

Date Issued: July 17, 2019

SB Revision Number: 04

DO NOT USE OBSOLETE OR OUTDATED INFORMATION. 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. MAKE EVERY EFFORT TO ENSURE THIS DOCUMENT IS NOT OUTDATED.

IF FOR ANY REASON YOU ARE UNABLE OR UNCOMFORTABLE COMPLYING WITH THIS SERVICE BULLETIN YOU MAY RETURN YOUR PROPELLER TO WARP DRIVE INC FOR INSPECTION.

Revisions

2019-07-17

- Removed Hub Inspection Interval

2019-01-24

- Increased inspection interval to 50 hours.

2018-10-16

- Additional Clarification: Applicability, Discussion, and bolt torque values.

Applicability

New model 2-Blade & 3-Blade HP Hubs when used with the following engines.

- All engine variants of the Continental O-200 & C-90 engines.
- All engine variants of the Lycoming O-235 engines.

NOTE: To determine if you have a new model HP hub use Figure 1 and Figure 2 below. Two visual indications of a new model HP hub are curved sides and a shiny surface finish. Older models have straight-sides, four propeller clamping bolts per blade, and a dull surface finish.

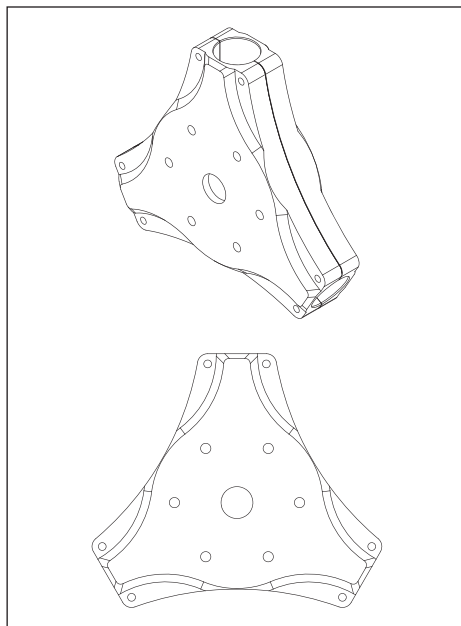


Figure 1: New Model 3-Blade HP Hub

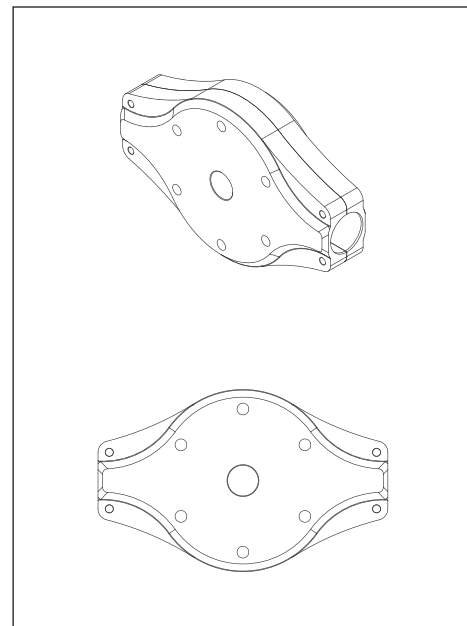


Figure 2: New Model 2-Blade HP Hub

Discussion

Revision 04 will be the final revision. Warp Drive Inc has identified that fewer than 5 customers (well under 1%) found cracking. No correlations were seen. There have been no reports of hub failures. Be sure to tighten all bolts to the proper torque specifications with a calibrated torque wrench and ensure all threads are clean and dry.

The remainder of this service bulletin is left intact for reference purposes.

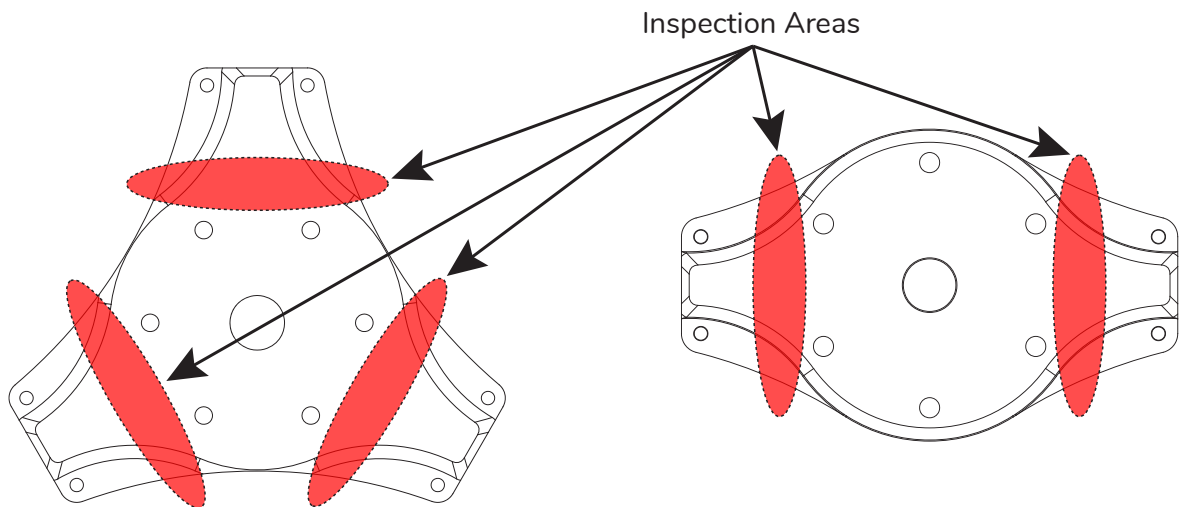


Figure 3: HP Hub Inspection Areas

Hub Inspection Interval

Consult the product manual.

