

HARTZELL PROPELLER INC.
SERVICE LETTER
TRANSMITTAL SHEET
HC-SL-61-265
Propeller - Smooth Forge Hub

October 9, 2009

This page transmits a revision to Service Letter HC-SL-61-265.

- Original Issue, dated Jan 12/07
- Revision 1, dated Feb 28/07
- Revision 2, dated Oct 09/09

Propeller assemblies that have previously complied with an earlier version of this Service Letter 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. Some changes that do not affect technical content may not be highlighted in this transmittal sheet.

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

- Update Table 1 for additional affected part number.
- Add CAUTION for use of latest revision.

This Service Letter is reissued in its entirety.

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1. Planning Information

A. Effectivity

- (1) All Hartzell three-bladed hubs used in compact propeller series ()HC-()3Y()-() with part numbers listed in Table 1 in this Service Letter are affected by this Service Letter.

CAUTION: DO NOT USE OBSOLETE OR OUTDATED INFORMATION.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. USE OF OBSOLETE INFORMATION 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.

- (2) Applications that have complied with the requirements of a previous version of this Service Letter are affected by this revision.

B. Concurrent Requirements

- (1) None

C. Reason

- (1) Hartzell Propeller Inc. has begun production of the three-bladed compact propeller hub using a new "smooth" forging.

D. Description

- (1) This Service Letter introduces a smooth forged three-bladed compact propeller hub.
- (2) The previous three-bladed hub is an alternate for the new three-bladed smooth forged hub. Refer to Table 1 in this Service Letter for an individual part number.
- (3) The three-bladed smooth forged hub may be used anywhere the previous three-bladed hub is used.
 - (a) The serial number sequence for the three-bladed smooth forged hub is a continuation of the serial number sequence for the previous hub.
- (4) The three-bladed smooth forged hub is visually different from the previous hub. Refer to Figure 1 in this Service Letter.

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- (5) The three-bladed smooth forged hub requires the use of torque wrench adapter TE457 when torquing the hub clamping bolts. Refer to Figure 2 and Figure 3 in this Service Letter.
- (6) At overhaul, inspect the three-bladed smooth forged hub in accordance with the existing limits as published in the Aluminum Hub Overhaul chapter of Hartzell Standard Practices Manual 202A (61-01-02).
- (7) When installing TKS anti-ice on a propeller with a smooth forged hub, the hub clamping bolts that hold the P-clip in place must be installed with the head of the bolt on the engine-side of the hub. This will permit the nuts to be accessible on the cylinder-side of the smooth forged hub. Refer to Figure 4 in this Service Letter.
- (8) Some spinner bulkheads may require modification.
- (9) Existing inventory of three-bladed hubs may be used until depleted.
- (10) The part numbers for the three-bladed smooth forged hub design will be incorporated in the Illustrated Parts Lists of the applicable overhaul manuals at next revision.

E. Compliance

- (1) As necessary.

F. Approval

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

G. Manpower

- (1) Additional man-hours are not required when performed in conjunction with propeller overhaul.

H. Weight and Balance

- (1) There is a weight increase of 0.1 pound (0.05 kilogram).

I. References

- (1) Hartzell Compact and Lightweight Compact Non-Feathering (-1) and Aerobatic (-4) Propeller Overhaul and Maintenance Manual 113B (61-10-13)
- (2) Propeller Owner's Manual and Logbook 115N (61-00-15) - Aluminum Blades
- (3) Hartzell Compact Constant Speed and Feathering Propeller Overhaul and Maintenance Manual 117D (61-10-17)
- (4) Hartzell Spinner Maintenance Manual 127 (61-16-27)

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- (5) Propeller Owner's Manual and Logbook 145 (61-00-45) - Composites Blades
- (6) Hartzell Illustrated Tool and Equipment Manual 165E (61-00-65)
- (7) Hartzell Standard Practices Manual 202A (61-01-02)

J. Other Publications Affected

- (1) Hartzell Compact and Lightweight Compact Non-Feathering (-1) and Aerobatic (-4) Propeller Overhaul and Maintenance Manual 113B (61-10-13)
- (2) Propeller Owner's Manual and Logbook 115N (61-00-15) - Aluminum Blades
- (3) Hartzell Compact Constant Speed and Feathering Propeller Overhaul and Maintenance Manual 117D (61-10-17)
- (4) Hartzell Spinner Maintenance Manual 127 (61-16-27)
- (5) Propeller Owner's Manual and Logbook 145 (61-00-45) - Composites Blades
- (6) Hartzell Illustrated Tool and Equipment Manual 165E (61-00-65)
- (7) Hartzell Standard Practices Manual 202A (61-01-02)

2. Material Information

A. Special Tooling

<u>Part Number</u>	<u>TE Number</u>	<u>Description</u>	<u>Vendor</u>
101939	TE457	Wrench, Adapter, Torque	Locally fabricated, Refer to NOTE

NOTE: Figure 2 is a print that provides information to construct a tool by cutting a socket into two pieces, modifying each socket piece to the sizes given, and welding the modified socket pieces to a bar. Figure 3 is a print that provides information for fabrication of the tool from base materials.

