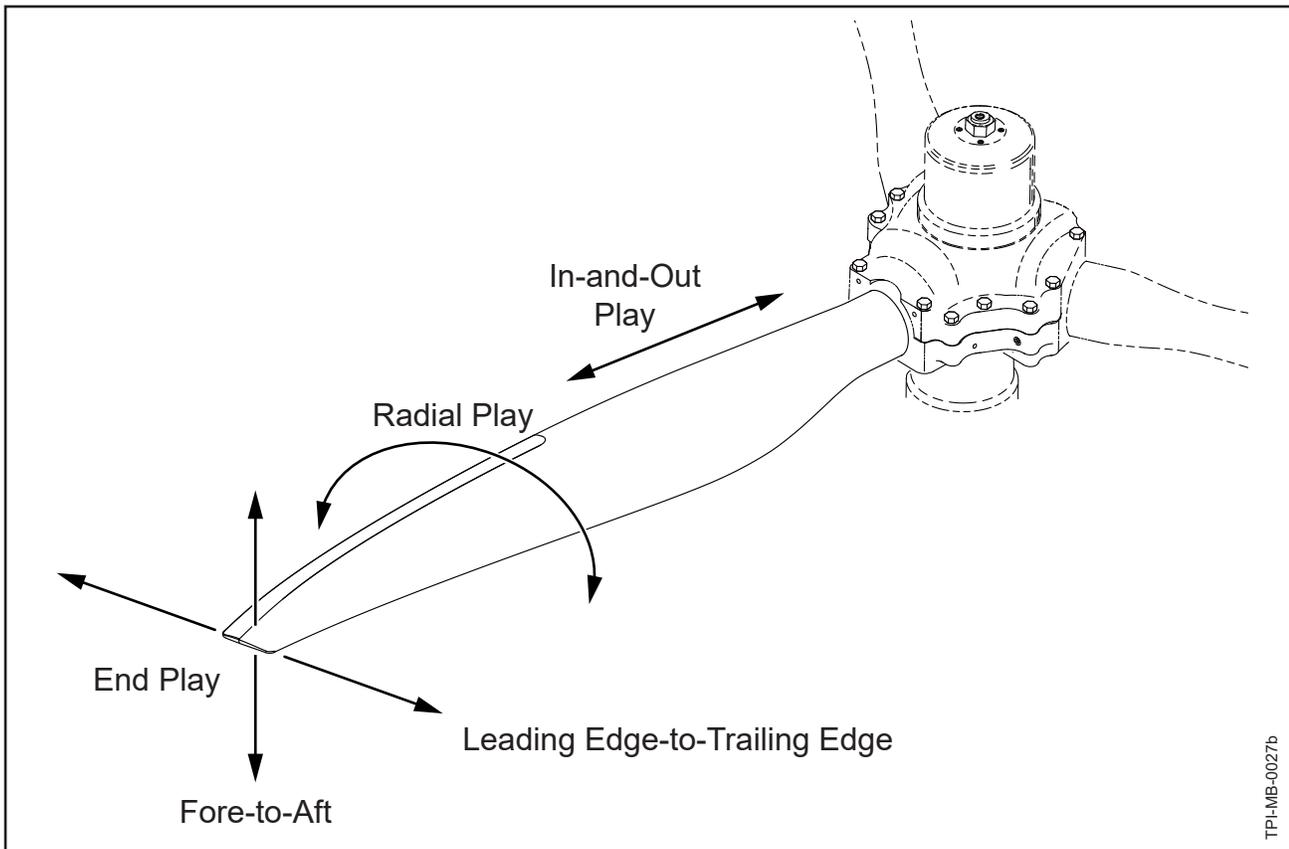
- |   |                               |   |
|---|-------------------------------|---|
| 1 | Leading Edge-to-Trailing Edge | $\pm 0.125$ inch (3.17 mm)<br>Total: 0.250 inch (6.35 mm) |
| 2 | Fore-to-Aft (face to camber)  | $\pm 0.125$ inch (3.17 mm)<br>Total: 0.250 inch (6.35 mm) |

(b) End Play for Aluminum Blades:

- |   |                               |  |
|---|-------------------------------|--|
| 1 | Leading Edge-to-Trailing Edge | $\pm 0.0625$ inch (1.58 mm)<br>Total: 0.125 inch (3.17 mm) |
| 2 | Fore-to-Aft (face to camber)  | $\pm 0.0625$ inch (1.58 mm)<br>Total: 0.125 inch (3.17 mm) |

(c) In-and-Out Play none permitted

(d) Radial Play (pitch change)  $\pm 0.5$  degree (1 degree total)  
measured at reference station



TPI-MB-0027b

**Blade Play  
Figure 8-2**

- (2) Blades should be tight in the propeller; however, play that is within the allowable limits is acceptable if the blade returns to its original position when released.
  - (a) If blade play is greater than the allowable limits, or if the blade(s) do not return to their original position when released, there may be internal wear or damage that should be referred to a certified propeller repair station with the appropriate rating.

B. Blade Track

- (1) Composite Blades ±0.125 inch (3.17 mm)  
Total: 0.250 inch (6.35 mm)
- (2) Aluminum Blades ±0.0625 inch (1.58 mm)  
Total: 0.125 inch (3.17 mm)

C. Blade Pitch Tolerance

- (1) Blade pitch setting tolerance between blades at low pitch 0.2 degree

(Blank Page)

SPECIAL TOOLS, FIXTURES, AND EQUIPMENT - CONTENTS

1. Tooling and Facility Requirements.....9-3  
A. Standard Tooling .....9-3  
B. Special Tooling .....9-3  
C. Facilities .....9-3

(Blank Page)

1. Tooling and Facility Requirements (Rev. 1)

A. Standard Tooling

- (1) Propeller repair stations certified by the FAA or international equivalent to overhaul Hartzell Propeller Inc. propellers are expected to possess precision fixtures, tools, and blade tables for blade inspection and repair.
  - (a) Except as specifically required in this manual, locally fabricated tooling is acceptable for most repair and inspection operations.

B. Special Tooling

- (1) Special tooling may be required for procedures in this manual. For further tooling information, refer to Hartzell Propeller Inc. Illustrated Tool and Equipment Manual 165A (61-00-65).
  - (a) Tooling reference numbers appear with the prefix “TE” directly following the tool name to which they apply. For example, a template that is reference number 133 will appear as: template TE133.
  - (b) It is the responsibility of the repair station or the technician performing the repair or servicing to use these special tools as required.

C. Facilities

- (1) Grinding, plating, and painting of propeller components can create health and safety hazards beyond that of other areas of a typical workshop.
  - (a) Areas where grinding, plating, and painting are performed should comply with governmental regulations for occupational safety and health, industry standards, and environmental regulations.
- (2) Workshop areas need to be segregated to prevent contamination.
  - (a) Separate areas should be designated for cleaning, inspection, painting, plating, and assembly.
  - (b) Propeller balancing must be performed in a draft free area.

(Blank Page)

ILLUSTRATED PARTS LIST - CONTENTS

|  |       |
|--|-------|
| 1. Introduction.....   | 10-3  |
| A. General.....  | 10-3  |
| B. Counterweights/Slugs/Mounting Hardware.....                         | 10-3  |
| C. Spinner Assemblies/Mounting Hardware .....                          | 10-3  |
| D. Ice Protection Systems.....   | 10-4  |
| 2. Description of Columns.....   | 10-4  |
| A. Fig./Item Number.....   | 10-4  |
| B. Part Number.....  | 10-4  |
| C. Description .....   | 10-5  |
| D. Effectivity Code .....  | 10-5  |
| E. Units Per Assembly .....  | 10-5  |
| F. Overhaul.....   | 10-6  |
| G. Propeller Critical Part (PCP).....                                  | 10-6  |
| 3. Description of Terms.....   | 10-6  |
| A. Alternate .....   | 10-6  |
| B. Supersedure.....  | 10-6  |
| C. Replacement .....   | 10-6  |
| D. Obsolete .....  | 10-6  |
| 4. Vendor Supplied Hardware.....                                       | 10-7  |
| 5. F and N-flange Studs.....   | 10-8  |
| 6. Two Bladed Propeller Improvements.....                              | 10-8  |
| 7. Three Bladed Propeller Improvements .....                           | 10-9  |
| 8. A-3204 and A-3204-2 Set Screws .....                                | 10-9  |
| A. Removal of Set Screws from Stock.....                               | 10-9  |
| B. Identifying Set Screws Removed from Stock .....                     | 10-9  |
| <u>Exploded Views and Parts Lists:</u>                                 |       |
| 2-Blade Propeller/Hub Units .....                                      | 10A-1 |
| 3-Blade Propeller/Hub Units .....                                      | 10B-1 |
| 4-Blade Propeller/Hub Units .....                                      | 10C-1 |
| Mounting Flange Parts (2-blade, 3-blade, and 4-blade propellers) ..... | 10D-1 |
| Blade Retention Parts (2-blade, 3-blade, and 4-blade propellers) ..... | 10E-1 |

(Blank Page)

1. Introduction (Rev. 1)

**WARNING:** ANY PART IDENTIFIED AS AN EXPERIMENTAL OR NON-AVIATION PART MUST NOT BE USED IN AN FAA OR INTERNATIONAL EQUIVALENT TYPE CERTIFICATED PROPELLER. A PART IDENTIFIED AS EXPERIMENTAL OR NON-AVIATION DOES NOT HAVE FAA OR INTERNATIONAL EQUIVALENT APPROVAL EVEN THOUGH IT MAY STILL SHOW AN AVIATION TC OR PC NUMBER STAMP. USE ONLY THE APPROVED ILLUSTRATED PARTS LIST PROVIDED IN THE APPLICABLE OVERHAUL MANUAL OR ADDITIONAL PARTS APPROVED BY AN FAA ACCEPTED DOCUMENT FOR ASSEMBLY OF A PROPELLER. THE OPERATOR ASSUMES ALL RISK ASSOCIATED WITH THE USE OF EXPERIMENTAL PARTS. USE OF EXPERIMENTAL PARTS ON AN AIRCRAFT MAY RESULT IN DEATH, SERIOUS BODILY INJURY, AND/OR SUBSTANTIAL PROPERTY DAMAGE.

A. General

**CAUTION:** INSTRUCTIONS AND PROCEDURES IN THIS CHAPTER MAY INVOLVE PROPELLER CRITICAL PARTS. REFER TO THE INTRODUCTION CHAPTER OF THIS MANUAL FOR INFORMATION ABOUT PROPELLER CRITICAL PARTS. REFER TO THE ILLUSTRATED PARTS LIST IN THIS MANUAL FOR IDENTIFICATION OF PROPELLER CRITICAL PARTS.

- (1) This chapter includes the parts lists and applicable illustrations for the propeller models included in this manual.

**CAUTION:** THE ILLUSTRATIONS IN THIS CHAPTER ARE PROVIDED FOR PART IDENTIFICATION AND LOCATION REFERENCE ONLY. THEY SHOULD NOT BE USED FOR ASSEMBLY.

- (a) The illustrations in this chapter use some general views of parts that may not exactly depict every propeller part configuration.

B. Counterweights/Slugs/Mounting Hardware

- (1) Counterweights, counterweight slugs, and the applicable mounting hardware are application specific. Refer to Hartzell Propeller Inc. Application Guide Manual 159 (61-02-59).

C. Spinner Assemblies/Mounting Hardware

- (1) Spinner assemblies and the applicable mounting hardware are application specific. Refer to Hartzell Propeller Inc. Application Guide Manual 159 (61-02-59).

D. Ice Protection Systems

- (1) Ice protection systems are application specific. Refer to Hartzell Propeller Inc. Application Guide Manual 159 (61-02-59).
  - (a) For components of ice protection systems supplied by Hartzell, refer to Hartzell Propeller Inc. Ice Protection System Manual 180 (30-61-80).
  - (b) For components of ice protection systems not supplied by Hartzell, refer to the applicable TC or STC holder's Instructions for Continued Airworthiness (ICA).

2. Description of Columns (Rev. 2)

A. Fig./Item Number

- (1) Figure Number refers to the illustration where items appear. Item Numbers refer to the specific part callout in the applicable illustration.
  - (a) Item Numbers that are listed but not shown in the illustration are identified by a dash to the left of the item number. (example: "-800")
  - (b) Alpha variants will be used to add additional items. There are two reasons for the use of alpha variants:
    - 1 A part may have an alternate, or may be superseded, replaced, or obsoleted by another part.
      - a For example, the self-locking nut (A-2043) that is item 20 was superseded by the self-locking nut (A-2043-1) that is item 20A.
    - 2 An Illustrated Parts List may contain multiple configurations. Effectivity codes are used to distinguish different part numbers within the same list.
      - a For example, one propeller configuration may use a mounting bolt (B-3339-1) that is item 30, yet another propeller configuration uses a mounting bolt (B-3347) that is item 30A. Effectivity codes are very important in the determination of parts in a given configuration.

B. Part Number

- (1) The Part Number is the Hartzell Propeller Inc. identification number for the part.
- (2) Use the Hartzell Propeller Inc. part number when ordering the part from Hartzell or a Hartzell-approved distributor.

C. Description

- (1) This column provides the Hartzell Propeller Inc. description of the part.
- (2) Bullets and indentations are used to indicate parts that are components of a sub-assembly.
  - (a) For example, a Fork Assembly that is part of a HC-C2YR-1 propeller assembly will have one bullet ( • ) before the description. This indicates that the Fork Assembly is part of the propeller assembly.
    - 1 A Fork Bumper that is part of the Fork Assembly will appear directly below the Fork Assembly with two bullets ( •• ) before the description. This indicates that the Fork Bumper is part of the Fork Assembly - that is part of the Propeller Assembly.
      - a Example: HC-C2YR-1
        - Fork Assembly
        - Fork Bumper
- (3) If the description in this column includes a "PCP:" prefix, the part is classified as a Propeller Critical Part.
- (4) If applicable, information regarding part alternatives, supersedures, replacements, or obsolescence will appear in the Description column.
  - (a) Refer to the section, "Description of Terms" in this chapter for definitions and requirements for part "alternates", "supersedures", etc.
  - (b) When part alternatives, supersedures, replacements, etc. are listed, the service document number related to the change may be included for reference.
- (5) If applicable, vendor CAGE codes will be listed in the Description column.

D. Effectivity Code (EFF CODE)

- (1) This column is used when additional information about a part is required.
  - (a) Effectivity codes can be used to identify parts that are only used on a particular model, or to direct the user to additional information in the "Effectivity" box at the bottom of the page.
  - (b) Whenever an effectivity code is present, refer to the "Effectivity" box at the bottom of the page for the applicable information.
- (2) Parts common to all assembly models on the page show no effectivity code.

E. Units Per Assembly (UPA)

- (1) Designates the total quantity of an item required for the next higher assembly or subassembly.

F. Overhaul (O/H)

- (1) Designates the parts to be replaced at overhaul. A "Y" identifies the parts that must be replaced at overhaul.

**NOTE:** An overhaul kit may not contain all the parts identified with a "Y" for a particular model propeller. An example of parts that may not be included in the overhaul kit is spinner mounting parts.

G. Propeller Critical Part (PCP)

- (1) This column identifies the Propeller Critical Parts (PCP) that are contained in each propeller model.
  - (a) Refer to the Introduction chapter of this manual for the definition of Propeller Critical Parts (PCP).

3. Description of Terms (Rev. 1)

A. Alternate

- (1) Alternate parts are identified by the term "ALTERNATE" in the Description column. Alternate items are considered airworthy for continued flight and existing stock of parts may be used for maintenance and/or repair. The new or alternate part number may be used interchangeably when ordering/stocking new parts.

B. Supersedure

- (1) Part changes are identified by the terms "SUPERSEDES ITEM \_\_\_\_\_" or "SUPERSEDED BY ITEM \_\_\_\_\_" in the Description column. Superseded items are considered airworthy for continued flight and existing stock of superseded parts may be used for maintenance and/or repair. Once the superseding part has been incorporated/installed into an assembly, the original superseded part may no longer be used. Superseded parts may no longer be available, and the new part number must be used when ordering/stocking new parts.

C. Replacement

- (1) Part changes identified by the terms "REPLACES ITEM \_\_\_\_\_" or "REPLACED BY ITEM \_\_\_\_\_" in the Description column are considered airworthy for continued flight, but must be replaced with a part with the new part number at overhaul. Existing stock of replaced parts may not be used for maintenance and/or repair of effected assemblies. Replaced parts may no longer be available, and the new part number must be used when ordering/stocking new parts.

D. Obsolete

- (1) Obsolete parts are identified by "OBS" in the Units Per Assembly (UPA) column. Obsolete items are considered unairworthy for continued flight.(5) Service Documents and Airworthiness Directives

4. Vendor Supplied Hardware (Rev. 1)

A. Important Information

- (1) Many O-rings, fasteners, and other vendor supplied hardware listed in Hartzell Propeller Inc. manuals have previously been specified with AN, MS, NAS or vendor part number. To provide internal controls and procurement flexibility, Hartzell part number have been assigned all O-rings, fasteners, and hardware. Part shipments from Hartzell Propeller Inc. will specify only the Hartzell part numbers.
- (2) Some O-rings, fasteners, and hardware manufactured in accordance with established industry specifications (certain AN, MS, NAS items) are acceptable for use in Hartzell Propeller Inc. products without additional standards imposed by Hartzell.
  - (a) For a listing of part number interchangeability, refer to the Vendor Cross Reference chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).
  - (b) Where permitted, both the Hartzell part number item and AN, MS, NAS and other specified vendor number items can be used interchangeably.
  - (c) The Hartzell part number must be used when ordering these parts from Hartzell Propeller Inc.

5. F and N-flange Studs

A. Installation of Studs

- (1) The installation of studs in F and N-flange propeller models is dependent upon the propeller application. Refer to the Aluminum Hub Overhaul chapter of Hartzell Propeller Inc. Manual 202A (61-01-02) for specific part and installation requirements.

6. Two Bladed Propeller Improvements

A. Two Bladed -1, -1A, and -1B Propeller Models

- (1) The part lists for propeller models specified in this illustrated parts listing are of the latest configurations produced by Hartzell Propeller Inc. Some models were produced as -1 or -1A models (Example: HC-C2YK-1). Improvements were made in the production of these propellers and are denoted by the -1B (Example: HC-C2YK-1B). The improvements included a new spring, pitch change rod, pitch change fork, and cylinder. The -1 and -1A models are not obsolete; however, replacement parts may not be available. The -1B model propellers are identical to -1 or -1A models except for substituting the parts as listed in Table 10-1.

B. Two Bladed -1( ) and -1( )F Propeller Models

- (1) Improvements were made in the production of two-bladed propeller models in the form of the F-knob blade. Propeller models using blades with the strengthened pitch change knob are denoted by the addition of an "F" at the end of the model designation (Example: HC-C2YK-1BF). These propellers use larger forks to accommodate the increased size of the pitch change blocks.

| Description      | -1 or -1A Parts                  | -1B Parts            |
|------------------|----------------------------------|----------------------|
| Cylinder         | B-2224 or B-2428                 | B-2428-1             |
| Pitch Change Rod | A-2418 or A-2418-1               | A-2418-2             |
| Fork             | B-2410, B-2410-1,<br>or B-2410-2 | B-2457-1 or B-2457-2 |
| Spring           | A-2213                           | A-2213-1             |

**-1, -1A and -1B Propeller Model Part Substitutions**  
**Table 10-1**

7. Three Bladed Propeller Improvements

A. New Hub Part Numbers

- (1) Improvements were made in the production of three-bladed propeller models in the form of an improved three-bladed compact propeller hub. Improved style hubs have new part numbers and are identifiable by the suffix letter "B" at the end of the hub serial number and the propeller serial number. The improved style hubs are visibly different from previous hubs due to material added to the forging in the blade retention area.

B. Three Bladed -1( ) and -1R( ) Propeller Models

- (1) Hartzell Propeller Inc. currently produces hub units for only -1R( ) propeller models. Hub units for the -1( ) propeller models are no longer procurable. The hydraulic units of the -1( ) propeller models are incompatible with the new -1R( ) propeller hub unit and must be changed if a new hub is installed. By incorporating the new design hub and the accompanying hydraulic components, the -1( ) propeller becomes a -1R( ) propeller and uses the parts listed for the -1R( ) propeller.

8. A-3204 and A-3204-2 Set Screws

A. Removal of Set Screws from Stock

- (1) A-3204 and A-3204-2 set screws with a certain hardness are to be removed from field stocks.

NOTE: There have been several reports of broken A-3204 set screws. Two contributing factors are the hardness and, in some screws, the depth of the hex recess on the end of the screw (used for the internal wrench) was aligned with the end of the external jam nut, which combined to form a highly stressed area in the screw thread.

B. Identifying Set Screws Removed from Stock

- (1) New screws with the desired hardness are color coded with a dull "olive green" color. Any screws with "olive green" color are serviceable.
- (2) Previous screws were a bright "bronze" color. Any screws of the "bronze" color are not to be used and may be returned to Hartzell (via the source of procurement) for credit or replacement.

(Blank Page)

## EXPLODED VIEWS AND PARTS LISTS 2-blade Propellers/Hub Units

### Propeller Exploded Views

|  |                    |       |
|--|--------------------|-------|
| 2-blade Compact Propellers: <u>Except</u> -1N(W) models..... | Figure 10A-1 ..... | 10A-3 |
| 2-blade Compact Propellers: -1N(W) models <u>only</u> .....  | Figure 10A-2 ..... | 10A-4 |

### (-1) Propeller Parts Lists

|                               |        |
|-------------------------------|--------|
| (B,C,D)HC-C2YF-1B(L).....     | 10A-5  |
| (B,C,D)HC-C2YF-1B(L)F(P)..... | 10A-8  |
| (B)HC-C2YF-1N .....           | 10A-11 |
| HC-C2YK-1B(L).....            | 10A-13 |
| HC-C2YK-1B(L)F(P).....        | 10A-16 |
| HC-C2YL-1B(L).....            | 10A-19 |
| HC-C2YL-1B(L)F(P) .....       | 10A-22 |
| BHC-C2YR-1B(L)F(P) .....      | 10A-25 |
| DHC-C2YR-1BF .....            | 10A-25 |
| HC-C2YR-1B .....              | 10A-27 |
| HC-C2YR-1BF(P).....           | 10A-30 |
| (B,D)HC-C2YR-1N(W).....       | 10A-33 |
| HC-E2YL-1B(L) .....           | 10A-35 |
| HC-E2YL-1B(L)F(P) .....       | 10A-38 |
| BHC-E2YR-1B(L)F(P) .....      | 10A-41 |
| HC-E2YR-1B(L).....            | 10A-43 |
| HC-E2YR-1B(L)F(P).....        | 10A-46 |
| HC-E2YR-1.....                | 10A-49 |
| HC-E2YR-1F(P).....            | 10A-52 |
| (B)HC-E2YR-1N(W) .....        | 10A-55 |
| HC-E2YR-1S .....              | 10A-57 |
| HC-E2YR-1SF(P) .....          | 10A-60 |
| HC-F2YL-1F(P) .....           | 10A-63 |
| HC-F2YR-1.....                | 10A-66 |
| (D)HC-F2YR-1F(P).....         | 10A-69 |
| (B,D)HC-G2YF-1BF(P).....      | 10A-72 |
| HC-G2YR-1BF(P).....           | 10A-75 |
| HC-G2YR-1N(W).....            | 10A-77 |

**EXPLODED VIEWS AND PARTS LISTS**  
**2-blade Propellers/Hub Units, continued**

(-1) Propeller Parts Lists, continued

|                              |        |
|------------------------------|--------|
| (B)HC-I2YF-1BF(P) .....      | 10A-79 |
| HC-I2YR-1BF(P).....          | 10A-82 |
| HC-I2YR-1N .....             | 10A-85 |
| (B)HC-J2YF-1(B).....         | 10A-87 |
| (B)HC-J2YF-1BF(P) .....      | 10A-90 |
| BHC-J2YF-1C(P).....          | 10A-90 |
| (B,D)HC-L2YF-1B(L)F(P) ..... | 10A-93 |
| HC-M2YR-1BF(P).....          | 10A-96 |

(-4) Propeller Parts Lists

|                           |         |
|---------------------------|---------|
| (B)HC-C2YF-4 .....        | 10A-99  |
| (B)HC-C2YF-4F .....       | 10A-102 |
| (B)HC-C2YF-4B.....        | 10A-105 |
| (B)HC-C2YF-4BF(P).....    | 10A-108 |
| HC-C2YK-4(A).....         | 10A-111 |
| HC-C2YK-4(A)F.....        | 10A-114 |
| HC-C2YK-4B .....          | 10A-117 |
| HC-C2YK-4C .....          | 10A-117 |
| HC-C2YK-4BF(P) .....      | 10A-120 |
| HC-C2YK-4CF(P).....       | 10A-120 |
| HC-C2YL-4 .....           | 10A-123 |
| HC-C2YL-4F.....           | 10A-126 |
| HC-C2YL-4B.....           | 10A-129 |
| HC-C2YL-4BF(P).....       | 10A-132 |
| HC-C2YR-4(A)(L)F(P) ..... | 10A-134 |
| HC-C2YR-4B(L)F(P).....    | 10A-137 |
| HC-C2YR-4C(L)F(P) .....   | 10A-137 |
| HC-C2YR-4(E,G)(P).....    | 10A-140 |
| (B,D)HC-C2YR-4N .....     | 10A-143 |
| (B)HC-I2YF-4F .....       | 10A-145 |
| (B)HC-I2YF-4BF(P).....    | 10A-148 |
| (B)HC-L2YF-4F .....       | 10A-151 |
| (B)HC-L2YF-4BF(P).....    | 10A-154 |

**EXPLODED VIEWS AND PARTS LISTS**  
**2-blade Propellers/Hub Units, continued**

**APPENDIX**

Hub Unit Exploded Views

|  |                    |          |
|--|--------------------|----------|
| 2-blade Hub Units: Configuration A ..... | Figure App-1 ..... | App-A-2  |
| 2-blade Hub Units: Configuration B ..... | Figure App-2 ..... | App-A-4  |
| 2-blade Hub Units: Configuration C ..... | Figure App-3 ..... | App-A-7  |
| 2-blade Hub Units: Configuration D ..... | Figure App-4 ..... | App-A-9  |
| 2-blade Hub Units: Configuration E ..... | Figure App-5 ..... | App-A-12 |

Hub Unit Parts Lists

|  |          |
|--|----------|
| C-3230-( ) .....                       | App-A-3  |
| D-2201-(1,3,5,7,9,11,17,19) .....      | App-A-5  |
| D-2201-16 .....                        | App-A-8  |
| D-2477-3 .....                         | App-A-10 |
| D-2483-1 .....                         | App-A-10 |
| D-2484-2 .....                         | App-A-10 |
| D-4214( ) .....                        | App-A-5  |
| D-6522-( ) .....                       | App-A-8  |
| D-6529-(1,2,21,22) .....               | App-A-5  |
| D-6529-(41,42,43,45) .....             | App-A-13 |
| D-6530-( ) .....                       | App-A-8  |
| D-6531-(1,2,3,4,5,6,21,22,25,26) ..... | App-A-5  |
| D-6531-(41,42,45,46,47,48,50,51) ..... | App-A-13 |
| D-6552-( ) .....                       | App-A-10 |
| D-6554-( ) .....                       | App-A-6  |
| D-6555-( ) .....                       | App-A-8  |
| D-6557-(1,2,21,22) .....               | App-A-6  |
| D-6557-(41,42,44) .....                | App-A-13 |
| D-6559-( ) .....                       | App-A-3  |
| D-6562-( ) .....                       | App-A-10 |
| D-6564-( ) .....                       | App-A-11 |
| 105996-( ) .....                       | App-A-14 |
| 105997-( ) .....                       | App-A-11 |
| 106032-( ) .....                       | App-A-14 |

**EXPLODED VIEWS AND PARTS LISTS**  
**2-blade Propellers/Hub Units, continued**

**APPENDIX, continued**

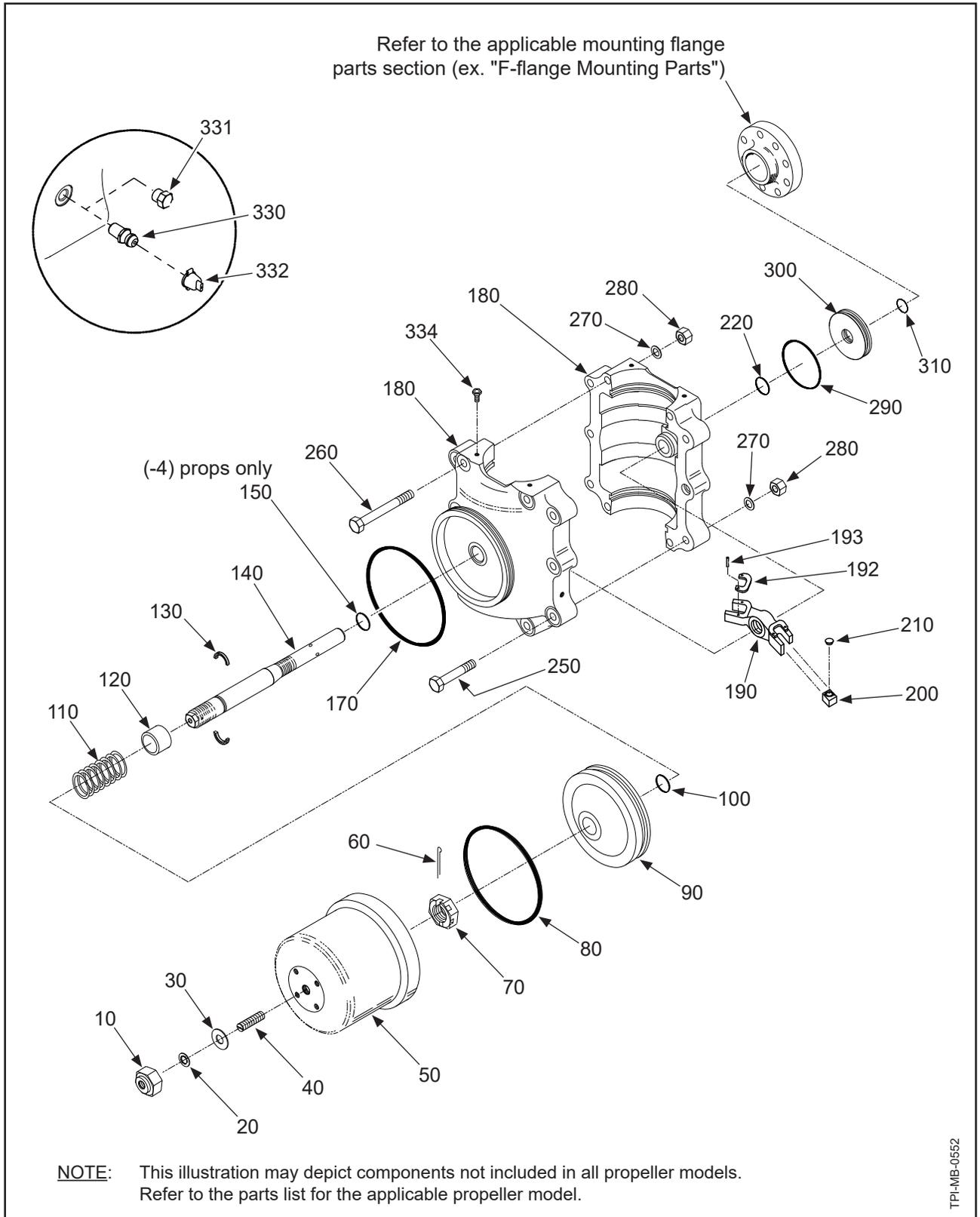
Damper Assembly Exploded View

C-1576 Damper Assembly ..... Figure App-6 ..... App-A-15

Damper Assembly Parts List

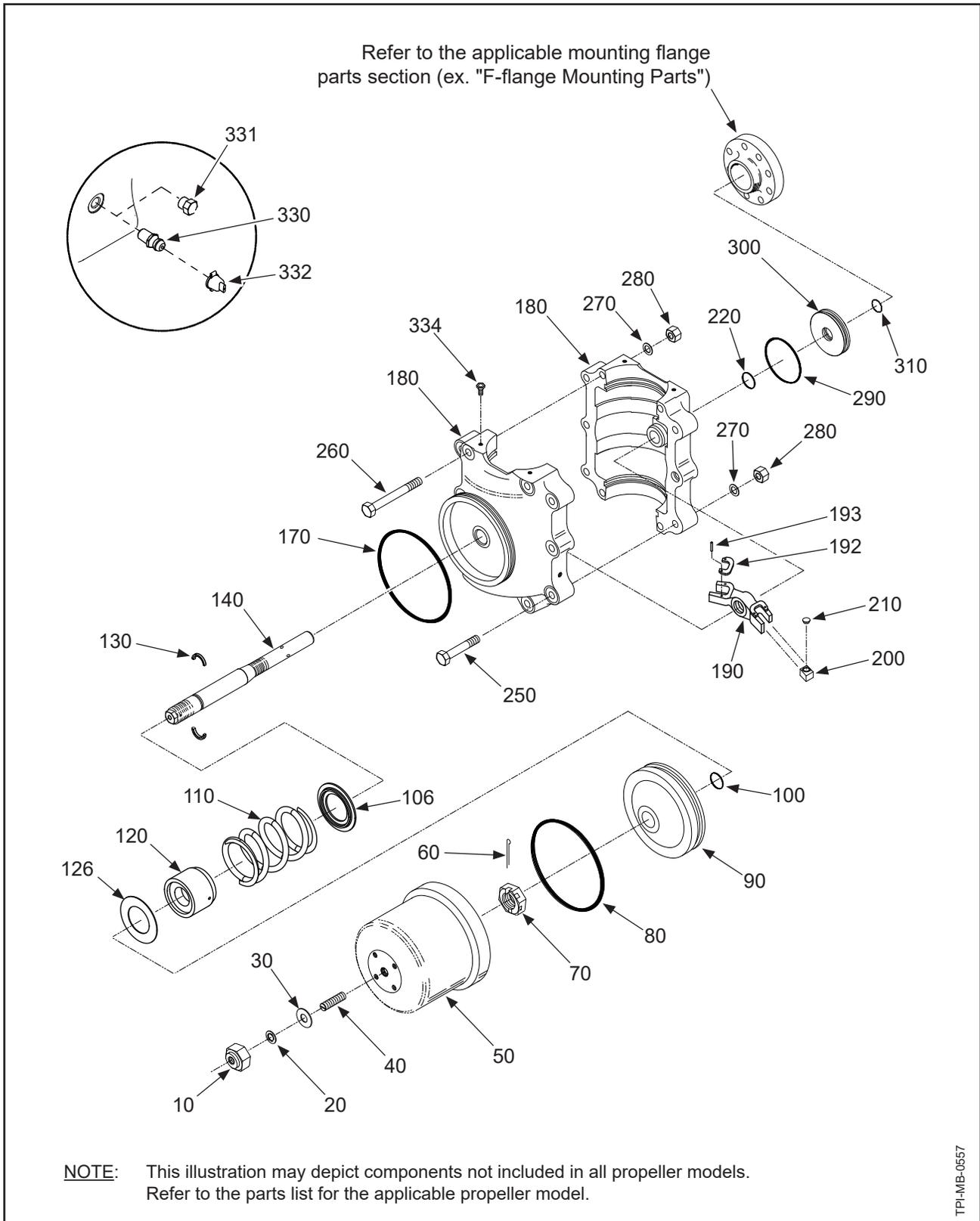
C-1576 Damper Assembly ..... App-A-16

HARTZELL PROPELLER OVERHAUL MANUAL  
113B



**2-blade Compact Propellers: Except -1N(W) models**  
**Figure 10A-1**

HARTZELL PROPELLER OVERHAUL MANUAL  
113B



**2-blade Compact Propellers: -1N(W) models only**  
**Figure 10A-2**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER    | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|----------------|--|----------|-----|-----|-----|
|                  |                | <b>(B,C,D)HC-C2YF-1B(L)</b>  |          |     |     |     |
| <b>10A-1</b>     |                | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3359         | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A              | B-3599         | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                    |          | 1   | Y   |     |
| 10B              | A-2043-1       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20               | B-6747         | SEAL, WASHER   |          | 1   | Y   |     |
| 40               | A-2421         | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A              | 102472         | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50               | B-2428-1       | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5     | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211         | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1   | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419         | PISTON   |          | 1   |     |     |
| 100              | C-3317-018     | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 100A             | C-3317-018-1   | O-RING (PISTON ID), ALTERNATE FOR ITEM 100   |          | 1   | Y   |     |
| 110              | A-2213-1       | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120              | A-2420-( )     | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867          | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-2       | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170              | C-3317-247     | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |                | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-2201-1       | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   | A        | 1   |     | PCP |
|                  | D-2201-5       | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   | B        | 1   |     | PCP |
|                  | D-2201-9       | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   | C        | 1   |     | PCP |
|                  | D-2201-11      | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   | D        | 1   |     | PCP |
| EFF CODE         |                | INFORMATION  |          |     |     |     |
| A                | HC-C2YF-1B(L)  |  |          |     |     |     |
| B                | BHC-C2YF-1B(L) |  |          |     |     |     |
| C                | CHC-C2YF-1B(L) |  |          |     |     |     |
| D                | DHC-C2YF-1B(L) |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B,C,D)HC-C2YF-1B(L)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
|                  |              | <b>(B,C,D)HC-C2YF-1B(L), continued</b>  |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 180A             | D-6531-1     | PCP: HUB UNIT, HC-C2YF-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B   | A        | 1   |     | PCP |
|                  | D-6531-2     | PCP: HUB UNIT, BHC-C2YF-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B  | B        | 1   |     | PCP |
|                  | D-6531-3     | PCP: HUB UNIT, CHC-C2YF-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B  | C        | 1   |     | PCP |
|                  | D-6531-4     | PCP: HUB UNIT, DHC-C2YF-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B  | D        | 1   |     | PCP |
| 180B             | D-6531-21    | PCP: HUB UNIT, HC-C2YF-1<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290<br>SUPERSEDED BY ITEM 180C  | A        | 1   |     | PCP |
|                  | D-6531-22    | PCP: HUB UNIT, BHC-C2YF-1<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290<br>SUPERSEDED BY ITEM 180C | B        | 1   |     | PCP |
| 180C             | D-6531-41    | PCP: HUB UNIT, HC-C2YF-1<br>SUPERSEDES ITEM 180B, POST HC-SL-61-305                             | A        | 1   |     | PCP |
|                  | D-6531-42    | PCP: HUB UNIT, BHC-C2YF-1<br>SUPERSEDES ITEM 180B, POST HC-SL-61-305                            | B        | 1   |     | PCP |
| 190              | B-2457-2     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDED BY ITEM 190A   |          | 1   |     |     |
| 190A             | B-2457-3     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDES ITEM 190   |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN  |          | 4   | Y   |     |
| 200              | A-2217-1     | BLOCK, PITCH CHANGE (USED WITH ITEM 190)  |          | 2   |     |     |
|                  | A-2217-4     | BLOCK, PITCH CHANGE (USED WITH ITEM 190A)   |          | 2   |     |     |
| 200A             | A-2217-2     | BLOCK, PITCH CHANGE, ALTERNATE FOR A-2217-1   |          | 2   |     |     |
| 210              | A-3212       | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)   |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |

**EFF CODE INFORMATION**

|   |                |
|---|----------------|
| A | HC-C2YF-1B(L)  |
| B | BHC-C2YF-1B(L) |
| C | CHC-C2YF-1B(L) |
| D | DHC-C2YF-1B(L) |

- ITEM NOT ILLUSTRATED

**(B,C,D)HC-C2YF-1B(L), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
| <b>10A-1</b>     |               | <b>(B,C,D)HC-C2YF-1B(L), continued</b>   |          |     |     |     |
|                  |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 4   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB  | E<br>F   | 2   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°, POST HC-SL-61-187<br>ALTERNATE FOR ITEM 330A   |          | 2   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION, POST HC-SL-61-354<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB   | E<br>F   | 2   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 2   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |
| E                |               | (B,C,D)HC-C2YF-1BL   |          |     |     |     |
| F                |               | (B,C,D)HC-C2YF-1B  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B,C,D)HC-C2YF-1B(L), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
|                  |              | <b>(B,C,D)HC-C2YF-1B(L)F(P)</b>   |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS</b>  |          |     |     |     |
| 10               | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A  |          | 1   | Y   |     |
| 10A              | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B |          | 1   | Y   |     |
| 10B              | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278                          |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER  |          | 1   | Y   |     |
| 40               | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A                                     |          | 1   |     |     |
| 40A              | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278                      |          | 1   |     |     |
| 50               | B-2428-1     | CYLINDER  |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN  |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)  |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)  |          | 1   | Y   |     |
| 90               | B-2419       | PISTON  |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)  |          | 1   | Y   |     |
| 100A             | C-3317-018-1 | O-RING (PISTON ID), ALTERNATE FOR ITEM 100  |          | 1   | Y   |     |
| 110              | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)  |          | 1   |     |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)  |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)  |          | 1   | Y   | PCP |
| 140              | A-2418-2     | ROD, PITCH CHANGE   |          | 1   |     |     |
| 170              | C-3317-247   | O-RING (CYLINDER)   |          | 1   | Y   |     |
| EFF CODE         |              | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B,C,D)HC-C2YF-1B(L)F(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER | DESCRIPTION  | EFF CODE  | UPA | O/H | PCP |     |
|------------------|-------------|--|---|-----|-----|-----|-----|
| 10A-1            |             | (B,C,D)HC-C2YF-1B(L)F(P), continued  |   |     |     |     |     |
|                  |             | <b>PROPELLER PARTS, continued</b>  |   |     |     |     |     |
|                  |             | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |   |     |     |     |     |
|                  | 180         | D-2201-1   | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A  | A   | 1   |     | PCP |
|                  |             | D-2201-5   | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A  | B   | 1   |     | PCP |
|                  |             | D-2201-9   | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A  | C   | 1   |     | PCP |
|                  |             | D-2201-11  | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A  | D   | 1   |     | PCP |
|                  | 180A        | D-6531-1   | PCP: HUB UNIT, HC-C2YF-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B   | A   | 1   |     | PCP |
|                  |             | D-6531-2   | PCP: HUB UNIT, BHC-C2YF-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B  | B   | 1   |     | PCP |
|                  |             | D-6531-3   | PCP: HUB UNIT, CHC-C2YF-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B  | C   | 1   |     | PCP |
|                  |             | D-6531-4   | PCP: HUB UNIT, DHC-C2YF-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B  | D   | 1   |     | PCP |
|                  | 180B        | D-6531-21  | PCP: HUB UNIT, HC-C2YF-1<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290<br>SUPERSEDED BY ITEM 180C  | A   | 1   |     | PCP |
|                  |             | D-6531-22  | PCP: HUB UNIT, BHC-C2YF-1<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290<br>SUPERSEDED BY ITEM 180C | B   | 1   |     | PCP |
|                  | 180C        | D-6531-41  | PCP: HUB UNIT, HC-C2YF-1<br>SUPERSEDES ITEM 180B, POST HC-SL-61-305                             | A   | 1   |     | PCP |
|                  |             | D-6531-42  | PCP: HUB UNIT, BHC-C2YF-1<br>SUPERSEDES ITEM 180B, POST HC-SL-61-305                            | B   | 1   |     | PCP |
|                  | 190         | B-2457-3   | FORK, TWO BLADE - ASSEMBLY  |     | 1   |     |     |
|                  | 192         | B-3323   | • PLATE, ANTI-ROTATION  |     | 2   | Y   |     |
|                  | 193         | B-3842-0500  | • SPRING PIN  |     | 4   | Y   |     |
|                  | 200         | A-2217-3   | BLOCK, PITCH CHANGE   |     | 2   |     |     |
|                  | 210         | A-3212-1   | BUTTON, PITCH CHANGE BLOCK  |     | 2   | Y   |     |
|                  | 220         | C-3317-115-1   | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)   |     | 1   | Y   |     |
|                  | 250         | A-2431   | BOLT, 3/8-24, HEX HEAD  |     | 6   |     |     |
|                  | 260         | A-2432   | BOLT, 3/8-24, HEX HEAD  |     | 4   |     |     |
|                  | 270         | B-3834-0632  | WASHER, FLAT, STEEL   |     | 10  | Y   |     |
|                  | 280         | A-2043-1   | NUT, 3/8-24, HEX SELF-LOCKING   |     | 10  | Y   |     |

**EFF CODE INFORMATION**

|   |                    |
|---|--------------------|
| A | HC-C2YF-1B(L)F(P)  |
| B | BHC-C2YF-1B(L)F(P) |
| C | CHC-C2YF-1B(L)F(P) |
| D | DHC-C2YF-1B(L)F(P) |

- ITEM NOT ILLUSTRATED

**(B,C,D)HC-C2YF-1B(L)F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
|                  |               | <b>(B,C,D)HC-C2YF-1B(L)F(P), continued</b>   |          |     |     |     |
| <b>10A-1</b>     |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 4   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB  | E<br>F   | 2   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°, POST HC-SL-61-187<br>ALTERNATE FOR ITEM 330A   |          | 2   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION, POST HC-SL-61-354<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB   | E<br>F   | 2   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 2   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |

**EFF CODE INFORMATION**

E (B,C,D)HC-C2YF-1BLF(P)  
F (B,C,D)HC-C2YF-1BF(P)

- ITEM NOT ILLUSTRATED

**(B,C,D)HC-C2YF-1B(L)F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>(B)HC-C2YF-1N</b>   |          |     |     |     |
| <b>10A-2</b>     |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40               | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)  |          | 1   |     |     |
| 50               | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 106              | 101378       | GUIDE, SPRING  |          | 1   |     |     |
| 110              | 101330       | SPRING, COMPRESSION  |          | 1   |     |     |
| 120              | 101335-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 126              | 101430       | SEAT, SPRING   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170              | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-6531-41    | PCP: HUB UNIT, HC-C2YF-1   | A        | 1   |     | PCP |
|                  | D-6531-42    | PCP: HUB UNIT, BHC-C2YF-1  | B        | 1   |     | PCP |
| 190              | B-2457-3     | FORK, TWO BLADE - ASSEMBLY   |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION   |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN   |          | 4   | Y   |     |
| 200              | A-2217-3     | BLOCK, PITCH CHANGE  |          | 2   |     |     |
| 210              | A-3212-1     | BUTTON, BLOCK, PITCH CHANGE  |          | 2   | Y   |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER   |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING  |          | 10  | Y   |     |

**EFF CODE INFORMATION**

|   |             |
|---|-------------|
| A | HC-C2YF-1N  |
| B | BHC-C2YF-1N |

- ITEM NOT ILLUSTRATED

**(B)HC-C2YF-1N**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
|                  |               | (B)HC-C2YF-1N, continued   |          |     |     |     |
| <b>10A-2</b>     |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 4   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB   |          | 2   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 2   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 2   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 2   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-C2YF-1N, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>HC-C2YK-1B(L)</b>   |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A              | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                    |          | 1   | Y   |     |
| 10B              | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40               | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A              | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50               | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110              | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120              | A-2420(-)    | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170              | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-2201-3     | PCP: HUB<br>SUPERSEDED BY ITEM 180A  |          | 1   |     | PCP |
|                  | D-2201-17    | PCP: HUB<br>SUPERSEDED BY ITEM 180A  |          |     |     |     |
| 180A             | D-6529-1     | PCP: HUB UNIT, HC-C2Y(K,R)-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B                    |          | 1   |     | PCP |
| 180B             | D-6529-21    | PCP: HUB UNIT, HC-C2Y(K,R)-1<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290<br>SUPERSEDED BY ITEM 180C                   |          | 1   |     | PCP |
| 180C             | D-6529-41    | PCP: HUB UNIT, HC-C2Y(K,R)-1<br>SUPERSEDES ITEMS 180B, POST HC-SL-61-305   |          | 1   |     | PCP |
| EFF CODE         |              | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YK-1B(L)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
|                  |              | <b>HC-C2YK-1B(L), continued</b>   |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190              | B-2457-2     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDED BY ITEM 190A   |          | 1   |     |     |
| 190A             | B-2457-3     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDES ITEM 190   |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN  |          | 4   | Y   |     |
| 200              | A-2217-1     | BLOCK, PITCH CHANGE (USED WITH ITEM 190)  |          | 2   |     |     |
|                  | A-2217-4     | BLOCK, PITCH CHANGE (USED WITH ITEM 190A)   |          | 2   |     |     |
| 200A             | A-2217-2     | BLOCK, PITCH CHANGE, ALTERNATE FOR A-2217-1   |          | 2   |     |     |
| 210              | A-3212       | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)   |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331   |          | 4   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                             | A<br>B   | 2   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°, POST HC-SL-61-187<br>ALTERNATE FOR ITEM 330A  |          | 2   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION, POST HC-SL-61-354<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB            | A<br>B   | 2   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B  |          | 2   | Y   |     |
| -900             | C-1576       | DAMPER ASSEMBLY<br>(REFER TO "C-1576 DAMPER ASSEMBLY" IN THE 2-BLADE<br>PROPELLER APPENDIX SECTION FOR EXPLODED VIEW<br>AND PARTS LIST) |          | 1   |     |     |
| EFF CODE         |              | INFORMATION   |          |     |     |     |
| A                |              | HC-C2YK-1BL   |          |     |     |     |
| B                |              | HC-C2YK-1B  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YK-1B(L), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>HC-C2YK-1B(L), continued</b>  |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>K-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YK-1B(L), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>HC-C2YK-1B(L)F(P)</b>   |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A              | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                    |          | 1   | Y   |     |
| 10B              | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40               | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A              | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50               | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110              | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170              | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-2201-3     | PCP: HUB<br>SUPERSEDED BY ITEM 180A  |          | 1   |     | PCP |
|                  | D-2201-17    | PCP: HUB<br>SUPERSEDED BY ITEM 180A  |          |     |     |     |
| 180A             | D-6529-1     | PCP: HUB UNIT, HC-C2Y(K,R)-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B                    |          | 1   |     | PCP |
| 180B             | D-6529-21    | PCP: HUB UNIT, HC-C2Y(K,R)-1<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290<br>SUPERSEDED BY ITEM 180C                   |          | 1   |     | PCP |
| 180C             | D-6529-41    | PCP: HUB UNIT, HC-C2Y(K,R)-1<br>SUPERSEDES ITEMS 180B, POST HC-SL-61-305   |          | 1   |     | PCP |
| EFF CODE         |              | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YK-1B(L)F(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
|                  |              | <b>HC-C2YK-1B(L)F(P), continued</b>   |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190              | B-2457-3     | FORK, TWO BLADE - ASSEMBLY  |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN  |          | 4   | Y   |     |
| 200              | A-2217-3     | BLOCK, PITCH CHANGE   |          | 2   |     |     |
| 210              | A-3212-1     | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)   |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331   |          | 4   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                             | A<br>B   | 2   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°, POST HC-SL-61-187<br>ALTERNATE FOR ITEM 330A  |          | 2   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION, POST HC-SL-61-354<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB            | A<br>B   | 2   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B  |          | 2   | Y   |     |
| -900             | C-1576       | DAMPER ASSEMBLY<br>(REFER TO "C-1576 DAMPER ASSEMBLY" IN THE 2-BLADE<br>PROPELLER APPENDIX SECTION FOR EXPLODED VIEW<br>AND PARTS LIST) |          | 1   |     |     |

**EFF CODE INFORMATION**

|   |                 |
|---|-----------------|
| A | HC-C2YK-1BLF(P) |
| B | HC-C2YK-1BF(P)  |

- ITEM NOT ILLUSTRATED

**HC-C2YK-1B(L)F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
|                  |               | <b>HC-C2YK-1B(L)F(P), continued</b>  |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)  |          |     |     |     |
|                  |               | <b>K-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)  |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YK-1B(L)F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>HC-C2YL-1B(L)</b>   |          |     |     |     |
| <b>10A-1</b>                |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                    |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-2201-7     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A                        | D-6529-2     | PCP: HUB UNIT, HC-C2YL-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B                        |          | 1   |     | PCP |
| 180B                        | D-6529-22    | PCP: HUB UNIT, HC-C2YL-1<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290<br>SUPERSEDED BY ITEM 180C                       |          | 1   |     | PCP |
| 180C                        | D-6529-42    | PCP: HUB UNIT, HC-C2YL-1<br>SUPERSEDES ITEMS 180B, POST HC-SL-61-305   |          | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YL-1B(L)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>HC-C2YL-1B(L), continued</b>  |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 190              | B-2457-2     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDED BY ITEM 190A  |          | 1   |     |     |
| 190A             | B-2457-3     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDES ITEM 190  |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION   |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN   |          | 4   | Y   |     |
| 200              | A-2217-1     | BLOCK, PITCH CHANGE (USED WITH ITEM 190)   |          | 2   |     |     |
|                  | A-2217-4     | BLOCK, PITCH CHANGE (USED WITH ITEM 190A)  |          | 2   |     |     |
| 200A             | A-2217-2     | BLOCK, PITCH CHANGE, ALTERNATE FOR A-2217-1  |          | 2   |     |     |
| 210              | A-3212       | BUTTON, PITCH CHANGE BLOCK   |          | 2   | Y   |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL  |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING  |          | 10  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 4   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                  | A<br>B   | 2   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°, POST HC-SL-61-187<br>ALTERNATE FOR ITEM 330A   |          | 2   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION, POST HC-SL-61-354<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB | A<br>B   | 2   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 2   | Y   |     |
| EFF CODE         |              | INFORMATION  |          |     |     |     |
| A                |              | HC-C2YL-1BL  |          |     |     |     |
| B                |              | HC-C2YL-1B   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YL-1B(L), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>HC-C2YL-1B(L), continued</b>  |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>L-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YL-1B(L), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>HC-C2YL-1B(L)F(P)</b>   |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A              | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B              | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40               | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A              | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50               | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110              | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170              | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-2201-7     | PCP: HUB<br>SUPERSEDED BY ITEM 180A  |          | 1   |     | PCP |
| 180A             | D-6529-2     | PCP: HUB UNIT, HC-C2YL-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B                                |          | 1   |     | PCP |
| 180B             | D-6529-22    | PCP: HUB UNIT, HC-C2YL-1<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290<br>SUPERSEDED BY ITEM 180C                               |          | 1   |     | PCP |
| 180C             | D-6529-42    | PCP: HUB UNIT, HC-C2YL-1<br>SUPERSEDES ITEMS 180B, POST HC-SL-61-305   |          | 1   |     | PCP |
| EFF CODE         |              | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YL-1B(L)F(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>HC-C2YL-1B(L)F(P), continued</b>  |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 190              | B-2457-3     | FORK, TWO BLADE - ASSEMBLY   |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION   |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN   |          | 4   | Y   |     |
| 200              | A-2217-3     | BLOCK, PITCH CHANGE  |          | 2   |     |     |
| 210              | A-3212-1     | BUTTON, PITCH CHANGE BLOCK   |          | 2   | Y   |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL  |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING  |          | 10  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 4   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                  | A<br>B   | 2   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°, POST HC-SL-61-187<br>ALTERNATE FOR ITEM 330A   |          | 2   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION, POST HC-SL-61-354<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB | A<br>B   | 2   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 2   | Y   |     |

**EFF CODE INFORMATION**

|   |                 |
|---|-----------------|
| A | HC-C2YL-1BLF(P) |
| B | HC-C2YL-1BF(P)  |

- ITEM NOT ILLUSTRATED

**HC-C2YL-1B(L)F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>HC-C2YL-1B(L)F(P), continued</b>  |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>L-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
| -9000               | B-3840-( )     | <b>BALANCE PARTS</b><br>SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YL-1B(L)F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER            | DESCRIPTION  | EFF CODE | UPA    | O/H | PCP        |
|------------------|------------------------|--|----------|--------|-----|------------|
|                  |                        | <b>BHC-C2YR-1B(L)F(P) and DHC-C2YR-1BF</b>   |          |        |     |            |
| <b>10A-1</b>     |                        | <b>PROPELLER PARTS</b>   |          |        |     |            |
| 10               | A-2043-1               | NUT, 3/8-24, HEX, SELF-LOCKING   |          | 1      | Y   |            |
| 20               | B-6747                 | SEAL, WASHER   |          | 1      | Y   |            |
| 40               | 102472                 | SCREW, SET, 3/8-24 (LOW PITCH STOP)  |          | 1      |     |            |
| 50               | B-2428-1               | CYLINDER   |          | 1      |     |            |
| 60               | B-3838-3-5             | COTTER PIN   |          | 1      | Y   |            |
| 70               | A-2211                 | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1      | Y   |            |
| 80               | C-3317-348-1           | O-RING (PISTON OD)   |          | 1      | Y   |            |
| 90               | B-2419                 | PISTON   |          | 1      |     |            |
| 100              | C-3317-018             | O-RING (PISTON ID)   |          | 1      | Y   |            |
| 110              | A-2213-1               | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1      |     |            |
| 120              | A-2420-( )             | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1      |     |            |
| 130              | A-867                  | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1      | Y   | PCP        |
| 140              | A-2418-2               | ROD, PITCH CHANGE  |          | 1      |     |            |
| 170              | C-3317-247             | O-RING (CYLINDER)  |          | 1      | Y   |            |
|                  |                        | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |        |     |            |
| 180              | D-6529-43<br>D-6529-45 | PCP: HUB UNIT, BHC-C2Y(K,R)-1<br>PCP: HUB UNIT, DHC-C2YR-1   | A<br>B   | 1<br>1 |     | PCP<br>PCP |
| 190              | B-2457-3               | FORK, TWO BLADE - ASSEMBLY   |          | 1      |     |            |
| 192              | B-3323                 | • PLATE, ANTI-ROTATION   |          | 2      | Y   |            |
| 193              | B-3842-0500            | • SPRING PIN   |          | 4      |     |            |
| 200              | A-2217-3               | BLOCK, PITCH CHANGE  |          | 2      |     |            |
| 210              | A-3212-1               | BUTTON, PITCH CHANGE BLOCK   |          | 2      | Y   |            |
| 220              | C-3317-115-1           | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1      | Y   |            |
| 250              | A-2431                 | BOLT, 3/8-24, HEX HEAD   |          | 6      |     |            |
| 260              | A-2432                 | BOLT, 3/8-24, HEX HEAD   |          | 4      |     |            |
| 270              | B-3834-0632            | WASHER, FLAT, STEEL  |          | 10     | Y   |            |
| 280              | A-2043-1               | NUT, 3/8-24, HEX SELF-LOCKING  |          | 10     | Y   |            |
| <b>EFF CODE</b>  |                        | <b>INFORMATION</b>   |          |        |     |            |
| A                |                        | BHC-C2YR-1B(L)F(P)   |          |        |     |            |
| B                |                        | DHC-C2YR-1BF   |          |        |     |            |

- ITEM NOT ILLUSTRATED

**BHC-C2YR-1B(L)F(P) and DHC-C2YR-1BF**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER                                       | PART NUMBER                      | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|--|----------------------------------|--|----------|-----|-----|-----|
| <b>BHC-C2YR-1B(L)F(P) and DHC-C2YR-1BF, continuedF</b> |                                  |  |          |     |     |     |
| <b>10A-1</b>   |                                  | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330  | A-279                            | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 4   | Y   |     |
| 330A   | A-279                            | LUBRICATION FITTING<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB  | C<br>D   | 2   | Y   |     |
| 330B   | C-6349                           | LUBRICATION FITTING, 45°, POST HC-SL-61-187<br>ALTERNATE FOR ITEM 330A   |          | 2   | Y   |     |
| 331  | 106545                           | PLUG, LUBRICATION, POST HC-SL-61-354<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB   | C<br>D   | 2   | Y   |     |
| 332  | B-6544                           | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 2   | Y   |     |
|  |                                  | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|  |                                  | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|  |                                  | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000  | B-3840-( )                       | SCREW  |          | AR  | Y   |     |
| -9020  | A-2424(A)-( )                    | BALANCE WEIGHT   |          | AR  |     |     |
|  |                                  | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| <b>EFF CODE INFORMATION</b>                            |                                  |  |          |     |     |     |
| C  | BHC-C2YR-1BLF(P)                 |  |          |     |     |     |
| D  | BHC-C2YR-1BF(P) and DHC-C2YR-1BF |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**BHC-C2YR-1B(L)F(P) and DHC-C2YR-1BF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
| <b>10A-1</b>     |              | <b>HC-C2YR-1B<br/>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A  |          | 1   | Y   |     |
| 10A              | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B   |          | 1   | Y   |     |
| 10B              | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278  |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER  |          | 1   | Y   |     |
| 40               | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A   |          | 1   |     |     |
| 40A              | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278  |          | 1   |     |     |
| 50               | B-2428-1     | CYLINDER  |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN  |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)  |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)  |          | 1   | Y   |     |
| 90               | B-2419       | PISTON  |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)  |          | 1   | Y   |     |
| 110              | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)  |          | 1   |     |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)  |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)  |          | 1   | Y   | PCP |
| 140              | A-2418-2     | ROD, PITCH CHANGE   |          | 1   |     |     |
| 170              | C-3317-247   | O-RING (CYLINDER)   |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b>                  |          |     |     |     |
| 180              | D-2201-17    | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A  | A        | 1   |     | PCP |
| 180A             | D-6529-1     | PCP: HUB UNIT, HC-C2Y(K,R)-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B   | A        | 1   |     | PCP |
| 180B             | D-6529-21    | PCP: HUB UNIT, HC-C2Y(K,R)-1<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290<br>SUPERSEDED BY ITEM 180C  | A        | 1   |     | PCP |
| 180C             | D-6529-41    | PCP: HUB UNIT, HC-C2Y(K,R)-1<br>SUPERSEDES ITEM 180B, POST HC-SL-61-305<br>SUPERSEDES ITEM 180B, POST HC-SL-61-305<br>SUPERSEDED BY ITEM 180C | B<br>C   | 1   |     | PCP |
| 180D             | 105996-41    | PCP: HUB UNIT, HC-C2Y(K,R)-1<br>SUPERSEDES ITEM 180C, POST HC-ASB-61-341  | C        | 1   |     | PCP |

**EFF CODE INFORMATION**

- A All Applications
- B Except Continental CD-200, SMA, and Renault diesel engine applications
- C Continental CD-200, SMA, and Renault diesel engine applications only

