



POWERED SAILPLANE INSPECTION REPORT

APPENDIX A: FOUR STROKE ENGINE AND SYSTEMS

AIRCRAFT TYPE/MODEL:.....S/NO:.....VH-.....

ENGINE TYPE/ MODEL:.....S/NO:.....

PROPELLER TYPE/ MODEL:S/NO:.....

ITEM	CHECKED (initial)	REMARKS
1. Check engine required placards (refer AFM and ADs)		
2. Remove, clean and inspect cowls, cowl flaps, shutters, baffles/seals and fasteners.		
3. Clean and inspect engine doors and hinges.		
4. Warm up engine. Perform and record compressions/ leak downs on each cylinder.		
5. Drain oil in sump/tank.		
6. Clean/ replace oil filter/ system screens as required. Lockwire oil filter. Cut open old oil filter and check for metal.		
7. Refit oil plug and lockwire, refill the sump or tank with the recommended oil and quantity.		
8. Inspect engine firewall for defects and adequate sealing. Ensure hoses and control cables that pass through are protected from wear and further damage.		
9. Inspect engine crankcase, cylinder assemblies, fins and baffles. Inspect cylinder base to crankcase area, barrel and head assembly, rocker covers and push rod tubes for security, damage, cracks, leaks and signs of overheating.		
10. Inspect engine mount, bolts and rubber isolators. Inspect engine accessories including oil tank, oil cooler and attachments, hoses/ oil lines, breather pipe, propeller governor, starter motor, alternator/ generator, starter ring gear for security, wear and leaks.		
11. Check/ inspect induction system including turbocharger and mount, impeller and turbine bearings for wear and end float, manifolds, controller, actuators, check valves and hoses and hardware for cracks, leaks and general condition. Clean or replace air filters as required. Lubricate system where required.		
12. Inspect exhaust system; attachment and security, springs and hooks, corrosion, bulges, cracks and evidence of leaks. Repair exhaust if required IAW approved data.		
13. Inspect and check function and travel of all engine controls and associated linkages for throttle, mixture, propeller, turbocharger, carburetor, alternate air/ carburetor heat systems. Check for serviceability of bearings, valves, shafts, hinges and integrity of seals. Lubricate as required.		
14. Check/ adjust valve clearances (if required) (cold).		
15. Check/ service gearbox oil level.		
16. Inspect coolant heat exchanger (radiator) and system for security and leaks; check hose condition and age. Replace coolant/ check level and bleed system as required.		
17. Remove, clean, gap, inspect and test spark plugs. Check ceramics for cracks. Note: Use nickel anti-seize on threads only and correctly torque spark plugs.		

18. Inspect magnetos/ ignition coils, electronic boxes (ECU & EFI), fuel, air and temperature sensors and systems. Inspect ignition harnesses, plug connectors, probes and switch/ earth leads for security and damage. Ensure correct coil/ magnet spacing and rigging. Inspect, lubricate/ service contact points if applicable.		
19. Check and if required, adjust engine magneto timing.		
20. Clean/ inspect carburetor and linkages, drain carburetor bowl/s, clean/ replace fuel filters, reassemble, lockwire as required		
21. Inspect fuel vents, pump, valves, hoses for condition/ age and hardening. Check fuel shut off valve detents.		
22. Move fuel selector to the on position. Pressurize fuel lines after reassembly and inspect for fuel leaks.		
23. Inspect propeller assembly. Inspect propeller blades for splits, delamination, chips and surface finish. Inspect hub, backplate and spinner for condition/ defects.		
24. Service propeller as required.		
25. Check propeller static track.		
26. Check/ inspect engine and/ or propeller reduction drive including belts for condition, tension, wear and life expiry.		
27. Check torque wooden propeller mount bolts as per manufacturer's instructions.		
28. Inspect and service extension/ retraction system.		
29. Inspect battery for security and service. Clean and check terminal for correct torque.		
30. Inspect engine electrical systems, voltage regulator, wiring, insulation, terminals, sensors, probes, circuit breakers and fuses.		
31. Inspect and check engine and fuel tank electrical bonding.		
32. Inspect engine instruments, check operation on engine run.		
33. Inspect/ replace CO Sensor as required.		
34. Perform applicable General and Specific engine ADs.		
35. Refit cowls and check no tooling, rags or foreign objects.		
36. Perform engine run and record parameters on engine run sheet. Check correct operation of ignition switch/s, dual ignition check of both circuits and instruments. Check engine for any defects and leaks after engine run.		
37. Adjust carburetor idle speed, idle mixture, control cable tensions, throttle valve position as required per the manufacturer's instructions.		
38. Perform Independent Control Check on any engine control disconnection/ reconnection.		
39. Complete worksheets and logbook entry.		