B. Materials

- (1) Refer to Table 1 in this Service Letter for a list of part numbers for the smooth forged hub.
- (2) The three-bladed smooth forged hub with the new part numbers will be shipped as the Hartzell Propeller Inc. inventory of hubs with previous part numbers is depleted.

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3. Accomplishment Instructions

A. Refer to Table 1 in this Service Letter to determine the applicable part number for the smooth forged hub.

CAUTION 1: DO NOT USE AN OPEN END WRENCH TO TORQUE THE HUB CLAMPING NUTS ON THE SMOOTH FORGED HUB.

CAUTION 2: WHEN USING THE TORQUE WRENCH ADAPTER TE457, MAKE SURE THAT IT IS CORRECTLY ENGAGED ON THE NUT BEFORE APPLYING TORQUE.

B. Assemble a propeller with the three-bladed smooth forged hub in accordance with the Assembly chapter of Hartzell Overhaul Manual 113B (61-10-13) or 117D (61-10-17), as applicable.

CAUTION: ADJUST THE INSTALLATION TORQUE WHEN USING THE TORQUE WRENCH ADAPTER TE457.

(1) As necessary, use torque wrench adapter TE457 to torque the hub clamping nuts.

(a) Refer to Figure 2 and Figure 3 in this Service Letter for the prints to fabricate the wrench TE457.

C. Install the three-bladed propeller that has a smooth forged hub in accordance with the Installation and Removal chapter of Hartzell Owner's Manual 115N (61-00-15) or 145 (61-00-45), as applicable.

(1) Removal of the hub clamping nuts or bolts may be necessary for bulkhead installation, de-ice installation, or anti-ice installation.

(2) As necessary, use torque wrench adapter TE457 to remove or install the hub clamping nuts.

(a) Refer to Figure 2 and Figure 3 in this Service Letter for the prints to fabricate the wrench TE457.

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D. When installing a TKS anti-ice system on a propeller with a smooth forged hub:

- (1) Install the hub clamping bolt at the leading edge of the blade with the head of the bolt on the engine-side of the hub so that the nut is accessible on the cylinder-side of the smooth forged hub. Refer to Figure 4.

CAUTION: MAKE SURE TO HOLD THE ANTI-ICE TUBE BRACKET IN PLACE WHEN REMOVING OR INSTALLING THE HUB CLAMPING NUT THAT HOLDS THE BRACKET. IF THE BRACKET IS NOT HELD IN PLACE, IT CAN TURN AND CAN CAUSE DAMAGE TO THE HUB.

- (2) As necessary, use torque wrench adapter TE457 to remove or install the hub clamping nuts.
 - (a) Refer to Figure 2 and Figure 3 in this Service Letter for the prints to fabricate the wrench TE457.

E. When using a bulkhead, there may be interference between the hub and the bulkhead.

- (1) If there is interference when using a bulkhead manufactured by Hartzell Propeller Inc., modify the bulkhead in accordance with the Repair/Modification chapter of Hartzell Spinner Maintenance Manual 127 (61-16-27).
- (2) If there is interference when using a bulkhead from a manufacturer other than Hartzell Propeller Inc., contact the TC or STC holder for modification instructions.

