

HARTZELL PROPELLER INC.
SERVICE BULLETIN
HC-SB-61-389

Pitch Change Knob Brackets/Mounting Hardware

1. Planning Information

A. Effectivity

- (1) Hartzell Propeller Inc. 3-blade lightweight turbine propeller models HC-D3F-7() are affected by this Service Bulletin.
- (2) Hartzell Propeller Inc. 4-blade lightweight turbine propeller models HC-D4N-(2,3,5)(), HC-D4P-5(), HC-E4N-3(G,H,I,J,N,P,PY,Q), HC-E4N-5(A,B,D), HC-E4A-3(D,M), HC-E4P-3K, and HC-E4W-(3,5)() 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WARNING: DO NOT USE OBSOLETE OR OUTDATED INFORMATION.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. has received reports about premature failure of the B-3825 screws used to attach the pitch change knob brackets to the blades on affected propellers.
- (2) Hartzell Propeller Inc. is introducing redesigned pitch change knob brackets and mounting hardware for the affected propellers.

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D. Description

- (1) This Service Bulletin provides Instructions for Continued Airworthiness (ICA).
- (2) This Service Bulletin introduces the 108305-() pitch change knob bracket as a replacement for the 100492-() pitch change knob bracket used on affected 3-blade propellers.
 - (a) The 108232 hex head bolt replaces the B-3825 screw used to attach the pitch change knob bracket unit to the blade on affected 3-blade propellers.
 - (b) Refer to the Material Information section in this Service Bulletin for a complete list of components required for pitch change knob bracket replacement.
- (3) This Service Bulletin introduces the 108302-() pitch change knob bracket as a replacement for the B-465-() and 100027-() pitch change knob brackets used on affected 4-blade propellers.
 - (a) The 108142 12-point bolt replaces the B-3825 screw used to attach the pitch change knob bracket to the blade on affected 4-blade propellers.
 - (b) Refer to the Material Information section in this Service Bulletin for a complete list of components required for pitch change knob bracket replacement.
 - 1 Hartzell Propeller Inc. will offer discounted pricing on the 108302-2-OH Pitch Change Knob Bracket O/H Kit listed in the Material Information section of this Service Bulletin.
- (4) This Service Bulletin provides instructions for installing the redesigned pitch change knob bracket onto the blade for affected 3-blade and 4-blade propellers.
- (5) This Service Bulletin provides instructions for inspecting the redesigned pitch change knob brackets.
- (6) Affected propellers manufactured after the release date of this Service Bulletin will incorporate the applicable redesigned pitch change knob brackets and mounting hardware.
- (7) After the release date of this Service Bulletin, affected propeller overhaul kits will include the 108142 mounting bolts and the 102632 silicone tubing used on affected 4-blade propellers.
 - (a) Refer to the Material Information section in this Service Bulletin for a list of affected propeller overhaul kits and the part numbers/qty. of components that are being added to the kits.

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E. Compliance

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

- (1) 3-blade propellers:
 - (a) Beginning on February 1, 2023, Hartzell will require replacement of all three 100492-() pitch change knob brackets at next propeller overhaul or pitch change knob bracket removal, whichever occurs first.
 - 1 Replace the 100492-() pitch change knob brackets with new or serviceable 108305-() pitch change knob brackets in accordance with the Accomplishment Instructions section in this Service Bulletin.
- (2) 4-blade propellers:
 - (a) Beginning on February 1, 2023, Hartzell will require replacement of all four B-465-() or 100027-() pitch change knob brackets at next propeller overhaul or pitch change knob bracket removal, whichever occurs first.
 - 1 Replace the B-465-() or 100027-() pitch change knob brackets with new or serviceable 108302-() pitch change knob brackets in accordance with the Accomplishment Instructions section in 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

