HARTZELL PROPELLER INC.

SERVICE BULLETIN

TRANSMITTAL SHEET

HC-SB-61-227

Propeller - Hub Inspection

August 27, 2012

This page transmits a revision to Service Bulletin HC-SB-61-227.

- Original Issue, dated Jan 16/98
- Revision 1, dated May 18/99
- Revision 2, dated May 8/00
- Revision 3, dated Apr 18/05
- Revision 4, dated Oct 04/05
- Revision 5, dated Sep 28/06
- Revision 6, dated Aug 27/12

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

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

FAA approval has been obtained on technical data in this publication that affects type design.

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

This revision is issued to change the following in the Service Bulletin:

- Adds an optional Terminating Action for conversion of hubs without an "A" or "B" serial number suffix to an oil-filled configuration
- Revises the document to latest caution and format requirements

This Service Bulletin is reissued in its entirety.

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Propeller - Hub Inspection

1. Planning Information

   A. Effectivity

CAUTION: DO NOT USE OBSOLETE OR OUTDATED INFORMATION.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.

(1) Hartzell two blade, aluminum hub, "compact" ( )HC-( )2Y( )-( ) series propellers manufactured before April 1997 and have no suffix letter, or have an "A" or "E" suffix letter at the end of the hub and propeller serial number and installed on the following applications are affected by this Service Bulletin.

(a) Aerobatic aircraft (including certificated aerobatic aircraft, military trainers, or any aircraft routinely exposed to aerobatic usage)

(b) Agricultural aircraft

(c) Piper PA-32( ) series aircraft with Lycoming 540 series engines rated at 300 HP or higher

(d) Britten Norman BN-2( ) series aircraft with Lycoming 540 series engines

NOTE 1: These propellers are installed on, but not limited to, the aircraft applications listed in Table 2.

NOTE 2: The parenthesis shown in the model designations throughout this Service Bulletin indicate letter(s) or number(s) that may or may not be present because of different configurations permitted on the various aircraft installations. Definition of propeller model designations and further details of letter(s) or number(s) that may be present are shown in Figure 1.

NOTE 3: Propellers manufactured after April 1997 have a suffix letter "B" at the end of the hub and propeller serial numbers. Hub serial numbers without suffix letter "A" or "B" were manufactured before 1991 and can be identified by two different styles of the fillet radius as shown in Figure 2. "A" suffix serial number hubs can be identified by the fillet radius shown in Figure 2. These hubs have been produced from December 1991 through April 1997. Additional "A" suffix hub serial numbers are shown in Table 1. These hubs have been modified and differ slightly in appearance from those shown in Figure 2. "B" suffix serial number hubs are identified by the lack of a fillet radius at the blade socket shown in Figure 2. These hubs are current production made since April 1997. The "E" suffix letter is added to the hub serial number to indicate that the initial eddy current inspection has been performed and a repetitive eddy current inspection is required.

(2) Propellers with a suffix letter "B" at the end of the hub and propeller serial number are not affected by this Service Bulletin.

(3) Applications that have NOT previously complied with the terminating action in a previous revision of this Service Bulletin or with the terminating action in FAA Airworthiness Directive 2001-23-08 ARE affected by this Service Bulletin.

(4) Applications that have previously complied with the terminating action in a previous revision of this Service Bulletin or with the terminating action in FAA Airworthiness Directive 2001-23-08 are NOT affected by this Service Bulletin.

B. Concurrent Requirements

(1) Installation of a "B" serial number suffix hub will require spinner bulkhead modification or replacement in accordance with the Repair/Modification chapter of Hartzell Spinner Assembly Maintenance Manual 127 (61-16-27).

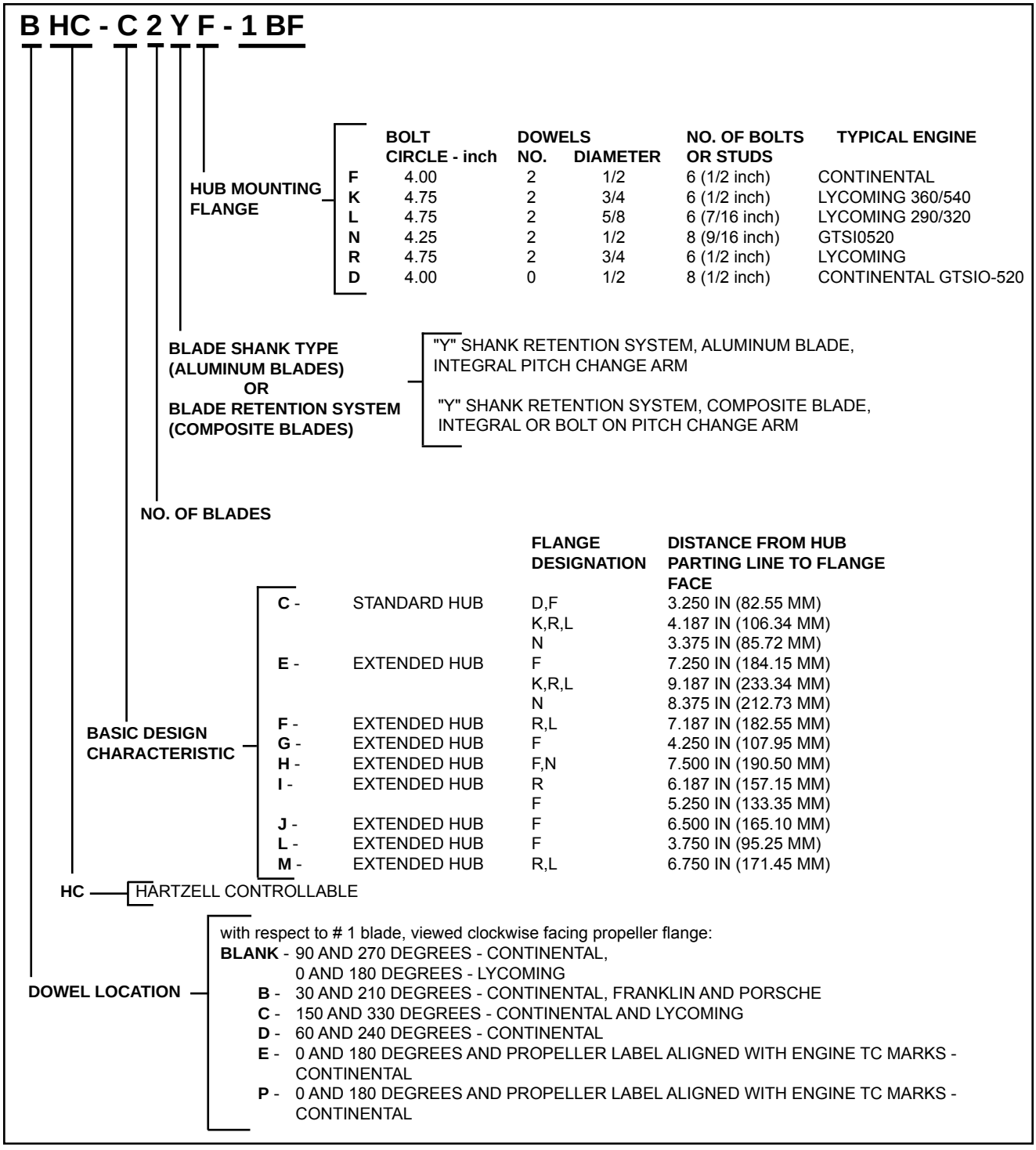
(a) Applications with non-Hartzell spinner assemblies should contact the applicable Type Certificate holder for rework instructions.

