

HARTZELL PROPELLER INC.
SERVICE BULLETIN
HC-SB-61-383
Propeller - 103559 Hub Shot Peening

1. Planning Information

A. Effectivity

- (1) Hartzell Propeller Inc. lightweight turbine propellers HC-E4P-3K/E10479(S)K with serial numbers SH1 through SH55 are affected by this Service Bulletin.
 - (a) Affected propellers may be installed on, but not limited to Beech 300 aircraft.

WARNING: DO NOT USE OBSOLETE OR OUTDATED INFORMATION.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 Inc. website at www.hartzellprop.com for a cross-reference of service documents.

C. Reason

- (1) Hartzell Propeller Inc. has revised the shot peening requirements for the 103559 hub unit used on the affected propellers.
 - (a) Hartzell now requires the surface of the hub flange radius and the bulkhead mounting area to be shot peened.
 - 1 Previously, Hartzell required masking material to be applied to the hub flange radius and bulkhead mounting area before shot peening.

D. Description

- (1) This Service Bulletin provides Instructions for Continued Airworthiness (ICA).
- (2) This Service Bulletin provides instructions for masking and shot peening the 103559 hub unit used on the affected propellers.

HARTZELL PROPELLER INC.
SERVICE BULLETIN
HC-SB-61-383
Propeller - 103559 Hub Shot Peening

E. Compliance

NOTE: Overhaul intervals are specified in Hartzell Propeller Inc. Service Letter HC-SL-61-61Y.

- (1) At next propeller overhaul, mask and shotpeen the 103559 hub unit in accordance with the Accomplishment Instructions in this Service Bulletin.
- (2) Terminating Action
 - (a) Masking/shot peening the 103559 hub unit in accordance with the Accomplishment Instructions is the terminating action for this Service Bulletin.

F. Approval

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

G. Weight and Balance

- (1) Not changed

CAUTION: DO NOT USE OBSOLETE OR OUTDATED INFORMATION.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

H. References

- (1) Hartzell Propeller Inc. Service Letter HC-SL-61-61Y
- (2) Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02)

I. Other Publications Affected

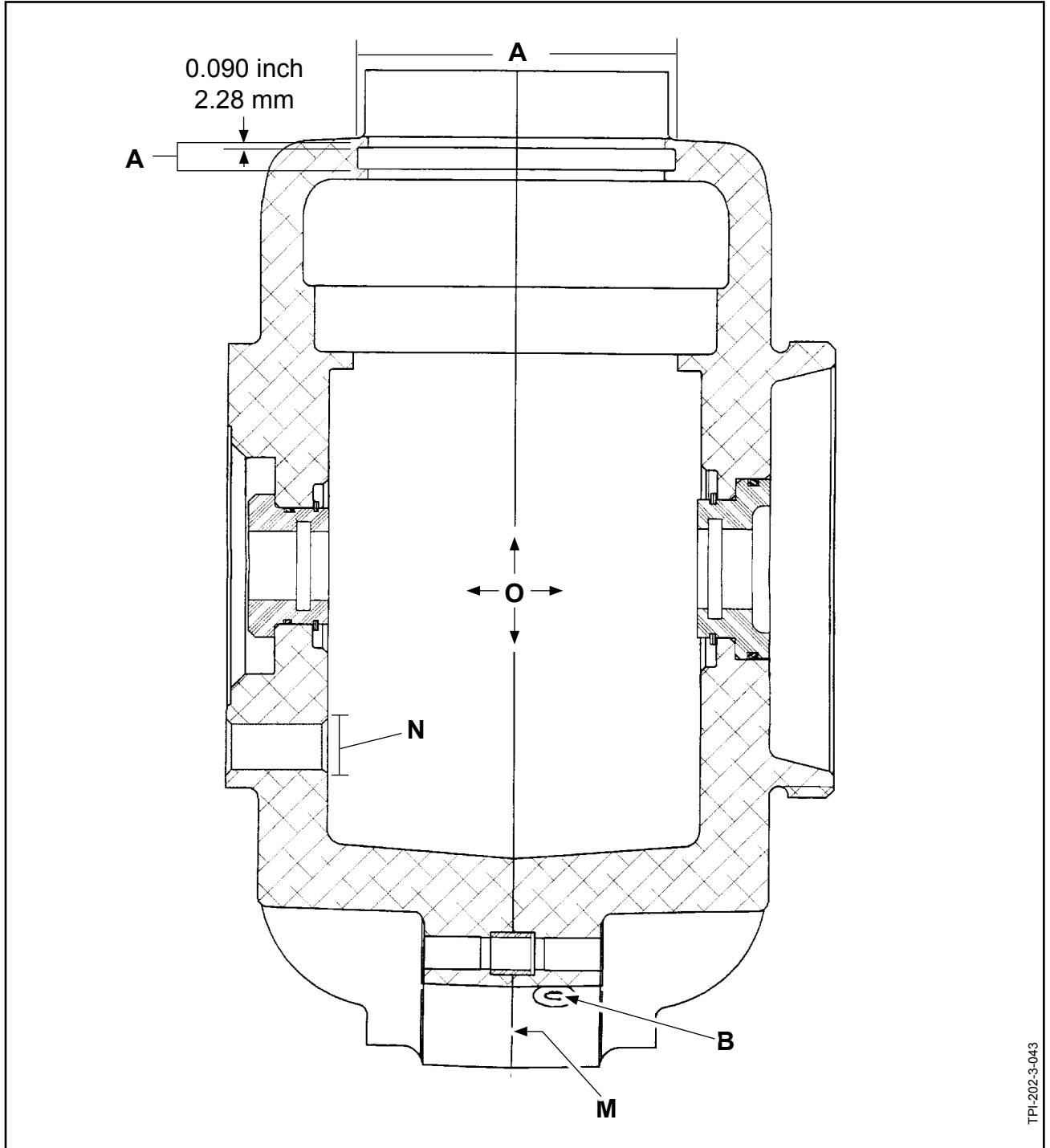
- (1) Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02)

