

HARTZELL PROPELLER LLC
SERVICE BULLETIN
HC-SB-61-408

Cleaning/Lubricating Beta System Components

1. Planning Information

A. Effectivity

- (1) Hartzell Propeller 5D31-NK366B1() Raptor-series turbine propellers 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WARNING: DO NOT USE OBSOLETE OR OUTDATED INFORMATION.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 website at www.hartzellprop.com for a cross-reference of service documents.

C. Reason

- (1) The accumulation of dirt and contaminants on the beta sleeves can affect the beta ring response on affected propellers.
 - (a) Refer to Figure 1 for an example of dirt/contaminant build-up on a beta sleeve.

D. Description

- (1) This Service Bulletin provides Instructions for Continued Airworthiness (ICA).
- (2) This Service Bulletin provides instructions for cleaning the beta sleeves and lubricating beta system components on affected propellers.
- (3) Refer to the Appendix section of this Service Bulletin for information about the warranty program.

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E. Compliance

- (1) At every annual propeller inspection, clean the beta sleeves and lubricate the beta system components 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

Procedure	Allowable Man-hours
Cleaning/Lubricating Beta System Components	1 hour per propeller



Beta Sleeve with Dirt/Contaminant Build-up
Figure 1

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PERFORM ALL INSPECTIONS OR WORK IN ACCORDANCE WITH
THE MOST RECENT REVISION OF A DOCUMENT.

H. References

- (1) Hartzell Propeller Tool and Equipment Manual 165A (61-00-65)
- available on the Hartzell website at www.hartzellprop.com
- (2) Hartzell Propeller Standard Practices Manual 202A (61-01-02)
- Consumable Materials chapter is available on the Hartzell website
at www.hartzellprop.com
- (3) Hartzell Propeller Owner's Manual 486 (61-00-86)
- available on the Hartzell website at www.hartzellprop.com

2. Material Information

A. Consumables

<u>CM Number</u>	<u>Description</u>
CM106	Methyl-Ethyl-Ketone (MEK)
CM173	Acetone
CM183	Isopropyl Alcohol
CM219	Methyl-Propyl-Ketone
n/a	Tri-Flow™ Lubricant (TF200271 or TF20027)

NOTE: All CM numbers in this Service Bulletin refer to the Consumable Materials
chapter of Hartzell Propeller Standard Practices Manual 202A (61-01-02).

B. Special Tooling

<u>TE Number</u>	<u>Description</u>	<u>Qty.</u>
TE100	Beta System Puller	1
CST-2987+15	Threaded Rod	3
CST-2987+16	Adapter	3
locally procured	1/4-20 Hex Nut	3
locally procured	5/16-24 x 3/4' Bolt	3
locally procured	5/16-24 Hex Nut	3

