



Airmaster Propellers Ltd

Variable Pitch Constant Speed Propellers for Light Aircraft

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SERVICE BULLETIN

APL-SB-13

Date of Issue: 11 October 2002

Applicability: Propeller Models: AP308
Serial Numbers: All up to manufacture date of 16 FEB 01.
All serials up to and including 60,
but excluding 39 and 51.

Compliance: Initial: At Operator's Discretion
Subsequent: Nil

**SUBJECT: ADDITION OF O-RING SEAL TO BLADE
RETENTION NUT TO PREVENT WATER
INGRESS INTO HUB**

Reason

1. Airmaster AP308 propellers manufactured up to approximately February 2001 may suffer from water ingress while the propeller is stationary. Water, such as that from rain may enter the propeller hub via the large buttress thread that retains the blade assembly into the propeller hub.
2. This service bulletin addresses sealing of this water ingress route by the addition of an o-ring to the blade retention nut. The o-ring acts to seal between the blade retention nut and the propeller hub. The o-ring is fitted in the location shown in the following diagram.

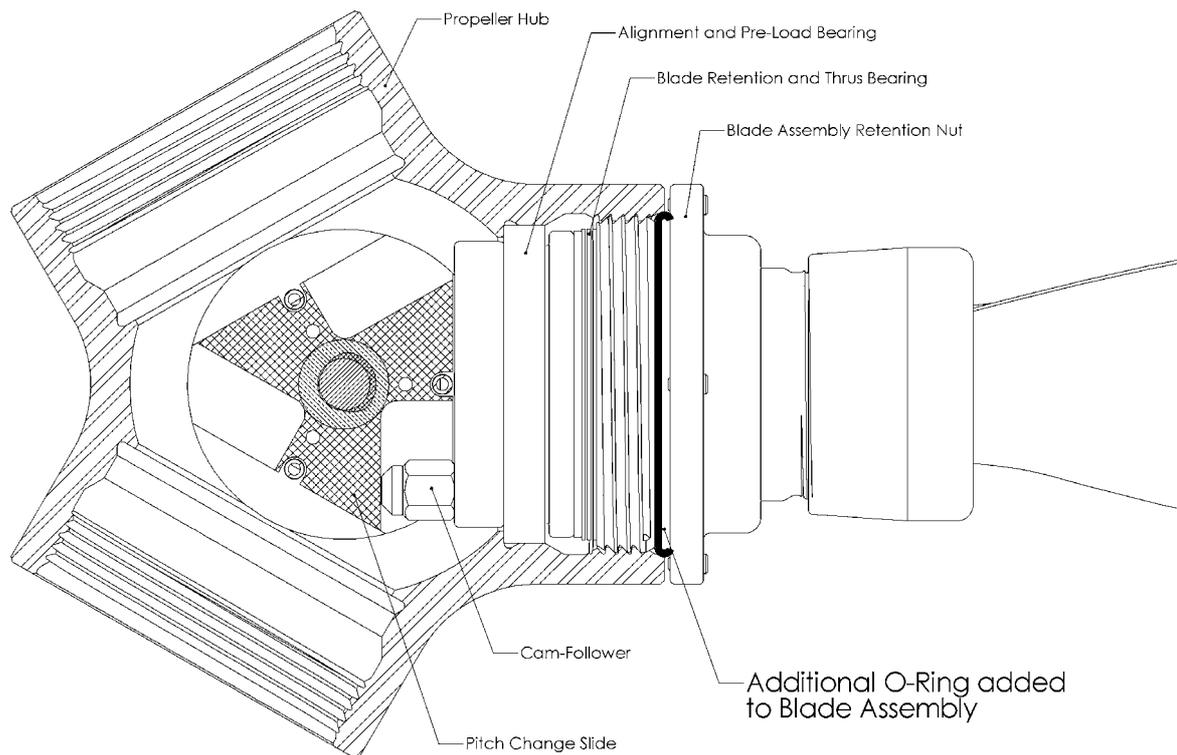


Figure 1 - Blade Assembly Mounted in Propeller Hub showing Location of Additional O-Ring added to Blade Assembly

Optional Compliance

3. This service bulletin is optional. The operator should decide whether to action this service bulletin.

Note: If the operator is currently satisfied with the sealing of the propeller hub, they may choose not to action this service bulletin.

