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PRE-FLIGHT INSPECTION & FUNCTIONAL CHECKLIST

SUBJECT:	
Operation of Propeller	
ASSEMBLY NO:	**APPLICABILITY:**
AP-xxx	All propeller models

1. TOPIC

1.1 Introduction

Correct condition and function of the propeller must be verified before each flight. The following checks and inspections are designed to establish that the propeller is serviceable and ready for flight.

1.2 Pre-Flight Inspection

Perform the following checks before each flight during the aircraft walkaround:

STEP	CHECK	☑
1.	Inspect spinner cone for cracks and confirm that spinner fasteners are secure.	☐
2.	Inspect the leading edge of each blade for penetrative damage or delamination.	☐
3.	Inspect the tips and surfaces of each blade for damage (e.g. nicks, gouges, erosion, cracking).	☐
4.	Inspect the root area of each blade for cracking, dents, delamination, or signs of grease seepage.	☐
5.	Check there is no free movement between the blade and ferrule by gently twisting each blade.	☐
6.	Check there is no free movement between the blade and hub by applying a moderate fore/aft force to each blade tip.	☐
7.	Inspect blade retention components and area of hub that is visible through spinner cone cutouts for signs of damage or grease seepage. Check retention nut surfaces are flush with hub port.	☐
8.	Check slipring tracks and brushes are clean and free from grease or oil.	☐
9.	Check brushes for wear, cracking. Check brush block for damage (e.g. chaffing or damaged loom).	☐
10.	Check brushes run centrally along slipring tracks.	☐
11.	Check hub mounting bolts are secure and no signs of loosening.	☐

1.3 Pre-Start Check (Feathering Option Only)

If applicable, add the following checks to the aircraft pre-start checklist (as required for gliding flight):

> ⓘ *Note*
> *Perform this check at regular intervals to work the pitch change mechanism through its entire range of travel to ensure good distribution of lubrication.*

STEP	ACTION	CORRECT RESPONSE	☑
1.	Select AUTO / FEATHER. Lift FEATHER engage switch.	Propeller adjusts smoothly towards feather pitch limit. FEATHER lamp illuminates orange while driving, then turns green when feather pitch limit is reached.	☐
2.	Select AUTO / CRUISE.	Propeller pitch automatically and smoothly returns to normal flight range. FINE lamp illuminates orange while driving.	☐

1.4 Start Sequence

Add the following steps to the aircraft start sequence:

STEP	ACTION
1.	Select manual over-ride mode (MAN) on controller.
2.	Drive propeller to fine pitch limit (FINE lamp illuminates green).
3.	Start engine using normal procedure.

1.5 Engine Run-Up & Pre-Take-Off Check

Add the following checks to the aircraft pre-takeoff checklist:

STEP	ACTION	CORRECT RESPONSE	☑
1.	Set normal engine run-up speed.		☐
2.	Select MAN on controller. Toggle COARSE (~ 2 sec).	COARSE lamp illuminates orange as RPM decreases.	☐
3.	Toggle FINE (~ 2 sec).	FINE lamp illuminates orange as RPM increases.	☐
4.	Select AUTO / CRUISE.	The ‘no speed signal’ indication (i.e. FINE lamp flashing orange) is **not** observed.	☐
(↓ SUBSEQUENT STEPS ARE OPTIONAL ↓)			
5.	Engine start procedure.	Set brakes, “clear prop”, engine indications within limits.	☐
6.	Increase throttle smoothly to reach cruise RPM.	Propeller governs pitch to maintain cruise RPM and continues to do so if throttle is increased further.	☐
7.	Decrease throttle smoothly.	Propeller pitch decreases to fine pitch limit (FINE lamp illuminates green).	☐