

HARTZELL PROPELLER INC.
SERVICE BULLETIN
TRANSMITTAL SHEET
HC-SB-61-377
Propeller - Blade Seal Replacement

January 08, 2019

This page transmits a revision to Service Bulletin HC-SB-61-377.

- Original Issue, dated Jun 01/18
- Revision 1, dated Jan 08/19

Propeller assemblies that have previously complied with the terminating action in a prior revision of this Service Bulletin are not affected.

Changes are shown by a change bar in the left margin of the revised pages.

Revision 1 is issued to change the following in the Service Bulletin:

- Revised the minimum Height "A" dimension in the section, "106136 Pitch Change Block Button Modification"

This Service Bulletin is reissued in its entirety.

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1. Planning Information

A. Effectivity

- (1) Hartzell Propeller Inc. aluminum hub Raptor-series reciprocating propellers 3C1-() ()/76C03() are affected by this Service Bulletin.

WARNING: DO NOT USE OBSOLETE OR OUTDATED INFORMATION. PERFORM ALL INSPECTIONS OR WORK IN ACCORDANCE WITH THE MOST RECENT REVISION OF THIS SERVICE BULLETIN. INFORMATION CONTAINED IN THIS SERVICE BULLETIN MAY BE SIGNIFICANTLY CHANGED FROM EARLIER REVISIONS. FAILURE TO COMPLY WITH THIS SERVICE BULLETIN OR THE USE OF OBSOLETE INFORMATION MAY CREATE AN UNSAFE CONDITION THAT MAY RESULT IN DEATH, SERIOUS BODILY INJURY, AND/OR SUBSTANTIAL PROPERTY DAMAGE. REFER TO THE SERVICE BULLETIN INDEX FOR THE MOST RECENT REVISION LEVEL OF THIS SERVICE BULLETIN.

B. Concurrent Requirements

- (1) Additional service documents may apply to the components/propellers affected by this Service Bulletin. Compliance with additional service documents may be necessary in conjunction with the completion of the Accomplishment Instructions in this Service Bulletin. Refer to the Hartzell Propeller Inc. website at www.hartzellprop.com for a cross-reference of service documents.

C. Reason

- (1) Hartzell Propeller Inc. is introducing the new 107223 blade seal and a redesigned 106117 (Rev. C) blade seal to replace the 106117 (Rev. B and before) blade seal for the affected propellers.
- (a) The 107223 blade seal and the 106117 (Rev. C) blade seal are manufactured with a wider O-ring groove on the ID to reduce friction in the propeller at shutdown.
- 1 The width of the O-ring groove on the ID of the 107223 and 106117 (Rev. C) blade seals is 0.160 ±0.005 inch (4.06 ±0.12 mm).
 - 2 The width of the O-ring groove on the ID of the 106117 (Rev. B and before) blade seal is 0.135 ±0.005 inch (3.42 ±0.12 mm).

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- (2) Hartzell Propeller Inc. is introducing a redesigned 106136 pitch change block button that is thinner than the previous design. The thinner pitch change block button can improve the response rate of the propeller when going from high pitch to low pitch.
 - (a) The height "A" of the redesigned 106136 pitch change block button is 0.115 ±0.005 inch (2.92 ±0.12 mm). Refer to Figure 2.

D. Description

- (1) This Service Bulletin provides Instructions for Continued Airworthiness (ICA).
- (2) This Service Bulletin provides instructions for replacing all of the 106117 (Rev. B and before) blade seals on the affected propeller with 107223 or 106117 (Rev. C) blade seals.
 - (a) Hartzell Propeller Inc. will send the 107223 or 106117 (Rev. C) blade seals free of charge when blade seal replacement is performed in accordance with this Service Bulletin.
 - 1 Refer to the Appendix section of this Service Bulletin for details of the Warranty Program.
- (3) This Service Bulletin provides inspection criteria for the 107223 and 106117 (Rev. C) blade seals.
- (4) Affected propellers manufactured by Hartzell Propeller Inc. after the release of this Service Bulletin will use 107223 or 106117 (Rev. C) blade seals.
 - (a) Hartzell Propeller Inc. will replace orders for the 106117 blade seal with the 107223 blade seal.
- (5) This Service Bulletin provides instructions to modify the 106136 pitch change block buttons to improve the response rate of the propeller when going from high pitch to low pitch.

