

HARTZELL PROPELLER INC.
SERVICE BULLETIN
TRANSMITTAL SHEET
HC-SB-61-331

Propeller - Upgrade of 1, 8 Style Hubs to D, A Style Hubs

This page transmits Revision 1 to Service Bulletin HC-SB-61-331, dated April 1, 2012.

- Original, dated Mar 14/12
- Rev. 1, dated Apr 01/12

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.

Some of these changes that do not affect technical content may not be highlighted in this transmittal sheet.

This revision is issued to change the following:

- Corrected typographical errors in Table 1

This Service Bulletin is reissued in its entirety.

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1. Planning Information

A. Effectivity

- (1) Hartzell ()HC-(1,8)()()-()() propeller models are affected by this Service Bulletin.

CAUTION: DO NOT USE OBSOLETE OR OUTDATED INFORMATION.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.

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

C. Reason

- (1) The D and A style hubs have improved blade retention reliability compared to the 1 and 8 style hubs. An in-flight blade separation may result in death, serious bodily injury, and/or substantial property damage.
- (2) Hartzell commercial support (parts availability) for propeller models affected by this Service Bulletin is no longer available.
- (3) The overhaul and maintenance manuals (ICA) for propeller models affected by this Service Letter are outdated and are not being maintained by Hartzell Propeller.

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D. Description

- (1) Because of the improved blade retention reliability of the D and A hubs over the 1 and 8 hubs, this Service Bulletin requires the upgrade of an existing 1 style hub to a D style hub and the upgrade of an existing 8 style steel hub to an A style steel hub at next propeller overhaul or major disassembly. Refer to Table 1 in this Service Bulletin for upgrade information.
- (2) Commercial support (parts availability) for 1 and 8 style steel hub propeller models is no longer available.
- (3) The following active Hartzell manuals (ICA) address some of the propeller models affected by this Service Bulletin and will become obsolete upon issuance of this Service Bulletin:
 - (a) Hartzell Overhaul Manual 100D- Inspection, Repair, Overhaul - HC-12X20, HC-D2X20 Hydro-Selective Propeller Instruction Manual
 - (b) Hartzell Owner's Manual 175 - 8 Hub Steel Hub Reciprocating Propellers with Aluminum Blades

E. Compliance

- (1) Compliance with this Service Bulletin is required at next propeller overhaul or major disassembly and in accordance with Hartzell Service Letter HC-SL-61-61Y.

F. Approval

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

G. Manpower

- (1) No additional manpower is required if accomplished at overhaul or major disassembly of the propeller.

H. Electrical Load Data

- (1) Not changed

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I. References

- (1) Hartzell Manual 100D - Inspection, Repair, Overhaul - HC-12X20, HC-D2X20 Hydro-Selective Propeller Instruction Manual - (Obsolete)
- (2) Hartzell Hydro-Selective Propeller Overhaul Manual 100E (61-10-00) for HC-D2MV()-() series propellers
- (3) Hartzell Manual 114B - Constant Speed And Feathering Two- And Three-Blade Propeller Inspection, Repair, And Overhaul Instructions
- (4) Hartzell Steel Hub Propeller Maintenance Manual 114C (61-10-14) for HC-A(2,3)(V,MV)()-() series propellers
- (5) Hartzell Steel Hub Turbine Propeller Maintenance Manual 118F (61-10-18) for HC-A3(V,MV)F-7() propellers
- (6) Hartzell Manual 171 - -1, -4, -6 Series Steel "A" Hub Propeller Maintenance Manual
- (7) Hartzell Manual 172 - -2 Series Steel "A" Hub Propeller Maintenance Manual
- (8) Hartzell Manual 140 - Propeller Owner's Manual and Logbook - Hydro-Selective Propellers with Aluminum Blades
- (9) Hartzell Manual 168 - Propeller Owner's Manual and Logbook - Steel Hub Reciprocating Propellers with Aluminum Blades
- (10) Hartzell Owner's Manual 175 - 8 Hub Steel Hub Reciprocating Propellers with Aluminum Blades - (Obsolete)
- (11) Hartzell Standard Practices Manual 202A, (61-01-02), Volumes 1 thru 11
- (12) Hartzell Aluminum Blade Manual 133C (61-13-33)
- (13) Hartzell Service Bulletin HC-SB-61-217
- (14) Hartzell Service Bulletin HC-SB-61-232
- (15) Hartzell Service Bulletin HC-SB-61-233
- (16) Hartzell Service Letter HC-SL-61-61Y
- (17) FAA Airworthiness Directive AD 97-18-02
- (18) Hartzell Service Letter HC-SL-61-320

