



**Maintenance and Inspection Schedule for RCA Van's Aircraft  
RV6/6a; RV7/7a; RV8/8a; RV9/9a**

NOTE: This maintenance schedule must be used in conjunction with Annex A of SACAA-CATS-44

RCA JOB NUMBER:..... DATE:.....

AIRCRAFT TYPE.....REGISTRATION.....S/N.....  
ENGINE TYPE .....ENGINE S/N.....  
PROPELLER TYPE .....PROPELLER S/N.....

**HOURS AND CYCLES OF OPERATION**

AIRFRAME TOTAL TIME.....LANDINGS.....

ENGINE HOURS SINCE NEW OR LAST OVERHAUL.....  
DATE OF LAST OVERHAUL.....

PROPELLER SINCE NEW OR LAST OVERHAUL/MIDLIFE.....  
DATE OF LAST OVERHAUL.....

MASS & BALANCE DATE LAST ESTABLISHED.....  
(DUE EVERY 60 MONTHS)

**AIRCRAFT DOCUMENTATION**

AUTHORITY TO FLY NO:.....CURRENCY DATE.....  
RADIO STATION LICENSE:.....CURRENCY DATE:.....  
CERT OF REG NO:.....

**LIST OF WALK AROUND PRE INSP DEFECTS NOTED**

- 1.....
- 2.....
- 3.....
- 4.....
- 5.....

**LIST OF COMPONENTS DUE FOR OVERHAUL**

- 1.....
- 2.....
- 3.....
- 4.....
- 5.....



**Maintenance and Inspection Schedule for RCA VAN'S AIRCRAFT RV6/6a; RV7/7a; RV8/8a; RV9/9a**

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1.00 <b><u>Engine, Engine installation and Propeller</u></b>	MECHANIC	INSPECTOR
1.01 <b>100 Hour/Annual</b>		
Clean engine as required.		
Inspect condition of spark plugs (clean and adjust gap as required, adjust in accordance with Lycoming Service instructions). If fouling of plugs is apparent rotate bottom to upper plugs. Gap plugs 0.016" -0.022"		
Check cylinder compression and record results in Engine Log Book. #1:...../80 #2:...../80 #3:...../80 #4:...../80		
Inspect cylinders for cracked or broken fins.		
Inspect Magneto for oil leakage		
Check Magneto to Engine timing		
Inspect throttle, mixture, pitch and cabin heat controls for security, travel and correct operation		
Remove clean, inspect and re-oil induction filter. (replace if required)		
Inspect induction air box and mount plate for cracks.		
Inspect alternate air door and control for wear, damage and operation.		
Inspect exhaust stacks, connections and gaskets. (Replace gaskets as required).		
Inspect mufflers, heat exchange and all engine baffles.		
Inspect breather tube for obstructions and security		
Inspect crankcase for cracks, leaks and security of seam bolts.		
Inspect engine cradle for cracks, deformation and corrosion. On tail wheel RV6/7aircraft pay attention to the gusset and lower portion of the main landing gear attachment sockets.		
Inspect engine elastomeric mounts for deterioration/cracks and loose mounting. (Replace as required)		
Inspect firewall.		
Remove spinner, inspect complete propeller and spinner assembly for security and damage or wear.		
Inspect propeller mounting bolts and safety (check torque if safety is broken).		
Inspect propeller blade for damage.		
Lubricate propeller hub (Hartzell)		



<b>2.0     <u>Structures</u></b> <b>2.01    50 Hour</b>	<b>MECHANIC</b>	<b>INSPECTOR</b>
Check and inspect external surface of fuselage, wings, empennage, nacelles, flaps and control surfaces.		
Check and inspect sliding /tip up canopy fit, operation and condition including satisfactory operation of latching and locking mechanism.		
Check protective treatments, drain holes free from obstruction, access panels secure.		
<b>2.02    100 Hour/Annual (as 50 Hour and in addition the following)</b>		
Remove all inspection panels, rear cabin bulkhead, internal flap mechanism inspection panels and floor panels over control stick mechanism. Remove fairing over empennage.		
Inspect internal structure of fuselage, wing and empennage revealed by removal of above items.		
<b>3.0     <u>Landing Gear</u></b> <b>3.01    50 Hour</b>		
Remove wheel spats and inspect for damage.		
Inspect nose and main wheel spat attachment brackets for cracks. Check bracket mounting bolts for security and re-torque as required.		
Inspect landing gear legs and fixed fairings for damage and integrity		
Check brake system for leaks.		
Inspect brake pads and discs for condition and wear		
Check brake fluid reservoir (Fill as required)		
Check tyre condition and tyre pressures (Main and Nose 25 -35 psi.) Replace wheel spats.		
<b>3.02    100 Hour/Annual (as 50 Hour and in addition the following)</b>		
Inspect and check all brake hydraulic pipes, flexible hoses, connections, master cylinders and parking brake system (if fitted) for correct operation.		
Inspect wheels for alignment.		
Support the weight off the wheels and remove main and tail/nose wheel assemblies. Clean check and lubricate wheel bearings. Check landing gear mounting bolts.		
Inspect wheels for cracks, corrosion and broken bolts.		
Disassemble, clean, inspect and lubricate tail or nose wheel swivel mechanism. Replace worn parts as required. Reset breakout force on nose wheel fork.		
<b>4.00    <u>Flying Controls</u></b> <b>4.01    50 Hour</b>		
Check flying controls for full and free movement and in the correct sense.		



