

HARTZELL PROPELLER INC.
SERVICE LETTER

HM-SL-002

Propeller - Hub Clamping Bolt Inspection

1. Planning Information

A. Effectivity

(1) The following Hartzell Propeller Inc. aluminum hub hex head clamping bolts are affected by this Service Letter:

(a) Affected Hub Clamping Bolt Part Numbers

A-1037-4	A-2433
A-1584	A-3203
A-2431	A-3219-1
A-2432	102691

WARNING: DO NOT USE OBSOLETE OR OUTDATED INFORMATION.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) The currently published inspection criteria for the hex head hub clamping bolts is not consistent in every manual.
- (2) The currently published inspection criteria may cause some otherwise serviceable hex head hub clamping bolts to be scrapped.
- (3) The hex head hub clamping bolts may be serviceable after inspection with the new inspection criteria in Table 1.

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- (4) The inspection criteria specified in this Service Letter will be incorporated into affected propeller overhaul manuals in a future revision.

D. Description

- (1) This Service Letter provides Additional Maintenance Information (AMI).
- (2) This Service Letter provides inspection criteria for the affected hub clamping bolts.
- (3) The inspection criteria specified in this Service Letter supersedes information published in the manuals listed in the Other Documents Affected section of this Service Letter.

E. Approval

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

F. References

- (1) None

G. Other Publications Affected

- (1) Hartzell Propeller Inc. Manual 301 - Hovercraft Propeller Overhaul Manual
- (2) Hartzell Propeller Inc. Manual 341 - Wing-in-Ground-Effect Craft Propeller Overhaul and Maintenance Manual - Compace Constant Speed, Non-counterweighted ()HM-()()Y()()-1()
- (3) Hartzell Propeller Inc. Manual 360 - Wing-in-Ground-Effect Craft Propeller Overhaul and Maintenance Manual - Lightweight Turbine Propellers HM-D4N-3()

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2. Accomplishment Instructions

- A. At each propeller overhaul, inspect each hex head hub clamping bolt in accordance with Table 1.
- 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 Inc. 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.