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E. Compliance

- (1) At next propeller overhaul or at the operator's convenience, whichever occurs first, replace all of the 106117 (Rev. B and before) blade seals on the affected propeller with 107223 or 106117 (Rev. C) blade seals in accordance with the Accomplishment Instructions section of this Service Bulletin.

NOTE: Overhaul intervals are specified in Hartzell Propeller Inc. Service Letter HC-SL-61-61Y.

- (2) Terminating Action

- (a) Replacement of all 106117 (Rev. B and before) blade seals on the affected propeller with 107223 or 106117 (Rev. C) blade seals is terminating action for this Service Bulletin.

F. Approval

- (1) FAA acceptance has been obtained on technical data in this publication that affects type design.

G. Manpower

- (1) No additional man-hours required when performed at overhaul.

H. Weight and Balance

- (1) Not changed

I. Electrical Load Data

- (1) Not changed

CAUTION: DO NOT USE OBSOLETE OR OUTDATED INFORMATION. PERFORM ALL INSPECTIONS OR WORK IN ACCORDANCE WITH THE MOST RECENT REVISION OF A DOCUMENT.

J. References

- (1) Hartzell Propeller Inc. Three-Blade Raptor Series Reciprocating Propeller Overhaul Manual 490 (61-10-90)

K. Other Publications Affected

- (1) Hartzell Propeller Inc. Three-Blade Raptor Series Reciprocating Propeller Overhaul Manual 490 (61-10-90)

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2. Material Information

A. Components Provided by Hartzell Propeller Inc.

<u>Part Number</u>	<u>Description</u>	<u>Qty</u>
107223 - or - 106117 (Rev. C)	Blade Seal	3

B. Consumables

<u>CM Number</u>	<u>Description</u>
CM47	Abrasive Pad

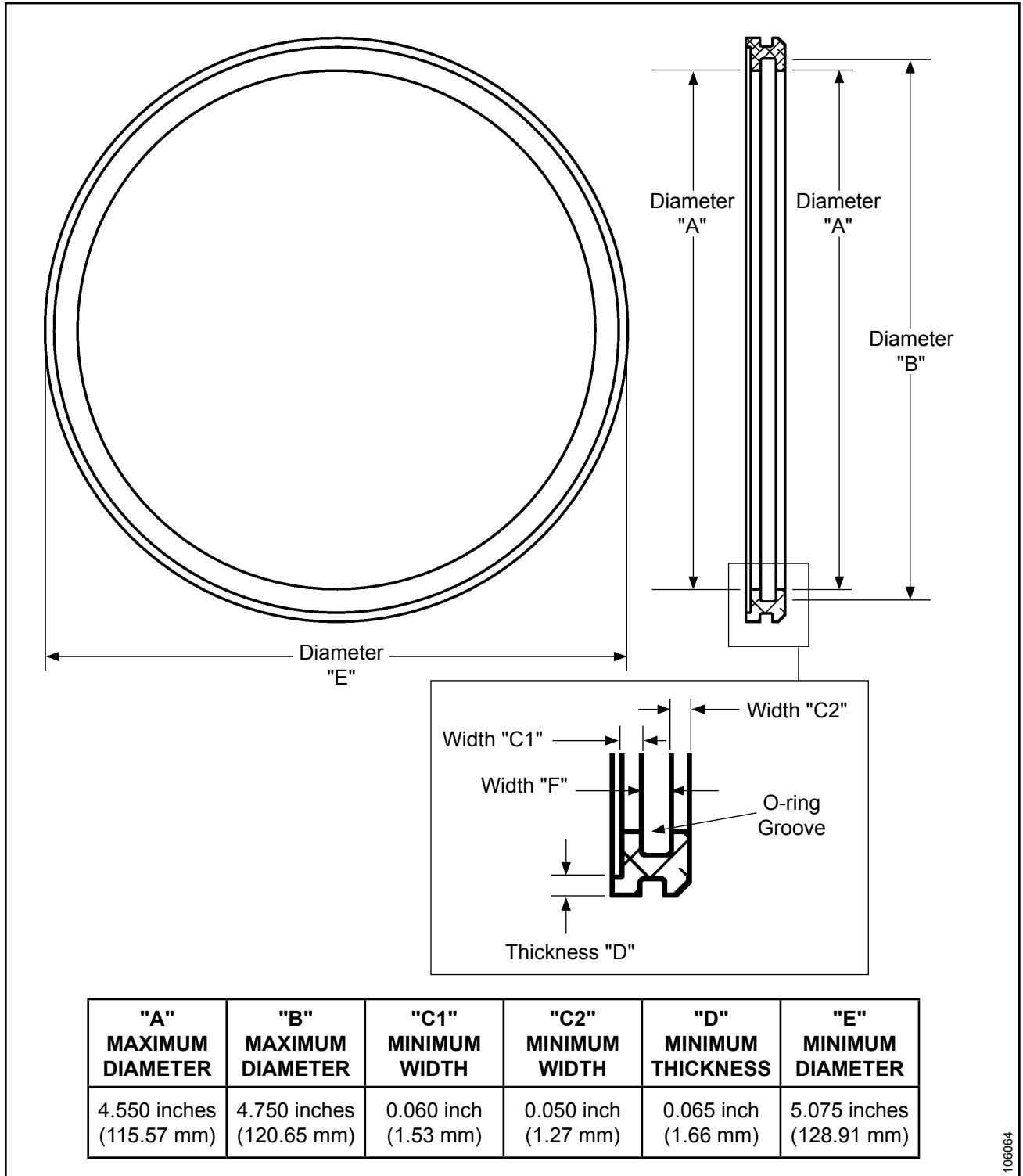
NOTE: All CM numbers in this Service Bulletin refer to the Consumable Materials chapter of Hartzell Standard Practices Manual 202A (61-01-02).

