POWERED SAILPLANE INSPECTION REPORT APPENDIX B: TWO 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 engine doors and hinges, cowls, cowl flaps, shutters, baffles, seals and fasteners.		
3. Perform CBCT on cold engine at annual inspection where more than 50 hours engine TIS has elapsed from new or since last CBCT was carried out.		
4. Check P leads for continuity and switches are off. Rotate engine by hand and check for any unusual noises/ leaks.		
5. Service/ fill the oil injection tank with the recommended oil and replace oil cap.		
6. Service/ check gearbox oil level.		
7. Inspect engine bay/ firewall for defects and adequate sealing. Ensure hoses and control cables that pass through are protected from wear and further damage.		
8. Inspect engine mount/ brace assembly, bolts, rubber isolators and pylon for cracks, wear, heat damage and security.		
9. Inspect engine crankcase, cylinder base to crankcase area, barrel and head cylinder assemblies for security, damage, cracks, signs of overheating, exhaust gas and coolant leaks. Inspect cylinder cooling fins and baffles for security, damage and signs of over-heating. Re-torque heads as required.		
10. Inspect engine accessories including oil tank, oil cooler, water pump, hoses, oil lines, breather pipe, starter motor, alternator/ generator, starter ring gear for security, condition, leaks, wear, loose or missing nuts, bolts or screws.		
11. Inspect/ check tighten induction system. Verify security of intake silencer. Clean, re-oil or replace air filters as required.		
12. Inspect exhaust system; attachment and security, springs and hooks, corrosion, bulges, cracks and evidence of leaks. Check torque exhaust nuts or screws. Repair exhaust IAW approved data.		
13. Inspect for security, damage, check function and travel of all engine controls and associated linkages for throttle, choke, carburetor, decompression valve, alternate air/ carburetor heat systems. Check for serviceability of bearings, valves, shafts, hinges and integrity of seals. Lubricate as required.		
14. Inspect coolant heat exchanger (radiator) and system for security, leaks; check hose condition/age. Replace coolant/ check level in overflow bottle and bleed system as required.		
15. Remove, clean, gap, inspect and test spark plugs. Check ceramics for cracks. Note: Use manufacturer recommended thread lubricant. If silent use nickel anti-sieze paste on threads only. Correctly torque spark plugs IAW manufactures instructions.		
16. Inspect magnetos/ ignition coil/s, 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 and service contact points if applicable.		
17. Drain water from fuel tank sump and/or water trap.		
18. Clean/ inspect carburetor/ throttle body and linkages, check for wear. Inspect fuel pump, regulator and fuel return lines. Drain carburetor bowl/s, clean/ replace inlet fuel filters including micro fuel filters for injection models, reassemble, lockwire as required.		
19. Inspect fuel tank, vents, pump, fuel caps, valves, all fuel hoses for chaffing and kinks, inspect connections , primer bulbs and taps for security, fuel hoses for condition, age, hardening and evidence of leaks. Check fuel shut off valve detents.		
20. Move fuel selector to the on position. Pressurize fuel lines after reassembly and inspect for fuel leaks.		
21. Inspect propeller assembly. Inspect propeller blades for splits, delamination, chips and surface finish. Inspect hub, backplate and spinner for condition/ defects.		
22. Service/ lubricate propeller as required.		
23. Check propeller shaft bearing for clearance by rocking propeller.		
24. Check propeller static track.		
25. Check/ inspect engine and/or propeller reduction drive including belts for condition, belt tension, wear and life expiry.		
26. Check torque wooden propeller mount bolts as per manufacturer's instructions.		
27. Inspect and service extension/ retraction system including limit switches.		
28. Inspect battery for security and service. Clean terminals and check correct torque		
29. Inspect engine electrical systems voltage regulator, wiring, insulation, terminals, sensors, probes, circuit breakers and fuses.		
30. Inspect and check engine and fuel tank electrical bonding.		
31. Inspect engine instruments, check operation on engine run.		
32. Inspect/ replace CO Sensor as required.		
33. Perform applicable General and Specific engine ADs.		
34. Refit cowls and check no tooling, rags or foreign objects.		
35. 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. (It may be necessary to verify engine maximum power during take-off roll or in flight).		
36. Adjust carburetor idle speed, idle mixture, cable tension, throttle valve position as per the manufacturer's instructions.		
37. Perform Independent Control Check on any engine control disconnection/ reconnection.		
38. Complete worksheets and logbook entry.		

THIS INSPECTION REPORT IS TO BE RETAINED BY THE OWNER AND FILED WITH THE AIRCRAFTS RECORDS

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

*NOTE 2: Any Airworthiness Directive takes precedence over Appendix B 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.

35. GFA POWERED SAILPLANE ENGINE RUN SHEET (2 Stroke)

GROUND FUNCTIONAL CHECK: TO BE PERFORMED WITH ENGINE COLD

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

MANUFACTURERS TBO:-……..RECONDITION CARRIED OUT:-……

OAT:-…….…. QNH:-…… MAX STATIC PWR:- RPM…….…..…

FUEL PRESSURE:-…….……FUEL FLOW:-…..…… CHT:-……...…IDLE RPM:-…..……....

CBCT COLD ENGINE: #1…….……#2…….……..#3…….……#4……. (ROTAX <0.07 MM)

(CBCT REQUIRED EVERY 50 HOURS ENGINE TIME IN SERVICE)

Remove magnetic plug. Contaminants: - No ☐ Yes ☐

REMARKS:- ……..……

……..……

SIGNED:-……PRINT NAME:-……DATE:-…….……

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

THIS INSPECTION SCHEDULE MUST BE SIGNED BY A QUALIFIED GFA AIRWORTHINESS INSPECTOR

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GUIDELINES for the APPENDIX B 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 B 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 B Engine Run Sheet Item 35 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.