



FLIGHT TEST CHECKS

FIXED PITCH AND GROUND ADJUSTABLE PROPELLERS			LAA/FT- FIXED PROP Issue 6
A/C Type:	Reg:	Engine:	Gearbox ratio: :1
Propeller Type/ Designation:		Dia: Inch/mm*	Pitch: ___ ins/mm or ___ deg at ___ % radius/tip*
Loaded Weight: (min 90% MTOW)	_____ lb* _____ kg*	CG: in/mm* Aft/Fwd* of datum	OAT: °C QNH mb

* Delete as appropriate.

1. ENGINE LIMITATIONS (From Pilot's Operating Handbook (POH))

MAX OIL TEMPERATURE	MIN/MAX OIL PRESSURE	MAX TEMPERATURE CHT/COOLANT*	MAX EGT
_____ °C / _____ °F*	_____ / _____ bar/psi*	_____ °C / _____ °F*	_____ °C / _____ °F*

2. GROUND RUN

With Wide Open Throttle (WOT), the engine must not over-speed when 'static' on the ground.

MAX ALLOWABLE ENGINE RPM	MAX ACHIEVED STATIC RPM
_____	_____

3. TAKE-OFF (Valid Permit Flight Release Certificate (PFRC) issued by LAA Engineering required)

The take-off is to be made with full power and flaps (if fitted) in the take-off position. As soon as possible after unstick, record: -

UNSTICK SPEED	_____ Kts _____ MPH*	UNSTICK RPM
_____	_____	_____

4. CLIMB

Flight conditions: Clear of cloud and turbulence, and well clear of any hills which could produce wave conditions.

Configuration: Normal for best rate of climb (see Manual).

Power: Maximum Continuous with air intake in 'Cold' or 'Ram' air position. With the throttle wide open in the climb, the engine must not over-speed. (CS-VLA 33 refers).

Speed: Enter scheduled best rate of climb speed, V_Y ; Establish the aircraft in the climb at best rate of climb speed and maintain steady heading and speed ± 2 knots/mph throughout. (From POH)

(knots/mph IAS)

Note: Where rate of climb exceeds 1500 ft/min, or an aircraft with a Cirrus Minor or Gypsy Major engine is fitted, then a 3 minute climb will be acceptable.

TIME (min)	ALTITUDE (FT) 1013 mb	IAS knots / mph*	RPM	OIL TEMP °C / °F*	OIL PRESS bar / psi*	CHT/CLNT °C / °F*	EGT °C / °F*
0							
1							
2							
3							
4							
5							

Towards the end of the climb, record:

MANIFOLD PRESSURE	in Hg	FUEL PRESSURE	bar / psi*
_____	_____	_____	_____

If there is any difficulty in recording these figures during the timed climb, maintain the climb speed and power, and record them at the end of the climb.

RPM data entered that exceeds the maximum permitted in the PFRC will fail the application.

5. VIBRATION

Check for signs of vibrations or buffeting throughout the rpm range and in all phases of ground running as well as in flight. This may result if the natural frequency of vibration of the engine on its mount rubbers, or the tail surfaces or fuselage, or of the engine/reduction drive should happen to couple in an unfortunate way with the resonant frequency of the propeller blades in bending, or the aerodynamic buffet coming from the slipstream. It may also indicate that the propeller is out of track or out of balance.

SAT	UNSAT	COMMENTS:
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6. LEVEL FLIGHT

At a constant altitude not above 2000 feet, after at least 2 minutes at each of the throttle settings required (provided that this has no detrimental effect on the engine), record: -

THROTTLE SETTING	RPM	IAS kts/mph*	OIL T °C/ °F*	OIL P bar / psi*	CHT/CLNT °C / °F*	EGT °C / °F*	FUEL FLOW Lit / Gal* / hr
WOT or MAX RPM							
MAX CONT. or CRUISE RPM							
ECONOMY CRUISE							

7. DIVE TO V_{NE}

THIS TEST MUST ONLY BE FLOWN IN SMOOTH AIR CONDITIONS

The purpose of this test is to check that flight at V_{NE} can be achieved without exceeding max permitted RPM. The V_{NE} speed is stated in the PFRC or Operating Limitations sheet. Never exceed the V_{NE} . Beware of false reading ASI. Airspeed or RPM data entered that exceeds the maximum permitted will fail the application.

Increase speed up to V_{NE} at shallowest dive angle possible by maintaining sufficient power but keeping RPM within maximum permissible. If any unusual vibration is felt, immediately reduce speed by closing the throttle and gradually pulling the control column back.
Record: -

AIRSPEED (V_{NE})	_____kts _____mph*	RPM AT V_{NE}	
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8. COMPARISON WITH PREVIOUSLY FITTED PROPELLER

Previously fitted propeller Type/ Designation:	Dia: _____ Inch/mm*	Pitch: _____ ins/mm or _____ deg at _____ % radius/tip*
If possible, comment on relative performance, vibration, etc.:		

9. CERTIFICATION

I certify that I have flown the above aircraft and that the above checks have been carried out to my satisfaction.

Name:	Signed:	Date:	Licence No.:
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Once completed, send this form to LAA Engineering. Send in also the aircraft Operating Limitations sheet.

Important note: Following conclusion of satisfactory flight test, the modified aircraft must not be flown until issue of modification final approval.