(2) 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 website at www.hartzellprop.com for a cross-reference of service documents.

SERVICE BULLETIN

HC-SB-61-227

Propeller - Hub Inspection

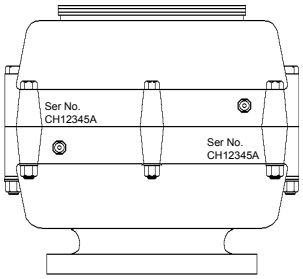


Model Designations for Aluminum Hub, Reciprocating Engine Propellers
Figure 1

SERVICE BULLETIN

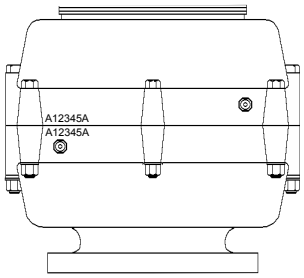
HC-SB-61-227

Propeller - Hub Inspection

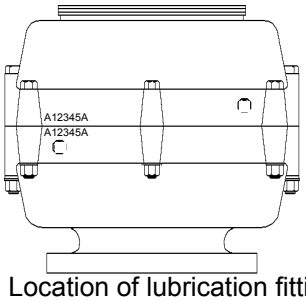


Left side of hub from No. 1 blade
Propeller serial number

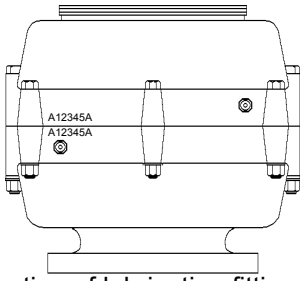
Blade Number 1



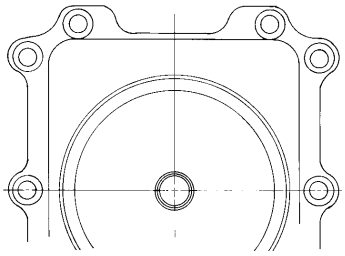
Right side of hub from No. 1 blade
Hub serial number



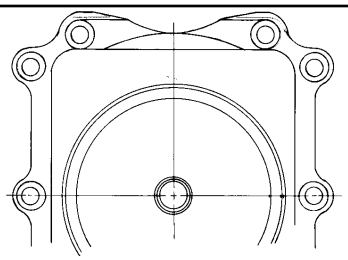
Location of lubrication fittings
before 1983



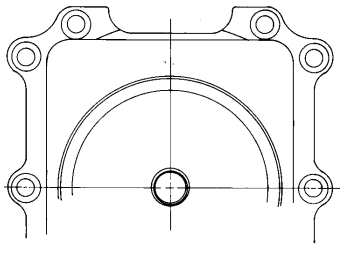
Location of lubrication fittings
after 1983



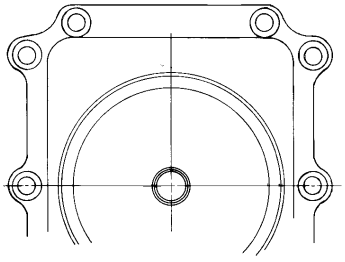
"Fillet radius" on hubs made before 1983.
Serial number has no suffix letter.



"Fillet radius" on hubs made between 1983
and 1991. Serial number has no suffix letter.



Hubs made December 1991 thru April 1997,
have the suffix "A" in the serial number (See
additional "A" suffix hubs in Table 1)



Current hub design, has the suffix "B" in the
serial number and is not affected by this Service
Bulletin, "fillet radius" not present on "B" serial
number suffix hubs

Hub Identification
Figure 2

C. Reason

WARNING: UNUSUAL OR ABNORMAL GREASE LEAKAGE OR VIBRATION, WHERE THE CONDITION INITIATED SUDDENLY, CAN BE AN INDICATION OF A FAILING PROPELLER BLADE OR BLADE RETENTION COMPONENT. AN INFLIGHT BLADE SEPARATION MAY RESULT IN DEATH, SERIOUS BODILY INJURY, AND/OR SUBSTANTIAL PROPERTY DAMAGE. UNUSUAL OR ABNORMAL GREASE LEAKAGE OR VIBRATION DEMANDS IMMEDIATE INSPECTION FOR POSSIBLE CRACKED HUB (FOR FURTHER INFORMATION ON THIS SUBJECT SEE HARTZELL SERVICE LETTER HC-SL-61-165).