- ITEM NOT ILLUSTRATED

**HC-C2YR-1B**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
| <b>10A-1</b>     |              | <b>HC-C2YR-1B, continued</b>  |          |     |     |     |
|                  |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190              | B-2457-2     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDED BY ITEM 190A   |          | 1   |     |     |
| 190A             | B-2457-3     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDES ITEM 190   |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN  |          | 4   | Y   |     |
| 200              | A-2217-1     | BLOCK, PITCH CHANGE (USED WITH ITEM 190)  |          | 2   |     |     |
|                  | A-2217-4     | BLOCK, PITCH CHANGE (USED WITH ITEM 190A)   |          | 2   |     |     |
| 200A             | A-2217-2     | BLOCK, PITCH CHANGE, ALTERNATE FOR A-2217-1   |          | 2   |     |     |
| 210              | A-3212       | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)   |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331   |          | 4   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB  |          | 2   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187  |          | 2   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354   |          | 2   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B  |          | 2   | Y   |     |
| -900             | C-1576       | DAMPER ASSEMBLY<br>(REFER TO "C-1576 DAMPER ASSEMBLY" IN THE 2-BLADE<br>PROPELLER APPENDIX SECTION FOR EXPLODED VIEW<br>AND PARTS LIST) |          | 1   |     |     |
| EFF CODE         |              | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YR-1B, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>HC-C2YR-1B, continued</b>   |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YR-1B, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
| <b>10A-1</b>     |              | <b>HC-C2YR-1BF(P)<br/>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A  |          | 1   | Y   |     |
| 10A              | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B   |          | 1   | Y   |     |
| 10B              | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278  |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER  |          | 1   | Y   |     |
| 40               | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A   |          | 1   |     |     |
| 40A              | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278  |          | 1   |     |     |
| 50               | B-2428-1     | CYLINDER  |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN  |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)  |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)  |          | 1   | Y   |     |
| 90               | B-2419       | PISTON  |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)  |          | 1   | Y   |     |
| 110              | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)  |          | 1   |     |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)  |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)  |          | 1   | Y   | PCP |
| 140              | A-2418-2     | ROD, PITCH CHANGE   |          | 1   |     |     |
| 170              | C-3317-247   | O-RING (CYLINDER)   |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b>                  |          |     |     |     |
| 180              | D-2201-17    | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A  | A        | 1   |     | PCP |
| 180A             | D-6529-1     | PCP: HUB UNIT, HC-C2Y(K,R)-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B   | A        | 1   |     | PCP |
| 180B             | D-6529-21    | PCP: HUB UNIT, HC-C2Y(K,R)-1<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290<br>SUPERSEDED BY ITEM 180C  | A        | 1   |     | PCP |
| 180C             | D-6529-41    | PCP: HUB UNIT, HC-C2Y(K,R)-1<br>SUPERSEDES ITEM 180B, POST HC-SL-61-305<br>SUPERSEDES ITEM 180B, POST HC-SL-61-305<br>SUPERSEDED BY ITEM 180D | B<br>C   | 1   |     | PCP |
| 180D             | 105996-41    | PCP: HUB UNIT, HC-C2Y(K,R)-1<br>SUPERSEDES ITEM 180C, POST HC-ASB-61-341  | C        | 1   | Y   |     |

**EFF CODE INFORMATION**

- A All Applications
- B Except Continental CD-200, SMA, and Renault diesel engine applications
- C Continental CD-200, SMA, and Renault diesel engine applications only

- ITEM NOT ILLUSTRATED

**HC-C2YR-1BF(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|---|----------|-----|-----|-----|
| <b>10A-1</b>                |              | <b>HC-C2YR-1BF(P), continued</b>  |          |     |     |     |
|                             |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190                         | B-2457-3     | FORK, TWO BLADE - ASSEMBLY  |          | 1   |     |     |
| 192                         | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193                         | B-3842-0500  | • SPRING PIN  |          | 4   | Y   |     |
| 200                         | A-2217-3     | BLOCK, PITCH CHANGE   |          | 2   |     |     |
| 210                         | A-3212-1     | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 220                         | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)   |          | 1   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280                         | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 330                         | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331   |          | 4   | Y   |     |
| 330A                        | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB  |          | 2   | Y   |     |
| 330B                        | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187  |          | 2   | Y   |     |
| 331                         | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354   |          | 2   | Y   |     |
| 332                         | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B  |          | 2   | Y   |     |
| -900                        | C-1576       | DAMPER ASSEMBLY<br>(REFER TO "C-1576 DAMPER ASSEMBLY" IN THE 2-BLADE<br>PROPELLER APPENDIX SECTION FOR EXPLODED VIEW<br>AND PARTS LIST) |          | 1   |     |     |
| <b>EFF CODE INFORMATION</b> |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YR-1BF(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>HC-C2YR-1BF(P), continued</b>   |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YR-1BF(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
| <b>10A-2</b>     |               | <b>(B,D)HC-C2YR-1N(W)<br/>PROPELLER PARTS</b>  |          |     |     |     |
| 10               | B-3359        | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A              | B-3599        | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B              | A-2043-1      | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20               | B-6747        | SEAL, WASHER   |          | 1   | Y   |     |
| 40               | 102472        | SCREW, SET, 3/8-24 (LOW PITCH STOP)  |          | 1   |     |     |
| 50               | B-2428-1      | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5    | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211        | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1  | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419        | PISTON   |          | 1   |     |     |
| 100              | C-3317-018    | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 106              | 101378        | GUIDE, SPRING  |          | 1   |     |     |
| 110              | 101330        | SPRING, COMPRESSION  |          | 1   |     |     |
| 120              | 101335-( )    | SLEEVE, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 126              | 101430        | SPRING SEAT  |          | 1   |     |     |
| 130              | A-867         | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-2      | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170              | C-3317-247    | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |               | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-6529-1      | PCP: HUB UNIT, HC-C2Y(K,R)-1<br>SUPERSEDED BY ITEM 180A  | C        | 1   |     | PCP |
|                  | D-6529-43     | PCP: HUB UNIT, BHC-C2Y(K,R)-1  | A        | 1   |     | PCP |
|                  | D-6529-45     | PCP: HUB UNIT, DHC-C2YR-1  | B        | 1   |     | PCP |
|                  | D-6529-1      | PCP: HUB UNIT, HC-C2Y(K,R)-1<br>SUPERSEDED BY ITEM 180A  | C        | 1   |     | PCP |
| 180A             | D-6529-21     | PCP: HUB UNIT, HC-C2Y(K,R)-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-290<br>SUPERSEDED BY ITEM 180B                            | C        | 1   |     | PCP |
| 180B             | D-6529-41     | PCP: HUB UNIT, TWO WAY ALUMINUM<br>SUPERSEDES ITEM 180A, POST HC-SL-61-305   | C        | 1   |     | PCP |
| 190              | B-2457-3      | FORK, TWO BLADE - ASSEMBLY   |          | 1   |     |     |
| 192              | B-3323        | • PLATE, ANTI-ROTATION   |          | 2   | Y   |     |
| 193              | B-3842-0500   | • SPRING PIN   |          | 4   | Y   |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |
| A                | BHC-C2YR-1N   |  |          |     |     |     |
| B                | DHC-C2YR-1N   |  |          |     |     |     |
| C                | HC-C2YR-1N(W) |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B,D)HC-C2YR-1N(W)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
|                  |               | <b>(B,D)HC-C2YR-1N(W), continued</b>   |          |     |     |     |
| <b>10A-2</b>     |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 200              | A-2217-3      | BLOCK, PITCH CHANGE  |          | 2   |     |     |
| 210              | A-3212-1      | BUTTON, BLOCK, PITCH CHANGE  |          | 2   | Y   |     |
| 220              | C-3317-115-1  | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431        | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 260              | A-2432        | BOLT, 3/8-24, HEX HEAD   |          | 4   |     |     |
| 270              | B-3834-0632   | WASHER   |          | 10  | Y   |     |
| 280              | A-2043-1      | NUT, 3/8-24, HEX, SELF-LOCKING   |          | 10  | Y   |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 4   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB   |          | 2   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 2   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 2   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 2   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B,D)HC-C2YR-1N(W), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER     | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|----------------------|--------------|--|----------|-----|-----|-----|
|                      |              | <b>HC-E2YL-1B(L)</b>   |          |     |     |     |
| <b>10A-1</b>         |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                   | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                  | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B                  | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                   | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                   | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                  | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                   | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60                   | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                   | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                   | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                   | B-2419       | PISTON   |          | 1   |     |     |
| 100                  | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                  | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                  | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                  | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                  | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                  | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                      |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180                  | D-2483-1     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A                 | D-6562-1     | PCP: HUB UNIT, HC-E2YL-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179   |          | 1   |     | PCP |
| EFF CODE INFORMATION |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E2YL-1B(L)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>HC-E2YL-1B(L), continued</b>  |          |     |     |     |
| <b>10A-1</b>                |              | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 190                         | B-2457-2     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDED BY ITEM 190A  |          | 1   |     |     |
| 190A                        | B-2457-3     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDES ITEM 190  |          | 1   |     |     |
| 192                         | B-3323       | • PLATE, ANTI-ROTATION   |          | 2   | Y   |     |
| 193                         | B-3842-0500  | • SPRING PIN   |          | 4   | Y   |     |
| 200                         | A-2217-1     | BLOCK, PITCH CHANGE (USED WITH ITEM 190)   |          | 2   |     |     |
|                             | A-2217-4     | BLOCK, PITCH CHANGE (USED WITH ITEM 190A)  |          | 2   |     |     |
| 200A                        | A-2217-2     | BLOCK, PITCH CHANGE, ALTERNATE FOR A-2217-1  |          | 2   |     |     |
| 210                         | A-3212       | BUTTON, PITCH CHANGE BLOCK   |          | 2   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 4   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL  |          | 10  | Y   |     |
| 280                         | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING  |          | 10  | Y   |     |
| 290                         | C-3317-226   | O-RING, PLUG, HUB (OD)   |          | 1   | Y   |     |
| 300                         | A-2481       | PLUG, HUB  |          | 1   |     |     |
| 310                         | C-3317-115-1 | O-RING, PLUG, HUB (ID)   |          | 1   | Y   |     |
| 330                         | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 4   | Y   |     |
| 330A                        | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                  | A<br>B   | 2   | Y   |     |
| 330B                        | C-6349       | LUBRICATION FITTING, 45°, POST HC-SL-61-187<br>ALTERNATE FOR ITEM 330A   |          | 2   | Y   |     |
| 331                         | 106545       | PLUG, LUBRICATION, POST HC-SL-61-354<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB | A<br>B   | 2   | Y   |     |
| 332                         | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 2   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |
| A                           | HC-E2YL-1BL  |  |          |     |     |     |
| B                           | HC-E2YL-1B   |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E2YL-1B(L), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>HC-E2YL-1B(L), continued</b>  |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>L-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
| -9000               | B-3840-( )     | <b>BALANCE PARTS</b><br>SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E2YL-1B(L), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>HC-E2YL-1B(L)F(P)</b>   |          |     |     |     |
| <b>10A-1</b>                |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                    |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-2483-1     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A                        | D-6562-1     | PCP: HUB UNIT, HC-E2YL-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179   |          | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E2YL-1B(L)F(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>HC-E2YL-1B(L)F(P), continued</b>  |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 190              | B-2457-3     | FORK, TWO BLADE - ASSEMBLY   |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION   |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN   |          | 4   | Y   |     |
| 200              | A-2217-3     | BLOCK, PITCH CHANGE  |          | 2   |     |     |
| 210              | A-3212-1     | BUTTON, BLOCK, PITCH CHANGE  |          | 2   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL  |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING  |          | 10  | Y   |     |
| 290              | C-3317-226   | O-RING, PLUG, HUB (OD)   |          | 1   | Y   |     |
| 300              | A-2481       | PLUG, HUB  |          | 1   |     |     |
| 310              | C-3317-115-1 | O-RING, PLUG, HUB (ID)   |          | 1   | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 4   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                  | A<br>B   | 2   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°, POST HC-SL-61-187<br>ALTERNATE FOR ITEM 330A   |          | 2   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION, POST HC-SL-61-354<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB | A<br>B   | 2   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 2   | Y   |     |
| <b>EFF CODE</b>  |              | <b>INFORMATION</b>   |          |     |     |     |
| A                |              | HC-E2YL-1BLF(P)  |          |     |     |     |
| B                |              | HC-E2YL-1BF(P)   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E2YL-1B(L)F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>HC-E2YL-1B(L)F(P), continued</b>  |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>L-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
| -9000               | B-3840-( )     | <b>BALANCE PARTS</b><br>SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E2YL-1B(L)F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>BHC-E2YR-1B(L)F(P)</b>  |          |     |     |     |
| <b>10A-1</b>                |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)  |          | 1   |     |     |
| 50                          | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-3     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-6564-24    | PCP: HUB UNIT, BHC-E2YR-1  |          | 1   |     | PCP |
| 190                         | B-2457-3     | FORK, TWO BLADE - ASSEMBLY   |          | 1   |     |     |
| 192                         | B-3323       | • PLATE, ANTI-ROTATION   |          | 2   | Y   |     |
| 193                         | B-3842-0500  | • SPRING PIN   |          | 4   |     |     |
| 200                         | A-2217-3     | BLOCK, PITCH CHANGE  |          | 2   |     |     |
| 210                         | A-3212-1     | BUTTON, PITCH CHANGE BLOCK   |          | 2   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 4   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL  |          | 10  | Y   |     |
| 280                         | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING  |          | 10  | Y   |     |
| 290                         | C-3317-226   | O-RING, PLUG, HUB (OD)   |          | 1   | Y   |     |
| 300                         | A-2481       | PLUG, HUB  |          | 1   |     |     |
| 310                         | C-3317-115-1 | O-RING, PLUG, HUB (ID)   |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**BHC-E2YR-1B(L)F(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER      | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|------------------|--|----------|-----|-----|-----|
|                             |                  | <b>BHC-E2YR-1B(L)F(P), continued</b>   |          |     |     |     |
| <b>10A-1</b>                |                  | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330                         | A-279            | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 4   | Y   |     |
| 330A                        | A-279            | LUBRICATION FITTING<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB  | A<br>B   | 2   | Y   |     |
| 330B                        | C-6349           | LUBRICATION FITTING, 45°, POST HC-SL-61-187<br>ALTERNATE FOR ITEM 330A   |          | 2   | Y   |     |
| 331                         | 106545           | PLUG, LUBRICATION, POST HC-SL-61-354<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB   | A<br>B   | 2   | Y   |     |
| 332                         | B-6544           | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 2   | Y   |     |
|                             |                  | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                             |                  | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                             |                  | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000                       | B-3840-( )       | SCREW  |          | AR  | Y   |     |
| -9020                       | A-2424(A)-( )    | BALANCE WEIGHT   |          | AR  |     |     |
|                             |                  | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| <b>EFF CODE INFORMATION</b> |                  |  |          |     |     |     |
| A                           | BHC-E2YR-1BLF(P) |  |          |     |     |     |
| B                           | BHC-E2YR-1BF(P)  |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**BHC-E2YR-1B(L)F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER     | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|----------------------|--------------|---|----------|-----|-----|-----|
|                      |              | <b>HC-E2YR-1B(L)</b>  |          |     |     |     |
| <b>10A-1</b>         |              | <b>PROPELLER PARTS</b>  |          |     |     |     |
| 10                   | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A  |          | 1   | Y   |     |
| 10A                  | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B |          | 1   | Y   |     |
| 10B                  | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278                          |          | 1   | Y   |     |
| 20                   | B-6747       | SEAL, WASHER  |          | 1   | Y   |     |
| 40                   | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A                                     |          | 1   |     |     |
| 40A                  | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278                      |          | 1   |     |     |
| 50                   | B-2428-1     | CYLINDER  |          | 1   |     |     |
| 60                   | B-3838-3-5   | COTTER PIN  |          | 1   | Y   |     |
| 70                   | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)  |          | 1   | Y   |     |
| 80                   | C-3317-348-1 | O-RING (PISTON OD)  |          | 1   | Y   |     |
| 90                   | B-2419       | PISTON  |          | 1   |     |     |
| 100                  | C-3317-018   | O-RING (PISTON ID)  |          | 1   | Y   |     |
| 110                  | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)  |          | 1   |     |     |
| 120                  | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)  |          | 1   |     |     |
| 130                  | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)  |          | 1   | Y   | PCP |
| 140                  | A-2418-3     | ROD, PITCH CHANGE   |          | 1   |     |     |
| 170                  | C-3317-247   | O-RING (CYLINDER)   |          | 1   | Y   |     |
| EFF CODE INFORMATION |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E2YR-1B(L)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER | DESCRIPTION   | EFF CODE    | UPA    | O/H | PCP |
|------------------|-------------|---|-------------|--------|-----|-----|
| 10A-1            |             | HC-E2YR-1B(L), continued  |             |        |     |     |
|                  |             | PROPELLER PARTS, continued  |             |        |     |     |
|                  |             | REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS                   |             |        |     |     |
|                  | 180         | D-2477-3<br>PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A  | A           | 1      |     | PCP |
|                  | 180A        | D-6564-1<br>PCP: HUB UNIT, HC-E2Y(R,K)-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B                   | A           | 1      |     | PCP |
|                  | 180B        | D-6564-21<br>PCP: HUB UNIT, HC-E2Y(R,K)-1<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290<br>REPLACED BY ITEM 180C                   | A<br>B<br>C | 1      |     | PCP |
|                  | 180C        | 105997-21<br>PCP: HUB UNIT, HC-E2Y(R,K)-1<br>REPLACES ITEM 180B, POST HC-ASB-61-341<br>SUPERSEDES ITEM 180B, POST HC-ASB-61-341 | B<br>C      | 1      |     | PCP |
|                  | 190         | B-2457-2<br>FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDED BY ITEM 190A   |             | 1      |     |     |
|                  | 190A        | B-2457-3<br>FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDES ITEM 190   |             | 1      |     |     |
|                  | 192         | B-3323<br>• PLATE, ANTI-ROTATION  |             | 2      | Y   |     |
|                  | 193         | B-3842-0500<br>• SPRING PIN   |             | 4      | Y   |     |
|                  | 200         | A-2217-1<br>A-2217-4<br>BLOCK, PITCH CHANGE (USED WITH ITEM 190)<br>BLOCK, PITCH CHANGE (USED WITH ITEM 190A)                   |             | 2<br>2 |     |     |
|                  | 200A        | A-2217-2<br>BLOCK, PITCH CHANGE, ALTERNATE FOR A-2217-1   |             | 2      |     |     |
|                  | 210         | A-3212<br>BUTTON, PITCH CHANGE BLOCK  |             | 2      | Y   |     |
|                  | 250         | A-2431<br>BOLT, 3/8-24, HEX HEAD  |             | 6      |     |     |
|                  | 260         | A-2432<br>BOLT, 3/8-24, HEX HEAD  |             | 4      |     |     |
|                  | 270         | B-3834-0632<br>WASHER, FLAT, STEEL  |             | 10     | Y   |     |
|                  | 280         | A-2043-1<br>NUT, 3/8-24, HEX SELF-LOCKING   |             | 10     | Y   |     |
|                  | 290         | C-3317-226<br>O-RING, PLUG, HUB (OD)  |             | 1      | Y   |     |
|                  | 300         | A-2481<br>PLUG, HUB   |             | 1      |     |     |
|                  | 310         | C-3317-115-1<br>O-RING, PLUG, HUB (ID)  |             | 1      | Y   |     |

EFF CODE INFORMATION

- A All Applications
- B Serial Numbers before B15677B on Continental CD-200, SMA, and Renault diesel engine applications only
- C Serial Numbers B15677B or later on Continental CD-200, SMA, and Renault diesel engine applications only

- ITEM NOT ILLUSTRATED

**HC-E2YR-1B(L), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
|                  |               | <b>HC-E2YR-1B(L), continued</b>  |          |     |     |     |
| <b>10A-1</b>     |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 4   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB  | E<br>F   | 2   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°, POST HC-SL-61-187<br>ALTERNATE FOR ITEM 330A   |          | 2   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION, POST HC-SL-61-354<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB   | F<br>E   | 2   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 2   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |
| E                |               | HC-E2YR-1BL  |          |     |     |     |
| F                |               | HC-E2YR-1B   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E2YR-1B(L), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER     | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|----------------------|--------------|---|----------|-----|-----|-----|
|                      |              | <b>HC-E2YR-1B(L)F(P)</b>  |          |     |     |     |
| <b>10A-1</b>         |              | <b>PROPELLER PARTS</b>  |          |     |     |     |
| 10                   | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A  |          | 1   | Y   |     |
| 10A                  | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B |          | 1   | Y   |     |
| 10B                  | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278                          |          | 1   | Y   |     |
| 20                   | B-6747       | SEAL, WASHER  |          | 1   | Y   |     |
| 40                   | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A                                     |          | 1   |     |     |
| 40A                  | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278                      |          | 1   |     |     |
| 50                   | B-2428-1     | CYLINDER  |          | 1   |     |     |
| 60                   | B-3838-3-5   | COTTER PIN  |          | 1   | Y   |     |
| 70                   | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)  |          | 1   | Y   |     |
| 80                   | C-3317-348-1 | O-RING (PISTON OD)  |          | 1   | Y   |     |
| 90                   | B-2419       | PISTON  |          | 1   |     |     |
| 100                  | C-3317-018   | O-RING (PISTON ID)  |          | 1   | Y   |     |
| 110                  | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)  |          | 1   |     |     |
| 120                  | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)  |          | 1   |     |     |
| 130                  | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)  |          | 1   | Y   | PCP |
| 140                  | A-2418-3     | ROD, PITCH CHANGE   |          | 1   |     |     |
| 170                  | C-3317-247   | O-RING (CYLINDER)   |          | 1   | Y   |     |
| EFF CODE INFORMATION |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E2YR-1B(L)F(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE        | UPA | O/H | PCP |
|------------------|--------------|---|-----------------|-----|-----|-----|
| 10A-1            |              | HC-E2YR-1B(L)F(P), continued  |                 |     |     |     |
|                  |              | PROPELLER PARTS, continued  |                 |     |     |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b>            |                 |     |     |     |
| 180              | D-2477-3     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A  | A               | 1   |     | PCP |
| 180A             | D-6564-1     | PCP: HUB UNIT, HC-E2Y(R,K)-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B                               | A               | 1   |     | PCP |
| 180B             | D-6564-21    | PCP: HUB UNIT, HC-E2Y(R,K)-1<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290<br><br>REPLACED BY ITEM 180C<br>SUPERSEDED BY ITEM 180C | A<br><br>B<br>C | 1   |     | PCP |
| 180C             | 105997-21    | PCP: HUB UNIT, HC-E2Y(R,K)-1<br>REPLACES ITEM 180B, POST HC-ASB-61-341<br>SUPERSEDES ITEM 180B, POST HC-ASB-61-341              | B<br>C          | 1   |     | PCP |
| 190              | B-2457-3     | FORK, TWO BLADE - ASSEMBLY  |                 | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION  |                 | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN  |                 | 4   |     |     |
| 200              | A-2217-3     | BLOCK, PITCH CHANGE   |                 | 2   |     |     |
| 210              | A-3212-1     | BUTTON, PITCH CHANGE BLOCK  |                 | 2   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |                 | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |                 | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL   |                 | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |                 | 10  | Y   |     |
| 290              | C-3317-226   | O-RING, PLUG, HUB (OD)  |                 | 1   | Y   |     |
| 300              | A-2481       | PLUG, HUB   |                 | 1   |     |     |
| 310              | C-3317-115-1 | O-RING, PLUG, HUB (ID)  |                 | 1   | Y   |     |

**EFF CODE INFORMATION**

- A All Applications
- B Serial Numbers before B15677B on Continental CD-200, SMA, and Renault diesel engine applications only
- C Serial Numbers B15677B or later on Continental CD-200, SMA, and Renault diesel engine applications only

- ITEM NOT ILLUSTRATED

**HC-E2YR-1B(L)F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
|                  |               | <b>HC-E2YR-1B(L)F(P), continued</b>  |          |     |     |     |
| <b>10A-1</b>     |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 4   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB  | E<br>F   | 2   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°, POST HC-SL-61-187<br>ALTERNATE FOR ITEM 330A   |          | 2   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION, POST HC-SL-61-354<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB   | E<br>F   | 2   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 2   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |
| F                |               | HC-E2YR-1BLF(P)  |          |     |     |     |
| F                |               | HC-E2YR-1BF(P)   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E2YR-1B(L)F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>HC-E2YR-1</b>   |          |     |     |     |
| <b>10A-1</b>                |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-4     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180                         | C-3230-3     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A                        | D-6559-1     | PCP: HUB UNIT, HC-F2Y(R,K)-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B                            |          | 1   |     | PCP |
| 180B                        | D-6559-21    | PCP: HUB UNIT, HC-F2Y(R,K)-1<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290  |          | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E2YR-1**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|---|----------|-----|-----|-----|
|                             |              | <b>HC-E2YR-1, continued</b>   |          |     |     |     |
| <b>10A-1</b>                |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190                         | B-2457-2     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDED BY ITEM 190A                               |          | 1   |     |     |
| 190A                        | B-2457-3     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDES ITEM 190                                   |          | 1   |     |     |
| 192                         | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193                         | B-3842-0500  | • SPRING PIN  |          | 4   | Y   |     |
| 200                         | A-2217-1     | BLOCK, PITCH CHANGE (USED WITH ITEM 190)  |          | 2   |     |     |
|                             | A-2217-4     | BLOCK, PITCH CHANGE (USED WITH ITEM 190A)   |          | 2   |     |     |
| 200A                        | A-2217-2     | BLOCK, PITCH CHANGE, ALTERNATE FOR A-2217-1   |          | 2   |     |     |
| 210                         | A-3212       | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280                         | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 290                         | C-3317-226   | O-RING, PLUG, HUB (OD)  |          | 1   | Y   |     |
| 300                         | A-2481       | PLUG, HUB   |          | 1   |     |     |
| 310                         | C-3317-115-1 | O-RING, PLUG, HUB (ID)  |          | 1   | Y   |     |
| 330                         | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 4   | Y   |     |
| 330A                        | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 2   | Y   |     |
| 330B                        | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 2   | Y   |     |
| 331                         | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 2   | Y   |     |
| 332                         | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 2   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E2YR-1, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>HC-E2YR-1, continued</b>  |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E2YR-1, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>HC-E2YR-1F(P)</b>   |          |     |     |     |
| <b>10A-1</b>                |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                    |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-4     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | C-3230-3     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A                        | D-6559-1     | PCP: HUB UNIT, HC-F2Y(R,K)-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B                    |          | 1   |     | PCP |
| 180B                        | D-6559-21    | PCP: HUB UNIT, HC-F2Y(R,K)-1<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290  |          | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E2YR-1F(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
|                  |              | <b>HC-E2YR-1F(P), continued</b>   |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190              | B-2457-3     | FORK, TWO BLADE - ASSEMBLY  |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN  |          | 4   |     |     |
| 200              | A-2217-3     | BLOCK, PITCH CHANGE   |          | 2   |     |     |
| 210              | A-3212-1     | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 290              | C-3317-226   | O-RING, PLUG, HUB (OD)  |          | 1   | Y   |     |
| 300              | A-2481       | PLUG, HUB   |          | 1   |     |     |
| 310              | C-3317-115-1 | O-RING, PLUG, HUB (ID)  |          | 1   | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 4   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 2   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 2   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 2   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 2   | Y   |     |
| EFF CODE         |              | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E2YR-1F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>HC-E2YR-1F(P), continued</b>  |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E2YR-1F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>(B)HC-E2YR-1N(W)</b>  |          |     |     |     |
| <b>10A-2</b>     |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40               | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)  |          | 1   |     |     |
| 50               | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 106              | 101378       | GUIDE, SPRING  |          | 1   |     |     |
| 110              | 101330       | SPRING, COMPRESSION  |          | 1   |     |     |
| 120              | 101335-( )   | SLEEVE, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 126              | 101430       | SPRING SEAT  |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP SLEEVE)   |          | 1   | Y   | PCP |
| 140              | A-2418-3     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170              | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-6564-21    | PCP: HUB UNIT, HC-E2Y(R,K)-1   | A        | 1   |     | PCP |
|                  | D-6564-24    | PCP: HUB UNIT, BHC-E2YR-1  | B        | 1   |     | PCP |
| 190              | B-2457-3     | FORK, TWO BLADE - ASSEMBLY   |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION   |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN   |          | 4   | Y   |     |
| 200              | A-2217-3     | BLOCK, PITCH CHANGE  |          | 2   |     |     |
| 210              | A-3212-1     | BUTTON, BLOCK, PITCH CHANGE  |          | 2   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER   |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING   |          | 10  | Y   |     |
| 290              | C-3317-226   | O-RING, PLUG, HUB (OD)   |          | 1   | Y   |     |
| 300              | A-2481       | PLUG, HUB  |          | 1   |     |     |
| 310              | C-3317-115-1 | O-RING, PLUG, HUB (ID)   |          | 1   | Y   |     |

**EFF CODE INFORMATION**

|   |                |
|---|----------------|
| A | HC-E2YR-1N(W)  |
| B | BHC-E2YR-1N(W) |

- ITEM NOT ILLUSTRATED

**(B)HC-E2YR-1N(W)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
|                  |               | <b>(B)HC-E2YR-1N(W), continued</b>   |          |     |     |     |
| <b>10A-2</b>     |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 4   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB   |          | 2   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 2   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 2   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 2   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-E2YR-1N(W), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER     | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|----------------------|--------------|--|----------|-----|-----|-----|
|                      |              | <b>HC-E2YR-1S</b>  |          |     |     |     |
| <b>10A-1</b>         |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                   | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                  | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B                  | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                   | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                   | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                  | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                   | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60                   | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                   | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                   | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                   | B-2419       | PISTON   |          | 1   |     |     |
| 100                  | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                  | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                  | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                  | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                  | A-2418-3     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                  | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                      |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180                  | C-3230-4     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A                 | D-6559-2     | PCP: HUB UNIT, HC-E2Y(R,K)-1<br>SUPERSEDES ITEM 180  |          | 1   |     | PCP |
| EFF CODE INFORMATION |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E2YR-1S**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|---|----------|-----|-----|-----|
|                             |              | <b>HC-E2YR-1S, continued</b>  |          |     |     |     |
| <b>10A-1</b>                |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190                         | B-2457-2     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDED BY ITEM 190A                               |          | 1   |     |     |
| 190A                        | B-2457-3     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDES ITEM 190                                   |          | 1   |     |     |
| 192                         | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193                         | B-3842-0500  | • SPRING PIN  |          | 4   | Y   |     |
| 200                         | A-2217-1     | BLOCK, PITCH CHANGE (USED WITH ITEM 190)  |          | 2   |     |     |
|                             | A-2217-4     | BLOCK, PITCH CHANGE (USED WITH ITEM 190A)   |          | 2   |     |     |
| 200A                        | A-2217-2     | BLOCK, PITCH CHANGE, ALTERNATE FOR A-2217-1   |          | 2   |     |     |
| 210                         | A-3212       | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280                         | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 290                         | C-3317-226   | O-RING, PLUG, HUB (OD)  |          | 1   | Y   |     |
| 300                         | A-2481       | PLUG, HUB   |          | 1   |     |     |
| 310                         | C-3317-115-1 | O-RING, PLUG, HUB (ID)  |          | 1   | Y   |     |
| 330                         | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 4   | Y   |     |
| 330A                        | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 2   | Y   |     |
| 330B                        | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 2   | Y   |     |
| 331                         | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 2   | Y   |     |
| 332                         | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 2   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E2YR-1S, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>HC-E2YR-1S, continued</b>   |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E2YR-1S, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>HC-E2YR-1SF(P)</b>  |          |     |     |     |
| <b>10A-1</b>                |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                    |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-3     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | C-3230-4     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A                        | D-6559-2     | PCP: HUB UNIT, HC-E2Y(R,K)-1<br>SUPERSEDES ITEM 180  |          | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
|                  |              | <b>HC-E2YR-1SF(P), continued</b>  |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190              | B-2457-3     | FORK, TWO BLADE - ASSEMBLY  |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN  |          | 4   |     |     |
| 200              | A-2217-3     | BLOCK, PITCH CHANGE   |          | 2   |     |     |
| 210              | A-3212-1     | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 290              | C-3317-226   | O-RING, PLUG, HUB (OD)  |          | 1   | Y   |     |
| 300              | A-2481       | PLUG, HUB   |          | 1   |     |     |
| 310              | C-3317-115-1 | O-RING, PLUG, HUB (ID)  |          | 1   | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 4   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 2   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 2   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 2   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 2   | Y   |     |
| EFF CODE         |              | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E2YR-1SF(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
|                  |               | <b>HC-E2YR-1SF(P), continued</b>   |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)  |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)  |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E2YR-1SF(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>HC-F2YL-1F(P)</b>   |          |     |     |     |
| <b>10A-1</b>                |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                    |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-4     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | C-3230-5     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A                        | D-6559-3     | PCP: HUB UNIT, HC-F2YL-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B                        |          | 1   |     | PCP |
| 180B                        | D-6559-23    | PCP: HUB UNIT, HC-F2YL-1<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290  |          | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-F2YL-1F(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
|                  |              | <b>HC-F2YL-1F(P), continued</b>   |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190              | B-2457-3     | FORK, TWO BLADE - ASSEMBLY  |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN  |          | 4   |     |     |
| 200              | A-2217-3     | BLOCK, PITCH CHANGE   |          | 2   |     |     |
| 210              | A-3212-1     | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 290              | C-3317-226   | O-RING, PLUG, HUB (OD)  |          | 1   | Y   |     |
| 300              | A-2481       | PLUG, HUB   |          | 1   |     |     |
| 310              | C-3317-115-1 | O-RING, PLUG, HUB (ID)  |          | 1   | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 4   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 2   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 2   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 2   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 2   | Y   |     |
| EFF CODE         |              | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-F2YL-1F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>HC-F2YL-1F(P), continued</b>  |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>L-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-F2YL-1F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>HC-F2YR-1</b>   |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A              | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                    |          | 1   | Y   |     |
| 10B              | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40               | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A              | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50               | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110              | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-4     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170              | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | C-3230-3     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A             | D-6559-1     | PCP: HUB UNIT, HC-F2Y(R,K)-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B                    |          | 1   |     | PCP |
| 180B             | D-6559-21    | PCP: HUB UNIT, TWO WAY ALUMINUM<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290   |          | 1   |     | PCP |
| EFF CODE         |              | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-F2YR-1**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
|                  |              | <b>HC-F2YR-1, continued</b>   |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190              | B-2457-2     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDED BY ITEM 190A   |          | 1   |     |     |
| 190A             | B-2457-3     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDES ITEM 190   |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN  |          | 4   | Y   |     |
| 200              | A-2217-1     | BLOCK, PITCH CHANGE (USED WITH ITEM 190)  |          | 2   |     |     |
|                  | A-2217-4     | BLOCK, PITCH CHANGE (USED WITH ITEM 190A)   |          | 2   |     |     |
| 200A             | A-2217-2     | BLOCK, PITCH CHANGE, ALTERNATE FOR A-2217-1   |          | 2   |     |     |
| 210              | A-3212       | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 290              | C-3317-226   | O-RING, PLUG, HUB (OD)  |          | 1   | Y   |     |
| 300              | A-2481       | PLUG, HUB   |          | 1   |     |     |
| 310              | C-3317-115-1 | O-RING PLUG, HUB (ID)   |          | 1   | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331   |          | 4   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB  |          | 2   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187  |          | 2   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354   |          | 2   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B  |          | 2   | Y   |     |
| -900             | C-1576       | DAMPER ASSEMBLY<br>(REFER TO "C-1576 DAMPER ASSEMBLY" IN THE 2-BLADE<br>PROPELLER APPENDIX SECTION FOR EXPLODED VIEW<br>AND PARTS LIST) |          | 1   |     |     |
| EFF CODE         |              | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-F2YR-1, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>HC-F2YR-1, continued</b>  |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
| -9000               | B-3840-( )     | <b>BALANCE PARTS</b><br>SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-F2YR-1, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>(D)HC-F2YR-1F(P)</b>  |          |     |     |     |
| <b>10A-1</b>                |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                    |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-4     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | C-3230-3     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   | A        | 1   |     | PCP |
|                             | D-6559-24    | PCP: HUB UNIT, DHC-F2YR-1  | B        | 1   |     | PCP |
| 180A                        | D-6559-1     | PCP: HUB UNIT, HC-F2Y(R,K)-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B                    | A        | 1   |     | PCP |
| 180B                        | D-6559-21    | PCP: HUB UNIT, TWO WAY ALUMINUM<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290   | A        | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |
|                             | A            | HC-F2YR-1F(P)  |          |     |     |     |
|                             | B            | DHC-F2YR-1FP   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(D)HC-F2YR-1F(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
|                  |              | <b>(D)HC-F2YR-1F(P), continued</b>  |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190              | B-2457-3     | FORK, TWO BLADE - ASSEMBLY  |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN  |          | 4   |     |     |
| 200              | A-2217-3     | BLOCK, PITCH CHANGE   |          | 2   |     |     |
| 210              | A-3212-1     | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 290              | C-3317-226   | O-RING, PLUG, HUB (OD)  |          | 1   | Y   |     |
| 300              | A-2481       | PLUG, HUB   |          | 1   |     |     |
| 310              | C-3317-115-1 | O-RING PLUG, HUB (ID)   |          | 1   | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331   |          | 4   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB  |          | 2   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187  |          | 2   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354   |          | 2   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B  |          | 2   | Y   |     |
| -900             | C-1576       | DAMPER ASSEMBLY<br>(REFER TO "C-1576 DAMPER ASSEMBLY" IN THE 2-BLADE<br>PROPELLER APPENDIX SECTION FOR EXPLODED VIEW<br>AND PARTS LIST) | A        | 1   |     |     |
| EFF CODE         |              | INFORMATION   |          |     |     |     |
| A                |              | HC-F2YR-1F(P)   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(D)HC-F2YR-1F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | (D)HC-F2YR-1F(P), continued  |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**(D)HC-F2YR-1F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER     | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|-----------------|--|----------|-----|-----|-----|
|                             |                 | <b>(B,D)HC-G2YF-1BF(P)</b>   |          |     |     |     |
| <b>10A-1</b>                |                 | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359          | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599          | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                    |          | 1   | Y   |     |
| 10B                         | A-2043-1        | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747          | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421          | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472          | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2428-1        | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5      | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211          | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1    | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419          | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018      | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1        | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )      | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867           | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-2        | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-247      | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |                 | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-6531-6        | PCP: HUB UNIT, BHC-G2YF-1<br>SUPERSEDED BY ITEM 180A   | A        | 1   |     | PCP |
|                             | D-6531-48       | PCP: HUB UNIT, DHC-G2YF-1  | B        | 1   |     | PCP |
|                             | D-6531-47       | PCP: HUB UNIT, HC-G2YF-1   | C        | 1   |     | PCP |
| 180A                        | D-6531-26       | PCP: HUB UNIT, BHC-G2YF-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-290<br>SUPERSEDED BY ITEM 180B                       | A        | 1   |     | PCP |
| 180B                        | D-6531-46       | PCP: HUB UNIT, BHC-G2YF-1<br>SUPERSEDES ITEMS 180, 180A, POST HC-SL-61-305   | A        | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |                 |  |          |     |     |     |
| A                           | BHC-G2YF-1BF(P) |  |          |     |     |     |
| B                           | DHC-G2YF-1BF(P) |  |          |     |     |     |
| C                           | HC-G2YF-1BF(P)  |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B,D)HC-G2YF-1BF(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER     | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|----------------------|--------------|---|----------|-----|-----|-----|
|                      |              | (B,D)HC-G2YF-1BF(P), continued  |          |     |     |     |
| <b>10A-1</b>         |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190                  | B-2457-3     | FORK, TWO BLADE - ASSEMBLY  |          | 1   |     |     |
| 192                  | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193                  | B-3842-0500  | • SPRING PIN  |          | 4   |     |     |
| 200                  | A-2217-3     | BLOCK, PITCH CHANGE   |          | 2   |     |     |
| 210                  | A-3212-1     | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 220                  | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)                                     |          | 1   | Y   |     |
| 250                  | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260                  | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270                  | B-3834-0632  | WASHER (FLAT STEEL)   |          | 10  | Y   |     |
| 280                  | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 330                  | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 4   | Y   |     |
| 330A                 | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 2   | Y   |     |
| 330B                 | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 2   | Y   |     |
| 331                  | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 2   | Y   |     |
| 332                  | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 2   | Y   |     |
| EFF CODE INFORMATION |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B,D)HC-G2YF-1BF(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | (B,D)HC-G2YF-1BF(P), continued   |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**(B,D)HC-G2YF-1BF(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>HC-G2YR-1BF(P)</b>  |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40               | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)  |          | 1   |     |     |
| 50               | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110              | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170              | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-6557-44    | PCP: HUB UNIT, HC-G2YR-1   |          | 1   |     | PCP |
| 190              | B-2457-3     | FORK, TWO BLADE - ASSEMBLY   |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION   |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN   |          | 4   |     |     |
| 200              | A-2217-3     | BLOCK, PITCH CHANGE  |          | 2   |     |     |
| 210              | A-3212-1     | BUTTON, PITCH CHANGE BLOCK   |          | 2   | Y   |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER (FLAT, STEEL)   |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING  |          | 10  | Y   |     |
| EFF CODE         |              | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-G2YR-1BF(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
|                  |               | <b>HC-G2YR-1BF(P), continued</b>   |          |     |     |     |
| <b>10A-1</b>     |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 4   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB   |          | 2   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 2   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 2   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 2   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-G2YR-1BF(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>HC-G2YR-1N(W)</b>   |          |     |     |     |
| <b>10A-2</b>                |              | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 10                          | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)  |          | 1   |     |     |
| 50                          | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 106                         | 101378       | GUIDE, SPRING  |          | 1   |     |     |
| 110                         | 101330       | SPRING, COMPRESSION  |          | 1   |     |     |
| 120                         | 101335-( )   | SLEEVE, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 126                         | 101430       | SPRING SEAT  |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP SLEEVE)   |          | 1   | Y   | PCP |
| 140                         | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-6557-44    | PCP: HUB UNIT, HC-G2YR-1N  |          | 1   |     | PCP |
| 190                         | B-2457-3     | FORK, TWO BLADE - ASSEMBLY   |          | 1   |     |     |
| 192                         | B-3323       | • PLATE, ANTI-ROTATION   |          | 2   | Y   |     |
| 193                         | B-3842-0500  | • SPRING PIN   |          | 4   |     |     |
| 200                         | A-2217-3     | BLOCK, PITCH CHANGE  |          | 2   |     |     |
| 210                         | A-3212-1     | BUTTON, PITCH CHANGE BLOCK   |          | 2   | Y   |     |
| 220                         | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 4   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL  |          | 10  | Y   |     |
| 280                         | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING  |          | 10  | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-G2YR-1N(W)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
|                  |               | <b>HC-G2YR-1N(W), continued</b>  |          |     |     |     |
| <b>10A-2</b>     |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING (ENGINE-SIDE OF HUB)   |          | 2   | Y   |     |
| 330A             | C-6349        | LUBRICATION FITTING, 45° (ENGINE-SIDE OF HUB)<br>ALTERNATE FOR ITEM 330  |          | 2   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION (CYLINDER-SIDE OF HUB)   |          | 2   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEM 330   |          | 2   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-G2YR-1N(W), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>(B)HC-I2YF-1BF(P)</b>   |          |     |     |     |
| <b>10A-1</b>                |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                    |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-4214-1     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   | A        | 1   |     | PCP |
|                             | D-4214-2     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   | B        | 1   |     | PCP |
| 180A                        | D-6554-2     | PCP: HUB UNIT, BHC-I2YF-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179  | A        | 1   |     | PCP |
|                             | D-6554-1     | PCP: HUB UNIT, HC-I2YF-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179   | B        | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |
|                             | A            | BHC-I2YF-1BF(P)  |          |     |     |     |
|                             | B            | HC-I2YF-1BF(P)   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-I2YF-1BF(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER     | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|----------------------|--------------|---|----------|-----|-----|-----|
|                      |              | (B)HC-I2YF-1BF(P), continued  |          |     |     |     |
| 10A-1                |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190                  | B-2457-3     | FORK, TWO BLADE - ASSEMBLY  |          | 1   |     |     |
| 192                  | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193                  | B-3842-0500  | • SPRING PIN  |          | 4   |     |     |
| 200                  | A-2217-3     | BLOCK, PITCH CHANGE   |          | 2   |     |     |
| 210                  | A-3212-1     | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 220                  | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)                                     |          | 1   | Y   |     |
| 250                  | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260                  | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270                  | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280                  | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 330                  | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 4   | Y   |     |
| 330A                 | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 2   | Y   |     |
| 330B                 | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 2   | Y   |     |
| 331                  | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 2   | Y   |     |
| 332                  | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 2   | Y   |     |
| EFF CODE INFORMATION |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-I2YF-1BF(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>(B)HC-I2YF-1BF(P), continued</b>  |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-I2YF-1BF(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
| <b>10A-1</b>     |              | <b>HC-I2YR-1BF(P)<br/>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A  |          | 1   | Y   |     |
| 10A              | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B |          | 1   | Y   |     |
| 10B              | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278                          |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER  |          | 1   | Y   |     |
| 40               | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A                                     |          | 1   |     |     |
| 40A              | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278                      |          | 1   |     |     |
| 50               | B-2428-1     | CYLINDER  |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN  |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)  |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)  |          | 1   | Y   |     |
| 90               | B-2419       | PISTON  |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)  |          | 1   | Y   |     |
| 110              | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)  |          | 1   |     |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)  |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)  |          | 1   | Y   | PCP |
| 140              | A-2418-2     | ROD, PITCH CHANGE   |          | 1   |     |     |
| 170              | C-3317-247   | O-RING (CYLINDER)   |          | 1   | Y   |     |
| EFF CODE         |              | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-I2YR-1BF(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE    | UPA | O/H | PCP |
|------------------|--------------|---|-------------|-----|-----|-----|
| 10A-1            |              | <b>HC-I2YR-1BF(P), continued</b><br><b>PROPELLER PARTS, continued</b><br><b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |             |     |     |     |
| 180              | D-4214-7     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A  | A           | 1   |     | PCP |
| 180A             | D-6557-1     | PCP: HUB UNIT, HC-I2YR-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B   | A           | 1   |     | PCP |
| 180B             | D-6557-21    | PCP: HUB UNIT, HC-I2YR-1<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290<br>SUPERSEDED BY ITEM 180C  | A           | 1   |     | PCP |
| 180C             | D-6557-41    | PCP: HUB UNIT, TWO WAY ALUMINUM<br>SUPERSEDES ITEM 180B, POST HC-SL-61-305<br>REPLACED BY ITEM 180D<br>SUPERSEDES BY ITEM 180D  | A<br>B<br>C | 1   |     | PCP |
| 180D             | 106032-41    | PCP: HUB UNIT, TWO WAY ALUMINUM<br>REPLACES ITEM 180C, POST HC-ASB-61-341<br>SUPERSEDES ITEM 180C, POST HC-ASB-61-341   | B<br>C      | 1   |     | PCP |
| 190              | B-2457-3     | FORK, TWO BLADE - ASSEMBLY  |             | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION  |             | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN  |             | 4   |     |     |
| 200              | A-2217-3     | BLOCK, PITCH CHANGE   |             | 2   |     |     |
| 210              | A-3212-1     | BUTTON, PITCH CHANGE BLOCK  |             | 2   | Y   |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)   |             | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |             | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |             | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL   |             | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |             | 10  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331   |             | 4   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB  |             | 2   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187  |             | 2   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354   |             | 2   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B  |             | 2   | Y   |     |

**EFF CODE INFORMATION**

- A All Applications
- B Serial Numbers before B15677B on Renault diesel engine applications only
- C Serial Numbers B15677B or later on Renault diesel engine applications only

- ITEM NOT ILLUSTRATED

**HC-I2YR-1BF(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>HC-I2YR-1BF(P), continued</b><br><b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
| -9000               | B-3840-( )     | <b>BALANCE PARTS</b><br>SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-I2YR-1BF(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>HC-I2YR-1N</b>  |          |     |     |     |
| <b>10A-2</b>                |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)  |          | 1   |     |     |
| 50                          | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 106                         | 101378       | SPRING GUIDE   |          | 1   |     |     |
| 110                         | 101330       | SPRING, COMPRESSION  |          | 1   |     |     |
| 120                         | 101335-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 126                         | 101430       | SPRING SEAT  |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP SLEEVE)   |          | 1   | Y   | PCP |
| 140                         | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-6557-41    | PCP: HUB UNIT, HC-I2YR-1   |          | 1   |     | PCP |
| 190                         | B-2457-3     | FORK, TWO BLADE - ASSEMBLY   |          | 1   |     |     |
| 192                         | B-3323       | • PLATE, ANTI-ROTATION   |          | 2   | Y   |     |
| 193                         | B-3842-0500  | • SPRING PIN   |          | 4   | Y   |     |
| 200                         | A-2217-3     | BLOCK, PITCH CHANGE  |          | 2   |     |     |
| 210                         | A-3212-1     | BUTTON, BLOCK, PITCH CHANGE  |          | 2   | Y   |     |
| 220                         | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 4   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL  |          | 10  | Y   |     |
| 280                         | A-2043-1     | NUT, SELF LOCKING  |          | 10  | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-I2YR-1N**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
|                  |               | <b>HC-I2YR-1N, continued</b>   |          |     |     |     |
| <b>10A-2</b>     |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 4   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB   |          | 2   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 2   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 2   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 2   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-I2YR-1N, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>(B)HC-J2YF-1(B)</b>   |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A              | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                    |          | 1   | Y   |     |
| 10B              | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40               | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A              | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50               | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110              | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-4     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170              | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-2484-2     | PCP: HUB<br>SUPERSEDED BY ITEM 180A  | A        | 1   |     | PCP |
|                  | D-6552-23    | PCP: HUB UNIT, HC-J2YF-1   | B        | 1   |     | PCP |
| 180A             | D-6552-2     | PCP: HUB UNIT, BHC-J2YF-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B                       | A        | 1   |     | PCP |
| 180B             | D-6552-22    | PCP: HUB UNIT, BHC-J2YF-1<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290   | A        | 1   |     | PCP |
| EFF CODE         |              | INFORMATION  |          |     |     |     |
| A                |              | BHC-J2YF-1B  |          |     |     |     |
| B                |              | HC-J2YF-1  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-J2YF-1(B)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|---|----------|-----|-----|-----|
|                             |              | <b>(B)HC-J2YF-1(B), continued</b>   |          |     |     |     |
| <b>10A-1</b>                |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190                         | B-2457-2     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDED BY ITEM 190A                               |          | 1   |     |     |
| 190A                        | B-2457-3     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDES ITEM 190                                   |          | 1   |     |     |
| 192                         | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193                         | B-3842-0500  | • SPRING PIN  |          | 4   | Y   |     |
| 200                         | A-2217-1     | BLOCK, PITCH CHANGE (USED WITH ITEM 190)  |          | 2   |     |     |
|                             | A-2217-4     | BLOCK, PITCH CHANGE (USED WITH ITEM 190A)   |          | 2   |     |     |
| 200A                        | A-2217-2     | BLOCK, PITCH CHANGE, ALTERNATE FOR A-2217-1   |          | 2   |     |     |
| 210                         | A-3212       | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280                         | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 290                         | C-3317-226   | O-RING, PLUG, HUB (OD)  |          | 1   | Y   |     |
| 300                         | A-2481       | PLUG, HUB   |          | 1   |     |     |
| 310                         | C-3317-115-1 | O-RING, PLUG, HUB (ID)  |          | 1   | Y   |     |
| 330                         | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 4   | Y   |     |
| 330A                        | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 2   | Y   |     |
| 330B                        | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 2   | Y   |     |
| 331                         | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 2   | Y   |     |
| 332                         | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 2   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-J2YF-1(B), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | (B)HC-J2YF-1(B), continued   |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-J2YF-1(B), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER                          | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------------------------------|--|----------|-----|-----|-----|
|                             |                                      | <b>(B)HC-J2YF-1(B)(F)(P) and BHC-J2YF-1C(P)</b>  |          |     |     |     |
| <b>10A-1</b>                |                                      | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359                               | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599                               | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                    |          | 1   | Y   |     |
| 10B                         | A-2043-1                             | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747                               | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421                               | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472                               | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2428-1                             | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5                           | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211                               | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1                         | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419                               | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018                           | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1                             | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )                           | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867                                | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-4                             | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-247                           | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |                                      | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-2484-2                             | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   | A        | 1   |     | PCP |
|                             | D-6552-23                            | PCP: HUB UNIT, HC-J2YF-1   | B        | 1   |     | PCP |
| 180A                        | D-6552-2                             | PCP: HUB UNIT, BHC-J2YF-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B                       | A        | 1   |     | PCP |
| 180B                        | D-6552-22                            | PCP: HUB UNIT, BHC-J2YF-1<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290   | A        | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |                                      |  |          |     |     |     |
| A                           | BHC-J2YF-1B(F)(P) and BHC-J2YF-1C(P) |  |          |     |     |     |
| B                           | HC-J2YF-1                            |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-J2YF-1(B)(F)(P) and BHC-J2YF-1C(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
|                  |              | <b>(B)HC-J2YF-1(B)(F)(P) and BHC-J2YF-1C(P), continued</b>                          |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190              | B-2457-3     | FORK, TWO BLADE - ASSEMBLY  |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN  |          | 4   |     |     |
| 200              | A-2217-3     | BLOCK, PITCH CHANGE   |          | 2   |     |     |
| 210              | A-3212-1     | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 290              | C-3317-226   | O-RING, PLUG, HUB (OD)  |          | 1   | Y   |     |
| 300              | A-2481       | PLUG, HUB   |          | 1   |     |     |
| 310              | C-3317-115-1 | O-RING, PLUG, HUB (ID)  |          | 1   | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 4   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 2   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 2   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 2   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 2   | Y   |     |
| EFF CODE         |              | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-J2YF-1(B)(F)(P) and BHC-J2YF-1C(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | (B)HC-J2YF-1(B)(F)(P) and BHC-J2YF-1C(P), continued  |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
| -9000               | B-3840-( )     | <b>BALANCE PARTS</b><br>SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-J2YF-1(B)(F)(P) and BHC-J2YF-1C(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER        | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------------|--|----------|-----|-----|-----|
|                             |                    | <b>BHC-L2YF-1B(L)F(P)</b>  |          |     |     |     |
| <b>10A-1</b>                |                    | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359             | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599             | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                    |          | 1   | Y   |     |
| 10B                         | A-2043-1           | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747             | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421             | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472             | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2428-1           | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5         | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211             | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1       | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419             | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018         | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1           | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )         | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867              | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-2           | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-247         | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |                    | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-2201-19          | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   | A        | 1   |     | PCP |
|                             | D-6531-51          | PCP: HUB UNIT, DHC-L2YF-1BF  | B        | 1   |     | PCP |
|                             | D-6531-50          | PCP: HUB UNIT, HC-L2YF-1BF   | C        | 1   |     | PCP |
| 180A                        | D-6531-5           | PCP: HUB UNIT, BHC-L2YF-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B                       | A        | 1   |     | PCP |
| 180B                        | D-6531-25          | PCP: HUB UNIT, BHC-L2YF-1<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290<br>SUPERSEDED BY ITEM 180C                      | A        | 1   |     | PCP |
| 180C                        | D-6531-45          | PCP: HUB UNIT, BHC-L2YF-1<br>SUPERSEDES ITEM 180B, POST HC-SL-61-305   | A        | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |                    |  |          |     |     |     |
| A                           | BHC-L2YF-1B(L)F(P) |  |          |     |     |     |
| B                           | DHC-L2YF-1BF(P)    |  |          |     |     |     |
| C                           | HC-L2YF-1BF(P)     |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B,D)HC-L2YF-1B(L)F(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>BHC-L2YF-1B(L)F(P), continued</b>   |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 190              | B-2457-3     | FORK, TWO BLADE - ASSEMBLY   |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION   |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN   |          | 4   |     |     |
| 200              | A-2217-3     | BLOCK, PITCH CHANGE  |          | 2   |     |     |
| 210              | A-3212-1     | BUTTON, PITCH CHANGE BLOCK   |          | 2   | Y   |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF   |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL  |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING  |          | 10  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 4   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING, POST HC-SL-61-354<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB | D<br>E   | 2   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 2   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION, POST HC-SL-61-354<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB   | D<br>E   | 2   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 2   | Y   |     |

**EFF CODE INFORMATION**

D (B,D)HC-L2YF-1BF  
E BHC-L2YF-1BLF(P)

- ITEM NOT ILLUSTRATED

**(B,D)HC-L2YF-1B(L)F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | (B,D)HC-L2YF-1B(L)F(P), continued  |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**(B,D)HC-L2YF-1B(L)F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>HC-M2YR-1BF(P)</b>  |          |     |     |     |
| <b>10A-1</b>                |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                    |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1     | SPRING, LOW PITCH RETURN   |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-4214       | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A                        | D-6557-2     | PCP: HUB UNIT, HC-M2YR-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B                        |          | 1   |     | PCP |
| 180B                        | D-6557-22    | PCP: HUB UNIT, HC-M2YR-1<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290<br>SUPERSEDED BY ITEM 180C                       |          | 1   |     | PCP |
| 180C                        | D-6557-42    | PCP: HUB UNIT, HC-M2YR-1<br>SUPERSEDES ITEMS 180B, POST HC-SL-61-305   |          | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-M2YR-1BF(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER     | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|----------------------|--------------|---|----------|-----|-----|-----|
|                      |              | <b>HC-M2YR-1BF(P), continued</b>  |          |     |     |     |
| <b>10A-1</b>         |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190                  | B-2457-3     | FORK, TWO BLADE - ASSEMBLY  |          | 1   |     |     |
| 192                  | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193                  | B-3842-0500  | • SPRING PIN  |          | 4   |     |     |
| 200                  | A-2217-3     | BLOCK, PITCH CHANGE   |          | 2   |     |     |
| 210                  | A-3212-1     | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 220                  | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)                                     |          | 1   | Y   |     |
| 250                  | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260                  | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270                  | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280                  | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 330                  | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 4   | Y   |     |
| 330A                 | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 2   | Y   |     |
| 330B                 | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 2   | Y   |     |
| 331                  | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 2   | Y   |     |
| 332                  | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 2   | Y   |     |
| EFF CODE INFORMATION |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-M2YR-1BF(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>HC-M2YR-1BF(P), continued</b>   |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-M2YR-1BF(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER                            | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--|--|----------|-----|-----|-----|
|                  |  | <b>(B)HC-C2YF-4</b>  |          |     |     |     |
| <b>10A-1</b>     |  | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3359                                 | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   | A        | 1   | Y   |     |
|                  | B-3807                                 | NUT, 5/8-18, HEX, SELF-LOCKING   | B        | 1   | Y   |     |
| 10A              | B-3599                                 | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244  | A        | 1   | Y   |     |
| 30               | B-3834-0663                            | WASHER   | A        | 1   | Y   |     |
|                  | B-3851-1032                            | WASHER, THIN, FLAT   | B        | 1   | Y   |     |
| 40               | A-4252                                 | SCREW, PITCH ADJUST, 3/8-24 (LOW PITCH STOP)   | A        | 1   |     |     |
|                  | A-4257                                 | SCREW, SET, 5/8-18 DRILLED (LOW PITCH STOP)  | B        | 1   |     |     |
| 50               | B-2428-1                               | CYLINDER<br>SUPERSEDED BY ITEM 50A   |          | 1   |     |     |
| 50A              | B-2428-2                               | CYLINDER<br>SUPERSEDES ITEM 50, POST HC-SL-61-342  |          | 1   |     |     |
| 60               | B-3838-3-5                             | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211                                 | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1                           | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419                                 | PISTON   |          | 1   |     |     |
| 100              | C-3317-018                             | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 120              | A-2420-( )                             | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867                                  | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-5                               | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150              | C-3317-210-1                           | O-RING (PITCH CHANGE ROD CYLINDER-SIDE HUB HALF)   |          | 1   | Y   |     |
| 170              | C-3317-247                             | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |  | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-6530-2                               | PCP: HUB UNIT, BHC-C2YF-(2,4)<br>SUPERSEDED BY ITEM 180A   | C        | 1   |     | PCP |
|                  | D-6530-1                               | PCP: HUB UNIT, HC-C2YF-(2,4)<br>SUPERSEDED BY ITEM 180A  | D        | 1   |     | PCP |
| 180A             | D-6530-5                               | PCP: HUB UNIT, BHC-C2YF-(2,4)<br>SUPERSEDES ITEM 180<br>SUPERSEDED BY ITEM 180B                                      | C        | 1   |     | PCP |
|                  | D-6530-12                              | PCP: HUB UNIT, HC-C2YF-(2,4)<br>SUPERSEDES ITEM 180<br>SUPERSEDED BY ITEM 180B                                       | D        | 1   |     | PCP |
| 180B             | D-6530-25                              | PCP: HUB UNIT, BHC-C2YF-(2,4)<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290   | C        | 1   |     | PCP |
|                  | D-6530-32                              | PCP: HUB UNIT, HC-C2YF-(2,4)<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290  | D        | 1   |     | PCP |
| EFF CODE         |  | INFORMATION  |          |     |     |     |
| A                | Used with B-2428-1 Cylinder (Item 50)  |  |          |     |     |     |
| B                | Used with B-2428-2 Cylinder (Item 50A) |  |          |     |     |     |
| C                | BHC-C2YF-4                             |  |          |     |     |     |
| D                | HC-C2YF-4                              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-C2YF-4**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|---|----------|-----|-----|-----|
|                             |              | <b>(B)HC-C2YF-4, continued</b>  |          |     |     |     |
| <b>10A-1</b>                |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190                         | B-2457-2     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDED BY ITEM 190A                               |          | 1   |     |     |
| 190A                        | B-2457-3     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDES ITEM 190                                   |          | 1   |     |     |
| 192                         | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193                         | B-3842-0500  | • SPRING PIN  |          | 4   | Y   |     |
| 200                         | A-2217-1     | BLOCK, PITCH CHANGE (USED WITH ITEM 190)  |          | 2   |     |     |
|                             | A-2217-4     | BLOCK, PITCH CHANGE (USED WITH ITEM 190A)   |          | 2   |     |     |
| 200A                        | A-2217-2     | BLOCK, PITCH CHANGE, ALTERNATE FOR A-2217-1   |          | 2   |     |     |
| 210                         | A-3212       | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 220                         | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)                                     |          | 1   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280                         | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 330                         | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 4   | Y   |     |
| 330A                        | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 2   | Y   |     |
| 330B                        | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 2   | Y   |     |
| 331                         | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 2   | Y   |     |
| 332                         | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 2   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-C2YF-4, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
|                  |               | <b>(B)HC-C2YF-4, continued</b>  |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )    | SCREW   |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT  |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER   |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-C2YF-4, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
|                  |              | <b>(B)HC-C2YF-4F</b>  |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS</b>  |          |     |     |     |
| 10               | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A                | A        | 1   | Y   |     |
|                  | B-3807       | NUT, 5/8-18, HEX, SELF-LOCKING  | B        | 1   | Y   |     |
| 10A              | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244 | A        | 1   | Y   |     |
| 30               | B-3834-0663  | WASHER  | A        | 1   | Y   |     |
|                  | B-3851-1032  | WASHER, THIN, FLAT  | B        | 1   | Y   |     |
| 40               | A-4252       | SCREW, PITCH ADJUST, 3/8-24 (LOW PITCH STOP)                            | A        | 1   |     |     |
|                  | A-4257       | SCREW, SET, 5/8-18 DRILLED (LOW PITCH STOP)                             | B        | 1   |     |     |
| 50               | B-2428-1     | CYLINDER<br>SUPERSEDED BY ITEM 50A                                      |          | 1   |     |     |
| 50A              | B-2428-2     | CYLINDER<br>SUPERSEDES ITEM 50, POST HC-SL-61-342                       |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN  |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)                      |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)  |          | 1   | Y   |     |
| 90               | B-2419       | PISTON  |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)  |          | 1   | Y   |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)                        |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)  |          | 1   | Y   | PCP |
| 140              | A-2418-5     | ROD, PITCH CHANGE   |          | 1   |     |     |
| 150              | C-3317-210-1 | O-RING (PITCH CHANGE ROD CYLINDER-SIDE HUB HALF)                        |          | 1   | Y   |     |
| 170              | C-3317-247   | O-RING (CYLINDER)   |          | 1   | Y   |     |