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J. References

- (1) Hartzell Propeller Inc. Four Blade Lightweight Turbine Propeller Overhaul Manual 141 (61-10-41)
- (2) Hartzell Propeller Inc. Four Blade Lightweight Turbine Propeller Overhaul Manual 142 (61-10-42)
- (3) Hartzell Propeller Inc. Four Blade Lightweight Turbine Propeller Maintenance Manual 143A (61-10-43)
- (4) Hartzell Propeller Inc. Propeller Owner's Manual 149 (61-00-49)
- (5) Hartzell Propeller Inc. Three Blade Lightweight Turbine Propeller Maintenance Manual 155 (61-10-55)
- (6) Hartzell Propeller Inc. Four Blade Lightweight Turbine Propeller Inspection/Repair/Overhaul Manual 156A (61-10-56)

K. Other Publications Affected

- (1) Hartzell Propeller Inc. Four Blade Lightweight Turbine Propeller Overhaul Manual 141 (61-10-41)
- (2) Hartzell Propeller Inc. Four Blade Lightweight Turbine Propeller Overhaul Manual 142 (61-10-42)
- (3) Hartzell Propeller Inc. Four Blade Lightweight Turbine Propeller Maintenance Manual 143A (61-10-43)
- (4) Hartzell Propeller Inc. Three Blade Lightweight Turbine Propeller Maintenance Manual 155 (61-10-55)
- (5) Hartzell Propeller Inc. Four Blade Lightweight Turbine Propeller Inspection/Repair/Overhaul Manual 156A (61-10-56)
- (6) Hartzell Propeller Inc. Service Bulletin HC-SB-61-291
- (7) Hartzell Propeller Inc. Service Bulletin HC-SB-61-346

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2. Material Information

A. Components Required for 3-blade Propellers

Part Number	Description	Qty	Replaces
108306-()	Pitch Change Knob Bracket Unit <i>includes bulleted (•) items below</i>	3	100401-()
108305-()	• Pitch Change Knob Bracket	1	100492-()
B-3860-10L	• Washer, Dimpled, 100°, Cres.	1	-
103395	• Washer, Retaining, Knob Unit	1	-
B-6545	• Cam Follower	1	-
B-6260-1	• Dowel Pin, 3/8"	1	-
B-3867-272	• Screw, 10-32, 100° Head, Cres.	1	-
108232	Bolt, 1/4-28, Hex Head (Bracket Mtg.)	6	B-3825

B. Components Required for 4-blade Propellers

Part Number	Description	Qty	Replaces
108302-2-OH	Pitch Change Bracket O/H Kit <i>includes bulleted (•) items below</i>	1	-
108302-2	• Pitch Change Knob Bracket	4	B-465-() and 100027-()
B-6260	• Dowel Pin, 3/8"	4	-
B-3860-10L	Washer, Dimpled, 100°, Cres.	4	-
B-3867-272	Screw, 10-32, 100° Head, Cres.	4	-
B-6545	Cam Follower	4	-
102632	Silicone Tubing	4	-
103395	Washer, Retaining, Knob Unit	4	-
108142	Bolt, 1/4-28, 12 Point	8	B-3825

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C. Pitch Change Knob Bracket/Blade Angle Adjustment

Part Number	Description	Change of Blade Angle
108305-1	Pitch Change Knob Bracket (3-blade)	-0.3 degrees
108305-2	Pitch Change Knob Bracket (3-blade)	-
108305-3	Pitch Change Knob Bracket (3-blade)	+0.3 degrees
108302-1	Pitch Change Knob Bracket (4-blade)	-0.3 degrees
108302-2	Pitch Change Knob Bracket (4-blade)	-
108302-3	Pitch Change Knob Bracket (4-blade)	+0.3 degrees

D. Affected Propeller Overhaul Kits

- (1) The affected overhaul kits listed below will include the 102632 silicone tubing (qty: 4) and 108142 12-point bolts (qty: 4) instead of the B-3825 screws previously used in the affected kits.