(1) There have been numerous occurrences of hub fillet radius cracks, including incidents of in-flight blade separation in Hartzell two blade "compact" series aluminum hub propellers. Cracks were typically discovered during an inspection following reports of abnormal vibration or grease leakage. Cracks typically initiate in the same region of the hub in the area adjacent to the blade called the "fillet radius". As the cracks propagate toward the center of the hub, their progression accelerates and may result in the failure of one hub half that can progress to blade separation.

(2) Several of these events have occurred after the issuance of Hartzell Service Bulletin 164, FAA Airworthiness Directive 90-02-23, both of which required a 50 hour repetitive visual inspection of the hub. Because these cracks have proven difficult to detect visually, this Service Bulletin was issued to replace Service Bulletin 164 and requires a repetitive eddy current inspection. FAA enforced Revision 2 of this Service Bulletin through their issuance of Airworthiness Directive 2001-23-08.

(3) Because of continuing events, Revision 3 to this Service Bulletin was released to require a reduction in the repetitive inspection interval and to expand the inspection region from what was required in AD2001-23-08.

(4) Three of the recent cracked hubs occurred on hubs with an "A" serial number suffix. All three of these hubs cracked in the rear hub half, whereas the failures seen in the earlier design hub (without a serial number suffix) occurred on the front hub half. The design changes indicated by the "A" suffix are considered an improvement over the original, earlier design, but this evidence suggests that installation of "A" suffix hubs may not be a solution to the cracking problem. To alleviate concerns over the "A" hub design, and because the rear of the hub is not easily inspected, there is a requirement to replace all "A" suffix hubs with the current design "B" suffix hub.

(5) Updated regulatory action is not expected.

D. Description

(1) This document provides Instructions for Continued Airworthiness (ICA).

(2) The inspection area has been expanded to include the surface surrounding the balance weight attachment hole, the unchamfered area surrounding the hub clamping bolt hole, and hub fillet radius. The balance weight attachment hole and hub clamping bolt hole do not require eddy current inspection.

(3) This Service Bulletin provides requirements for:

(a) An initial and recurring eddy current inspection of the propeller hub fillet radius of hubs that do not have an "A" or "B" serial number suffix.

(b) An initial and recurring eddy current inspection of the propeller hub fillet radius of "A" suffix hubs listed in Table 1 of this Service Bulletin.

(c) Optional replacement of the hub as a terminating action for hubs that do not have an "A" or "B" serial number suffix.

(d) Mandatory replacement of "A" suffix hubs, including those hubs listed in Table 1 of this Service Bulletin.

(4) Revision 4 reduced the repetitive interval for the eddy current inspection.

(5) Revision 6 introduces the optional terminating action of converting to the oil-filled configuration for hubs without an "A" or "B" suffix serial number.

E. Compliance

(1) Hubs without "A" or "B" serial number suffix (Hubs made before December 1991 - see Figure 2)

(a) Perform the expanded eddy current inspection described in this revision within the next 50 hours of operation since the last inspection performed in accordance with Hartzell Service Bulletins 164( ) or HC-SB-61-227 or Airworthiness Directives 90-02-23 or 2001-23-08 or within 50 hours from the effective date of this Service Bulletin, whichever occurs first.

(b) After the initial inspection perform the eddy current inspection described in this revision at intervals not to exceed 100 hours of operation.

NOTE: A propeller hub from an aircraft that is affected by this Service Bulletin is not to be removed and reused on another aircraft application that does not have such inspection requirements. Such hub interchangeability is no longer authorized for the applications listed in Effectivity paragraph 1.A.(1). If propeller service history or other records indicate that such a replacement was made in the past, then the 100 hour repetitive inspection should be continued regardless of aircraft model installed.

(c) Optional Terminating Action - Replacement of the propeller hub with a "B" suffix serial number hub is a terminating action for this Service Bulletin. These hubs have a different part number and are identified by suffix letter "B" at the end of the propeller serial number. Refer to section 2. Material Information, for part number information.

(d) Optional Terminating Action - Modification of the propeller hub to the oil-filled configuration in accordance with Hartzell Service Letter HC-SL-61-273.

1 Modification of the affected propeller to the oil-filled configuration, in accordance with Hartzell Service Letter HC-SL-61-273, is an optional terminating action for the inspection requirements specified in this Service Bulletin.

2 A propeller that has been modified to the oil-filled configuration, in accordance with this Service Bulletin and Hartzell Service Letter HC-SL-61-273, must not be installed on any other application, including experimental.

(2) "A" suffix hubs listed in Table 1.

(a) Perform the eddy current inspection described in this document within the next 50 hours of operation since the last inspection performed in accordance with Hartzell Service Bulletins 164( ) or HC-SB-61-227 or Airworthiness Directives 90-02-03 or 2001-23-08 or within 50 hours from the date of this Service Bulletin, whichever occurs first.

(b) After the initial inspection, perform the eddy current inspection described in this revision at intervals not to exceed 100 hours of operation.

(c) Replace the hub with a "B" suffix hub at the next overhaul, not to exceed 1000 hours or 72 months from December 24, 2001, the effective date of Airworthiness Directive 2001-23-08.

NOTE: A propeller hub from an aircraft that is affected by this Service Bulletin is not to be removed and reused on another aircraft application that does not have such inspection requirements.

(3) "A" suffix hubs not listed in Table 1 (Hubs made between December 1991 and April 1997 - see Figure 2)

(a) Non-agricultural, Non-aerobatic applications: Replace the hub at the next overhaul, not to exceed 2000 hours or 72 months from December 24, 2001, the effective date of Airworthiness Directive 2001-23-08.

(b) Agricultural applications: Replace the hub at next overhaul, not to exceed 2000 hours or 36 months from December 24, 2001, the effective date of Airworthiness Directive 2001-23-08.

(c) Aerobatic applications: Replace the hub at next overhaul, not to exceed 1000 hours or 72 months from December 24, 2001, the effective date of Airworthiness Directive 2001-23-08.