**EFF CODE INFORMATION**

- A Used with B-2428-1 Cylinder (Item 50)
- B Used with B-2428-2 Cylinder (Item 50A)

- ITEM NOT ILLUSTRATED

**(B)HC-C2YF-4F**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | (B)HC-C2YF-4F, continued   |          |     |     |     |
| 10A-1            |              | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-6530-2     | PCP: HUB UNIT, BHC-C2YF-(2,4)<br>SUPERSEDED BY ITEM 180A   | C        | 1   |     | PCP |
|                  | D-6530-1     | PCP: HUB UNIT, HC-C2YF-(2,4)<br>SUPERSEDED BY ITEM 180A  | D        | 1   |     | PCP |
| 180A             | D-6530-5     | PCP: HUB UNIT, BHC-C2YF-(2,4)<br>SUPERSEDES ITEM 180<br>SUPERSEDED BY ITEM 180B                                      | C        | 1   |     | PCP |
|                  | D-6530-12    | PCP: HUB UNIT, HC-C2YF-(2,4)<br>SUPERSEDES ITEM 180<br>SUPERSEDED BY ITEM 180B                                       | D        | 1   |     | PCP |
| 180B             | D-6530-25    | PCP: HUB UNIT, BHC-C2YF-(2,4)<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290   | C        | 1   |     | PCP |
|                  | D-6530-32    | PCP: HUB UNIT, HC-C2YF-(2,4)<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290  | D        | 1   |     | PCP |
| 190              | B-2457-3     | FORK, TWO BLADE - ASSEMBLY   |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION   |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN   |          | 4   |     |     |
| 200              | A-2217-3     | BLOCK, PITCH CHANGE  |          | 2   |     |     |
| 210              | A-3212-1     | BUTTON, PITCH CHANGE BLOCK   |          | 2   | Y   |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL  |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING  |          | 10  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 4   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB   |          | 2   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 2   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354                                  |          | 2   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 2   | Y   |     |

**EFF CODE                      INFORMATION**

C                      BHC-C2YF-4F  
D                      HC-C2YF-4F

- ITEM NOT ILLUSTRATED

**(B)HC-C2YF-4F, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
|                  |               | <b>(B)HC-C2YF-4F, continued</b>   |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )    | SCREW   |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT  |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER   |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-C2YF-4F, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>(B)HC-C2YF-4B</b>   |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3807       | NUT, 5/8-18, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 30               | B-3851-1032  | WASHER, THIN, FLAT   |          | 1   | Y   |     |
| 40               | A-4257       | SCREW, SET, 5/8-18 DRILLED (LOW PITCH STOP)  |          | 1   |     |     |
| 50               | B-2428-2     | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-5     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150              | C-3317-210-1 | O-RING (PITCH CHANGE ROD CYLINDER-SIDE HUB HALF)   |          | 1   | Y   |     |
| 170              | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-6530-2     | PCP: HUB UNIT, BHC-C2YF-(2,4)<br>SUPERSEDED BY ITEM 180A   | A        | 1   |     | PCP |
|                  | D-6530-1     | PCP: HUB UNIT, HC-C2YF-(2,4)<br>SUPERSEDED BY ITEM 180A  | B        | 1   |     | PCP |
| 180A             | D-6530-5     | PCP: HUB UNIT, BHC-C2YF-(2,4)<br>SUPERSEDES ITEM 180   | A        | 1   |     | PCP |
|                  | D-6530-12    | PCP: HUB UNIT, HC-C2YF-(2,4)<br>SUPERSEDES ITEM 180  | B        | 1   |     | PCP |
| 180B             | D-6530-25    | PCP: HUB UNIT, BHC-C2YF-(2,4)<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290   | A        | 1   |     | PCP |
|                  | D-6530-32    | PCP: HUB UNIT, HC-C2YF-(2,4)<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290  | B        | 1   |     | PCP |
| EFF CODE         |              | INFORMATION  |          |     |     |     |
| A                |              | BHC-C2YF-4B  |          |     |     |     |
| B                |              | HC-C2YF-4B   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-C2YF-4B**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
|                  |              | <b>(B)HC-C2YF-4B, continued</b>   |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190              | B-2457-2     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDED BY ITEM 190A                               |          | 1   |     |     |
| 190A             | B-2457-3     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDES ITEM 190                                   |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN  |          | 4   | Y   |     |
| 200              | A-2217-1     | BLOCK, PITCH CHANGE (USED WITH ITEM 190)  |          | 2   |     |     |
|                  | A-2217-4     | BLOCK, PITCH CHANGE (USED WITH ITEM 190A)   |          | 2   |     |     |
| 200A             | A-2217-2     | BLOCK, PITCH CHANGE, ALTERNATE FOR A-2217-1   |          | 2   |     |     |
| 210              | A-3212       | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)                                     |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 4   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 2   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 2   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 2   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 2   | Y   |     |
| EFF CODE         |              | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-C2YF-4B, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
|                  |               | <b>(B)HC-C2YF-4B, continued</b>   |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )    | SCREW   |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT  |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER   |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-C2YF-4B, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER     | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|-----------------|--|----------|-----|-----|-----|
|                  |                 | <b>(B)HC-C2YF-4BF(P)</b>   |          |     |     |     |
| <b>10A-1</b>     |                 | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3807          | NUT, 5/8-18, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 30               | B-3851-1032     | WASHER, THIN, FLAT   |          | 1   | Y   |     |
| 40               | A-4257          | SCREW, SET, 5/8-18 DRILLED (LOW PITCH STOP)  |          | 1   |     |     |
| 50               | B-2428-2        | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5      | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211          | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1    | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419          | PISTON   |          | 1   |     |     |
| 100              | C-3317-018      | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 120              | A-2420-( )      | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867           | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-5        | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150              | C-3317-210-1    | O-RING (PITCH CHANGE ROD CYLINDER-SIDE HUB HALF)   |          | 1   | Y   |     |
| 170              | C-3317-247      | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |                 | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-6530-2        | PCP: HUB UNIT, BHC-C2YF-(2,4)<br>SUPERSEDED BY ITEM 180A   | A        | 1   |     | PCP |
|                  | D-6530-1        | PCP: HUB UNIT, HC-C2YF-(2,4)<br>SUPERSEDED BY ITEM 180A  | B        | 1   |     | PCP |
| 180A             | D-6530-5        | PCP: HUB UNIT, BHC-C2YF-(2,4)<br>SUPERSEDES ITEM 180<br>SUPERSEDED BY ITEM 180B                                      | A        | 1   |     | PCP |
|                  | D-6530-12       | PCP: HUB UNIT, HC-C2YF-(2,4)<br>SUPERSEDES ITEM 180<br>SUPERSEDED BY ITEM 180B                                       | B        | 1   |     | PCP |
| 180B             | D-6530-25       | PCP: HUB UNIT, BHC-C2YF-(2,4)<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290   | A        | 1   |     | PCP |
|                  | D-6530-32       | PCP: HUB UNIT, HC-C2YF-(2,4)<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290  | B        | 1   |     | PCP |
| EFF CODE         |                 | INFORMATION  |          |     |     |     |
| A                | BHC-C2YF-4BF(P) |  |          |     |     |     |
| B                | HC-C2YF-4BF(P)  |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-C2YF-4BF(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER     | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|----------------------|--------------|---|----------|-----|-----|-----|
|                      |              | <b>(B)HC-C2YF-4BF(P), continued</b>   |          |     |     |     |
| <b>10A-1</b>         |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190                  | B-2457-3     | FORK, TWO BLADE - ASSEMBLY  |          | 1   |     |     |
| 192                  | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193                  | B-3842-0500  | • SPRING PIN  |          | 4   |     |     |
| 200                  | A-2217-3     | BLOCK, PITCH CHANGE   |          | 2   |     |     |
| 210                  | A-3212-1     | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 220                  | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)                                     |          | 1   | Y   |     |
| 250                  | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260                  | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270                  | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280                  | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 330                  | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 4   | Y   |     |
| 330A                 | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 2   | Y   |     |
| 330B                 | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 2   | Y   |     |
| 331                  | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 2   | Y   |     |
| 332                  | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 2   | Y   |     |
| EFF CODE INFORMATION |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-C2YF-4BF(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
|                  |               | <b>(B)HC-C2YF-4BF(P), continued</b>   |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )    | SCREW   |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT  |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER   |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-C2YF-4BF(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>HC-C2YK-4(A)</b>  |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   | A        | 1   | Y   |     |
|                  | B-3807       | NUT, 5/8-18, HEX, SELF-LOCKING   | B        | 1   | Y   |     |
| 10A              | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244  | A        | 1   | Y   |     |
| 30               | B-3834-0663  | WASHER   | A        | 1   | Y   |     |
|                  | B-3851-1032  | WASHER, THIN, FLAT   | B        | 1   | Y   |     |
| 40               | A-4252       | SCREW, PITCH ADJUST, 3/8-24 (LOW PITCH STOP)   | A        | 1   |     |     |
|                  | A-4257       | SCREW, SET, 5/8-18 DRILLED (LOW PITCH STOP)  | B        | 1   |     |     |
| 50               | B-2428-1     | CYLINDER<br>SUPERSEDED BY ITEM 50A   |          | 1   |     |     |
| 50A              | B-2428-2     | CYLINDER<br>SUPERSEDES ITEM 50, POST HC-SL-61-342  |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-5     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150              | C-3317-210-1 | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170              | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-2201-2     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
|                  | D-2201-16    | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A             | D-6522-1     | PCP: HUB UNIT, HC-C2Y(K,R)-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B                |          | 1   |     | PCP |
| 180B             | D-6522-21    | PCP: HUB UNIT, HC-C2Y(K,R)-(2,4)<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290  |          | 1   |     | PCP |

**EFF CODE INFORMATION**

A Used with B-2428-1 Cylinder (Item 50)  
B Used with B-2428-2 Cylinder (Item 50A)

- ITEM NOT ILLUSTRATED

**HC-C2YK-4(A)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|---|----------|-----|-----|-----|
|                             |              | <b>HC-C2YK-4(A), continued</b>  |          |     |     |     |
| <b>10A-1</b>                |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190                         | B-2457-2     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDED BY ITEM 190A                               |          | 1   |     |     |
| 190A                        | B-2457-3     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDES ITEM 190                                   |          | 1   |     |     |
| 192                         | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193                         | B-3842-0500  | • SPRING PIN  |          | 4   | Y   |     |
| 200                         | A-2217-1     | BLOCK, PITCH CHANGE (USED WITH ITEM 190)  |          | 2   |     |     |
|                             | A-2217-4     | BLOCK, PITCH CHANGE (USED WITH ITEM 190A)   |          | 2   |     |     |
| 200A                        | A-2217-2     | BLOCK, PITCH CHANGE, ALTERNATE FOR A-2217-1   |          | 2   |     |     |
| 210                         | A-3212       | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 220                         | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)                                     |          | 1   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280                         | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 330                         | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 4   | Y   |     |
| 330A                        | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 2   | Y   |     |
| 330B                        | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 2   | Y   |     |
| 331                         | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 2   | Y   |     |
| 332                         | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 2   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YK-4(A), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
|                  |               | <b>HC-C2YK-4(A), continued</b>  |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>K-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )    | SCREW   |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT  |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER   |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YK-4(A), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>HC-C2YK-4(A)F</b>   |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   | A        | 1   | Y   |     |
|                  | B-3807       | NUT, 5/8-18, HEX, SELF-LOCKING   | B        | 1   | Y   |     |
| 10A              | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244  | A        | 1   | Y   |     |
| 30               | B-3834-0663  | WASHER   | A        | 1   | Y   |     |
|                  | B-3851-1032  | WASHER, THIN, FLAT   | B        | 1   | Y   |     |
| 40               | A-4252       | SCREW, PITCH ADJUST, 3/8-24 (LOW PITCH STOP)   | A        | 1   |     |     |
|                  | A-4257       | SCREW, SET, 5/8-18 DRILLED (LOW PITCH STOP)  | B        | 1   |     |     |
| 50               | B-2428-1     | CYLINDER<br>SUPERSEDED BY ITEM 50A   |          | 1   |     |     |
| 50A              | B-2428-2     | CYLINDER<br>SUPERSEDES ITEM 50, POST HC-SL-61-342  |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-5     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150              | C-3317-210-1 | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170              | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-2201-2     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
|                  | D-2201-16    | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A             | D-6522-1     | PCP: HUB UNIT, HC-C2Y(K,R)-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B                |          | 1   |     | PCP |
| 180B             | D-6522-21    | PCP: HUB UNIT, HC-C2Y(K,R)-(2,4)<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290  |          | 1   |     | PCP |

**EFF CODE INFORMATION**

- A Used with B-2428-1 Cylinder (Item 50)
- B Used with B-2428-2 Cylinder (Item 50A)

- ITEM NOT ILLUSTRATED

**HC-C2YK-4(A)F**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER     | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|----------------------|--------------|---|----------|-----|-----|-----|
|                      |              | <b>HC-C2YK-4(A)F, continued</b>   |          |     |     |     |
| <b>10A-1</b>         |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190                  | B-2457-3     | FORK, TWO BLADE - ASSEMBLY  |          | 1   |     |     |
| 192                  | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193                  | B-3842-0500  | • SPRING PIN  |          | 4   |     |     |
| 200                  | A-2217-3     | BLOCK, PITCH CHANGE   |          | 2   |     |     |
| 210                  | A-3212-1     | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 220                  | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)                                     |          | 1   | Y   |     |
| 250                  | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260                  | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270                  | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280                  | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 330                  | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 4   | Y   |     |
| 330A                 | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 2   | Y   |     |
| 330B                 | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 2   | Y   |     |
| 331                  | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 2   | Y   |     |
| 332                  | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 2   | Y   |     |
| EFF CODE INFORMATION |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YK-4(A)F, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
|                  |               | <b>HC-C2YK-4(A)F, continued</b>   |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>K-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )    | SCREW   |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT  |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER   |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>COUNTERWEIGHT SLUGS/MOUNTING HARDWARE</b>  |          |     |     |     |
|                  |               | APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER AND PROPELLER CRITICAL PART (PCP) IDENTIFICATION   |          |     |     |     |
| -9050            |               | COUNTERWEIGHT SLUGS   | A        |     |     |     |
| -9060            |               | COUNTERWEIGHT SLUG MOUNTING BOLT  |          |     | Y   |     |
| -9070            |               | COUNTERWEIGHT SLUG MOUNTING NUT   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b>  |          |     |     |     |
|                  |               | APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION   |          |     |     |     |
| A                |               | HC-C2YK-4F Only   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YK-4(A)F, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>HC-C2YK-4B and HC-C2YK-4C</b>   |          |     |     |     |
| <b>10A-1</b>                |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3807       | NUT, 5/8-18, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 30                          | B-3851-1032  | WASHER, THIN, FLAT   |          | 1   | Y   |     |
| 40                          | A-4257       | SCREW, SET, 5/8-18 DRILLED (LOW PITCH STOP)  |          | 1   |     |     |
| 50                          | B-2428-2     | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-5     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150                         | C-3317-210-1 | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170                         | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-2201-2     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
|                             | D-2201-16    | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A                        | D-6522-1     | PCP: HUB UNIT, HC-C2Y(K,R)-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B                |          | 1   |     | PCP |
| 180B                        | D-6522-21    | PCP: HUB UNIT, HC-C2Y(K,R)-(2,4)<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290  |          | 1   |     | PCP |
| 190                         | B-2457-2     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDED BY ITEM 190A  |          | 1   |     |     |
| 190A                        | B-2457-3     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDES ITEM 190  |          | 1   |     |     |
| 192                         | B-3323       | • PLATE, ANTI-ROTATION   |          | 2   | Y   |     |
| 193                         | B-3842-0500  | • SPRING PIN   |          | 4   | Y   |     |
| 200                         | A-2217-1     | BLOCK, PITCH CHANGE (USED WITH ITEM 190)   |          | 2   |     |     |
|                             | A-2217-4     | BLOCK, PITCH CHANGE (USED WITH ITEM 190A)  |          | 2   |     |     |
| 200A                        | A-2217-2     | BLOCK, PITCH CHANGE, ALTERNATE FOR A-2217-1  |          | 2   |     |     |
| 210                         | A-3212       | BUTTON, PITCH CHANGE BLOCK   |          | 2   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YK-4B and HC-C2YK-4C**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
|                  |              | <b>HC-C2YK-4B and HC-C2YK-4C, continued</b>   |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)                                     |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 4   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 2   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 2   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 2   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 2   | Y   |     |
| EFF CODE         |              | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YK-4B and HC-C2YK-4C, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
|                  |               | <b>HC-C2YK-4B and HC-C2YK-4C, continued</b>   |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>K-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )    | SCREW   |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT  |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER   |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YK-4B and HC-C2YK-4C, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>HC-C2YK-4BF(P) and HC-C2YK-4CF(P)</b>   |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3807       | NUT, 5/8-18, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 30               | B-3851-1032  | WASHER, THIN, FLAT   |          | 1   | Y   |     |
| 40               | A-4257       | SCREW, SET, 5/8-18 DRILLED (LOW PITCH STOP)  |          | 1   |     |     |
| 50               | B-2428-2     | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-5     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150              | C-3317-210-1 | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170              | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-2201-2     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
|                  | D-2201-16    | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A             | D-6522-1     | PCP: HUB UNIT, HC-C2Y(K,R)-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-179<br>SUPERSEDED BY ITEM 180B                |          | 1   |     | PCP |
| 180B             | D-6522-21    | PCP: HUB UNIT, HC-C2Y(K,R)-(2,4)<br>SUPERSEDES ITEM 180A, POST HC-SL-61-290  |          | 1   |     | PCP |
| 190              | B-2457-3     | FORK, TWO BLADE - ASSEMBLY   |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION   |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN   |          | 4   |     |     |
| 200              | A-2217-3     | BLOCK, PITCH CHANGE  |          | 2   |     |     |
| 210              | A-3212-1     | BUTTON, PITCH CHANGE BLOCK   |          | 2   | Y   |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL  |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING  |          | 10  | Y   |     |
| EFF CODE         |              | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YK-4BF(P) and HC-C2YK-4CF(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION   | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|---|-------------|-----|-----|-----|
|                     |                | <b>HC-C2YK-4BF(P) and HC-C2YK-4CF(P), continued</b>                                 |             |     |     |     |
| <b>10A-1</b>        |                | <b>PROPELLER PARTS, continued</b>   |             |     |     |     |
| 330                 | A-279          | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |             | 4   | Y   |     |
| 330A                | A-279          | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |             | 2   | Y   |     |
| 330B                | C-6349         | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |             | 2   | Y   |     |
| 331                 | 106545         | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |             | 2   | Y   |     |
| -332                | B-6544         | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |             | 2   | Y   |     |
| EFF CODE            |                | INFORMATION   |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YK-4BF(P) and HC-C2YK-4CF(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
|                  |               | <b>HC-C2YK-4BF(P) and HC-C2YK-4CF(P), continued</b>   |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>K-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )    | SCREW   |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT  |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER   |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>COUNTERWEIGHT SLUGS/MOUNTING HARDWARE</b>  |          |     |     |     |
|                  |               | APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER AND PROPELLER CRITICAL PART (PCP) IDENTIFICATION   |          |     |     |     |
| -9050            |               | COUNTERWEIGHT SLUGS   | A        |     |     |     |
| -9060            |               | COUNTERWEIGHT SLUG MOUNTING BOLT  | A        |     | Y   |     |
| -9070            |               | COUNTERWEIGHT SLUG MOUNTING NUT   | A        |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b>  |          |     |     |     |
|                  |               | APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION   |          |     |     |     |
| A                |               | HC-C2YK-4(C)F( ) Only   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YK-4BF(P) and HC-C2YK-4CF(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER                            | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--|--|----------|-----|-----|-----|
|                             |  | <b>HC-C2YL-4</b>   |          |     |     |     |
| <b>10A-1</b>                |  | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359                                 | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   | A        | 1   | Y   |     |
|                             | B-3807                                 | NUT, 5/8-18, HEX, SELF-LOCKING   | B        | 1   | Y   |     |
| 10A                         | B-3599                                 | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244  | A        | 1   | Y   |     |
| 30                          | B-3834-0663                            | WASHER   | A        | 1   | Y   |     |
|                             | B-3851-1032                            | WASHER, THIN, FLAT   | B        | 1   | Y   |     |
| 40                          | A-4252                                 | SCREW, PITCH ADJUST, 3/8-24 (LOW PITCH STOP)   | A        | 1   |     |     |
|                             | A-4257                                 | SCREW, SET, 5/8-18 DRILLED (LOW PITCH STOP)  | B        | 1   |     |     |
| 50                          | B-2428-1                               | CYLINDER<br>SUPERSEDED BY ITEM 50A   |          | 1   |     |     |
| 50A                         | B-2428-2                               | CYLINDER<br>SUPERSEDES ITEM 50, POST HC-SL-61-342  |          | 1   |     |     |
| 60                          | B-3838-3-5                             | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211                                 | NUT, 0.718 CASTELLATED, THIN (PITCH CHANGE ROD)  |          | 1   | Y   |     |
| 80                          | C-3317-348-1                           | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419                                 | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018                             | O-RING (PISTON ID)   |          | 1   |     |     |
| 120                         | A-2420-( )                             | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867                                  | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-5                               | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150                         | C-3317-210-1                           | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170                         | C-3317-247                             | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |  | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-6522-2                               | PCP: HUB UNIT, HC-C2YL-(2,4)<br>SUPERSEDED BY ITEM 180A  |          | 1   |     | PCP |
| 180A                        | D-6522-22                              | PCP: HUB UNIT, HC-C2YL-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-290   |          | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |  |  |          |     |     |     |
| A                           | Used with B-2428-1 Cylinder (Item 50)  |  |          |     |     |     |
| B                           | Used with B-2428-2 Cylinder (Item 50A) |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YL-4**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
|                  |              | <b>HC-C2YL-4, continued</b>   |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190              | B-2457-2     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDED BY ITEM 190A                               |          | 1   |     |     |
| 190A             | B-2457-3     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDES ITEM 190                                   |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN  |          | 4   | Y   |     |
| 200              | A-2217-1     | BLOCK, PITCH CHANGE (USED WITH ITEM 190)  |          | 2   |     |     |
|                  | A-2217-4     | BLOCK, PITCH CHANGE (USED WITH ITEM 190A)   |          | 2   |     |     |
| 200A             | A-2217-2     | BLOCK, PITCH CHANGE, ALTERNATE FOR A-2217-1   |          | 2   |     |     |
| 210              | A-3212       | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)                                     |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 4   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 2   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 2   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 2   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 2   | Y   |     |
| EFF CODE         |              | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YL-4, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
|                  |               | <b>HC-C2YL-4, continued</b>   |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>L-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )    | SCREW   |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT  |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER   |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b>  |          |     |     |     |
|                  |               | APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YL-4, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER                            | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--|--|----------|-----|-----|-----|
|                             |  | <b>HC-C2YL-4F</b>  |          |     |     |     |
| <b>10A-1</b>                |  | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359                                 | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   | A        | 1   | Y   |     |
|                             | B-3807                                 | NUT, 5/8-18, HEX, SELF-LOCKING   | B        | 1   | Y   |     |
| 10A                         | B-3599                                 | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244  | A        | 1   | Y   |     |
| 30                          | B-3834-0663                            | WASHER   | A        | 1   | Y   |     |
|                             | B-3851-1032                            | WASHER, THIN, FLAT   | B        | 1   | Y   |     |
| 40                          | A-4252                                 | SCREW, PITCH ADJUST, 3/8-24 (LOW PITCH STOP)   | A        | 1   |     |     |
|                             | A-4257                                 | SCREW, SET, 5/8-18 DRILLED (LOW PITCH STOP)  | B        | 1   |     |     |
| 50                          | B-2428-1                               | CYLINDER<br>SUPERSEDED BY ITEM 50A   |          | 1   |     |     |
| 50A                         | B-2428-2                               | CYLINDER<br>SUPERSEDES ITEM 50, POST HC-SL-61-342  |          | 1   |     |     |
| 60                          | B-3838-3-5                             | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211                                 | NUT, 0.718 CASTELLATED, THIN (PITCH CHANGE ROD)  |          | 1   | Y   |     |
| 80                          | C-3317-348-1                           | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419                                 | PISTON   | 1        |     |     |     |
| 100                         | C-3317-018                             | O-RING (PISTON ID)   |          | 1   |     |     |
| 120                         | A-2420-( )                             | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867                                  | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-5                               | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150                         | C-3317-210-1                           | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170                         | C-3317-247                             | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |  | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-6522-2                               | PCP: HUB UNIT, HC-C2YL-(2,4)<br>SUPERSEDED BY ITEM 180A  |          | 1   |     | PCP |
| 180A                        | D-6522-22                              | PCP: HUB UNIT, HC-C2YL-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-290   |          | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |  |  |          |     |     |     |
| A                           | Used with B-2428-1 Cylinder (Item 50)  |  |          |     |     |     |
| B                           | Used with B-2428-2 Cylinder (Item 50A) |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YL-4F**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER     | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|----------------------|--------------|---|----------|-----|-----|-----|
|                      |              | <b>HC-C2YL-4F, continued</b>  |          |     |     |     |
| <b>10A-1</b>         |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190                  | B-2457-3     | FORK, TWO BLADE - ASSEMBLY  |          | 1   |     |     |
| 192                  | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193                  | B-3842-0500  | • SPRING PIN  |          | 4   |     |     |
| 200                  | A-2217-3     | BLOCK, PITCH CHANGE   |          | 2   |     |     |
| 210                  | A-3212-1     | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 220                  | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)                                     |          | 1   | Y   |     |
| 250                  | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260                  | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270                  | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280                  | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 330                  | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 4   | Y   |     |
| 330A                 | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 2   | Y   |     |
| 330B                 | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 2   | Y   |     |
| 331                  | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 2   | Y   |     |
| 332                  | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 2   | Y   |     |
| EFF CODE INFORMATION |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YL-4F, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
|                  |               | <b>HC-C2YL-4F, continued</b>  |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>L-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )    | SCREW   |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT  |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER   |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YL-4F, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>HC-C2YL-4B</b>  |          |     |     |     |
| <b>10A-1</b>                |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3807       | NUT, 5/8-18, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 30                          | B-3851-1032  | WASHER, THIN, FLAT   |          | 1   | Y   |     |
| 40                          | A-4257       | SCREW, SET, 5/8-18 DRILLED (LOW PITCH STOP)  |          | 1   |     |     |
| 50                          | B-2428-2     | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718 CASTELLATED, THIN (PITCH CHANGE ROD)  |          | 1   | Y   |     |
| 80                          | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-5     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150                         | C-3317-210-1 | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170                         | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-6522-2     | PCP: HUB UNIT, HC-C2YL-(2,4)<br>SUPERSEDED BY ITEM 180A  |          | 1   |     | PCP |
| 180A                        | D-6522-22    | PCP: HUB UNIT, HC-C2YL-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-290   |          | 1   |     | PCP |
| 190                         | B-2457-2     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDED BY ITEM 190A  |          | 1   |     |     |
| 190A                        | B-2457-3     | FORK, TWO BLADE - ASSEMBLY<br>SUPERSEDES ITEM 190  |          | 1   |     |     |
| 192                         | B-3323       | • PLATE, ANTI-ROTATION   |          | 2   | Y   |     |
| 193                         | B-3842-0500  | • SPRING PIN   |          | 4   | Y   |     |
| 200                         | A-2217-1     | BLOCK, PITCH CHANGE (USED WITH ITEM 190)   |          | 2   |     |     |
|                             | A-2217-4     | BLOCK, PITCH CHANGE (USED WITH ITEM 190A)  |          | 2   |     |     |
| 200A                        | A-2217-2     | BLOCK, PITCH CHANGE, ALTERNATE FOR A-2217-1  |          | 2   |     |     |
| 210                         | A-3212       | BUTTON, PITCH CHANGE BLOCK   |          | 2   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YL-4B**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
|                  |              | <b>HC-C2YL-4B, continued</b>  |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)                                     |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 4   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 2   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 2   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 2   | Y   |     |
| -332             | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 2   | Y   |     |
| EFF CODE         |              | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YL-4B, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
|                  |               | <b>HC-C2YL-4B, continued</b>  |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>L-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )    | SCREW   |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT  |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER   |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YL-4B, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>HC-C2YL-4BF(P)</b>  |          |     |     |     |
| <b>10A-1</b>                |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3807       | NUT, 5/8-18, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 30                          | B-3851-1032  | WASHER, THIN, FLAT   |          | 1   | Y   |     |
| 40                          | A-4257       | SCREW, SET, 5/8-18 DRILLED (LOW PITCH STOP)  |          | 1   |     |     |
| 50                          | B-2428-2     | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718 CASTELLATED, THIN (PITCH CHANGE ROD)  |          | 1   | Y   |     |
| 80                          | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-5     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150                         | C-3317-210-1 | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170                         | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-6522-2     | PCP: HUB UNIT, HC-C2YL-(2,4)<br>SUPERSEDED BY ITEM 180A  |          | 1   |     | PCP |
| 180A                        | D-6522-22    | PCP: HUB UNIT, HC-C2YL-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-290   |          | 1   |     | PCP |
| 190                         | B-2457-3     | FORK, TWO BLADE - ASSEMBLY   |          | 1   |     |     |
| 192                         | B-3323       | • PLATE, ANTI-ROTATION   |          | 2   | Y   |     |
| 193                         | B-3842-0500  | • SPRING PIN   |          | 4   |     |     |
| 200                         | A-2217-3     | BLOCK, PITCH CHANGE  |          | 2   |     |     |
| 210                         | A-3212-1     | BUTTON, PITCH CHANGE BLOCK   |          | 2   | Y   |     |
| 220                         | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 4   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL  |          | 10  | Y   |     |
| 280                         | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING  |          | 10  | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
|                  |               | <b>HC-C2YL-4BF(P), continued</b>   |          |     |     |     |
| <b>10A-1</b>     |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 4   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB   |          | 2   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 2   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 2   | Y   |     |
| -332             | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 2   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>L-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>   |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT<br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION<br>GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER  |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC.<br>BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YL-4BF(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER                            | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--|--|----------|-----|-----|-----|
|                             |  | <b>HC-C2YR-4(A)(L)F(P)</b>   |          |     |     |     |
| <b>10A-1</b>                |  | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359                                 | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   | A        | 1   | Y   |     |
|                             | B-3807                                 | NUT, 5/8-18, HEX, SELF-LOCKING   | B        | 1   | Y   |     |
| 10A                         | B-3599                                 | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244  | A        | 1   | Y   |     |
| 30                          | B-3834-0663                            | WASHER   | A        | 1   | Y   |     |
|                             | B-3851-1032                            | WASHER, THIN, FLAT   | B        | 1   | Y   |     |
| 40                          | A-4252                                 | SCREW, PITCH ADJUST, 3/8-24 (LOW PITCH STOP)   | A        | 1   |     |     |
|                             | A-4257                                 | SCREW, SET, 5/8-18 DRILLED (LOW PITCH STOP)  | B        | 1   |     |     |
| 50                          | B-2428-1                               | CYLINDER<br>SUPERSEDED BY ITEM 50A   |          | 1   |     |     |
| 50A                         | B-2428-2                               | CYLINDER<br>SUPERSEDES ITEM 50, POST HC-SL-61-342  |          | 1   |     |     |
| 60                          | B-3838-3-5                             | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211                                 | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1                           | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419                                 | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018                             | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 120                         | A-2420-( )                             | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867                                  | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-5                               | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150                         | C-3317-210-1                           | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170                         | C-3317-247                             | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |  | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-6522-1                               | PCP: HUB UNIT, HC-C2Y(K,R)-(2,4)<br>SUPERSEDED BY ITEM 180A  |          | 1   |     | PCP |
| 180A                        | D-6522-21                              | PCP: HUB UNIT, HC-C2Y(K,R)-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-290   |          | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |  |  |          |     |     |     |
| A                           | Used with B-2428-1 Cylinder (Item 50)  |  |          |     |     |     |
| B                           | Used with B-2428-2 Cylinder (Item 50A) |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YR-4(A)(L)F(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>HC-C2YR-4(A)(L)F(P)</b>   |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 190              | B-2457-3     | FORK, TWO BLADE - ASSEMBLY   |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION   |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN   |          | 4   |     |     |
| 200              | A-2217-3     | BLOCK, PITCH CHANGE  |          | 2   |     |     |
| 210              | A-3212-1     | BUTTON, PITCH CHANGE BLOCK   |          | 2   | Y   |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL  |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING  |          | 10  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 4   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                  | C<br>D   | 2   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°, POST HC-SL-61-187<br>ALTERNATE FOR ITEM 330A   |          | 2   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION, POST HC-SL-61-354<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB | C<br>D   | 2   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 2   | Y   |     |

**EFF CODE                      INFORMATION**

|   |                   |
|---|-------------------|
| C | HC-C2YR-4(A)LF(P) |
| D | HC-C2YR-4(A)F(P)  |

- ITEM NOT ILLUSTRATED

**HC-C2YR-4(A)(L)F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
|                  |               | <b>HC-C2YR-4(A)(L)F(P), continued</b>   |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )    | SCREW   |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT  |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER   |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YR-4(A)(L)F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>HC-C2YR-4B(L)F(P) and HC-C2YR-4C(L)F(P)</b>   |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3807       | NUT, 5/8-18, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 30               | B-3851-1032  | WASHER, THIN, FLAT   |          | 1   | Y   |     |
| 40               | A-4257       | SCREW, SET, 5/8-18 DRILLED (LOW PITCH STOP)<br>REPLACED BY ITEM 40A  | B        | 1   |     |     |
| 40A              | A-4257-1     | SCREW, SET, 5/8-18 DRILLED (LOW PITCH STOP)<br>REPLACES ITEM 40, POST HC-SB-61-310                                   | B        | 1   |     |     |
| 50               | B-2428-2     | CYLINDER<br>REPLACED BY ITEM 50A   | B        | 1   |     |     |
| 50A              | 101746       | CYLINDER<br>REPLACES ITEM 50, POST HC-SB-61-310  | B        | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-5     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150              | C-3317-210-1 | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170              | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-6522-1     | PCP: HUB UNIT, HC-C2Y(K,R)-(2,4)<br>SUPERSEDED BY ITEM 180A  |          | 1   |     | PCP |
| 180A             | D-6522-21    | PCP: HUB UNIT, HC-C2Y(K,R)-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-290   |          | 1   |     | PCP |

EFF CODE

INFORMATION

B

HC-C2YR-4CF(P) installed on Hindustan HPT32 only

- ITEM NOT ILLUSTRATED

**HC-C2YR-4B(L)F(P) and HC-C2YR-4C(L)F(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>HC-C2YR-4B(L)F(P) and HC-C2YR-4C(L)F(P), continued</b>  |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 190              | B-2457-3     | FORK, TWO BLADE - ASSEMBLY   |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION   |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN   |          | 4   |     |     |
| 200              | A-2217-3     | BLOCK, PITCH CHANGE  |          | 2   |     |     |
| 210              | A-3212-1     | BUTTON, PITCH CHANGE BLOCK   |          | 2   | Y   |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL  |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING  |          | 10  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 4   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                  | C<br>D   | 2   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°, POST HC-SL-61-187<br>ALTERNATE FOR ITEM 330A   |          | 2   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION, POST HC-SL-61-354<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB | C<br>D   | 2   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 2   | Y   |     |

**EFF CODE INFORMATION**

|   |                                     |
|---|-------------------------------------|
| C | HC-C2YR-4BLF(P) and HC-C2YR-4CLF(P) |
| D | HC-C2YR-4BF(P) and HC-C2YR-4CF(P)   |

- ITEM NOT ILLUSTRATED

**HC-C2YR-4B(L)F(P) and HC-C2YR-4C(L)F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
|                  |               | <b>HC-C2YR-4B(L)F(P) and HC-C2YR-4C(L)F(P), continued</b>   |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )    | SCREW   |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT  |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT<br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER  |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YR-4B(L)F(P) and HC-C2YR-4C(L)F(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>HC-C2YR-4(E,G)(P)</b>   |          |     |     |     |
| <b>10A-1</b>                |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3807       | NUT, 5/8-18, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 30                          | B-3851-1032  | WASHER   |          | 1   | Y   |     |
| 40                          | A-4257       | SCREW, SET, 5/8-18 DRILLED (LOW PITCH STOP)  |          | 1   |     |     |
| 50                          | B-2428-2     | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20, CASTELLATED, THIN (PITCH CHANGE ROD)  |          | 1   | Y   |     |
| 80                          | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-5     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150                         | C-3317-210-1 | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170                         | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-6522-1     | PCP: HUB UNIT, HC-C2Y(K,R)-(2,4)<br>SUPERSEDED BY ITEM 180A  |          | 1   |     | PCP |
| 180A                        | D-6522-21    | PCP: HUB UNIT, HC-C2Y(K,R)-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-290   |          | 1   |     | PCP |
| 190                         | B-6433       | FORK, TWO BLADE - ASSEMBLY   |          | 1   |     |     |
| 192                         | B-3323       | • PLATE, ANTI-ROTATION   |          | 1   | Y   |     |
| 193                         | B-3842-0500  | • SPRING PIN   |          | 2   |     |     |
| 200                         | A-2217-3     | BLOCK, PITCH CHANGE  |          | 2   |     |     |
| 210                         | A-3212-1     | BUTTON, PITCH CHANGE BLOCK   |          | 1   | Y   |     |
| 220                         | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 4   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL  |          | 10  | Y   |     |
| 280                         | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING  |          | 10  | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YR-4(E,G)(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION   | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|---|-------------|-----|-----|-----|
|                     |                | <b>HC-C2YR-4(E,G)(P), continued</b>   |             |     |     |     |
| <b>10A-1</b>        |                | <b>PROPELLER PARTS, continued</b>   |             |     |     |     |
| 330                 | A-279          | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |             | 4   | Y   |     |
| 330A                | A-279          | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |             | 2   | Y   |     |
| 330B                | C-6349         | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |             | 2   | Y   |     |
| 331                 | 106545         | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |             | 2   | Y   |     |
| 332                 | B-6544         | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |             | 2   | Y   |     |
| 334                 | B-7073-L1      | HEX HEAD BOLT   |             | 2   | Y   |     |
| EFF CODE            |                | INFORMATION   |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YR-4(E,G)(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|-------------|---|----------|-----|-----|-----|
|                  |             | <b>HC-C2YR-4(E,G)(P), continued</b>   |          |     |     |     |
|                  |             | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |             | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |             | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )  | SCREW   |          | AR  | Y   |     |
| -9020            | A-1305      | BALANCE WEIGHT, REPLACED BY ITEM -9020A   |          | AR  |     |     |
| -9020A           | A-1929      | BALANCE WEIGHT, REPLACES ITEM -9020   |          | AR  |     |     |
|                  |             | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |             | PCP: COUNTERWEIGHT APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER   |          |     |     | PCP |
| -9040            |             | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |             | <b>COUNTERWEIGHT SLUGS/MOUNTING HARDWARE</b>  |          |     |     |     |
|                  |             | APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER AND PROPELLER CRITICAL PART (PCP) IDENTIFICATION   |          |     |     |     |
| -9050            |             | COUNTERWEIGHT SLUGS   |          |     |     |     |
| -9060            |             | COUNTERWEIGHT SLUG MOUNTING BOLT  |          |     | Y   |     |
| -9070            |             | COUNTERWEIGHT SLUG MOUNTING NUT   |          |     | Y   |     |
|                  |             | <b>SPINNER PARTS</b>  |          |     |     |     |
|                  |             | APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |             | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C2YR-4(E,G)(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>(B,D)HC-C2YR-4N</b>   |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3807       | NUT, 5/8-18, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 30               | B-3851-1032  | WASHER   |          | 1   | Y   |     |
| 40               | A-4257       | SCREW, SET, 5/8-18 DRILLED (LOW PITCH STOP)  |          | 1   |     |     |
| 50               | B-2428-2     | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-5     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150              | C-3317-210-1 | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170              | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-6522-24    | PCP: HUB UNIT, BHC-C2Y(K,R)-(2,4)  | A        | 1   |     | PCP |
|                  | D-6522-23    | PCP: HUB UNIT, (D)HC-C2Y(K,R,L)-(2,4)  | B        | 1   |     | PCP |
|                  | D-6522-21    | PCP: HUB UNIT, HC-C2Y(K,R)-(2,4)   | C        | 1   |     | PCP |
| 190              | B-2457-3     | FORK, TWO BLADE - ASSEMBLY   |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION   |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN   |          | 4   | Y   |     |
| 200              | A-2217-3     | BLOCK, PITCH CHANGE  |          | 2   |     |     |
| 210              | A-3212-1     | BUTTON, PITCH CHANGE BLOCK   |          | 2   | Y   |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER   |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING   |          | 10  | Y   |     |
| <b>EFF CODE</b>  |              | <b>INFORMATION</b>   |          |     |     |     |
| A                | BHC-C2YR-4N  |  |          |     |     |     |
| B                | DHC-C2YR-4N  |  |          |     |     |     |
| C                | HC-C2YR-4N   |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B,D)HC-C2YR-4N**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
|                  |               | <b>(B,D)HC-C2YR-4N, continued</b>  |          |     |     |     |
| <b>10A-1</b>     |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 4   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB   |          | 2   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 2   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 2   | Y   |     |
| -332             | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 2   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B,D)HC-C2YR-4N, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER                            | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--|--|----------|-----|-----|-----|
|                             |  | <b>(B)HC-I2YF-4F</b>   |          |     |     |     |
| <b>10A-1</b>                |  | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359                                 | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   | A        | 1   | Y   |     |
|                             | B-3807                                 | NUT, 5/8-18, HEX, SELF-LOCKING   | B        | 1   | Y   |     |
| 10A                         | B-3599                                 | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244  | A        | 1   | Y   |     |
| 30                          | B-3834-0663                            | WASHER   | A        | 1   | Y   |     |
|                             | B-3851-1032                            | WASHER, THIN, FLAT   | B        | 1   | Y   |     |
| 40                          | A-4252                                 | SCREW, PITCH ADJUST, 3/8-24 (LOW PITCH STOP)   | A        | 1   |     |     |
|                             | A-4257                                 | SCREW, SET, 5/8-18 DRILLED (LOW PITCH STOP)  | B        | 1   |     |     |
| 50                          | B-2428-1                               | CYLINDER<br>SUPERSEDED BY ITEM 50A   |          | 1   |     |     |
| 50A                         | B-2428-2                               | CYLINDER<br>SUPERSEDES ITEM 50, POST HC-SL-61-342  |          | 1   |     |     |
| 60                          | B-3838-3-5                             | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211                                 | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1                           | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419                                 | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018                             | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 120                         | A-2420-( )                             | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867                                  | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-5                               | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150                         | C-3317-210-1                           | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170                         | C-3317-247                             | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |  | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-6555-2                               | PCP: HUB UNIT, BHC-I2YF-(2,4)<br>SUPERSEDED BY ITEM 180A   | C        | 1   |     | PCP |
|                             | D-6555-1                               | PCP: HUB UNIT, HC-I2YF-(2,4)<br>SUPERSEDED BY ITEM 180A  | D        | 1   |     | PCP |
| 180A                        | D-6555-22                              | PCP: HUB UNIT, BHC-I2YF-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-290  | C        | 1   |     | PCP |
|                             | D-6555-21                              | PCP: HUB UNIT, HC-I2YF-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-290   | D        | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |  |  |          |     |     |     |
| A                           | Used with B-2428-1 Cylinder (Item 50)  |  |          |     |     |     |
| B                           | Used with B-2428-2 Cylinder (Item 50A) |  |          |     |     |     |
| C                           | BHC-I2YF-4F                            |  |          |     |     |     |
| D                           | HC-I2YF-4F                             |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-I2YF-4F**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
|                  |              | (B)HC-I2YF-4F, continued  |          |     |     |     |
| 10A-1            |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190              | B-2457-3     | FORK, TWO BLADE - ASSEMBLY  |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN  |          | 4   |     |     |
| 200              | A-2217-3     | BLOCK, PITCH CHANGE   |          | 2   |     |     |
| 210              | A-3212-1     | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)                                     |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 4   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 2   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 2   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 2   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 2   | Y   |     |
| EFF CODE         |              | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-I2YF-4F, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
|                  |               | <b>(B)HC-I2YF-4F, continued</b>   |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )    | SCREW   |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT  |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER   |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-I2YF-4F, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>(B)HC-I2YF-4BF(P)</b>   |          |     |     |     |
| <b>10A-1</b>     |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3807       | NUT, 5/8-18, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 30               | B-3851-1032  | WASHER, THIN, FLAT   |          | 1   | Y   |     |
| 40               | A-4257       | SCREW, SET, 5/8-18 DRILLED (LOW PITCH STOP)  |          | 1   |     |     |
| 50               | B-2428-2     | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-5     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150              | C-3317-210-1 | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170              | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-6555-2     | PCP: HUB UNIT, BHC-I2YF-(2,4)<br>SUPERSEDED BY ITEM 180A   | A        | 1   |     | PCP |
|                  | D-6555-1     | PCP: HUB UNIT, HC-I2YF-(2,4)<br>SUPERSEDED BY ITEM 180A  | B        | 1   |     | PCP |
| 180A             | D-6555-22    | PCP: HUB UNIT, BHC-I2YF-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-290  | A        | 1   |     | PCP |
|                  | D-6555-21    | PCP: HUB UNIT, HC-I2YF-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-290   | B        | 1   |     | PCP |
| 190              | B-2457-3     | FORK, TWO BLADE - ASSEMBLY   |          | 1   |     |     |
| 192              | B-3323       | • PLATE, ANTI-ROTATION   |          | 2   | Y   |     |
| 193              | B-3842-0500  | • SPRING PIN   |          | 4   |     |     |
| 200              | A-2217-3     | BLOCK, PITCH CHANGE  |          | 2   |     |     |
| 210              | A-3212-1     | BUTTON, PITCH CHANGE BLOCK   |          | 2   | Y   |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 4   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL  |          | 10  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING  |          | 10  | Y   |     |

**EFF CODE INFORMATION**

|   |                 |
|---|-----------------|
| A | BHC-I2YF-4BF(P) |
| B | HC-I2YF-4BF(P)  |

- ITEM NOT ILLUSTRATED

**(B)HC-I2YF-4BF(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION   | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|---|-------------|-----|-----|-----|
|                     |                | <b>(B)HC-I2YF-4BF(P), continued</b>   |             |     |     |     |
| <b>10A-1</b>        |                | <b>PROPELLER PARTS, continued</b>   |             |     |     |     |
| 330                 | A-279          | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |             | 4   | Y   |     |
| 330A                | A-279          | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |             | 2   | Y   |     |
| 330B                | C-6349         | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |             | 2   | Y   |     |
| 331                 | 106545         | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |             | 2   | Y   |     |
| 332                 | B-6544         | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |             | 2   | Y   |     |
| EFF CODE            |                | INFORMATION   |             |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-I2YF-4BF(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>(B)HC-I2YF-4BF(P), continued</b>  |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>   |             |     |     |     |
| -9030               |                | PCP: COUNTERWEIGHT<br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION<br>GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER  |             |     |     | PCP |
| -9040               |                | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC.<br>BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |             |     | Y   |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-I2YF-4BF(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER                            | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--|--|----------|-----|-----|-----|
|                             |  | <b>(B)HC-L2YF-4F</b>   |          |     |     |     |
| <b>10A-1</b>                |  | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359                                 | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   | A        | 1   | Y   |     |
|                             | B-3807                                 | NUT, 5/8-18, HEX, SELF-LOCKING   | B        | 1   | Y   |     |
| 10A                         | B-3599                                 | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244  | A        | 1   | Y   |     |
| 30                          | B-3834-0663                            | WASHER   | A        | 1   | Y   |     |
|                             | B-3851-1032                            | WASHER, THIN, FLAT   | B        | 1   | Y   |     |
| 40                          | A-4252                                 | SCREW, PITCH ADJUST, 3/8-24 (LOW PITCH STOP)   | A        | 1   |     |     |
|                             | A-4257                                 | SCREW, SET, 5/8-18 DRILLED (LOW PITCH STOP)  | B        | 1   |     |     |
| 50                          | B-2428-1                               | CYLINDER<br>SUPERSEDED BY ITEM 50A   |          | 1   |     |     |
| 50A                         | B-2428-2                               | CYLINDER<br>SUPERSEDES ITEM 50, POST HC-SL-61-342  |          | 1   |     |     |
| 60                          | B-3838-3-5                             | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211                                 | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1                           | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419                                 | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018                             | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 120                         | A-2420-( )                             | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867                                  | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-5                               | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150                         | C-3317-210-1                           | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170                         | C-3317-247                             | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |  | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-6530-10                              | PCP: HUB UNIT, BHC-L2YF-(2,4)<br>SUPERSEDED BY ITEM 180A   | C        | 1   |     | PCP |
|                             | D-6530-9                               | PCP: HUB UNIT, HC-L2YF-(2,4)   | D        | 1   |     | PCP |
| 180A                        | D-6530-30                              | PCP: HUB UNIT, BHC-L2YF-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-290  | C        | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |  |  |          |     |     |     |
| A                           | Used with B-2428-1 Cylinder (Item 50)  |  |          |     |     |     |
| B                           | Used with B-2428-2 Cylinder (Item 50A) |  |          |     |     |     |
| C                           | BHC-L2YF-4F                            |  |          |     |     |     |
| D                           | HC-L2YF-4F                             |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-L2YF-4F**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|---|----------|-----|-----|-----|
|                             |              | (B)HC-L2YF-4F, continued  |          |     |     |     |
| <b>10A-1</b>                |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190                         | B-2457-3     | FORK, TWO BLADE - ASSEMBLY  |          | 1   |     |     |
| 192                         | B-3323       | • PLATE, ANTI-ROTATION  |          | 2   | Y   |     |
| 193                         | B-3842-0500  | • SPRING PIN  |          | 4   |     |     |
| 200                         | A-2217-3     | BLOCK, PITCH CHANGE   |          | 2   |     |     |
| 210                         | A-3212-1     | BUTTON, PITCH CHANGE BLOCK  |          | 2   | Y   |     |
| 220                         | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)                                     |          | 1   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 4   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL   |          | 10  | Y   |     |
| 280                         | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING   |          | 10  | Y   |     |
| 330                         | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 4   | Y   |     |
| 330A                        | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 2   | Y   |     |
| 330B                        | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 2   | Y   |     |
| 331                         | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 2   | Y   |     |
| 332                         | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 2   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-L2YF-4F, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
|                  |               | <b>(B)HC-L2YF-4F, continued</b>   |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )    | SCREW   |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT  |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER   |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-L2YF-4F, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER     | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|-----------------|--|----------|-----|-----|-----|
|                             |                 | <b>(B)HC-L2YF-4BF(P)</b>   |          |     |     |     |
| <b>10A-1</b>                |                 | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3807          | NUT, 5/8-18, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 30                          | B-3851-1032     | WASHER, THIN, FLAT   |          | 1   | Y   |     |
| 40                          | A-4257          | SCREW, SET, 5/8-18 DRILLED (LOW PITCH STOP)  |          | 1   |     |     |
| 50                          | B-2428-2        | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5      | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211          | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1    | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419          | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018      | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 120                         | A-2420-( )      | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867           | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-5        | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150                         | C-3317-210-1    | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170                         | C-3317-247      | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |                 | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 2-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-6530-10       | PCP: HUB UNIT, BHC-L2YF-(2,4)<br>SUPERSEDED BY ITEM 180A   | A        | 1   |     | PCP |
|                             | D-6530-9        | PCP: HUB UNIT, HC-L2YF-(2,4)   | B        | 1   |     | PCP |
| 180A                        | D-6530-30       | PCP: HUB UNIT, BHC-L2YF-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-290  | A        | 1   |     | PCP |
| 190                         | B-2457-3        | FORK, TWO BLADE - ASSEMBLY   |          | 1   |     |     |
| 192                         | B-3323          | • PLATE, ANTI-ROTATION   |          | 2   | Y   |     |
| 193                         | B-3842-0500     | • SPRING PIN   |          | 4   |     |     |
| 200                         | A-2217-3        | BLOCK, PITCH CHANGE  |          | 2   |     |     |
| 210                         | A-3212-1        | BUTTON, PITCH CHANGE BLOCK   |          | 2   | Y   |     |
| 220                         | C-3317-115-1    | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250                         | A-2431          | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 260                         | A-2432          | BOLT, 3/8-24, HEX HEAD   |          | 4   |     |     |
| 270                         | B-3834-0632     | WASHER, FLAT, STEEL  |          | 10  | Y   |     |
| 280                         | A-2043-1        | NUT, 3/8-24, HEX SELF-LOCKING  |          | 10  | Y   |     |
| <b>EFF CODE INFORMATION</b> |                 |  |          |     |     |     |
| A                           | BHC-L2YF-4BF(P) |  |          |     |     |     |
| B                           | HC-L2YF-4BF(P)  |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-L2YF-4BF(P)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION   | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|---|-------------|-----|-----|-----|
|                     |                | <b>(B)HC-L2YF-4BF(P), continued</b>   |             |     |     |     |
| <b>10A-1</b>        |                | <b>PROPELLER PARTS, continued</b>   |             |     |     |     |
| 330                 | A-279          | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |             | 4   | Y   |     |
| 330A                | A-279          | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |             | 2   | Y   |     |
| 330B                | C-6349         | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |             | 2   | Y   |     |
| 331                 | 106545         | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |             | 2   | Y   |     |
| 332                 | B-6544         | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |             | 2   | Y   |     |
| EFF CODE            |                | INFORMATION   |             |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-L2YF-4BF(P), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

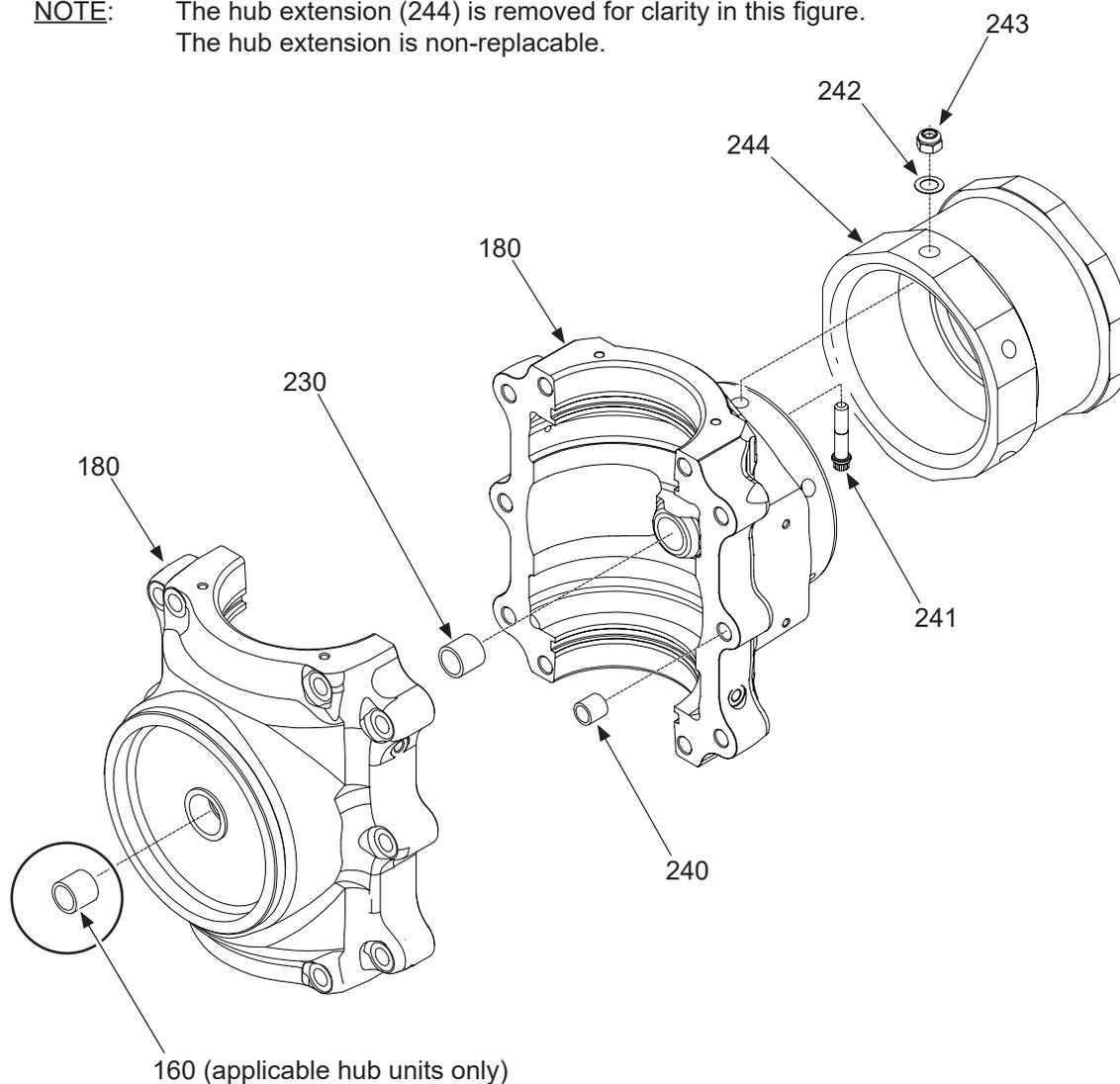
| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
|                  |               | <b>(B)HC-L2YF-4BF(P), continued</b>   |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )    | SCREW   |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT  |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER   |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b>  |          |     |     |     |
|                  |               | APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(B)HC-L2YF-4BF(P), continued**

**2-Blade Propeller/Hub Unit Parts Lists - Appendix**  
Hub Unit Parts Lists  
Damper Assembly Parts List

**NOTE:** The hub extension (244) is removed for clarity in this figure.  
The hub extension is non-replacable.



TPI-MB-0542

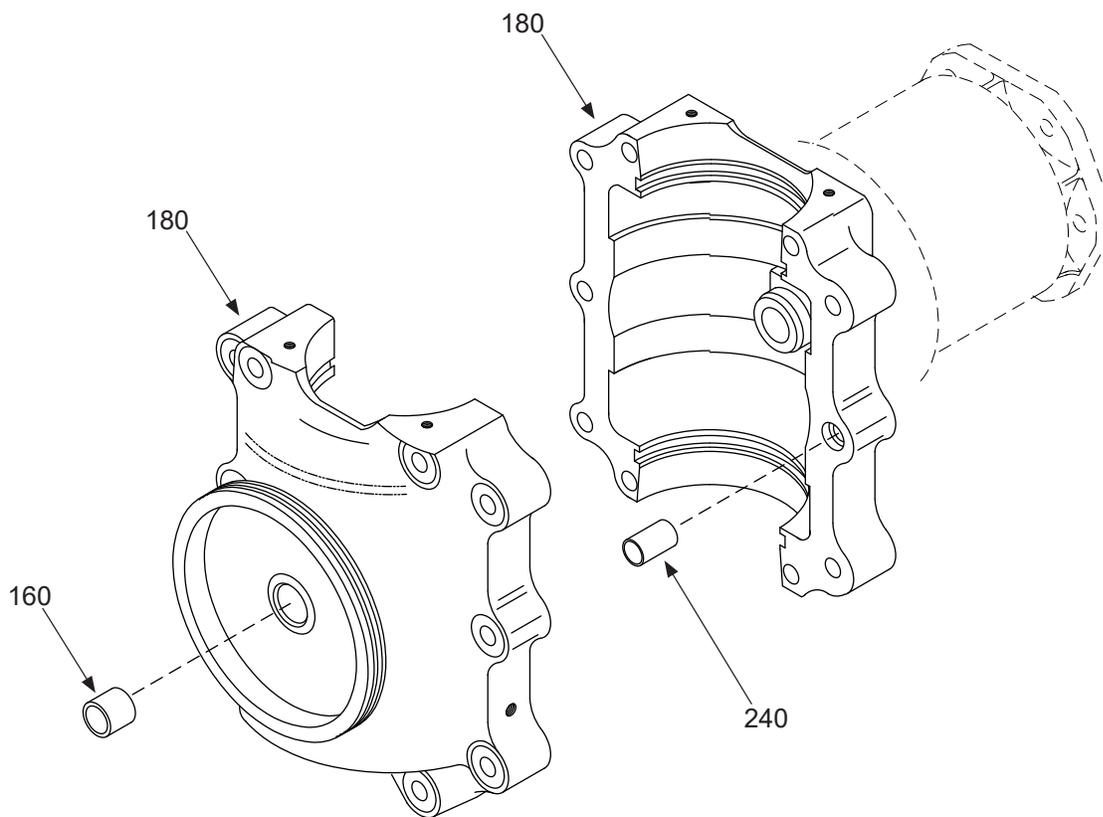
**2-Blade Hub Units: Configuration A**  
**Figure App-1**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER                 | PART NUMBER | DESCRIPTION                        | EFF CODE | UPA | O/H | PCP |
|----------------------------------|-------------|------------------------------------|----------|-----|-----|-----|
| <b>App-1</b>                     |             |                                    |          |     |     |     |
| 180                              | C-3230-3    | PCP: HUB UNIT                      |          | 1   |     | PCP |
|                                  | C-3230-4    | PCP: HUB UNIT                      |          | 1   |     | PCP |
|                                  | C-3230-5    | PCP: HUB UNIT                      |          | 1   |     | PCP |
| 230                              | A-2245-1    | • HUB BUSHING, ROD (ENGINE-SIDE)   |          | 1   | Y   |     |
| 240                              | A-2249      | • HUB BUSHING, GUIDE               |          | 1   | Y   |     |
| 241                              | A-3229      | • BOLT, 3/8-24, 12-POINT           |          | 6   | Y   |     |
| 242                              | B-3834-0663 | • WASHER                           |          | 6   | Y   |     |
| 243                              | A-2043      | • NUT, 3/8-24, HEX, SELF-LOCKING   |          | 6   | Y   |     |
| 244                              | N/A         | • EXTENSION, HUB (NON-REPLACEABLE) |          | 1   |     |     |
| <b>App-1</b>                     |             |                                    |          |     |     |     |
| <b>D-6559-( ) HUB UNIT PARTS</b> |             |                                    |          |     |     |     |
| 180                              | D-6559-1    | PCP: HUB UNIT, HC-F2Y(R,K)-1       |          | 1   |     | PCP |
|                                  | D-6559-2    | PCP: HUB UNIT, HC-E2Y(R,K)-1       |          | 1   |     | PCP |
|                                  | D-6559-3    | PCP: HUB UNIT, HC-F2YL-1           |          | 1   |     | PCP |
|                                  | D-6559-21   | PCP: HUB UNIT, HC-F2Y(R,K)-1       |          | 1   |     | PCP |
|                                  | D-6559-23   | PCP: HUB UNIT, HC-F2YL-1           |          | 1   |     | PCP |
|                                  | D-6559-24   | PCP: HUB UNIT, DHC-F2YR-1          |          | 1   |     | PCP |
| 160                              | A-2245-2    | • HUB BUSHING, ROD (CYLINDER-SIDE) |          | 1   | Y   |     |
| 230                              | A-2245-3    | • HUB BUSHING, ROD (ENGINE-SIDE)   |          | 1   | Y   |     |
| 240                              | A-2249      | • HUB BUSHING, GUIDE               |          | 1   | Y   |     |
| 241                              | A-3229      | • BOLT, 3/8-24, 12-POINT           |          | 6   | Y   |     |
| 242                              | B-3834-0663 | • WASHER                           |          | 6   | Y   |     |
| 243                              | A-2043-1    | • NUT, 3/8-24, HEX, SELF-LOCKING   |          | 6   | Y   |     |
| 244                              | N/A         | • EXTENSION, HUB (NON-REPLACEABLE) |          | 1   |     |     |
| <b>EFF CODE INFORMATION</b>      |             |                                    |          |     |     |     |