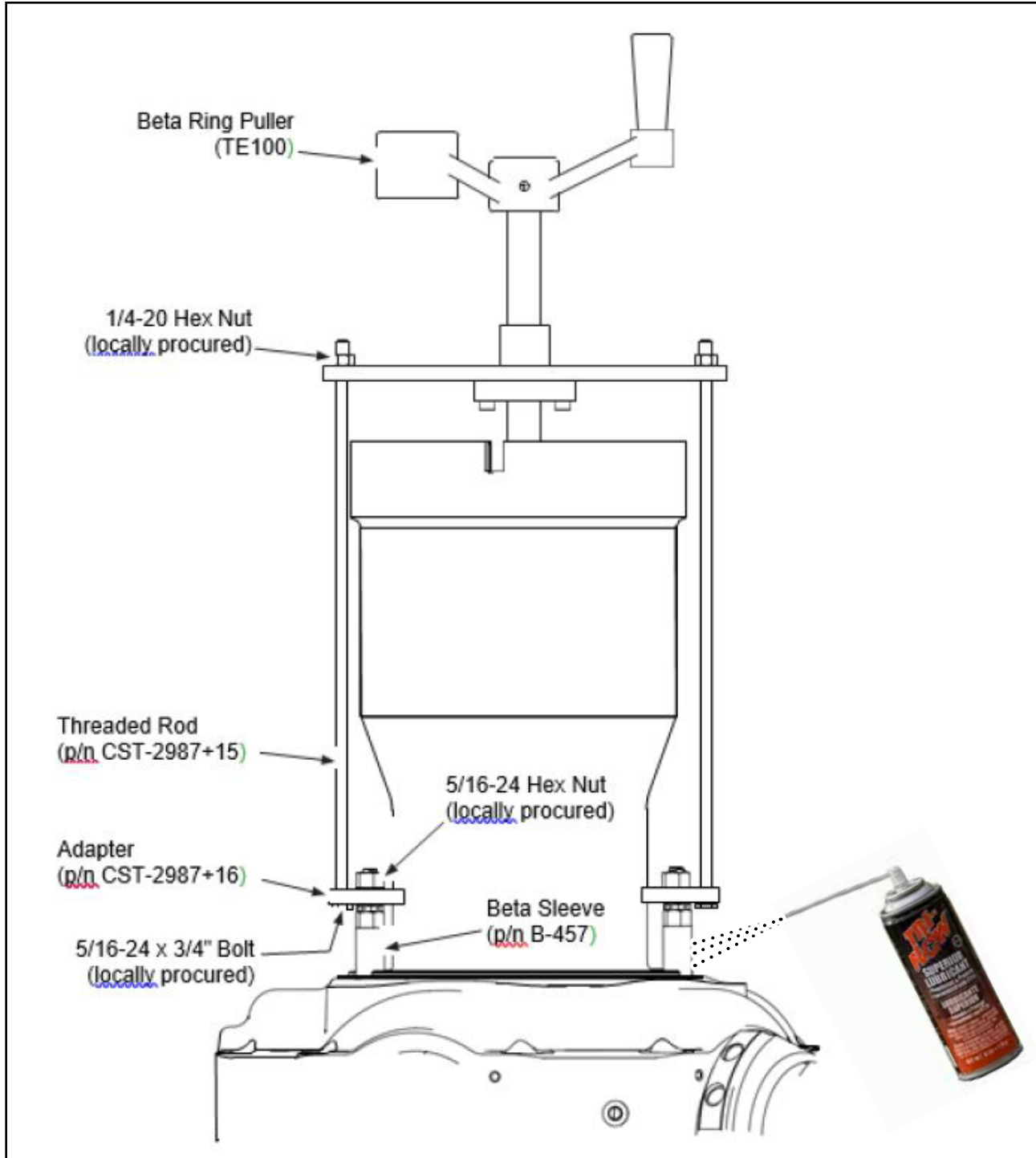
NOTE: All TE numbers in this Service Bulletin refer to Hartzell Propeller
Tool and Equipment Manual 165A (61-00-65).

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Beta System Puller (TE100)
Figure 2

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3. Accomplishment Instructions

A. Cleaning/Lubricating the Beta System Components

NOTE: This procedure can be performed on-wing by a certified airframe and powerplant mechanic with the appropriate rating or by a certified propeller repair station with the appropriate rating.

- (1) Remove the spinner dome in accordance with Hartzell Propeller Owner's Manual 486 (61-00-86).
 - (a) Mark the orientation of the spinner dome/bulkhead so that the spinner dome can be installed in the same location.
- (2) Remove the upper and lower engine cowling in accordance with the airframe manufacturer's instructions.
- (3) Install the beta system puller TE100, three CST-2987+15 threaded rods, and three CST-2987+16 adapters in accordance with Figure 2.
 - (a) Compress the beta system springs and pull the beta ring toward the propeller until the beta sleeves are exposed as shown in Figure 2.
- (4) Using a clean cloth dampened with CM106 MEK, CM219 MPK, or CM173 acetone wipe all three beta sleeves to remove dirt and contaminants.
 - (a) Let the solvent evaporate.
 - (b) Examine the beta sleeves.
 - 1 Remove any remaining dirt/contaminants using a light duty abrasive pad CM47 or equivalent, then repeat step (4).
- (5) Spray a heavy coat of Tri-Flow™ lubricant to the beta sleeves as shown in Figure 2.