4.00 <u>Flying Controls continued</u>	MECHANIC	INSPECTOR
4.01 50 Hour		
Check correct operation of trim mechanisms and that indicator agree with surface movement.		
4.02 100 Hour/Annual (as 50 Hour and in addition the following)		
Inspect all control surface hinges, hinge bolts, brackets, push-pull rods, bellcranks, stops, control horns and balance weights. Check associated turnbuckles/locking systems.		
Check control neutrals and travels. ELEVATOR UP:.....(30 MAX/25 MIN) DWN:.....(25 MAX/20 MIN) ELEV TRIM UP:.....(25 MAX) DWN:.....(35 MAX)  AILERON L UP:.....(32 MAX/25 MIN) DWN:.....(17 MAX/15 MIN) AILERON R UP:.....(32 MAX/25 MIN) DWN:.....(17 MAX/15 MIN)  RUDDER LEFT:.....(35 MAX/30 MIN)RIGHT:.....(35 MAX/30 MIN)  FLAPS TRAVEL:.....(40-45 RV7/7A – RV8/8A) (32-37 RV9/9A)		
Lubricate all rod end and hinges.		
Inspect rudder control cables, fairleads and cable guides.		
Inspect rudder pedals and pedal mechanism.		
Check flap operation, mechanism, and actuating system.		
Check and inspect elevator trim for correct operation and security.		
Check and inspect aileron trim mechanism for correct operation and security.		
5.00 <u>Fuel/Oil Systems</u>		
5.01 50 Hour		
Drain samples from all fuel drain points and check for water, foreign matter and correct colour.		
Check fuel tank vents unobstructed.		
Inspect fuel system and tank for leaks.		
Drain oil sump and replace oil filter.		
Inspect oil lines and fittings for leaks, security or damage		
Refill engine with oil.		
5.02 100 Hour/Annual (as 50 Hour and in addition the following)		
Inspect condition of flexible fuel lines		
Check operation of fuel selector valve		
Remove, clean and inspect airframe fuel filter.		
Inspect fuel gauges for damage and operation.		



5.02 <b>100 Hour/Annual (as 50 Hour and in addition the following) continued</b>	MECHANIC	INSPECTOR
Inspect oil/fuel sender connections and pipes for leaks and security.		
Clean oil sump screen and inspect for foreign particles.		
Inspect security of all fuel lines		
Carry out fuel flow check and record LEFT TANK: _____ RIGHT TANK: _____		
<b>6.00 <u>Instrument and Instrument Systems</u></b>		
<b>6.01 50 Hour</b>		
Inspect instruments for damage, and legibility of markings and associated placards.		
Check instrument readings are consistent with ambient conditions; operation, as far as possible on engine ground run.		
Check stall warning device operation (if fitted).		
Check and inspect pitot-static system including pitot head, static self drain system.		
Check pitot head correctly aligned and pitot heat operation(if fitted)		
Check last compass swing date (and any other instrument calibration dates) and assess if renewal required.(normally every 5 yrs for NTCA)		
Check autopilot operation in accordance with manufacturer recommendations (if fitted).		
<b>6.02 100 Hour/Annual (as 50 Hour and in addition the following)</b>		
Inspect instruments: panel; mounts; pipes; hoses; electrical wiring		
Carry out pitot/static system leak and calibration check. (Calibration to be done annually)		
Inspect and check autopilot connections, servo installation and associated control links (if fitted).		
Carry out capacity check on PFD back-up battery (if fitted). (To be done annually)		
<b>7.0 <u>Electrical System</u></b>		
<b>7.01 50 Hour</b>		
Check and inspect battery installation.		
Check operation of all electrical circuits		
<b>7.02 100 Hour/Annual (as 50 Hour and in addition the following)</b>		
Inspect - components, wiring, terminals and connectors.		
Check correct type and rating of fuses and or circuit breakers. NOTE most systems operate off EXP DC LOAD CENTRE. Check EXP BUS for damage and security of installation.		
Check lamps and lights		