- ITEM NOT ILLUSTRATED

**2-Blade Hub Unit Parts Lists: Configuration A**



TPH-MB-0536

**2-Blade Hub Units: Configuration B**  
**Figure App-2**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|-------------|--|----------|-----|-----|-----|
| <b>App-2</b>                |             | <b>D-2201-(1,3,5,7,9,11,17,19) HUB UNIT PARTS</b>      |          |     |     |     |
| 180                         | D-2201-1    | PCP: HUB UNIT  |          | 1   |     | PCP |
|                             | D-2201-3    | PCP: HUB UNIT  |          | 1   |     |     |
|                             | D-2201-5    | PCP: HUB UNIT  |          | 1   |     |     |
|                             | D-2201-7    | PCP: HUB UNIT  |          | 1   |     |     |
|                             | D-2201-9    | PCP: HUB UNIT  |          | 1   |     |     |
|                             | D-2201-11   | PCP: HUB UNIT  |          | 1   |     |     |
|                             | D-2201-17   | PCP: HUB UNIT  |          | 1   |     |     |
|                             | D-2201-19   | PCP: HUB UNIT  |          | 1   |     |     |
| 160                         | A-2245-2    | • HUB BUSHING, ROD (CYLINDER-SIDE)                     |          | 1   | Y   |     |
| 240                         | A-2249      | • HUB BUSHING, GUIDE                                   |          | 1   | Y   |     |
| <b>App-2</b>                |             | <b>D-4214( ) HUB UNIT PARTS</b>                        |          |     |     |     |
| 180                         | D-4214      | PCP: HUB UNIT  |          | 1   | Y   | PCP |
|                             | D-4214-1    | PCP: HUB UNIT  |          | 1   | Y   | PCP |
|                             | D-4214-2    | PCP: HUB UNIT  |          | 1   | Y   | PCP |
|                             | D-4214-7    | PCP: HUB UNIT  |          | 1   | Y   | PCP |
| 160                         | A-2245      | • HUB BUSHING, ROD (CYLINDER-SIDE)                     |          | 1   | Y   |     |
| 240                         | A-2249      | • HUB BUSHING, GUIDE                                   |          | 1   | Y   |     |
| <b>App-2</b>                |             | <b>D-6529-(1,2,21,22) HUB UNIT PARTS</b>               |          |     |     |     |
| 180                         | D-6529-1    | PCP: HUB UNIT, HC-C2Y(K,R)-1                           |          | 1   | Y   | PCP |
|                             | D-6529-2    | PCP: HUB UNIT, HC-C2YL-1                               |          | 1   | Y   | PCP |
|                             | D-6529-21   | PCP: HUB UNIT, HC-C2Y(K,R)-1                           |          | 1   | Y   | PCP |
|                             | D-6529-22   | PCP: HUB UNIT, HC-C2YL-1                               |          | 1   | Y   | PCP |
| 160                         | A-2245-2    | • HUB BUSHING, ROD (CYLINDER-SIDE)                     |          | 1   | Y   |     |
| 240                         | A-2249      | • HUB BUSHING, GUIDE                                   |          | 1   | Y   |     |
| <b>App-2</b>                |             | <b>D-6531-(1,2,3,4,5,6,21,22,25,26) HUB UNIT PARTS</b> |          |     |     |     |
| 180                         | D-6531-1    | PCP: HUB UNIT, HC-C2YF-1                               |          | 1   |     | PCP |
|                             | D-6531-2    | PCP: HUB UNIT, BHC-C2YF-1                              |          | 1   |     |     |
|                             | D-6531-3    | PCP: HUB UNIT, CHC-C2YF-1                              |          | 1   |     |     |
|                             | D-6531-4    | PCP: HUB UNIT, DHC-C2YF-1                              |          | 1   |     |     |
|                             | D-6531-5    | PCP: HUB UNIT, BHC-L2YF-1                              |          | 1   |     |     |
|                             | D-6531-6    | PCP: HUB UNIT, BHC-G2YF-1                              |          | 1   |     |     |
|                             | D-6531-21   | PCP: HUB UNIT, HC-C2YF-1                               |          | 1   |     |     |
|                             | D-6531-22   | PCP: HUB UNIT, BHC-C2YF-1                              |          | 1   |     |     |
|                             | D-6531-25   | PCP: HUB UNIT, BHC-L2YF-1                              |          | 1   |     |     |
|                             | D-6531-26   | PCP: HUB UNIT, BHC-G2YF-1                              |          | 1   |     |     |
| 160                         | A-2245-2    | • HUB BUSHING, ROD (CYLINDER-SIDE)                     |          | 1   | Y   |     |
| 240                         | A-2249      | • HUB BUSHING, GUIDE                                   |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b> |             |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

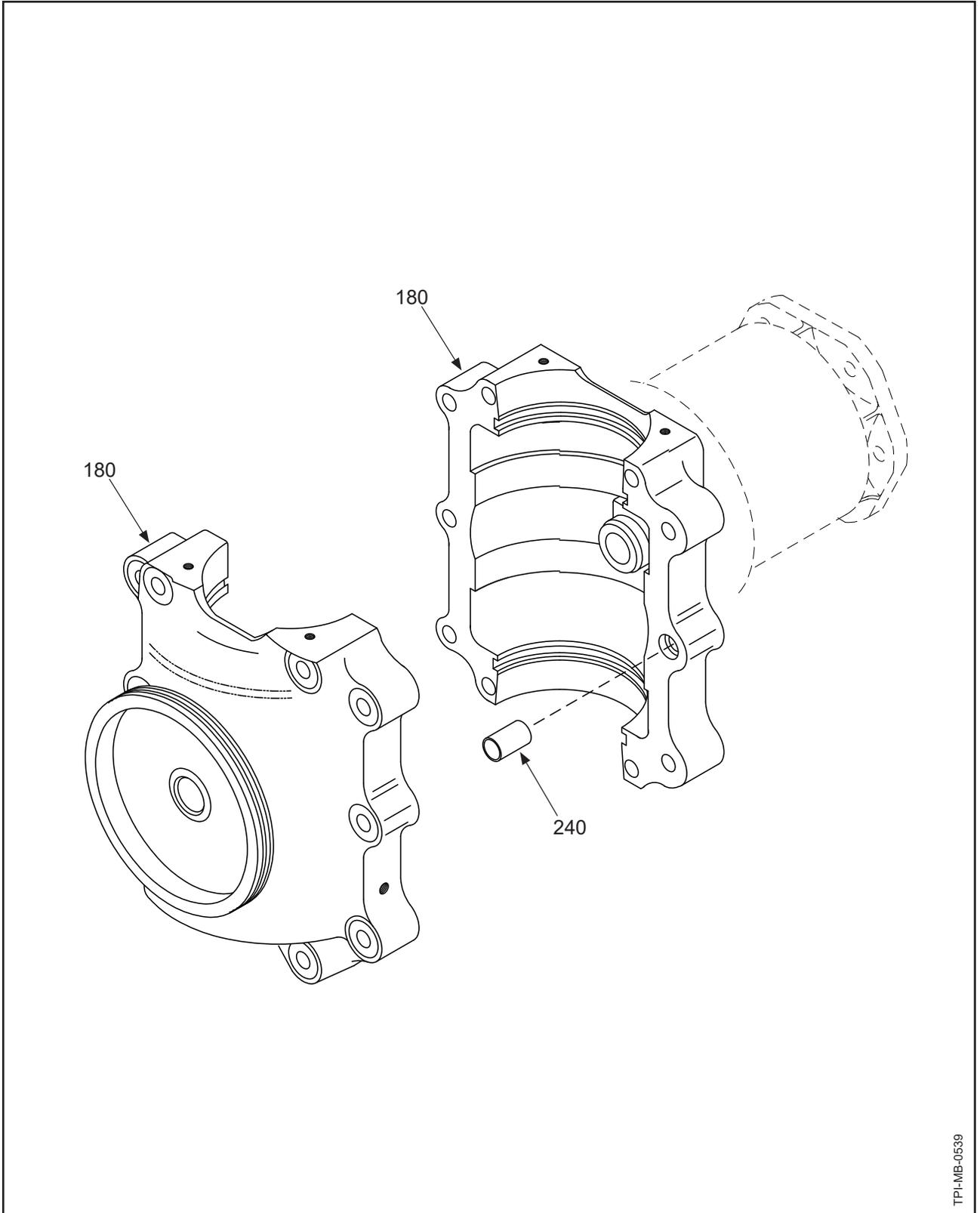
**2-Blade Hub Unit Parts Lists: Configuration B, page 1 of 2**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER                         | PART NUMBER | DESCRIPTION                        | EFF CODE | UPA | O/H | PCP |
|--|-------------|------------------------------------|----------|-----|-----|-----|
| <b>App-2</b>                             |             |                                    |          |     |     |     |
| 180                                      | D-6554-1    | PCP: HUB UNIT, HC-I2YF-1           |          | 1   |     | PCP |
|  | D-6554-2    | PCP: HUB UNIT, BHC-I2YF-1          |          | 1   |     |     |
| 160                                      | A-2245-2    | • HUB BUSHING, ROD (CYLINDER-SIDE) |          | 1   | Y   |     |
| 240                                      | A-2249      | • HUB BUSHING, GUIDE               |          | 1   | Y   |     |
| <b>App-2</b>                             |             |                                    |          |     |     |     |
| <b>D-6557-(1,2,21,22) HUB UNIT PARTS</b> |             |                                    |          |     |     |     |
| 180                                      | D-6557-1    | PCP: HUB UNIT, HC-I2YR-1           |          | 1   |     | PCP |
|  | D-6557-2    | PCP: HUB UNIT, HC-M2YR-1           |          | 1   |     | PCP |
|  | D-6557-21   | PCP: HUB UNIT, HC-I2YR-1           |          | 1   |     | PCP |
|  | D-6557-22   | PCP: HUB UNIT, HC-M2YR-1           |          | 1   |     | PCP |
| 160                                      | A-2245-2    | • HUB BUSHING, ROD (CYLINDER-SIDE) |          | 1   | Y   |     |
| 240                                      | A-2249      | • HUB BUSHING, GUIDE               |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b>              |             |                                    |          |     |     |     |

- ITEM NOT ILLUSTRATED

**2-Blade Hub Unit Parts Lists: Configuration B, page 2 of 2**



TPI-MB-0539

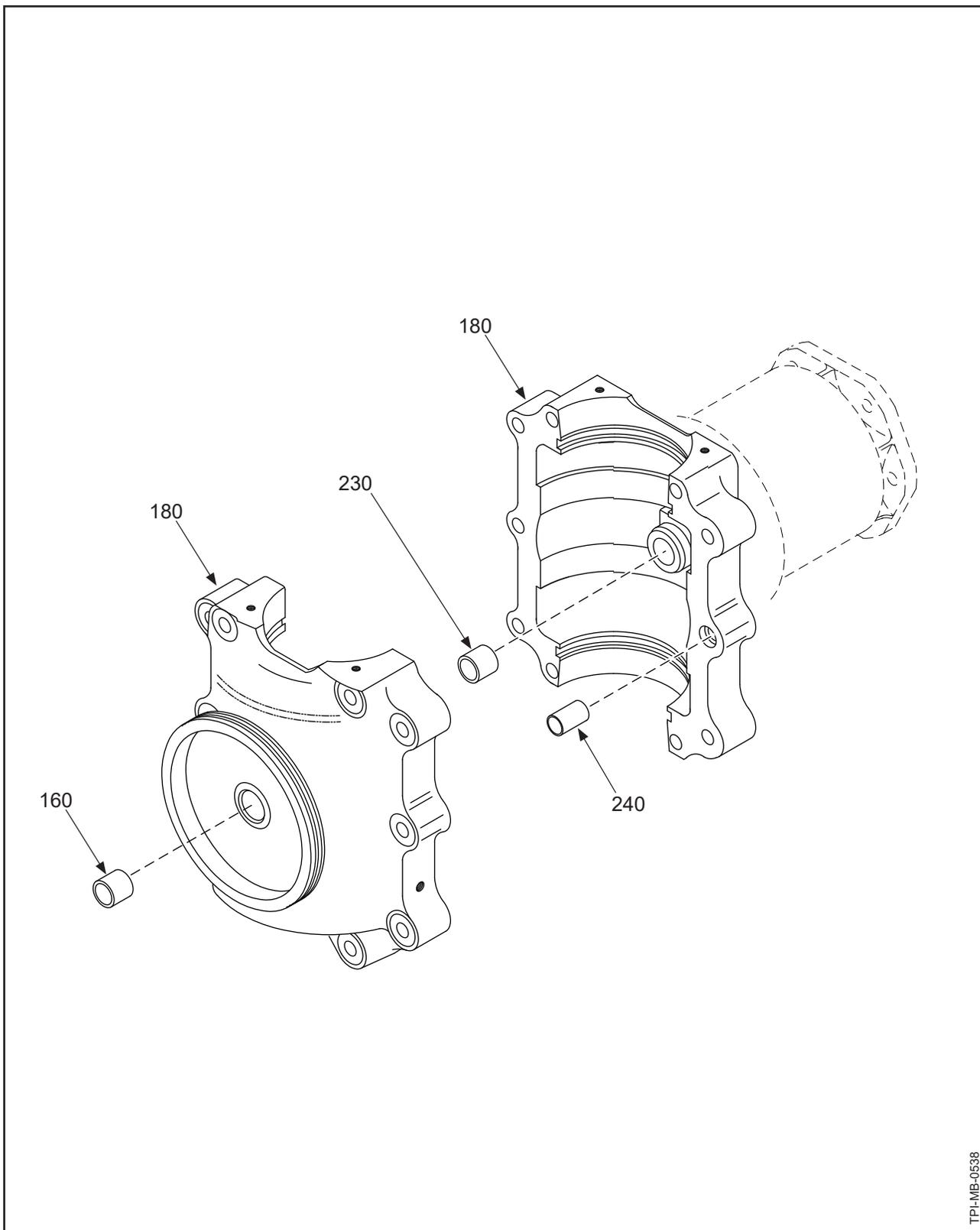
**2-Blade Hub Units: Configuration C**  
**Figure App-3**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER | DESCRIPTION                           | EFF CODE | UPA | O/H | PCP |
|------------------|-------------|---------------------------------------|----------|-----|-----|-----|
| <b>App-3</b>     |             | <b>D-2201-16 HUB UNIT PARTS</b>       |          |     |     |     |
| 180              | D-2201-16   | PCP: HUB UNIT                         |          | 1   |     | PCP |
| 240              | A-2249      | • HUB BUSHING, GUIDE                  |          | 1   | Y   |     |
| <b>App-3</b>     |             | <b>D-6522-( ) HUB UNIT PARTS</b>      |          |     |     |     |
| 180              | D-6522-1    | PCP: HUB UNIT, HC-C2Y(K,R)-(2,4)      |          | 1   |     | PCP |
|                  | D-6522-21   | PCP: HUB UNIT, HC-C2Y(K,R)-(2,4)      |          | 1   |     | PCP |
|                  | D-6522-23   | PCP: HUB UNIT, (D)HC-C2Y(K,R,L)-(2,4) |          | 1   |     | PCP |
|                  | D-6522-24   | PCP: HUB UNIT, BHC-C2Y(K,R)-(2,4)     |          | 1   |     | PCP |
| 240              | A-2249      | • HUB BUSHING, GUIDE                  |          | 1   | Y   |     |
| <b>App-3</b>     |             | <b>D-6530-( ) HUB UNIT PARTS</b>      |          |     |     |     |
| 180              | D-6530-1    | PCP: HUB UNIT, HC-C2YF-(2,4)          |          | 1   |     | PCP |
|                  | D-6530-2    | PCP: HUB UNIT, BHC-C2YF-(2,4)         |          | 1   |     | PCP |
|                  | D-6530-5    | PCP: HUB UNIT, BHC-C2YF-(2,4)         |          | 1   |     | PCP |
|                  | D-6530-9    | PCP: HUB UNIT, HC-L2YF-(2,4)          |          | 1   |     | PCP |
|                  | D-6530-10   | PCP: HUB UNIT, BHC-L2YF-(2,4)         |          | 1   |     | PCP |
|                  | D-6530-12   | PCP: HUB UNIT, HC-C2YF-(2,4)          |          | 1   |     | PCP |
|                  | D-6530-25   | PCP: HUB UNIT, BHC-C2YF-(2,4)         |          | 1   |     | PCP |
|                  | D-6530-30   | PCP: HUB UNIT, BHC-L2YF-(2,4)         |          | 1   |     | PCP |
|                  | D-6530-32   | PCP: HUB UNIT, HC-C2YF-(2,4)          |          | 1   |     | PCP |
| 240              | A-2249      | • HUB BUSHING, GUIDE                  |          | 1   | Y   |     |
| <b>App-3</b>     |             | <b>D-6555-( ) HUB UNIT PARTS</b>      |          |     |     |     |
| 180              | D-6555-1    | PCP: HUB UNIT, HC-I2YF-(2,4)          |          | 1   |     | PCP |
|                  | D-6555-2    | PCP: HUB UNIT, BHC-I2YF-(2,4)         |          | 1   |     | PCP |
|                  | D-6555-21   | PCP: HUB UNIT, HC-I2YF-(2,4)          |          | 1   |     | PCP |
|                  | D-6555-22   | PCP: HUB UNIT, BHC-I2YF-(2,4)         |          | 1   |     | PCP |
| 240              | A-2249      | • HUB BUSHING, GUIDE                  |          | 1   | Y   |     |
| EFF CODE         |             | INFORMATION                           |          |     |     |     |

- ITEM NOT ILLUSTRATED

**2-Blade Hub Unit Parts Lists: Configuration C**



TPI-MB-0538

**2-Blade Hub Units: Configuration D**  
**Figure App-4**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER | DESCRIPTION                        | EFF CODE | UPA | O/H | PCP |
|-----------------------------|-------------|------------------------------------|----------|-----|-----|-----|
| <b>App-4</b>                |             | <b>D-2477-3 HUB UNIT PARTS</b>     |          |     |     |     |
| 180                         | D-2477-3    | PCP: HUB UNIT                      |          | 1   | Y   | PCP |
| 160                         | A-2245      | • HUB BUSHING, ROD (CYLINDER-SIDE) |          | 1   | Y   |     |
| 230                         | A-2245-1    | • HUB BUSHING, ROD (ENGINE-SIDE)   |          | 1   | Y   |     |
| 240                         | A-2249      | • HUB BUSHING, GUIDE               |          | 1   | Y   |     |
| <b>App-4</b>                |             | <b>D-2483-1 HUB UNIT PARTS</b>     |          |     |     |     |
| 180                         | D-2483-1    | PCP: HUB UNIT                      |          | 1   | Y   | PCP |
| 160                         | A-2245      | • HUB BUSHING, ROD (CYLINDER-SIDE) |          | 1   | Y   |     |
| 230                         | A-2245-1    | • HUB BUSHING, ROD (ENGINE-SIDE)   |          | 1   | Y   |     |
| 240                         | A-2249      | • HUB BUSHING, GUIDE               |          | 1   | Y   |     |
| <b>App-4</b>                |             | <b>D-2484-2 HUB UNIT PARTS</b>     |          |     |     |     |
| 180                         | D-2484-2    | PCP: HUB UNIT                      |          | 1   | Y   | PCP |
| 160                         | A-2245      | • HUB BUSHING, ROD (CYLINDER-SIDE) |          | 1   | Y   |     |
| 230                         | A-2245-1    | • HUB BUSHING, ROD (ENGINE-SIDE)   |          | 1   | Y   |     |
| 240                         | A-2249      | • HUB BUSHING, GUIDE               |          | 1   | Y   |     |
| <b>App-4</b>                |             | <b>D-6552-( ) HUB UNIT PARTS</b>   |          |     |     |     |
| 180                         | D-6552-2    | PCP: HUB UNIT, BHC-J2YF-1          |          | 1   |     | PCP |
|                             | D-6552-22   | PCP: HUB UNIT, BHC-J2YF-1          |          | 1   |     | PCP |
|                             | D-6552-23   | PCP: HUB UNIT, HC-J2YF-1           |          | 1   |     | PCP |
| 160                         | A-2245-2    | • HUB BUSHING, ROD (CYLINDER-SIDE) |          | 1   | Y   |     |
| 230                         | A-2245-3    | • HUB BUSHING, ROD (ENGINE-SIDE)   |          | 1   | Y   |     |
| 240                         | A-2249      | • HUB BUSHING, GUIDE               |          | 1   | Y   |     |
| <b>App-4</b>                |             | <b>D-6562-( ) HUB UNIT PARTS</b>   |          |     |     |     |
| 180                         | D-6562-1    | PCP: HUB UNIT, HC-E2YL-1           |          | 1   |     | PCP |
| 160                         | A-2245-2    | • HUB BUSHING, ROD (CYLINDER-SIDE) |          | 1   | Y   |     |
| 230                         | A-2245-3    | • HUB BUSHING, ROD (ENGINE-SIDE)   |          | 1   | Y   |     |
| 240                         | A-2249      | • HUB BUSHING, GUIDE               |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b> |             |                                    |          |     |     |     |

- ITEM NOT ILLUSTRATED

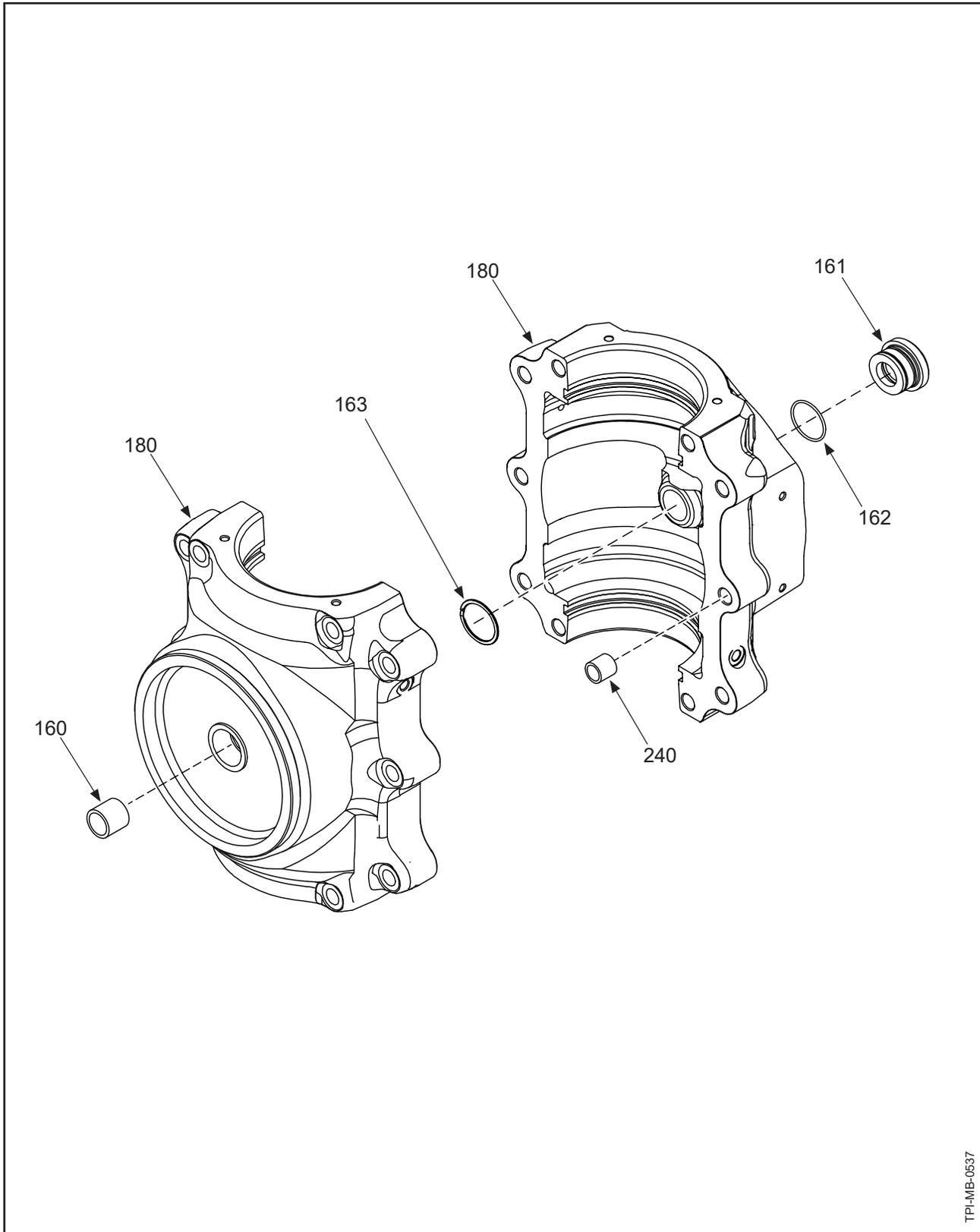
**2-Blade Hub Unit Parts Lists: Configuration D, page 1 of 2**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER | DESCRIPTION                        | EFF CODE | UPA | O/H | PCP |
|-----------------------------|-------------|------------------------------------|----------|-----|-----|-----|
| <b>App-4</b>                |             |                                    |          |     |     |     |
| 180                         | D-6564-1    | PCP: HUB UNIT, HC-E2Y(R,K)-1       |          | 1   |     | PCP |
|                             | D-6564-21   | PCP: HUB UNIT, HC-E2Y(R,K)-1       |          | 1   |     | PCP |
|                             | D-6564-24   | PCP: HUB UNIT, BHC-E2YR-1          |          | 1   |     | PCP |
| 160                         | A-2245-2    | • HUB BUSHING, ROD (CYLINDER-SIDE) |          | 1   | Y   |     |
| 230                         | A-2245-3    | • HUB BUSHING, ROD (ENGINE-SIDE)   |          | 1   | Y   |     |
| 240                         | A-2249      | • HUB BUSHING, GUIDE               |          | 1   | Y   |     |
| <b>App-4</b>                |             |                                    |          |     |     |     |
| 180                         | 105997-21   | PCP: HUB UNIT, HC-E2Y(R,K)-1       |          | 1   |     | PCP |
| 160                         | A-2245-2    | • HUB BUSHING, ROD (CYLINDER-SIDE) |          | 1   | Y   |     |
| 230                         | A-2245-3    | • HUB BUSHING, ROD (ENGINE-SIDE)   |          | 1   | Y   |     |
| 240                         | A-2249      | • HUB BUSHING, GUIDE               |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b> |             |                                    |          |     |     |     |

- ITEM NOT ILLUSTRATED

**2-Blade Hub Unit Parts Lists: Configuration D, page 2 of 2**



TPI-MB-0537

**2-Blade Hub Units: Configuration E**  
**Figure App-5**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
| <b>App-5</b>                |              | <b>D-6529-(41,42,43,45) HUB UNIT PARTS</b>             |          |     |     |     |
| 180                         | D-6529-41    | PCP:HUB UNIT, HC-C2Y(K,R)-1                            |          | 1   |     | PCP |
|                             | D-6529-42    | HUB UNIT, BHC-C2YL-1                                   |          | 1   |     |     |
|                             | D-6529-43    | PCP: HUB UNIT, BHC-C2Y(K,R)-1                          |          | 1   |     |     |
|                             | D-6529-45    | PCP: HUB UNIT, DHC-C2YR-1                              |          | 1   |     |     |
| 160                         | A-2245-2     | • HUB BUSHING, ROD (CYLINDER-SIDE)                     |          | 1   | Y   |     |
| 161                         | 103433       | • HUB BUSHING, ROD (ENGINE-SIDE)                       |          | 1   |     |     |
| 162                         | C-3317-021-1 | • O-RING (BUSHING OD)                                  |          | 1   | Y   |     |
| 163                         | A-6153-81    | • RING, RETAINING, EXTERNAL SPIRAL                     |          | 1   | Y   |     |
| 240                         | A-2249       | • HUB BUSHING, GUIDE                                   |          | 1   | Y   |     |
| <b>App-5</b>                |              | <b>D-6531-(41,42,45,46,47,48,50,51) HUB UNIT PARTS</b> |          |     |     |     |
| 180                         | D-6531-41    | PCP:HUB UNIT, HC-C2YF-1                                |          | 1   |     | PCP |
|                             | D-6531-42    | HUB UNIT, BHC-C2YF-1                                   |          | 1   |     |     |
|                             | D-6531-45    | PCP: HUB UNIT, BHC-L2YF-1                              |          | 1   |     |     |
|                             | D-6531-46    | PCP: HUB UNIT, BHC-G2YF-1                              |          | 1   |     |     |
|                             | D-6531-47    | PCP: HUB UNIT, HC-G2YF-1                               |          | 1   |     |     |
|                             | D-6531-48    | PCP: HUB UNIT, DHC-G2YF-1                              |          | 1   |     |     |
|                             | D-6531-50    | PCP: HUB UNIT, HC-L2YF-1                               |          | 1   |     |     |
|                             | D-6531-51    | PCP: HUB UNIT, DHC-L2YF-1                              |          | 1   |     |     |
| 160                         | A-2245-2     | • HUB BUSHING, ROD (CYLINDER-SIDE)                     |          | 1   | Y   |     |
| 161                         | 103433       | • HUB BUSHING, ROD (ENGINE-SIDE)                       |          | 1   |     |     |
| 162                         | C-3317-021-1 | • O-RING (BUSHING OD)                                  |          | 1   | Y   |     |
| 163                         | A-6153-81    | • RING, RETAINING, EXTERNAL SPIRAL                     |          | 1   | Y   |     |
| 240                         | A-2249       | • HUB BUSHING, GUIDE                                   |          | 1   | Y   |     |
| <b>App-5</b>                |              | <b>D-6557-(41,42,44) HUB UNIT PARTS</b>                |          |     |     |     |
| 180                         | D-6557-41    | PCP:HUB UNIT, HC-I2YR-1                                |          | 1   |     | PCP |
|                             | D-6557-42    | HUB UNIT, HC-M2YR-1                                    |          | 1   |     |     |
|                             | D-6557-44    | PCP: HUB UNIT, HC-G2YR-1                               |          | 1   |     |     |
| 160                         | A-2245-2     | • HUB BUSHING, ROD (CYLINDER-SIDE)                     |          | 1   | Y   |     |
| 161                         | 103433       | • HUB BUSHING, ROD (ENGINE-SIDE)                       |          | 1   |     |     |
| 162                         | C-3317-021-1 | • O-RING (BUSHING OD)                                  |          | 1   | Y   |     |
| 163                         | A-6153-81    | • RING, RETAINING, EXTERNAL SPIRAL                     |          | 1   | Y   |     |
| 240                         | A-2249       | • HUB BUSHING, GUIDE                                   |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

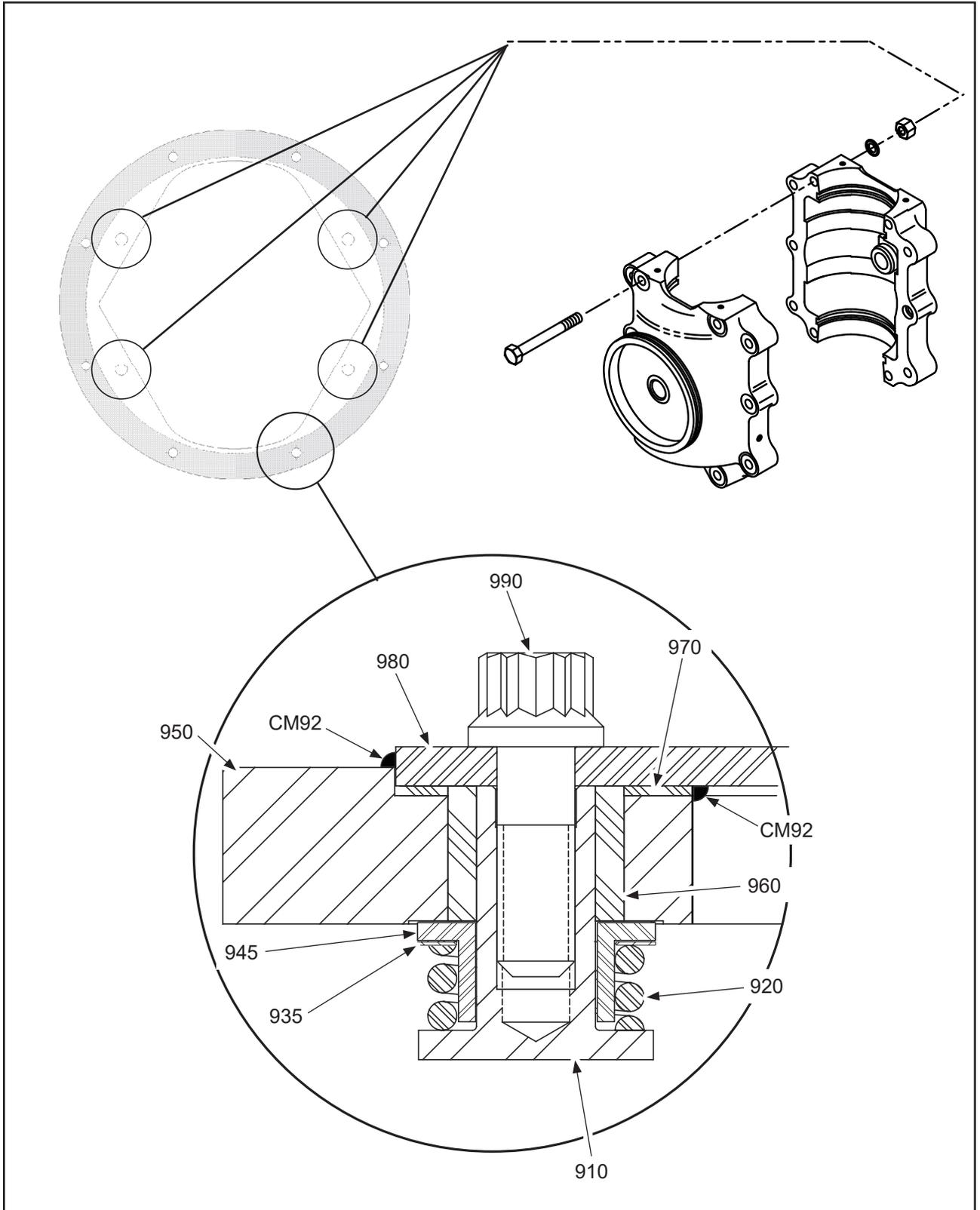
**2-Blade Hub Unit Parts Lists: Configuration E, page 1 of 2**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION                        | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|------------------------------------|----------|-----|-----|-----|
| <b>App-5</b>                |              |                                    |          |     |     |     |
|                             |              | <b>105996-( ) HUB UNIT PARTS</b>   |          |     |     |     |
| 180                         | 105996-41    | PCP:HUB UNIT, HC-C2Y(K,R)-1        |          | 1   |     | PCP |
| 160                         | A-2245-2     | • HUB BUSHING, ROD (CYLINDER-SIDE) |          | 1   | Y   |     |
| 161                         | 103433       | • HUB BUSHING, ROD (ENGINE-SIDE)   |          | 1   |     |     |
| 162                         | C-3317-021-1 | • O-RING (BUSHING OD)              |          | 1   | Y   |     |
| 163                         | A-6153-81    | • RING, RETAINING, EXTERNAL SPIRAL |          | 1   | Y   |     |
| 240                         | A-2249       | • HUB BUSHING, GUIDE               |          | 1   | Y   |     |
| <b>App-5</b>                |              |                                    |          |     |     |     |
|                             |              | <b>106032-( ) HUB UNIT PARTS</b>   |          |     |     |     |
| 180                         | 106032-41    | PCP:HUB UNIT, HC-I2YR-1            |          | 1   |     | PCP |
| 160                         | A-2245-2     | • HUB BUSHING, ROD (CYLINDER-SIDE) |          | 1   | Y   |     |
| 161                         | 103433       | • HUB BUSHING, ROD (ENGINE-SIDE)   |          | 1   |     |     |
| 162                         | C-3317-021-1 | • O-RING (BUSHING OD)              |          | 1   | Y   |     |
| 163                         | A-6153-81    | • RING, RETAINING, EXTERNAL SPIRAL |          | 1   | Y   |     |
| 240                         | A-2249       | • HUB BUSHING, GUIDE               |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |                                    |          |     |     |     |

- ITEM NOT ILLUSTRATED

**2-Blade Hub Unit Parts Lists: Configuration E, page 2 of 2**



**C-1576 Damper Assembly**  
**Figure App-6**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER     | PART NUMBER | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|----------------------|-------------|--|----------|-----|-----|-----|
| <b>App-6</b>         |             | <b>C-1576 DAMPER ASSEMBLY PARTS</b>                |          |     |     |     |
| 910                  | A-1579      | • SPACER TUBE, HEX HEAD                            |          | 8   |     |     |
| 920                  | A-1580      | • SPRING, COMPRESSION                              |          | 8   | Y   |     |
| -930                 | B-3851-0732 | • WASHER<br>REPLACED BY ITEM 935                   |          | 8   | Y   |     |
| 935                  | 106975      | • WASHER, SPRING ADJUST<br>REPLACES ITEM 930       |          | 8   |     |     |
| -940                 | A-1865-2    | • WASHER, FIBER<br>REPLACED BY ITEM 945            |          | 8   | Y   |     |
| 945                  | 106972      | • BUSHING, FLANGED<br>REPLACES ITEM 940            |          | 8   |     |     |
| 950                  | C-1567-1    | • WEIGHT, DAMPER                                   |          | 1   |     |     |
| 960                  | A-1581      | • SILICONE GROMMET                                 |          | 8   | Y   |     |
| 970                  | C-1568-1    | • DISK, FRICTION                                   |          | 1   | Y   |     |
| 980                  | C-1566-1    | • PLATE, DAMPER                                    |          | 1   |     |     |
| 990                  | A-1578      | • BOLT, 1/4-28, 12 POINT,<br>REPLACED BY ITEM 990A |          | OBS | Y   |     |
| 990A                 | A-2038-6    | • SCREW, 1/4-28, CAP<br>REPLACES ITEM 990          |          | 8   | Y   |     |
| 163                  | A-6153-81   | • RING, RETAINING, EXTERNAL SPIRAL                 |          | 1   | Y   |     |
| 240                  | A-2249      | • HUB BUSHING, GUIDE                               |          | 1   | Y   |     |
| EFF CODE INFORMATION |             |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**C-1576 Damper Assembly**

## EXPLODED VIEWS AND PARTS LISTS 3-blade Propellers/Hub Units

### Propeller Exploded Views

|  |                    |       |
|--|--------------------|-------|
| 3-blade Compact Propellers: <u>except</u> HC-I3YR-1(C,E),<br>PHC-G3YF-1E, (-1MF) and (-1N) models..... | Figure 10B-1 ..... | 10B-3 |
| 3-blade Compact Propellers: HC-I3YR-1(C,E),<br>PHC-G3YF-1E, and (-1MF) models.....                     | Figure 10B-2 ..... | 10B-4 |
| 3-blade Compact Propellers: (-1N) models only.....   | Figure 10B-3 ..... | 10B-5 |
| 3-blade Lightweight Compact Propellers:<br>( )HC-( )3Y1( )-( ) models.....                             | Figure 10B-4 ..... | 10B-6 |

### (-1) Propeller Parts Lists

|   |        |
|---|--------|
| HC-C3YF-1(L)(F).....                      | 10B-7  |
| PHC-C3YF-1MF .....                        | 10B-10 |
| (P)HC-C3YF-1N .....                       | 10B-13 |
| (P)HC-C3YF-1R(L)(F) .....                 | 10B-15 |
| HC-C3YN-1(F).....                         | 10B-18 |
| HC-C3YR-1A.....                           | 10B-21 |
| HC-C3YR-1(L)(F) .....                     | 10B-23 |
| HC-C3YR-1MF .....                         | 10B-26 |
| HC-C3YR-1N.....                           | 10B-29 |
| HC-C3YR-1R(L)(F).....                     | 10B-31 |
| HC-C3Y1R-1N (Lightweight Compact).....    | 10B-34 |
| HC-E3YR-1C .....                          | 10B-36 |
| HC-E3YR-1E .....                          | 10B-39 |
| HC-E3YR-1N .....                          | 10B-41 |
| HC-E3YR-1R(L)(F).....                     | 10B-43 |
| HC-F3YR-1AN.....                          | 10B-46 |
| HC-F3YR-1(A)RF .....                      | 10B-48 |
| (P)HC-G3YF-1N .....                       | 10B-51 |
| (P)HC-G3YF-1RF .....                      | 10B-53 |
| PHC-G3YF-1E.....                          | 10B-56 |
| (P)HC-G3Y1F-1N (Lightweight Compact)..... | 10B-59 |
| HC-G3Y1R-1N (Lightweight Compact).....    | 10B-61 |
| HC-H3YF-1N .....                          | 10B-63 |
| (P)HC-H3YF-1RF .....                      | 10B-65 |
| PHC-I3YF-1RF .....                        | 10B-68 |

**EXPLODED VIEWS AND PARTS LISTS**  
**3-blade Propellers/Hub Units, continued**

(-1) Propeller Parts Lists, continued

|  |         |
|--|---------|
| HC-I3YR-1C .....                           | 10B-70  |
| HC-I3YR-1E.....                            | 10B-73  |
| HC-I3YR-1N .....                           | 10B-76  |
| HC-I3YR-1RF .....                          | 10B-78  |
| HC-I3Y1R-1N (Lightweight Compact) .....    | 10B-81  |
| PHC-J3YF-1MF .....                         | 10B-83  |
| (P)HC-J3YF-1N .....                        | 10B-86  |
| (P)HC-J3YF-1RF .....                       | 10B-89  |
| (P)HC-J3Y1F-1N (Lightweight Compact) ..... | 10B-92  |
| PHC-L3YF-1N .....                          | 10B-94  |
| (P)HC-L3YF-1RF .....                       | 10B-96  |
| PHC-L3Y1F-1N (Lightweight Compact) .....   | 10B-99  |
| HC-M3YR-1RF .....                          | 10B-101 |

(-4) Propeller Parts Lists

|                      |         |
|----------------------|---------|
| (P)HC-C3YF-4F .....  | 10B-103 |
| (P)HC-C3YF-4BF ..... | 10B-106 |
| HC-C3YN-4F .....     | 10B-109 |
| HC-C3YN-4BF .....    | 10B-112 |
| HC-C3YR-4F .....     | 10B-114 |
| HC-C3YR-4BF .....    | 10B-117 |
| HC-C3YR-4A .....     | 10B-119 |
| HC-C3YR-4BN .....    | 10B-122 |
| HC-C3YR-4G.....      | 10B-119 |
| HC-C3YR-4N.....      | 10B-124 |
| HC-G3YR-4N.....      | 10B-126 |
| PHC-H3YF-4BF.....    | 10B-128 |

**EXPLODED VIEWS AND PARTS LISTS**  
**3-blade Propellers/Hub Units, continued**

**APPENDIX**

Hub Unit Exploded Views

|  |                    |          |
|--|--------------------|----------|
| 3-blade Hub Units: Configuration A ..... | Figure App-1 ..... | App-B-2  |
| 3-blade Hub Units: Configuration B ..... | Figure App-2 ..... | App-B-4  |
| 3-blade Hub Units: Configuration C ..... | Figure App-3 ..... | App-B-8  |
| 3-blade Hub Units: Configuration D ..... | Figure App-4 ..... | App-B-10 |
| 3-blade Hub Units: Configuration E ..... | Figure App-5 ..... | App-B-13 |
| 3-blade Hub Units: Configuration F ..... | Figure App-6 ..... | App-B-17 |

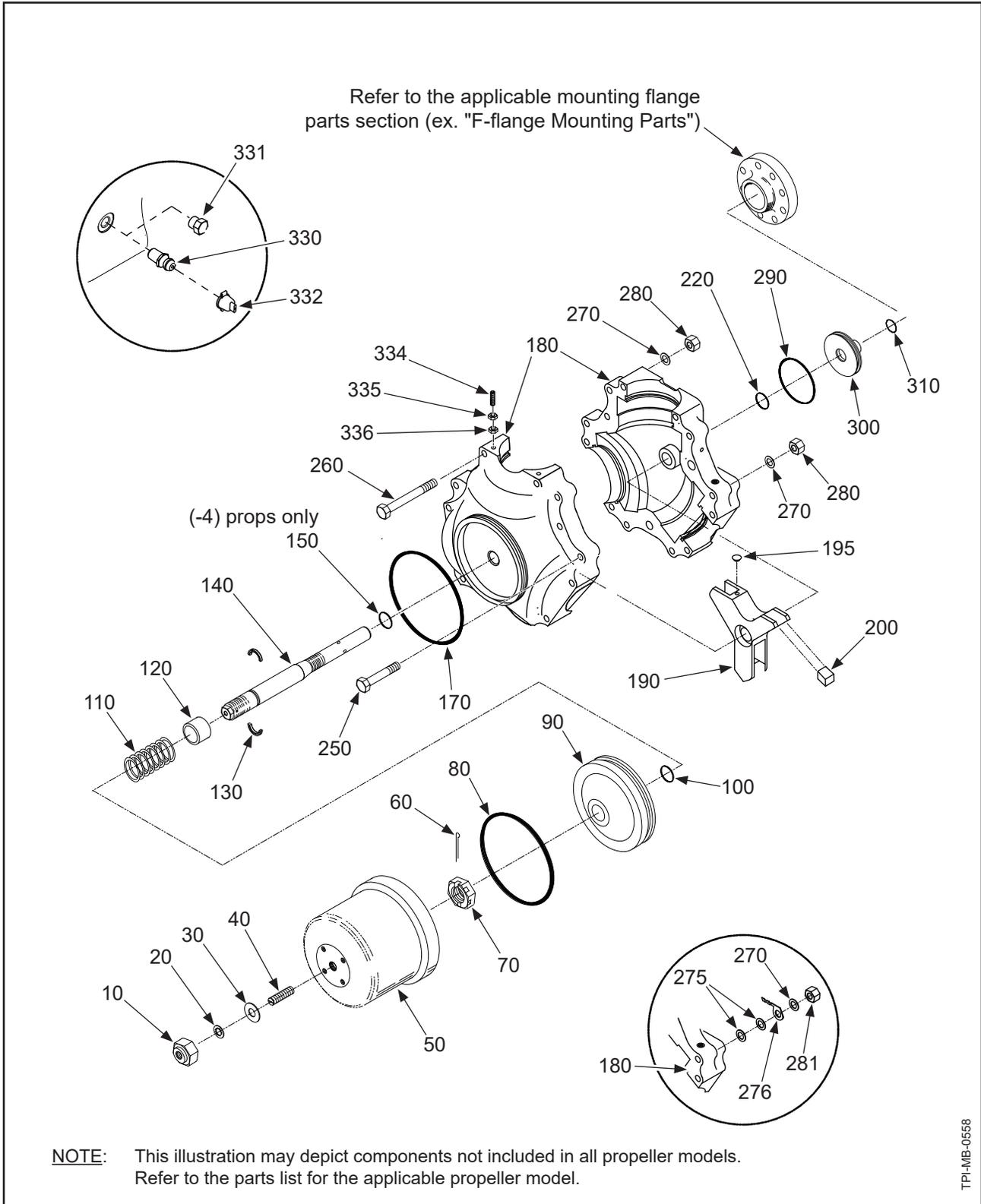
Hub Unit Exploded Parts Lists

|  |          |
|--|----------|
| C-3327 .....                             | App-B-3  |
| D-2841( ) .....                          | App-B-5  |
| D-3251-(1,3,4,8,10,11,15,16)(R) .....    | App-B-5  |
| D-3251-(2,4,7)(R) .....                  | App-B-9  |
| D-3261-3 .....                           | App-B-11 |
| D-3276( ) .....                          | App-B-5  |
| D-3285-( ) .....                         | App-B-11 |
| E-7152-(1,11) .....                      | App-B-5  |
| E-7152-41 .....                          | App-B-14 |
| E-7154-(1,2,3,4,5,11,12,13,14,15)R ..... | App-B-6  |
| E-7154-(41,42,43,44,45)R .....           | App-B-14 |
| E-7155-1R .....                          | App-B-6  |
| E-7156-( ) .....                         | App-B-11 |
| E-7157-(1,11)R .....                     | App-B-6  |
| E-7157-41R .....                         | App-B-14 |
| E-7159-(1,2,11,12)R .....                | App-B-6  |
| E-7159-(41,42)R .....                    | App-B-14 |
| E-7160-( ) .....                         | App-B-3  |
| E-7161-( ) .....                         | App-B-11 |
| E-7162-( ) .....                         | App-B-9  |
| E-7167-( ) .....                         | App-B-9  |
| E-7169-( ) .....                         | App-B-18 |
| E-7172-( ) .....                         | App-B-9  |
| 102520-( ) .....                         | App-B-12 |

**EXPLODED VIEWS AND PARTS LISTS**  
**3-blade Propellers/Hub Units, continued**  
**APPENDIX, continued**

Hub Unit Parts Lists, continued

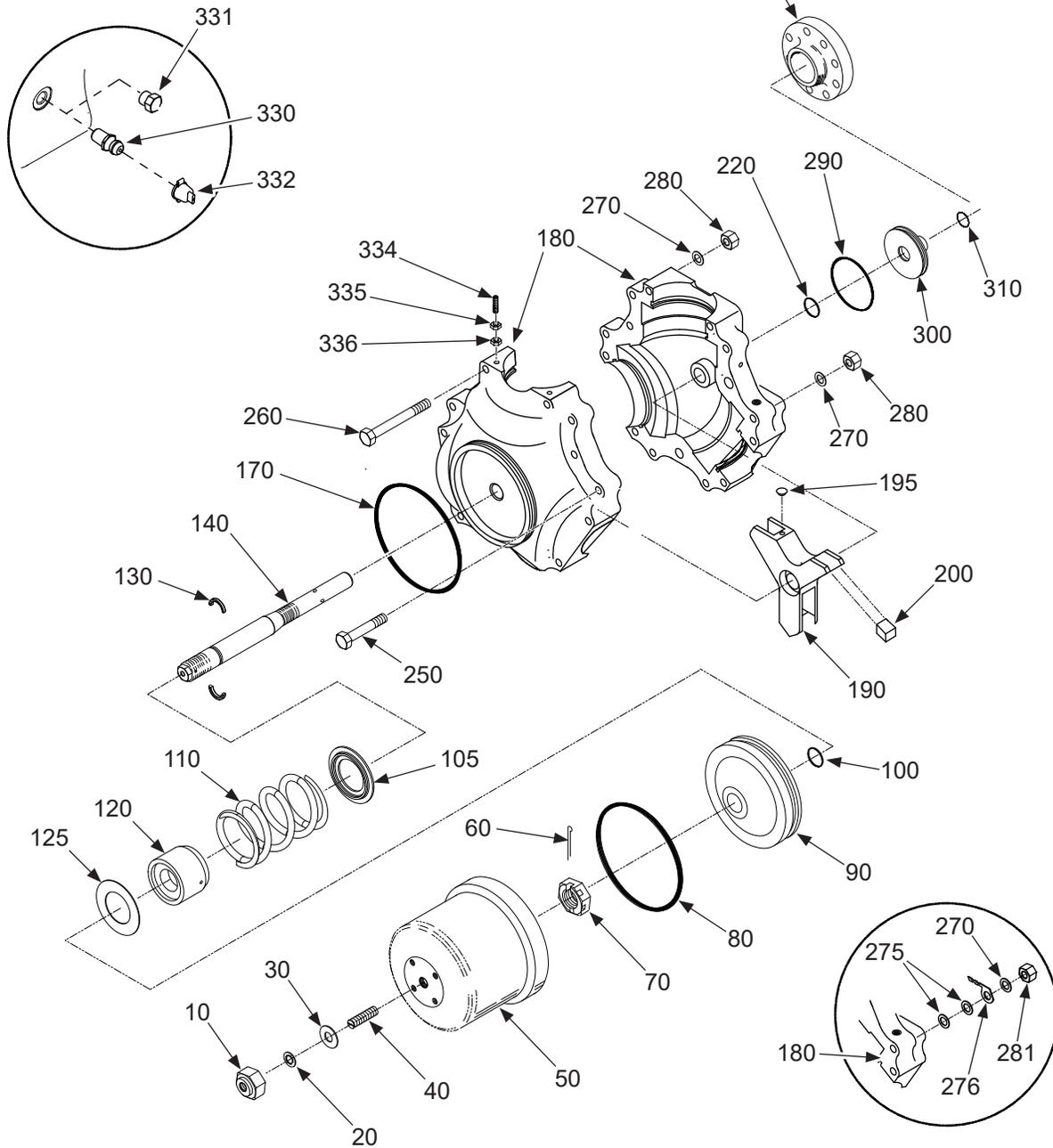
|                          |          |
|--------------------------|----------|
| 102527( ) .....          | App-B-9  |
| 102888-11R .....         | App-B-6  |
| 102888-41R .....         | App-B-15 |
| 102901-11R .....         | App-B-7  |
| 102901-41R .....         | App-B-15 |
| 103025 .....             | App-B-7  |
| 103025-(40,41,42)R ..... | App-B-15 |
| 105276-( ) .....         | App-B-12 |
| 105993-( ) .....         | App-B-15 |
| 105995-( ) .....         | App-B-16 |
| 108315( ) .....          | App-B-16 |



**3-blade Compact Propellers: except HC-I3YR-1(C,E), PHC-G3YF-1E, (-1MF) and (-1N) models**  
**Figure 10B-1**

HARTZELL PROPELLER OVERHAUL MANUAL  
113B

Refer to the applicable mounting flange parts section (ex. "F-flange Mounting Parts")

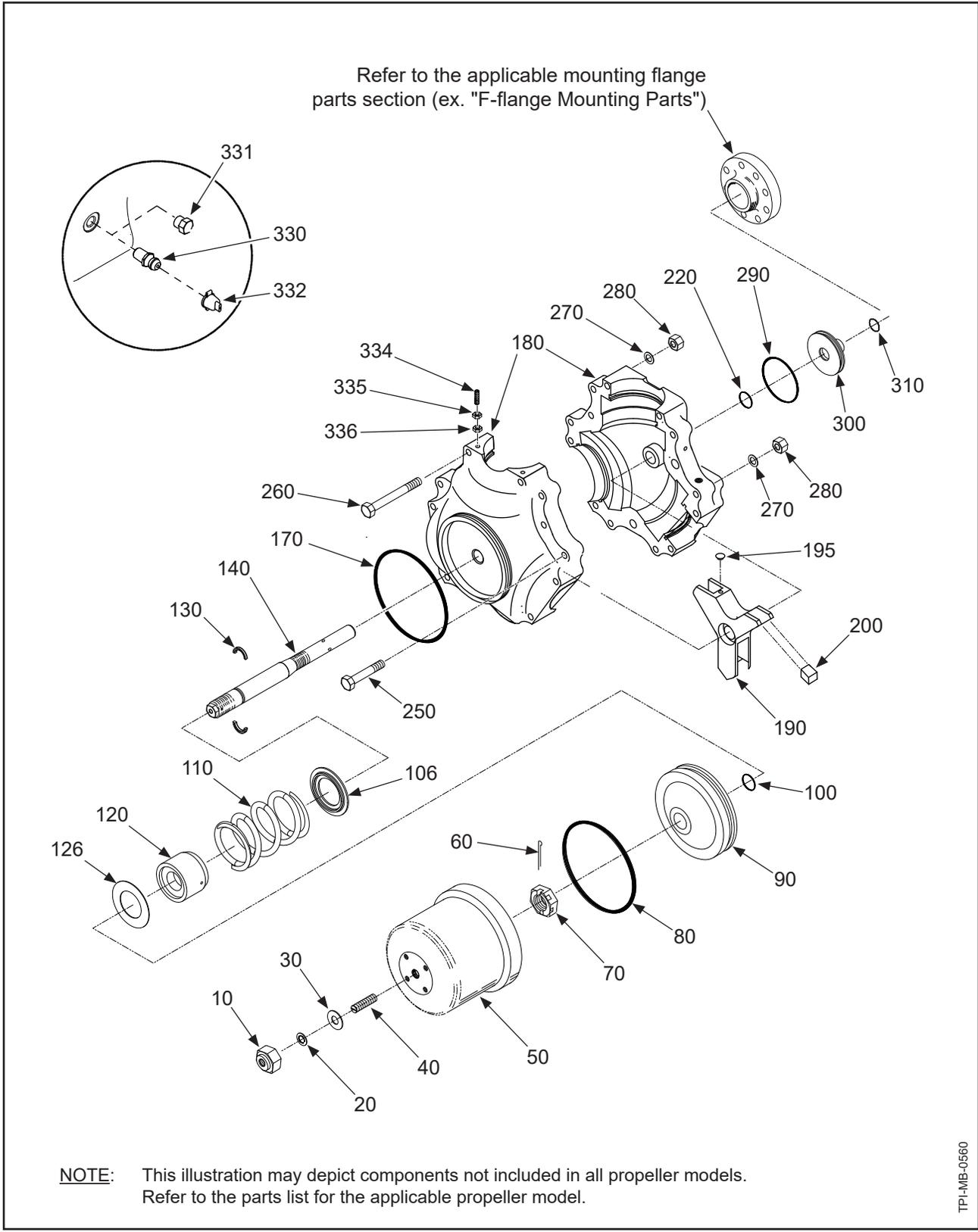


**NOTE:** This illustration may depict components not included in all propeller models. Refer to the parts list for the applicable propeller model.

TPI-MB-0559

**3-blade Compact Propellers: HC-I3YR-1(C,E), PHC-G3YF-1E, and (-1MF) models  
Figure 10B-2**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

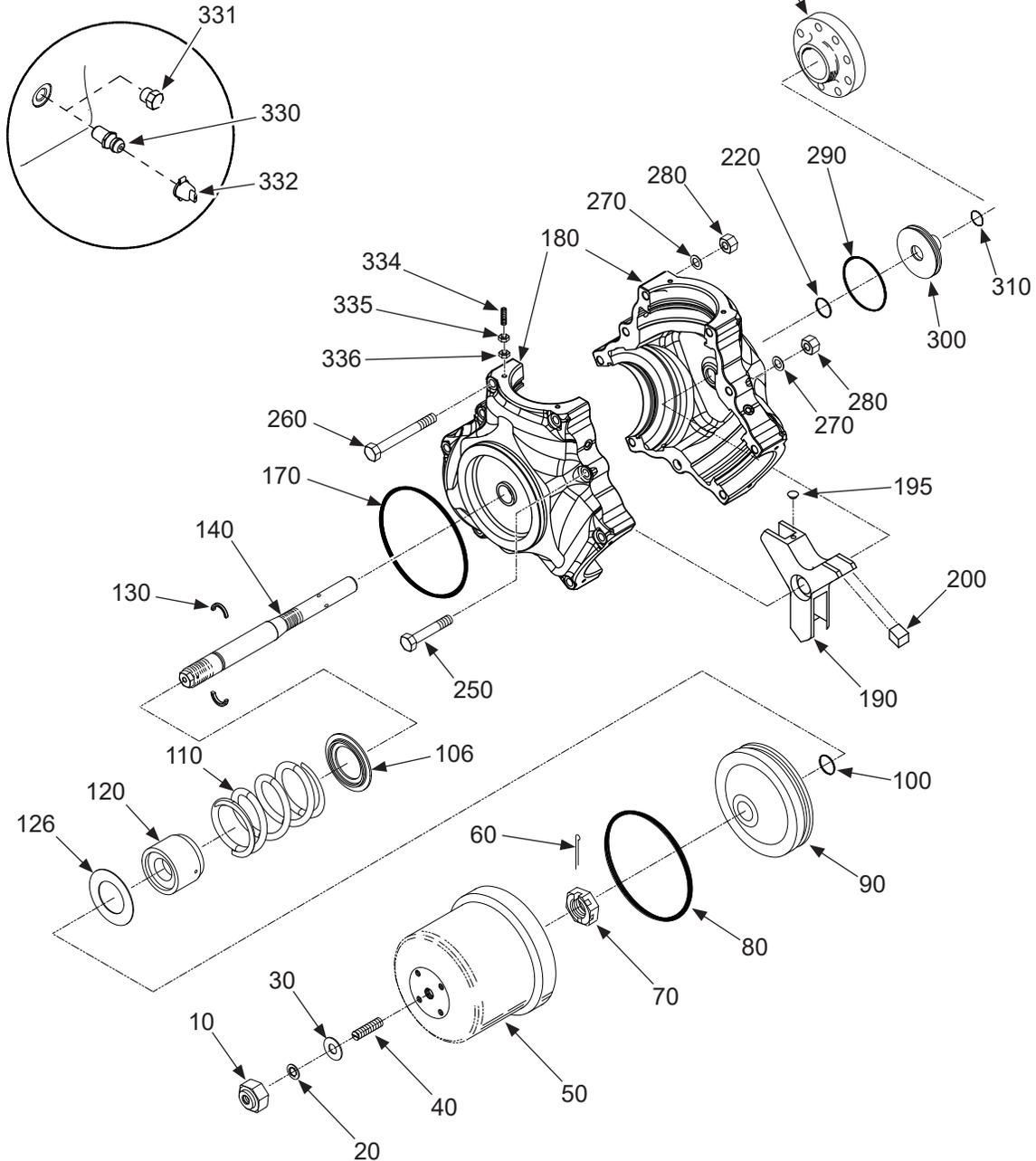


TPI-MB-0560

**3-blade Compact Propellers: (-1N) models only  
Figure 10B-3**

HARTZELL PROPELLER OVERHAUL MANUAL  
113B

Refer to the applicable mounting flange parts section (ex. "F-flange Mounting Parts")



**NOTE:** This illustration may depict components not included in all propeller models. Refer to the parts list for the applicable propeller model.