4. This service bulletin requires that the complete propeller assembly (propeller hub and spinner assembly, and blade assemblies) be returned to Airmaster Propellers Ltd to have the service bulletin actioned. Airmaster Propellers Ltd will action the manufacturer's part of this service bulletin free of charge, however the operator of the propeller is responsible for the following:

- a. Removing the propeller from the aircraft.
- b. Shipping the propeller to Airmaster Propellers Ltd.
- c. The cost of having the propeller shipped back to the owner.

Note: Airmaster Propellers Ltd will invoice the operator for the cost of shipping the propeller back to the owner.

- d. Re-Installation and functional checking of the propeller on the aircraft.

5. Airmaster Propellers Ltd will action this service bulletin on any affected propeller at no extra charge if that propeller is returned to Airmaster Propellers Ltd's factory for any other reason.

Note: The contents of this service bulletin have already been actioned on a small number of affected propellers, which have been returned to the factory for other reasons. The operator should check for the presence of an o-ring on each blade assembly if it is suspected that this service bulletin has already been carried out.

6. If the operator chooses not to action this service bulletin, it is recommended that the propeller blade cover that was supplied in May 2001 be fitted whenever the aircraft is parked outside.

Action

7. Advise Airmaster Propellers Ltd of the intention to have this service bulletin actioned.

8. Remove the three blade assemblies from the propeller hub. Do this by loosening the four 10-32UNF set screws that lock the blade assembly until they protrude approximately 4mm (3/16in) from the blade assembly retention nut, and then using the special blade assembly spanner to loosen the blade assembly retention nut. Clean dirt and remove excess grease from blade assemblies, bearings and the blade assembly mounting bores in hub.

9. Remove propeller hub and spinner assembly from aircraft engine. Store bolts, washers and drive lugs in a safe place.

Note: Do not remove the propeller's control system from the aircraft. This system is not necessary for the completion of this service bulletin.

10. Ensure that the propeller hub and blade assemblies are dry. If water is present, blow or wipe off excess water and allow all assemblies to dry in a warm area.

11. Carefully package propeller hub and spinner assembly, and blade assemblies; and send to Airmaster Propellers Ltd at the following address:

Airmaster Propellers Ltd
Unit B, 144 Central Park Drive
Henderson
Auckland
New Zealand.

Note: It is recommended that the package be sent by a parcel courier company to ensure a speedy delivery and the ability to track the shipment. Advise Airmaster Propellers Ltd of the means of shipment and tracking number of the shipment. Advise Airmaster Propellers Ltd of the desired address for return shipment.

12. Airmaster Propellers Ltd will carry out the following modification and maintenance actions on the propeller:

- a. Machine the propeller hub to provide a seat for an o-ring in each blade assembly mounting bore using the same CNC machine tool (a Mazak Integrex) that is used for manufacture of the propeller hubs.

- b. Modify each blade assembly to include an o-ring positioned around the blade retention nut. Depending on which revision parts are present, this may require that the blade assembly be re-set-up.
 - c. Check the correct function of the propeller pitch change mechanism.
 - d. Check the static balance of the propeller assembly.
13. Airmaster Propellers Ltd will ship the propeller assembly back to the operator using UPS parcel couriers.
14. Re-install the propeller onto the aircraft engine in accordance with the instructions in the operator's manual (Chapters 2 and 3 for AP308 Operator's Manual, revisions 0 to 12; Chapter 4 for AP308 Operator's Manual, revisions 13 to 15).
- Note: When lubricating the propeller during assembly refer to the improved Periodic Inspection and Lubrication procedure issued as an amendment to the operator's manual by service bulletin APL-SB-12
15. Conduct the before flight functional check of the propeller in accordance with the instructions in the operator's manual (Chapter 4 for AP308 Operator's Manual, revisions 0 to 12; Chapter 5 for AP308 Operator's Manual, revisions 13 to 15).

Recording

16. Record completion of service bulletin APL-SB-13 in propeller logbook.