7.02 100 Hour/Annual (as 50 Hour and in addition the following)continued	MECHANIC	INSPECTOR
Remove alternator drive belt and turn alternator rotor to check condition of bearings for abnormal noise or roughness.		
Inspect condition of alternator and starter (and mounting integrity)		
Nippondenser Alternators : Check brushes for wear		
<b>8.0 Radio</b> <b>8.01 50 Hour</b>		
Inspect aerials, insulators, instruments and displays.		
Check placards and markings legible		
Carry out VHF ground function check		
<b>8.02 100 Hour/Annual (as 50 Hour and in addition the following)</b>		
VHF communication - test the function of the system including Audio Panel(if fitted)		
ATC Transponder - carry out check with Field Test Set. Check - frequency tolerance and side-lobe suppression. Check - Mode "C or S"		
<b>9.00 General</b> <b>9.01 50 Hour</b>		
Check fire extinguisher for leakage/discharge.		
Check first aid kit complete and within expiry date		
Check seat belts/harnesses for satisfactory condition, locking and release.		
Check seat belt/harness mounting points and brackets		
Check all controls and switches labelled correctly		
<b>9.02 100 Hour/Annual (as 50 Hour and in addition the following)</b>		
Check cabin ventilation and heating system controls, hoses and ducts		
Check and inspect cabin heat exchanger for signs of exhaust gas leakage.		
Lubricate throughout.		



9.03 Other Maintenance/Inspection Requirements	MECHANIC	INSPECTOR
Check all mandatory requirements (modifications, Service Bulletins, inspections and Airworthiness Directives) have been complied with.		
Ensure all mandatory placards are legible, correctly positioned and worded.		
Ensure Engine, Airframe and Propeller logbooks have been correctly filled in and are up to date. (All flights and work carried out must be entered and signed up as required)		
Ensure all tools, rags and loose articles are removed from the aircraft.		
Minimum 5 years (earlier if required) reweigh and check weight and balance schedule.		
<b>Carry out an engine ground run and check, as far as possible, all systems and services for correct operation. Check - power plant installation for leaks following run. Ensure all cowlings, access panels are secured.</b>		

**10.00 Other Maintenance/Inspection Requirements**

Time Period	Action
400 Hours	Remove rocker box covers. Check for freedom of valve rockers when valves are closed. Look for evidence of abnormal wear or broken parts in the area of the valve tips, valve keeper, springs and spring seat. Any damage requires removal (including piston and connecting rod assembly) and inspection for further damage.
5 years/1000hrs	Remove field brush assembly on Plane Power Alternators and inspect brushes for excess wear. Replace brush assembly if brushes extend less than .250" from edge of brush holder case.
500 Hrs/4years	Magneto inspection
1000 Hours	Magneto overhaul or replacement.
8 years or at engine overhaul (whichever comes first)	Replace rubber flexible fuel and oil lines in engine compartment.(earlier if required) All Teflon hoses on condition.
Refer to Prop Manufacturer	Propeller overhaul or replacement
Refer to Engine or Component Manufacturer	Engine and engine components overhaul or replacement

I HEREBY CERTIFY THAT IN CARRYING OUT THE FOREGOING SPECIFIED MAINTENANCE, ALL THE REQUIREMENTS PRESCRIBED IN THE CIVIL AVIATION REGULATIONS, 2011, THAT ARE APPLICABLE THERETO HAVE BEEN COMPLIED WITH.

DATE:..... SIGNATURE:.....

LICENCE OR APPROVAL NO/STAMP:.....

AMO NAME:..... LICENCE NO.....

AME/AP NAME:..... LICENCE NO.....



**10.00 Notes on Mandatory Requirements**

- 10.00 To operate the aircraft an ORIGINAL (or certified copy) valid Authority to Fly issued by the SACAA or RAASA must be carried in the aircraft together with the ORIGINAL (or certified copy) Certificate of Registration, a valid Radio Station License and a current Certificate of Release to Service.
- 10.02 Aircraft insurance is not a legal requirement. It is however SACAA policy for aircraft to have adequate third party insurance.

**TORQUE SETTINGS**

Exhaust Stack (Vetterman Recommendation)		140/180 in lbs
Lycoming Recommendation: -	5/8-24 plug leads	80/90 in lbs
	3/4-20 plug leads	110/120 in lbs
	Spark Plugs	35 ft lbs
	Slick Magneto hold-down clamps	190-220 in lbs
General Torque settings STEEL: - (fine threads)	AN3 (3/16 in)	30-40 in lbs
	AN4 (1/4 in)	50-60 in lbs
	AN5 (5/16 in)	100-140 in lbs
	AN6 (3/8 in)	160-190 in lbs