2. Material Information

A. Consumable Materials

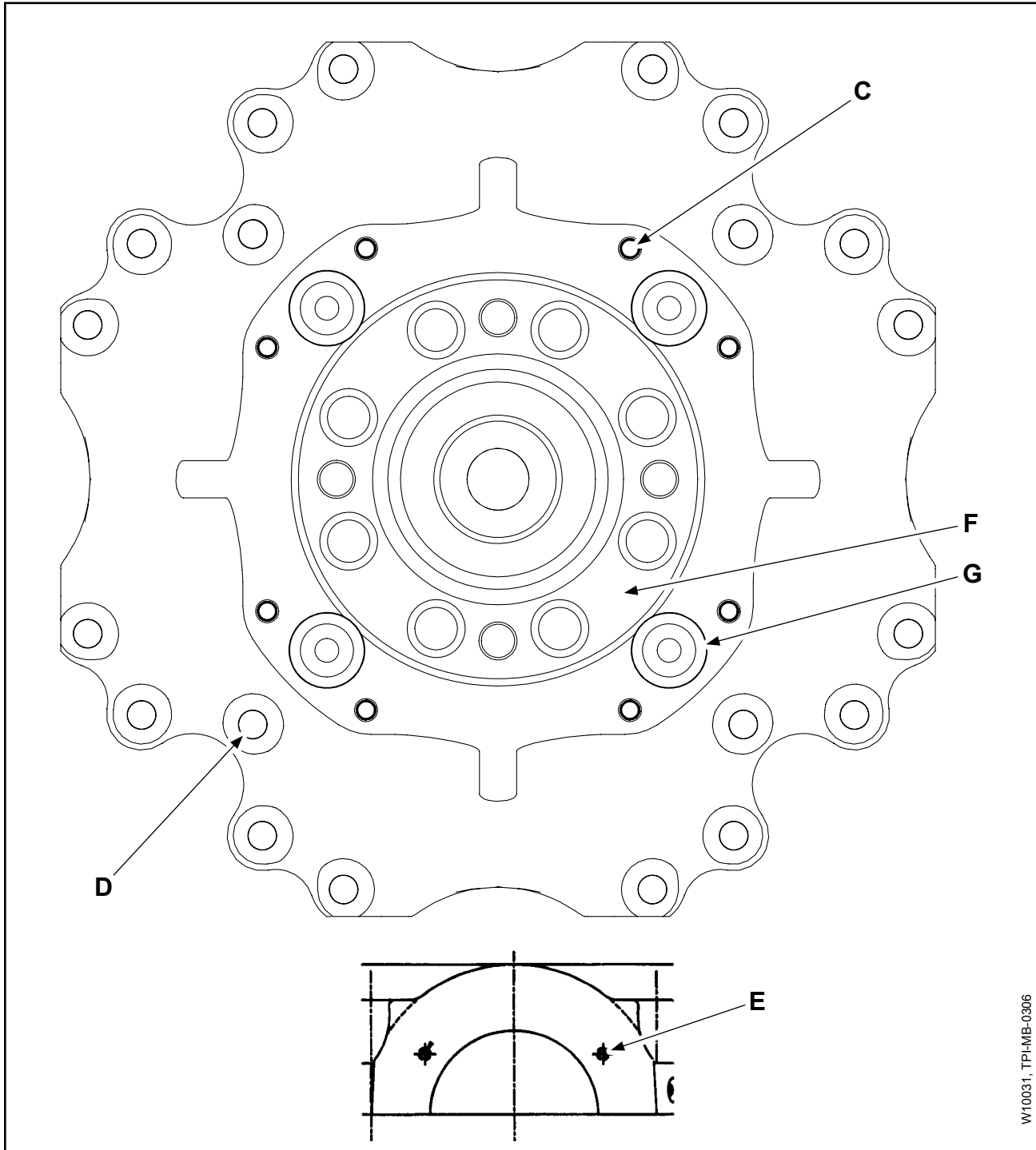
<u>Description</u>	<u>Qty</u>
Masking materials	AR

