HARTZELL PROPELLER INC.
SERVICE BULLETIN

TRANSMITTAL SHEET

SERVICE BULLETIN HC-SB-61-272

Propeller - Propeller Installation

March 16, 2006

This page transmits Revision 1 to Service Bulletin HC-SB-61-272.

- Original, dated Jan 17/05
- Revision 1, dated Mar 16/06

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:

- Allows repair of the hub of a propeller with two or more studs that fail the torque test

This Service Bulletin is reissued in its entirety.

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HC-SB-61-272

Propeller - Propeller Installation

1. Planning Information

   A. Effectivity

      (1) Hartzell PHC-J3YF-2( )/FC7663-2R aluminum hub, compact propellers installed on Raytheon 58 Barons equipped with propeller de-ice with aircraft serial number TH1889 through TH2093 and installed by the Raytheon Aircraft Company after 1999 are affected by this Service Bulletin.

   B. Concurrent Requirements

      (1) None

   C. Reason

      (1) During an inspection of a propeller, damage was found to the slip ring split mounting plate (Goodrich Corp. part number 3E1951). The slip ring split mounting plate is used to attach the de-ice slip ring to the propeller.

      (2) The slip ring split mounting plate is designed to be installed on the aft side of the engine mounting flange. A washer, P/N A-1381, is intended to be installed between the slip ring split mounting plate and the mounting nut. However, the A-1381 washer was not installed during installation of the propeller at Raytheon Aircraft Company.

      (3) The A-1381 washer is intended to protect the slip ring split mounting plate from damage by the mounting nuts. During operation, the damage may permit the mounting nuts to lose torque. Installation without the mounting washers could result in damage to the slip ring split mounting plate and fatigue failure of the propeller mounting hardware. This could result in loss of the propeller from the engine.

      (4) The original issue of this Service Bulletin required hub replacement if more than two mounting bolts failed the torque test specified in the Accomplishment Instructions of this Service Bulletin. Hartzell has investigated the damage to the propeller hub resulting from the loss of torque to the mounting bolts and determined that the hub can be repaired and returned to service.

      (5) Regulatory action is not expected.

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D. Description

(1) This Service Bulletin introduces an initial and repetitive torque inspection of the mounting hardware.

(2) This Service Bulletin requires hub repair or replacement of any propeller that has two or more mounting nuts that fail the torque inspection as specified in the Accomplishment Instructions section of this Service Bulletin.

(3) This revision permits a hub that fails the torque inspection to be returned to service when it is overhauled and slimserts are installed in all the mounting bolt holes in accordance with Hartzell Standard Practices Manual 202A (61-01-02).

E. Compliance

(1) Initial and Repetitive Inspection

(a) Each affected propeller assembly must be inspected in accordance with the Accomplishment Instructions section of this Service Bulletin within 50 flight hours or 60 calendar days from the effective date of this Service Bulletin, whichever occurs first and thereafter every 100 flight hours or at every annual inspection, whichever occurs first, until terminating action has been accomplished.

(2) **Terminating Action**:

(a) If mounting nuts pass the torque inspection:

1 Inspection, rework, or replacement of the slip ring split mounting plate in accordance with Hartzell Service Letter HC-SL-61-239 and installation with the A-1381 washer is Terminating Action for this Service Bulletin.

(b) If two or more mounting nuts fail the torque inspection:

1 Hub repair or replacement in accordance with the Hub Repair or Replacement instructions of the Accomplishment section of this Service Bulletin and inspection, rework, or replacement of the slip ring split mounting plate in accordance with Hartzell Service Letter HC-SL-61-239 and installation with the A-1381 washer is Terminating Action for this Service Bulletin.

F. Approval

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

G. Manpower

(1)	Mounting torque inspection (on wing)	1.0 man hours
(2)	Propeller removal and installation (if required)	2.0 man hours
(3)	Hub repair (if required)	
	(a) Disassembly and Assembly	6.0 man hours
	(b) Rework of hub for slimsert installation	1.5 man hours
	(c) Hub overhaul	3.0 man hours
(4)	Hub replacement (if required)	6.0 man hours

H. Weight and Balance

(1) None

I. Electrical Load Data

(1) None

J. References

(1) Hartzell Service Letter HC-SL-61-239

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

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

(4) Hartzell Tool and Equipment Manual 165A (61-00-65)

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

K. Other Publications Affected

(1) None

2. Material Information

A. Material Required for Inspection of Mounting Hardware Torque Inspection

(1) None

B. Material Required for Hub Repair

Part Number	Keyword	Qty
A-1381	Washer	6
B-3883-4339	Quad-Ring	3
C-3317-115-1	O-ring	1
C-3317-117	O-ring	1
C-3317-210-1	O-ring	2
C-3317-226	O-ring	1
C-3317-228	O-ring	1
C-3317-247	O-ring	1
C-3317-427-1	O-ring	1
A-2429-4	Studs	6
B-6138-8-8	Dowel Pins	2
A-2044	Mounting Nuts	6
B-6986-500	Slimsert (Rosan® Slimsert® Part No. SR 500)	6

C. Expendables

(1) As specified in Hartzell Compact Constant Speed and Feathering Propeller Overhaul and Maintenance Manual 117D (61-10-17)

D. Special Tooling

(1) Mounting Torque Inspection on Wing

(a) Torque wrench (1/2 inch drive)

(b) Torque wrench adapter (Hartzell P/N BST-2860 or equivalent)

(2) Hub Repair or Replacement

(a) As specified in Hartzell Compact Constant Speed and Feathering Propeller Overhaul and Maintenance Manual 117D (61-10-17) and Hartzell Standard Practices Manual 202A (61-01-02).

