



Airmaster Propellers Ltd

Variable Pitch Constant Speed Propellers for Light Aircraft

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SERVICE LETTER 1

GREASING PROCEDURE FOR AIRMASTER PROPELLERS

1 Introduction

Bearing life in Airmaster Propellers is maximized with correct greasing procedures. This document provides “best practice” information to support operators and dealers initial assembly and subsequent maintenance of AP3xx and AP4xx series propellers.

2 Material information

2.1 Parts required

| <i>Quantity</i> | <i>Part Number</i> | <i>Description</i> |
|-----------------|--------------------|--------------------|
| 1 | AP-A0335 | Lubrication Kit |

2.2 Special tooling/lubricant/adhesives/sealants

Grease

At manufacture the propeller is lubricated with Mobil, Mobilgrease 28. This grease complies with specification MIL-G-81322E 'Grease, Aircraft, General Purpose, Wide Temperature Range' (UK equivalent; DEF STAN 91-52/1). Greases compatible with this specification include:

- Shell Aviation grease AeroShell Grease 22.
- Royal Lubricants grease Royco22CF.
- Castrol grease Braycote 622.
- Exxon grease Unitemp 500.
- Mobil grease Mobilgrease 28.

CAUTION:

If using alternative grease, be sure to select a product suitable for the temperature range experienced in flight. This is particularly important for flying in winter or at altitude.

3 Instructions

Grease each Hub bore as follows:

NOTE

Propeller Model AP332 shown in all the following illustrations.

- a. Lightly grease the flat surface of the pitch change slide
- b. Lightly grease the bore that will support the Pre-Load Bearing (innermost cylindrical surface with lip on inboard end)



- c. Pack the groove between pre-load bearing bore and thread with grease. The groove should be completely filled to provide a reservoir of lubricant to ensure the Thrust Bearing always remains packed with grease in service.



- d. Grease the threads in the hub
- e. Grease the bore that will seal against the O-ring (outermost cylindrical surface)



Grease each Blade Assembly as follows

- f. Hold the inboard end of the Blade Assembly and slide the Retention Nut outwards to allow separation of the Thrust Bearing.



- g. Pack Thrust Rollers and Thrust Surfaces of Thrust Bearing with grease; it is desirable to fill the whole cavity with grease.



- h. Slide Retention Nut inwards to close up Thrust Bearing. Note excess grease squeezed from bearing; this ensures the bearing is fully packed with lubricant.



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- i. Completely fill the volume between the pre-load bearing and the start of the thread with grease.



- j. Smooth the surface of the bead of grease with a spatula or similar flat tool (e.g. the edge of a piece of cardboard) to shape the grease ready for assembly.



- k. Lightly grease the outer surface of the Alignment & Pre-Load Bearing

- l. Grease the threads on the Retention Nut

- m. Lightly grease the inboard face of the Blade Assembly.

- n. Grease the flat faces of the Cam follower.



Test

- o. Review the greased components and compare the amount of grease with the photographs; generous greasing is required to maximize lubrication of the Thrust bearing and protect against corrosion. If any bare metal is exposed, apply a light coating of grease until all surfaces are protected.

Completion

| <i>Description</i> | <i>Check</i> |
|---|--------------|
| For each Hub Bore: | |
| Did you completely fill the volume between pre-load bearing and thread with grease and smooth it for assembly? | |
| Did you coat all metal surfaces with grease, including face of pitch change slide, pre-load bearing bore, threads, and O-ring bore? | |
| For each Blade Assembly: | |
| Did you slide open the assembly to gain access to the thrust rollers and two faces of the thrust bearing and fill the bearing with grease both sides? | |
| Did excess grease squeeze from the bearing when you slid the assembly back together? | |
| Did you completely fill the volume between pre-load bearing and thread with grease and smooth it for assembly? | |
| Did you coat all metal surfaces with grease, including thread, inboard face of assembly, and cam follower? | |