NOTE: If aerosol Tri-Flow™ is not available, liquid Tri-Flow™ lubricant can be applied using a non-aerosol trigger sprayer with a tight spray pattern.
- (6) Use the beta system puller TE100 to decompress the beta system, moving the beta rods to feather position.

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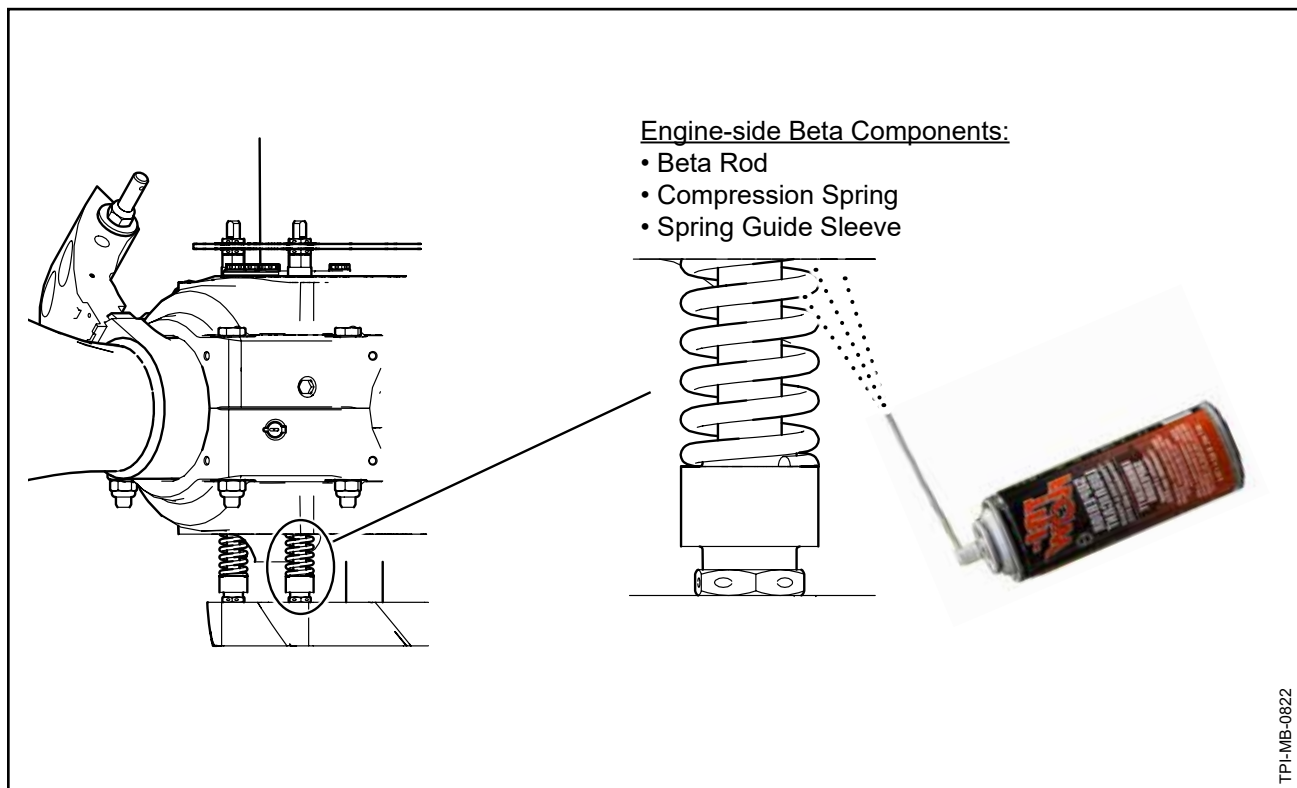
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- (7) Spray a heavy coat of Tri-Flow™ lubricant onto the engine-side beta system components (beta rods, compression springs, and spring guide sleeves) and up into the hub around the compression springs as shown in Figure 3.

NOTE: If aerosol Tri-Flow™ is not available, liquid Tri-Flow™ lubricant can be applied using a non-aerosol trigger sprayer with a tight spray pattern.