J. Other Publications Affected

- (1) Hartzell Manual 100D- Inspection, Repair, Overhaul - HC-12X20, HC-D2X20 Hydro-Selective Propeller Instruction Manual - (obsolete with issuance of this Service Bulletin)

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- (2) Hartzell Hydro-Selective Propeller Overhaul Manual 100E (61-10-00) for HC-D2MV()-() series propellers
- (3) Hartzell Aluminum Blade Overhaul Manual 133C (61-13-33)

K. Pricing

- (1) Pricing information for propeller assemblies and major component parts is available by contacting Hartzell Propeller New Parts Sales at newpartssales@hartzellprop.com.

2. Material Information

A. General

- (1) Refer to Table 1 for available upgrade option requirements for each propeller model affected by this Service Bulletin.

Current Propeller Model	Option 1 Propeller Model Upgrade	Option 2 Propeller Model Upgrade
()HC-12X()-() ()	()HC-D2V()-() () Requires: blade conversion X to V shank; new bearings; new hub Would be subject to repetitive inspections required by HC-SB-61-217 and AD 97-18-02 NOTE: Some parts to support V shank blade configuration are no longer available for purchase from Hartzell Propeller	()HC-D2MV()-() () Requires: new MV blade or blade conversion from X to MV; new blade clamps; new hub; new bearings No longer subject to HC-SB-61-217 and AD 97-18-02
()HC-12V()-() ()	()HC-D2V()-() () Requires: new hub; new bearings Would be subject to repetitive inspections required by HC-SB-61-217 and AD 97-18-02 NOTE: Some parts to support V shank blade configuration are no longer available for purchase from Hartzell Propeller	()HC-D2MV()-() () Requires: new MV blade or blade conversion from V to MV; new blade clamps; new hub; new bearings No longer subject to HC-SB-61-217 and AD 97-18-02

**Propeller Model Upgrade
Table 1**

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Current Propeller Model	Option 1 Propeller Model Upgrade	Option 2 Propeller Model Upgrade
()HC-82X()-() ()	()HC-A2V()-() () Requires: blade conversion X to V shank; new bearings; new hub • Would be subject to repetitive inspections required by HC-SB-61-217 and AD 97-18-02 <u>NOTE:</u> Some parts to support V shank blade configuration are no longer available for purchase from Hartzell Propeller	()HC-A2MV()-() () Requires: new MV blade or blade conversion from X to MV; new blade clamps; new hub; new bearings • No longer subject to HC-SB-61-217 and AD 97-18-02
()HC-82V()-() ()	()HC-A2V()-() () Requires: new hub; new bearings • Would be subject to repetitive inspections required by HC-SB-61-217 and AD 97-18-02 <u>NOTE:</u> Some parts to support V shank blade configuration are no longer available for purchase from Hartzell Propeller	()HC-A2MV()-() () Requires: new MV blade or blade conversion from V to MV; new blade clamps; new hub; new bearings • No longer subject to HC-SB-61-217 and AD 97-18-02
()HC-83X()-() ()	()HC-A3V()-() () Requires: blade conversion X to V shank; new bearings; new hub • Would be subject to repetitive inspections required by HC-SB-61-217 and AD 97-18-02 <u>NOTE:</u> Some parts to support V shank blade configuration are no longer available for purchase from Hartzell Propeller	()HC-A3MV()-() () Requires: new MV blade or blade conversion from X to MV; new blade clamps; new hub; new bearings • No longer subject to HC-SB-61-217 and AD 97-18-02
()HC-83V()-() ()	()HC-A3V()-() () Requires: new hub; new bearings • Would be subject to repetitive inspections required by HC-SB-61-217 and AD 97-18-02 <u>NOTE:</u> Some parts to support V shank blade configuration are no longer available for purchase from Hartzell Propeller	()HC-A3MV()-() () Requires: new MV blade or blade conversion from V to MV; new blade clamps; new hub; new bearings • No longer subject to HC-SB-61-217 and AD 97-18-02

