



ALERT SERVICE BULLETIN UPDATE – REVISION 1

SB #: GA-01-2505

Effective Date: May 6, 2025

Revision: 1 Date: May 12, 2025

Revision 1 Changes:

1. Findings and Corrective Actions

a. Broken Bolts Case 1:

i. Background Details:

The following includes background details on the installation details for the customer that had experienced broken bolts.

1. Lycoming O-360
2. High Compression 10:1
3. Dual Electronic Ignition timing was set to 25degrees BTDC setting.

ii. Findings:

Setting ignition timing varies per manufacturer's instructions based on the type of ignition: either an electronic or magneto setting for ignition timing and per engine manufacturer.

1. **Catto Propellers does not provide any recommendations for setting electronic ignition settings or timing for specific aircraft engines.** Many experimental applications are different. However, historically we have found that specifically with high compression engines coupled with a higher advance ratio for ignition timing will significantly increase the vibrational impact of the power pulse from the engine into the propeller. In this specific case only, the EMag setting was set at 25degrees BTDC magneto equivalent and when contacted, EMag recommended for a

Lycoming O-360 with 10:1 high compression the timing should be reduced to the 20degree BTDC magneto equivalent = 4deg After TC electronic ignition setting.

b. Cracked Hub Case 2:

- i. Catto Propellers received the cracked hub in for inspection May 14, 2025 and have moved forward with the hub investigation in order to provide the next revision to this service bulletin.

Clarification for Inspection Steps:

2. Required Action of Owner/Operator

- a. Do not fly models referenced in Table 1 until initial inspection and assembly has been inspected.
- b. Initial Inspection: Disassemble propeller/hub assembly to fully inspect propeller bolts and all top and bottom surfaces of hub, specifically on bottom hub around bolt holes. Owners/Operators are required to email confirmation of this inspection to: engineering@cattoprops.com.
 - i. Remove spinner dome
 - ii. Remove hub clamping/mounting hardware, hub-to-hub bolts.
 - iii. Remove forward hub half
 - iv. Remove blade assemblies
 - v. Remove pitch change block and shims
 - vi. Remove hub-to-engine bolts
 - vii. Remove rear hub from mounting interface.
 - viii. Examine bolts, washers and hub surfaces and specifically around bolt holes on hub for cracks, fretting, blade movement or other signs of damage.
 1. The one report of a cracked hub contained a crack on the bottom hub around the outermost bolt hole.
 2. If no cracks, fretting or other damage continue to Step c.
 3. If cracks, fretting or other damage is found, remove damaged hub and hardware from service and contact Catto Propellers.
- c. Reassemble and reinstall using provided Owner's Manual.
- d. Ongoing Preflight Inspections:
- e. Prior to each flight, the owner/operator of the specific propeller models listed in Table 1, must perform a preflight inspection of the propeller to include: remove spinner and inspect bolt condition and torque. This can

be accomplished using torque tape or visual indication to mark the bolts to ensure they haven't turned.

- f. Prior to each flight, the owner/operator of the specific propeller models listed in Table 1, must perform a preflight inspection of the propeller to include: remove spinner and visually inspect bottom hub and top hub for cracks, fretting or other damage on surfaces and specifically around bolt holes. Removing hub is not necessary after the initial removal to inspect mating surfaces. This preflight inspection is to check visible surfaces after removing spinner.
- g. Owner/Operator must limit the RPM to no greater than 2700RPM and not exceed redline of corresponding engine model.
- h. Owner/Operator must not use nitrous for the propeller models identified in Table 1.
- i. If any indications from above inspections are identified, contact Catto Propellers.

3. Contact Information:

Catto Propellers
12370 Airport Rd #156
Jackson, CA 95642
(209) 754-3553
info@cattoprops.com