Required Action: Hub Inspection [Retained for Reference. See Discussion.]

1. If applicable, remove the spinner.
 2. Use a Warp Drive Protractor to measure propeller blade pitch. Record this value.
 3. Remove 3/8-inch propeller mounting bolts and faceplate (or spinner bulkhead if used).
- NOTE: The propeller clamping bolts do not need to be removed for this inspection.

Required Action: Hub Inspection (continued) [Retained for Reference. See Discussion.]

4. Clean and inspect the propeller mounting bolts for damage, replace as required.
5. Remove the propeller assembly from the engine and place on a suitable work surface.
NOTE: A crack may initiate under the faceplate and/or under the engine propeller flange.
The hub must be removed from the engine.
6. Clean both hub halves using mild soap and water and/or denatured alcohol.
7. Visually inspect both hub halves using a flashlight and a 10x magnifying glass. Pay close attention to the areas shown in Figure 3. Figures 4 and 5 below show crack examples.
NOTE : A NEW CRACK IS SMALL AND DIFFICULT TO SEE. YOU MUST CLEAN THE SURFACE AND LOOK CLOSELY.

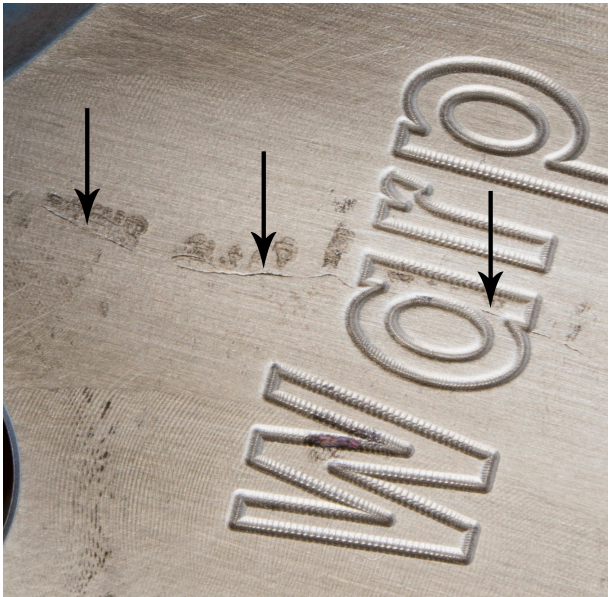


Figure 4: Initial Crack

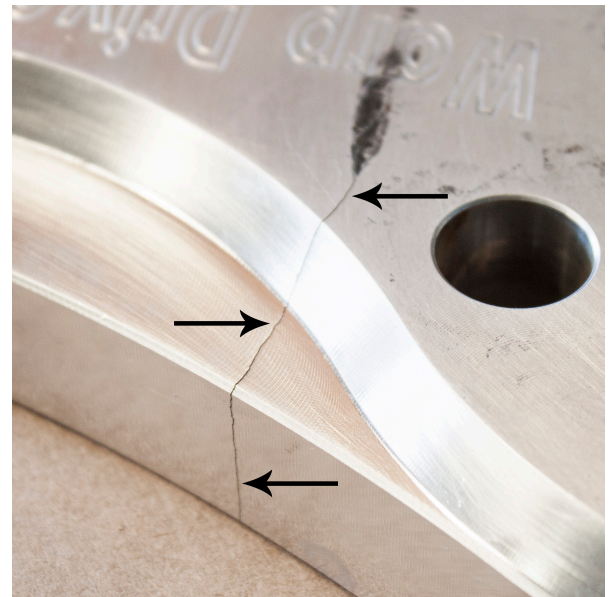


Figure 5: Crack Propagation

8. If a crack is found, proceed to the "IF A CRACK IS FOUND" section of this service bulletin.
9. Clean the engine propeller flange.
10. Install propeller assembly onto the engine propeller flange.
11. Install faceplate (or spinner bulkhead if used) and 3/8-inch propeller mounting bolts.
12. Ensure there is no gap between the hub and the engine propeller flange.

CAUTION: Ensure propeller mounting bolt threads, engine propeller flange drive lug threads, and propeller clamping hardware are clean and dry (free of lubricant).

CAUTION: Tighten propeller mounting bolts evenly to avoid hub damage.

13. Using a calibrated torque wrench, torque the 3/8-inch propeller mounting bolts to 360-in-lbs.
14. Using a calibrated torque wrench, torque propeller clamping bolts to 120-in-lbs.
15. Using a Warp Drive Protractor, measure the pitch of each propeller blade and compare it to the value recorded in Step 2 to verify the propeller blade pitch setting did not change.

IF A CRACK IS FOUND [Retained for Reference. See Discussion.]

1. Do not use your propeller.
2. Contact Warp Drive Inc. and return your hub and propeller blades for evaluation.

NOTE: Include a Repair Form with your propeller.
warpdriveinc.com/downloads

Warp Drive Inc apologizes for any inconvenience this caused. We are glad that no injuries have resulted from this issue.

Warp Drive Inc stands behind our products.
If you have any questions, comments, or concerns please contact us.

Thank you for being a Warp Drive customer.

contact@warpdriveinc.com

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Please call toll-free with any questions, comments, or concerns.