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TI-0053 and TI-0054



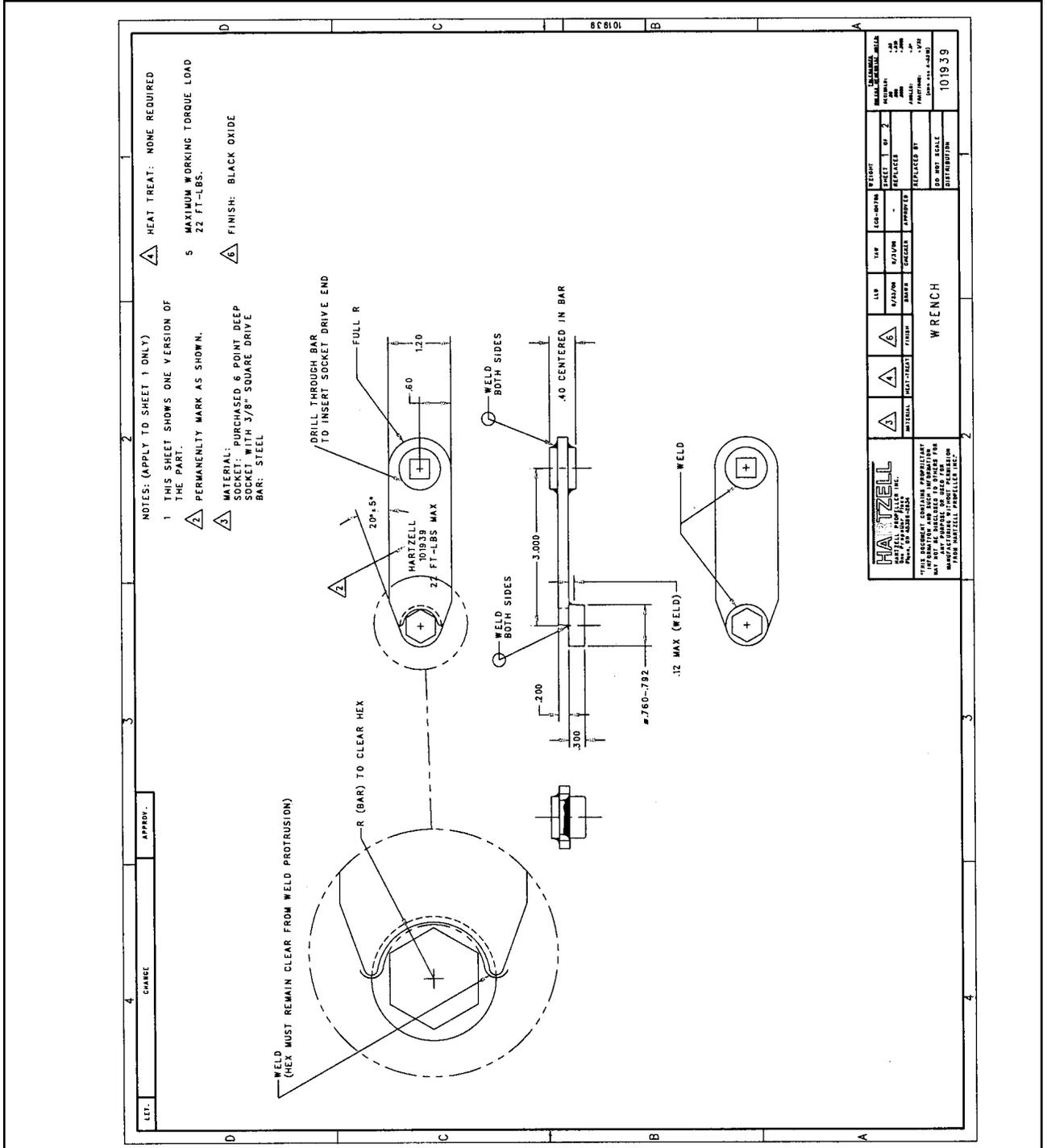
Previous Three-bladed Hub



Three-bladed Smooth Forge Hub

Visual Differences - Three-bladed Smooth Forge Hub and Previous Three-bladed Hub
Figure 1

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Print for Wrench TE457 - Sheet 1
Figure 2

