

HARTZELL PROPELLER INC.
SERVICE LETTER
HC-SL-61-361
Propeller - Unfeathering Tool TE316

1. Planning Information

A. Effectivity

- (1) Hartzell Propeller Inc. aluminum hub turbine propeller models HC-E5(A,N,P)-3() 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WARNING: DO NOT USE OBSOLETE OR OUTDATED INFORMATION.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 for a cross-reference of service documents.

C. Reason

- (1) Some procedures in the Hartzell Propeller Inc. owner's manuals for the affected propellers require the unfeathering tool TE316 to move the propeller to low pitch.
- (2) The A-7428 stop plate on the affected propellers prevents the unfeathering tool TE316 from sitting correctly on top of the cylinder assembly.
 - (a) This Service Letter provides instructions for modifying the unfeathering tool TE316 so that it fits over the A-7428 stop plate.

HARTZELL PROPELLER INC.
SERVICE LETTER
HC-SL-61-361
Propeller - Unfeathering Tool TE316

D. Description

- (1) This Service Letter provides Additional Maintenance Information (AMI).
- (2) This Service Letter provides instructions for modifying the unfeathering tool TE316 so that it fits over the A-7428 stop plate.
 - (a) Unfeathering tools TE316 that are manufactured after the release of this Service Letter will fit over the A-7428 stop plate without modification.
- (3) This Service Letter provides instructions for using the modified unfeathering tool TE316 on the affected propellers.

E. Approval

- (1) This technical document is approved by Hartzell Propeller Inc.

CAUTION: DO NOT USE OBSOLETE OR OUTDATED INFORMATION. PERFORM ALL INSPECTIONS OR WORK IN ACCORDANCE WITH THE MOST RECENT REVISION OF A DOCUMENT.

F. References

- (1) Hartzell Propeller Inc. Propeller Owner's Manual 147 (61-00-47)
- (2) Hartzell Propeller Inc. Propeller Owner's Manual 149 (61-00-49)
- (3) Hartzell Propeller Inc. Illustrated Tool and Equipment Manual 165A (61-00-65)

G. Other Publications Affected

- (1) Hartzell Propeller Inc. Propeller Owner's Manual 147 (61-00-47)
- (2) Hartzell Propeller Inc. Propeller Owner's Manual 149 (61-00-49)