TPI-MB-0561

**3-blade Lightweight Compact Propellers: ( )HC-( )3Y1( )-( ) models  
Figure 10B-4**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-1</b>     |              | <b>HC-C3YF-1(L)(F)<br/>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A              | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B              | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40               | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A              | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50               | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110              | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120              | A-2420-( )   | COLLAR, STOP<br>(LENGTH TO SUIT PITCH REQUIREMENTS)  |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170              | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-3251-3     | PCP: HUB UNIT (NO LONGER AVAILABLE)  | A        | 1   |     | PCP |

**EFF CODE**

**INFORMATION**

A

D-3251-3 Hub Unit is no longer available. If hub replacement is required, the -1 propeller must be upgraded to a -1R. Refer to the section, "Three Bladed Propeller Improvements" in this chapter for important information regarding hub replacement.

- ITEM NOT ILLUSTRATED

**HC-C3YF-1(L)(F)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-1</b>     |              | <b>HC-C3YF-1(L)(F), continued</b>  |          |     |     |     |
|                  |              | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 190              | B-3252       | FORK, THREE BLADE - ASSEMBLY   | B        | 1   |     |     |
|                  | B-3252-L     | FORK, THREE BLADE, LH - ASSEMBLY   | C        | 1   |     |     |
| 190A             | B-3252-2     | FORK, THREE BLADE - ASSEMBLY   | B        | 1   |     |     |
|                  | B-3252-2L    | FORK, THREE BLADE, LH - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340  | C        | 1   |     |     |
| 195              | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200              | A-3253       | PITCH CHANGE BLOCK   | D        | 3   |     |     |
|                  | A-3253-2     | PITCH CHANGE BLOCK   | E        | 3   |     |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL  |          | 15  | Y   |     |
| 280              | A-2043-1     | NUT, SELF LOCKING  |          | 15  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB                  | B<br>C   | 3   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°, POST HC-SL-61-187<br>ALTERNATE FOR ITEM 330A   |          | 3   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION, POST HC-SL-61-354<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB | B<br>C   | 3   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |

**EFF CODE INFORMATION**

|   |               |
|---|---------------|
| B | HC-C3YF-1(F)  |
| C | HC-C3YF-1L(F) |
| D | HC-C3YF-1(L)  |
| E | HC-C3YF-1(L)F |

- ITEM NOT ILLUSTRATED

**HC-C3YF-1(L)(F), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>HC-C3YF-1(L)(F), continued</b>  |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YF-1(L)(F), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>PHC-C3YF-1MF</b>  |          |     |     |     |
| <b>10B-2</b>                |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B        |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278                                 |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278                             |          | 1   |     |     |
| 50                          | C-6510       | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-6511       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 105                         | 101388       | SPRING SEAT<br>(USE WITH ITEMS 110B, 120A, 125)  |          | 1   |     |     |
| 110                         | B-6509-1     | SPRING, COMPRESSION (LEFT) - (LOW PITCH RETURN)<br>REPLACED BY ITEM 110B                                 |          | 1   |     |     |
| 110A                        | B-6509       | SPRING, COMPRESSION (LOW PITCH RETURN)<br>ALTERNATE FOR ITEM 110<br>REPLACED BY ITEM 110B                |          | 1   |     |     |
| 110B                        | 101322       | SPRING, COMPRESSION<br>REPLACES ITEMS 110, 110A<br>(USE WITH ITEMS 105, 120A, 125)                       |          | 1   |     |     |
| 120                         | B-6515-( )   | SLEEVE, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)<br>REPLACED BY ITEM 120A                                |          | 1   |     |     |
| 120A                        | 101324-( )   | SLEEVE, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)<br>REPLACES ITEM 120<br>(USE WITH ITEMS 105, 110B, 125) |          | 1   |     |     |
| 125                         | 101390       | SPRING SPACER,<br>(USE WITH ITEMS 105, 110B, 120A)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | C-6512       | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**PHC-C3YF-1MF**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
| 10B-2                       |              | <b>PHC-C3YF-1MF</b><br><b>PROPELLER PARTS, continued</b><br><b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-3251-8R    | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A                        | E-7154-2R    | PCP: HUB UNIT, PHC-C3YF-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B  |          | 1   |     | PCP |
| 180B                        | E-7154-12R   | PCP: HUB UNIT, PHC-C3YF-1R<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265<br>SUPERSEDED BY ITEM 180C   |          | 1   |     | PCP |
| 180C                        | E-7154-42R   | PCP: HUB UNIT, PHC-C3YF-1R<br>SUPERSEDES ITEMS 180, 180A, 180B,<br>POST HC-SL-61-305   |          | 1   |     | PCP |
| 190                         | B-3252       | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 190A                        | B-3252-2     | FORK, THREE BLADE - ASSEMBLY, ALTERNATE FOR ITEM 190<br>POST HC-SL-61-340  |          | 1   |     |     |
| 195                         | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200                         | A-3253-2     | PITCH CHANGE BLOCK   |          | 3   |     |     |
| 220                         | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL  |          | 15  | Y   |     |
| 280                         | A-2043-1     | NUT, SELF LOCKING  |          | 15  | Y   |     |
| 330                         | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A                        | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB   |          | 3   | Y   |     |
| 330B                        | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331                         | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 332                         | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**PHC-C3YF-1MF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION   | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|---|-------------|-----|-----|-----|
|                     |                | <b>PHC-C3YF-1MF, continued</b><br><br><b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)<br><br><b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)<br><br><b>BALANCE PARTS</b><br>SCREW<br>BALANCE WEIGHT<br><br><b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| -9000               | B-3840-( )     |   |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  |   |             | AR  |     |     |
| EFF CODE            |                | INFORMATION   |             |     |     |     |

- ITEM NOT ILLUSTRATED

**PHC-C3YF-1MF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER              | DESCRIPTION  | EFF CODE | UPA    | O/H | PCP        |
|------------------|--------------------------|--|----------|--------|-----|------------|
| <b>10B-3</b>     |                          | <b>(P)HC-C3YF-1N<br/>PROPELLER PARTS</b>   |          |        |     |            |
| 10               | A-2043-1                 | NUT, 3/8-24, HEX, SELF-LOCKING   |          | 1      | Y   |            |
| 20               | B-6747                   | SEAL, WASHER   |          | 1      | Y   |            |
| 40               | 102472                   | SCREW, SET, 3/8-24 (LOW PITCH STOP)  |          | 1      |     |            |
| 50               | B-2281                   | CYLINDER   |          | 1      |     |            |
| 60               | B-3838-3-5               | COTTER PIN   |          | 1      | Y   |            |
| 70               | A-2211                   | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1      | Y   |            |
| 80               | C-3317-426-1             | O-RING (PISTON OD)   |          | 1      | Y   |            |
| 90               | B-2280                   | PISTON   |          | 1      |     |            |
| 100              | C-3317-018               | O-RING (PISTON ID)   |          | 1      | Y   |            |
| 106              | 101378                   | GUIDE, SPRING  |          | 1      |     |            |
| 110              | 101330                   | SPRING, COMPRESSION  |          | 1      |     |            |
| 120              | 101335(-)                | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1      |     |            |
| 126              | 101430                   | SPRING SEAT  |          | 1      |     |            |
| 130              | A-867                    | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1      | Y   | PCP        |
| 140              | A-2418-2                 | ROD, PITCH CHANGE  |          | 1      |     |            |
| 170              | C-3317-251               | O-RING (CYLINDER)  |          | 1      | Y   |            |
|                  |                          | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |        |     |            |
| 180              | E-7154-41R<br>E-7154-42R | PCP: HUB UNIT, HC-C3YF-1R<br>PCP: HUB UNIT, PHC-C3YF-1R  | A<br>B   | 1<br>1 |     | PCP<br>PCP |
| 190              | B-3252                   | FORK, THREE BLADE - ASSEMBLY   |          | 1      |     |            |
| 190A             | B-3252-2                 | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340  |          | 1      |     |            |
| 195              | A-3256                   | • BUMPER, FORK   |          | 3      | Y   |            |
| 200              | A-3253-2                 | BLOCK, PITCH CHANGE  |          | 3      |     |            |
| 220              | C-3317-115-1             | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1      | Y   |            |
| 250              | A-2431                   | BOLT, 3/8-24, HEX HEAD   |          | 9      |     |            |
| 260              | A-2432                   | BOLT, 3/8-24, HEX HEAD   |          | 6      |     |            |
| 270              | B-3834-0632              | WASHER   |          | 15     | Y   |            |
| 280              | A-2043-1                 | NUT, 3/8-24, HEX SELF-LOCKING  |          | 15     | Y   |            |
| <b>EFF CODE</b>  |                          | <b>INFORMATION</b>   |          |        |     |            |
| A                |                          | HC-C3YF-1N   |          |        |     |            |
| B                |                          | PHC-C3YF-1N  |          |        |     |            |

- ITEM NOT ILLUSTRATED

**(P)HC-C3YF-1N**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
| <b>10B-3</b>     |               | <b>(P)HC-C3YF-1N</b><br><b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB   |          | 3   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-C3YF-1N, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER      | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|------------------|--|----------|-----|-----|-----|
|                             |                  | <b>(P)HC-C3YF-1R(L)(F)</b>   |          |     |     |     |
| <b>10B-1</b>                |                  | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359           | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599           | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B                         | A-2043-1         | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747           | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421           | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472           | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2281           | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5       | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211           | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-426-1     | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2280           | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018       | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1         | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )       | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867            | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-2         | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-251       | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |                  | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-3251-3R        | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   | A        | 1   |     | PCP |
|                             | D-3251-8R        | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   | B        | 1   |     | PCP |
| 180A                        | E-7154-1R        | PCP: HUB UNIT, HC-C3YF-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                               | A        | 1   |     | PCP |
|                             | E-7154-2R        | PCP: HUB UNIT, PHC-C3YF-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                              | B        | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |                  |  |          |     |     |     |
| A                           | HC-C3YF-1R(L)(F) |  |          |     |     |     |
| B                           | PHC-C3YF-1R(F)   |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-C3YF-1R(L)(F)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-1</b>     |              | <b>(P)HC-C3YF-1R(L)(F), continued</b>  |          |     |     |     |
|                  |              | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 180B             | E-7154-11R   | PCP: HUB UNIT, HC-C3YF-1R<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265<br>SUPERSEDED BY ITEM 180C                              | A        | 1   |     | PCP |
|                  | E-7154-12R   | PCP: HUB UNIT, PHC-C3YF-1R<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265<br>SUPERSEDED BY ITEM 180C                             | B        | 1   |     | PCP |
| 180C             | E-7154-41R   | PCP: HUB UNIT, THREE BLADED ALUMINUM<br>SUPERSEDES ITEM 180B, POST HC-SL-61-305  | A        | 1   |     | PCP |
|                  | E-7154-42R   | PCP: HUB UNIT, PHC-C3YF-1R<br>SUPERSEDES ITEM 180B, POST HC-SL-61-305  | B        | 1   |     | PCP |
| 190              | B-3252       | FORK, THREE BLADE - ASSEMBLY   | C        | 1   |     |     |
|                  | B-3252-L     | FORK, THREE BLADE, LH - ASSEMBLY   | D        | 1   |     |     |
| 190A             | B-3252-2     | FORK, THREE BLADE - ASSEMBLY   | C        | 1   |     |     |
|                  | B-3252-2L    | FORK, THREE BLADE, LH - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340  | D        | 1   |     |     |
| 195              | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200              | A-3253       | PITCH CHANGE BLOCK   | E        | 3   |     |     |
|                  | A-3253-2     | PITCH CHANGE BLOCK   | F        | 3   |     |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL  |          | 15  | Y   |     |
| 280              | A-2043-1     | NUT, SELF LOCKING  |          | 15  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB                  | C<br>D   | 3   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°, POST HC-SL-61-187<br>ALTERNATE FOR ITEM 330A   |          | 3   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION, POST HC-SL-61-354<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB | C<br>D   | 3   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |

| EFF CODE | INFORMATION      | EFF CODE | INFORMATION         |
|----------|------------------|----------|---------------------|
| A        | HC-C3YF-1R(L)(F) | E        | (P)HC-C3YF-1R(L)    |
| B        | PHC-C3YF-1R(F)   | F        | (P)HC-C3YF-1R(L)(F) |
| C        | (P)HC-C3YF-1R(F) |          |                     |
| D        | HC-C3YF-1RL(F)   |          |                     |

- ITEM NOT ILLUSTRATED

**(P)HC-C3YF-1R(L)(F), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
| 10B-1               |                | <p>(P)HC-C3YF-1R(L)(F), continued</p> <p><b>PROPELLER PARTS, continued</b></p> <p><b>BLADE RETENTION PARTS</b><br/>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br/>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)</p> <p><b>F-FLANGE MOUNTING PARTS</b><br/>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br/>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)</p> <p><b>BALANCE PARTS</b></p> |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <p><b>SPINNER PARTS</b><br/>APPLICATION SPECIFIC<br/>REFER TO HARTZELL PROPELLER INC.<br/>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br/>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br/>MAINTENANCE MANUAL:<br/>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br/>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES</p>   |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-C3YF-1R(L)(F), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-1</b>                |              | <b>HC-C3YN-1(F)<br/>PROPELLER PARTS</b>  |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP<br>(LENGTH TO SUIT PITCH REQUIREMENTS)  |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-3276-1     | PCP: HUB, SUPERSEDED BY ITEM 180A  |          | 1   |     | PCP |
| 180A                        | E-7152-1     | PCP: HUB UNIT, HC-C3YN-1<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                                |          | 1   |     | PCP |
| 180B                        | E-7152-11    | PCP: HUB UNIT, HC-C3YN-1<br>SUPERSEDES ITEM 180A, POST HC-SL-61-26<br>SUPERSEDED BY ITEM 180C                                |          | 1   |     | PCP |
| 180C                        | E-7152-41    | PCP: HUB UNIT, HC-C3YN-1<br>SUPERSEDES ITEMS 180, 180A, 180B,<br>POST HC-SL-61-305   |          | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YN-1(F)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
| <b>10B-1</b>     |              | <b>HC-C3YN-1(F), continued</b>  |          |     |     |     |
|                  |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190              | B-3252       | FORK, THREE BLADE - ASSEMBLY  |          | 1   |     |     |
| 190A             | B-3252-2     | FORK, THREE BLADE - ASSEMBLY,<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340          |          | 1   |     |     |
| 195              | A-3256       | • BUMPER, FORK  |          | 3   | Y   |     |
| 200              | A-3253-2     | PITCH CHANGE BLOCK  | A        | 3   |     |     |
|                  | A-3253       | PITCH CHANGE BLOCK  | B        | 3   |     |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)                                     |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 9   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL   |          | 15  | Y   |     |
| 280              | A-2043-1     | NUT, SELF LOCKING   |          | 15  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 6   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 3   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 3   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 3   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 3   | Y   |     |

**EFF CODE                      INFORMATION**

|   |            |
|---|------------|
| A | HC-C3YN-1F |
| B | HC-C3YN-1  |

- ITEM NOT ILLUSTRATED

**HC-C3YN-1(F), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION   | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|---|-------------|-----|-----|-----|
|                     |                | <b>HC-C3YN-1(F), continued</b><br><br><b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)<br><br><b>N-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)<br><br><b>BALANCE PARTS</b><br>SCREW<br>BALANCE WEIGHT<br><br><b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| -9000               | B-3840-( )     | SCREW   |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT  |             | AR  |     |     |
| EFF CODE            |                | INFORMATION   |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YN-1(F), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>HC-C3YR-1A</b>  |          |     |     |     |
|                             |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10B-1                       |              |  |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2281       | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2280       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP<br>(LENGTH TO SUIT PITCH REQUIREMENTS)  |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-3251-1R    | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A                        | E-7157-1R    | PCP: HUB UNIT, HC-C3YR-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                               |          | 1   |     | PCP |
| 180B                        | E-7157-11R   | PCP: HUB UNIT, HC-C3YR-1R<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265<br>SUPERSEDED BY ITEM 180C                              |          | 1   |     | PCP |
| 180C                        | E-7157-41R   | PCP: HUB UNIT, HC-C3YR-1R<br>SUPERSEDES ITEMS 180B, POST HC-SL-61-305  |          | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YR-1A**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
| <b>10B-1</b>     |               | <b>HC-C3YR-1A, continued</b>   |          |     |     |     |
|                  |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 190              | B-3252-2      | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 195              | A-3256        | • BUMPER, FORK   |          | 3   | Y   |     |
| 200              | A-3253-2      | PITCH CHANGE BLOCK   |          | 3   |     |     |
| 220              | C-3317-115-1  | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431        | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260              | A-2432        | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270              | B-3834-0632   | WASHER, FLAT, STEEL  |          | 15  | Y   |     |
| 280              | A-2043-1      | NUT, SELF LOCKING  |          | 15  | Y   |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB   |          | 3   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| -332             | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YR-1A, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-1</b>     |              | <b>HC-C3YR-1(L)(F)<br/>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A              | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B              | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40               | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A              | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50               | B-2428-1     | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)<br>(PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110              | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120              | A-2420-( )   | COLLAR, STOP<br>(LENGTH TO SUIT PITCH REQUIREMENTS)  |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170              | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-3251-1     | PCP: HUB UNIT (NO LONGER AVAILABLE)  | A        | 1   |     | PCP |

**EFF CODE                      INFORMATION**

A                      D-3251-1 Hub Unit is no longer available. If hub replacement is required, the -1 propeller must be upgraded to a -1R. Refer to the section, "Three Bladed Propeller Improvements" in this chapter for important information regarding hub replacement.

- ITEM NOT ILLUSTRATED

**HC-C3YR-1(L)(F)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|---------------|--|----------|-----|-----|-----|
|                             |               | <b>HC-C3YR-1(L)(F), continued</b>  |          |     |     |     |
| <b>10B-1</b>                |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 190                         | B-3252        | FORK, THREE BLADE - ASSEMBLY   | B        | 1   |     |     |
|                             | B-3252-L      | FORK, THREE BLADE, LH - ASSEMBLY   | C        | 1   |     |     |
| 190A                        | B-3252-2      | FORK, THREE BLADE - ASSEMBLY   | B        | 1   |     |     |
|                             | B-3252-2L     | FORK, THREE BLADE, LH - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340  | C        | 1   |     |     |
| 195                         | A-3256        | • BUMPER, FORK   |          | 3   | Y   |     |
| 200                         | A-3253        | PITCH CHANGE BLOCK   | D        | 3   |     |     |
|                             | A-3253-2      | PITCH CHANGE BLOCK   | E        | 3   |     |     |
| 220                         | C-3317-115-1  | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250                         | A-2431        | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260                         | A-2432        | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270                         | B-3834-0632   | WASHER, FLAT, STEEL  |          | 15  | Y   |     |
| 280                         | A-2043-1      | NUT, SELF LOCKING  |          | 15  | Y   |     |
| 330                         | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A                        | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                  | C<br>B   | 3   | Y   |     |
| 330B                        | C-6349        | LUBRICATION FITTING, 45°, POST HC-SL-61-187<br>ALTERNATE FOR ITEM 330A   |          | 3   | Y   |     |
| 331                         | 106545        | PLUG, LUBRICATION, POST HC-SL-61-354<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB | C<br>B   | 3   | Y   |     |
| 332                         | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
| <b>EFF CODE INFORMATION</b> |               |  |          |     |     |     |
| B                           | HC-C3YR-1(F)  |  |          |     |     |     |
| C                           | HC-C3YR-1L(F) |  |          |     |     |     |
| D                           | HC-C3YR-1(L)  |  |          |     |     |     |
| E                           | HC-C3YR-1(L)F |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YR-1(L)(F), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>HC-C3YR-1(L)(F), continued</b>  |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YR-1(L)(F), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>HC-C3YR-1MF</b>   |          |     |     |     |
|                             |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10B-2                       |              |  |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B        |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278                                 |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278                             |          | 1   |     |     |
| 50                          | C-6510       | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-6511       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 105                         | 101388       | SPRING SEAT (USE WITH ITEMS 110A, 120A, 125)   |          | 1   |     |     |
| 110                         | B-6509       | SPRING, COMPRESSION (LOW PITCH RETURN)<br>REPLACED BY ITEM 110A  |          | 1   |     |     |
| 110A                        | 101322       | SPRING, COMPRESSION<br>REPLACES ITEM 110<br>(USE WITH ITEMS 105, 120A, 125)                              |          | 1   |     |     |
| 120                         | B-6515-( )   | SLEEVE, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)<br>REPLACED BY ITEM 120A                                |          | 1   |     |     |
| 120A                        | 101324-( )   | SLEEVE, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)<br>REPLACES ITEM 120<br>(USE WITH ITEMS 105, 110A, 125) |          | 1   |     |     |
| 125                         | 101390       | SPRING SPACER (USE WITH ITEMS 105, 110A, 120A)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | C-6512       | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YR-1MF**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER     | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|----------------------|--------------|---|----------|-----|-----|-----|
| 10B-2                |              | HC-C3YR-1MF, continued<br>PROPELLER PARTS, continued<br>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS |          |     |     |     |
| 180                  | D-3251-1R    | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A  |          | 1   |     | PCP |
| 180A                 | E-7157-1R    | PCP: HUB UNIT, HC-C3YR-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B  |          | 1   |     | PCP |
| 180B                 | E-7157-11R   | PCP: HUB UNIT, HC-C3YR-1R<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265<br>SUPERSEDED BY ITEM 180C   |          | 1   |     | PCP |
| 180C                 | E--7157-41R  | PCP: HUB UNIT, HC-C3YR-1R<br>SUPERSEDES ITEMS 180, 180A, 180B,<br>POST HC-SL-61-305   |          | 1   |     | PCP |
| 190                  | B-3252       | FORK, THREE BLADE - ASSEMBLY  |          | 1   |     |     |
| 190A                 | B-3252-2     | FORK, THREE BLADE - ASSEMBLY,<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340  |          | 1   |     |     |
| 195                  | A-3256       | • BUMPER, FORK  |          | 3   | Y   |     |
| 200                  | A-3253-2     | PITCH CHANGE BLOCK  |          | 3   |     |     |
| 220                  | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)   |          | 1   | Y   |     |
| 250                  | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 9   |     |     |
| 260                  | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 270                  | B-3834-0632  | WASHER, FLAT, STEEL   |          | 15  | Y   |     |
| 280                  | A-2043-1     | NUT, SELF LOCKING   |          | 15  | Y   |     |
| 330                  | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331   |          | 6   | Y   |     |
| 330A                 | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354   |          | 3   | Y   |     |
| 330B                 | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187  |          | 3   | Y   |     |
| 331                  | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354   |          | 3   | Y   |     |
| 332                  | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B  |          | 3   | Y   |     |
| EFF CODE INFORMATION |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YR-1MF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>HC-C3YR-1MF, continued</b><br><br><b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)<br><br><b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)<br><br><b>BALANCE PARTS</b><br>SCREW<br>BALANCE WEIGHT<br><br><b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| -9000               | B-3840-( )     |  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  |  |             | AR  |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YR-1MF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER     | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|----------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-1</b>         |              | <b>HC-C3YR-1N<br/>PROPELLER PARTS</b>  |          |     |     |     |
| 10                   | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                  | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-278  |          | 1   | Y   |     |
| 20                   | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                   | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                  | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                   | B-2281       | CYLINDER   |          | 1   |     |     |
| 60                   | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                   | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                   | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                   | B-2280       | PISTON   |          | 1   |     |     |
| 100                  | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 106                  | 101378       | GUIDE, SPRING  |          | 1   |     |     |
| 110                  | 101330       | SPRING, COMPRESSION  |          | 1   |     |     |
| 120                  | 101335-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 126                  | 101430       | SEAT, SPRING   |          | 1   |     |     |
| 130                  | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                  | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                  | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                      |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180                  | E-7157-11R   | PCP: HUB UNIT, HC-C3YR-1R<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A                 | E-7157-41R   | PCP: HUB UNIT, HC-C3YR-1R<br>SUPERSEDES ITEMS 180, POST HC-SL-61-305   |          | 1   |     | PCP |
| 190                  | B-3252       | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 190A                 | B-3252-2     | FORK, THREE BLADE - ASSEMBLY,<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340   |          | 1   |     |     |
| 195                  | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200                  | A-3253-2     | BLOCK, PITCH CHANGE  |          | 3   |     |     |
| 220                  | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| EFF CODE INFORMATION |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YR-1N**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
| <b>10B-1</b>     |               | <b>HC-C3YR-1N, continued</b>   |          |     |     |     |
|                  |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 250              | A-2431        | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260              | A-2432        | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270              | B-3834-0632   | WASHER   |          | 15  | Y   |     |
| 280              | A-2043-1      | NUT, 3/8-24, HEX SELF-LOCKING  |          | 15  | Y   |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB   |          | 3   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YR-1N, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-1</b>     |              | <b>HC-C3YR-1R(L)(F)<br/>PROPELLER PARTS</b>  |          |     |     |     |
| 10               | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A              | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B              | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40               | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A              | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50               | B-2281       | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2280       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110              | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170              | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-3251-1R    | PCP: HUB, SUPERSEDES ITEM 180<br>SUPERSEDED BY ITEM 180A   | A        | 1   |     | PCP |
| 180A             | E-7157-1R    | PCP: HUB UNIT, HC-C3YR-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180C                               | A        | 1   |     | PCP |
| 180B             | E-7157-11R   | PCP: HUB UNIT, HC-C3YR-1R, ALTERNATE FOR ITEM 180A<br>SUPERSEDED BY ITEM 180C  | A        | 1   |     | PCP |
| 180C             | E-7157-41R   | PCP: HUB UNIT, HC-C3YR-1R<br>SUPERSEDES ITEMS 180A AND 180B, POST HC-SL-61-305<br>SUPERSEDED BY ITEM 180D                    | A        | 1   |     | PCP |
| 180D             | 105995-41R   | PCP: HUB UNIT, HC-C3YR-1R<br>SUPERSEDES ITEM 180C, POST HC-ASB-61-341  | B        | 1   |     | PCP |

**EFF CODE INFORMATION**

- A All applications
- B Renault diesel engine applications only

- ITEM NOT ILLUSTRATED

**HC-C3YR-1R(L)(F)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-1</b>     |              | <b>HC-C3YR-1R(L)(F), continued</b>   |          |     |     |     |
|                  |              | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 190              | B-3252       | FORK, THREE BLADE - ASSEMBLY   | C        | 1   |     |     |
|                  | B-3252-L     | FORK, THREE BLADE, LH - ASSEMBLY   | D        | 1   |     |     |
| 190A             | B-3252-2     | FORK, THREE BLADE - ASSEMBLY   | C        | 1   |     |     |
|                  | B-3252-2L    | FORK, THREE BLADE, LH - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340  | D        | 1   |     |     |
| 195              | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200              | A-3253-2     | PITCH CHANGE BLOCK   | E        | 3   |     |     |
|                  | A-3253       | PITCH CHANGE BLOCK   | F        | 3   |     |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL  |          | 15  | Y   |     |
| 280              | A-2043-1     | NUT, SELF LOCKING  |          | 15  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                  | D<br>C   | 3   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°, POST HC-SL-61-187<br>ALTERNATE FOR ITEM 330A   |          | 3   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION, POST HC-SL-61-354<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB | D<br>C   | 3   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |

**EFF CODE INFORMATION**

|   |                |
|---|----------------|
| C | HC-C3YR-1R(F)  |
| D | HC-C3YR-1RL(F) |
| E | HC-C3YR-1R(L)F |
| F | HC-C3YR-1R(L)  |

- ITEM NOT ILLUSTRATED

**HC-C3YR-1R(L)(F), conitnued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION   | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|---|-------------|-----|-----|-----|
|                     |                | <b>HC-C3YR-1R(L)(F), continued</b><br><br><b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)<br><br><b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)<br><br><b>BALANCE PARTS</b><br>SCREW<br>BALANCE WEIGHT<br><br><b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| -9000               | B-3840-( )     | SCREW   |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT  |             | AR  |     |     |
| EFF CODE            |                | INFORMATION   |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YR-1R(L)(F), conitnued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>HC-C3Y1R-1N (Lightweight Compact)</b>   |          |     |     |     |
| <b>10B-4</b>     |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40               | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)  |          | 1   |     |     |
| 50               | B-2281       | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2280       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 106              | 101378       | SPRING GUIDE, REPLACED BY ITEM 106A  |          | 1   | Y   |     |
| 106A             | 102959       | SPRING GUIDE, REPLACES ITEM 106  |          | 1   |     |     |
| 110              | 101330       | SPRING, COMPRESSION  |          | 1   |     |     |
| 120              | 101335-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 126              | 101430       | SPRING SEAT  |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP SLEEVE)   |          | 1   | Y   | PCP |
| 140              | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170              | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | 102901-11R   | PCP: HUB UNIT, HC-C3Y1R-1N<br>SUPERSEDED BY ITEM 180A  |          | 1   |     | PCP |
| 180A             | 102901-41R   | PCP: HUB UNIT, HC-C3Y1R-1N<br>SUPERSEDES ITEM 180  |          | 1   |     | PCP |
| 190              | B-3252       | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 190A             | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340  |          | 1   |     |     |
| 195              | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200              | A-3253-2     | PITCH CHANGE BLOCK   |          | 3   |     |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 3   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL  |          | 9   | Y   |     |
| 285              | A-2043-1     | NUT, SELF LOCKING  |          | 9   | Y   |     |
| EFF CODE         |              | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3Y1R-1N (Lightweight Compact)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
| <b>10B-4</b>     |               | <b>HC-C3Y1R-1N (Lightweight Compact), continued</b>  |          |     |     |     |
|                  |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3Y1R-1N (Lightweight Compact), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
| <b>10B-1</b>     |              | <b>HC-E3YR-1C<br/>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A  |          | 1   | Y   |     |
| 10A              | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B |          | 1   | Y   |     |
| 10B              | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278                          |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER  |          | 1   | Y   |     |
| 40               | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A                                     |          | 1   |     |     |
| 40A              | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278                      |          | 1   |     |     |
| 50               | B-2281       | CYLINDER, "R"   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN  |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)  |          | 1   | Y   |     |
| 80               | C-3317-426-1 | O-RING (PISTON OD)  |          | 1   | Y   |     |
| 90               | B-2280       | PISTON  |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)  |          | 1   | Y   |     |
| -106             | 101378       | GUIDE, SPRING,<br>(USE WITH ITEMS 110A, 120A, 126, 490A, AND 530A)                                |          | 1   |     |     |
| 110              | A-2213-1     | SPRING, COMPRESSION<br>SUPERSEDED BY ITEM 110A<br>(USE WITH ITEMS 120, 490, 530)                  |          | 1   |     |     |
| 110A             | 101330       | SPRING, COMPRESSION<br>SUPERSEDES ITEM 110<br>(USE WITH ITEMS 106, 120A, 490A, 530A)              |          | 1   |     |     |
| 120              | A-2420-( )   | COLLAR, STOP<br>SUPERSEDED BY ITEM 120A<br>(USE WITH ITEMS 110, 490, 530)                         |          | 1   |     |     |
| 120A             | 101335( )    | COLLAR, STOP<br>SUPERSEDES ITEM 120<br>(USE WITH ITEMS 106, 110A, 126, 490A, AND 530A)            |          | 1   |     |     |
| -126             | 101430       | SPRING SEAT<br>(USE WITH ITEMS 106, 110A, 120A, 490A, AND 530A)                                   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)  |          | 1   | Y   | PCP |
| 140              | A-2418-3     | ROD, PITCH CHANGE   |          | 1   |     |     |
| 170              | C-3317-251   | O-RING (CYLINDER)   |          | 1   | Y   |     |
| EFF CODE         |              | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E3YR-1C**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
| 10B-1            |              | <b>HC-E3YR-1C, continued</b><br><b>PROPELLER PARTS, continued</b><br><b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | E-7161-1R    | PCP: HUB UNIT, HC-E3YR-1R<br>SUPERSEDED BY ITEM 180A  |          | 1   |     | PCP |
| 180A             | E-7161-11R   | PCP: HUB UNIT, HC-E3YR-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-265<br>REPLACED BY ITEM 180B<br>SUPERSEDES ITEM 180, POST HC-SL-61-265<br>SUPERSEDED BY ITEM 180B                         | A<br>B   | 1   |     | PCP |
| 180B             | 105276-11R   | PCP: HUB UNIT, HC-E3YR-1R<br>REPLACES ITEM 180A, POST HC-ASB-61-341<br>SUPERSEDES ITEM 180A, POST HC-ASB-61-341   | A<br>B   | 1   |     | PCP |
| 190              | B-3252-2     | FORK, THREE BLADE - ASSEMBLY  |          | 1   |     |     |
| 195              | A-3256       | • BUMPER, FORK  |          | 3   | Y   |     |
| 200              | A-3253-2     | PITCH CHANGE BLOCK  |          | 3   |     |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)   |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 9   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 270              | B-3834-0632  | WASHER  |          | 9   | Y   |     |
| 275              | B-3834-0663  | WASHER, FLAT, STEEL, THICK  | C        | 6   | Y   |     |
| 276              | B-6265       | BRACKET, WIRE HARNESS   | C        | 3   |     |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX, SELF LOCKING  | D        | 15  | Y   |     |
|                  | A-2043-1     | NUT, 3/8-24, HEX, SELF LOCKING  | C        | 12  | Y   |     |
| 281              | B-3599       | NUT, 3/8-24, HEX, SELF LOCKING  | C        | 3   | Y   |     |
| 300              | A-2481       | PLUG, HUB   |          | 1   |     |     |

| EFF CODE | INFORMATION                             |
|----------|---|
| A        | Serial numbers before B15677B           |
| B        | Serial numbers B15677B and later        |
| C        | Propellers with de-ice system installed |
| D        | Propellers without de-ice system        |

- ITEM NOT ILLUSTRATED

**HC-E3YR-1C, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
| <b>10B-1</b>     |               | <b>HC-E3YR-1C, continued</b>   |          |     |     |     |
|                  |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| -332             | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
| 334              | B-7051-57     | SCREW, SET, 10-32  |          | 3   | Y   |     |
| 335              | B-3808-3      | NUT, SELF LOCKING  |          | 3   | Y   |     |
| 336              | B-3839-3      | NUT, HEX, THIN, DRILLED  |          | 3   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E3YR-1C, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-1</b>                |              | <b>HC-E3YR-1E<br/>PROPELLER PARTS</b>  |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2281       | CYLINDER "R"   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2280       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1     | SPRING, COMPRESSION  |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-3     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180                         | E-7161-1R    | PCP: HUB UNIT, HC-E3YR-1R<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A                        | E-7161-11R   | PCP: HUB UNIT, HC-E3YR-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-265  |          | 1   |     | PCP |
| 190                         | B-3252-2     | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 195                         | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200                         | A-3253-2     | PITCH CHANGE BLOCK   |          | 3   |     |     |
| 220                         | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270                         | B-3834-0632  | WASHER   |          | 9   | Y   |     |
| 275                         | B-3834-0663  | WASHER, FLAT, STEEL, THICK   |          | 6   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E3YR-1E**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
|                  |               | <b>HC-E3YR-1E, continued</b>   |          |     |     |     |
| <b>10B-1</b>     |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 276              | B-6265        | BRACKET, WIRE HARNESS  |          | 3   |     |     |
| 280              | A-2043-1      | NUT, 3/8-24, HEX, SELF LOCKING   |          | 12  | Y   |     |
| 281              | B-3599        | NUT, 3/8-24, HEX, SELF LOCKING   |          | 3   | Y   |     |
| 290              | C-3317-226    | O-RING   |          | 1   | Y   |     |
| 300              | A-2481        | PLUG, HUB  |          | 1   |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
| 334              | B-7051-57     | SCREW, SET, 10-32  |          | 3   | Y   |     |
| 335              | B-3808-3      | NUT, SELF LOCKING  |          | 3   | Y   |     |
| 336              | B-3839-3      | NUT, HEX, THIN, DRILLED  |          | 3   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E3YR-1E, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-3</b>                |              | <b>HC-E3YR-1N<br/>PROPELLER PARTS</b>  |          |     |     |     |
| 10                          | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)  |          | 1   |     |     |
| 50                          | B-2281       | CYLINDER, "R"  |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2280       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 106                         | 101378       | GUIDE, SPRING  |          | 1   |     |     |
| 110                         | 101330       | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | 101335(-)    | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 126                         | 101430       | SEAT, SPRING   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-3     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180                         | E-7161-11R   | PCP: HUB UNIT, HC-E3YR-1N  |          | 1   |     | PCP |
| 190                         | B-3252       | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 190A                        | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340  |          | 1   |     |     |
| 195                         | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200                         | A-3253-2     | BLOCK, PITCH CHANGE  |          | 3   |     |     |
| 220                         | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL  |          | 15  | Y   |     |
| 280                         | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING  |          | 15  | Y   |     |
| 290                         | C-3317-226   | O-RING, PLUG, HUB (OD)   |          | 1   | Y   |     |
| 300                         | A-2481       | PLUG, HUB  |          | 1   |     |     |
| 310                         | C-3317-115-1 | O-RING, ROD  |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E3YR-1N**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
| <b>10B-3</b>     |               | <b>HC-E3YR-1N, continued</b>   |          |     |     |     |
|                  |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E3YR-1N, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-1</b>                |              | <b>HC-E3YR-1R(L)F<br/>PROPELLER PARTS</b>  |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2281       | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2280       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-3     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-3261-3     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A                        | E-7161-1R    | PCP: HUB UNIT, HC-E3YR-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                               |          | 1   |     | PCP |
| 180B                        | E-7161-11R   | PCP: HUB UNIT, HC-E3YR-1R<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265   |          | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E3YR-1R(L)F**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER    | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|----------------|--|----------|-----|-----|-----|
| <b>10B-1</b>                |                | <b>HC-E3YR-1R(L)F, continued</b>   |          |     |     |     |
|                             |                | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 190                         | B-3252         | FORK, THREE BLADE - ASSEMBLY   | A        | 1   |     |     |
|                             | B-3252-L       | FORK, THREE BLADE, LH - ASSEMBLY   | B        | 1   |     |     |
| 190A                        | B-3252-2       | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340  | A        | 1   |     |     |
|                             | B-3252-2L      | FORK, THREE BLADE, LH - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340  | B        | 1   |     |     |
| 195                         | A-3256         | • BUMPER, FORK   |          | 3   | Y   |     |
| 200                         | A-3253-2       | PITCH CHANGE BLOCK   | C        | 3   |     |     |
|                             | A-3253         | PITCH CHANGE BLOCK   | D        | 3   |     |     |
| 250                         | A-2431         | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260                         | A-2432         | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270                         | B-3834-0632    | WASHER, FLAT, STEEL  |          | 15  | Y   |     |
| 280                         | A-2043-1       | NUT, SELF LOCKING  |          | 15  | Y   |     |
| 290                         | C-3317-226     | O-RING, PLUG, HUB (OD)   |          | 1   | Y   |     |
| 300                         | A-2481         | PLUG, HUB  |          | 1   |     |     |
| 310                         | C-3317-115-1   | O-RING, PLUG, HUB (ID)   |          | 1   | Y   |     |
| 330                         | A-279          | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A                        | A-279          | LUBRICATION FITTING<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                  | B<br>A   | 3   | Y   |     |
| 330B                        | C-6349         | LUBRICATION FITTING, 45°, POST HC-SL-61-187<br>ALTERNATE FOR ITEM 330A   |          | 3   | Y   |     |
| 331                         | 106545         | PLUG, LUBRICATION, POST HC-SL-61-354<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB | B<br>A   | 3   | Y   |     |
| 332                         | B-6544         | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
| <b>EFF CODE INFORMATION</b> |                |  |          |     |     |     |
| A                           | HC-E3YR-1R(F)  |  |          |     |     |     |
| B                           | HC-E3YR-1RL(F) |  |          |     |     |     |
| C                           | HC-E3YR-1R(L)F |  |          |     |     |     |
| D                           | HC-E3YR-1R(L)  |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E3YR-1R(L)(F), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>HC-E3YR-1R(L)F, continued</b>   |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-E3YR-1R(L)F, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>HC-F3YR-1AN</b>   |          |     |     |     |
|                             |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10B-3                       |              |  |          |     |     |     |
| 10                          | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)  |          | 1   |     |     |
| 50                          | B-2281       | CYLINDER, "R"  |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2280       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 106                         | 101378       | GUIDE, SPRING  |          | 1   |     |     |
| 110                         | 101330       | SPRING, COMPRESSION  |          | 1   |     |     |
| 120                         | 101335-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 126                         | 101430       | SPRING SEAT  |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-4     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | E-7161-12R   | PCP: HUB UNIT, HC-F3YR-1AR   |          | 1   |     | PCP |
| 190                         | B-3252       | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 190A                        | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340  |          | 1   |     |     |
| 195                         | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200                         | A-3253-2     | PITCH CHANGE BLOCK   |          | 3   |     |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL  |          | 15  | Y   |     |
| 280                         | A-2043-1     | NUT, SELF LOCKING  |          | 15  | Y   |     |
| 290                         | C-3317-226   | O-RING, HUB PLUG OD  |          | 1   | Y   |     |
| 300                         | A-2481       | PLUG, HUB  |          | 1   |     |     |
| 310                         | C-3317-115-1 | O-RING (HUB PLUG ID)   |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-F3YR-1AN**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
| <b>10B-3</b>     |               | <b>HC-F3YR-1AN, continued</b>  |          |     |     |     |
|                  |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB   |          | 3   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-F3YR-1AN, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-1</b>     |              | <b>HC-F3YR-1(A)RF<br/>PROPELLER PARTS</b>  |          |     |     |     |
| 10               | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A              | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B              | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40               | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A              | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50               | B-2281       | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2280       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110              | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-4     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170              | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180              | C-3327       | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   | A        | 1   |     | PCP |
|                  | E-7161-2R    | PCP: HUB UNIT, HC-F3YR-1R<br>SUPERSEDED BY ITEM 180A   | B        | 1   |     | PCP |
| 180A             | E-7160-1R    | PCP: HUB UNIT, HC F3YR-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-265  | A        | 1   |     | PCP |
|                  | E-7161-12R   | PCP: HUB UNIT, HC-F3YR-1AR<br>SUPERSEDES ITEM 180, POST HC-SL-61-265<br>SUPERSEDED BY ITEM 180B                              | B        | 1   |     | PCP |
| 180B             | E-7160-11R   | PCP: HUB UNIT, HC F3YR-1R<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265   | A        | 1   |     | PCP |

**EFF CODE INFORMATION**

|   |             |
|---|-------------|
| A | C-F3YR-1RF  |
| B | C-F3YR-1ARF |

- ITEM NOT ILLUSTRATED

**HC-F3YR-1(A)RF**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER     | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|----------------------|--------------|---|----------|-----|-----|-----|
| <b>10B-1</b>         |              | <b>HC-F3YR-1(A)RF, continued</b>  |          |     |     |     |
|                      |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190                  | B-3252       | FORK, THREE BLADE - ASSEMBLY  |          | 1   |     |     |
| 190A                 | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340           |          | 1   |     |     |
| 195                  | A-3256       | • BUMPER, FORK  |          | 3   | Y   |     |
| 200                  | A-3253-2     | PITCH CHANGE BLOCK  |          | 3   |     |     |
| 250                  | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 9   |     |     |
| 260                  | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 270                  | B-3834-0632  | WASHER, FLAT, STEEL   |          | 15  | Y   |     |
| 280                  | A-2043-1     | NUT, SELF LOCKING   |          | 15  | Y   |     |
| 290                  | C-3317-226   | O-RING, HUB PLUG OD   |          | 1   | Y   |     |
| 300                  | A-2481       | PLUG, HUB   |          | 1   |     |     |
| 300A                 | A-2481-3     | PLUG, HUB, ALTERNATE FOR ITEM 300   |          | 1   |     |     |
| 310                  | C-3317-115-1 | O-RING (HUB PLUG ID)  |          | 1   | Y   |     |
| 320                  | C-3317-228   | O-RING, FLANGE  |          | 1   | Y   |     |
| 330                  | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 6   | Y   |     |
| 330A                 | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354 |          | 3   | Y   |     |
| 330B                 | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 3   | Y   |     |
| 331                  | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 3   | Y   |     |
| 332                  | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 3   | Y   |     |
| EFF CODE INFORMATION |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-F3YR-1(A)RF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION   | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|---|-------------|-----|-----|-----|
|                     |                | <b>HC-F3YR-1(A)RF, continued</b><br><br><b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)<br><br><b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)<br><br><b>BALANCE PARTS</b><br>SCREW<br>BALANCE WEIGHT<br><br><b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| -9000               | B-3840-( )     | SCREW   |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT  |             | AR  |     |     |
| EFF CODE            |                | INFORMATION   |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-F3YR-1(A)RF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER              | DESCRIPTION  | EFF CODE | UPA    | O/H | PCP        |
|-----------------------------|--------------------------|--|----------|--------|-----|------------|
| <b>10B-3</b>                |                          | <b>(P)HC-G3YF-1N<br/>PROPELLER PARTS</b>   |          |        |     |            |
| 10                          | A-2043-1                 | NUT, 3/8-24, HEX, SELF-LOCKING   |          | 1      | Y   |            |
| 20                          | B-6747                   | SEAL, WASHER   |          | 1      | Y   |            |
| 40                          | 102472                   | SCREW, SET, 3/8-24 (LOW PITCH STOP)  |          | 1      |     |            |
| 50                          | B-2281                   | CYLINDER, "R"  |          | 1      |     |            |
| 60                          | B-3838-3-5               | COTTER PIN   |          | 1      | Y   |            |
| 70                          | A-2211                   | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1      | Y   |            |
| 80                          | C-3317-426-1             | O-RING (PISTON OD)   |          | 1      | Y   |            |
| 90                          | B-2280                   | PISTON   |          | 1      |     |            |
| 100                         | C-3317-018               | O-RING (PISTON ID)   |          | 1      | Y   |            |
| 106                         | 101378                   | SPRING GUIDE   |          | 1      |     |            |
| 110                         | 101330                   | SPRING, COMPRESSION  |          | 1      |     |            |
| 120                         | 101335-( )               | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1      |     |            |
| 126                         | 101430                   | SPRING SEAT  |          | 1      |     |            |
| 130                         | A-867                    | PCP: KEEPER, SPLIT (STOP SLEEVE)   |          | 1      | Y   | PCP        |
| 140                         | A-2418-2                 | PITCH CHANGE ROD   |          | 1      |     |            |
| 170                         | C-3317-251               | O-RING (CYLINDER)  |          | 1      | Y   |            |
|                             |                          | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |        |     |            |
| 180                         | E-7154-44R<br>E-7154-45R | PCP: HUB UNIT, HC-G3YF-1R<br>PCP: HUB UNIT, PHC-G3YF-1R  | A<br>B   | 1<br>1 |     | PCP<br>PCP |
| 190                         | B-3252-2                 | FORK, THREE BLADE - ASSEMBLY   |          | 1      |     |            |
| 195                         | A-3256                   | • BUMPER, FORK   |          | 3      | Y   |            |
| 200                         | A-3253-2                 | PITCH CHANGE BLOCK   |          | 3      |     |            |
| 220                         | C-3317-115-1             | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1      | Y   |            |
| 250                         | A-2431                   | BOLT, 3/8-24, HEX HEAD   |          | 9      |     |            |
| 260                         | A-2432                   | BOLT, 3/8-24, HEX HEAD   |          | 6      |     |            |
| 270                         | B-3834-0632              | WASHER, FLAT, STEEL  |          | 15     | Y   |            |
| 280                         | A-2043-1                 | NUT, SELF LOCKING  |          | 15     | Y   |            |
| <b>EFF CODE INFORMATION</b> |                          |  |          |        |     |            |
| A                           | HC-G3YF-1N               |  |          |        |     |            |
| B                           | PHC-G3YF-1N              |  |          |        |     |            |

- ITEM NOT ILLUSTRATED

**(P)HC-G3YF-1N**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
| <b>10B-3</b>     |               | <b>(P)HC-G3YF-1N, continued</b>  |          |     |     |     |
|                  |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-G3YF-1N, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>(P)HC-G3YF-1RF</b>  |          |     |     |     |
| <b>10B-1</b>     |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A              | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B              | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40               | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A              | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50               | B-2281       | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2280       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110              | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120              | A-2420-( )   | COLLAR, STOP<br>(LENGTH TO SUIT PITCH REQUIREMENTS)  |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170              | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-3251-11    | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   | A        | 1   |     | PCP |
|                  | D-3251-15R   | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   | B        | 1   |     | PCP |
| 180A             | E-7154-4R    | PCP: HUB UNIT, HC-G3YF-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                               | A        | 1   |     | PCP |
|                  | E-7154-5R    | PCP: HUB UNIT, (P,E)HC-G3YF-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                          | B        | 1   |     | PCP |
| EFF CODE         |              | INFORMATION  |          |     |     |     |
| A                | HC-G3YF-1RF  |  |          |     |     |     |
| B                | PHC-G3YF-1RF |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-G3YF-1RF**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-1</b>                |              | <b>(P)HC-G3YF-1RF, continued</b>   |          |     |     |     |
|                             |              | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 180B                        | E-7154-14R   | PCP: HUB UNIT, HC-G3YF-1R<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265<br>SUPERSEDED BY ITEM 180C      | A        | 1   |     | PCP |
|                             | E-7154-15R   | PCP: HUB UNIT, (P,E)HC-G3YF-1R<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265<br>SUPERSEDED BY ITEM 180C | B        | 1   |     | PCP |
| 180C                        | E-7154-44R   | PCP: HUB UNIT, HC-G3YF-1R<br>SUPERSEDES ITEM 180B, POST HC-SL-61-305                                 | A        | 1   |     | PCP |
|                             | E-7157-45R   | PCP: HUB UNIT, (P,E)HC-G3YF-1R<br>SUPERSEDES ITEM 180B, POST HC-SL-61-305                            | B        | 1   |     | PCP |
| 190                         | B-3252       | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 190A                        | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340                            |          | 1   |     |     |
| 195                         | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200                         | A-3253-2     | PITCH CHANGE BLOCK   |          | 3   |     |     |
| 220                         | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL  |          | 15  | Y   |     |
| 280                         | A-2043-1     | NUT, SELF LOCKING  |          | 15  | Y   |     |
| 330                         | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A                        | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                                       |          | 3   | Y   |     |
| 330B                        | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187                               |          | 3   | Y   |     |
| 331                         | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354                  |          | 3   | Y   |     |
| -332                        | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                                       |          | 3   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |
| A                           | HC-G3YF-1RF  |  |          |     |     |     |
| B                           | PHC-G3YF-1RF |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-G3YF-1RF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | (P)HC-G3YF-1RF, continued  |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-G3YF-1RF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-2</b>                |              | <b>PHC-G3YF-1E</b>   |          |     |     |     |
|                             |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | C-6510       | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-6511       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 105                         | 101388       | SPRING SEAT<br>(USE WITH ITEMS 110A, 120A, 125, POST HC-SB-61-284)   |          | 1   |     |     |
| 110                         | B-6509-1     | SPRING, COMPRESSION (LEFT) (LOW PITCH RETURN)<br>REPLACED BY ITEM 110A   |          | 1   |     |     |
| 110A                        | 101322       | SPRING, COMPRESSION, REPLACES ITEM 110<br>(USE WITH ITEMS 105, 120A, 125, POST HC-SB-61-284)                                 |          | 1   |     |     |
| 120                         | B-6515-( )   | SLEEVE, STOP, REPLACED BY ITEM 120A<br>(LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 120A                        | 101324-( )   | SLEEVE, STOP, REPLACES ITEM 120<br>(LENGTH TO SUIT PITCH REQUIREMENTS)<br>(USE WITH ITEMS 105, 110A, 125, POST HC-SB-61-284) |          | 1   |     |     |
| 125                         | 101390       | SPRING SPACER<br>(USE WITH ITEMS 105, 110A, 120A, POST HC-SB-61-284)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | C-6512       | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**PHC-G3YF-1E**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
| 10B-2            |              | <b>PHC-G3YF-1E, continued</b><br><b>PROPELLER PARTS, continued</b><br><b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-3251-15    | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A             | E-7154-5R    | PCP: HUB UNIT, (P,E)HC-G3YF-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B  |          | 1   |     | PCP |
| 180B             | E-7154-15R   | PCP: HUB UNIT, (P,E)HC-G3YF-1R<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265<br>SUPERSEDED BY ITEM 180C   |          | 1   |     | PCP |
| 180C             | E-7154-45R   | PCP: HUB UNIT, (P,E)HC-G3YF-1R<br>SUPERSEDES ITEMS 180B, POST HC-SL-61-305   |          | 1   |     | PCP |
| 190              | B-3252-2     | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 195              | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200              | A-3253-2     | PITCH CHANGE BLOCK   |          | 3   |     |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL  |          | 15  | Y   |     |
| 275              | B-3834-0663  | WASHER, FLAT   |          | 6   | Y   |     |
| 276              | B-6265       | BRACKET, WIRE HARNESS  |          | 3   |     |     |
| 280              | A-2043-1     | NUT, SELF LOCKING  |          | 12  | Y   |     |
| 281              | B-3599       | NUT, FLEXLOCK  |          | 3   | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB   |          | 3   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
| 334              | B-7051-57    | SCREW, SET, 10-32  |          | 3   | Y   |     |
| 335              | B-3808-3     | SELF LOCKING HEX NUT   |          | 3   | Y   |     |
| 336              | B-3839-3     | HEX NUT  |          | 3   | Y   |     |
| EFF CODE         |              | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**PHC-G3YF-1E, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>PHC-G3YF-1E, continued</b>  |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**PHC-G3YF-1E, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>(P)HC-G3Y1F-1N (Lightweight Compact)</b>  |          |     |     |     |
| <b>10B-4</b>     |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40               | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)  |          | 1   |     |     |
| 50               | B-2281       | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2280       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 106              | 102959       | SPRING GUIDE   |          | 1   |     |     |
| 110              | 101330       | SPRING, COMPRESSION  |          | 1   |     |     |
| 120              | 101335-( )   | SLEEVE, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 126              | 101430       | SPRING SEAT  |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP SLEEVE)   |          | 1   | Y   | PCP |
| 140              | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170              | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | 103025-42R   | PCP: HUB UNIT, HC-G3Y1F-1N   | A        | 1   |     | PCP |
|                  | 103025-41R   | PCP: HUB UNIT, PHC-G3Y1F-1N  | B        | 1   |     | PCP |
| 190              | B-3252-2     | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 195              | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200              | A-3253-2     | PITCH CHANGE BLOCK   |          | 3   |     |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 3   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL  |          | 9   | Y   |     |
| 285              | A-2043-1     | NUT, SELF LOCKING  |          | 9   | Y   |     |
| 330              | A-279        | LUBRICATION FITTING, ENGINE-SIDE OF HUB  |          | 3   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION, CYLINDER-SIDE OF HUB  |          | 3   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING (USED WITH ITEM 330)  |          | 3   | Y   |     |

**EFF CODE INFORMATION**

|   |              |
|---|--------------|
| A | HC-G3Y1F-1N  |
| B | PHC-G3Y1F-1N |

- ITEM NOT ILLUSTRATED

**(P)HC-G3Y1F-1N (Lightweight Compact)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | (P)HC-G3Y1F-1N (Lightweight Compact), continued  |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424-( )     | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-G3Y1F-1N (Lightweight Compact), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>HC-G3Y1R-1N (Lightweight Compact)</b>   |          |     |     |     |
| <b>10B-4</b>     |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40               | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)  |          | 1   |     |     |
| 50               | B-2281       | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2280       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 106              | 102959       | SPRING GUIDE   |          | 1   |     |     |
| 110              | 101330       | SPRING, COMPRESSION  |          | 1   |     |     |
| 120              | 101335(-)    | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 126              | 101430       | SPRING SEAT  |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP SLEEVE)   |          | 1   | Y   | PCP |
| 140              | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170              | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | 108315R      | PCP: HUB UNIT, HC-G3Y1R-1N   |          | 1   |     | PCP |
| 190              | B-3252-2     | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 195              | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200              | A-3253-2     | PITCH CHANGE BLOCK   |          | 3   |     |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 3   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL  |          | 9   | Y   |     |
| 285              | A-2043-1     | NUT, SELF LOCKING  |          | 9   | Y   |     |
| 330              | A-279        | LUBRICATION FITTING (ENGINE-SIDE HUB HALF)   |          | 3   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION (CYLINDER-SIDE HUB HALF)   |          | 3   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING (USED WITH ITEM 330)  |          | 3   | Y   |     |
| EFF CODE         |              | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-G3Y1R-1N (Lightweight Compact)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
|                  |               | <b>HC-G3Y1R-1N (Lightweight Compact), continued</b>  |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)  |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)  |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-G3Y1R-1N (Lightweight Compact), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER     | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|----------------------|--------------|--|----------|-----|-----|-----|
|                      |              | <b>HC-H3YF-1N</b>  |          |     |     |     |
|                      |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10B-3                |              |  |          |     |     |     |
| 10                   | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 20                   | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                   | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)  |          | 1   |     |     |
| 50                   | B-2281       | CYLINDER   |          | 1   |     |     |
| 60                   | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                   | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                   | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                   | B-2280       | PISTON   |          | 1   |     |     |
| 100                  | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 106                  | 101378       | SPRING GUIDE   |          | 1   |     |     |
| 110                  | 101330       | SPRING, COMPRESSION  |          | 1   |     |     |
| 120                  | 101335-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 126                  | 101430       | SPRING SEAT  |          | 1   |     |     |
| 130                  | A-867        | PCP: KEEPER, SPLIT (STOP SLEEVE)   |          | 1   | Y   | PCP |
| 140                  | A-2418-6     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                  | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                      |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                  | E-7156-11R   | PCP: HUB UNIT, HC-H3YF-1R  |          | 1   |     | PCP |
| 190                  | B-3252       | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 190A                 | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340  |          | 1   |     |     |
| 195                  | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200                  | A-3253-2     | PITCH CHANGE BLOCK   |          | 3   |     |     |
| 250                  | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260                  | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270                  | B-3834-0632  | WASHER, FLAT, STEEL  |          | 15  | Y   |     |
| 280                  | A-2043-1     | NUT, SELF LOCKING  |          | 15  | Y   |     |
| 290                  | C-3317-226   | O-RING, HUB PLUG OD  |          | 1   | Y   |     |
| 300                  | A-2481       | PLUG, HUB  |          | 1   |     |     |
| 310                  | C-3317-115-1 | O-RING, HUB PLUG ID  |          | 1   | Y   |     |
| EFF CODE INFORMATION |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-H3YF-1N**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
| <b>10B-3</b>     |               | <b>HC-H3YF-1N, continued</b>   |          |     |     |     |
|                  |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-H3YF-1N, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>(P)HC-H3YF-1RF</b>  |          |     |     |     |
| <b>10B-1</b>                |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2281       | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2280       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-6     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-3285-11    | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   | A        | 1   |     | PCP |
|                             | D-3285-13    | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   | B        | 1   |     | PCP |
| 180A                        | E-7156-1R    | PCP: HUB UNIT, HC-H3YF-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                               | A        | 1   |     | PCP |
|                             | E-7156-5R    | PCP: HUB UNIT, PHC-H3YF-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                              | B        | 1   |     | PCP |
| 180B                        | E-7156-11R   | PCP: HUB UNIT, HC-H3YF-1R<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265   | A        | 1   |     | PCP |
|                             | E-7156-15R   | PCP: HUB UNIT, PHC-H3YF-1R<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265  | B        | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |
| A                           | HC-H3YF-1RF  |  |          |     |     |     |
| B                           | PHC-H3YF-1RF |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-H3YF-1RF**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
| <b>10B-1</b>     |              | <b>(P)HC-H3YF-1RF, continued</b>  |          |     |     |     |
|                  |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190              | B-3252       | FORK, THREE BLADE - ASSEMBLY  |          | 1   |     |     |
| 190A             | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190 POST HC-SL-61-340            |          | 1   |     |     |
| 195              | A-3256       | • BUMPER, FORK  |          | 3   | Y   |     |
| 200              | A-3253-2     | PITCH CHANGE BLOCK  |          | 3   |     |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 9   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL   |          | 15  | Y   |     |
| 280              | A-2043-1     | NUT, SELF LOCKING   |          | 15  | Y   |     |
| 290              | C-3317-226   | O-RING, HUB PLUG OD   |          | 1   | Y   |     |
| 300              | A-2481       | PLUG, HUB   |          | 1   |     |     |
| 310              | C-3317-115-1 | O-RING, HUB PLUG ID   |          | 1   | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 6   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 3   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 3   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 3   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 3   | Y   |     |
| EFF CODE         |              | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-H3YF-1RF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | (P)HC-H3YF-1RF, continued  |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-H3YF-1RF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-1</b>                |              | <b>PHC-I3YF-1RF<br/>PROPELLER PARTS</b>  |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2281       | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2280       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180                         | E-7155-1R    | PCP: HUB UNIT, PHC-I3YF-1<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A                        | E-7155-41R   | PCP: HUB UNIT, PHC-I3YF-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-199   |          | 1   |     | PCP |
| 190                         | B-3252       | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 190A                        | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340  |          | 1   |     |     |
| 195                         | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200                         | A-3253-2     | PITCH CHANGE BLOCK   |          | 3   |     |     |
| 220                         | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**PHC-I3YF-1RF**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
| <b>10B-1</b>     |               | <b>PHC-I3YF-1RF, continued</b>   |          |     |     |     |
|                  |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 250              | A-2431        | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260              | A-2432        | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270              | B-3834-0632   | WASHER, FLAT, STEEL  |          | 15  | Y   |     |
| 280              | A-2043-1      | NUT, SELF LOCKING  |          | 15  | Y   |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| -332             | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**PHC-I3YF-1RF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
|                  |              | <b>HC-I3YF-1C</b>   |          |     |     |     |
| <b>10B-2</b>     |              | <b>PROPELLER PARTS</b>  |          |     |     |     |
| 10               | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A  |          | 1   | Y   |     |
| 10A              | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                           |          | 1   | Y   |     |
| 10B              | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278  |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER  |          | 1   | Y   |     |
| 40               | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A   |          | 1   |     |     |
| 40A              | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278  |          | 1   |     |     |
| 50               | C-6510       | CYLINDER  |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN  |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)  |          | 1   | Y   |     |
| 80               | C-3317-426-1 | O-RING (PISTON OD)  |          | 1   | Y   |     |
| 90               | B-6511       | PISTON  |          | 1   |     |     |
| 100              | C-3317-018-1 | O-RING (PISTON ID)  |          | 1   | Y   |     |
| 105              | 101388       | SPRING SEAT (USE WITH ITEMS 110A, 120A, 125)  |          | 1   |     |     |
| 110              | B-6509-1     | SPRING, COMPRESSION (LEFT)<br>REPLACED BY ITEM 110A   |          | 1   |     |     |
| 110A             | 101322       | SPRING, COMPRESSION (USE WITH ITEMS 105, 120A, 125)<br>REPLACES ITEM 110, POST HC-SB-61-284                                 |          | 1   |     |     |
| 120              | B-6515-( )   | SLEEVE, STOP, REPLACED BY ITEM 120A<br>(LENGTH TO SUIT PITCH REQUIREMENTS)  |          | 1   |     |     |
| 120A             | 101324-( )   | SLEEVE, STOP (USE WITH ITEMS 105, 110A, 125)<br>REPLACES ITEM 120, POST HC-SB-61-284<br>(LENGTH TO SUIT PITCH REQUIREMENTS) |          | 1   |     |     |
| 125              | 101390       | SPRING SPACER (USE WITH ITEMS 105, 110A, 120A)  |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)  |          | 1   | Y   | PCP |
| 140              | C-6512       | ROD, PITCH CHANGE   |          | 1   |     |     |
| 170              | C-3317-251-1 | O-RING (CYLINDER)   |          | 1   | Y   |     |
| EFF CODE         |              | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-I3YR-1C**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE    | UPA | O/H | PCP |
|------------------|--------------|---|-------------|-----|-----|-----|
| 10B-2            |              | <b>HC-I3YF-1C, continued</b><br><b>PROPELLER PARTS, continued</b><br><b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |             |     |     |     |
| 180              | E-7159-1R    | PCP: HUB UNIT, HC-I3YR-1R<br>SUPERSEDED BY ITEM 180A  | A           | 1   |     | PCP |
| 180A             | E-7159-11R   | PCP: HUB UNIT, HC-I3YR-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-265<br>SUPERSEDED BY ITEM 180B  | A           | 1   |     | PCP |
| 180B             | E-7159-41R   | PCP: HUB UNIT, HC-I3YR-1R<br>SUPERSEDES ITEM 180A, POST HC-SL-61-305<br>REPLACED BY ITEM 180C<br>SUPERSEDED BY ITEM 180C  | A<br>B<br>C | 1   |     | PCP |
| 180C             | 105993-41R   | PCP: HUB UNIT, HC-I3YR-1R<br>REPLACES ITEM 180B, POST HC-ASB-61-341<br>SUPERSEDES ITEM 180B, POST HC-ASB-61-341   | B<br>C      | 1   |     | PCP |
| 190              | B-3252-2     | FORK, THREE BLADE - ASSEMBLY  |             | 1   |     |     |
| 195              | A-3256       | • BUMPER, FORK  |             | 3   | Y   |     |
| 200              | A-3253-2     | PITCH CHANGE BLOCK  |             | 3   |     |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)   |             | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |             | 9   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |             | 6   |     |     |
| 270              | B-3834-0632  | WASHER  |             | 15  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX, SELF LOCKING  |             | 15  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331   |             | 6   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-187   |             | 3   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187  |             | 3   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354   |             | 3   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B  |             | 3   | Y   |     |
| 334              | B-7051-57    | SCREW, SET, 10-32   |             | 3   | Y   |     |
| 335              | B-3808-3     | NUT, SELF LOCKING   |             | 3   | Y   |     |
| 336              | B-3839-3     | NUT, HEX, THIN, DRILLED   |             | 3   | Y   |     |