HARTZELL PROPELLER INC.
SERVICE BULLETIN
HC-SB-61-383
Propeller - 103559 Hub Shot Peening



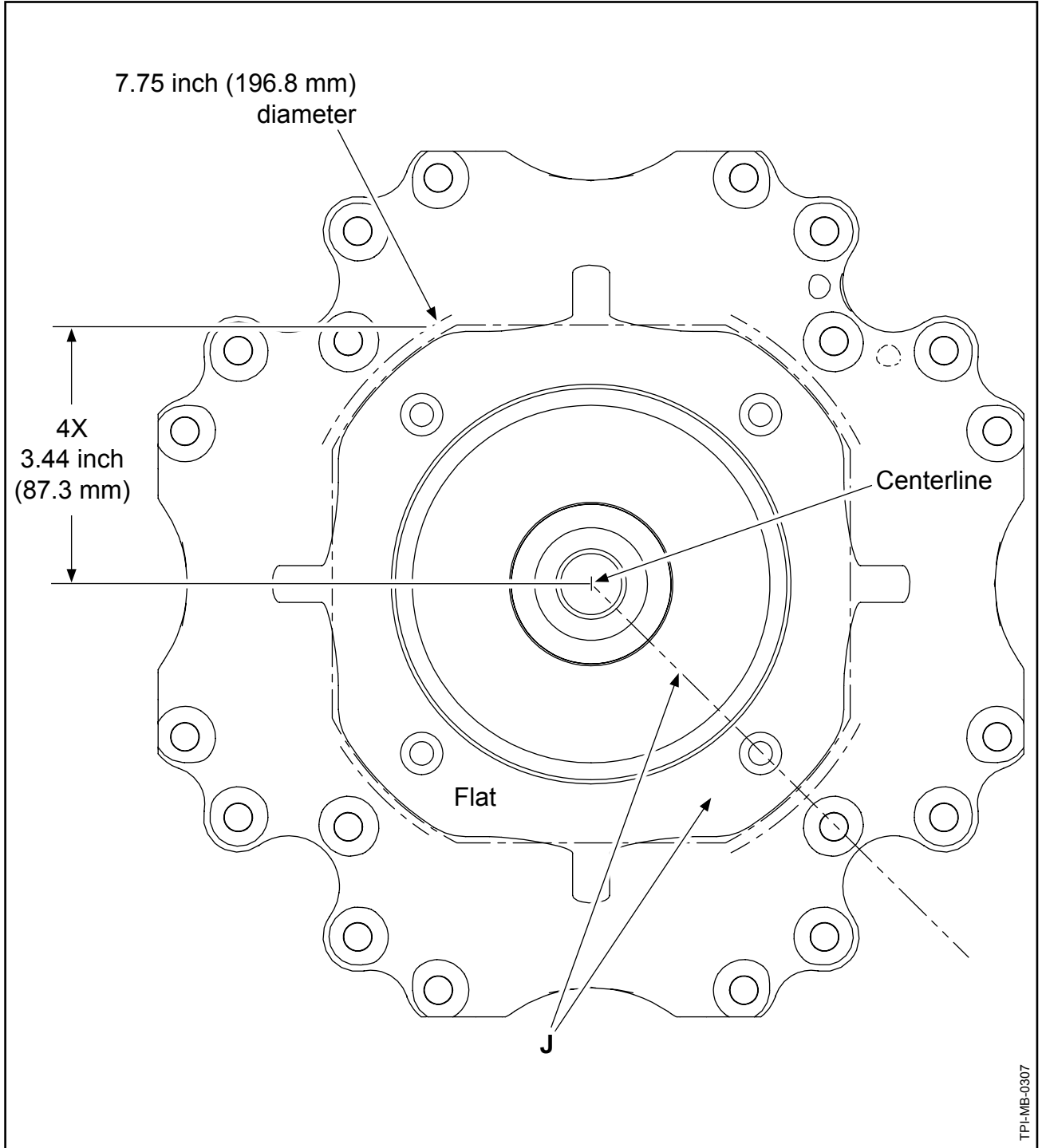
Shot Peen Masking for 103559 Lightweight Turbine Aluminum Hub
Figure 1