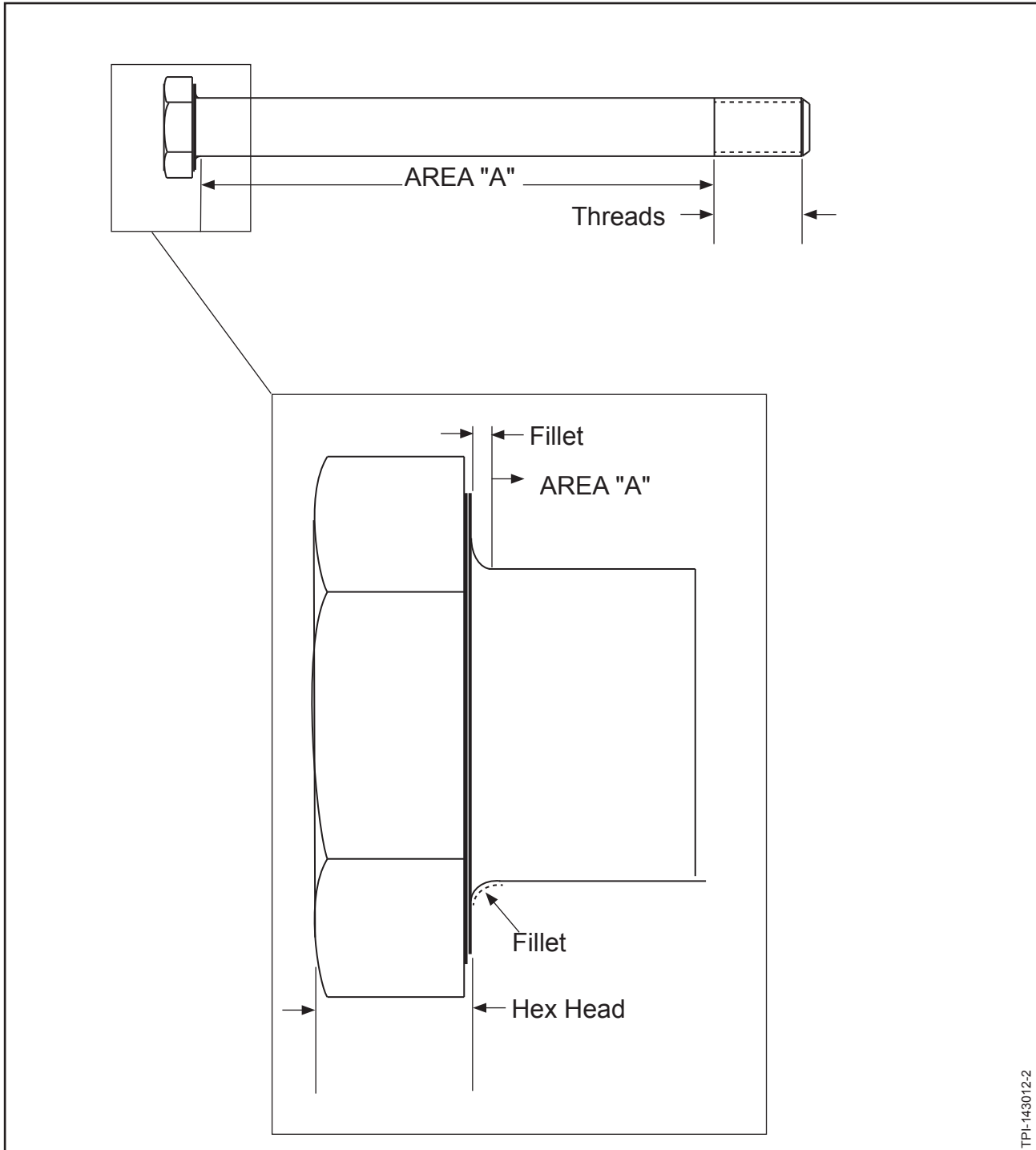
C. Contact Information

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

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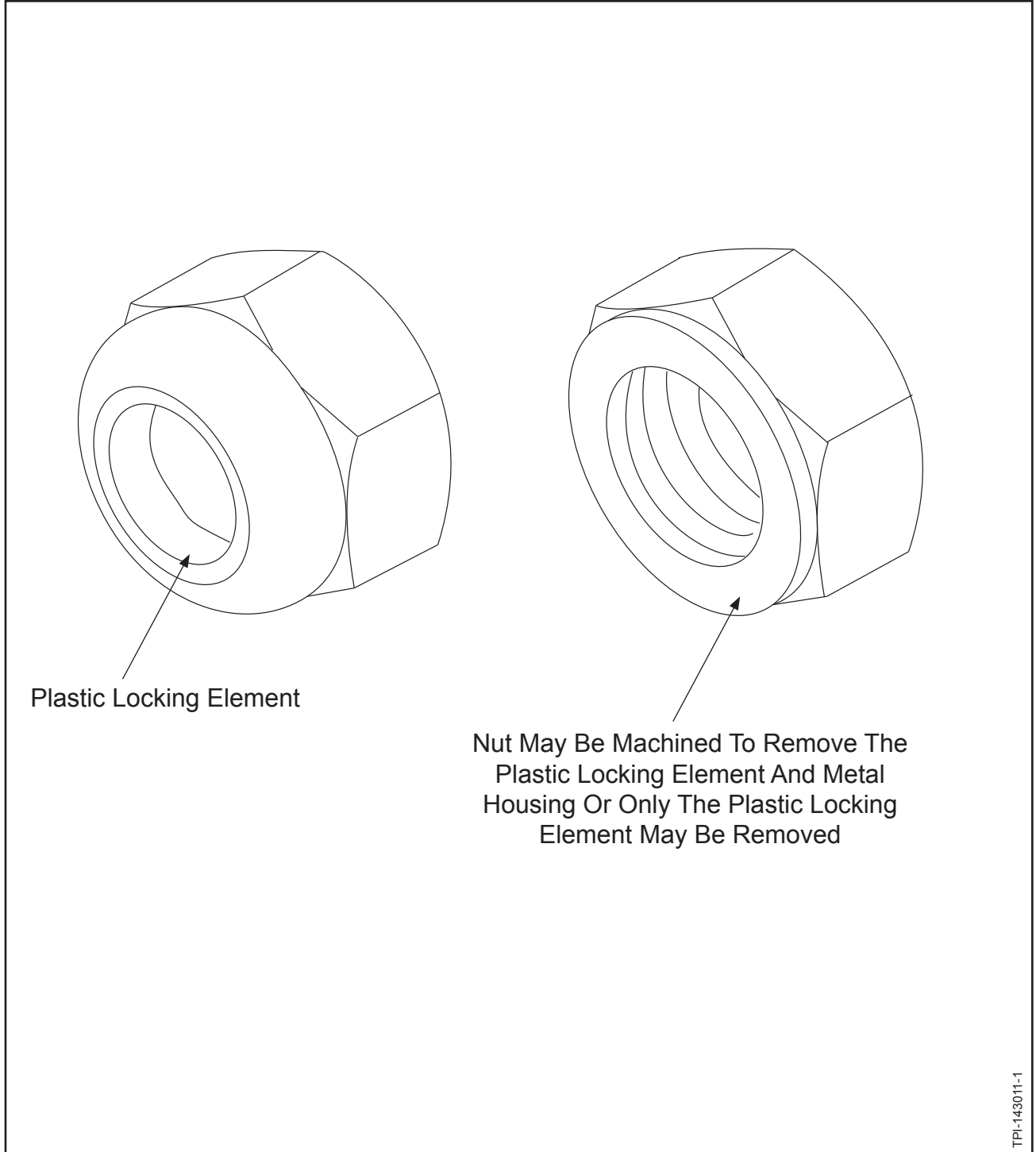