**EFF CODE                      INFORMATION**

- A                      All applications
- B                      Serial numbers before B15677B on Continental CD-200 and SMA diesel engine applications only
- C                      Serial numbers B15677B and later on Continental CD-200 and SMA diesel engine applications only

- ITEM NOT ILLUSTRATED

**HC-I3YR-1C, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>HC-I3YF-1C, continued</b>   |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-I3YR-1C, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|---|----------|-----|-----|-----|
| <b>10B-2</b>                |              | <b>HC-I3YR-1E<br/>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A  |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING,<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                          |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278  |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER  |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A   |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278  |          | 1   |     |     |
| 50                          | C-6510       | CYLINDER  |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN  |          | 1   |     |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)  |          | 1   | Y   |     |
| 80                          | C-3317-426-1 | O-RING (PISTON OD)  |          | 1   | Y   |     |
| 90                          | B-6511       | PISTON  |          | 1   |     |     |
| 100                         | C-3317-018-1 | O-RING (PISTON ID)  |          | 1   | Y   |     |
| 100A                        | C-3317-018   | O-RING (PISTON ID), ALTERNATE FOR ITEM 100  |          | 1   | Y   |     |
| 105                         | 101388       | SPRING SEAT (USE WITH ITEMS 110B, 120A, 125)  |          | 1   |     |     |
| 110                         | B-6509-1     | SPRING, COMPRESSION (LEFT)<br>REPLACED BY ITEM 110B   |          | 1   |     |     |
| 110A                        | B-6509       | SPRING, COMPRESSION, ALTERNATE FOR ITEM 110<br>REPLACED BY ITEM 110B  |          | 1   |     |     |
| 110B                        | 101322       | SPRING, COMPRESSION (USE WITH ITEMS 105, 120A, 125)<br>REPLACES ITEM 110, 110A, POST HC-SB-61-284                           |          | 1   |     |     |
| 120                         | B-6515-( )   | SLEEVE, STOP, REPLACED BY ITEM 120A<br>(LENGTH TO SUIT PITCH REQUIREMENTS)  |          | 1   |     |     |
| 120A                        | 101324-( )   | SLEEVE, STOP (USE WITH ITEMS 105, 110B, 125)<br>REPLACES ITEM 120, POST HC-SB-61-284<br>(LENGTH TO SUIT PITCH REQUIREMENTS) |          | 1   |     |     |
| 125                         | 101390       | SPRING SPACER (USE WITH ITEMS 105, 110B, 120A)  |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)  |          | 1   | Y   | PCP |
| 140                         | C-6512       | ROD, PITCH CHANGE   |          | 1   |     |     |
| 170                         | C-3317-251-1 | O-RING (CYLINDER)   |          | 1   | Y   |     |
| 170A                        | C-3317-251   | O-RING (CYLINDER), ALTERNATE FOR ITEM 170   |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-I3YR-1E**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE    | UPA | O/H | PCP |
|------------------|--------------|---|-------------|-----|-----|-----|
| 10B-2            |              | <b>HC-I3YR-1E, continued</b><br><b>PROPELLER PARTS, continued</b><br><b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |             |     |     |     |
| 180              | D-2841       | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A  | A           | 1   |     | PCP |
| 180A             | E-7159-1R    | PCP: HUB UNIT, HC-I3YR-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B  | A           | 1   |     | PCP |
| 180B             | E-7159-11R   | PCP: HUB UNIT, HC-I3YR-1R<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265<br>SUPERSEDED BY ITEM 180C   | A           | 1   |     | PCP |
| 180C             | E-7159-41R   | PCP: HUB UNIT, HC-I3YR-1R<br>SUPERSEDES ITEM 180B, POST HC-SL-61-305<br>REPLACED BY ITEM 180D<br>SUPERSEDED BY ITEM 180D  | A<br>B<br>C | 1   |     | PCP |
| 180D             | 105993-41R   | PCP: HUB UNIT, HC-I3YR-1R<br>REPLACES ITEM 180D, POST HC-ASB-61-341<br>SUPERSEDES ITEM 180D, POST HC-ASB-61-341   | B<br>C      | 1   |     | PCP |
| 190              | B-3252-2     | FORK, THREE BLADE - ASSEMBLY  |             | 1   |     |     |
| 195              | A-3256       | • BUMPER, FORK  |             | 3   | Y   |     |
| 200              | A-3253-2     | PITCH CHANGE BLOCK  |             | 3   |     |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)   |             | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |             | 9   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |             | 6   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL, THIN   |             | 15  | Y   |     |
| 275              | B-3834-0663  | WASHER, FLAT, STEEL, THICK  |             | 6   | Y   |     |
| 276              | B-6265       | BRACKET, WIRE HARNESS   |             | 3   |     |     |
| 280              | A-2043-1     | NUT, SELF LOCKING   |             | 12  | Y   |     |
| 281              | B-3599       | NUT, FLEXLOCK   |             | 3   | Y   |     |

**EFF CODE INFORMATION**

- A All applications
- B Serial numbers before B15677B on Continental CD-200 and SMA diesel engine applications only
- C Serial numbers B15677B and later on Continental CD-200 and SMA diesel engine applications only

- ITEM NOT ILLUSTRATED

**HC-I3YR-1E, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
| <b>10B-2</b>     |               | <b>HC-I3YR-1E, continued</b>   |          |     |     |     |
|                  |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
| 334              | B-3840-20     | SCREW (REPLACED BY ITEM 334A)  |          | 3   |     |     |
| 334A             | B-7051-57     | SCREW, SET, 10-32 (REPLACES ITEM 334)  |          | 3   | Y   |     |
| 335              | B-3808-3      | NUT, SELF LOCKING  |          | 3   | Y   |     |
| 336              | B-3839-3      | NUT, HEX, THIN, DRILLED  |          | 3   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-I3YR-1E, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE    | UPA | O/H | PCP |
|------------------|--------------|--|-------------|-----|-----|-----|
|                  |              | <b>HC-I3YR-1N</b>  |             |     |     |     |
|                  |              | <b>PROPELLER PARTS</b>   |             |     |     |     |
| 10B-3            |              |  |             |     |     |     |
| 10               | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING   |             | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER   |             | 1   | Y   |     |
| 40               | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)  |             | 1   |     |     |
| 50               | B-2281       | CYLINDER, "R"  |             | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |             | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |             | 1   | Y   |     |
| 80               | C-3317-426-1 | O-RING (PISTON OD)   |             | 1   | Y   |     |
| 90               | B-2280       | PISTON   |             | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |             | 1   | Y   |     |
| 106              | 101378       | GUIDE, SPRING  |             | 1   |     |     |
| 110              | 101330       | SPRING, COMPRESSION (LOW PITCH RETURN)   |             | 1   |     |     |
| 120              | 101335-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |             | 1   |     |     |
| 126              | 101430       | SEAT, SPRING   |             | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |             | 1   | Y   | PCP |
| 140              | A-2418-2     | ROD, PITCH CHANGE  |             | 1   |     |     |
| 170              | C-3317-251   | O-RING (CYLINDER)  |             | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |             |     |     |     |
| 180              | E-7159-41R   | PCP: HUB UNIT, HC-I3YR-1R<br>REPLACED BY ITEM 180A<br>SUPERSEDED BY ITEM 180A  | A<br>B<br>C | 1   |     | PCP |
| 180A             | 105993-41R   | PCP: HUB UNIT, HC-I3YR-1R<br>REPLACES ITEM 180, POST HC-ASB-61-341<br>SUPERSEDES ITEM 180, POST HC-ASB-61-341        | B<br>C      | 1   |     | PCP |
| 190              | B-3252       | FORK, THREE BLADE - ASSEMBLY   |             | 1   |     |     |
| 190A             | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340  |             | 1   |     |     |
| 195              | A-3256       | • BUMPER, FORK   |             | 3   | Y   |     |
| 200              | A-3253-2     | BLOCK, PITCH CHANGE  |             | 3   |     |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |             | 1   | Y   |     |

**EFF CODE INFORMATION**

- A All applications
- B Serial numbers before B15677B on Continental CD-200 and SMA diesel engine applications only
- C Serial numbers B15677B and later on Continental CD-200 and SMA diesel engine applications only

- ITEM NOT ILLUSTRATED

**HC-I3YR-1N**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
| <b>10B-3</b>     |               | <b>HC-I3YR-1N, continued</b>   |          |     |     |     |
|                  |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 250              | A-2431        | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260              | A-2432        | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270              | B-3834-0632   | WASHER, FLAT, STEEL  |          | 15  | Y   |     |
| 280              | A-2043-1      | NUT, 3/8-24, HEX SELF-LOCKING  |          | 15  | Y   |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-I3YR-1N, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-1</b>                |              | <b>HC-I3YR-1RF<br/>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2281       | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2280       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-2841       | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A                        | E-7159-1R    | PCP: HUB UNIT, HC-I3YR-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                               |          | 1   |     | PCP |
| 180B                        | E-7159-11R   | PCP: HUB UNIT, HC-I3YR-1R<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265<br>SUPERSEDED BY ITEM 180C                              |          | 1   |     | PCP |
| 180C                        | E-7159-41R   | PCP: HUB UNIT, HC-I3YR-1R<br>SUPERSEDES ITEMS 180B, POST HC-SL-61-305  |          | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-I3YR-1RF**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER     | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|----------------------|--------------|---|----------|-----|-----|-----|
| <b>10B-1</b>         |              | <b>HC-I3YR-1RF, continued</b>   |          |     |     |     |
|                      |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190                  | B-3252       | FORK, THREE BLADE - ASSEMBLY  |          | 1   |     |     |
| 190A                 | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340           |          | 1   |     |     |
| 195                  | A-3256       | • BUMPER, FORK  |          | 3   | Y   |     |
| 200                  | A-3253-2     | PITCH CHANGE BLOCK  |          | 3   |     |     |
| 220                  | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)                                     |          | 1   | Y   |     |
| 250                  | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 9   |     |     |
| 260                  | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 270                  | B-3834-0632  | WASHER, FLAT, STEEL   |          | 15  | Y   |     |
| 280                  | A-2043-1     | NUT, SELF LOCKING   |          | 15  | Y   |     |
| 330                  | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 6   | Y   |     |
| 330A                 | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 3   | Y   |     |
| 330B                 | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 3   | Y   |     |
| 331                  | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 3   | Y   |     |
| -332                 | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 3   | Y   |     |
| EFF CODE INFORMATION |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-I3YR-1RF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | <b>HC-I3YR-1RF, continued</b><br><br><b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)<br><br><b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)<br><br><b>BALANCE PARTS</b><br>SCREW<br>BALANCE WEIGHT<br><br><b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| -9000               | B-3840-( )     |  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  |  |             | AR  |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-I3YR-1RF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>HC-I3Y1R-1N (Lightweight Compact)</b>   |          |     |     |     |
| <b>10B-4</b>                |              | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 10                          | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)  |          | 1   |     |     |
| 50                          | B-2281       | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2280       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 106                         | 101378       | SPRING GUIDE, REPLACED BY ITEM 106A  |          | 1   | Y   |     |
| 106A                        | 102959       | SPRING GUIDE, REPLACES ITEM 106  |          | 1   |     |     |
| 110                         | 101330       | SPRING, COMPRESSION  |          | 1   |     |     |
| 120                         | 101335-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 126                         | 101430       | SPRING SEAT  |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP SLEEVE)   |          | 1   | Y   | PCP |
| 140                         | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | 102888-11R   | PCP: HUB UNIT, HC-I3Y1R-1N<br>SUPERSEDED BY ITEM 180A  |          | 1   |     | PCP |
| 180A                        | 102888-41R   | PCP: HUB UNIT, HC-I3Y1R-1N<br>SUPERSEDES ITEM 180, POST HC-SL-61-305   |          | 1   |     | PCP |
| 190                         | B-3252-2     | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 195                         | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200                         | A-3253-2     | PITCH CHANGE BLOCK   |          | 3   |     |     |
| 220                         | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 3   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL  |          | 9   | Y   |     |
| 285                         | A-2043-1     | NUT, SELF LOCKING  |          | 9   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-I3Y1R-1N (Lightweight Compact)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
| <b>10B-4</b>     |               | <b>HC-I3Y1R-1N (Lightweight Compact), continued</b>  |          |     |     |     |
|                  |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| -332             | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-I3Y1R-1N (Lightweight Compact), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|---|----------|-----|-----|-----|
| <b>10B-2</b>                |              | <b>PHC-J3YF-1MF<br/>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A  |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                           |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278  |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER  |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A   |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278  |          | 1   |     |     |
| 50                          | C-6510       | CYLINDER  |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN  |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)  |          | 1   | Y   |     |
| 80                          | C-3317-426-1 | O-RING (PISTON OD)  |          | 1   | Y   |     |
| 90                          | B-6511       | PISTON  |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)  |          | 1   | Y   |     |
| 105                         | 101388       | SPRING SEAT (USE WITH ITEMS 110A, 120A, 125)  |          | 1   |     |     |
| 110                         | B-6509-1     | SPRING, COMPRESSION (LEFT)<br>REPLACED BY ITEM 110A   |          | 1   |     |     |
| 110A                        | 101322       | SPRING, COMPRESSION (USE WITH ITEMS 105, 120A, 125)<br>REPLACES ITEM 110, POST HC-SB-61-284                                 |          | 1   |     |     |
| 120                         | B-6515-( )   | SLEEVE, STOP, REPLACED BY ITEM 120A<br>(LENGTH TO SUIT PITCH REQUIREMENTS)  |          | 1   |     |     |
| 120A                        | 101324-( )   | SLEEVE, STOP (USE WITH ITEMS 105, 110A, 125)<br>REPLACES ITEM 120, POST HC-SB-61-284<br>(LENGTH TO SUIT PITCH REQUIREMENTS) |          | 1   |     |     |
| 125                         | 101390       | SPRING SPACER (USE WITH ITEMS 105, 110A, 120A)  |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)  |          | 1   | Y   | PCP |
| 140                         | D-6869       | ROD, PITCH CHANGE   |          | 1   |     |     |
| 170                         | C-3317-251   | O-RING (CYLINDER)   |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**PHC-J3YF-1MF**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|---|----------|-----|-----|-----|
| 10B-2                       |              | <b>PHC-J3YF-1MF, continued</b><br><b>PROPELLER PARTS, continued</b><br><b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-3285-12    | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A  |          | 1   |     | PCP |
| 180A                        | E-7156-4R    | PCP: HUB UNIT, PHC-J3YF-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B   |          | 1   |     | PCP |
| 180B                        | E-7156-14R   | PCP: HUB UNIT, PHC-J3YF-1R<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265   |          | 1   |     | PCP |
| 190                         | B-3252       | FORK, THREE BLADE - ASSEMBLY  |          | 1   |     |     |
| 190A                        | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340   |          | 1   |     |     |
| 195                         | A-3256       | • BUMPER, FORK  |          | 3   | Y   |     |
| 200                         | A-3253-2     | PITCH CHANGE BLOCK  |          | 3   |     |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 9   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL   |          | 15  | Y   |     |
| 280                         | A-2043-1     | NUT, SELF LOCKING   |          | 15  | Y   |     |
| 290                         | C-3317-226   | O-RING, HUB PLUG OD   |          | 1   | Y   |     |
| 300                         | A-2481       | PLUG, HUB   |          | 1   |     |     |
| 310                         | C-3317-115-1 | O-RING, HUB PLUG ID   |          | 1   | Y   |     |
| 330                         | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331   |          | 6   | Y   |     |
| 330A                        | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB  |          | 3   | Y   |     |
| 330B                        | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187  |          | 3   | Y   |     |
| 331                         | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354   |          | 3   | Y   |     |
| 332                         | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B  |          | 3   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**PHC-J3YF-1MF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION   | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|---|-------------|-----|-----|-----|
|                     |                | <b>PHC-J3YF-1MF, continued</b><br><br><b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)<br><br><b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)<br><br><b>BALANCE PARTS</b><br>SCREW<br>BALANCE WEIGHT<br><br><b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES | AR          | Y   |     |     |
| -9000               | B-3840-( )     |   |             |     |     |     |
| -9020               | A-2424(A)-( )  |   |             | AR  |     |     |
| EFF CODE            |                | INFORMATION   |             |     |     |     |

- ITEM NOT ILLUSTRATED

**PHC-J3YF-1MF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-3</b>     |              | <b>(P)HC-J3YF-1N<br/>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A              | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-278  |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40               | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A              | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50               | B-2281       | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2280       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 106              | 101378       | SPRING GUIDE   |          | 1   |     |     |
| 110              | 101330       | SPRING, COMPRESSION  |          | 1   |     |     |
| 120              | 101335-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 126              | 101430       | SPRING SEAT  |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP SLEEVE)   |          | 1   | Y   | PCP |
| 140              | A-2418-4     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170              | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180              | E-7156-4R    | PCP: HUB UNIT, PHC-J3YF-1N<br>SUPERSEDED BY ITEM 180A  | A        | 1   |     | PCP |
|                  | E-7156-3R    | PCP: HUB UNIT, HC-J3YF-1N<br>SUPERSEDED BY ITEM 180A   | B        | 1   |     | PCP |
| 180A             | E-7156-14R   | PCP: HUB UNIT, PHC-J3YF-1N<br>SUPERSEDES ITEM 180, POST HC-SL-61-265   | A        | 1   |     | PCP |
|                  | E-7156-13R   | PCP: HUB UNIT, HC-J3YF-1N<br>SUPERSEDES ITEM 180, POST HC-SL-61-265  | B        | 1   |     | PCP |
| EFF CODE         |              | INFORMATION  |          |     |     |     |
| A                |              | PHC-J3YF-1N  |          |     |     |     |
| B                |              | HC-J3YF-1N   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-J3YF-1N**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
| <b>10B-3</b>     |              | <b>(P)HC-J3YF-1N, continued</b>   |          |     |     |     |
|                  |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190              | B-3252       | FORK, THREE BLADE - ASSEMBLY  |          | 1   |     |     |
| 190A             | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340           |          | 1   |     |     |
| 195              | A-3256       | • BUMPER, FORK  |          | 3   | Y   |     |
| 200              | A-3253-2     | PITCH CHANGE BLOCK  |          | 3   |     |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 9   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL   |          | 15  | Y   |     |
| 280              | A-2043-1     | NUT, SELF LOCKING   |          | 15  | Y   |     |
| 290              | C-3317-226   | O-RING, HUB PLUG OD   |          | 1   | Y   |     |
| 300              | A-2481       | PLUG, HUB   |          | 1   |     |     |
| 310              | C-3317-115-1 | O-RING, HUB PLUG ID   |          | 1   | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 6   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354 |          | 3   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 3   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 3   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 3   | Y   |     |
| EFF CODE         |              | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-J3YF-1N, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | (P)HC-J3YF-1N, continued   |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-J3YF-1N, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>(P)HC-J3YF-1RF</b>  |          |     |     |     |
| <b>10B-1</b>                |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2281       | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2280       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-4     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-3285-12    | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   | A        | 1   |     | PCP |
|                             | D-3285-9     | PCP: HUB UNIT, HC-J3YF-1R<br>SUPERSEDED BY ITEM 180A   | B        | 1   |     | PCP |
| 180A                        | E-7156-4R    | PCP: HUB UNIT, PHC-J3YF-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                              | A        | 1   |     | PCP |
|                             | E-7156-3R    | PCP: HUB UNIT, HC-J3YF-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                               | B        | 1   |     | PCP |
| 180B                        | E-7156-14R   | PCP: HUB UNIT, PHC-J3YF-1R<br>SUPERSEDES ITEM, POST HC-SL-61-265   | A        | 1   |     | PCP |
|                             | E-7156-13R   | PCP: HUB UNIT, HC-J3YF-1R<br>SUPERSEDES ITEM, POST HC-SL-61-265  | B        | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |
| A                           | PHC-J3YF-1RF |  |          |     |     |     |
| B                           | HC-J3YF-1RF  |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-J3YF-1RF**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|---|----------|-----|-----|-----|
|                             |              | (P)HC-J3YF-1RF, continued   |          |     |     |     |
| <b>10B-1</b>                |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190                         | B-3252       | FORK, THREE BLADE - ASSEMBLY  |          | 1   |     |     |
| 190A                        | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340           |          | 1   |     |     |
| 195                         | A-3256       | • BUMPER, FORK  |          | 3   | Y   |     |
| 200                         | A-3253-2     | PITCH CHANGE BLOCK  |          | 3   |     |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 9   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL   |          | 15  | Y   |     |
| 280                         | A-2043-1     | NUT, SELF LOCKING   |          | 15  | Y   |     |
| 290                         | C-3317-226   | O-RING, HUB PLUG OD   |          | 1   | Y   |     |
| 300                         | A-2481       | PLUG, HUB   |          | 1   |     |     |
| 310                         | C-3317-115-1 | O-RING, HUB PLUG ID   |          | 1   | Y   |     |
| 330                         | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 6   | Y   |     |
| 330A                        | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354 |          | 3   | Y   |     |
| 330B                        | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 3   | Y   |     |
| 331                         | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 3   | Y   |     |
| 332                         | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 3   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-J3YF-1RF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | (P)HC-J3YF-1RF, continued  |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
|                     |                | <b>BALANCE PARTS</b>   |             |     |     |     |
| -9000               | B-3840-( )     | SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-J3YF-1RF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>(P)HC-J3Y1F-1N (Lightweight Compact)</b>  |          |     |     |     |
|                             |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10B-4                       |              |  |          |     |     |     |
| 10                          | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)  |          | 1   |     |     |
| 50                          | B-2281       | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2280       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 106                         | 102959       | SPRING GUIDE   |          | 1   |     |     |
| 110                         | 101330       | SPRING, COMPRESSION  |          | 1   |     |     |
| 120                         | 101335-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 126                         | 101430       | SPRING SEAT  |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP SLEEVE)   |          | 1   | Y   | PCP |
| 140                         | A-2418-4     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | 102520-12R   | PCP: HUB UNIT, PHC-J3Y1F-1N  | A        | 1   |     | PCP |
|                             | 102520-13R   | PCP: HUB UNIT, HC-J3Y1F-1N   | B        | 1   |     | PCP |
| 190                         | B-3252       | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 190A                        | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340  |          | 1   |     |     |
| 195                         | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200                         | A-3253-2     | PITCH CHANGE BLOCK   |          | 3   |     |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 3   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL  |          | 9   | Y   |     |
| 285                         | A-2043-1     | NUT, SELF LOCKING  |          | 9   | Y   |     |
| 290                         | C-3317-226   | O-RING, HUB PLUG OD  |          | 1   | Y   |     |
| 300                         | A-2481       | PLUG, HUB  |          | 1   |     |     |
| 310                         | C-3317-115-1 | O-RING, HUB PLUG ID  |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |
|                             | A            | PHC-J3Y1F-1N   |          |     |     |     |
|                             | B            | HC-J3Y1F-1N  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-J3Y1F-1N (Lightweight Compact)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
| <b>10B-4</b>     |               | <b>(P)HC-J3Y1F-1N (Lightweight Compact), continued</b>   |          |     |     |     |
|                  |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB   |          | 3   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-J3Y1F-1N (Lightweight Compact)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>PHC-L3YF-1N</b>   |          |     |     |     |
|                  |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10B-3            |              |  |          |     |     |     |
| 10               | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40               | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)  |          | 1   |     |     |
| 50               | B-2281       | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2280       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 106              | 101378       | GUIDE, SPRING  |          | 1   |     |     |
| 110              | 101330       | SPRING, COMPRESSION  |          | 1   |     |     |
| 120              | 101335-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 126              | 101430       | SPRING SEAT  |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170              | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | E-7154-43R   | PCP: HUB UNIT, (P,E)HC-L3YF-1R   |          | 1   |     | PCP |
| 190              | B-3252-2     | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 195              | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200              | A-3253-2     | BLOCK, PITCH CHANGE  |          | 3   |     |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270              | B-3834-0632  | WASHER   |          | 15  | Y   |     |
| 280              | A-2043-1     | NUT, 3/8-24, HEX SELF-LOCKING  |          | 15  | Y   |     |
| EFF CODE         |              | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**PHC-L3YF-1N**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|-------------|--|----------|-----|-----|-----|
| <b>10B-3</b>     |             | <b>PHC-L3YF-1N, continued</b>  |          |     |     |     |
|                  |             | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279       | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279       | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB   |          | 3   | Y   |     |
| 330B             | C-6349      | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545      | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 332              | B-6544      | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
|                  |             | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |             | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |             | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )  | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424-( )  | BALANCE WEIGHT   |          | AR  |     |     |
|                  |             | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |             | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**PHC-L3YF-1N, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-1</b>                |              | <b>(P)HC-L3YF-1RF</b>  |          |     |     |     |
|                             |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2281       | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2280       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-3251-10R   | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A                        | E-7154-3R    | PCP: HUB UNIT, (P,E)HC-L3YF-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                          |          | 1   |     | PCP |
| 180B                        | E-7154-13R   | PCP: HUB UNIT, (P,E)HC-L3YF-1R<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265<br>SUPERSEDED BY ITEM 180C                         |          | 1   |     | PCP |
| 180C                        | E-7154-43R   | PCP: HUB UNIT, (P,E)HC-L3YF-1R<br>SUPERSEDES ITEMS 180B, POST HC-SL-61-305   |          | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-L3YF-1RF**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|---|----------|-----|-----|-----|
| <b>10B-1</b>                |              | <b>(P)HC-L3YF-1RF, continued</b>  |          |     |     |     |
|                             |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190                         | B-3252       | FORK, THREE BLADE - ASSEMBLY  |          | 1   |     |     |
| 190A                        | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340           |          | 1   |     |     |
| 195                         | A-3256       | • BUMPER, FORK  |          | 3   | Y   |     |
| 200                         | A-3253-2     | PITCH CHANGE BLOCK  |          | 3   |     |     |
| 220                         | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)                                     |          | 1   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 9   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL   |          | 15  | Y   |     |
| 280                         | A-2043-1     | NUT, SELF LOCKING   |          | 15  | Y   |     |
| 330                         | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 6   | Y   |     |
| 330A                        | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                      |          | 3   | Y   |     |
| 330B                        | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 3   | Y   |     |
| 331                         | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 3   | Y   |     |
| 332                         | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 3   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-L3YF-1RF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION  | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|--|-------------|-----|-----|-----|
|                     |                | (P)HC-L3YF-1RF, continued  |             |     |     |     |
|                     |                | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |             |     |     |     |
|                     |                | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |             |     |     |     |
| -9000               | B-3840-( )     | <b>BALANCE PARTS</b><br>SCREW  |             | AR  | Y   |     |
| -9020               | A-2424(A)-( )  | BALANCE WEIGHT   |             | AR  |     |     |
|                     |                | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |             |     |     |     |
| EFF CODE            |                | INFORMATION  |             |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-L3YF-1RF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>PHC-L3Y1F-1N (Lightweight Compact)</b>  |          |     |     |     |
| <b>10B-4</b>     |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40               | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)  |          | 1   |     |     |
| 50               | B-2281       | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2280       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 106              | 102959       | SPRING GUIDE   |          | 1   |     |     |
| 110              | 101330       | SPRING, COMPRESSION  |          | 1   |     |     |
| 120              | 101335-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 126              | 101430       | SPRING SEAT  |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170              | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | 103025       | PCP: HUB UNIT, PHC-L3Y1F-1N<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A             | 103025-40R   | PCP: HUB UNIT, PHC-L3Y1F-1N<br>SUPERSEDES ITEM 180, POST HC-SL-61-305  |          | 1   |     | PCP |
| 190              | B-3252       | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 190A             | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340  |          | 1   |     |     |
| 195              | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200              | A-3253-2     | PITCH CHANGE BLOCK   |          | 3   |     |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 3   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL  |          | 9   | Y   |     |
| 285              | A-2043-1     | NUT, SELF LOCKING  |          | 9   | Y   |     |
| EFF CODE         |              | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**PHC-L3Y1F-1N (Lightweight Compact)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
| <b>10B-4</b>     |               | <b>PHC-L3Y1F-1N (Lightweight Compact)</b>  |          |     |     |     |
|                  |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB   |          | 3   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| -332             | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**PHC-L3Y1F-1N (Lightweight Compact), continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-1</b>                |              | <b>HC-M3YR-1RF<br/>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2281       | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2280       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1     | SPRING (LOW PITCH RETURN)  |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-2841-1     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A                        | E-7159-2R    | PCP: HUB UNIT, HC-M3YR-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                               |          | 1   |     | PCP |
| 180B                        | E-7159-12R   | PCP: HUB UNIT, HC-M3YR-1R<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265   |          | 1   |     | PCP |
| 180C                        | E-7159-42R   | PCP: HUB UNIT, HC-M3YR-1R<br>SUPERSEDES ITEM 180, POST HC-SL-61-305  |          | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-M3YR-1RF**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
|                  |               | <b>HC-M3YR-1RF, continued</b>  |          |     |     |     |
| <b>10B-1</b>     |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 190              | B-3252        | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 190A             | B-3252-2      | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340  |          | 1   |     |     |
| 195              | A-3256        | • BUMPER, FORK   |          | 3   | Y   |     |
| 200              | A-3253-2      | PITCH CHANGE BLOCK   |          | 3   |     |     |
| 220              | C-3317-115-1  | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431        | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260              | A-2432        | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270              | B-3834-0632   | WASHER, FLAT, STEEL  |          | 15  | Y   |     |
| 280              | A-2043-1      | NUT, SELF LOCKING  |          | 15  | Y   |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB   |          | 3   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| -332             | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-M3YR-1RF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER                            | DESCRIPTION  | EFF CODE | UPA    | O/H    | PCP |
|-----------------------------|--|--|----------|--------|--------|-----|
| <b>10B-1</b>                |  | <b>(P)HC-C3YF-4F<br/>PROPELLER PARTS</b>   |          |        |        |     |
| 10                          | B-3359                                 | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   | A        | 1      | Y      |     |
|                             | B-3807                                 | NUT, 5/8-18, HEX, SELF-LOCKING   | B        | 1      | Y      |     |
| 10A                         | B-3599                                 | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244  | A        | 1      | Y      |     |
| 30                          | B-3834-0663<br>B-3851-1032             | WASHER<br>WASHER   | A<br>B   | 1<br>1 | Y<br>Y |     |
| 40                          | A-4252<br>A-4257                       | LOW PITCH STOP<br>LOW PITCH STOP   | A<br>B   | 1<br>1 |        |     |
| 50                          | B-2428-1                               | CYLINDER<br>SUPERSEDED BY ITEM 50A   |          | 1      |        |     |
| 50A                         | B-2428-2                               | CYLINDER<br>SUPERSEDES ITEM 50, POST HC-SL-61-342  |          | 1      |        |     |
| 60                          | B-3838-3-5                             | COTTER PIN   |          | 1      | Y      |     |
| 70                          | A-2211                                 | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1      | Y      |     |
| 80                          | C-3317-348-1                           | O-RING (PISTON OD)   |          | 1      | Y      |     |
| 90                          | B-2419                                 | PISTON   |          | 1      |        |     |
| 100                         | C-3317-018                             | O-RING (PISTON ID)   |          | 1      | Y      |     |
| 110                         | A-2213-1                               | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1      |        |     |
| 120                         | A-2420-( )                             | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1      |        |     |
| 130                         | A-867                                  | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1      | Y      | PCP |
| 140                         | A-2418-2                               | ROD, PITCH CHANGE  |          | 1      |        |     |
| 150                         | C-3317-210-1                           | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1      | Y      |     |
| 170                         | C-3317-247                             | O-RING (CYLINDER)  |          | 1      | Y      |     |
|                             |  | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |        |        |     |
| 180                         | D-3251-4                               | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   | C        | 1      |        | PCP |
|                             | D-3251-7                               | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   | D        | 1      |        | PCP |
| 180A                        | E-7167-1                               | PCP: HUB UNIT, HC-C3YF-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                            | C        | 1      |        | PCP |
|                             | E-7167-2                               | PCP: HUB UNIT, PHC-C3YF-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                           | D        | 1      |        | PCP |
| 180B                        | E-7167-11                              | PCP: HUB UNIT, HC-C3YF-(2,4)<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265  | C        | 1      |        | PCP |
|                             | E-7167-12                              | PCP: HUB UNIT, PHC-C3YF-(2,4)<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265   | D        | 1      |        | PCP |
| <b>EFF CODE INFORMATION</b> |  |  |          |        |        |     |
| A                           | Used with B-2428-1 Cylinder (Item 50)  |  |          |        |        |     |
| B                           | Used with B-2428-2 Cylinder (Item 50A) |  |          |        |        |     |
| C                           | HC-C3YF-4F                             |  |          |        |        |     |
| D                           | PHC-C3YF-4F                            |  |          |        |        |     |

- ITEM NOT ILLUSTRATED

**(P)HC-C3YF-4F**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|---|----------|-----|-----|-----|
| <b>10B-1</b>                |              | <b>(P)HC-C3YF-4F, continued</b><br><b>PROPELLER PARTS, continued</b>                |          |     |     |     |
| 190                         | B-3252       | FORK, THREE BLADE - ASSEMBLY  |          | 1   |     |     |
| 190A                        | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340           |          | 1   |     |     |
| 195                         | A-3256       | • BUMPER, FORK  |          | 3   | Y   |     |
| 200                         | A-3253-2     | PITCH CHANGE BLOCK  |          | 3   |     |     |
| 220                         | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)                                     |          | 1   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 9   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL   |          | 15  | Y   |     |
| 280                         | A-2043-1     | NUT, SELF LOCKING   |          | 15  | Y   |     |
| 330                         | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 6   | Y   |     |
| 330A                        | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354 |          | 3   | Y   |     |
| 330B                        | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 3   | Y   |     |
| 331                         | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 3   | Y   |     |
| 332                         | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 3   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-C3YF-4F, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
|                  |               | <b>(P)HC-C3YF-4F, continued</b>   |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )    | SCREW   |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT  |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER   |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b>  |          |     |     |     |
|                  |               | APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-C3YF-4F, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>(P)HC-C3YF-4BF</b>  |          |     |     |     |
| <b>10B-1</b>                |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3807       | NUT, 5/8-18, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 30                          | B-3851-1032  | WASHER   |          | 1   | Y   |     |
| 40                          | A-4257       | LOW PITCH STOP   |          | 1   |     |     |
| 50                          | B-2428-2     | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110                         | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150                         | C-3317-210-1 | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170                         | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-3251-4     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   | A        | 1   |     | PCP |
|                             | D-3251-7     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   | B        | 1   |     | PCP |
| 180A                        | E-7167-1     | PCP: HUB UNIT, HC-C3YF-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                    | A        | 1   |     | PCP |
|                             | E-7167-2     | PCP: HUB UNIT, PHC-C3YF-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                   | B        | 1   |     | PCP |
| 180B                        | E-7167-11    | PCP: HUB UNIT, HC-C3YF-(2,4)<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265  | A        | 1   |     | PCP |
|                             | E-7167-12    | PCP: HUB UNIT, PHC-C3YF-(2,4)<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265   | B        | 1   |     | PCP |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |
| A                           | HC-C3YF-4BF  |  |          |     |     |     |
| B                           | PHC-C3YF-4BF |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-C3YF-4BF**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
|                  |              | <b>(P)HC-C3YF-4F, continued</b>   |          |     |     |     |
| <b>10B-1</b>     |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190              | B-3252       | FORK, THREE BLADE - ASSEMBLY  |          | 1   |     |     |
| 190A             | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340           |          | 1   |     |     |
| 195              | A-3256       | • BUMPER, FORK  |          | 3   | Y   |     |
| 200              | A-3253-2     | PITCH CHANGE BLOCK  |          | 3   |     |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)                                     |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 9   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL   |          | 15  | Y   |     |
| 280              | A-2043-1     | NUT, SELF LOCKING   |          | 15  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 6   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354 |          | 3   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 3   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 3   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 3   | Y   |     |
| EFF CODE         |              | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-C3YF-4BF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
|                  |               | <b>(P)HC-C3YF-4F, continued</b>   |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )    | SCREW   |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT  |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER   |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**(P)HC-C3YF-4BF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>HC-C3YN-4F</b>  |          |     |     |     |
|                  |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10B-1            |              |  |          |     |     |     |
| 10               | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   | A        | 1   | Y   |     |
|                  | B-3807       | NUT, 5/8-18, HEX, SELF-LOCKING   | B        | 1   | Y   |     |
| 10A              | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244  | A        | 1   | Y   |     |
| 30               | B-3834-0663  | WASHER   | A        | 1   | Y   |     |
|                  | B-3851-1032  | WASHER   | B        | 1   | Y   |     |
| 40               | A-4252       | LOW PITCH STOP   | A        | 1   |     |     |
|                  | A-4257       | LOW PITCH STOP   | B        | 1   |     |     |
| 50               | B-2428-1     | CYLINDER<br>SUPERSEDED BY ITEM 50A   |          | 1   |     |     |
| 50A              | B-2428-2     | CYLINDER<br>SUPERSEDES ITEM 50, POST HC-SL-61-342  |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110              | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150              | C-3317-210-1 | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170              | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-3276       | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A             | E-7162-1     | PCP: HUB UNIT, HC-C3YF-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                            |          | 1   |     | PCP |
| 180B             | E-7161-11    | PCP: HUB UNIT, HC-C3YN-(2,4)<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265  |          | 1   |     | PCP |

**EFF CODE INFORMATION**

A Used with B-2428-1 Cylinder (Item 50)  
B Used with B-2428-2 Cylinder (Item 50A)

- ITEM NOT ILLUSTRATED

**HC-C3YN-4F**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|---|----------|-----|-----|-----|
| <b>10B-1</b>     |              | <b>HC-C3YN-4F, continued</b>  |          |     |     |     |
|                  |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190              | B-3252       | FORK, THREE BLADE - ASSEMBLY  |          | 1   |     |     |
| 190A             | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340           |          | 1   |     |     |
| 195              | A-3256       | • BUMPER, FORK  |          | 3   | Y   |     |
| 200              | A-3253-2     | PITCH CHANGE BLOCK  |          | 3   |     |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)                                     |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 9   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL   |          | 15  | Y   |     |
| 280              | A-2043-1     | NUT, SELF LOCKING   |          | 15  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 6   | Y   |     |
| 330A             | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354 |          | 3   | Y   |     |
| 330B             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 3   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 3   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 3   | Y   |     |
| EFF CODE         |              | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YN-4F, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
|                  |               | <b>HC-C3YN-4F, continued</b>  |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>N-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )    | SCREW   |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT  |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT<br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER  |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b>  |          |     |     |     |
|                  |               | APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YN-4F, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-1</b>     |              | <b>HC-C3YN-4BF<br/>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3807       | NUT, 5/8-18, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 30               | B-3851-1032  | WASHER   |          | 1   | Y   |     |
| 40               | A-4257       | LOW PITCH STOP   |          | 1   |     |     |
| 50               | B-2428-2     | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110              | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150              | C-3317-210-1 | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170              | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-3276       | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A             | E-7162-1     | PCP: HUB UNIT, HC-C3YN-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                    |          | 1   |     | PCP |
| 180B             | E-7162-11    | PCP: HUB UNIT, HC-C3YN-(2,4)<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265  |          | 1   |     | PCP |
| 190              | B-3252       | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 190A             | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340  |          | 1   |     |     |
| 195              | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200              | A-3253-2     | PITCH CHANGE BLOCK   |          | 3   |     |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL  |          | 15  | Y   |     |
| 280              | A-2043-1     | NUT, SELF LOCKING  |          | 15  | Y   |     |
| EFF CODE         |              | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YN-4BF**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
|                  |               | <b>HC-C3YN-4BF, continued</b>  |          |     |     |     |
| <b>10B-1</b>     |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>N-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>   |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT<br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION<br>GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER  |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC.<br>BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YN-4BF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-1</b>     |              | <b>HC-C3YR-4F<br/>PROPELLER PARTS</b>  |          |     |     |     |
| 10               | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   | A        | 1   | Y   |     |
|                  | B-3807       | NUT, 5/8-18, HEX, SELF-LOCKING   | B        | 1   | Y   |     |
| 10A              | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244  | A        | 1   | Y   |     |
| 30               | B-3834-0663  | WASHER   | A        | 1   | Y   |     |
|                  | B-3851-1032  | WASHER   | B        | 1   | Y   |     |
| 40               | A-4252       | LOW PITCH STOP   | A        | 1   |     |     |
|                  | A-4257       | LOW PITCH STOP   | B        | 1   |     |     |
| 50               | B-2428-1     | CYLINDER<br>SUPERSEDED BY ITEM 50A   |          | 1   |     |     |
| 50A              | B-2428-2     | CYLINDER<br>SUPERSEDES ITEM 50, POST HC-SL-61-342  |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-5     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150              | C-3317-210-1 | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170              | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-3251-2     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A             | E-7172-1     | PCP: HUB UNIT, HC-C3YR-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                            |          | 1   |     | PCP |
| 180B             | E-7172-11    | PCP: HUB UNIT, HC-C3YR-(2,4)<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265  |          | 1   |     | PCP |

**EFF CODE INFORMATION**

- A Used with B-2428-1 Cylinder (Item 50)
- B Used with B-2428-2 Cylinder (Item 50A)

- ITEM NOT ILLUSTRATED

**HC-C3YR-4F**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|---|----------|-----|-----|-----|
| <b>10B-1</b>                |              | <b>HC-C3YR-4F, continued</b>  |          |     |     |     |
|                             |              | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
| 190                         | B-3252       | FORK, THREE BLADE - ASSEMBLY  |          | 1   |     |     |
| 190A                        | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340           |          | 1   |     |     |
| 195                         | A-3256       | • BUMPER, FORK  |          | 3   | Y   |     |
| 200                         | A-3253-2     | PITCH CHANGE BLOCK  |          | 3   |     |     |
| 220                         | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)                                     |          | 1   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD  |          | 9   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD  |          | 6   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL   |          | 15  | Y   |     |
| 280                         | A-2043-1     | NUT, SELF LOCKING   |          | 15  | Y   |     |
| 330                         | A-279        | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                               |          | 6   | Y   |     |
| 330A                        | A-279        | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354 |          | 3   | Y   |     |
| 330B                        | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 3   | Y   |     |
| 331                         | 106545       | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 3   | Y   |     |
| 332                         | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 3   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YR-4F, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
|                  |               | <b>HC-C3YR-4F, continued</b>  |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )    | SCREW   |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT  |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER   |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YR-4F, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>HC-C3YR-4BF</b>   |          |     |     |     |
|                  |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10B-1            |              |  |          |     |     |     |
| 10               | B-3807       | NUT, 5/8-18, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 30               | B-3851-1032  | WASHER   |          | 1   | Y   |     |
| 40               | A-4257       | LOW PITCH STOP   |          | 1   |     |     |
| 50               | B-2428-2     | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-5     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150              | C-3317-210-1 | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170              | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-3251-2     | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A             | E-7172-1     | PCP: HUB UNIT, HC-C3YR-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                    |          | 1   |     | PCP |
| 180B             | E-7172-11    | PCP: HUB UNIT, HC-C3YR-(2,4)<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265  |          | 1   |     | PCP |
| 190              | B-3252       | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 190A             | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340  |          | 1   |     |     |
| 195              | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200              | A-3253-2     | PITCH CHANGE BLOCK   |          | 3   |     |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL  |          | 15  | Y   |     |
| 280              | A-2043-1     | NUT, SELF LOCKING  |          | 15  | Y   |     |
| EFF CODE         |              | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YR-4BF**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
|                  |               | <b>HC-C3YR-4BF, continued</b>  |          |     |     |     |
| <b>10B-1</b>     |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>   |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT<br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION<br>GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER  |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC.<br>BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         | INFORMATION   |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YR-4BF, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-1</b>                |              | <b>HC-C3YR-4A and HC-C3YR-4G<br/>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3807       | NUT, 5/8-18, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 30                          | B-3851-1032  | WASHER   |          | 1   | Y   |     |
| 40                          | A-4257       | LOW PITCH STOP   |          | 1   |     |     |
| 50                          | B-2281-1     | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2280       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-5     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150                         | C-3317-210-1 | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170                         | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180                         | D-3251-2R    | PCP: HUB UNIT<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A                        | E-7172-1R    | PCP: HUB UNIT, HC-C3YR-(2,4)R<br>SUPERSEDES ITEM 180, POST HC-SL-61-199<br>SUPERSEDED BY ITEM 180B                           |          | 1   |     | PCP |
| 180B                        | E-7172-11R   | PCP: HUB UNIT, HC-C3YR-(2,4)R<br>SUPERSEDES ITEM 180A, POST HC-SL-61-265   |          | 1   |     | PCP |
| 190                         | B-3252-2     | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 195                         | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200                         | A-3253-2     | PITCH CHANGE BLOCK   |          | 3   |     |     |
| 220                         | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL  |          | 15  | Y   |     |
| 280                         | A-2043-1     | NUT, SELF LOCKING  |          | 15  | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YR-4A and HC-C3YR-4G**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER           | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|-----------------------|---|----------|-----|-----|-----|
| <b>10B-1</b>     |                       | <b>HC-C3YR-4A and HC-C3YR-4G, continued</b>   |          |     |     |     |
|                  |                       | <b>PROPELLER PARTS, continued</b>   |          |     |     |     |
|                  | 330                   | A-279<br>LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331                                |          | 6   | Y   |     |
|                  | 330A                  | A-279<br>LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB                       |          | 3   | Y   |     |
|                  | 330B                  | C-6349<br>LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187              |          | 3   | Y   |     |
|                  | 331                   | 106545<br>PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354 |          | 3   | Y   |     |
|                  | 332                   | B-6544<br>CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B                      |          | 3   | Y   |     |
| 334              | B-7073-L1<br>HEX BOLT |   | 3        | Y   |     |     |
| EFF CODE         |                       | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YR-4A and HC-C3YR-4G, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|-------------|---|----------|-----|-----|-----|
|                  |             | <b>HC-C3YR-4A and HC-C3YR-4G, continued</b>   |          |     |     |     |
|                  |             | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |             | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |             | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )  | SCREW   |          | AR  | Y   |     |
| -9020            | A-1929      | BALANCE WEIGHT  | A        | AR  |     |     |
|                  | A-1305      | BALANCE WEIGHT  | B        | AR  |     |     |
|                  |             | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |             | PCP: COUNTERWEIGHT APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER   |          |     |     | PCP |
| -9040            |             | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |             | <b>COUNTERWEIGHT SLUGS/MOUNTING HARDWARE</b>  |          |     |     |     |
|                  |             | APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER AND PROPELLER CRITICAL PART (PCP) IDENTIFICATION   |          |     |     |     |
| -9050            |             | COUNTERWEIGHT SLUGS   |          |     |     |     |
| -9060            |             | COUNTERWEIGHT SLUG MOUNTING BOLT  |          |     | Y   |     |
| -9070            |             | COUNTERWEIGHT SLUG MOUNTING NUT   |          |     | Y   |     |
|                  |             | <b>SPINNER PARTS</b>  |          |     |     |     |
|                  |             | APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |             | INFORMATION   |          |     |     |     |
| A                |             | HC-C3YR-4A  |          |     |     |     |
| B                |             | HC-C3YR-4G  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YR-4A and HC-C3YR-4G, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>HC-C3YR-4BN</b>   |          |     |     |     |
|                  |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10B-1            |              |  |          |     |     |     |
| 10               | B-3807       | NUT, 5/8-18, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 30               | B-3851-1032  | WASHER   |          | 1   | Y   |     |
| 40               | A-4257       | LOW PITCH STOP   |          | 1   |     |     |
| 50               | B-2428-2     | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2419       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-5     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150              | C-3317-210-1 | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170              | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180              | E-7172-11    | PCP: HUB UNIT, HC-C3YR-(2,4)   |          | 1   |     | PCP |
| 190              | B-3252-2     | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 195              | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200              | A-3253-2     | PITCH CHANGE BLOCK   |          | 3   |     |     |
| 220              | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL  |          | 15  | Y   |     |
| 280              | A-2043-1     | NUT, SELF LOCKING  |          | 15  | Y   |     |
| 330              | A-279        | LUBRICATION FITTING  |          | 3   | Y   |     |
| 330A             | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545       | PLUG, LUBRICATION  |          | 3   | Y   |     |
| 332              | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330 AND 330A   |          | 3   | Y   |     |
| EFF CODE         |              | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YR-4BN**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
|                  |               | <b>HC-C3YR-4BN, continued</b>   |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )    | SCREW   |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT  |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER   |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b>  |          |     |     |     |
|                  |               | APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YR-4BN, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-1</b>                |              | <b>HC-C3YR-4N<br/>PROPELLER PARTS</b>  |          |     |     |     |
| 10                          | B-3807       | NUT, 5/8-18, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 30                          | B-3851-1032  | WASHER   |          | 1   | Y   |     |
| 40                          | A-4257       | LOW PITCH STOP   |          | 1   |     |     |
| 50                          | B-2281-1     | CYLINDER, "R"  |          | 1   | Y   |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2280       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-5     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150                         | C-3317-210-1 | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170                         | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | E-7172-11R   | PCP: HUB UNIT, HC-C3YR-(2,4)R  |          | 1   |     | PCP |
| 190                         | B-3252-2     | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 195                         | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200                         | A-3253-2     | PITCH CHANGE BLOCK   |          | 3   |     |     |
| 220                         | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL  |          | 15  | Y   |     |
| 280                         | A-2043-1     | NUT, SELF LOCKING  |          | 15  | Y   |     |
| 330                         | A-279        | LUBRICATION FITTING (ENGINE-SIDE OF HUB)   |          | 3   | Y   |     |
| 330A                        | C-6349       | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330, POST HC-SL-61-187  |          | 3   | Y   |     |
| 331                         | 106545       | PLUG, LUBRICATION (CYLINDER-SIDE OF HUB)   |          | 3   | Y   |     |
| 332                         | B-6544       | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330 AND 330A   |          | 3   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YR-4N**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
|                  |               | <b>HC-C3YR-4N, continued</b>  |          |     |     |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>  |          |     |     |     |
| -9000            | B-3840-( )    | SCREW   |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT  |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>  |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER   |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC. BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b>  |          |     |     |     |
|                  |               | APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION GUIDE MANUAL 159 (61-02-59) AND THE APPLICABLE HARTZELL PROPELLER INC. SPINNER MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C3YR-4N, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-1</b>                |              | <b>HC-G3YR-4N<br/>PROPELLER PARTS</b>  |          |     |     |     |
| 10                          | B-3807       | NUT, 5/8-18, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 30                          | B-3851-1032  | WASHER   |          | 1   | Y   |     |
| 40                          | A-4257       | LOW PITCH STOP   |          | 1   |     |     |
| 50                          | B-2281-1     | CYLINDER, "R"  |          | 1   | Y   |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2280       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-5     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150                         | C-3317-210-1 | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170                         | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180                         | 102527R      | PCP: HUB UNIT, HC-G3YR-(2,4)   |          | 1   |     | PCP |
| 190                         | B-3252       | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 190A                        | B-3252-2     | FORK, THREE BLADE - ASSEMBLY<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340  |          | 1   |     |     |
| 195                         | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200                         | A-3253-2     | PITCH CHANGE BLOCK   |          | 3   |     |     |
| 220                         | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL  |          | 15  | Y   |     |
| 280                         | A-2043-1     | NUT, SELF LOCKING  |          | 15  | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-G3YR-4N**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
|                  |               | <b>HC-G3YR-4N, continued</b>   |          |     |     |     |
| <b>10B-1</b>     |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| -332             | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>   |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT<br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION<br>GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER  |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC.<br>BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-G3YR-4N, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
| <b>10B-1</b>                |              | <b>PHC-H3YF-4BF<br/>PROPELLER PARTS</b>  |          |     |     |     |
| 10                          | B-3807       | NUT, 5/8-18, HEX, SELF-LOCKING   |          | 1   | Y   |     |
| 20                          | B-3851-1032  | WASHER   |          | 1   | Y   |     |
| 40                          | A-4257       | SCREW, SET, 5/8-18 DRILLED (LOW PITCH STOP)  |          | 1   |     |     |
| 50                          | B-2428-2     | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-348-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2419       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-12    | ROD, PITCH CHANGE  |          | 1   |     |     |
| 150                         | C-3317-210-1 | O-RING (PITCH CHANGE ROD, CYLINDER-SIDE HUB HALF)  |          | 1   | Y   |     |
| 170                         | C-3317-247   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | E-7169-5     | PCP: HUB UNIT, PHC-H3YF-(2,4)<br>SUPERSEDED BY ITEM 180A   |          | 1   |     | PCP |
| 180A                        | E-7169-15    | PCP: HUB UNIT, PHC-H3YF-(2,4)<br>SUPERSEDES ITEM 180, POST HC-SL-61-265  |          | 1   |     | PCP |
| 190                         | B-3252       | FORK, THREE BLADE - ASSEMBLY   |          | 1   |     |     |
| 190A                        | B-3252-2     | FORK, THREE BLADE - ASSEMBLY,<br>ALTERNATE FOR ITEM 190, POST HC-SL-61-340   |          | 1   |     |     |
| 195                         | A-3256       | • BUMPER, FORK   |          | 3   | Y   |     |
| 200                         | A-3253-2     | PITCH CHANGE BLOCK   |          | 3   |     |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 9   |     |     |
| 260                         | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 6   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL  |          | 15  | Y   |     |
| 280                         | A-2043-1     | NUT, SELF LOCKING  |          | 15  | Y   |     |
| 290                         | C-3317-145   | O-RING (HUB PLUG OD)   |          | 1   | Y   |     |
| 300                         | A-2481       | PLUG, HUB  |          | 1   |     |     |
| 310                         | C-3317-115-1 | O-RING (HUB PLUG ID)   |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**PHC-H3YF-4BF**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
|                  |               | <b>PHC-H3YF-4BF, continued</b>   |          |     |     |     |
| <b>10B-1</b>     |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 6   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 3   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 3   | Y   |     |
| 332              | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 3   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO THE "BLADE RETENTION PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO THE "MOUNTING FLANGE PARTS" SECTION<br>IN THIS CHAPTER FOR EXPLODED VIEWS/PARTS LISTS)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>COUNTERWEIGHTS/MOUNTING BOLTS</b>   |          |     |     |     |
| -9030            |               | PCP: COUNTERWEIGHT<br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC. APPLICATION<br>GUIDE MANUAL 159 (61-02-59) FOR PART NUMBER  |          |     |     | PCP |
| -9040            |               | COUNTERWEIGHT MOUNTING BOLTS<br>REFER TO THE APPLICABLE HARTZELL PROPELLER INC.<br>BLADE OVERHAUL MANUAL:<br>MANUAL 135F (61-13-35) - COMPOSITE BLADES<br>MANUAL 133C (61-13-33) - ALUMINUM BLADES   |          |     | Y   |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

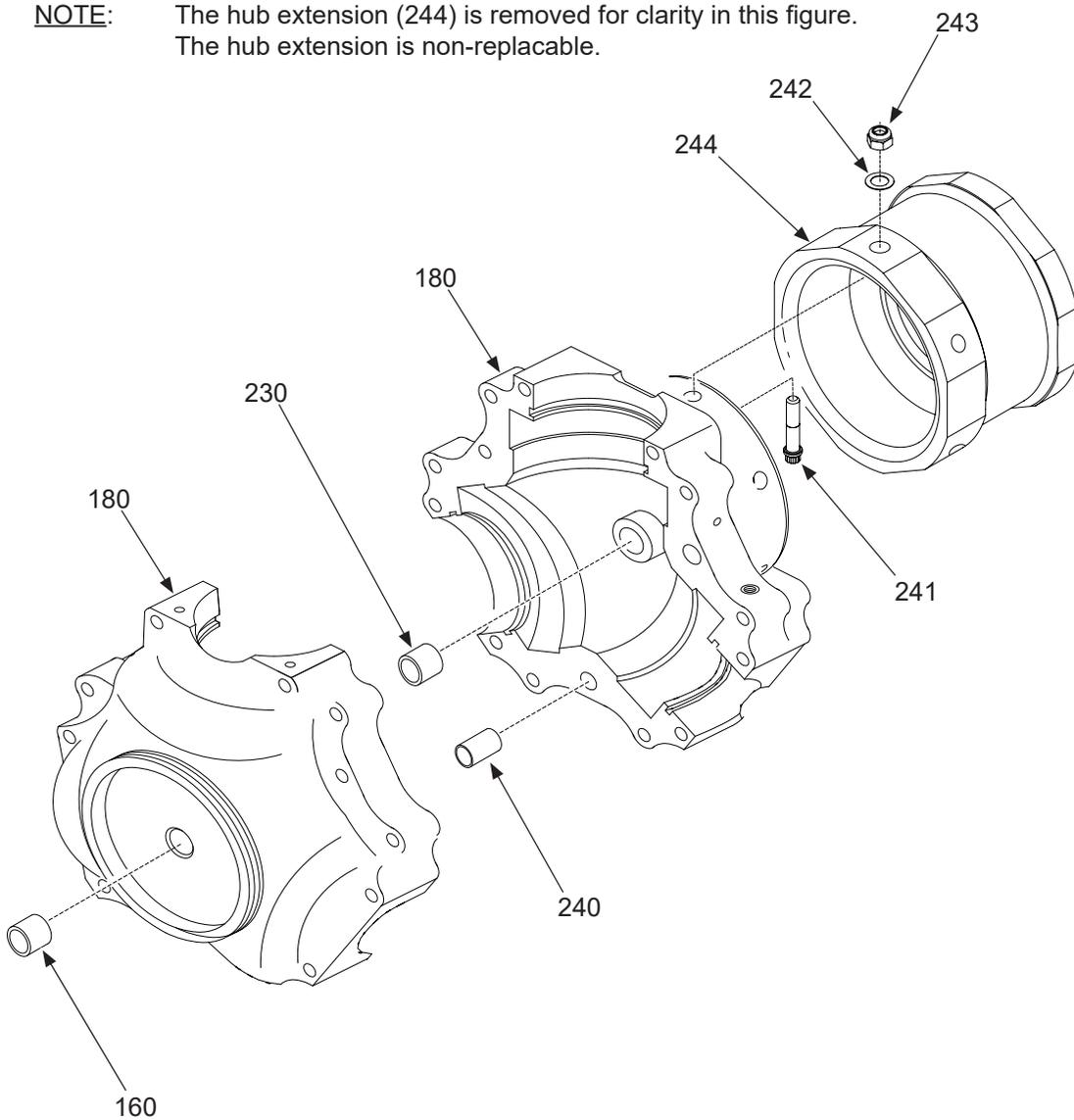
**PHC-H3YF-4BF, continued**

(Blank Page)