Affected Propeller Overhaul Kit Part Numbers:		
HC-D4N-2A-OH	HC-D4N-3N-OH	HC-E4N-3G-OH
HC-D4N-2D(A)-OH	HC-D4N-3R-OH	HC-E4N-3I-OH
HC-D4N-2E-OH	HC-D4N-3T-OH	HC-E4N-3N-OH
HC-D4N-2F-OH	HC-D4N-5AL-OH	HC-E4N-3Q-OH
HC-D4N-2G-OH	HC-D4N-5C-OH	HC-E4N-5A-OH
HC-D4N-3A-OH	HC-D4N-5E-OH	HC-E4N-5B-OH
HC-D4N-3C-OH	HC-E4A-3D-OH	HC-E4N-5D-OH
HC-D4N-3E-OH	HC-E4N-3-OH	-

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3. Accomplishment Instructions

CAUTION: INSTRUCTIONS AND PROCEDURES IN THIS SERVICE BULLETIN MAY INVOLVE PROPELLER CRITICAL PARTS. REFER TO THE APPLICABLE PROPELLER OVERHAUL OR OWNER'S MANUAL FOR INFORMATION ABOUT PROPELLER CRITICAL PARTS.

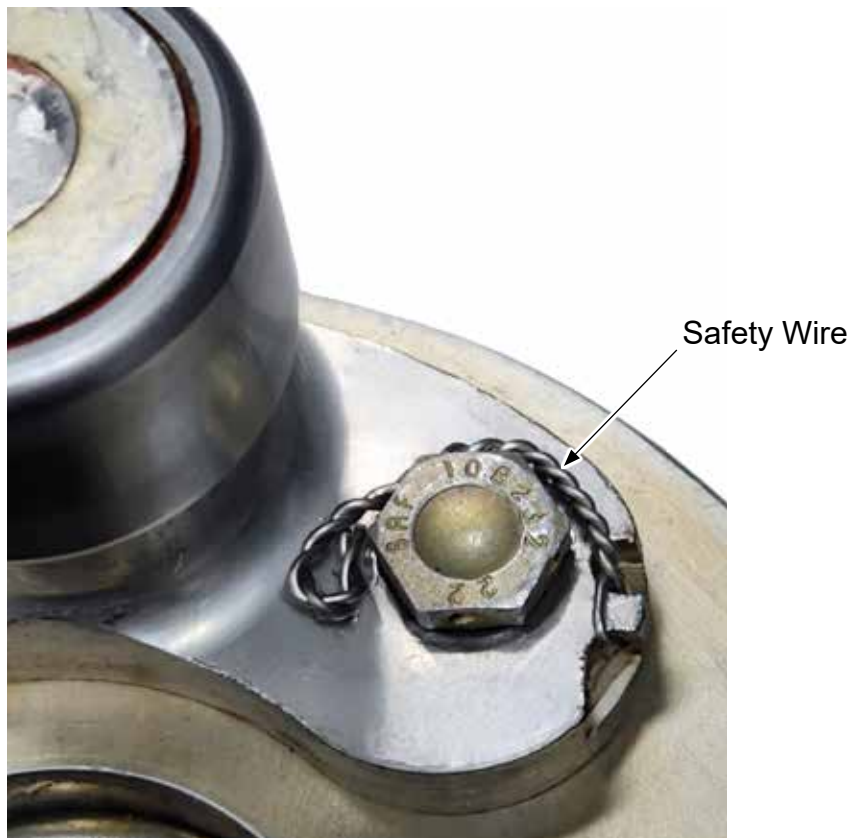
A. Pitch Change Knob Bracket Replacement

- (1) Disassembly, inspection, and assembly of the propeller and propeller hub must be performed by a certified propeller repair station with the appropriate rating.
- (2) Remove the propeller assembly from the aircraft in accordance with Hartzell Propeller Inc. Propeller Owner's Manual 149 (61-00-49).
- (3) Remove the pitch change knob bracket from each blade in accordance with the Disassembly chapter in the applicable Hartzell Propeller Inc. overhaul/maintenance manual.
 - (a) 3-blade propellers:
 - 1 Discard the B-3825 screws used to attach the 100492-() pitch change knob brackets.
 - 2 Retire the 100492-() pitch change knob brackets in accordance with the Part Retirement Procedures chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).
 - (b) 4-blade propellers:
 - 1 Discard the B-3825 screws used to attach the B-465-() or 100027-() pitch change knob brackets.
 - 2 Retire the B-465-() or 100027-() pitch change knob brackets in accordance with the Part Retirement Procedures chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