3. Accomplishment Instructions

A. Blade Seal Replacement

- (1) Remove the 106117 (Rev. B and before) blade seals in accordance with the Disassembly chapter in the applicable Hartzell Propeller Inc. overhaul manual.
- (2) Install new or serviceable 107223 or 106117 (Rev. C) blade seals in accordance with the instructions for installing the 106117 blade seal in the Assembly chapter of the applicable Hartzell Propeller Inc. overhaul manual.
 - (a) Make an entry in the propeller logbook indicating that 107223 or 106117 (Rev. C) blade seals were installed as terminating action for this Service Bulletin.

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Blade Seal Inspection
Figure 1

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B. Blade Seal Inspection Criteria

- (1) Inspect 107223 and 106117 (Rev. C) blade seals in accordance with Table 1 in this Service Bulletin.

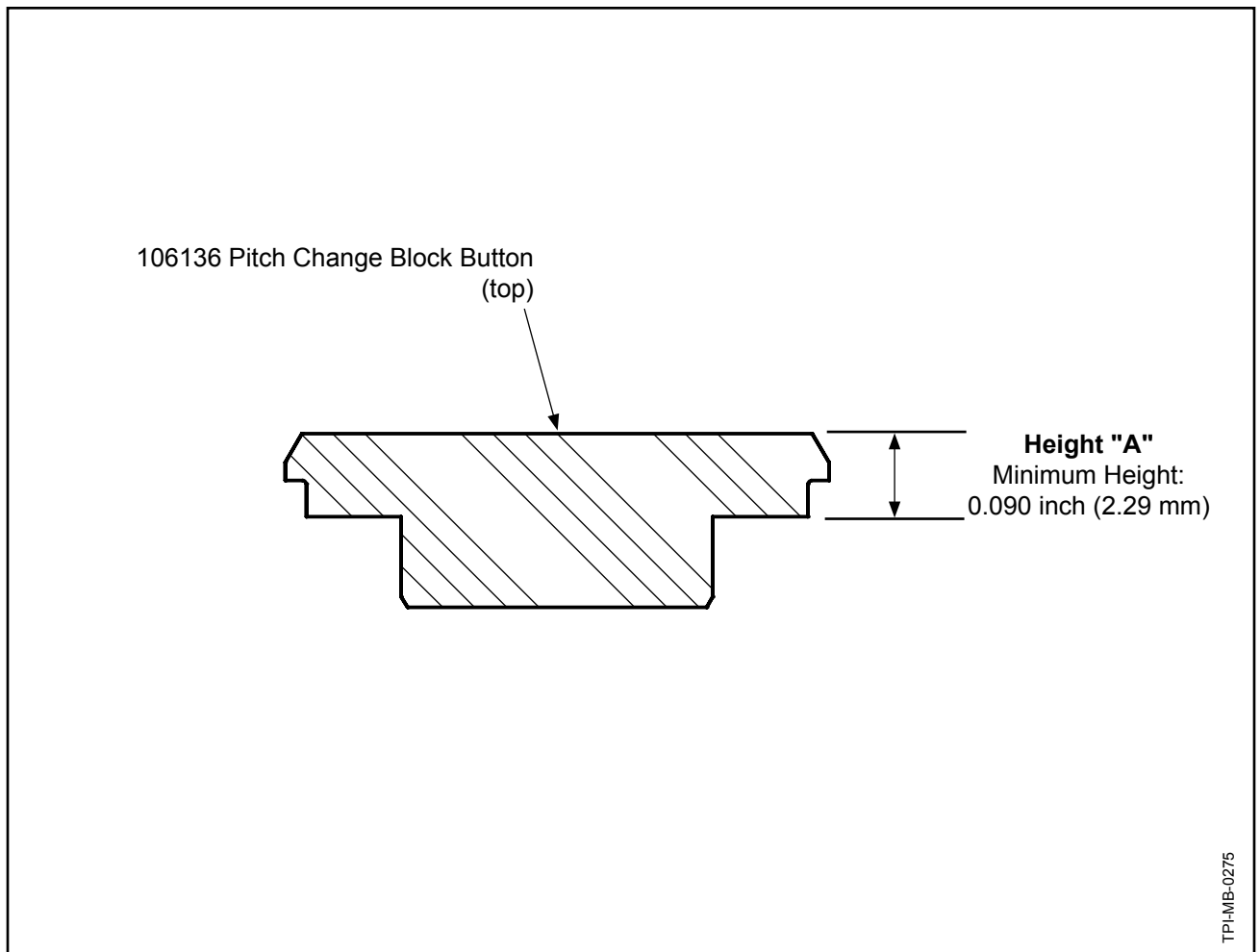
Inspect	Serviceable Limits	Corrective Action
<u>BLADE SEAL</u>		
Refer to Figure 1		
(1) Visually examine the blade seal for corrosion, pitting, wear, or damage.	Corrosion is not permitted. If there is corrosion, remove it in accordance with the corrective action repair limits. If there is pitting, wear, or damage, measure the depth. The maximum permitted depth of pitting, wear, or damage is 0.007 inch (0.17 mm).	Using an abrasive pad CM47 or equivalent, polish to remove corrosion, pitting, wear, or damage to a maximum depth of 0.010 inch (0.25 mm). If the depth of corrosion, pitting, wear, damage, or repair is greater than the permitted corrective action limits, replace the blade seal.
(2) Measure the O-ring groove width "F".	The maximum permitted width of O-ring groove "F" is 0.175 inch (4.44 mm).	If the O-ring groove width "F" is greater than the permitted serviceable limits, replace the blade seal.
(3) Measure the O-ring groove width "F" for uniform width variation.	The maximum permitted width variation of O-ring groove "F" is 0.015 inch (0.38 mm).	If the width variation of O-ring groove "F" is greater than the permitted serviceable limits, replace the blade seal.
(4) Measure the pre-load plate seal housing features "A", "B", "C1", "C2", "D", and "E".	The permitted limits are given in the table in Figure 1.	If any measurement is not within the permitted serviceable limits, replace the blade seal.