NOTE: A propeller hub from an aircraft that is affected by this Service Bulletin is not to be removed and reused on another aircraft application that does not have such inspection requirements.

F. Approval

(1) This Service Bulletin is approved by the Manager, FAA, Chicago Aircraft Certification Office, ACE 115C, by approval document dated August 27, 2012 as an alternate method of compliance with Airworthiness Directive 2001-23-08 as follows:

(a) This Service Bulletin is an alternate method of compliance for AD 2001-23-08 paragraphs (a) through (e).

(b) This revision to the Service Bulletin includes an additional alternate method of compliance for AD 2001-23-08 paragraph (e), Terminating Action.

G. Manpower

(1) Eddy current inspection on-wing

Eddy Current Inspection	0.5 Man-hours
Spinner dome removal and installation	0.5 man-hours
Total man-hours	1.0 man-hours

(2) Propeller hub replacement:

Propeller Removal/Installation	2.0 man-hours
Propeller Hub Replacement	6.0 man-hours
Total man-hours	8.0 man-hours

NOTE: Hub replacement, when accomplished in conjunction with propeller overhaul, requires no additional labor.

(3) Spinner bulkhead modification (if required because of hub replacement) — 3.0 man-hours

(4) Propeller hub modification:

Propeller Removal/Installation	2.0 man-hours
Propeller Disassembly/Assembly	4.0 man-hours
Propeller Hub Modification	2.0 man-hours
Total man-hours	8.0 man-hours
If required, Teflon Removal/Installation	1.0 man-hours per blade

NOTE: Hub disassembly/assembly and Teflon® removal/installation do not require additional labor when accomplished in conjunction with propeller overhaul.

H. Weight and Balance

(1) There is a 0.50 lb. (0.23 kg) increase in weight with installation of a hub with suffix letter "B" in the serial number.

(2) There is a 0.50 lb. (0.23 kg) increase in weight with hub modification to the oil-filled configuration.

I. Electrical Load Data

(1) Not Changed

J. References

(1) Hartzell Standard Practices Manual 202A (61-01-02)

(2) Hartzell Propeller Owner's Manual 115 (61-00-15)

(3) Hartzell Propeller Owner's Manual 145 (61-00-45)

(4) Hartzell Compact and Lightweight Compact Non-Feathering (-1) and Aerobatic (-4) Propeller Overhaul and Maintenance Manual 113B (61-10-13)

(5) Hartzell Compact Constant Speed and Feathering Propeller Overhaul Manual 117D (61-10-17)

(6) Hartzell Metal Spinner Maintenance Manual 127 (61-16-27)

(7) Hartzell Service Letter HC-SL-61-273

(8) Airworthiness Directive 90-02-23

(9) Airworthiness Directive 2001-23-08

K. Other Publications Affected

None

SERVICE BULLETIN

HC-SB-61-227

Propeller - Hub Inspection

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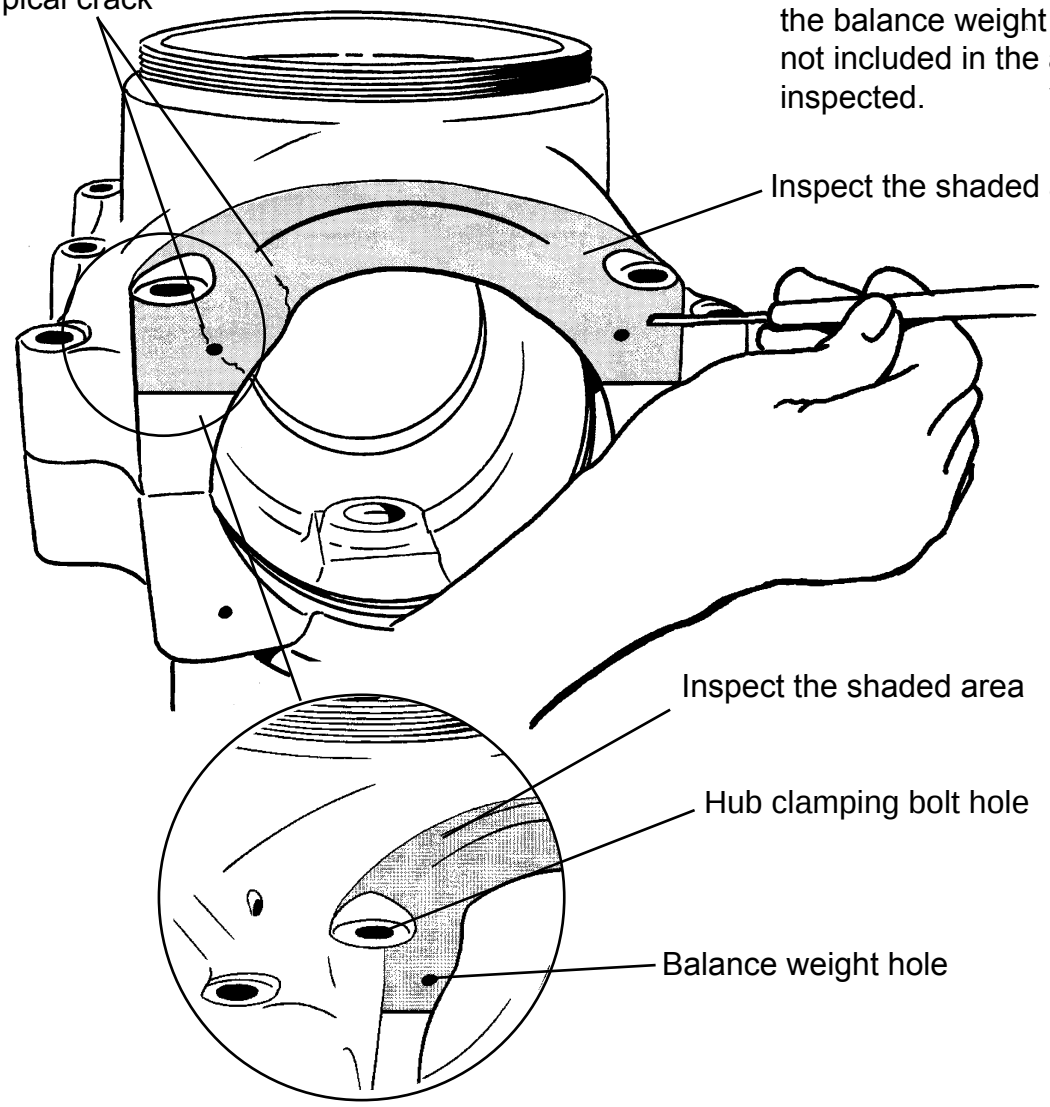

Circled areas encompass the "fillet radius", must be inspected.