**Propeller Model Upgrade
Table 1, Continued**

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B. Technical differences between 1 and 8 type hubs and D or A type hubs

(1) Replacement of 1 and 8 type hubs with D or A type hubs:

- (a) 1 and 8 series propellers use a split ring retainer between the hub and blade thrust bearing.
- (b) D and A series propellers use a different hub, which does not use a split ring retainer.
- (c) A conversion from 1 to D hub or from 8 to A hub requires the use of the later style hub with different blade thrust bearings and associated parts.
- (d) In addition to a hub, parts replacement is required as follows:

1 and 8 Old Parts	A and D New parts (1 per blade)	Description
A-14A or A-14B	A-971	Bearing
PRP-909-6	C-3317-230	O-Ring
not used	A-2027	Bearing Retention Ring
not used	A-972	Guide Ring
not used	A-974	Wire Retention Ring
not used	A-311	Ball Spacer
A-969 or A-159	None	Split Ring

- (e) Refer to the Steel Hub Overhaul chapter of Hartzell Standard Practices Manual 202A (61-01-02) for specific hub part number information.

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3. Accomplishment Instructions

- A. Refer to Table 1 for available upgrade option requirements for each propeller model affected by this Service Bulletin.
- B. Overhaul, Assembly, Disassembly Procedures, and Part Number information for D and A hub propeller models:
- (1) Overhaul, assembly, disassembly procedures, and part number information for D and A hub propeller models is found in the following Hartzell Propeller Overhaul Manuals:

1 or 8 Hub Prop Model	D or A Prop Model Upgrade	Applicable Overhaul Manual
HC-1() () -3	HC-D() () -3	Manual 100E (61-10-00)
HC-1() () -7	HC-D() () -7	Manual 100E (61-10-00)
HC-1() () -8	HC-D() () -8	Manual 100E (61-10-00)
()HC-8() () -1()	()HC-A() () -1()	Manual 171 (61-10-71)
HC-8() () -2()	HC-A() () -2()	Manual 172 (61-10-72)
()HC-8() () -3()	()HC-A() () -3()	Manual 114C (61-10-14)
HC-8() () -4()	HC-A() () -4()	Manual 171 (61-10-71)

- (2) Hartzell Standard Practices Manual 202A (61-01-02) contains information about steel hub overhaul and applicable blade clamp information.
- (3) Hartzell Aluminum Blade Manual 133C (61-13-33), contains information about aluminum blade overhaul.
- (4) Installation and maintenance instructions for D and A hub propeller model upgrades is found in the following Hartzell Propeller Owner's Manuals:

1 or 8 Hub Prop Model	D or A Prop Model Upgrade	Applicable Owner's Manual
HC-1() () -3	HC-D() () -3	Manual 140 (61-00-40))
HC-1() () -7	HC-D() () -7	Manual 140 (61-00-40)
HC-1() () -8	HC-D() () -8	Manual 140 (61-00-40)
()HC-8() () -1()	()HC-A() () -1()	Manual 168 (61-00-68)
HC-8() () -2()	HC-A() () -2()	Manual 168 (61-00-68)
()HC-8() () -3()	()HC-A() () -3()	Manual 168 (61-00-68)
HC-8() () -4()	HC-A() () -4()	Manual 168 (61-00-68)

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- (5) Make an entry in the propeller logbook that shows the new propeller/blade model and serial number information.
 - (a) Include a statement that the propeller was repaired or overhauled in accordance with this Service Bulletin.

C. Recommended Service Facilities

- (1) Hartzell Propeller has a worldwide network of 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; select Service & Support.

D. Hartzell 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
Email: techsupport@hartzellprop.com