**Blade Seal Inspection Criteria
Table 1**

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C. 106136 Pitch Change Block Button Modification

- (1) To improve the response rate of the propeller when going from high pitch to low pitch, modify the 106136 pitch change block buttons in accordance with the following steps.
 - (a) Using an abrasive pad CM47, sandpaper, or equivalent, polish the top surface of the 106136 pitch change block button to reduce the height "A" of the button. Refer to Figure 2.
 - 1 The minimum permitted height "A" of the 106136 pitch change block button is 0.090 inch (2.29 mm).



106136 Pitch Change Block Button Modification
Figure 2

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D. Recommended Service Facilities

- (1) Hartzell Propeller Inc. has a worldwide network of Recommended Service Facilities for overhaul and repair of our products.
- (2) Each service facility must meet standard FAA requirements and additional Hartzell Propeller requirements before being recommended by Hartzell Propeller Inc. Each service facility is audited by Hartzell Propeller Inc. to verify the continuation of the standards.
- (3) Hartzell Propeller Inc. recommends that you use one of these service facilities when having your propeller overhauled or repaired.
- (4) For a current list of Hartzell Propeller Inc. Recommended Service Facilities, contact Hartzell Propeller Inc. Product Support or refer to the Hartzell Propeller Inc. website at www.hartzellprop.com.

E. Contact Information

Hartzell Propeller Inc.
Attn.: Hartzell Propeller Inc. Product Support
One Propeller Place
Piqua, Ohio 45356-2634 USA
Phone: (001) 937.778.4379
Fax: (001) 937.778.4215
E-mail: techsupport@hartzellprop.com

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1. Eligibility

A. Hartzell Propeller Inc. aluminum hub Raptor-series reciprocating propellers 3C1-() () /76C03() are eligible for this warranty program.

2. Recommended Service Facilities

- A. Hartzell Propeller Inc. has a worldwide network of Recommended Service Facilities for overhaul and repair of our products.
- B. Each service facility must meet standard FAA requirements and additional Hartzell Propeller Inc. requirements before being recommended by Hartzell Propeller Inc. Each service facility is audited by Hartzell Propeller Inc. to verify the continuation of the standards.
- C. Hartzell Propeller Inc. recommends that you use one of these service facilities when having your propeller overhauled or repaired.
- D. For a current list of Recommended Service Facilities, refer to the Hartzell Propeller Inc. website at www.hartzellprop.com, or contact Hartzell Propeller Inc. Product Support Department.

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3. Warranty Program

A. Blade Seal Replacement (Terminating Action)

(1) Parts

- (a) Hartzell Propeller Inc. will provide all of the parts listed in the Material Information section of this Service Bulletin free of charge for each affected propeller.
- (b) Complete and sign the Parts Order/Compliance Form in this Service Bulletin Appendix and send it to Hartzell Propeller Inc. for processing.

(2) Labor

- (a) No additional man-hours are required when performed at overhaul.

B. Contact Information

- (1) Fax, E-mail, or mail the Factory Repair Authorization Form to:

Hartzell Propeller Inc.
Attn: Service Bulletin 356 Coordinator
One Propeller Place
Piqua, OH 45356 USA
Phone: 937.778.4379
Fax: 937.778.4215 (Intl. 001.937.778.4215)
E-mail: techsupport@hartzellprop.com

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Parts Order/Compliance Form

Warranty Claim Number:		
Propeller/Aircraft Information:		
Propeller Model:	Propeller S/N:	
Aircraft Model:	TSN (Time Since New):	
Aircraft Registration #:		
Owner Information:		
Name:		
City:	State:	
Zip/Postal Code:	Country:	
E-mail:	Phone:	
Repair Facility/Shipping Information:		
Company:	Contact Name:	
Address:		
City:	State:	
Zip/Postal Code:	Country:	
E-mail:	Phone:	Fax:
Replacement Parts:		
Refer to the Material Information section of this Service Bulletin for a list of parts that will be provided.		
Signature:		
Repair Technician's Signature:	Date:	
Send this completed and signed form to Hartzell Propeller Inc. Product Support Department: Fax - (001) 937.778.4215 or E-mail - techsupport@hartzellprop.com		

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Authorized By:

Document No. HC-SB-61-377 Date of Issue: Jun 01/18 Revision: 1 Rev. Date: Jan 08/19

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