- (8) Use the beta system puller TE100 to compress the beta system, moving the beta rods to reverse position.
- (9) Use the beta system puller TE100 to decompress the beta system, moving the beta rods to feather position.
- (10) Repeat step (6) of this procedure.



Engine-side Beta Components
Figure 3

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CAUTION: DO NOT REMOVE LUBRICANT FROM THE BETA RODS OR COMPRESSION SPRINGS.

- (11) Using a clean cloth dampened with CM106 MEK, CM219 MPK, CM173 acetone, or CM183 isopropyl alcohol, wipe any excess lubricant from the slip ring, bulkhead, and beta ring.
- (12) Decompress the beta system, then remove the beta system puller TE100, CST-2987+15 threaded rods, and CST-2987+16 adapters.
- (13) Install the upper and lower engine cowling in accordance with the airframe manufacturer's instructions.
- (14) Install the spinner dome in accordance with Hartzell Propeller Owner's Manual 486 (61-00-86).
- (15) Perform the "Initial Run-Up" procedure in accordance with Hartzell Propeller Owner's Manual 486 (61-00-86).
 - (a) Following the "Initial Run-Up" procedure, remove the top engine cowl in accordance with the airframe manufacturer's instructions.
 - (b) Using a clean cloth dampened with CM106 MEK, CM219 MPK, CM173 acetone, or CM183 isopropyl alcohol, wipe any excess engine oil from the slip ring, bulkhead, and beta ring.
 - (c) Install the top engine cowl in accordance with the airframe manufacturer's instructions.
- (16) Complete and sign the Compliance Form in the Appendix section of this Service Bulletin.
- (17) Make an entry in the propeller logbook indicating the cleaning/lubricating procedure was performed in accordance with this Service Bulletin.

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C. Recommended Service Facilities

- (1) Hartzell Propeller LLC 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. Each service facility is audited by Hartzell Propeller to verify compliance with Hartzell standards.
- (3) Hartzell Propeller recommends that you use one of these service facilities when having your propeller overhauled or repaired.
- (4) For a current list of Hartzell Propeller Recommended Service Facilities, contact Hartzell Product Support or refer to the Hartzell website at www.hartzellprop.com.

D. Contact Information

Hartzell Propeller LLC
Attn: Product Support Department
One Propeller Place
Piqua, Ohio 45356-2634 USA
Phone: (001) 937.778.4379
Fax: (001) 937.778.4391
E-mail: techsupport@hartzellprop.com

HARTZELL PROPELLER LLC
SERVICE BULLETIN APPENDIX
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1. Warranty Program Information

A. Eligibility

- (1) Hartzell Propeller 5D31-NK366B1() Raptor-series turbine propellers are eligible for this warranty program.

B. Labor

- (1) Hartzell Propeller will authorize payment for the allowable labor charges when the beta system cleaning/lubricating procedure is performed at annual inspection in accordance with the Accomplishment Instructions in this Service Bulletin.
 - (a) Refer to the Manpower section of this Service Bulletin for warranted procedures and allowable man-hours.
 - (b) Labor charges will be reimbursed at the service facility's CURRENT POSTED SHOP LABOR RATE, pending Hartzell Propeller approval.
 - (c) Send the completed/signed Compliance Form and the invoice for labor charges to Hartzell Propeller for processing.

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Compliance Form

Warranty Claim Number:		
Propeller Information (if applicable):		
Propeller Model: 5D31-NK366B1()		Propeller S/N:
TSN (Time Since New):		TSO (Time Since Overhaul):
Aircraft Information (if applicable):		
Aircraft Model:		Aircraft Registration #:
Owner Information:		
Name:		
City:		State:
Zip/Postal Code:		Country:
E-mail:		Phone:
Repair Facility Information:		
Company:		Contact Name:
Address:		
City:		State:
Zip/Postal Code:		Country:
E-mail:		Phone:
		Fax:
Signature:		
Repair Technician's Signature:		Date:
Send this completed and signed form to Hartzell Propeller Product Support Department: Fax - (001) 937.778.4215 or E-mail - warranty@hartzellprop.com		

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Authorized By:
