

**HARTZELL PROPELLER INC.**  
**SERVICE LETTER**  
**TRANSMITTAL SHEET**  
**HC-SL-61-48A**  
**Propeller - Diaphragm Inspection**

December 07, 2022

This page transmits Revision 3 to Service Letter HC-SL-61-48A

- Original Issue, dated Apr 20/67
- Revision A, dated Oct 14/88
- Revision 1, dated Sep 17/07
- Revision 2, dated Apr 15/14
- Revision 3, dated Dec 07/22

Propeller assemblies that have previously complied with the diaphragm inspections and replacement required in previous revisions of this Service Letter are affected.

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

Revision 3 is issued to change the following in the Service Letter:

- Revise the section, "Visual Inspection"

This Service Letter is reissued in its entirety.

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1. Planning Information

A. Effectivity

- (1) Hartzell Propeller Inc. hydro-selective propeller models HC-(1,D)(2,3)(X,V,MV)20-(7,8) using the B-119-( ) diaphragm are affected by this Service Letter.

**WARNING:** DO NOT USE OBSOLETE OR OUTDATED INFORMATION. PERFORM ALL INSPECTIONS OR WORK IN ACCORDANCE WITH THE MOST RECENT REVISION OF THIS SERVICE LETTER. INFORMATION CONTAINED IN THIS SERVICE LETTER MAY BE SIGNIFICANTLY CHANGED FROM EARLIER REVISIONS. FAILURE TO COMPLY WITH THIS SERVICE LETTER 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 LETTER INDEX FOR THE MOST RECENT REVISION LEVEL OF THIS SERVICE LETTER.

B. Concurrent Requirements

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

C. Reason

- (1) There have been fatigue failures of the B-119-( ) diaphragm that is used to actuate the pitch change mechanism. The failures are apparently due to high calendar times. The diaphragm ruptured and resulted in loss of engine oil. The loss of engine oil caused the blades to move to high pitch.
- (2) The cause of the failures were attributed to deterioration of the rubber caused by extensive exposure to weather and atmosphere.
- (3) This Service Letter was originally issued to require an initial and repetitive visual inspection of the B-119-( ) diaphragm.

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D. Description

- (1) This Service Letter provides Instructions for Continued Airworthiness (ICA).
- (2) This Service Letter requires repetitive visual inspections of the B-119-( ) diaphragm.
- (3) This Service Letter requires replacement of the B-119-( ) diaphragm every 24 months.

E. Compliance

- (1) Repetitive Visual Inspections
  - (a) Every six months, visually inspect the B-119-( ) diaphragm in accordance with the Accomplishment Instructions in this Service Letter.
    - 1 Perform the repetitive visual inspections for up to, but not more than 24 months from the date of the most recent diaphragm installation.
- (2) Diaphragm Replacement
  - (a) Every 24 months, replace the B-119-( ) diaphragm in accordance with Hartzell Propeller Inc. Owner's Manual 140 (61-00-40), revision 3 or later.
- (3) After replacing the diaphragm, repeat the cycle of repetitive visual inspections in accordance with this Service Letter.

F. Approval

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

G. Manpower

- (1) Approximately 4 man-hours are required for propeller removal, diaphragm inspection, and propeller installation in accordance with the Accomplishment Instructions in this Service Letter.

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H. References

- (1) Hartzell Propeller Inc. Owner's Manual 140 (61-00-40), revision 3 or later.

I. Other Publications Affected

- (1) None

2. Material Information

A. Material Necessary for Each Propeller/Component

<u>Part Number</u>	<u>Description</u>	<u>Qty</u>
B-119-2	Diaphragm	1

3. Accomplishment Instructions

A. Visual Inspection

- (1) Removal of the propeller from the aircraft and inspection/replacement of the diaphragm must be performed by a certified aircraft mechanic with the appropriate rating, or a certified propeller repair station with the appropriate rating.
- (2) If applicable, remove the spinner dome in accordance with Hartzell Propeller Inc. Owner's Manual 140 (61-00-40), revision 3 or later.
- (3) Remove the propeller from the aircraft in accordance with Hartzell Propeller Inc. Owner's Manual 140 (61-00-40), revision 3 or later.

**CAUTION:** DO NOT REMOVE THE DIAPHRAGM FROM THE AIRCRAFT WHEN PERFORMING THE VISUAL INSPECTION.

- (4) Inspect the diaphragm.
  - (a) Remove the A-63 thrust nut and the A-121 valve link screw.
  - (b) Pull the C-112-( ) piston assembly forward to permit visual inspection of the diaphragm.

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- (c) Visually examine all surfaces of the diaphragm (that are visible when installed on the aircraft) for cracking or crazing.
- 1 If cracking or crazing is found, replace the diaphragm in accordance with Hartzell Propeller Inc. Owner's Manual 140 (61-00-40), revision 3 or later.
  - 2 If no evidence of cracking or crazing is found, reassemble the propeller in accordance with Hartzell Propeller Inc. Owner's Manual 140 (61-00-40), revision 3 or later.
- (5) Install the propeller on the aircraft in accordance with Hartzell Propeller Inc. Owner's Manual 140 (61-00-40), revision 3 or later.
- (6) Install the spinner dome in accordance with Hartzell Propeller Inc. Owner's Manual 140 (61-00-40), revision 3 or later.
- (7) Make an entry in the propeller logbook indicating compliance with this Service Letter.

**B. 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](http://www.hartzellprop.com).

**C. Contact Information**

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