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TPI-MB-0466

Safety Wire: 3-blade Propellers
Figure 1

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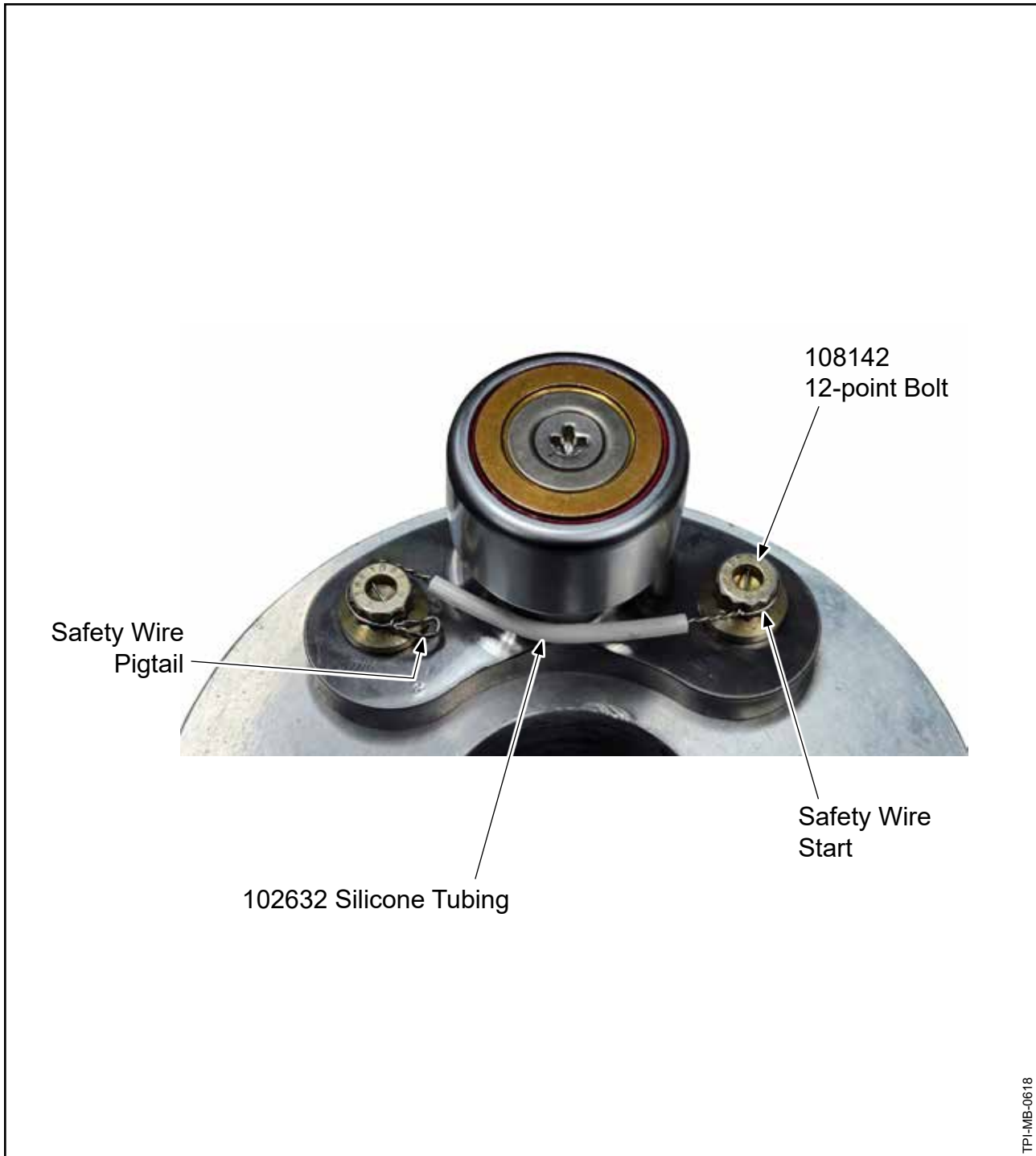
Pitch Change Knob Brackets/Mounting Hardware