3. Accomplishment Instructions

CAUTION: INSPECT THE TORQUE ON ALL MOUNTING NUTS ON AN ASSEMBLY.

A. Mounting Hardware Torque Inspection

(1) Torque Inspection

(a) Use a 1/2 inch drive torque wrench.

(b) Make sure there is no movement of each mounting nut up to a torque of 50 ft. lb. (67 N•m).

CAUTION: DO NOT EXCEED 80 FT. LBS. (108 N•m) TORQUE.

(2) If all of the mounting nuts pass the torque inspection, torque all mounting nuts to 70-80 ft.lbs. (94-108 N•m) in accordance with Hartzell Owner's Manual 115N (61-00-15).

(3) If one mounting nut fails the torque inspection, torque all mounting nuts to 70-80 ft.lbs. (94-108 N•m) in accordance with Hartzell Owner's Manual 115N (61-00-15).

(4) If two or more mounting nuts fail the torque inspection:

(a) Before further flight, the hub must be repaired or replaced in accordance with the Hub Repair or Replacement instructions in Paragraph 3.B.

(b) Inspect and repair the 3E1951 slip ring split mounting plate as specified in Hartzell Service Letter HC-SL-61-239, or replace with a serviceable unit.

(5) If a mounting bolt is found broken or torque cannot be achieved, the propeller hub must be repaired or replaced in accordance with the Hub Repair or Replacement instructions in Paragraph 3.B. before further flight. Contact Hartzell Product Support.

NOTE: A propeller hub with two or more mounting nuts that fail the torque inspection must not be removed and reused on another aircraft application without repair in accordance with the Hub Repair or Replacement instructions in Paragraph 3.B.

(a) Inspect and repair the 3E1951 slip ring split mounting plate as specified in Hartzell Service Letter HC-SL-61-239, or replace with a serviceable unit.

(6) Make a logbook entry noting compliance with the Mounting Hardware Torque Inspection instructions of the Accomplishment Instructions section of this Service Bulletin.

B. Hub Repair or Replacement

NOTE: Hub repair or replacement must be performed by qualified personnel at an appropriately licensed propeller repair facility.

(1) Remove the propeller from the aircraft in accordance with Hartzell Owner's Manual 115N (61-00-15).

(2) Disassemble the propeller in accordance with the Hartzell Compact Constant Speed and Feathering Propeller Overhaul and Maintenance Manual 117D (61-10-17).

(3) Repair or Replace Hub:

(a) Overhaul the hub:

CAUTION: IF TWO OR MORE MOUNTING NUTS FAIL THE TORQUE INSPECTION, BEFORE FURTHER FLIGHT, ALL THE HUB MOUNTING STUD HOLES MUST BE DRILLED OUT AND A SLIMSERT INSTALLED.

1 During the hub overhaul process, the propeller mounting stud holes must be drilled out and a slimsert installed in each mounting stud hole in accordance the repair of F-flange and N-flange stud mounting threads instructions in the Repair section of the Aluminum Hub Overhaul chapter of Hartzell Standard Practices Manual 202A (61-01-02).

CAUTION: IT IS CRITICAL THAT THE DYE PENETRANT INSPECTION IS CARRIED OUT ON THE SMOOTH REAMED MOUNTING STUD HOLES PRIOR TO TAPPING FOR THE SLIMSERTS.

2 Before tapping the mounting holes, perform etch and fluorescent penetrant inspection in accordance with the procedures specified in Hartzell Standard Practices Manual 202A (61-01-02).

3 If a hub crack is identified during the dye penetrant inspections, the hub must be retired from service.

4 Tap the holes and install the slimsert in accordance the Repair of F-flange and N-flange stud mounting threads instructions in the Repair section of the Aluminum Hub Overhaul chapter of Hartzell Standard Practices Manual 202A (61-01-02).

5 Reassemble the propeller in accordance with the Hartzell Compact Constant Speed and Feathering Propeller Overhaul and Maintenance Manual 117D (61-10-17).

6 Make a logbook entry noting compliance with the Hub Repair or Replacement instructions of the Accomplishment Instructions section as terminating action for this Service Bulletin.

(b) Hub Replacement

1 Reassemble the propeller with a new hub or serviceable hub in accordance with the Hartzell Compact Constant Speed and Feathering Propeller Overhaul and Maintenance Manual 117D (61-10-17).

NOTE: 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).

2 Make a logbook entry noting compliance with the Hub Repair or Replacement instructions of the Accomplishment Instructions section as terminating action for this Service Bulletin.

(5) Repair the slip ring split mounting plate, as required, in accordance with Hartzell Service Letter HC-SL-61-239 or replace the slip ring split mounting plate with a serviceable unit.

(6) Install the propeller on the aircraft with the correct mounting hardware including the A-1381 washer in accordance with Hartzell Owner’s Manual 115N (61-00-15).

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