POWERED SAILPLANE INSPECTION SCHEDULE
APPENDIX C: ROTARY ENGINE AND SYSTEMS

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

ENGINE TYPE/ MODEL:…….S/NO:……..……..…

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

ITEM	CHECKED	REMARKS
1. Check engine required placards	(Initial)	
2. Check P leads for continuity and switches are off. Rotate engine by hand and check for any unusual noises/ leaks.		
3. Remove, clean and inspect engine doors and hinges, tensioning cords, cowls, cowl flaps, shutters, baffles, seals and fasteners.		
4. Service the oil injection system with the recommended oil.		
5. Service/check gearbox oil level.		
6. Inspect engine bay/ firewall for defects and adequate sealing. Ensure hoses and control cables that pass through are protected from wear and further damage.		
7. Inspect engine mount/ brace assembly, bolts, rubber isolators and pylon for cracks, wear, heat damage and security.		
8. Inspect engine crankcase and housings for security, damage, cracks, signs of overheating, exhaust gas and coolant leaks. Inspect cooling fins and baffles for security, damage and signs of over- heating. Re-torque assembly as required.		
9. Inspect engine accessories including oil tank, cooler, separator, pump, oil lines and breather pipe. Inspect water pump and hoses. Inspect starter motor, alternator/ generator, starter ring gear. Inspect the above for security, free play, condition, leaks, wear, loose or missing nuts, bolts or screws.		
10. Inspect/ check tighten induction system including fan housing, fan drive belts and bearings, Verify security of intake silencer. Clean, re-oil or replace air filters as required.		
11. 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.		
12. Inspect for security, damage, check function and travel of all engine controls and associated linkages for throttle, choke, carburetor/injection unit, decompression valve, alternate air/ carburetor heat systems. Check for serviceability of bearings, valves, shafts, hinges and integrity of seals. Lubricate as required.		
13. Inspect coolant heat exchanger and system for security, leaks; check hose condition/age. Check coolant level in overflow bottle and bleed system as required.		
14. 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.		
15. Inspect magnetos/ ignition coil/s, electronic boxes (ECU & EFI), timing, 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.		

16. Drain water from fuel tank sump and/or water trap.		
17. 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.		
18. 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.		
19. Move fuel selector to the on position. Pressurize fuel lines after reassembly and inspect for fuel leaks.		
20. Inspect propeller assembly. Inspect propeller blades for splits, delamination, chips and surface finish. Inspect hub, back plate and spinner for condition/ defects.		
21. Service/ lubricate propeller as required.		
22. Check propeller shaft bearing for clearance by rocking propeller.		
23. Check propeller static track.		
24. Check/inspect engine and/or propeller reduction drive including belts for condition, tension, wear, mounting hardware and life expiry.		
25. Check torque wooden propeller mount bolts as per manufacturer's instructions.		
26. Inspect and service extension/ retraction system including stops, gas struts and limit switches.		
27. Inspect battery for security and service. Clean terminals and check correct torque		
28. Inspect engine electrical system generator (stator and rotor), voltage regulator, wiring/cabling, insulation, terminals, sensors, probes, circuit breakers and fuses.		
29. Inspect and check engine and fuel tank electrical bonding.		
30. Inspect engine instruments, check operation on engine run. Inspect and test fire warning system.		
31. Inspect/ replace CO Sensor as required.		
32. Perform applicable General and Specific engine ADs.		
33. Refit cowls and check no tooling, rags or foreign objects.		
34. 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).		
35. Adjust carburetor idle speed, idle mixture, cable tension, throttle valve position as per the manufacturer's instructions.		
36. Perform Independent Control Check on any engine control disconnection/ reconnection.		
37. 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 C 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.

34. POWERED SAILPLANE ENGINE RUN SHEET

GROUND FUNCTIONAL CHECK:

a) Record battery voltage prior to engine start

b) Start engine and adjust idling speed at coolant temperatures of below 54 degrees C (as necessary)

c) Record idle speed of engine

d) Warm engine until coolant reached 40 degree C

e) Perform ignition check @ 6200 rpm and record rpm drop on both ignition circuits

f) Record battery voltage with running engine and compare with a) above. (An increase of 0.5 volts indicates a working generator)

g) Run engine at full power and record:

i Maximum Static rpm

ii Maximum coolant temperatures

iii Maximum rotor air temperature

h) Compare the above three values with previous recordings

i) Check whether time for extending and retracting engine is about the same as with previous recordings

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

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

BATTERY VOLTAGE:-……BATTERY VOLTAGE @ 6200 RPM ……>0.5V YES/NO

IDLE SPEED:-…….. IGNITION DROP: CIRCUIT 1……..……CIRCUIT 2……..….

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

MAX. COOLANT TEMP:-……MAX. ROTOR TEMPS:-……..

FUEL PRESSURE:-…….……FUEL FLOW:-…..... ……. .....

ENGINE EXTENSION TIME:-…….RETRACTION TIME:-……..

Remove magnetic plug. Contaminants: - No ☐ Yes ☐

REMARKS:- ……..……

……..…….

SIGNED:-……PRINT NAME:-……DATE:-…….…….

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

THIS INSPECTION SCHEDULE MUST BE SIGNED BY A QUALIFIED AIRWORTHINESS INSPECTOR

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

GUIDELINES for the APPENDIX C 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 C 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 C Engine Run Sheet Item 34 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' is not eligible for life extension.