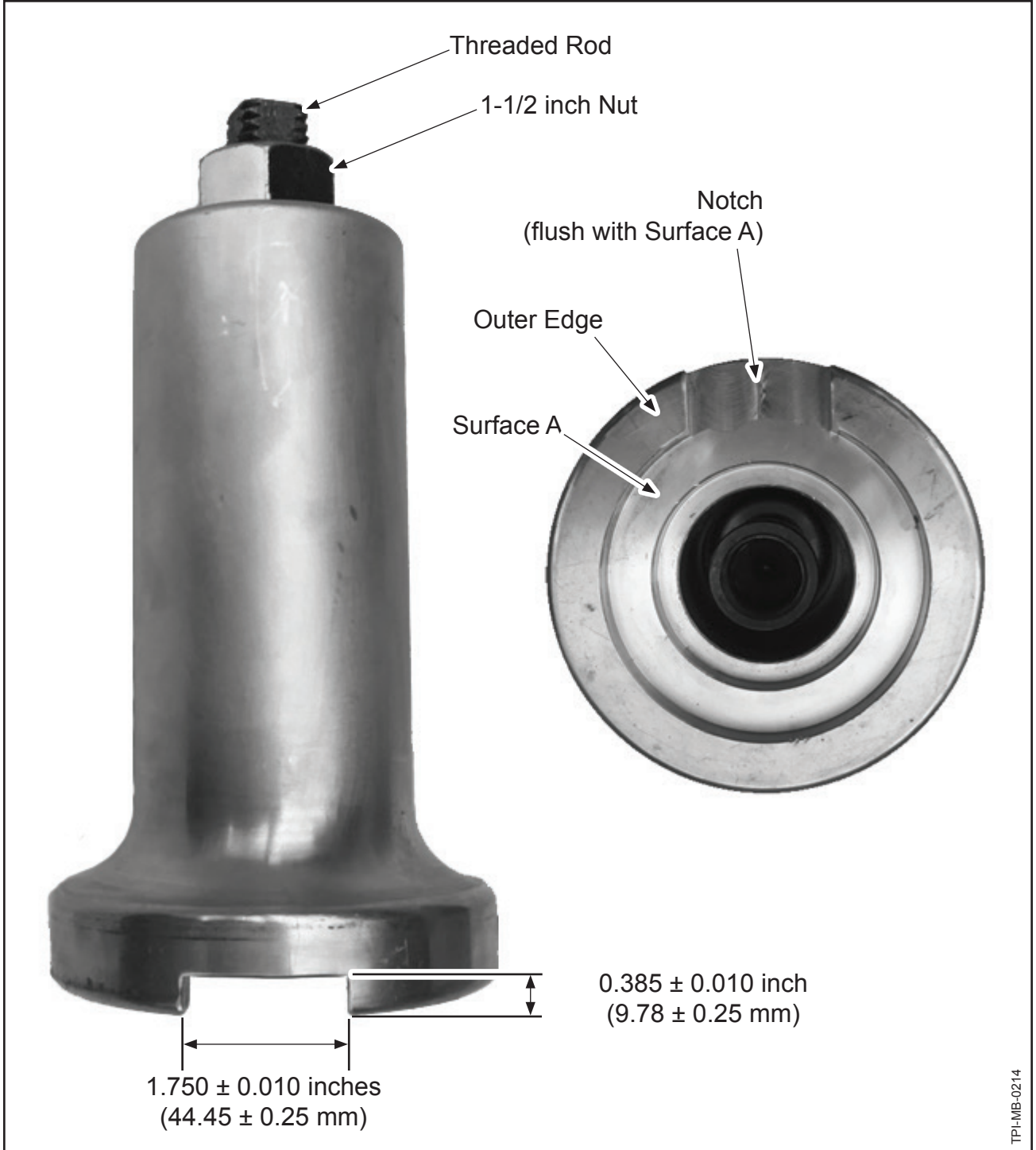
2. Material Information

A. Special Tooling

<u>TE Number</u>	<u>Part Number</u>	<u>Description</u>
TE316	9943HART-001	Unfeathering Tool

NOTE: All TE numbers in this Service Bulletin refer to Hartzell Propeller Inc. Illustrated Tool and Equipment Manual 165A (61-00-65).

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SERVICE LETTER
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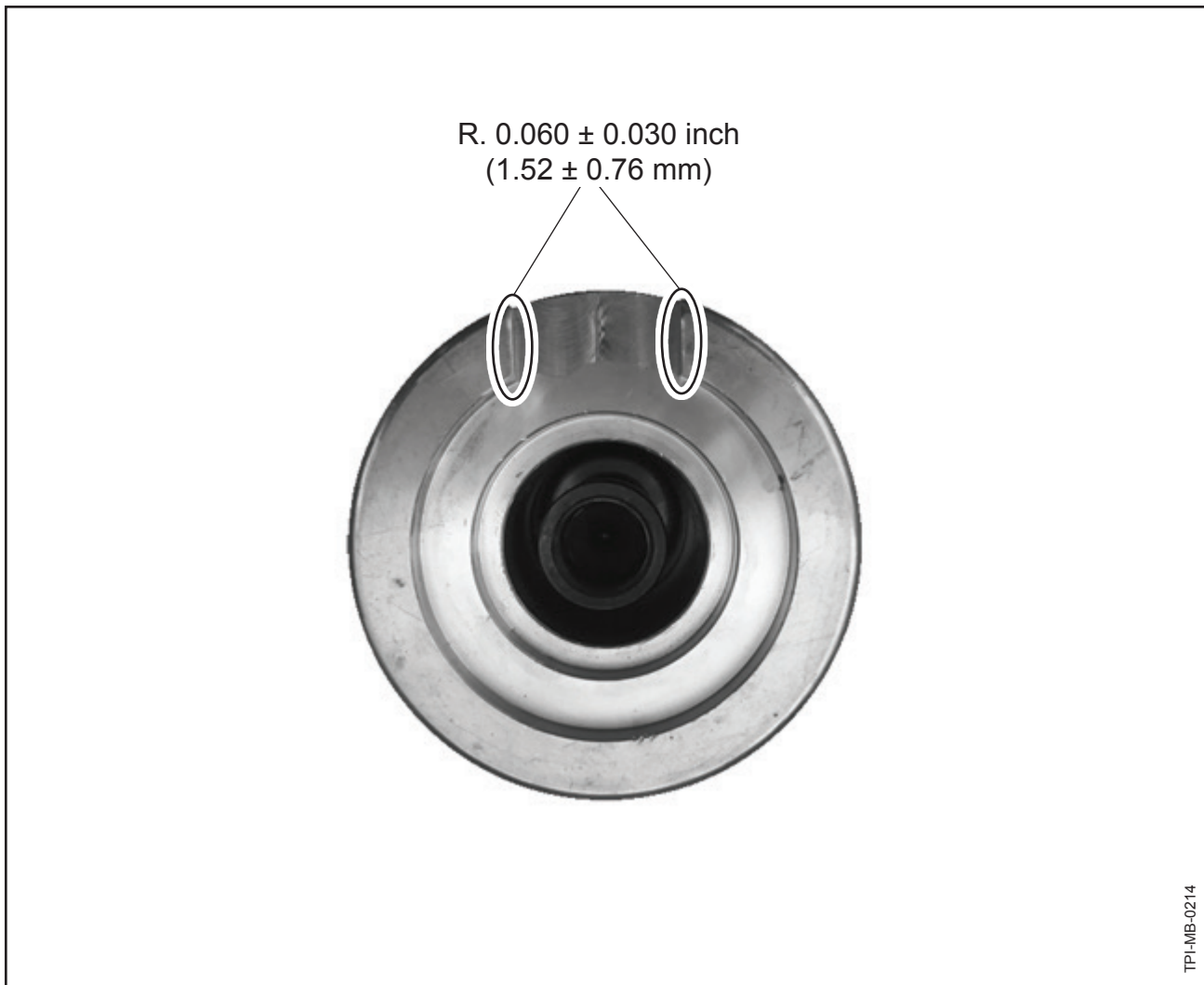
**Unfeathering Tool TE316 Modification
Figure 1**