*NOTE 1: Only complete applicable fields in schedule. If not applicable, insert N/A

*NOTE 2: Any Airworthiness Directive takes precedence over Appendix A schedule

*NOTE 3: Refer to manufacturers maintenance instructions for specific tasks

*NOTE 4: Propellers must be overhauled at TBO periods as listed in either manufacturers or MOSP propeller Appendix 1 schedule.

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36. GFA POWERED SAILPLANE ENGINE RUN SHEET (4 Stroke)

GROUND FUNCTIONAL CHECK: TO BE PERFORMED WITH ENGINE AT OPERATING TEMPERATURE

ENGINE TIME SINCE NEW:-.....ENGINE TIME SINCE OVERHAUL:-.....

MANUFACTURERS TBO:-.....TOP OVERHAUL CARRIED OUT:-.....

OAT:-..... QNH:-.....

AT MAX STATIC PWR:- RPM.....MANIFOLD PRESSURE:-.....

FUEL PRESSURE:-.....OIL PRESS:-.....OIL TEMP:-.....CHTS:-.....

AT IDLE PWR:- RPM.....OIL PRESS:-.....MANIFOLD PRESS:-.....

CYLINDER LEAK RATES/COMPRESSION: #1...../80 #2...../80 #3...../80 #4...../80

Is the gauge used the same as last time? Last calibrated.....

Change engine oil & filter. Examine oil& filter. Contaminants: - No ☐ Yes ☐

Remove oil pick up screen & magnetic plug. Contaminants: - No ☐ Yes ☐

Oil analysis performed: - No ☐ Yes ☐:- (Please attach report)

Oil used last 12 months from expired Maintenance Release:- Litres added.....over the oil change amounts.

REMARKS:-

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DATE OF INSPECTION:-.....MAINTENANCE RELEASE NO:-.....

SIGNED:-.....PRINT NAME:-.....DATE:-.....

GFA MEMBERSHIP NO:- M-..... GFA MEMBERSHIP EXPIRY DATE:-.....

THIS INSPECTION SCHEDULE MUST BE SIGNED BY AN APPROPRIATELY QUALIFIED GFA AIRWORTHINESS INSPECTOR

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GUIDELINES for the APPENDIX A INSPECTION.

1. For inspection purposes "powered sailplane" also means "power assisted sailplane".
2. The GFA System of Maintenance (SoM) is the default system. A logbook statement is only required if electing an alternate maintenance system.
3. Light Sports Aircraft (LSA) and electrically powered sailplanes must be maintained to the manufacturer's maintenance schedule. These types require a logbook statement.
4. A Registration Holder (RH) may elect to maintain the airframe and/ or engine and propeller to the manufacturer's maintenance schedule. The election may be mixed, eg the airframe maintained to the manufacturers SoM and engine/propeller to the GFA. These instructions should be clearly identified in the aircrafts logbook statement.
5. Refer to logbook statement at the front of the aircrafts logbook (if applicable) for the maintenance schedule nominated, and:
 - a. Where the GFA Appendix A engine maintenance schedule is nominated, carry out in accordance with MOSP 3 requirements
 - b. Where the powered sailplane and/or engine manufacturers schedule is elected, carry out maintenance IAW that schedule/maintenance system
 - c. The Registered Operator (RO) must ensure that the most current manufacturers schedule is used. This may be obtained from the Maintenance Manual or applicable Service Bulletin.
 - d. The Appendix A Engine Run Sheet Item 36 must be completed.
6. Make comments in the remarks column for future reference. This will assist in determining trends and add value if and when applying for an engine overrun.
7. Powered sailplanes with engines permanently mounted in the fuselage:-
 - a. Must have no gaps or unsealed holes in the firewall. (Seal with "3M Firebarrier 2000")
 - b. Must have a cockpit mounted CO Sensor.
 - c. Fuel and oil lines in the engine compartment must be protected by fireproof sleeving, and routed as far as practicable from hot spots.
8. On retractable engines, pay particular attention to electrical looms and flexible hoses in the bending area.
9. Check fuel, oil, coolant systems thoroughly for contamination, signs of chafing or rubbing of pipes & hoses, security of clamps & fittings. (Fuel leak check must be done with boost pump ON after any maintenance involving replacement of a component/ disconnection).
10. Bonding between the external earth point, fuel tank, engine mount, etc must be checked for continuity. All components should be at the same electrical potential.
11. An engine run must be carried out to determine the engine performance. Record all parameters on the Powered Sailplane Engine Run Sheet which will then becoming part of the engine records. Engine performance history will be required if or when applying for an 'on condition' engine life extension or overrun approval. Note that any sailplane involved in 'Charter Operations' are not eligible for life extension.