Hubs with no "A" or "B" serial number suffix, and hubs listed in Table 1: Inspect highlighted area on each blade socket (forward hub half) during on-wing inspection, and four points (both hub halves) during overhaul inspection.

Socket Fillet Radius Inspection
Figure 3

2. Material Information

A. Parts Required

(1) If the hub is replaced, see the hub replacement information below.

Previous Hub Part Number	Description	Replacement Hub Part Number
D-2201-1	Hub Unit	D-6531-41
D-2201-2	Hub Unit	D-6522-21
D-2201-2R	Hub Unit	D-6522-21R
D-2201-3	Hub Unit	D-6529-41
D-2201-5	Hub Unit	D-6531-42
D-2201-6	Hub Unit	D-6522-22
D-2201-7	Hub Unit	D-6529-42
D-2201-16	Hub Unit	D-6522-21
D-2201-16R	Hub Unit	D-6522-21R
D-2201-17	Hub Unit	D-6529-41
D-2201-24	Hub Unit	D-6530-30
D-2477-3	Hub Unit	D-6564-21
D-4214	Hub Unit	D-6557-42

(2) Refer to Hartzell Metal Spinner Maintenance Manual 127 (61-16-27) for spinner bulkhead replacement part numbers and/or modification information.

B. Special Tooling

(1) An Eddy Current Instrument is required. Refer to Hartzell Standard Practices Manual 202A (61-01-02) for details.

C. Material Necessary for Propeller Modification to the oil-filled configuration:

(1) Refer to Hartzell Service Letter HC-SL-61-273 for a complete list of requirements.

3. Accomplishment Instructions

A. Hub Inspection - Hubs without an "A" or "B" serial number suffix

(1) Inspection of the fillet radii of the (front) cylinder half of the propeller hub may be performed "on-wing" without removing the propeller from the engine.

(2) This inspection must be performed by qualified personnel at an appropriately licensed propeller service facility or a certificated aircraft mechanic with an eddy current qualification in accordance with the Eddy Current Inspection chapter of Hartzell Standard Practices Manual 202A.

(3) If inspection is performed during propeller overhaul or if the propeller has been removed from the aircraft and disassembled, both halves of the hub are to be inspected.

(4) On-Wing inspection procedure - Hubs without "A" or "B" serial number suffix :

(a) Remove the spinner dome in accordance with the applicable owner's manual.

(b) If the propeller has blade counterweights, position the blades to provide maximum exposure of the forward hub half fillet radius area.

NOTE: If the propeller does not have blade counterweights, special positioning of blades is not required.

1 For propellers models ( )HC-( )2Y( )-2( ) with counterweighted propeller blades, perform engine run and shut down with propeller blades in the feathered position. This will position the blade counterweights to provide maximum exposure of the forward hub half fillet radius area.

WARNING 1: DO NOT USE BLADE PADDLES TO FEATHER THE PROPELLER. IT IS POSSIBLE FOR EXCESSIVE LOADS TO BE APPLIED WITH BLADE PADDLES AND RESULT IN HIDDEN DAMAGE TO THE PITCH CHANGE MECHANISM.

WARNING 2: CARE MUST BE TAKEN TO UNFEATHER THE PROPELLER IN ACCORDANCE WITH SECTION 3.(A)(7).

2 For propellers models ( )HC-( )2Y( )-4( ) with counterweighted propeller blades (used on acrobatic aircraft), manually turn blades from high to low pitch to move the counterweight away from the inspection area (there is no pitch return spring in these propeller models and the blades can be turned manually without the use of blade paddles). This will position the blade counterweights to provide maximum exposure of the forward hub half fillet radius area.

CAUTION: BALANCE WEIGHTS MUST BE RETURNED TO THE SAME LOCATION ON THE HUB FROM WHICH THEY WERE REMOVED.

(c) Remove balance weights and make note of location as necessary.

NOTE: ( )HC-( )2Y( )-(2,4)( ) propellers with balance weights installed may require removal from the aircraft for disassembly to permit removal of the balance weights behind counterweights.

(d) Before any cleaning, visually inspect for a cracked hub in the area of the hub fillet radii (a cracked hub can have traces of grease coming from the crack making the crack more visible).

(e) Clean the surface of the hub to remove oil, grease, or other contaminants that may interfere with the efficiency of the eddy current inspection.

NOTE: Paint removal is not required for eddy current inspection.

(f) Perform eddy current inspection in accordance with procedures in Hartzell Standard Practices Manual 202A. See Figure 3.

NOTE: The inspection area has been expanded to include the surface surrounding the balance weight attachment hole, the unchamfered area surrounding the hub clamping bolt hole, and hub fillet radius. The balance weight attachment hole and hub clamping bolt hole do not require eddy current inspection.

(5) If a crack indication is found, hub replacement is required before further flight. Report any findings of a cracked hub to the Hartzell Propeller Product Support Department.

(6) If no crack indications are found,

(a) After the first inspection only, permanently identify the hub to indicate compliance with this Service Bulletin. Use a metal impression stamp (0.125 inch [3.175 mm]), round bottom characters) to stamp the letter E at the end of the propeller serial number. For example, propeller serial number DN1234 would be changed to DN1234E. This change is to be noted in the propeller logbook so that it provides further indication that this Service Bulletin is applicable.