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SERVICE LETTER
HC-SL-61-361
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3. Accomplishment Instructions

A. Unfeathering Tool TE316 Modification Instructions

- (1) Machine a notch in the outer edge on the bottom of the unfeathering tool TE316 in accordance with the dimensions specified in Figure 1.
 - (a) The notch in the outer edge should be flush with Surface A.
 - (b) Machined edges must have a finished radius of 0.060 ± 0.030 inch (1.52 ± 0.76 mm) as shown in Figure 2.



Machined Edge Finish Radius
Figure 2

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SERVICE LETTER
HC-SL-61-361
Propeller - Unfeathering Tool TE316

B. Using the Modified Unfeathering Tool TE316

- (1) To move the propeller blades to reverse angle using the modified unfeathering tool TE316:
- (a) Turn the threaded rod of the unfeathering tool TE316 onto the end of the pitch change rod as far as possible.

WARNING: TIGHTEN THE THREADED ROD UNTIL IT IS SNUG. THE FEATHERING SPRING IS PRELOADED WITH APPROXIMATELY 600 LBS. (271.8 KG) OF FORCE. FAILURE TO TIGHTEN THE THREADED ROD ONTO THE PITCH CHANGE ROD CAN CAUSE THE FEATHERING SPRING TO RELEASE WHEN MOVING THE BLADES BACK TO FEATHER. THIS CAN CAUSE PROPELLER DAMAGE, SERIOUS INJURY AND/OR DEATH.

- 1 Tighten the threaded rod until it is snug.
- (b) Put the cylindrical part of the unfeathering tool TE316 over the threaded rod and put it on top of the cylinder.
- 1 Put the notch that is in the bottom of the unfeathering tool TE316 over the A-7428 stop plate on top of the cylinder.
- (c) Install the 1-1/2 inch nut onto the threaded rod of the unfeathering tool TE316.
- 1 Turn the 1-1/2 inch nut until it touches the thrust bearing.
- 2 Continue turning the nut until the blades move to reverse angle.

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SERVICE LETTER
HC-SL-61-361
Propeller - Unfeathering Tool TE316

- (2) To move the propeller blades back to feather using the modified unfeathering tool TE316:

WARNING: MAKE SURE THE THREADED ROD OF THE UNFEATHERING TOOL TE316 DOES NOT ROTATE WHEN LOOSENING THE 1-1/2 INCH NUT. THE FEATHERING SPRING IS PRELOADED WITH APPROXIMATELY 600 LBS. (271.8 KG) OF FORCE. IF THE THREADED ROD OF THE UNFEATHERING TOOL TE316 ROTATES WHEN TURNING THE 1-1/2 INCH NUT, THE FEATHERING SPRING CAN RELEASE CAUSING THE 1-1/2 INCH NUT TO BECOME A DANGEROUS PROJECTILE. THIS CAN CAUSE PROPELLER DAMAGE, SERIOUS INJURY AND/OR DEATH.

- (a) Loosen the 1-1/2 inch nut of the unfeathering tool TE316 until the blades move to feather position.

1 Make sure the threaded rod of the unfeathering tool TE316 does not rotate when loosening the 1-1/2 inch nut.

a If the threaded rod rotates, immediately stop turning the 1-1/2 inch nut.

b Tighten the threaded rod of the unfeathering tool TE316.

(1) It may be necessary to tighten the 1-1/2 nut to access the top of the threaded rod.

c Repeat step 3.B.(2)(a).

- (b) Remove the threaded rod and the cylindrical part of the unfeathering tool TE316 or equivalent.

C. Contact Information

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