HARTZELL PROPELLER INC.
SERVICE BULLETIN
HC-SB-61-383
Propeller - 103559 Hub Shot Peening



Shot Peen Masking for 103559 Lightweight Turbine Aluminum Hub
Figure 2

HARTZELL PROPELLER INC.
SERVICE BULLETIN
HC-SB-61-383
Propeller - 103559 Hub Shot Peening



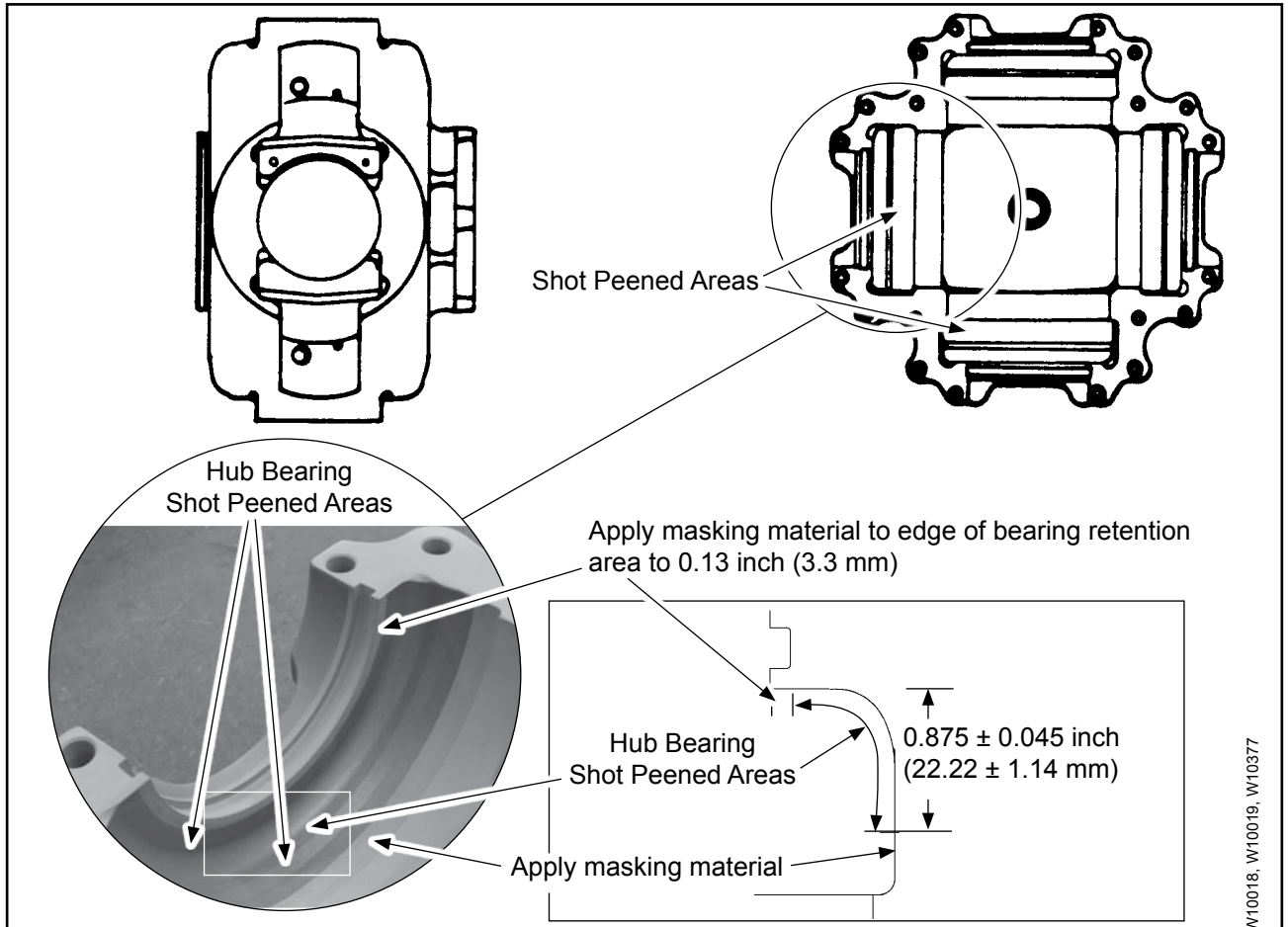
Shot Peen Masking for 103559 Lightweight Turbine Aluminum Hub
Figure 3