CAUTION: BALANCE WEIGHTS MUST BE RETURNED TO THE SAME LOCATION ON THE HUB FROM WHICH THEY WERE REMOVED.

(b) Reinstall balance weights and fasteners from the location they were removed. Refer to the Static and Dynamic Balance chapter of Hartzell Standard Practices Manual 202A (61-01-02).

(7) If the blades were required to be placed in feather position to perform this inspection, the blades may be unfeathered using the procedure below:

(a) Remove the valve cap.

(b) Using a suitable device, depress the valve stem to relieve the air charge from the cylinder.

The following hubs, part number D-2201-16, were shipped to British Aerospace for intended use on BAE 125 Bulldog aircraft. These hubs were reworked to have the post-1991 style "fillet radius".

DN3607A	DN3641A
DN3609A	DN3940A
DN3613A	DN3944A
DN3615A	DN3949A
DN3628A	DN3962A
DN3630A	

BAE 125 Bulldog
Table 1

CAUTION 1: REPOSITION BLADES WITH CARE. DO NOT USE A SINGLE BLADE PADDLE TO REPOSITION BLADES. IT IS POSSIBLE FOR EXCESSIVE LOADS TO BE APPLIED WITH BLADE PADDLES AND RESULT IN HIDDEN DAMAGE TO THE PITCH CHANGE MECHANISM.

CAUTION 2: DO NOT PUT BLADE PADDLES ON DEICE BOOTS, AS BOOTS MAY BE DAMAGED.

(c) Using a blade paddle on each blade, simultaneously move both blades from the feather position to the low pitch position.

(d) Remove the blade paddles.

(e) For propellers that use an air charge, recharge the cylinder in accordance with the applicable owner's manual.

1 Reinstall the air valve cover cap and spinner dome in accordance with the applicable owner's manual.

(g) Proceed to section 3.A.(9).

(8) If the blades were not required to be feathered to perform this inspection, reinstall the spinner dome in accordance with the applicable owner's manual.

(9) Make an entry in the propeller logbook indicating compliance with the hub inspection requirement of this Service Bulletin noting the time for the next inspection.

B. Hub Inspection - "A" Suffix Hubs Listed in Table 1.

(1) Hubs listed in Table 1 of this bulletin are to be initially and repetitively inspected, until a terminating action is accomplished, using the procedure detailed in section 3.A. of this Service Bulletin.

(2) Hubs listed in Table 1 of this bulletin must be replaced in accordance with section 1.E.(2) of this Service Bulletin.

C. Hub Inspection - "A" Suffix Hubs Not Listed in Table 1.

(1) No hub inspection is required for "A" suffix hubs.

(2) "A" suffix hubs must be replaced in accordance with section 1.D.(3) of this Service Bulletin.

D. Hub Replacement

(1) Hub replacement must be performed by qualified personnel at an appropriately licensed propeller service facility. Replacement of the existing hub with a hub identified by a "B" suffix letter in the propeller serial number is terminating action for this Service Bulletin.

(2) Hubs without a "B" suffix in the serial number that are removed from aircraft applications affected by this Service Bulletin [as defined in Effectivity, section 1.A.(1)] must not be reused on another aircraft application that does not have such inspection requirements. A hub removed from an affected aircraft must either be installed on another affected application, or be retired in accordance with Hartzell Standard Practices Manual 202A (61-01-02).

(3) For spinner bulkhead modification or replacement part numbers, refer to the Repair and Modification chapter of Hartzell Metal Spinner Maintenance Manual 127 (61-16-27).

(4) Make an entry in the propeller logbook indicating compliance with the hub replacement instructions as terminating action for this Service Bulletin.

E. Optional Propeller Modification to the Oil-filled Configuration

WARNING: MODIFICATION TO THE OIL-FILLED CONFIGURATION IS ONLY APPROVED FOR PROPELLERS AFFECTED BY THIS SERVICE BULLETIN.

(1) Affected propeller models without an "A" or "B" suffix serial number may be modified to the oil-filled configuration as terminating action for this Service Bulletin.

(a) Modification of the propeller hub to the oil-filled configuration must be performed by qualified personnel at an appropriately licensed propeller service facility.

(b) Modification of the propeller hub to the oil-filled configuration must be performed in accordance with Hartzell Service Letter HC-SL-61-273.

(c) A propeller modified to the oil-filled configuration, must not be restored to the grease lubricated configuration.

(2) Make an entry in the propeller logbook indicating compliance with the Propeller Modification to the Oil-filled Configuration instructions as terminating action for this Service Bulletin.

F. Recommended Service Facilities

(1) Hartzell Propeller has a worldwide network of Recommended Service Facilities that are recommended by Hartzell Propeller 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. Each service facility is audited by Hartzell Propeller to verify the continuation of the standards.

(3) Hartzell Propeller recommends that you use one of these service facilities when having your propeller overhauled or repaired.

(4) For a current list of Hartzell Propeller Recommended Service Facilities, contact Hartzell Product Support or refer to the Hartzell Propeller website at www.hartzellprop.com.

G. Contact Information

Hartzell Propeller Inc.
Attn.: Hartzell Product Support
One Propeller Place
Piqua, Ohio 45356-2634 USA
Phone: (001) 937.778.4379
Fax: (001) 937.778.4391
E-mail: techsupport@hartzellprop.com

NOTE: Affected propellers are installed on, but not limited to, the aircraft applications listed in Table 2.