## **3-Blade Propeller/Hub Unit Parts Lists - Appendix**

Hub Unit Parts Lists

**NOTE:** The hub extension (244) is removed for clarity in this figure.  
The hub extension is non-replacable.



TPI-MB-0546

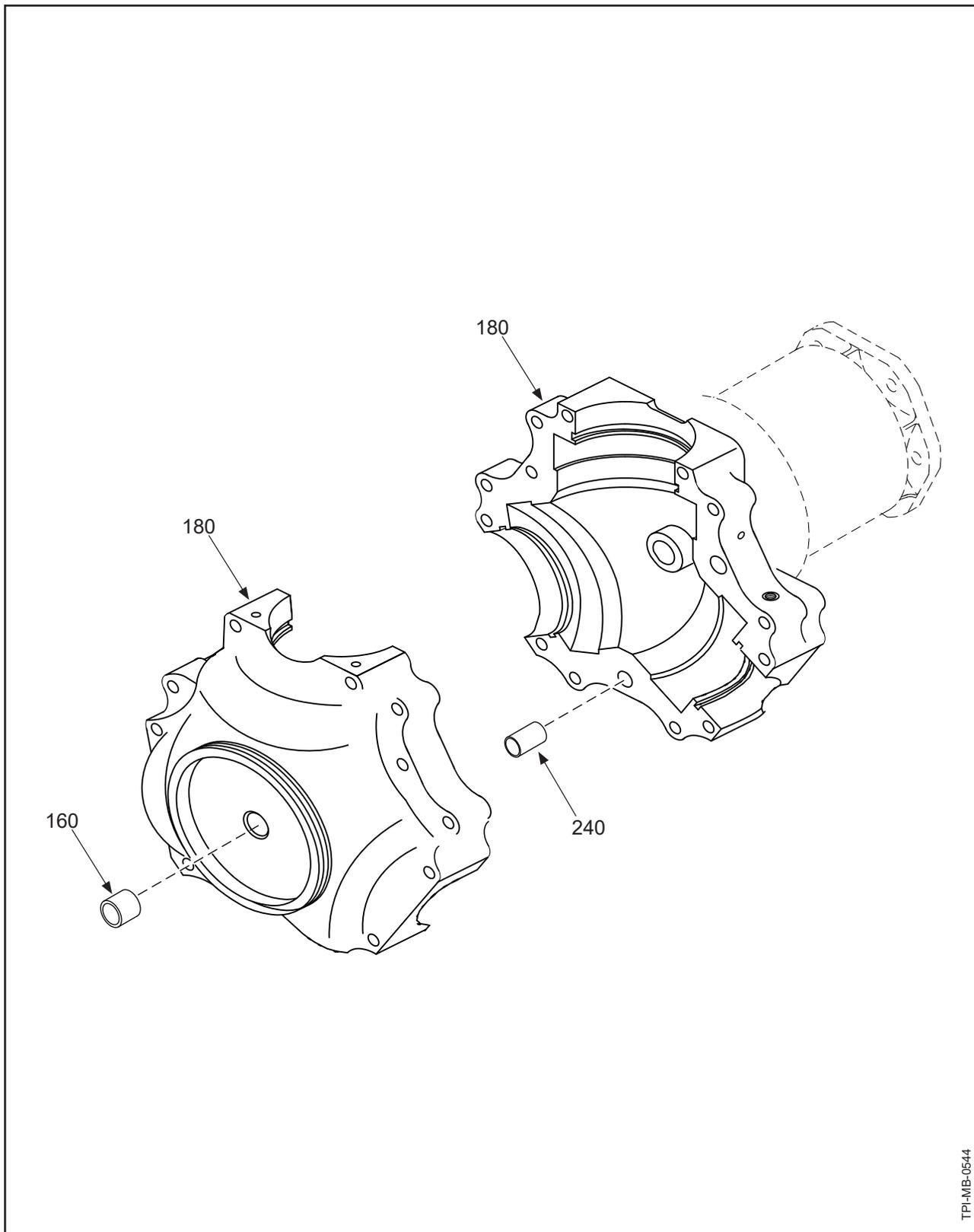
**3-Blade Hub Units: Configuration A**  
**Figure App-1**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER             | DESCRIPTION   | EFF CODE | UPA    | O/H | PCP        |
|-----------------------------|-------------------------|---|----------|--------|-----|------------|
| <b>App-1</b>                |                         | <b>C-3327 HUB UNIT PARTS</b>                          |          |        |     |            |
| 180                         | C-3327                  | PCP: HUB UNIT   |          | 1      |     | PCP        |
| 160                         | A-2245                  | • HUB BUSHING, ROD (CYLINDER-SIDE)                    |          | 1      | Y   |            |
| 230                         | A-2245-1                | • HUB BUSHING, ROD (ENGINE-SIDE)                      |          | 1      | Y   |            |
| 240                         | A-2249                  | • HUB BUSHING, GUIDE                                  |          | 1      | Y   |            |
| 241                         | A-3229                  | • BOLT, 3/8-24, 12-POINT                              |          | 6      | Y   |            |
| 242                         | B-3834-0663             | • WASHER  |          | 6      | Y   |            |
| 243                         | A-2043-1                | • NUT, 3/8-24, HEX, SELF-LOCKING                      |          | 6      | Y   |            |
| 244                         | N/A                     | • EXTENSION, HUB (NON-REPLACEABLE)                    |          | 1      |     |            |
| <b>App-1</b>                |                         | <b>E-7160-( ) HUB UNIT PARTS</b>                      |          |        |     |            |
| 180                         | E-7160-1R<br>E-7160-11R | PCP: HUB UNIT,HC-F3YR-1R<br>PCP: HUB UNIT, HC-F3YR-1R |          | 1<br>1 |     | PCP<br>PCP |
| 160                         | A-2245                  | • HUB BUSHING, ROD (CYLINDER-SIDE)                    |          | 1      | Y   |            |
| 230                         | A-2245-1                | • HUB BUSHING, ROD (ENGINE-SIDE)                      |          | 1      | Y   |            |
| 240                         | A-2249                  | • HUB BUSHING, GUIDE                                  |          | 1      | Y   |            |
| 241                         | A-3229                  | • BOLT, 3/8-24, 12-POINT                              |          | 6      | Y   |            |
| 242                         | B-3834-0663             | • WASHER  |          | 6      | Y   |            |
| 243                         | A-2043-1                | • NUT, 3/8-24, HEX, SELF-LOCKING                      |          | 6      | Y   |            |
| 244                         | N/A                     | • EXTENSION, HUB (NON-REPLACEABLE)                    |          | 1      |     |            |
| <b>EFF CODE INFORMATION</b> |                         |   |          |        |     |            |

- ITEM NOT ILLUSTRATED

**3-Blade Hub Unit Parts Lists: Configuration A**



TPI-MB-0544

**3-Blade Hub Units: Configuration B**  
**Figure App-2**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|-------------|---|----------|-----|-----|-----|
| <b>App-2</b>     |             | <b>D-2841( ) HUB UNIT PARTS</b>                       |          |     |     |     |
| 180              | D-2841      | PCP: HUB UNIT   |          | 1   |     | PCP |
|                  | D-2841-1    | PCP: HUB UNIT   |          | 1   |     | PCP |
| 160              | A-2245      | • HUB BUSHING, ROD (CYLINDER-SIDE)                    |          | 1   | Y   |     |
| 240              | A-2249      | • HUB BUSHING, GUIDE                                  |          | 1   | Y   |     |
| <b>App-2</b>     |             | <b>D-3251-(1,3,4,8,10,11,15,16)(R) HUB UNIT PARTS</b> |          |     |     |     |
| 180              | D-3251-1(R) | PCP: HUB UNIT   |          | 1   |     | PCP |
|                  | D-3251-3(R) | PCP: HUB UNIT   |          | 1   |     | PCP |
|                  | D-3251-4    | PCP: HUB UNIT   |          | 1   |     | PCP |
|                  | D-3251-8R   | PCP: HUB UNIT   |          | 1   |     | PCP |
|                  | D-3251-10R  | PCP: HUB UNIT   |          | 1   |     | PCP |
|                  | D-3251-11R  | PCP: HUB UNIT   |          | 1   |     | PCP |
|                  | D-3251-15   | PCP: HUB UNIT   |          | 1   |     | PCP |
|                  | D-3251-16R  | PCP: HUB UNIT   |          | 1   |     | PCP |
| 160              | A-2245      | • HUB BUSHING, ROD (CYLINDER-SIDE)                    |          | 1   | Y   |     |
| -185             | B-6986-500M | • INSERT, THREAD, THIN WALL                           | -8R      | 6   | Y   |     |
| 240              | A-2249      | • HUB BUSHING, GUIDE                                  |          | 1   | Y   |     |
| <b>App-2</b>     |             | <b>D-3276( ) HUB UNIT PARTS</b>                       |          |     |     |     |
| 180              | D-3276      | PCP: HUB UNIT   |          | 1   |     | PCP |
|                  | D-3276-1    | PCP: HUB UNIT   |          | 1   |     | PCP |
| 160              | A-2245      | • HUB BUSHING, ROD (CYLINDER-SIDE)                    |          | 1   | Y   |     |
| 240              | A-2249      | • HUB BUSHING, GUIDE                                  |          | 1   | Y   |     |
| <b>App-2</b>     |             | <b>E-7152-(1,11) HUB UNIT PARTS</b>                   |          |     |     |     |
| 180              | E-7152-1    | PCP: HUB UNIT, HC-C3YN-1                              |          | 1   |     | PCP |
|                  | E-7152-11   | PCP: HUB UNIT, HC-C3YN-1                              |          | 1   |     | PCP |
| 160              | A-2245      | • HUB BUSHING, ROD (CYLINDER-SIDE)                    |          | 1   | Y   |     |
| 240              | A-2249      | • HUB BUSHING, GUIDE                                  |          | 1   | Y   |     |

| EFF CODE | INFORMATION              |
|----------|--------------------------|
| -8R      | D-3251-8R Hub units only |

- ITEM NOT ILLUSTRATED

**3-Blade Hub Unit Parts Lists: Configuration B, page 1 of 3**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER             | PART NUMBER | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------------------|-------------|---|----------|-----|-----|-----|
| <b>App-2</b>                 |             | <b>E-7154-(1, 2, 3, 4, 5, 11, 12, 13, 14, 15)R HUB UNIT PARTS</b> |          |     |     |     |
| 180                          | E-7154-1R   | PCP: HUB UNIT, HC-C3YF-1R   |          | 1   |     | PCP |
|                              | E-7154-2R   | PCP: HUB UNIT, PHC-C3YF-1R  |          | 1   |     | PCP |
|                              | E-7154-3R   | PCP: HUB UNIT, (P,E)HC-L3YF-1R                                    |          | 1   |     | PCP |
|                              | E-7154-4R   | PCP: HUB UNIT, HC-G3YF-1R   |          | 1   |     | PCP |
|                              | E-7154-5R   | PCP: HUB UNIT, (P,E)HC-G3YF-1R                                    |          | 1   |     | PCP |
|                              | E-7154-11R  | PCP: HUB UNIT, HC-C3YF-1R   |          | 1   |     | PCP |
|                              | E-7154-12R  | PCP: HUB UNIT, PHC-C3YF-1R  |          | 1   |     | PCP |
|                              | E-7154-13R  | PCP: HUB UNIT, (P,E)HC-L3YF-1R                                    |          | 1   |     | PCP |
|                              | E-7154-14R  | PCP: HUB UNIT, HC-G3YF-1R   |          | 1   |     | PCP |
|                              | E-7154-15R  | PCP: HUB UNIT, (P,E)HC-G3YF-1R                                    |          | 1   |     | PCP |
| 160                          | A-2245      | • HUB BUSHING, ROD (CYLINDER-SIDE)                                |          | 1   | Y   |     |
| -185                         | B-6986-500M | • INSERT, THREAD, THIN WALL                                       | -2R      | 6   | Y   |     |
| 240                          | A-2249      | • HUB BUSHING, GUIDE  |          | 1   | Y   |     |
| <b>App-2</b>                 |             | <b>E-7155-1R HUB UNIT PARTS</b>                                   |          |     |     |     |
| 180                          | E-7155-1R   | PCP: HUB UNIT, PHC-I3YF-1   |          | 1   |     | PCP |
| 160                          | A-2245      | • HUB BUSHING, ROD (CYLINDER-SIDE)                                |          | 1   | Y   |     |
| 240                          | A-2249      | • HUB BUSHING, GUIDE  |          | 1   | Y   |     |
| <b>App-2</b>                 |             | <b>E-7157-(1R, 11R) HUB UNIT PARTS</b>                            |          |     |     |     |
| 180                          | E-7157-1R   | PCP: HUB UNIT, HC-C3YR-1R   |          | 1   |     | PCP |
|                              | E-7157-11R  | PCP: HUB UNIT, HC-C3YR-1R   |          | 1   |     | PCP |
| 160                          | A-2245      | • HUB BUSHING, ROD (CYLINDER-SIDE)                                |          | 1   | Y   |     |
| 240                          | A-2249      | • HUB BUSHING, GUIDE  |          | 1   | Y   |     |
| <b>App-2</b>                 |             | <b>E-7159-(1R, 2R, 11R, 12R) HUB UNIT PARTS</b>                   |          |     |     |     |
| 180                          | E-7159-1R   | PCP: HUB UNIT, HC-I3YR-1R   |          | 1   |     | PCP |
|                              | E-7159-2R   | PCP: HUB UNIT, HC-M3YR-1R   |          | 1   |     | PCP |
|                              | E-7159-11R  | PCP: HUB UNIT, HC-I3YR-1R   |          | 1   |     | PCP |
|                              | E-7159-12R  | PCP: HUB UNIT, HC-M3YR-1R   |          | 1   |     | PCP |
| 160                          | A-2245      | • HUB BUSHING, ROD (CYLINDER-SIDE)                                |          | 1   | Y   |     |
| 240                          | A-2249      | • HUB BUSHING, GUIDE  |          | 1   | Y   |     |
| <b>App-2</b>                 |             | <b>102888-11R HUB UNIT PARTS</b>                                  |          |     |     |     |
| 180                          | 102888-11R  | PCP: HUB UNIT, HC-I3YIR-1R  |          | 1   |     | PCP |
| 160                          | A-2245-2    | • HUB BUSHING, ROD (CYLINDER-SIDE)                                |          | 1   | Y   |     |
| 240                          | A-2249      | • HUB BUSHING, GUIDE  |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b>  |             |   |          |     |     |     |
| -2R E-7154-2R Hub units only |             |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

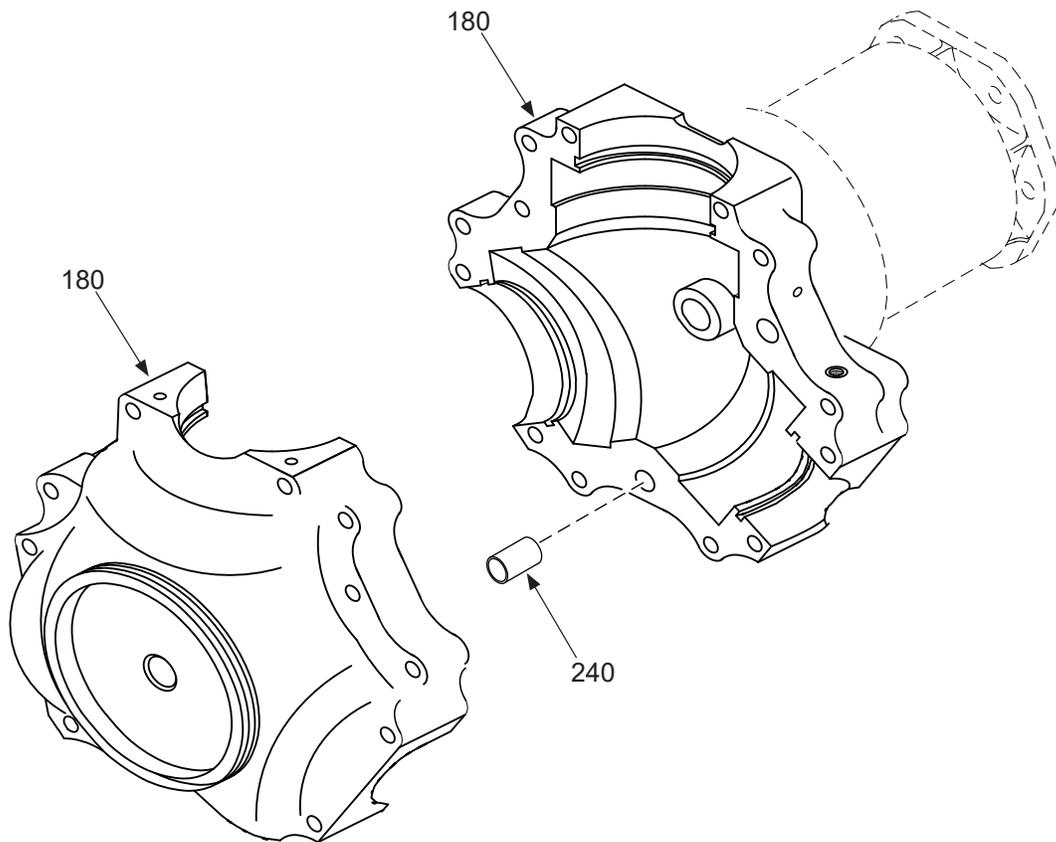
**3-Blade Hub Unit Parts Lists: Configuration B, page 2 of 3**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|-------------|--|----------|-----|-----|-----|
| <b>App-2</b>                |             |  |          |     |     |     |
| 180                         | 102901-11R  | <b>102901-11R HUB UNIT PARTS</b><br>PCP: HUB UNIT, HC-C3Y1R-1N |          | 1   |     | PCP |
| 160                         | A-2245-2    | • HUB BUSHING, ROD (CYLINDER-SIDE)                             |          | 1   | Y   |     |
| 240                         | A-2249      | • HUB BUSHING, GUIDE   |          | 1   | Y   |     |
| <b>App-2</b>                |             |  |          |     |     |     |
| 180                         | 103025      | <b>103025 HUB UNIT PARTS</b><br>PCP: HUB UNIT, PHC-L3Y1F-1N    |          | 1   |     | PCP |
| 160                         | A-2245-2    | • HUB BUSHING, ROD (CYLINDER-SIDE)                             |          | 1   | Y   |     |
| 240                         | A-2249      | • HUB BUSHING, GUIDE   |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b> |             |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**3-Blade Hub Unit Parts Lists: Configuration B, page 3 of 3**



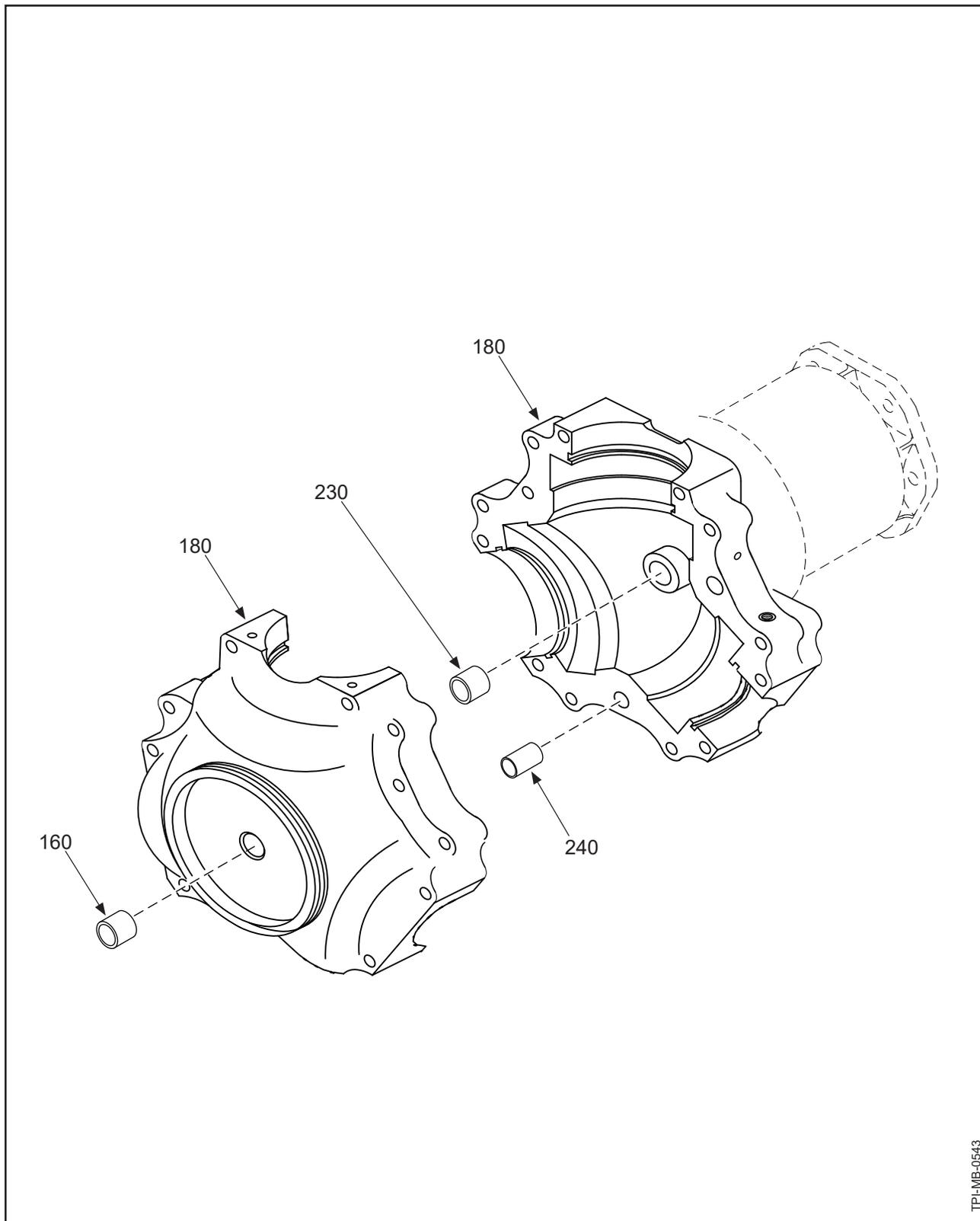
TP-MB-0545

**3-Blade Hub Units: Configuration C**  
**Figure App-3**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER       | PART NUMBER  | DESCRIPTION                                | EFF CODE | UPA | O/H | PCP |
|------------------------|--------------|--|----------|-----|-----|-----|
| <b>App-3</b>           |              | <b>D-3251-(2, 2R, 4, 7) HUB UNIT PARTS</b> |          |     |     |     |
| 180                    | D-3251-2(R)  | PCP: HUB UNIT                              |          | 1   |     | PCP |
|                        | D-3251-4     | PCP: HUB UNIT                              |          | 1   |     | PCP |
|                        | D-3251-7     | PCP: HUB UNIT                              |          | 1   |     | PCP |
| -185                   | B-6986-500M  | • INSERT, THREAD, THIN WALL                | -7       | 6   | Y   |     |
| 240                    | A-2249       | • HUB BUSHING, GUIDE                       |          | 1   | Y   |     |
| <b>App-3</b>           |              | <b>E-7162-( ) HUB UNIT PARTS</b>           |          |     |     |     |
| 180                    | E-7162-1     | PCP: HUB UNIT, HC-C3YN-(2,4)               |          | 1   |     | PCP |
|                        | E-7162-11    | PCP: HUB UNIT, HC-C3YN-(2,4)               |          | 1   |     | PCP |
| 240                    | A-2249       | • HUB BUSHING, GUIDE                       |          | 1   | Y   |     |
| <b>App-3</b>           |              | <b>E-7167-( ) HUB UNIT PARTS</b>           |          |     |     |     |
| 180                    | E-7167-1     | PCP: HUB UNIT, HC-C3YF-(2,4)               |          | 1   |     | PCP |
|                        | E-7167-2     | PCP: HUB UNIT, PHC-C3YF-(2,4)              |          | 1   |     | PCP |
|                        | E-7167-11    | PCP: HUB UNIT, HC-C3YF-(2,4)               |          | 1   |     | PCP |
|                        | E-7167-12    | PCP: HUB UNIT, PHC-C3YF-(2,4)              |          | 1   |     | PCP |
| -185                   | B-6986-500M  | • INSERT, THREAD, THIN WALL                | -2       | 6   | Y   |     |
| 240                    | A-2249       | • HUB BUSHING, GUIDE                       |          | 1   | Y   |     |
| <b>App-3</b>           |              | <b>E-7172-( ) HUB UNIT PARTS</b>           |          |     |     |     |
| 180                    | E-7172-1(R)  | PCP: HUB UNIT, HC-C3YR-(2,4)(R)            |          | 1   |     | PCP |
|                        | E-7172-11(R) | PCP: HUB UNIT, HC-C3YR-(2,4)(R)            |          | 1   |     | PCP |
| 240                    | A-2249       | • HUB BUSHING, GUIDE                       |          | 1   | Y   |     |
| <b>App-3</b>           |              | <b>102527( ) HUB UNIT PARTS</b>            |          |     |     |     |
| 180                    | 102527R      | PCP: HUB UNIT, HC-G3YR-(2,4)(R)            |          | 1   |     | PCP |
| 240                    | A-2249       | • HUB BUSHING, GUIDE                       |          | 1   | Y   |     |
| <b>EFF CODE</b>        |              | <b>INFORMATION</b>                         |          |     |     |     |
| -2                     |              | E-7167-2 Hub units only                    |          |     |     |     |
| -7                     |              | D-3251-7 Hub units only                    |          |     |     |     |
| - ITEM NOT ILLUSTRATED |              |  |          |     |     |     |

**3-Blade Hub Unit Parts Lists: Configuration C**



TP-MB-0543

**3-Blade Hub Units: Configuration D**  
**Figure App-4**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER                 | PART NUMBER | DESCRIPTION                        | EFF CODE | UPA | O/H | PCP |
|----------------------------------|-------------|------------------------------------|----------|-----|-----|-----|
| <b>App-4</b>                     |             |                                    |          |     |     |     |
| <b>D-3261-3 HUB UNIT PARTS</b>   |             |                                    |          |     |     |     |
| 180                              | D-3261-3    | PCP: HUB UNIT                      |          | 1   |     | PCP |
| 160                              | A-2245      | • HUB BUSHING, ROD (CYLINDER-SIDE) |          | 1   | Y   |     |
| 230                              | A-2245-1    | • HUB BUSHING, ROD (ENGINE-SIDE)   |          | 1   | Y   |     |
| 240                              | A-2249      | • HUB BUSHING, GUIDE               |          | 1   | Y   |     |
| <b>App-4</b>                     |             |                                    |          |     |     |     |
| <b>D-3285-( ) HUB UNIT PARTS</b> |             |                                    |          |     |     |     |
| 180                              | D-3285-9    | PCP: HUB UNIT                      |          | 1   |     | PCP |
|                                  | D-3285-11   | PCP: HUB UNIT                      |          | 1   |     | PCP |
|                                  | D-3285-12   | PCP: HUB UNIT                      |          | 1   |     | PCP |
|                                  | D-3285-13   | PCP: HUB UNIT                      |          | 1   |     | PCP |
| 160                              | A-2245      | • HUB BUSHING, ROD (CYLINDER-SIDE) |          | 1   | Y   |     |
| 230                              | A-2245-1    | • HUB BUSHING, ROD (ENGINE-SIDE)   |          | 1   | Y   |     |
| 240                              | A-2249      | • HUB BUSHING, GUIDE               |          | 1   | Y   |     |
| <b>App-4</b>                     |             |                                    |          |     |     |     |
| <b>E-7156-( ) HUB UNIT PARTS</b> |             |                                    |          |     |     |     |
| 180                              | E-7156-1R   | PCP: HUB UNIT, HC-H3YF-1R          |          | 1   |     | PCP |
|                                  | E-7156-3R   | PCP: HUB UNIT, HC-J3YF-1R          |          | 1   |     | PCP |
|                                  | E-7156-4R   | PCP: HUB UNIT, PHC-J3YF-1R         |          | 1   |     | PCP |
|                                  | E-7156-5R   | PCP: HUB UNIT, PHC-H3YF-1R         |          | 1   |     | PCP |
|                                  | E-7156-11R  | PCP: HUB UNIT, HC-H3YF-1R          |          | 1   |     | PCP |
|                                  | E-7156-13R  | PCP: HUB UNIT, HC-J3YF-1R          |          | 1   |     | PCP |
|                                  | E-7156-14R  | PCP: HUB UNIT, PHC-J3YF-1R         |          | 1   |     | PCP |
|                                  | E-7156-15R  | PCP: HUB UNIT, PHC-H3YF-1R         |          | 1   |     | PCP |
| 160                              | A-2245      | • HUB BUSHING, ROD (CYLINDER-SIDE) |          | 1   | Y   |     |
| 230                              | A-2245-1    | • HUB BUSHING, ROD (ENGINE-SIDE)   |          | 1   | Y   |     |
| 240                              | A-2249      | • HUB BUSHING, GUIDE               |          | 1   | Y   |     |
| <b>App-4</b>                     |             |                                    |          |     |     |     |
| <b>E-7161-( ) HUB UNIT PARTS</b> |             |                                    |          |     |     |     |
| 180                              | E-7161-1R   | PCP: HUB UNIT, HC-E3YR-1R          |          | 1   |     | PCP |
|                                  | E-7161-2R   | PCP: HUB UNIT, HC-F3YR-1R          |          | 1   |     | PCP |
|                                  | E-7161-11R  | PCP: HUB UNIT, HC-E3YR-1R          |          | 1   |     | PCP |
|                                  | E-7161-12R  | PCP: HUB UNIT, HC-F3YR-1R          |          | 1   |     | PCP |
| 160                              | A-2245      | • HUB BUSHING, ROD (CYLINDER-SIDE) |          | 1   | Y   |     |
| 230                              | A-2245-1    | • HUB BUSHING, ROD (ENGINE-SIDE)   |          | 1   | Y   |     |
| 240                              | A-2249      | • HUB BUSHING, GUIDE               |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b>      |             |                                    |          |     |     |     |

- ITEM NOT ILLUSTRATED

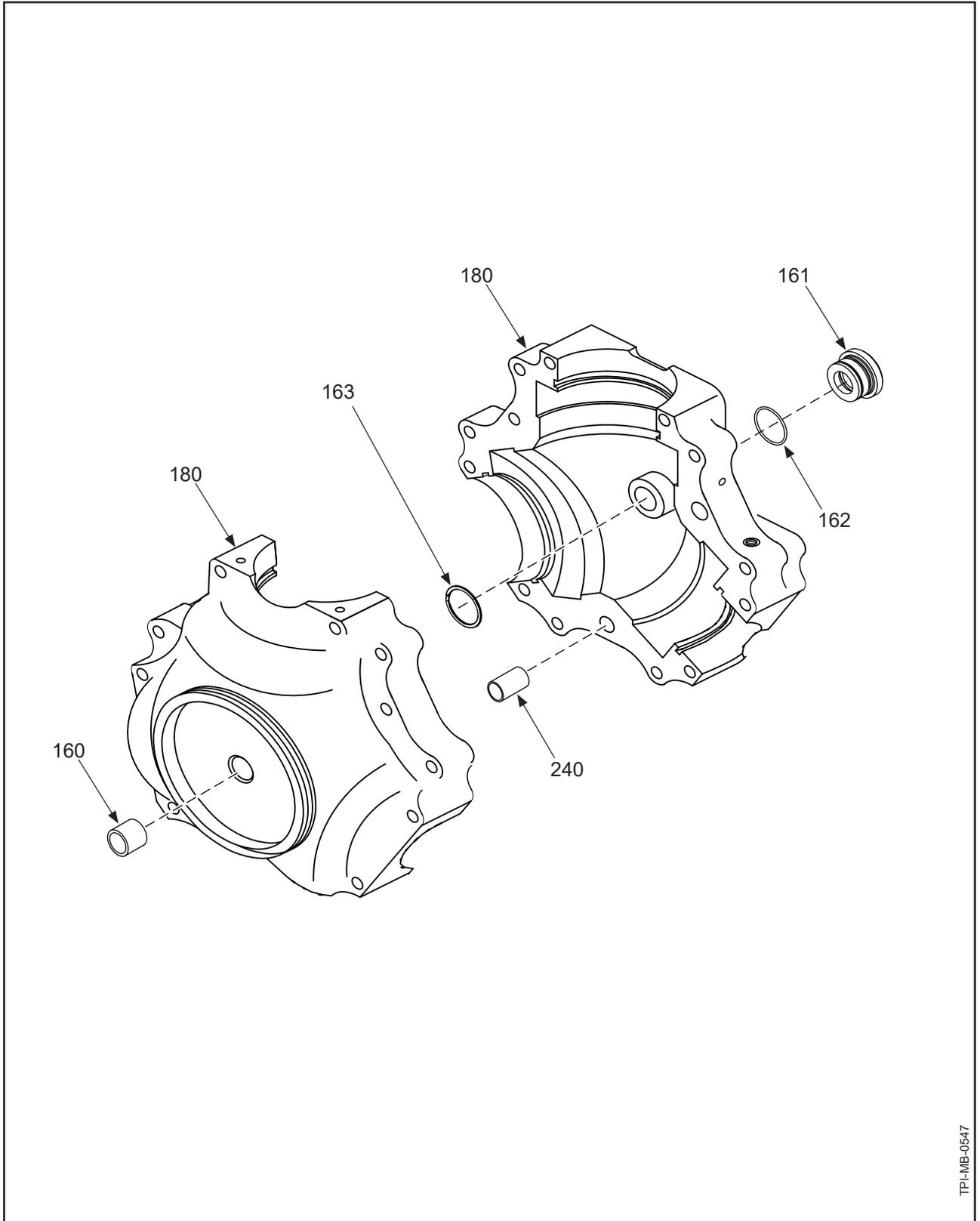
**3-Blade Hub Unit Parts Lists: Configuration D, page 1 of 2**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER | DESCRIPTION                        | EFF CODE | UPA | O/H | PCP |
|-----------------------------|-------------|------------------------------------|----------|-----|-----|-----|
| <b>App-4</b>                |             | <b>102520-( ) HUB UNIT PARTS</b>   |          |     |     |     |
| 180                         | 102520-12R  | PCP: HUB UNIT, PHC-J3Y1F-1N        |          | 1   |     | PCP |
|                             | 102520-13R  | PCP: HUB UNIT, HC-J3Y1F-1R         |          | 1   |     | PCP |
| 160                         | A-2245-2    | • HUB BUSHING, ROD (CYLINDER-SIDE) |          | 1   | Y   |     |
| 230                         | A-2245-5    | • HUB BUSHING, ROD (ENGINE-SIDE)   |          | 1   | Y   |     |
| 240                         | A-2249      | • HUB BUSHING, GUIDE               |          | 1   | Y   |     |
| <b>App-4</b>                |             | <b>105276-( ) HUB UNIT PARTS</b>   |          |     |     |     |
| 180                         | 105276-11R  | PCP: HUB UNIT, HC-E3YR-1R          |          | 1   |     | PCP |
| 160                         | A-2245      | • HUB BUSHING, ROD (CYLINDER-SIDE) |          | 1   | Y   |     |
| 230                         | A-2245-1    | • HUB BUSHING, ROD (ENGINE-SIDE)   |          | 1   | Y   |     |
| 240                         | A-2249      | • HUB BUSHING, GUIDE               |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b> |             |                                    |          |     |     |     |

- ITEM NOT ILLUSTRATED

**3-Blade Hub Unit Parts Lists: Configuration D, page 2 of 2**



TP-1MB-0547

**3-Blade Hub Units: Configuration E**  
**Figure App-5**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION                                    | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
| <b>App-5</b>                |              | <b>E-7152-41 HUB UNIT PARTS</b>                |          |     |     |     |
| 180                         | E-7152-41    | PCP:HUB UNIT, HC-C3YN-1                        |          | 1   |     | PCP |
| 160                         | A-2245       | • HUB BUSHING, ROD (CYLINDER-SIDE)             |          | 1   | Y   |     |
| 161                         | 103434-1     | • HUB BUSHING, ROD (ENGINE-SIDE)               |          | 1   |     |     |
| 162                         | C-3317-021-1 | • O-RING (BUSHING OD)                          |          | 1   | Y   |     |
| 163                         | A-6153-87    | • RING, RETAINING, EXTERNAL SPIRAL             |          | 1   | Y   |     |
| 240                         | A-2249       | • HUB BUSHING, GUIDE                           |          | 1   | Y   |     |
| <b>App-5</b>                |              | <b>E-7154-(41,42,43,44,45)R HUB UNIT PARTS</b> |          |     |     |     |
| 180                         | E-7154-41R   | PCP:HUB UNIT, HC-C3YF-1R                       |          | 1   |     | PCP |
|                             | E-7154-42R   | PCP: HUB UNIT, PHC-C3YF-1(R)                   |          | 1   |     | PCP |
|                             | E-7154-43R   | PCP: HUB UNIT, (P,E)HC-L3YF-1R                 |          | 1   |     | PCP |
|                             | E-7154-44R   | PCP: HUB UNIT, (E,P)HC-(C,G,L)3YF-1(R)         |          | 1   |     | PCP |
|                             | E-7154-45R   | PCP: HUB UNIT, (P,E)HC-G3YF-1R                 |          | 1   |     | PCP |
| 160                         | A-2245       | • HUB BUSHING, ROD (CYLINDER-SIDE)             |          | 1   | Y   |     |
| 161                         | 103434-1     | • HUB BUSHING, ROD (ENGINE-SIDE)               |          | 1   |     |     |
| 162                         | C-3317-021-1 | • O-RING (BUSHING OD)                          |          | 1   | Y   |     |
| 163                         | A-6153-87    | • RING, RETAINING, EXTERNAL SPIRAL             |          | 1   | Y   |     |
| 240                         | A-2249       | • HUB BUSHING, GUIDE                           |          | 1   | Y   |     |
| <b>App-5</b>                |              | <b>E-7157-41R HUB UNIT PARTS</b>               |          |     |     |     |
| 180                         | E-7157-41R   | PCP:HUB UNIT, HC-C3YR-1R                       |          | 1   |     | PCP |
| 160                         | A-2245       | • HUB BUSHING, ROD (CYLINDER-SIDE)             |          | 1   | Y   |     |
| 161                         | 103434-1     | • HUB BUSHING, ROD (ENGINE-SIDE)               |          | 1   |     |     |
| 162                         | C-3317-021-1 | • O-RING (BUSHING OD)                          |          | 1   | Y   |     |
| 163                         | A-6153-87    | • RING, RETAINING, EXTERNAL SPIRAL             |          | 1   | Y   |     |
| 240                         | A-2249       | • HUB BUSHING, GUIDE                           |          | 1   | Y   |     |
| <b>App-5</b>                |              | <b>E-7159-(41R, 42R) HUB UNIT PARTS</b>        |          |     |     |     |
| 180                         | E-7159-41R   | PCP:HUB UNIT, HC-I3YR-1R                       |          | 1   |     | PCP |
|                             | E-7159-42R   | PCP: HUB UNIT, HC-M3YR-1R                      |          | 1   |     | PCP |
| 160                         | A-2245       | • HUB BUSHING, ROD (CYLINDER-SIDE)             |          | 1   | Y   |     |
| 161                         | 103434-1     | • HUB BUSHING, ROD (ENGINE-SIDE)               |          | 1   |     |     |
| 162                         | C-3317-021-1 | • O-RING (BUSHING OD)                          |          | 1   | Y   |     |
| 163                         | A-6153-87    | • RING, RETAINING, EXTERNAL SPIRAL             |          | 1   | Y   |     |
| 240                         | A-2249       | • HUB BUSHING, GUIDE                           |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**3-Blade Hub Unit Parts Lists: Configuration E, page 1 of 3**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION                        | EFF CODE    | UPA | O/H | PCP |
|------------------|--------------|------------------------------------|-------------|-----|-----|-----|
| <b>App-5</b>     |              |                                    |             |     |     |     |
| 180              | 102888-41R   | PCP:HUB UNIT, HC-I3Y1R-1N          |             | 1   |     | PCP |
| 160              | A-2245-2     | • HUB BUSHING, ROD (CYLINDER-SIDE) |             | 1   | Y   |     |
| 161              | 103434-2     | • HUB BUSHING, ROD (ENGINE-SIDE)   |             | 1   |     |     |
| 162              | C-3317-021-1 | • O-RING (BUSHING OD)              |             | 1   | Y   |     |
| 163              | A-6153-87    | • RING, RETAINING, EXTERNAL SPIRAL |             | 1   | Y   |     |
| 240              | A-2249       | • HUB BUSHING, GUIDE               |             | 1   | Y   |     |
| <b>App-5</b>     |              |                                    |             |     |     |     |
| 180              | 102901-41R   | PCP:HUB UNIT, HC-C3Y1R-1N          |             | 1   |     | PCP |
| 160              | A-2245-2     | • HUB BUSHING, ROD (CYLINDER-SIDE) |             | 1   | Y   |     |
| 161              | 103434-2     | • HUB BUSHING, ROD (ENGINE-SIDE)   |             | 1   |     |     |
| 162              | C-3317-021-1 | • O-RING (BUSHING OD)              |             | 1   | Y   |     |
| 163              | A-6153-87    | • RING, RETAINING, EXTERNAL SPIRAL |             | 1   | Y   |     |
| 240              | A-2249       | • HUB BUSHING, GUIDE               |             | 1   | Y   |     |
| <b>App-5</b>     |              |                                    |             |     |     |     |
| 180              | 103025-40R   | PCP:HUB UNIT, PHC-L3Y1F-1N         |             | 1   |     | PCP |
|                  | 103025-41R   | PCP: HUB UNIT, PHC-G3Y1F-1N        |             | 1   |     | PCP |
|                  | 103025-42R   | PCP: HUB UNIT, HC-G3Y1F-1N         |             | 1   |     | PCP |
| 160              | A-2245-2     | • HUB BUSHING, ROD (CYLINDER-SIDE) |             | 1   | Y   |     |
| 161              | 103434-2     | • HUB BUSHING, ROD (ENGINE-SIDE)   |             | 1   |     |     |
| 162              | C-3317-021-1 | • O-RING (BUSHING OD)              |             | 1   | Y   |     |
| 163              | A-6153-87    | • RING, RETAINING, EXTERNAL SPIRAL |             | 1   | Y   |     |
| 240              | A-2249       | • HUB BUSHING, GUIDE               |             | 1   | Y   |     |
| <b>App-5</b>     |              |                                    |             |     |     |     |
| 180              | 105993-41R   | PCP:HUB UNIT, HC-I3YR-1R           |             | 1   |     | PCP |
| 160              | A-2245       | • HUB BUSHING, ROD (CYLINDER-SIDE) |             | 1   | Y   |     |
| 161              | 103434-1     | • HUB BUSHING, ROD (ENGINE-SIDE)   |             | 1   |     |     |
| 162              | C-3317-021-1 | • O-RING (BUSHING OD)              |             | 1   | Y   |     |
| 163              | A-6153-87    | • RING, RETAINING, EXTERNAL SPIRAL |             | 1   | Y   |     |
| 240              | A-2249       | • HUB BUSHING, GUIDE               |             | 1   | Y   |     |
| EFF CODE         |              |                                    | INFORMATION |     |     |     |

- ITEM NOT ILLUSTRATED

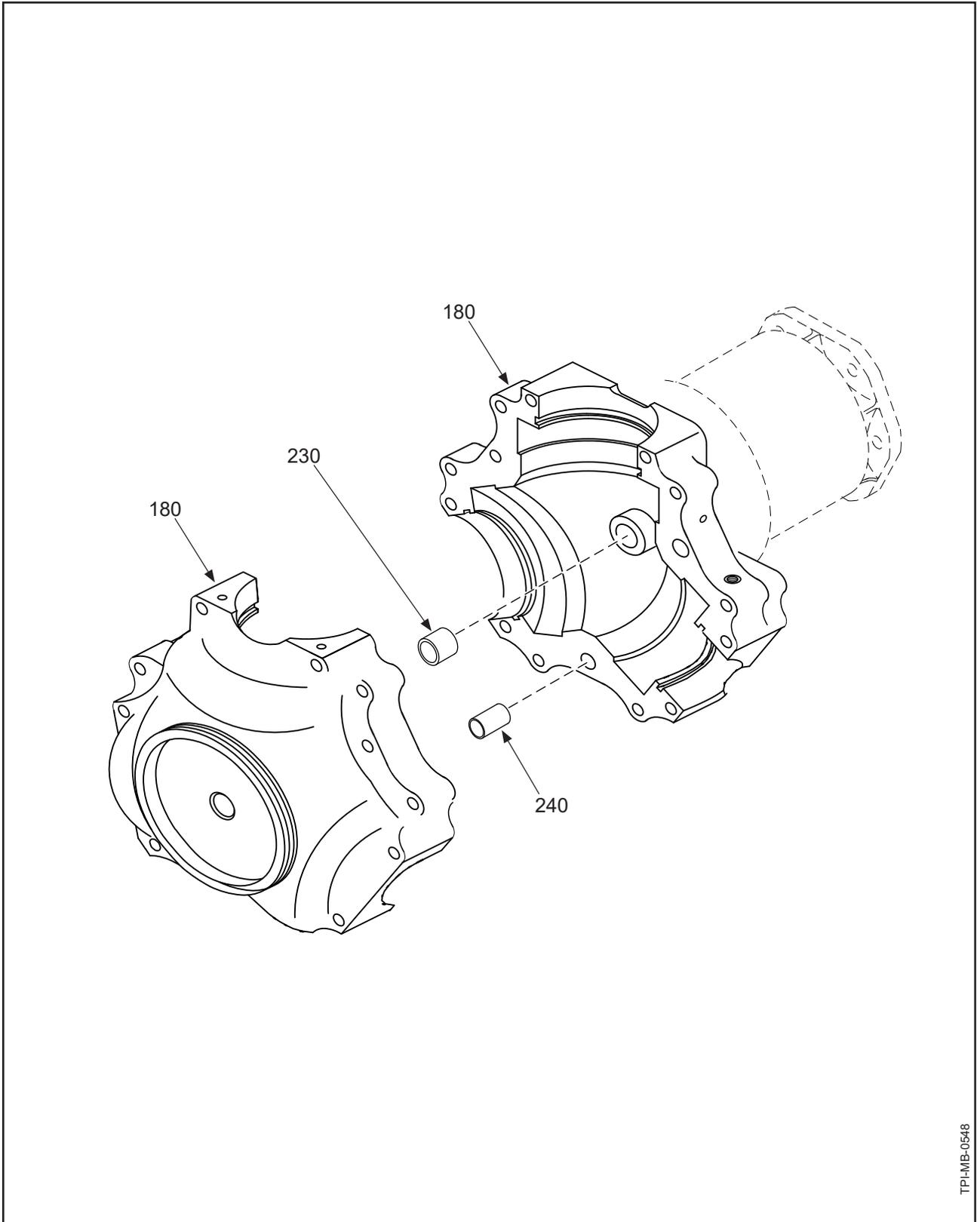
**3-Blade Hub Unit Parts Lists: Configuration E, page 2 of 3**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|---|----------|-----|-----|-----|
| <b>App-5</b>                |              |   |          |     |     |     |
| 180                         | 105995-41R   | 105995-( ) HUB UNIT PARTS<br>PCP:HUB UNIT, HC-C3YR-1R |          | 1   |     | PCP |
| 160                         | A-2245       | • HUB BUSHING, ROD (CYLINDER-SIDE)                    |          | 1   | Y   |     |
| 161                         | 103434-1     | • HUB BUSHING, ROD (ENGINE-SIDE)                      |          | 1   |     |     |
| 162                         | C-3317-021-1 | • O-RING (BUSHING OD)                                 |          | 1   | Y   |     |
| 163                         | A-6153-87    | • RING, RETAINING, EXTERNAL SPIRAL                    |          | 1   | Y   |     |
| 240                         | A-2249       | • HUB BUSHING, GUIDE                                  |          | 1   | Y   |     |
| <b>App-5</b>                |              |   |          |     |     |     |
| 180                         | 108315R      | 108315( ) HUB UNIT PARTS<br>PCP:HUB UNIT, HC-G3Y1R-1N |          | 1   |     | PCP |
| 160                         | A-2245-2     | • HUB BUSHING, ROD (CYLINDER-SIDE)                    |          | 1   | Y   |     |
| 161                         | 103434-2     | • HUB BUSHING, ROD (ENGINE-SIDE)                      |          | 1   |     |     |
| 162                         | C-3317-021-1 | • O-RING (BUSHING OD)                                 |          | 1   | Y   |     |
| 163                         | A-6153-87    | • RING, RETAINING, EXTERNAL SPIRAL                    |          | 1   | Y   |     |
| 240                         | A-2249       | • HUB BUSHING, GUIDE                                  |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |   |          |     |     |     |

- ITEM NOT ILLUSTRATED

**3-Blade Hub Unit Parts Lists: Configuration E, page 3 of 3**



TPHMB-0548

**3-Blade Hub Units: Configuration F**  
**Figure App-6**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER | DESCRIPTION                      | EFF CODE | UPA | O/H | PCP |
|-----------------------------|-------------|----------------------------------|----------|-----|-----|-----|
| <b>App-6</b>                |             | <b>E-7169-( ) HUB UNIT PARTS</b> |          |     |     |     |
| 180                         | E-7169-1    | PCP: HUB UNIT, HC-H3YF-(2,4)     |          | 1   |     | PCP |
|                             | E-7169-11   | PCP: HUB UNIT, HC-H3YF-(2,4)     |          | 1   |     | PCP |
| 230                         | A-2245-1    | • HUB BUSHING, ROD (ENGINE-SIDE) |          | 1   | Y   |     |
| 240                         | A-2249      | • HUB BUSHING, GUIDE             |          | 1   | Y   |     |
| <b>EFF CODE INFORMATION</b> |             |                                  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**3-Blade Hub Unit Parts Lists: Configuration F**

## EXPLODED VIEWS AND PARTS LISTS 4-blade Propellers/Hub Units

### Propeller Exploded Views

4-blade Compact Propellers ..... Figure 10C-1 ..... 10C-3

### (-1) Propeller Parts Lists

HC-C4YF-1E ..... 10C-4

HC-F4YR-1..... 10C-6

## APPENDIX

### Hub Unit Exploded Views

4-blade Hub Units: Configuration A ..... Figure App-1 ..... App-C-2

4-blade Hub Units: Configuration B ..... Figure App-2 ..... App-C-4

4-blade Hub Units: Configuration C..... Figure App-3 ..... App-C-6

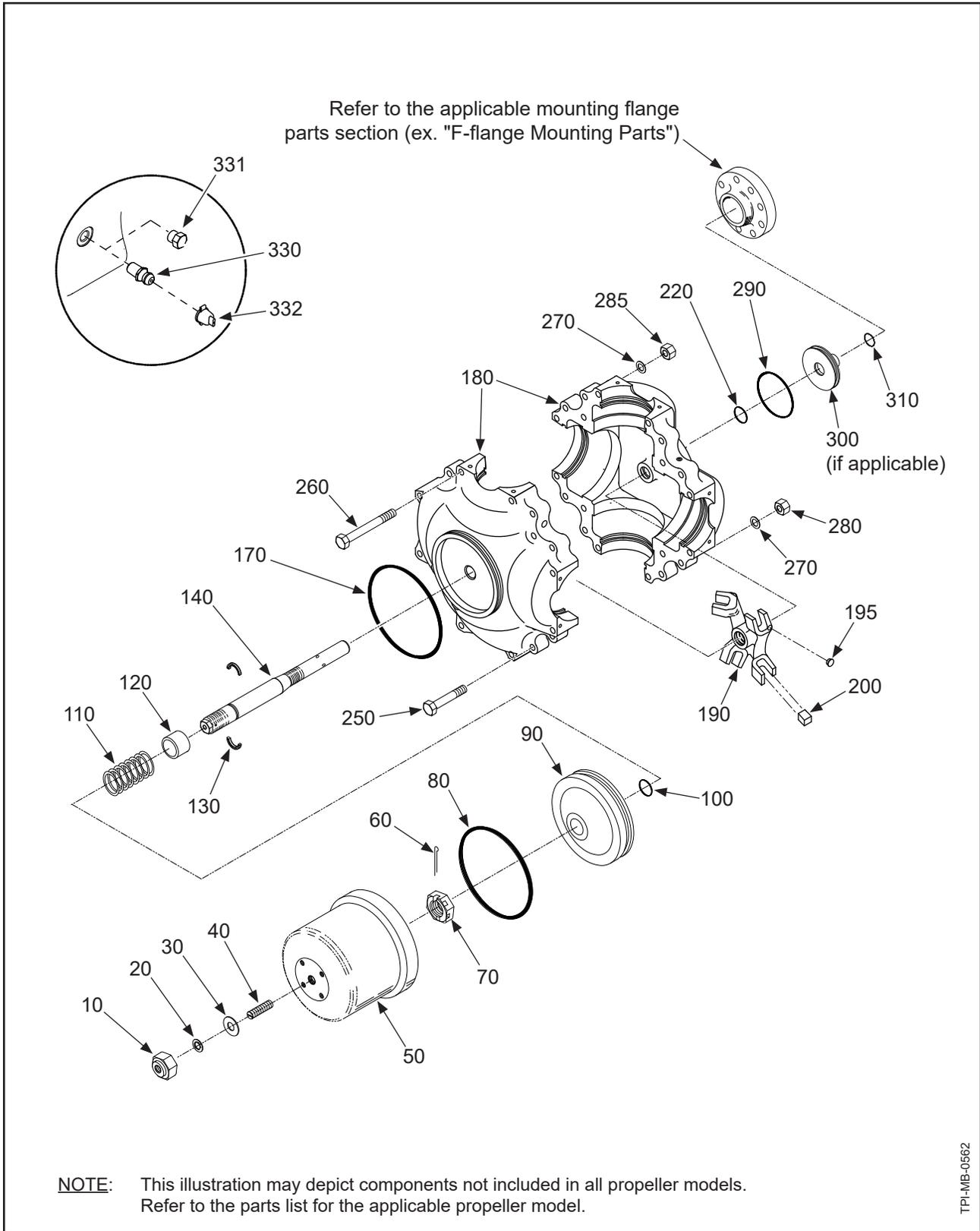
### Hub Unit Parts Lists

D-4502-1..... App-C-3

E-4501-5..... App-C-5

E-4501-45..... App-C-7

(Blank Page)



4-blade Compact Propellers  
Figure 10C-1

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|-----------------------------|--------------|--|----------|-----|-----|-----|
|                             |              | <b>HC-C4YF-1(E)</b>  |          |     |     |     |
| <b>10C-1</b>                |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10                          | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A                         | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                    |          | 1   | Y   |     |
| 10B                         | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20                          | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40                          | A-2421       | SOCKET SET SCREW, SUPERSEDED BY ITEM 40A   |          | 1   |     |     |
| 40A                         | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50                          | B-2281       | CYLINDER   |          | 1   |     |     |
| 60                          | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70                          | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80                          | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90                          | B-2280       | PISTON   |          | 1   |     |     |
| 100                         | C-3317-018   | O-RING, PISTON ID  |          | 1   | Y   |     |
| 110                         | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120                         | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130                         | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140                         | A-2418-2     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170                         | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                             |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS AND PARTS LISTS</b> |          |     |     |     |
| 180                         | E-4501-5     | PCP: HUB UNIT, HC-C4YF-1<br>SUPERSEDED BY ITEM 180A  |          | 1   |     | PCP |
| 180A                        | E-4501-45    | PCP: HUB UNIT, HC-C4YF-1<br>SUPERSEDES ITEM 180  |          | 1   |     | PCP |
| 190                         | C-4503       | FORK, FOUR BLADE - ASSEMBLY  |          | 1   |     |     |
| 195                         | A-3256       | • BUMPER, FORK   |          | 4   | Y   |     |
| 200                         | A-3253-2     | PITCH CHANGE BLOCK   |          | 4   |     |     |
| 220                         | C-3317-115-1 | O-RING (PITCH CHANGE ROD, ENGINE-SIDE HUB HALF)  |          | 1   | Y   |     |
| 250                         | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 12  |     |     |
| 260                         | A-3203       | BOLT, 3/8-24, HEX HEAD   |          | 8   |     |     |
| 270                         | B-3834-0632  | WASHER, FLAT, STEEL  |          | 20  | Y   |     |
| 280                         | A-2043-1     | NUT, SELF LOCKING  |          | 12  | Y   |     |
| 281                         | B-3599       | NUT, SELF LOCKING  |          | 8   | Y   |     |
| <b>EFF CODE INFORMATION</b> |              |  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C4YF-1E**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
| <b>10C-1</b>     |               | <b>HC-C4YF-1(E), continued</b>   |          |     |     |     |
|                  |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 8   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354  |          | 4   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 4   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 4   | Y   |     |
| -332             | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 4   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO "BLADE RETENTION PARTS"<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>F-FLANGE MOUNTING PARTS</b><br>(REFER TO "MOUNTING FLANGE PARTS"<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-C4YF-1E, continued**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER  | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|--------------|--|----------|-----|-----|-----|
|                  |              | <b>HC-F4YR-1</b>   |          |     |     |     |
| <b>10C-1</b>     |              | <b>PROPELLER PARTS</b>   |          |     |     |     |
| 10               | B-3359       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDED BY ITEM 10A   |          | 1   | Y   |     |
| 10A              | B-3599       | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10, POST HC-SL-61-244<br>SUPERSEDED BY ITEM 10B                            |          | 1   | Y   |     |
| 10B              | A-2043-1     | NUT, 3/8-24, HEX, SELF-LOCKING<br>SUPERSEDES ITEM 10A, POST HC-SL-61-278   |          | 1   | Y   |     |
| 20               | B-6747       | SEAL, WASHER   |          | 1   | Y   |     |
| 40               | A-2421       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDED BY ITEM 40A  |          | 1   |     |     |
| 40A              | 102472       | SCREW, SET, 3/8-24 (LOW PITCH STOP)<br>SUPERSEDES ITEM 40, POST HC-SL-61-278   |          | 1   |     |     |
| 50               | B-2281       | CYLINDER   |          | 1   |     |     |
| 60               | B-3838-3-5   | COTTER PIN   |          | 1   | Y   |     |
| 70               | A-2211       | NUT, 0.718-20 CASTELLATED, THIN (PITCH CHANGE ROD)   |          | 1   | Y   |     |
| 80               | C-3317-426-1 | O-RING (PISTON OD)   |          | 1   | Y   |     |
| 90               | B-2280       | PISTON   |          | 1   |     |     |
| 100              | C-3317-018   | O-RING (PISTON ID)   |          | 1   | Y   |     |
| 110              | A-2213-1     | SPRING, COMPRESSION (LOW PITCH RETURN)   |          | 1   |     |     |
| 120              | A-2420-( )   | COLLAR, STOP (LENGTH TO SUIT PITCH REQUIREMENTS)   |          | 1   |     |     |
| 130              | A-867        | PCP: KEEPER, SPLIT (STOP COLLAR)   |          | 1   | Y   | PCP |
| 140              | A-2418-9     | ROD, PITCH CHANGE  |          | 1   |     |     |
| 170              | C-3317-251   | O-RING (CYLINDER)  |          | 1   | Y   |     |
|                  |              | <b>REFER TO THE APPLICABLE HUB UNIT IN THE 3-BLADE<br/>PROPELLER APPENDIX SECTION FOR EXPLODED VIEWS<br/>AND PARTS LISTS</b> |          |     |     |     |
| 180              | D-4502-1     | PCP: HUB UNIT, HC-F4YR-1   |          | 1   |     | PCP |
| 190              | C-4503       | FORK, FOUR BLADE - ASSEMBLY  |          | 1   |     |     |
| 210              | A-3256       | • BUMPER, FORK   |          | 4   | Y   |     |
| 200              | A-3253-2     | PITCH CHANGE BLOCK   |          | 4   |     |     |
| 250              | A-2431       | BOLT, 3/8-24, HEX HEAD   |          | 12  |     |     |
| 260              | A-2432       | BOLT, 3/8-24, HEX HEAD   |          | 8   |     |     |
| 270              | B-3834-0632  | WASHER, FLAT, STEEL  |          | 20  | Y   |     |
| 280              | A-2043-1     | NUT, SELF LOCKING  |          | 20  | Y   |     |
| 290              | C-3317-226   | O-RING, PLUG, HUB (OD)   |          | 1   | Y   |     |
| 300              | A-2481       | PLUG, HUB  |          | 1   |     |     |
| EFF CODE         |              | INFORMATION  |          |     |     |     |

- ITEM NOT ILLUSTRATED

**HC-F4YR-1**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION  | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|--|----------|-----|-----|-----|
|                  |               | <b>HC-F4YR-1, continued</b>  |          |     |     |     |
| <b>10C-1</b>     |               | <b>PROPELLER PARTS, continued</b>  |          |     |     |     |
| 310              | C-3317-115-1  | O-RING, PLUG, HUB (ID)   |          | 1   | Y   |     |
| 330              | A-279         | LUBRICATION FITTING<br>REPLACED BY ITEMS 330A AND 331  |          | 8   | Y   |     |
| 330A             | A-279         | LUBRICATION FITTING<br>REPLACES ITEM 330 IN ENGINE-SIDE OF HUB<br>POST HC-SL-61-354  |          | 4   | Y   |     |
| 330B             | C-6349        | LUBRICATION FITTING, 45°<br>ALTERNATE FOR ITEM 330A, POST HC-SL-61-187   |          | 4   | Y   |     |
| 331              | 106545        | PLUG, LUBRICATION<br>REPLACES ITEM 330 IN CYLINDER-SIDE OF HUB<br>POST HC-SL-61-354  |          | 4   | Y   |     |
| -332             | B-6544        | CAP, LUBRICATION FITTING<br>USED WITH ITEMS 330, 330A AND 330B   |          | 4   | Y   |     |
|                  |               | <b>BLADE RETENTION PARTS</b><br>(REFER TO "BLADE RETENTION PARTS"<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>R-FLANGE MOUNTING PARTS</b><br>(REFER TO "MOUNTING FLANGE PARTS"<br>IN THIS CHAPTER FOR EXPLODED VIEW/PARTS LIST)   |          |     |     |     |
|                  |               | <b>BALANCE PARTS</b>   |          |     |     |     |
| -9000            | B-3840-( )    | SCREW  |          | AR  | Y   |     |
| -9020            | A-2424(A)-( ) | BALANCE WEIGHT   |          | AR  |     |     |
|                  |               | <b>SPINNER PARTS</b><br>APPLICATION SPECIFIC<br>REFER TO HARTZELL PROPELLER INC.<br>APPLICATION GUIDE MANUAL 159 (61-02-59) AND<br>THE APPLICABLE HARTZELL PROPELLER INC. SPINNER<br>MAINTENANCE MANUAL:<br>MANUAL 127 (61-16-27) - METAL SPINNER ASSEMBLIES<br>MANUAL 148 (61-16-48) - COMPOSITE SPINNER ASSEMBLIES |          |     |     |     |
| EFF CODE         |               | INFORMATION  |          |     |     |     |