HARTZELL PROPELLER INC.
SERVICE BULLETIN
HC-SB-61-383
Propeller - 103559 Hub Shot Peening

AREA	FIGURE	REQUIREMENT	SHOT PEEN
A	Figure 1	Do not shot peen within 0.090 inch (2.28 mm) of the blade O-ring seal groove on each hub socket.	X
B	Figure 1	Mask the threaded lubrication fitting holes for all shot peen operations. Incomplete coverage is acceptable around masked holes to 0.375 inch (9.52 mm) maximum wide area. There are four holes on each hub half.	X
C	Figure 2	Mask the bulkhead attachment threaded holes for all shot peen and paint operations. Incomplete coverage for shot peen is acceptable around masked holes to 0.090 inch (2.28 mm) maximum wide area. There are eight holes on engine-side hub half.	X
D	Figure 2	Mask the hub clamping bolt through holes for all shot peen operations. Incomplete coverage is acceptable around masked holes to 0.090 inch (2.28 mm) maximum wide area. There are 20 holes on each hub half.	X
E	Figure 2	Mask the threaded balance weight holes for all shot peen operations. Incomplete coverage is acceptable around masked holes to 0.375 inch (9.52 mm) maximum wide area. There are eight threaded holes on each hub half.	X
F	Figure 2	Mask the engine flange mating surface on the engine-side hub half for all shot peen and paint operations.	X
G	Figure 2	Mask the spring retainer 1.00 inch (25.4 mm) diameter to 0.325 ±0.025 inch (8.25 ±0.635 mm) height. Deburr edges after shot peening. There are four beta spring retainer holes on the engine-side hub half.	X
H	-	not applicable for shot peening	-
I	-	not applicable for shot peening	-
J	Figure 3	Mask the cylinder-side hub half from the centerline of the hub out to include the flat part of the hub for all shot peen operations.	X
K	-	not applicable for shot peening	-
L	-	not applicable for shot peening	-
M	Figure 1	Mask the hub parting surface for all shot peen and paint operations.	X
N	Figure 1	For the 103359 hub only, mask the 8 mounting bolt through holes that intersect with the inside surface.	--
O	Figure 1	Except for the hub bearing blade pockets, the inside surfaces are not shot peened. Masking for shot peening is specified in Figure 4 and Figure 5.	X

Shot Peen Masking for 103559 Lightweight Turbine Aluminum Hubs
Table 1

HARTZELL PROPELLER INC.
SERVICE BULLETIN
HC-SB-61-383
Propeller - 103559 Hub Shot Peening



Lightweight Turbine Hubs

Shot peen the inside hub bearing area only, as shown in the figure above. Shot peen the entire outside of the hub, **EXCEPT: DO NOT** shot peen the flange face, O-ring grooves, bolt through holes, or any threaded areas. For additional masking requirements, refer to Table 1 in this Service Bulletin.

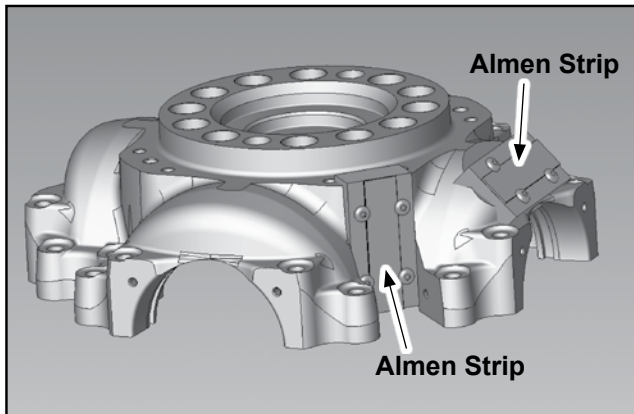
<u>Description</u>	<u>Shot Size*</u>	<u>Almen Type</u>	<u>Intensity</u>
All models of the 4-blade aluminum hub: Outside and Inside	S330	A	0.010 - 0.014

For Almen strip locations, refer to Figure 5.