AIRCRAFT MODEL	FAA TC/STC NO.	ENGINE	PROPELLER	BLADE
Aerospatiale (Morane Saulnier)				
MS893A, E , 180GT	7A14	O-360-A1A	HC-C2YK-1B	7666A-2
Aerospatiale (Socata)				
TB-30 EPSILON	Unknown	AEIO-540-L1B5D	HC-C2YR-4CF	FC8475-6
Akrotech				
G-200	Experimental	AEIO-360-A1E	HC-C2YR-1A	7690C
G-200	Experimental	AEIO-360-A1E	HC-C2YR-1AX2	7690C
American Champion (Bellanca)				
DW-1 EAGLE	Unknown	IO-540-M1B5D	HC-C2YR-1BF	F8475R
8GCBC SCOUT	STC-SA530AL	O-360-C2A, C1A, C2E, C1E	HC-C2YR-1BF	F7666A
8GCBC SCOUT	A21CE	O-360-C2A,C2E,C1A,C1E	HC-C2YR-1BF	7666A
8GCBCT SCOUT	STC-SA530AL	IO-360-C1A, C2A, C1E, C2E	HC-C2YR-1	7666A
8KCAB DECATHLON	A21CE	AEIO-320-E1B; IO-320-E1(A,B)	HC-C2YL-4F	FC7663-4
8KCAB DECATHLON	A23CE	AEIO-320-E1B; IO-320-E1(A,B)	HC-C2YL-4, -4F, -4BF	FC7663-4
8KCAB DECATHLON	A21CE	AEIO-360-H1A	HC-C2YR-4BF, -4CF	FC7666A-2
Aviat				
EAGLE	Experimental	AEIO-360-A1D	HC-C2YR-1A	7690A
EAGLE	Experimental	AEIO-360-A1D	HC-C2YK-4CF	FC7666A-2, -4Q
S-1T PITTS	A8SO	AEIO-360-A1D, -A1E	HC-C2YK-4CF	FC7666A-2
S-1T PITTS	Experimental	AEIO-360-A1E	HC-C2YR-1A	7690C
S-1T PITTS	Experimental	AEIO-360-A1E	HC-C2YR-1AX1	7690C
S-1T PITTS	Experimental	AEIO-360 Series	HC-C2YR-8X1	7690C
S-2A PITTS	A8SO	IO-360-A1A, AEIO-360-A1(A,E)	HC-C2YK-4CF	FC7666A-2
S-2A PITTS	A8SO	IO-360-A1A, AEIO-360-A1(A,E)	HC-C2YK-4AF	FC7666A-2
S-2S, S-2B PITTS	A8SO	AEIO-540-D4A5	HC-C2YR-4CF	FC8477A-4
S-2A PITTS	Experimental	IO-360-A1A	HC-C2YK-4CF	FC7666A-2Q, -4Q
S-2 PITTS	Unknown	IO-360-A1A	HC-C2YK-4	C7666A
S-2S PITTS	Experimental	AEIO-540-D4(A,B,C)5	HC-C2YR-4CF	FC8477-6Q
S-2S PITTS	Experimental	AEIO-540-D4A5	HC-C2YR-4CF	FC8477
Beech				
A45 (T-34A), B-45	5A3	IO-470N	BHC-L2YF-4F	FC8468AR
A45 (T-34A), B-45	STC-SA876CE	IO-470N	BHC-L2YF-4BF	FC8468AR
Britten Norman				
BN-2;BN-2A-6,8,9; BN-2(A,B)-26,27	A17EU	O-540-E4C5	HC-C2YK-2BF, -2CUF	(F)C8477(A)(B)-4, -6
BN-2A-2,3,20,21; BN-2B-20,21	A17EU	IO-540-K1B5	HC-C2YK-2(B,C)(U)(F)	(F)C8477(A)(B)-4
BN-2A MK III, MK III-2,-3	A29EU	O-540-E4C5	HC-C2YK-2CUF	FC8477A(B)-4
Cessna				
A188A, A188B, T188C AGWAGON	STC-SA8343SW	IO-540-K1(A,B,G)5, -S1A5	HC-C2YR-1BF	F8475R
DeHavilland				
CHIPMUNK	Unknown	IO-540-C4B5	HC-C2YK-4CF	FC8477-4R
Embraer				
EMB-200A	Unknown	O-540-H1B5D	HC-C2YK-1BF	F8477-4
EMB-201A, -202	Unknown	IO-540-K1F5D, -K1J5D	HC-C2YR-1BF	F8475R
Flug & Fahrzeugwerke				
AS 202/18A BRAVO	A34EU	AEIO-360-B1F	HC-C2YK-1BF	F7666A-2
AS 202/26A	Experimental	IO-540-D4B5	HC-C2YK-1BF	F8477
Great Lakes				
2T-1A-1, 2T-1A-2	A18EA	IO-360-B1F6, AEIO-360-B1G6	HC-C2YK-4F	FC7666A-2
2T-1A-2	A18EA	IO-360-B1F6, AEIO-360-B1G6	HC-C2YK-4F	FC7666A-2

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NOTE: Affected propellers are installed on, but not limited to, the aircraft applications listed in Table 2.