**Hex Head Bolt
Figure 1**

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**A-2043-1 Nut Modification
Figure 2**

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Propeller - Hub Clamping Bolt Inspection

Inspect	Serviceable Limits	Corrective Action
<u>HEX HEAD BOLT</u>		
Refer to Figure 1.		
(1) Visually examine the hex head bolt for corrosion and pitting.	Corrosion is not permitted. The maximum permitted depth of pitting is 0.002 inch (0.05 mm). No more than 5% of the total unthreaded surface may be pitted. The maximum permitted diameter of an individual pit is 0.032 inch (0.81 mm). Pitting is not permitted in the fillet between the hex head and the grip, area "A". Pitting must not affect the fit or function of the hex head bolt.	Corrosion may be removed using glass bead cleaning. Refer to the Cleaning chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). If the pitting is greater than the permitted serviceable limits, replace the hex head bolt.
(2) Except for the threads, visually examine the hex head bolt for damage or scratches.	The maximum permitted depth of damage or a scratch is 0.002 inch (0.05 mm). Scratches or damage must not affect the fit or function of the hex head bolt. Pushed-up material is not permitted.	Pushed up material may be removed. If the depth of a scratch or damage is greater than the permitted serviceable limits or affects the fit or function of the bolt, replace the hex head bolt.
(3) Visually examine the hex head bolt for circumferential scoring caused by installation and removal.	Circumferential scoring that reduces the diameter of the hex head bolt is not permitted. The minimum permitted OD in Area A is 0.370 inch (9.40 mm).	If the scoring is greater than the permitted serviceable limits or the OD in Area A is less than the serviceable limits, replace the hex head bolt.
(4) Visually examine the wrenching surfaces of the head of the hex head bolt for metal movement caused by wrenching.	Limited damage from wrenching is permitted, but the hex head bolt must be able to be torqued and metal movement must not interfere with the installation of the hex head bolt or cause damage to the hub.	Remove metal movement with a file or equivalent. Only corners may be repaired. Refacing a complete surface is not permitted. If metal movement is greater than the permitted serviceable limits, replace the hex head bolt.

Component Inspection Criteria
Table 1

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Inspect	Serviceable Limits	Corrective Action
<u>HEX HEAD BOLT, CONTINUED</u>		
Refer to Figure 1.		
(5) Visually examine the threads of the hex head bolt for damage and pitting.	A maximum total accumulation of damage and pitting of 3/4 thread is permitted. Thread damage must not cause damage to the mating part. An A-2043-1 nut with the plastic locking element removed should be able to freely rotate by hand on the bolt threads. For the modification of the nut, refer to Figure 2.	Limited thread file repair is permitted, but must be considered as thread damage. If the damage and pitting is greater than the permitted serviceable limits, replace the hex head bolt.
(6) Magnetic particle inspect each bolt in accordance with the Magnetic Particle Inspection chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02). <u>NOTE:</u> It is not necessary to strip the cadmium plating from the hex head bolt before magnetic particle inspection.	A relevant indication is not permitted.	If there is a relevant indication, replace the hex head bolt.
(7) Visually examine the hex head bolt for cadmium plating coverage.	Cadmium plating must completely cover the bolt with the following exceptions: A few scratches and corners with cadmium plating missing, minor abrading of cadmium plating on the threads, or minor abrading of the cadmium plating on the hex head because of wrenching.	Cadmium replate and bake for a minimum of 23 hours within four hours after plating the hex head bolt in accordance with the Cadmium Replating chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

**Component Inspection Criteria
Table 1**

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