- (4) Assemble/install the pitch change knob brackets in accordance with the applicable steps.
- (a) 3-blade propellers:
- 1 Install the B-6260-1 dowel pin and the B-6545 cam follower onto the 108305-() pitch change knob bracket in accordance with the Assembly chapter in Hartzell Propeller Inc. Three Blade Lightweight Turbine Propeller Maintenance Manual 155 (61-10-55).
 - 2 Position the 108305-() pitch change knob bracket on the butt of the blade in accordance with the Assembly chapter in Hartzell Propeller Inc. Three Blade Lightweight Turbine Propeller Maintenance Manual 155 (61-10-55).
 - a Use the alternate pitch change knob bracket choices as necessary to bring the floating pitch angle of all three blades within the specified tolerance of ± 0.1 degree. Refer to "Pitch Change Knob Bracket/Blade Angle Adjustment" in the Material Information section in this Service Bulletin.
 - 3 Attach the 108305-() pitch change knob bracket to the butt of the blade with two 108232 hex head bolts.
 - a Torque the 108232 hex head bolts 16-18 Ft.-Lbs. (22-24 N•m).
 - 4 Safety wire the 108232 hex head bolts to the hole in the pitch change knob bracket in accordance with NASM33540 and Figure 1.
 - 5 Repeat steps (4)(a)1 thru (4)(a)4 of this procedure for the remaining blades.
- (b) 4-blade propellers:
- 1 Install the B-6260 dowel pin and the B-6545 cam follower onto the 108302-() pitch change knob bracket in accordance with the Assembly chapter in the applicable Hartzell Propeller Inc. overhaul/maintenance manual.
 - 2 Position the 108302-() pitch change knob bracket on the butt of the blade in accordance with the Assembly chapter in the applicable Hartzell Propeller Inc. overhaul/maintenance manual.
 - a Use the alternate pitch change knob bracket choices as necessary to bring the floating pitch angle of all three blades within the specified tolerance of ± 0.1 degree. Refer to "Pitch Change Knob Bracket/Blade Angle Adjustment" in the Material Information section in this Service Bulletin.

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Safety Wire/Silicone Tubing: 4-blade Propellers
Figure 2

TPI-MB-0618

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- 3 Attach the 108302-() pitch change knob bracket to the butt of the blade with two 108142 12-point bolts.
 - a Torque the 108142 12-point bolts 16-18 Ft.-Lbs. (22-24 N•m).
 - 4 Safety wire the 108142 12-point bolts to each other in accordance with NASM33540 with the 102632 silicone tubing positioned as shown in Figure 2.
 - 5 Repeat steps (4)(b)1 thru (4)(b)4 of this procedure for the remaining blades.
- (5) Complete the assembly of the propeller in accordance with the applicable Hartzell Propeller Inc. overhaul manual.
 - (6) Install the propeller onto the aircraft in accordance with Hartzell Propeller Inc. Propeller Owner's Manual 149 (61-00-49).
 - (7) Make an entry in the propeller logbook indicating replacement of the pitch change knob bracket as terminating action for this Service Bulletin.

B. Inspection Criteria

- (1) At overhaul, inspect the 108302-() and 108305-() pitch change knob brackets in accordance with the pitch change knob bracket inspection criteria in the Check chapter of the applicable Hartzell Propeller Inc. overhaul/maintenance manual.

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C. 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.

D. Contact Information

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