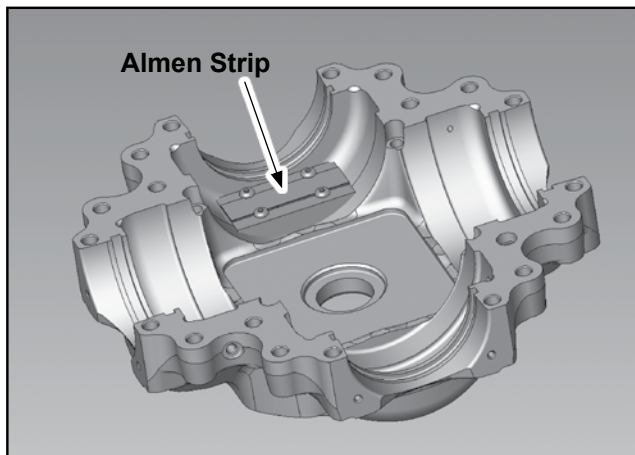
* For shot specifications, refer to the Shot Peening chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).

Shot Peening of 4 Blade Lightweight Turbine Aluminum Hubs
Figure 4

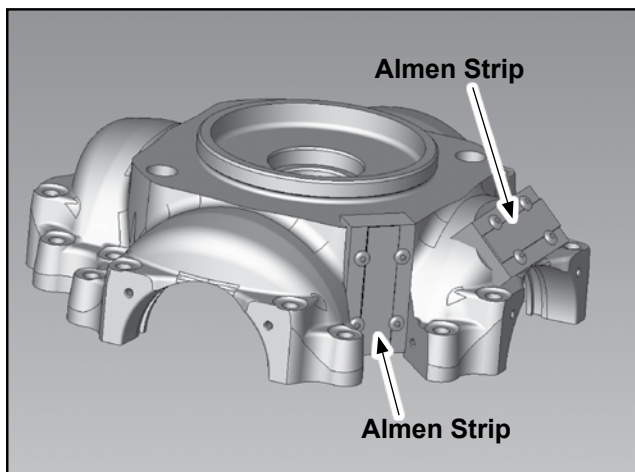
HARTZELL PROPELLER INC.
SERVICE BULLETIN
HC-SB-61-383
Propeller - 103559 Hub Shot Peening



4 Blade Aluminum Hub, Flange Half



4 Blade Aluminum Hub, Internal
This location applies to each hub half.



4 Blade Aluminum Hub, Cylinder Half
There are a total of six Almen strip locations for the 4 blade aluminum hub.

Almen Strip Locations for a 4 Blade Lightweight Turbine Aluminum Hubs
Figure 5

HARTZELL PROPELLER INC.
SERVICE BULLETIN
HC-SB-61-383
Propeller - 103559 Hub Shot Peening

3. Accomplishment Instructions

CAUTION: INSTRUCTIONS AND PROCEDURES IN THIS SERVICE BULLETIN MAY INVOLVE PROPELLER CRITICAL PARTS. REFER TO THE APPLICABLE PROPELLER OVERHAUL OR OWNER'S MANUAL FOR INFORMATION ABOUT PROPELLER CRITICAL PARTS.

A. Mask the 103559 Hub Unit for Shot Peening

- (1) Mask the 103559 hub unit in accordance with Table 1 in this Service Bulletin.

B. Shot Peen the 103559 Hub Unit

- (1) Shot peen the 103559 hub unit in accordance with the Shot Peening chapter of Hartzell Propeller Inc. Standard Practices Manual 202A (61-01-02).
 - (a) Make an entry in the propeller logbook indicating that the 103559 hub unit was masked and shot peened in accordance with the Accomplishment Instructions in this Service Bulletin.

C. 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.

D. 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) 937.778.4215
E-mail: techsupport@hartzellprop.com

HARTZELL PROPELLER INC.
SERVICE BULLETIN
HC-SB-61-383
Propeller - 103559 Hub Shot Peening

(This page is intentionally blank.)