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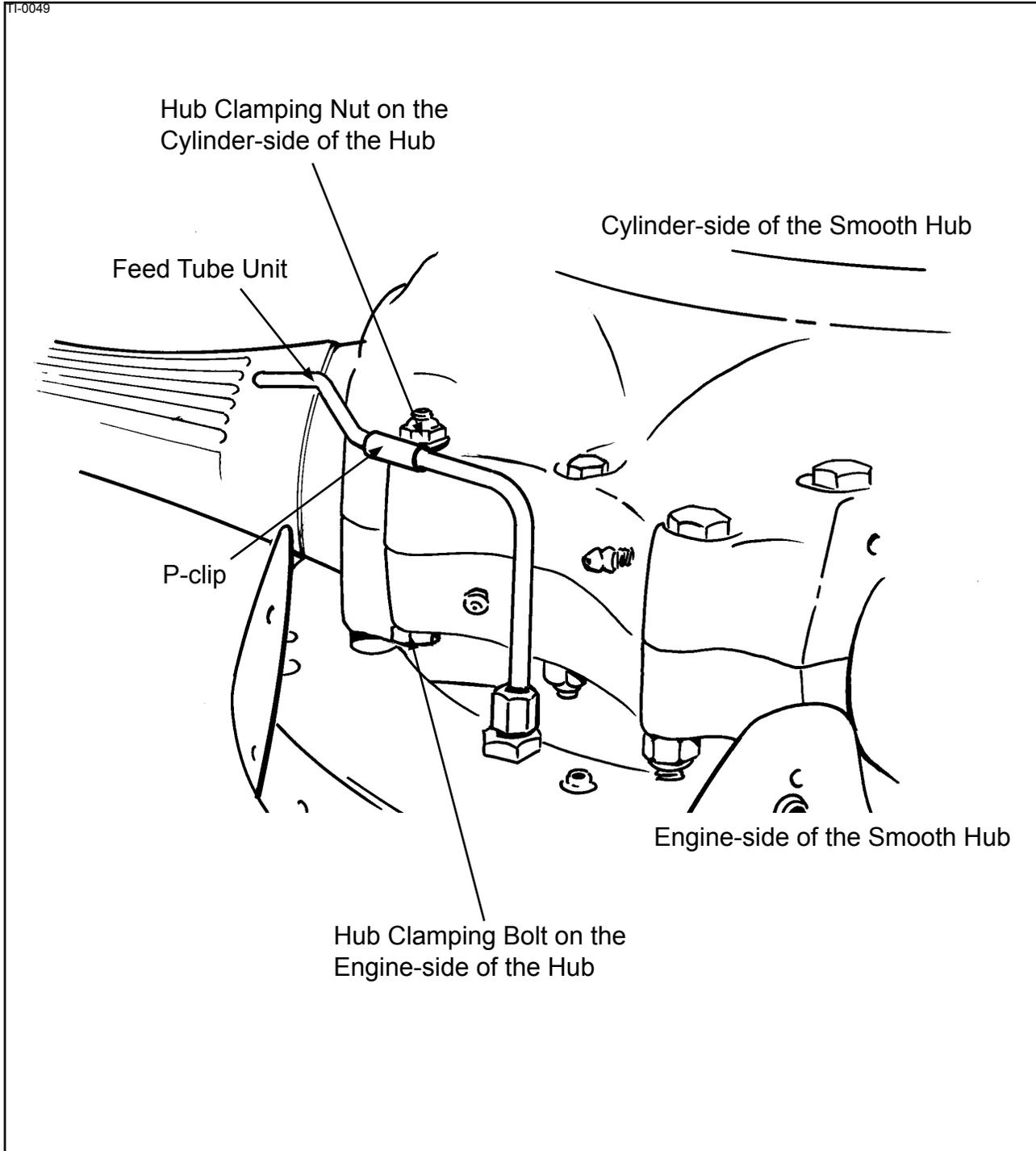
<u>PREVIOUS HUB PART NUMBER</u>	<u>SMOOTH HUB PART NUMBER</u>	<u>PREVIOUS HUB PART NUMBER</u>	<u>SMOOTH HUB PART NUMBER</u>
E-7152-1	E-7152-11	E-7162-1	E-7162-11
E-7154-1	E-7154-11	E-7166-1	E-7166-11
E-7154-1R	E-7154-11R	E-7167-1	E-7167-11
E-7154-2R	E-7154-12R	E-7167-2	E-7167-12
E-7154-3R	E-7154-13R	E-7167-3	E-7167-13
E-7154-4R	E-7154-14R	E-7167-4	E-7167-14
E-7154-5R	E-7154-15R	E-7168-1	E-7168-11
E-7156-1	E-7156-11	E-7168-2	E-7168-12
E-7156-1R	E-7156-11R	E-7169-1	E-7169-11
E-7156-2	E-7156-12	E-7169-2	E-7169-12
E-7156-3R	E-7156-13R	E-7169-3	E-7169-13
E-7156-4R	E-7156-14R	E-7169-4	E-7169-14
E-7156-5R	E-7156-15R	E-7169-5	E-7169-15
E-7157-1	E-7157-11	E-7172-1	E-7172-11
E-7157-1R	E-7157-11R	E-7172-1R	E-7172-11R
E-7159-1R	E-7159-11R	E-7173-1	E-7173-11
E-7159-2R	E-7159-12R	E-7174-1	E-7174-11
E-7160-1R	E-7160-11R	E-7174-2	E-7174-12
E-7161-1	E-7161-11	E-7175-1	E-7175-11
E-7161-1R	E-7161-11R	E-7175-2	E-7175-12
E-7161-2R	E-7161-12R	101441-1	101441-11
		101441-1R	101441-11R

**Three-Bladed Smooth Hub Part Numbers
Table 1**

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Bolt Installation When Installing TKS Anti-Ice System on a Smooth Hub

Figure 4