AIRCRAFT MODEL	FAA TC/STC NO.	ENGINE	PROPELLER	BLADE
Grob				
G115D	Experimental	AEIO-360-B1F	HC-M2YR-1BF	7690E-2
G115T		AEIO-540-D4A5	HC-C2YR-4CF	FC8477A-4
Hindustan				
HPT 32 TRAINER	Unknown	AEIO-540-D4B5	HC-C2YR-4CF	FC8477-4R
Morovan				
Z-42	Unknown	AIO-320-B1B	HC-C2YL-4F	FC7663A-4
Z-42	Unknown	AIO-320	HC-C2YL-1B	7663A-4
526L	A30EU	AIO-360-B1B	HC-C2YK-4	C7666A-2
Mudry				
CAP 20	Unknown	AIO-360-B1A	HC-C2YK-4F	FC7666A
Pacific Aerospace				
CT4A, CT4B	Unknown	IO-360-D, -H, -HB	BHC-C2YF-1BF	F7663
Piper				
PA-25-260 PAWNEE	2A8, 2A10	O-540-G1A5	HC-C2YK-1( )F	F8477
PA-32-300, PA-32S-300	A3SO	IO-540-K1A5, -K1G5	HC-C2YK-1( )F	F8475R
PA-32-300, PA-32S-300	A3SO	IO-540-K1A5, -K1G5	HC-C2YK-1( )F	F8475(D)-4
PA-32-300, PA-32S-300	A3SO	IO-540-K1A5, -K1G5	HC-C2YK-1BF	F8475R
PA-32R-300, PA-32RT-300	A3SO	IO-540-K1A5D, -K1G5D	HC-C2YK-1()F	F8475D-4
PA-32RT-300T LANCE	A3SO	TIO-540-S1AD	HC-E2YR-1()F	F8477-4
PA-32S-300 CHEROKEE SIX	STC-SA932EA	IO-540-K1A5	HC-C2YR-1BF	F8475+2
PA-32-301 SARATOGA	A3SO	IO-540-K1G5	HC-C2YR-1()F	F8475D-4
PA-32-301T TURBO SARATOGA	A3SO	TIO-540-S1AD	HC-E2YR-1()F	F8477-4
PA-32R-301 SARATOGA SP	A3SO	IO-540-K1G5D	HC-C2YR-1()	F8475D-4
PA-32R-301T T-SARATOGA SP	A3SO	TIO-540-S1AD	HC-E2YR-1( )F	F8477-4
PA-36-285 BRAVE	A9SO, A10SO	6-285-B, C, BA, CA	HC-C2YF-1BF	F9587A
PA-36-300 BRAVE	A9SO, A10SO	IO-540-K1G5	HC-C2YK-1( )F	F8475R
Saab-Scania AB				
MFI-15 SAFARI/SUPPORTER	Unknown	IO-360-A1B6	HC-C2YK-4BF	FC7666A-2
MFI-17 MUSHAK	Unknown	TSIO-360-LB	HC-C2YF-1BF	F8459-9R
Scottish Aviation (BAE)				
B.125 BULLDOG	Unknown	IO-360-A1B6	HC-C2YR-4BF	FC7666A-2
Siai Marchetti (Augusta)				
S.205-18F, 18R	A9EU	O-360-A1A	HC-C2YK-1B	7666A-2
S.205-20F, 20R	A9EU	IO-360-A1A	HC-C2YK-1B	7666A-2
S.208, A	A9EU	IO-540-E4A5	HC-C2YK-1BF	F8477-8R
S.208, A	A9EU	IO-540-E4A5	HC-C2YK-1B	8467-8R
S.208	Unknown	O-540-E4A5	HC-C2YK-4F	
SF.260, SF.260B	A10EU	O-540-E4A5	HC-C2YK-1B	8467-8R
SF.260, B, C, D	A10EU	O-540-E4A5, AEIO-540-D4A5	HC-C2YK-1BF	F8477-8R
SF.260, B, C, D	A10EU	O-540-E4A5, AEIO-540-D4A5	HC-C2YK-4F	FC8477-8R
F.260, F.260B	A10EU	O-540-E4A5	HC-C2YK-1B	8467-8R
F.260C, D, E	Unknown	O-540-E4A5, (AE)IO-540-D4A5	HC-C2YK-1BF	F8477-8R
F.260C, D, E, F	A10EU	O-540-E4A5, (AE)IO-540-D4A5	HC-C2YK-1BF	F8477-8R
F.260C, D, E	STC-SA302GL	O-540-E4A5, (AE)IO-540-D4A5	HC-C2YK-4( )F	FC8477-8R
Skydancer Aviation				
SD-260	Experimental	IO-540-C4B5	HC-C2YR-4CF	FC8477A-4
Sorrell				
SNS-7	Experimental	IO-360-B1E	HC-C2YK-4CF	FC7666A-2, -4Q
Staudacher Aircraft				
STAUDACHER 300	Experimental	IO-540-K	HC-C2YR-4CF	FC8477A-4
STAUDACHER S-1000	Experimental	IO-540-D4A5	HC-C2YK-1BF	F8477

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NOTE: Affected propellers are installed on, but not limited to, the aircraft applications listed in Table 2.

AIRCRAFT MODEL	FAA TC/STC NO.	ENGINE	PROPELLER	BLADE
Steen				
SKYBOLT	Experimental	IO-360-A1A	HC-C2YR-4BF, -4CF	FC7666A-2
SKYBOLT	Unknown	IO-540-C4B5	HC-C2YK-1BF	F8477-4
SKYBOLT	Unknown	IO-360-A1B	HC-C2YR-4BF, -4CF	FC7666A-2
SKYBOLT	Unknown	IO-540-C4B5	HC-C2YK-4F	FC8477-7
Stoddard Hamilton				
2 SRG	Experimental	IO-360	HC-C2YR-4CF	FC7666A-4
SUPER 2SRG	Experimental	IO-360	HC-C2YR-1BF	F7068-2
Stolp				
STARDUSTER	Unknown	O-360-A1F6	HC-C2YK-4AF	FC7666A-4
STARDUSTER	Unknown	O-540-( )	HC-C2YR-4CF	FC8477A-8R
STARDUSTER	Unknown	IO-540-D4A5	HC-C2YK-4AF	FC8467-7R
STARDUSTER	Unknown	IO-540-D4A5	HC-C2YK-1BF	F8467-8
Transavia				
AIRTRUK	Unknown	IO-540-K1A5	HC-C2YR-1BF	F8475+2
AIRTRUK	Unknown	6-320	HC-C2YR-1F	F9587A
Universal				
T-25 MILITARY TRAINER	Unknown	IO-540-K1A5	HC-C2YK-4BF	FC8475A-2
UTVA				
75AG	Unknown	AEIO-540-L1B5D	HC-C2YR-1BF	F8475D-4
75	Unknown	IO-360-B1F	HC-C2YK-1BF	F7666-2
LASTA	Unknown	AEIO-540-L1A5D	HC-C2YR-4CF	FC8475-6
Valmet				
L-70 VINKA	Unknown	IO-360-A1B6; AEIO-360-A1B6	HC-C2YR-4F	FC7666A-2
Vans				
RV-6	Experimental	IO-360 Series	HC-C2YK-4CF	FC7666A-2, -4

Aircraft and Propeller Applications (continued)
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