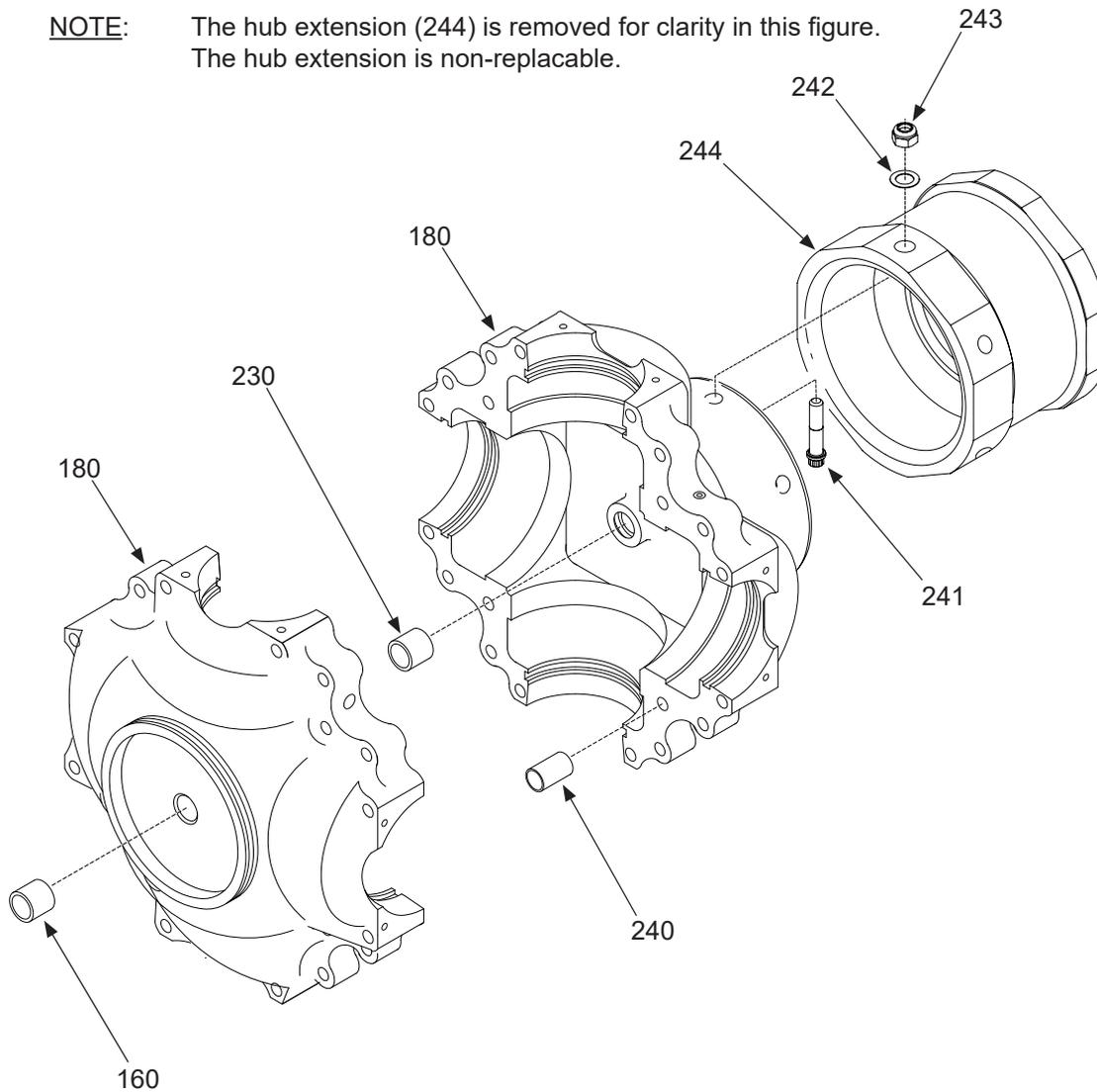
- ITEM NOT ILLUSTRATED

**HC-F4YR-1, continued**

(Blank Page)

## **4-Blade Propeller/Hub Unit Parts Lists - Appendix** Hub Unit Parts Lists

**NOTE:** The hub extension (244) is removed for clarity in this figure.  
The hub extension is non-replacable.



TPI-MB-0549

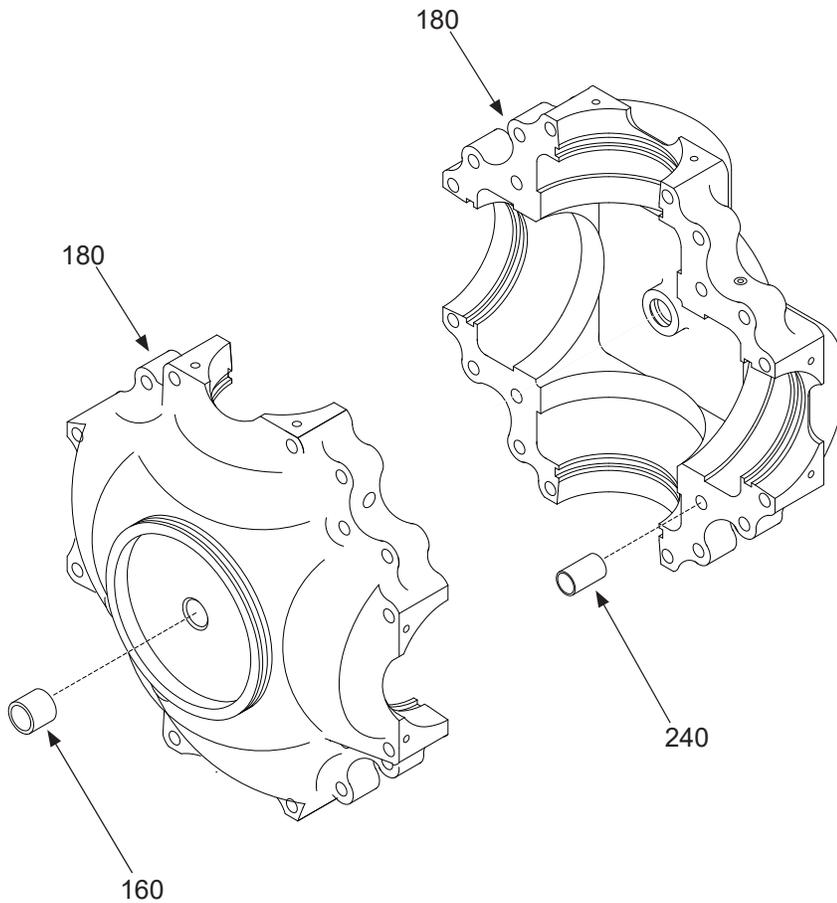
**4-Blade Hub Units: Configuration A**  
**Figure App-1**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION                        | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|------------------------------------|-------------|-----|-----|-----|
| <b>App-1</b>        |                |                                    |             |     |     |     |
|                     |                | <b>D-4502-1 HUB UNIT PARTS</b>     |             |     |     |     |
| 180                 | D-4502-1       | PCP: HUB UNIT, HC-F4YR-1           |             | 1   |     | PCP |
| 160                 | A-2245         | • HUB BUSHING, ROD (CYLINDER-SIDE) |             | 1   | Y   |     |
| 230                 | A-2245-1       | • HUB BUSHING, ROD (ENGINE-SIDE)   |             | 1   | Y   |     |
| 240                 | A-2249         | • HUB BUSHING, GUIDE               |             | 1   | Y   |     |
| 241                 | A-3229         | • BOLT, 3/8-24, 12-POINT           |             | 6   | Y   |     |
| 242                 | B-3834-0663    | • WASHER                           |             | 6   | Y   |     |
| 243                 | A-2043-1       | • NUT, 3/8-24, HEX, SELF-LOCKING   |             | 6   | Y   |     |
| 244                 | N/A            | • EXTENSION, HUB (NON-REPLACEABLE) |             | 1   |     |     |
| <hr/>               |                |                                    |             |     |     |     |
| EFF CODE            |                | INFORMATION                        |             |     |     |     |

- ITEM NOT ILLUSTRATED

**4-Blade Hub Unit Parts Lists: Configuration A**



TPHMB-0650

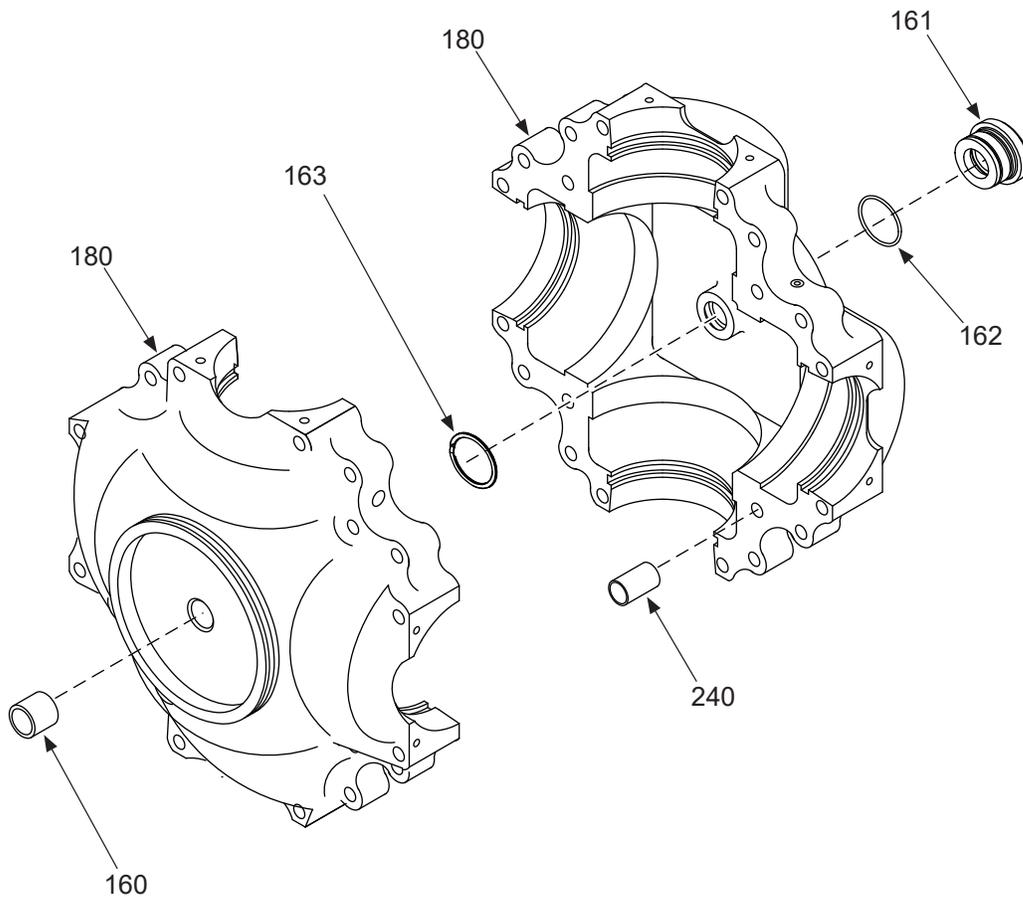
**4-Blade Hub Units: Configuration B**  
**Figure App-2**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER                       | PART<br>NUMBER | DESCRIPTION                        | EFF<br>CODE | UPA | O/H | PCP |
|---|----------------|------------------------------------|-------------|-----|-----|-----|
| <b>App-2</b>                              |                | <b>E-4501-5 HUB UNIT PARTS</b>     |             |     |     |     |
| 180                                       | E-4501-5       | PCP: HUB UNIT, HC-C4YF-1           |             | 1   |     | PCP |
| 160                                       | A-2245         | • HUB BUSHING, ROD (CYLINDER-SIDE) |             | 1   | Y   |     |
| 240                                       | A-2249         | • HUB BUSHING, GUIDE               |             | 1   | Y   |     |
| EFF CODE                      INFORMATION |                |                                    |             |     |     |     |

- ITEM NOT ILLUSTRATED

**4-Blade Hub Unit Parts Lists: Configuration B**



TP1MB-0551

**4-Blade Hub Units: Configuration C**  
**Figure App-3**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER | PART<br>NUMBER | DESCRIPTION                        | EFF<br>CODE | UPA | O/H | PCP |
|---------------------|----------------|------------------------------------|-------------|-----|-----|-----|
| <b>App-3</b>        |                |                                    |             |     |     |     |
| 180                 | E-4501-45      | PCP:HUB UNIT, HC-C4YF-1            |             | 1   |     | PCP |
| 160                 | A-2245         | • HUB BUSHING, ROD (CYLINDER-SIDE) |             | 1   | Y   |     |
| 161                 | 103434-3       | • HUB BUSHING, ROD (ENGINE-SIDE)   |             | 1   |     |     |
| 162                 | C-3317-025-1   | • O-RING (BUSHING OD)              |             | 1   | Y   |     |
| 163                 | A-6153-112     | • RING, RETAINING, EXTERNAL SPIRAL |             | 1   | Y   |     |
| 240                 | A-2249         | • HUB BUSHING, GUIDE               |             | 1   | Y   |     |
| <hr/>               |                |                                    |             |     |     |     |
| EFF CODE            |                | INFORMATION                        |             |     |     |     |

- ITEM NOT ILLUSTRATED

**4-Blade Hub Unit Parts Lists: Configuration C**

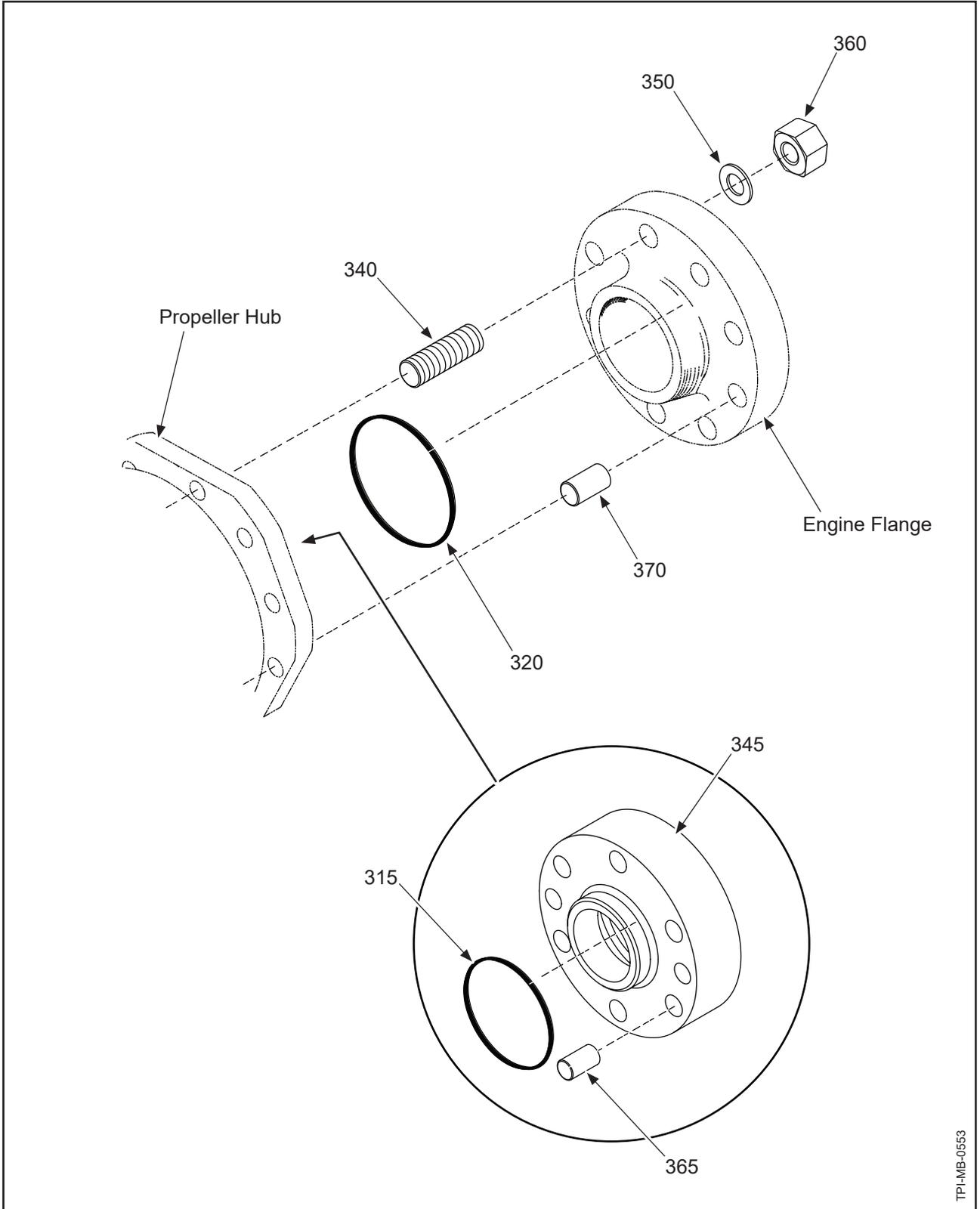
(Blank Page)

## EXPLODED VIEWS AND PARTS LISTS Mounting Flange Parts

### Flange Type

|                              |                    |        |
|------------------------------|--------------------|--------|
| F-flange Exploded View ..... | Figure 10D-1 ..... | 10D-3  |
| Parts List .....             |                    | 10D-4  |
| K-flange Exploded View ..... | Figure 10D-2 ..... | 10D-5  |
| Parts List .....             |                    | 10D-6  |
| L-flange Exploded View ..... | Figure 10D-3 ..... | 10D-7  |
| Parts List .....             |                    | 10D-8  |
| N-flange Exploded View ..... | Figure 10D-4 ..... | 10D-9  |
| Parts List .....             |                    | 10D-10 |
| R-flange Exploded View ..... | Figure 10D-5 ..... | 10D-11 |
| Parts List .....             |                    | 10D-12 |

(Blank Page)



TPI-MB-0553

F-flange Exploded View  
Figure 10D-1

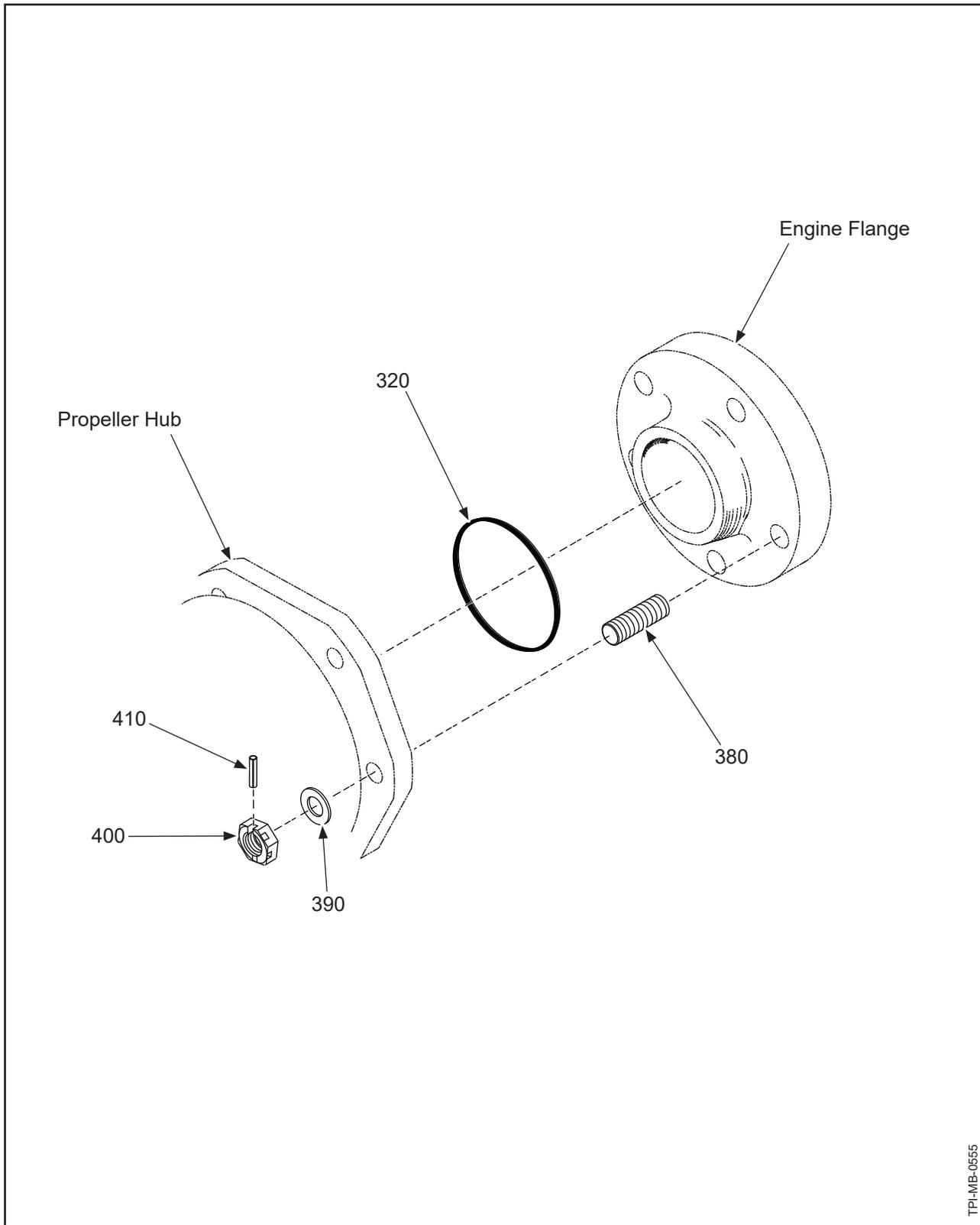
**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER | DESCRIPTION                    | EFF CODE | UPA | O/H | PCP |
|------------------|-------------|--------------------------------|----------|-----|-----|-----|
| <b>10D-1</b>     |             | <b>F-FLANGE MOUNTING PARTS</b> |          |     |     |     |
| 315              | C-3317-228  | O-RING (FLANGE)                | B        | 1   | Y   |     |
| 320              | C-3317-228  | O-RING (FLANGE)                |          | 1   | Y   |     |
| 340              |             | STUD, MOUNTING, 1/2-20         | A        | 6   | Y   |     |
| 345              | B-2984-4    | SPACER, "F" FLANGE             | B        | 1   |     |     |
| 350              | A-1381      | WASHER, 1/2" CRES              |          | 6   | Y   |     |
| 360              | A-2044      | NUT, 1/2-20, HEX, SELF-LOCKING |          | 6   | Y   |     |
| 365              | B-6138-8-9  | DOWEL PIN                      | B        | 2   | Y   |     |
| 370              | B-6138-8-9  | DOWEL PIN                      |          | 2   | Y   |     |

| EFF CODE | INFORMATION   |
|----------|---|
| A        | F-flange mounting studs are application specific. Refer to Hartzell Propeller Inc. Application Guide Manual 159 (61-02-59) for specific mounting stud part numbers. |
| B        | HC-C4YF-1E only   |

- ITEM NOT ILLUSTRATED

**F-flange Mounting Parts**



TPI-MB-0555

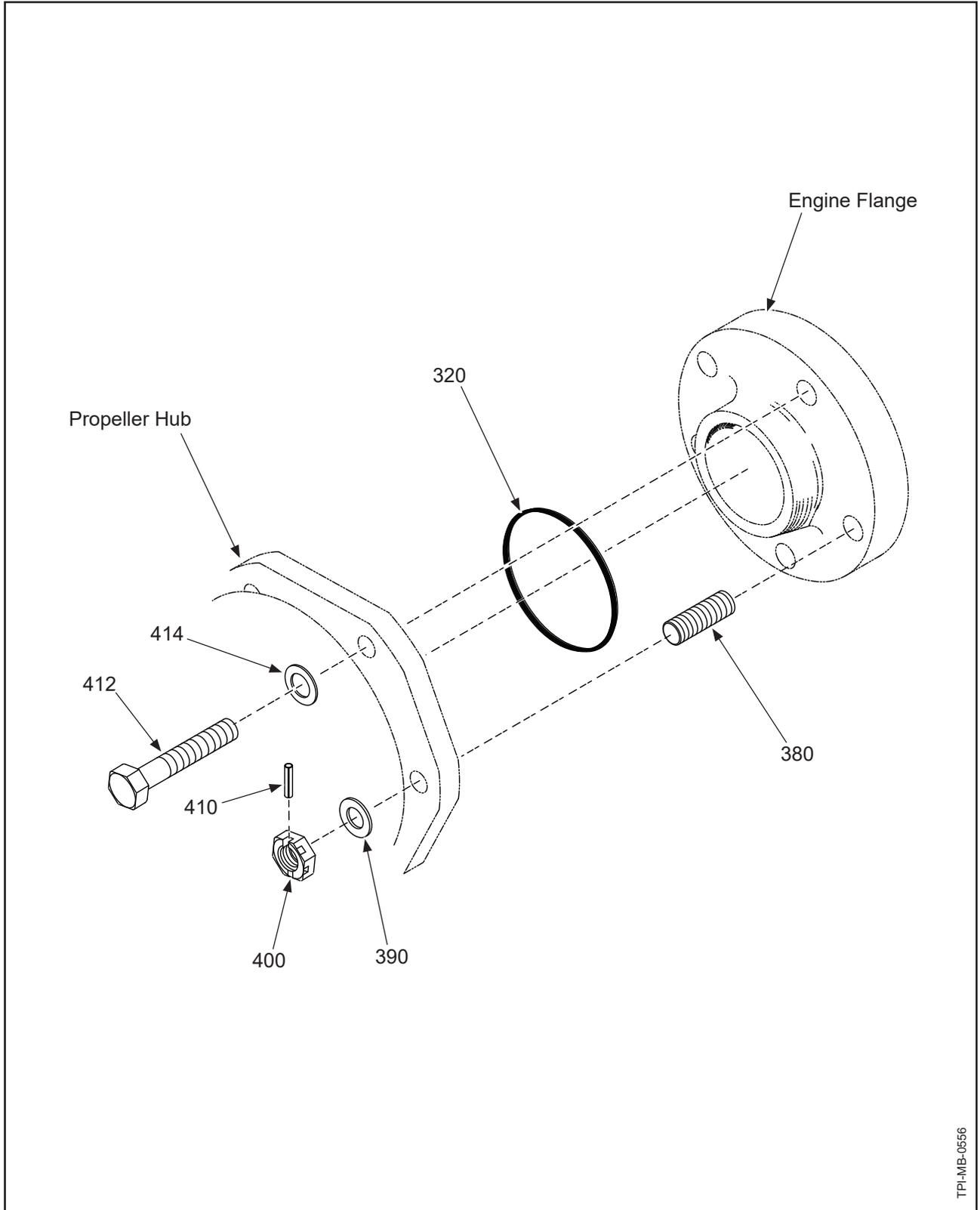
K-flange Exploded View  
Figure 10D-2

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER                       | PART<br>NUMBER | DESCRIPTION                    | EFF<br>CODE | UPA | O/H | PCP |
|---|----------------|--------------------------------|-------------|-----|-----|-----|
| <b>10D-2</b>                              |                | <b>K-FLANGE MOUNTING PARTS</b> |             |     |     |     |
| 320                                       | C-3317-228     | O-RING (FLANGE)                |             | 1   | Y   |     |
| 380                                       | A-2067         | STUD, MOUNTING, 1/2-20         |             | 6   | Y   |     |
| 390                                       | A-1381         | WASHER, 1/2" CRES              |             | 6   | Y   |     |
| 400                                       | A-2069         | NUT, MOUNTING, CASTELLATED     |             | 6   | Y   |     |
| 410                                       | B-3842-0750    | SPRING PIN, 3/32", CRES        |             | 6   | Y   |     |
| EFF CODE                      INFORMATION |                |                                |             |     |     |     |

- ITEM NOT ILLUSTRATED

**K-flange Mounting Parts**



TPI-MB-0556

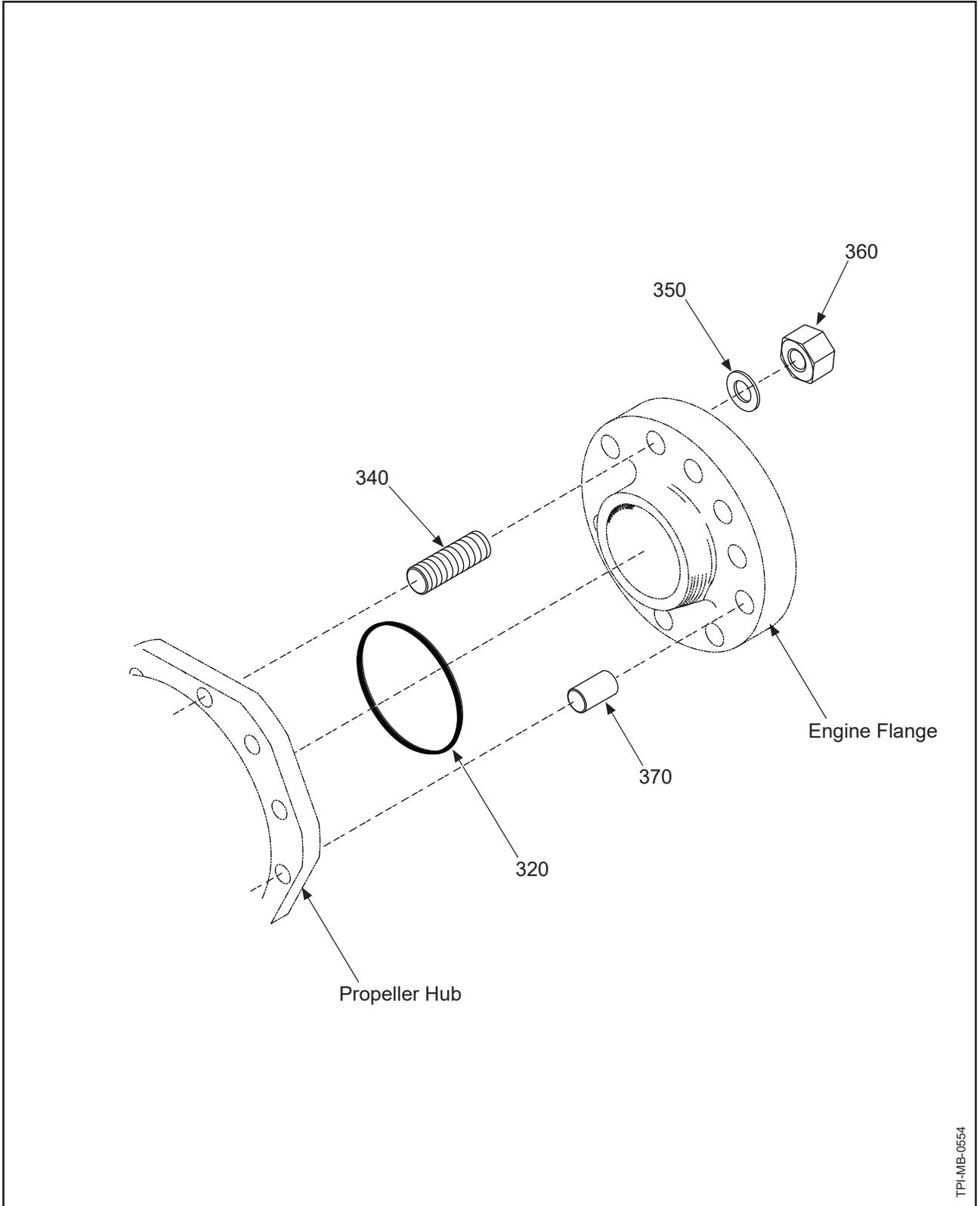
L-flange Exploded View  
Figure 10D-3

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER                       | PART<br>NUMBER | DESCRIPTION                          | EFF<br>CODE | UPA | O/H | PCP |
|---|----------------|--------------------------------------|-------------|-----|-----|-----|
| <b>10D-3</b>                              |                | <b>L-FLANGE MOUNTING PARTS</b>       |             |     |     |     |
| 320                                       | C-3317-228     | O-RING (FLANGE)                      |             | 1   | Y   |     |
| 380                                       | A-2247-1       | STUD, MOUNTING, 7/16-20, DRILLED     |             | 2   | Y   |     |
| 390                                       | A-2482         | WASHER, MOUNTING                     |             | 2   | Y   |     |
| 400                                       | A-2498         | NUT, 7/16-20, CASTELLATED            |             | 2   | Y   |     |
| 410                                       | B-3842-0625    | SPRING PIN, 3/32", CRES              |             | 2   | Y   |     |
| 412                                       | B-6489-25      | BOLT, 7/16-20, HEX HEAD              |             | 4   | Y   |     |
| 414                                       | B-6526-7       | WASHER, MOUNTING, DOUBLE COUNTERSUNK |             | 4   | Y   |     |
| EFF CODE                      INFORMATION |                |                                      |             |     |     |     |

- ITEM NOT ILLUSTRATED

**L-flange Mounting Parts**



TPI-MB-0554

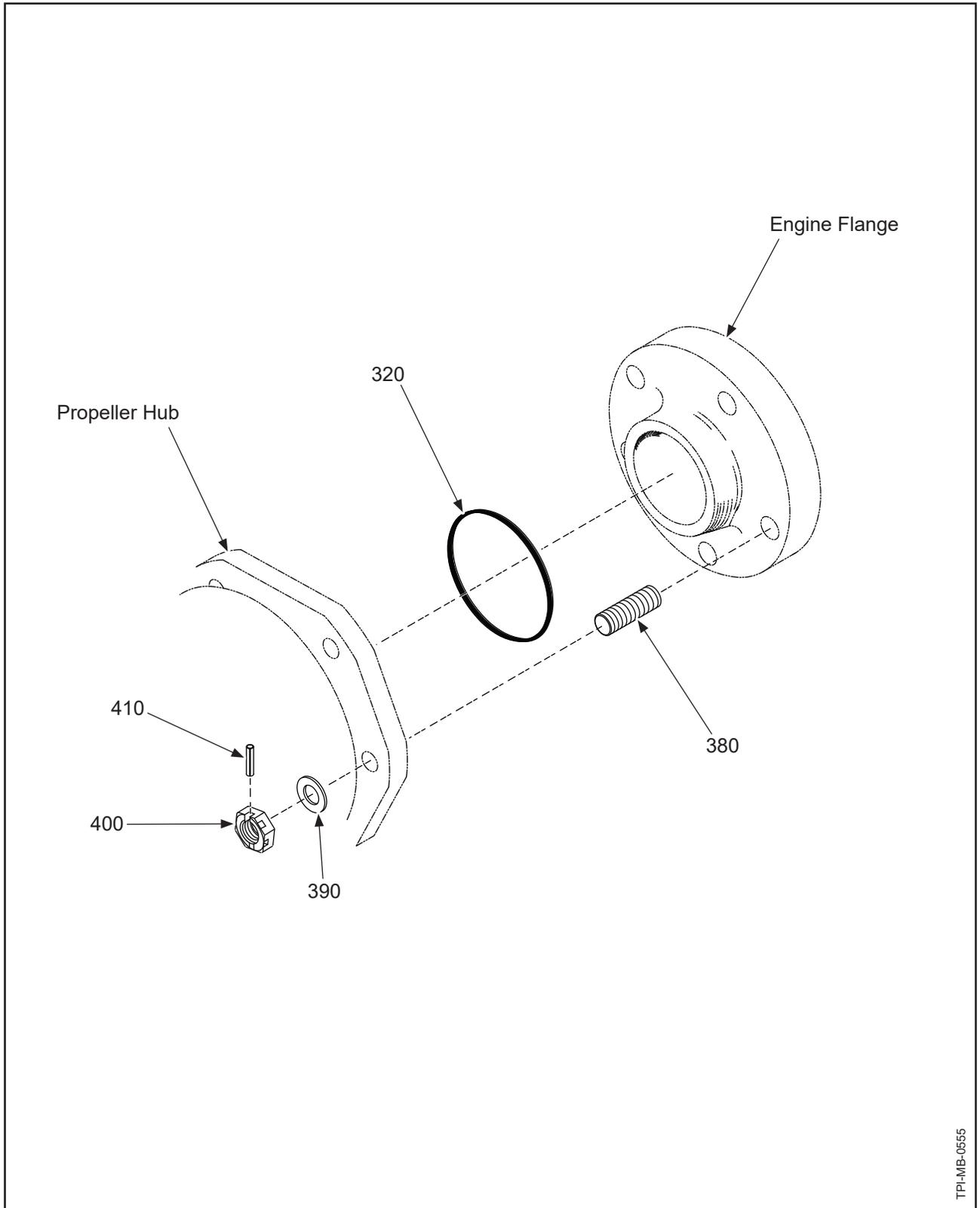
N-flange Exploded View  
Figure 10D-4

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER                       | PART<br>NUMBER | DESCRIPTION                     | EFF<br>CODE | UPA | O/H | PCP |
|---|----------------|---------------------------------|-------------|-----|-----|-----|
| <b>10D-4</b>                              |                | <b>N-FLANGE MOUNTING PARTS</b>  |             |     |     |     |
| 320                                       | C-3317-228     | O-RING (FLANGE)                 |             | 1   | Y   |     |
| 340                                       | A-3254         | STUD, MOUNTING, 9/16-18         |             | 8   | Y   |     |
| 350                                       | A-2048-2       | WASHER, MOUNTING, 9/16" CSK     |             | 8   | Y   |     |
| 360                                       | A-3257         | NUT, 9/16-18, HEX, SELF-LOCKING |             | 8   | Y   |     |
| 370                                       | B-6138-8-8     | DOWEL PIN                       |             | 2   | Y   |     |
| EFF CODE                      INFORMATION |                |                                 |             |     |     |     |

- ITEM NOT ILLUSTRATED

**N-flange Mounting Parts**



TPI-MB-0555

R-flange Exploded View  
Figure 10D-5

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM<br>NUMBER                       | PART<br>NUMBER | DESCRIPTION                    | EFF<br>CODE | UPA | O/H | PCP |
|---|----------------|--------------------------------|-------------|-----|-----|-----|
| <b>10D-5</b>                              |                | <b>R-FLANGE MOUNTING PARTS</b> |             |     |     |     |
| 320                                       | C-3317-228     | O-RING (FLANGE)                |             | 1   | Y   |     |
| 380                                       | A-2067         | STUD, MOUNTING, 1/2-20         |             | 6   | Y   |     |
| 390                                       | A-1381         | WASHER, 1/2" CRES              |             | 6   | Y   |     |
| 400                                       | A-2069         | NUT, MOUNTING, CASTELLATED     |             | 6   | Y   |     |
| 410                                       | B-3842-0750    | SPRING PIN, 3/32", CRES        |             | 6   | Y   |     |
| EFF CODE                      INFORMATION |                |                                |             |     |     |     |

- ITEM NOT ILLUSTRATED

**R-flange Mounting Parts**

**EXPLODED VIEWS AND PARTS LISTS**  
**Blade Retention Parts**

Description

Aluminum Blades w/Integral Pitch Change Knob:

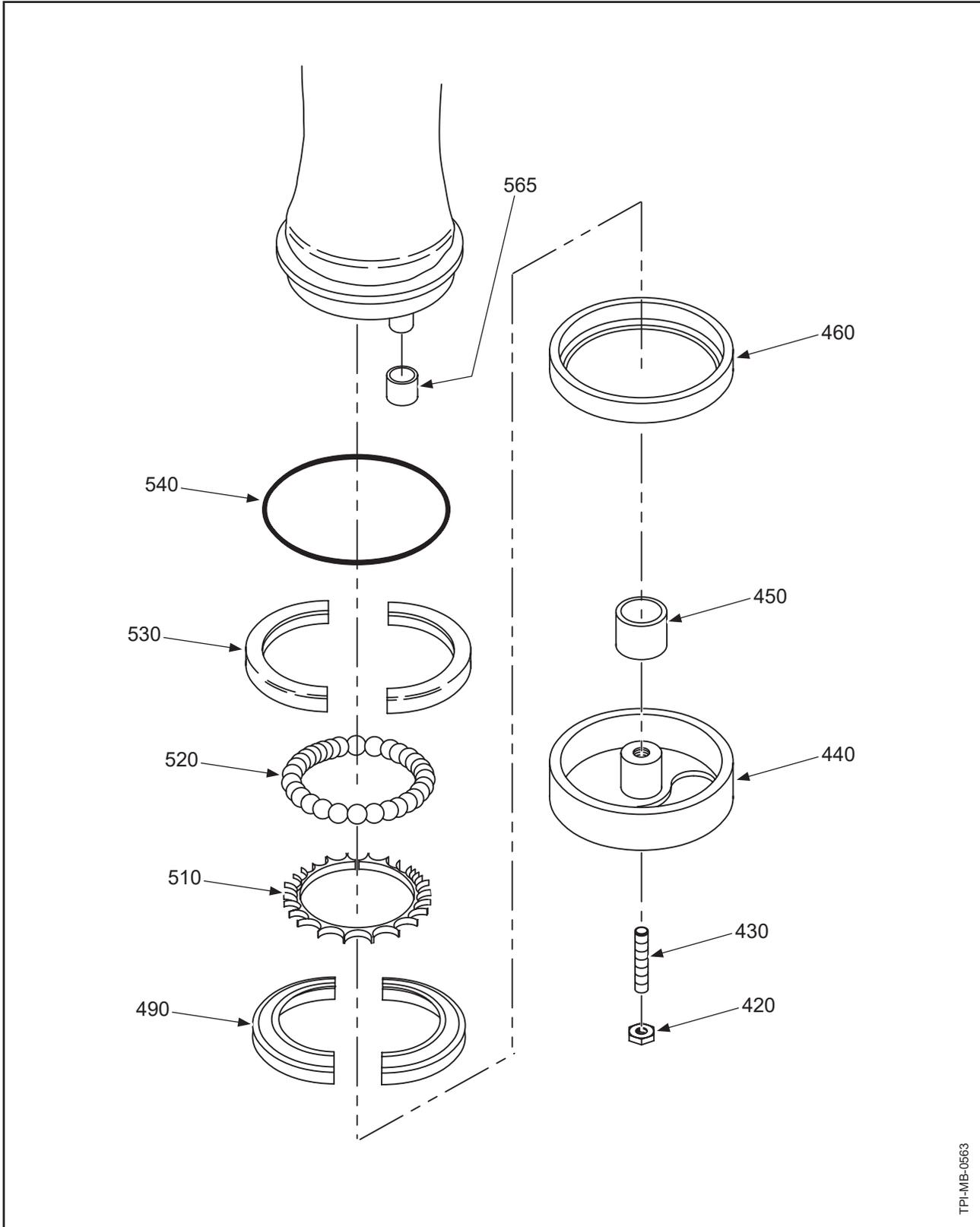
|                     |                    |       |
|---------------------|--------------------|-------|
| Exploded View ..... | Figure 10E-1 ..... | 10E-2 |
| Parts List .....    |                    | 10E-3 |

Composite Blades w/Integral Pitch Change Knob:

|   |                    |       |
|---|--------------------|-------|
| Exploded View .....   | Figure 10E-2 ..... | 10E-4 |
| Parts List: 2-blade Compact Models .....                    |                    | 10E-5 |
| Parts List: 3-blade Compact/Lightweight Compact Models..... |                    | 10E-6 |

Composite Blades w/Bolt-on Pitch Change Knob Bracket:

|                     |                    |       |
|---------------------|--------------------|-------|
| Exploded View ..... | Figure 10E-3 ..... | 10E-7 |
| Parts List .....    |                    | 10E-8 |



TPI-MB-0563

**Exploded View: Aluminum Blades w/Integral Pitch Change Knob**  
**Figure 10E-1**

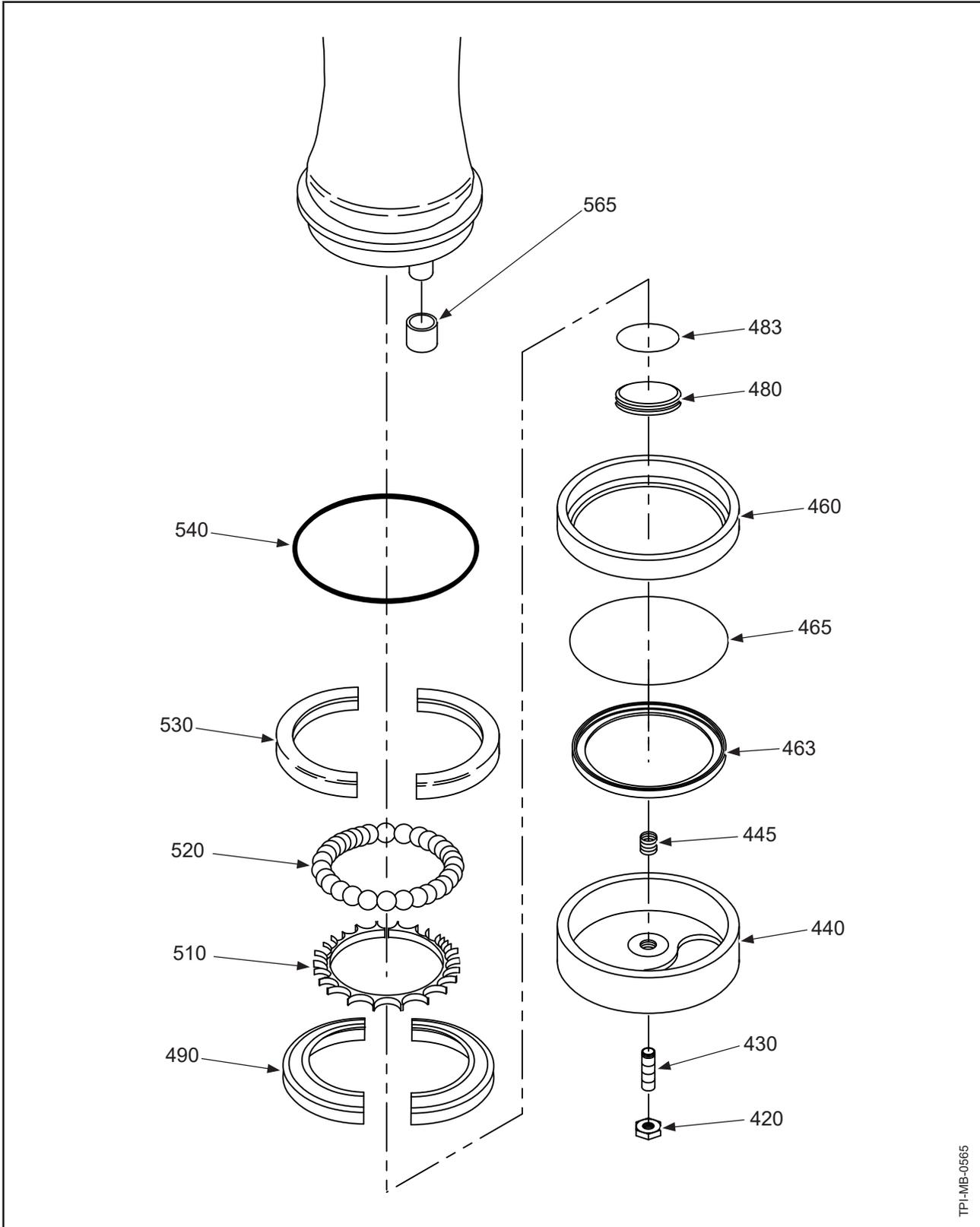
**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER          | DESCRIPTION   | EFF CODE | UPA      | O/H | PCP |
|------------------|----------------------|---|----------|----------|-----|-----|
| 10E-1            |                      | <b>BLADE RETENTION PARTS:<br/>ALUMINUM BLADES w/INTEGRAL PITCH CHANGE KNOB</b><br><b>All quantities (UPA) in this parts list are <u>per blade assembly</u>.</b> |          |          |     |     |
| 440              | B-2256               | PRELOAD PLATE ASSEMBLY, SUPERSEDES ITEM 445   |          | 1        |     |     |
| 420              | B-3368               | • NUT, 5/16-24, HEX, THIN   |          | 1        | Y   |     |
| 430              | A-3204               | • SCREW, SET, 5/16-24   |          | 1        | Y   |     |
| 445              | B-2222               | • PRELOAD PLATE, SUPERSEDED BY ITEM 440   |          | 1        |     |     |
| 450              | B-6677               | • BEARING, NEEDLE ROLLER<br>SUPERSEDED BY ITEM 450A   |          | 1        |     |     |
| 450A             | B-6679               | • RACE, INNER, BEARING<br>SUPERSEDES ITEM 450   |          | 1        |     |     |
| 460              | A-2204               | RING, RETAINING, BEARING  |          | 1        |     |     |
| 490              | A-2202-B             | RACE, BLADE-SIDE  |          | 1        |     |     |
| 510              | B-3211               | BALL SPACER   |          | 1        | Y   |     |
| 520              | B-6144<br>B-6144-650 | BALL BEARING, 1/2" DIA<br>BALL BEARING, 1/2" DIA (650 PIECE BOX)  |          | 25<br>RF | Y   |     |
| 530              | A-2202-A             | RACE, HUB-SIDE  |          | 1        |     |     |
| 540              | C-3317-339           | O-RING<br>REPLACED BY ITEM 540A   |          | 1        | Y   |     |
| 540A             | B-3883-4339          | QUAD-RING (BLADE SEAL)<br>REPLACES ITEM 540   |          | 1        | Y   |     |
| 540B             | C-3317-340-8         | O-RING<br>ALTERNATE FOR ITEM 540A, POST HC-SL-61-293  | E        | 1        | Y   |     |
| 565              | A-2413               | BUSHING, KNOB, PITCH CHANGE (WHITE)<br>(NON-SHOT PEENED, NON-"F" KNOB)  |          | 1        | Y   |     |
| 565A             | A-2413-2             | BUSHING, KNOB, PITCH CHANGE (WHITE)<br>(NON-SHOT PEENED "F" KNOB)   |          | 1        | Y   |     |
| 565B             | C-7645               | BUSHING, KNOB, PITCH CHANGE (WHITE)<br>(NON-SHOT PEENED "F" KNOB, OR SHOT PEENED "F" KNOB<br>AT MINIMUM DIAMETER)   |          | 1        | Y   |     |
| 565C             | C-7645-1             | BUSHING, KNOB, PITCH CHANGE (BLACK)<br>(SHOT PEENED "F" KNOB)   |          | 1        | Y   |     |

| EFF CODE | INFORMATION  |
|----------|--|
| E        | Requires 0.010 inch (0.25 mm) thick Teflon® tape to be installed on the blade in accordance with Hartzell Propeller Inc. Aluminum Blade Overhaul Manual 133C (61-13-33). |

- ITEM NOT ILLUSTRATED

**Parts List: Aluminum Blades w/Integral Pitch Change Knob**



**Exploded View: Composite Blades w/Integral Pitch Change Knob**  
**Figure 10E-2**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER            | PART NUMBER               | DESCRIPTION   | EFF CODE | UPA      | O/H | PCP |
|-----------------------------|---------------------------|---|----------|----------|-----|-----|
| 10E-2                       |                           | <b>BLADE RETENTION PARTS:</b><br><b>Composite Blades w/Integral Pitch Change Knob</b><br><b>(2-blade Compact Models)</b><br><br><b>All quantities (UPA) in this parts list are <u>per blade assembly</u>.</b> |          |          |     |     |
| 440                         | 101304-1                  | PRELOAD PLATE ASSEMBLY  |          | 1        |     |     |
| 420                         | B-3368                    | • NUT, 5/16-24, HEX, THIN   |          | 1        | Y   |     |
| 430                         | 101667( )                 | • SCREW, SET, 5/16-24   |          | 1        | Y   |     |
| 445                         | B-6986-314M               | • INSERT, THREAD, THIN WALL   |          | 1        |     |     |
| 460                         | 101512                    | RING, RETAINING, BEARING  |          | 1        |     |     |
| 463                         | 101437                    | SEAL, BLADE   |          | 1        |     |     |
| 465                         | C-3317-045                | O-RING (BLADE SEAL)   |          | 1        | Y   |     |
| 480                         | 101311                    | PLUG, BLADE<br>SUPERSEDED BY ITEM 480A  |          | 1        |     |     |
| 480A                        | 104737                    | PLUG, BLADE<br>SUPERSEDES ITEM 480, POST HC-SL-61-332   |          | 1        |     |     |
| 483                         | C-3317-028                | O-RING (BLADE PLUG)   |          | 1        | Y   |     |
| 490                         | C-792-B                   | RACE, BLADE SIDE  |          | 1        |     |     |
| 510                         | B-793                     | BALL SPACER   |          | 1        | Y   |     |
| 520                         | B-6144-1<br>B-6144-1-1500 | BALL, BEARING, 3/8 INCH DIAMETER<br>BALL, BEARING, 3/8 INCH DIAMETER (1500 PIECE BOX)   |          | 33<br>RF | Y   |     |
| 530                         | C-792-A                   | RACE, HUB SIDE  |          | 1        |     |     |
| 540                         | C-3317-340                | O-RING<br>SUPERSEDED BY ITEM 540A   |          | 1        | Y   |     |
| 540A                        | C-3317-340-8              | O-RING<br>SUPERSEDES ITEM 540, POST HC-SL-61-301  |          | 1        | Y   |     |
| 565                         | C-7645                    | BUSHING, KNOB, PITCH CHANGE (WHITE)<br>(NON-SHOT PEENED "F" KNOB, OR SHOT PEENED "F" KNOB<br>AT MINIMUM DIAMETER)   |          | 1        | Y   |     |
| <b>EFF CODE INFORMATION</b> |                           |   |          |          |     |     |

- ITEM NOT ILLUSTRATED

**Parts List: Composite Blades w/Integral Pitch Change Knob  
(2-blade Compact Models)**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

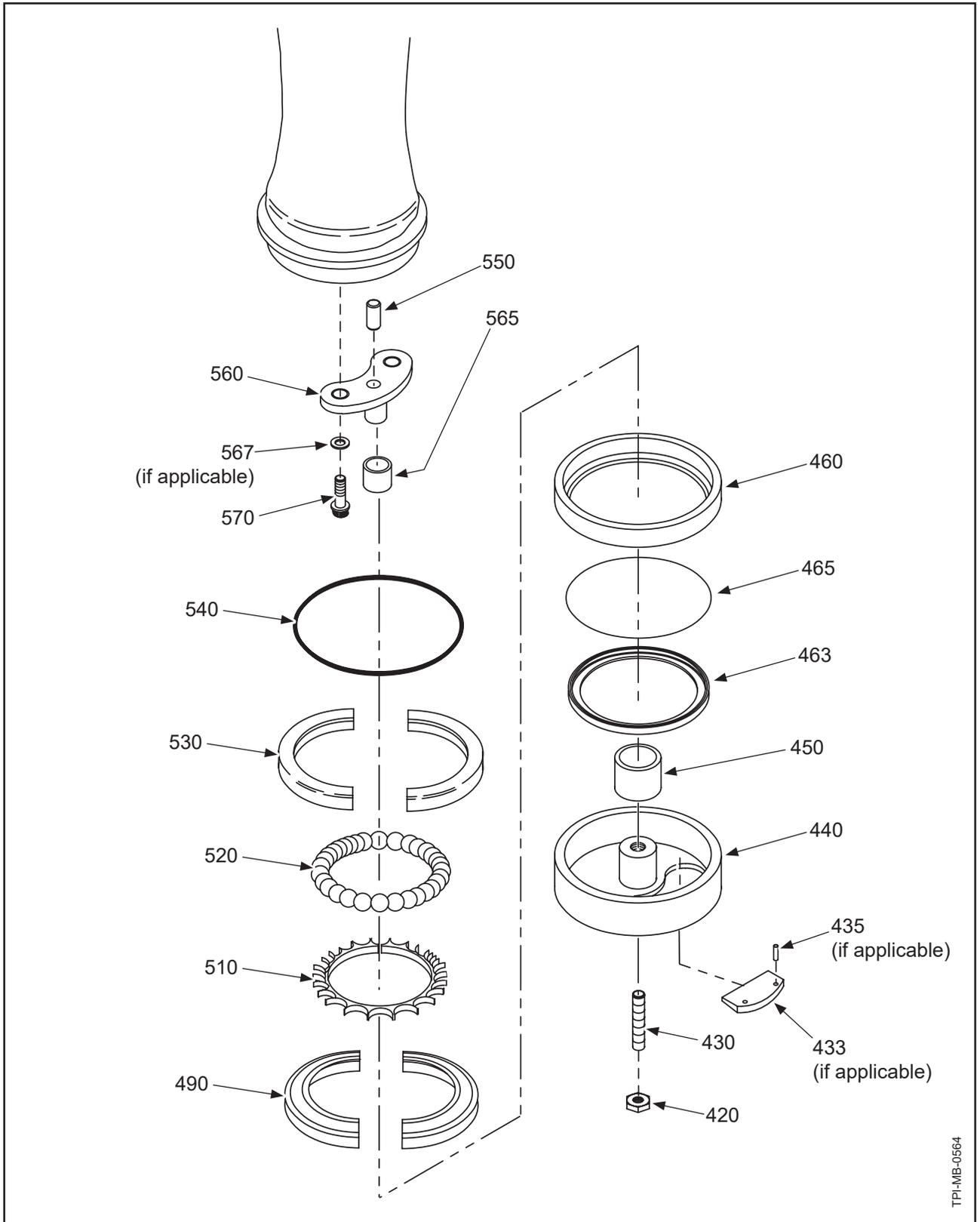
| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
| 10E-2            |               | <b>BLADE RETENTION PARTS:</b><br><b>Composite Blades w/Integral Pitch Change Knob</b><br><b>(3-blade Compact/Lightweight Compact Models)</b><br><br><b>All quantities (UPA) in this parts list are <u>per blade assembly</u>.</b> |          |     |     |     |
| 440              | 101304        | PRELOAD PLATE ASSEMBLY  | A        | 1   |     |     |
|                  | 102610        | PRELOAD PLATE ASSEMBLY  | B        | 1   |     |     |
| 420              | B-3368        | • NUT, 5/16-24, HEX, THIN   |          | 1   | Y   |     |
| 430              | 101307        | • SCREW, SET, 5/16-24   |          | 1   | Y   |     |
| 445              | B-6986-314M   | • INSERT, THREAD, THIN WALL   |          | 1   |     |     |
| 460              | 101512        | RING, RETAINING, BEARING  |          | 1   |     |     |
| 463              | 101437        | SEAL, BLADE   |          | 1   |     |     |
| 465              | C-3317-045    | O-RING (BLADE SEAL)   |          | 1   | Y   |     |
| 480              | 101311        | PLUG, BLADE, SUPERSEDED BY ITEM 480A  |          | 1   |     |     |
| 480A             | 104737        | PLUG, BLADE, SUPERSEDES ITEM 480<br>POST HC-SL-61-332   |          | 1   |     |     |
| 483              | C-3317-028    | O-RING (BLADE PLUG)   |          | 1   | Y   |     |
| 490              | C-792-B       | RACE, BLADE SIDE  |          | 1   |     |     |
| 510              | B-793         | BALL SPACER   |          | 1   | Y   |     |
| 520              | B-6144-1      | BALL, BEARING, 3/8 INCH DIAMETER  |          | 33  | Y   |     |
|                  | B-6144-1-1500 | BALL, BEARING, 3/8 INCH DIAMETER (1500 PIECE BOX)   |          | RF  |     |     |
| 530              | C-792-A       | RACE, HUB SIDE  |          | 1   |     |     |
| 540              | C-3317-340    | O-RING<br>SUPERSEDED BY ITEM 540A   |          | 1   | Y   |     |
| 540A             | C-3317-340-8  | O-RING<br>SUPERSEDES ITEM 540, POST-HC-SL-61-301  |          | 1   | Y   |     |
| 565              | C-7645        | BUSHING, KNOB, PITCH CHANGE (WHITE)<br>(NON-SHOT PEENED "F" KNOB, OR SHOT PEENED "F" KNOB<br>AT MINIMUM DIAMETER)   |          | 1   | Y   |     |

EFF CODE                      INFORMATION

- A                      3-blade Compact models: ( )HC-( )3Y( )-(1,4)( )  
 B                      3-blade Lightweight Compact models: ( )HC-( )3Y1( )-1( )

- ITEM NOT ILLUSTRATED

**Parts List: Composite Blades w/Integral Pitch Change Knob  
(3-blade Compact/Lightweight Compact Models)**



TPI-MB-0564

**Exploded View: Composite Blades w/Bolt-on Pitch Change Knob Bracket**  
**Figure 10E-3**

**HARTZELL PROPELLER OVERHAUL MANUAL  
113B**

| FIG./ITEM NUMBER | PART NUMBER   | DESCRIPTION   | EFF CODE | UPA | O/H | PCP |
|------------------|---------------|---|----------|-----|-----|-----|
| 10E-3            |               | <b>BLADE RETENTION PARTS:</b><br><b>Composite Blades w/Bolt-on Pitch Change Knob Bracket</b><br><b>All quantities (UPA) in this parts list are <u>per blade assembly</u>.</b> |          |     |     |     |
| 440              | C-7242        | PRELOAD PLATE ASSEMBLY, SUPERSEDES ITEM 445   | A, C     | 1   |     |     |
|                  | B-6437        | PRELOAD PLATE ASSEMBLY  | B        | 1   |     |     |
| 420              | B-3368        | • NUT, 5/16-24, HEX, THIN   |          | 1   | Y   |     |
| 430              | A-3204-1      | • SCREW, SET, 5/16-24   |          | 1   | Y   |     |
| 433              | B-6436        | • ANTI-ROTATION PLATE   | B        | 1   |     |     |
| 435              | B-3842-0375   | • SPRING PIN  | B        | 2   | Y   |     |
| -445             | C-1924        | • PRELOAD PLATE, SUPERSEDED BY ITEM 440   | A, C     | 1   |     |     |
| 450              | A-1272        | • RACE, INNER BEARING   |          | 1   |     |     |
| 460              | B-1041        | RING, RETAINING, BEARING, SUPERSEDED BY ITEM 460A   |          | 1   |     |     |
| 460A             | B-7071        | RING, RETAINING, BEARING, SUPERSEDES ITEM 460   |          | 1   |     |     |
| 463              | B-7726        | BLADE SEAL (OPTIONAL - USED WITH ITEM 460A ONLY)  |          | 1   |     |     |
| 465              | C-3317-045    | O-RING (OPTIONAL - USED WITH ITEM 460A ONLY)  |          | 1   | Y   |     |
| 490              | C-792-B       | RACE, BLADE-SIDE  | A, B     | 1   |     |     |
|                  | D-7745-B      | RACE, BLADE SIDE  | C        | 1   |     |     |
| 510              | B-793         | BALL SPACER   |          | 1   | Y   |     |
| 520              | B-6144-1      | BALL BEARING, 3/8" DIA  |          | 25  | Y   |     |
|                  | B-6144-1-1500 | BALL BEARING, 3/8" DIA (1500 PIECE BOX)   |          | RF  |     |     |
| 530              | C-792-A       | RACE, HUB-SIDE  | A, B     | 1   |     |     |
|                  | D-7745-A      | RACE, BLADE SIDE  | C        | 1   |     |     |
| 540              | C-3317-340    | O-RING, SUPERSEDED BY ITEM 540A   |          | 1   | Y   |     |
| 540A             | C-3317-340-8  | O-RING, SUPERSEDES ITEM 540, POST-HC-SL-61-301  |          | 1   | Y   |     |
| -545             | B-6569-()     | PITCH CHANGE KNOB ASSEMBLY  |          | 1   |     |     |
| 550              | B-6138-5-5    | • PIN, DOWEL  |          | 1   |     |     |
| 560              | C-1862-()     | • BRACKET, PITCH CHANGE KNOB  |          | 1   |     |     |
| 565              | A-2413-2      | • BUSHING, KNOB, PITCH CHANGE<br>(NON-SHOT PEENED "F" KNOB)<br>SUPERSEDED BY ITEM 565A  |          | 1   | Y   |     |
| 565A             | C-7645        | BUSHING, KNOB, PITCH CHANGE (WHITE)<br>(NON-SHOT PEENED "F" KNOB, OR SHOT PEENED "F" KNOB<br>AT MINIMUM DIAMETER)<br>SUPERSEDES ITEM 565, POST HC-SL-61-226                   |          | 1   | Y   |     |
| 567              | B-3834-0532   | WASHER  | B        | 2   | Y   |     |
| 570              | B-3830        | BOLT, TWELVE POINT  | A        | 2   | Y   |     |
|                  | B-3385-5H     | BOLT, 5/16-24, HEX HEAD   | B        | 2   | Y   |     |

EFF CODE INFORMATION

- A 3-blade Compact models
- B 2-blade Compact models: HC-C2YR-4(E,G)(P) only
- C 3-blade Compact models: HC-E3YR-1C and HC-I3YR-1C only

- ITEM NOT ILLUSTRATED

**Parts List: Composite Blades w/Bolt-on Pitch Change Knob Bracket**