

CONDITION INSPECTION CHECKLIST

Aircraft: STUART M. LUDTKE / RV4 Serial Number: 530
Registration Number: N530RV

Aircraft Owner: Scott Hersha

Date of Inspection: _____ Location of Inspection: _____

Total Airframe Hours: _____
Total Engine Hours: _____
Total Propeller Hours: _____

Inspection Performed By: _____ Certificate: _____

Preparation — Inspection Consumables

| | |
|----------------|----------------------------------|
| OIL | Phillips X/C 20W50 or equivalent |
| OIL FILTER | 48110-2 |
| Spark Plugs | UREM40E; UREM37BY |
| Air Filter Kit | K&N E-3450 |
| Brake Lining | WHLM 66-106 |
| Tires/Tubes | 5.00 X 5 |

Time-limited items

| | |
|-------------------------------|---|
| ELT: ACK E-04 | Batt replacement date: Jan 2025; Remote Control Batt replacement: Feb 2030; Audio Alert Indicator Battery replacement: Feb 2030 |
| VFR Transponder Certification | Due: Feb 2022 |

Empennage & Fuselage Group

- _____ Remove empennage fairing and rear inspection plate
- _____ Inspect vertical stabilizer and horizontal stabilizer spar attach points
- _____ Inspect tail cone wire runs for security/chafing
- _____ Inspect elevator horns and attachments, and rear fuse bulkheads area
- _____ Inspect rudder and vertical stabilizer for corrosion and condition
- _____ Inspect rudder attach bearings for condition/security, lubricate
- _____ Inspect rudder control stops and cable attachments for security and cotter pin
- _____ Inspect rudder light wire for chafing
- _____ Inspect horizontal stabilizer and elevators for corrosion and condition
- _____ Inspect elevator attach bearings for condition/security, lubricate
- _____ Inspect elevator spar web/elevator attach points IAW **SB 14-02-05 for cracks**
- _____ Inspect elevator counterbalance weights for security
- _____ Inspect elevator trim tab, arm, actuator rod, and trim operation
SB 6-9-20 Manual Trim Cable Anchor; Permanently complied with during initial construction
- _____ Check elevator extension limits: UP 25-30; DN: 20-25
- _____ Inspect static ports are clear
- _____ Inspect fuselage exterior for signs of stress, cracking, and wear
- _____ Inspect elevator control tube attachment at elevator horn, lubricate rod bearing
- _____ Inspect tail wheel attachment for corrosion, wear, and proper torque
- _____ Inspect tail wheel for condition, security, torque, and lubricate
- _____ Inspect tail wheel steering mechanism for security and wear, and lubricate

_____ Reinstall empennage fairing and rear inspection plates

Landing Gear Group

- _____ Remove wheel pants
- _____ Inspect wheel pants and fairings for cracks, wear, loose or missing fasteners
- _____ Jack plane for main landing gear wheel removal
- _____ Remove brake assemblies and wheels
- _____ Inspect tires for wear and cracks, rotate if indicated, replace if necessary
- _____ Disassemble wheels, clean wheel assembly parts, repack wheel bearings
- _____ Inspect wheel brake disc. Minimum thickness .162"
- _____ Assemble wheel assemblies (**wheel bolt torque 90 In/Lbs**), set tire pressure: 32-34 psi
- _____ Check brake calipers for condition and leaks
- _____ Check brake lines for security and chafing
- _____ Inspect brake linings for wear and condition, re-line if necessary(Cleveland 66-106)
- _____ Clean axle/brake area
- _____ Clean and re-mount wheels and brake assemblies
 - Brake caliper bolt torque: 80 In/Lbs**
- _____ Check/set tire air pressure: 32-34 psi
- _____ Clean wheel pants and re-install
- _____ Inspect fuel vent ports for security, condition, and operation
- _____ Inspect antennas, and condition of fuselage belly areas
- _____ Re-install upper intersection fairings and wheel pants

Wing Group

- _____ Remove wing inspection plates and wing root fairings
- _____ Inspect entire wing structure internally for cracks and corrosion
- _____ Inspect aileron control mechanism (push tubes, rod end bearings, bellcrank) for condition/security, lubricate rod end bearings
- _____ Inspect wing aft spar at aileron attach IAW **SB 16-03-28 for cracks**
- _____ Inspect wing root area including aft spar attach bolt, electrical connections, and plumbing
- _____ Inspect entire wing structure externally for cracks and condition
- _____ Inspect fuel cap and O ring condition & lubricate O-ring
 - SB 11-9-13 permanently complied with via fuel tank rebuild/slosh removal**
- _____ Inspect aileron attach bolts/brackets for security, lubricate rod end bearings
- _____ Inspect aileron control stops for security
- _____ Inspect pitot tube and plumbing for security, and blockage
- _____ Extend flaps, inspect flap actuator rods and attachment hinge for operation and security, lubricate rod end bearings
- _____ Inspect strobe/nav lights for security and operation
- _____ Inspect landing light for security and operation
- _____ Inspect aileron movement for freedom and proper extension limits: UP: 25-32; DN:15-17
- _____ Inspect aileron control stops for security/operation
- _____ Inspect temperature probe mounting security and wiring security
- _____ Reinstall inspection plates and wing root fairing

Cabin Group

- _____ Remove seats, rear baggage compartment panels, front floor panel, rear stick boot panel
- _____ Check ELT batteries expiration date, verify operation, armed
- _____ Inspect elevator bellcrank for signs of wear, proper bolt torque, lubricate

- _____ Inspect tail cone area for signs of wear, wiring/plumbing security, and tail area cleanliness
- _____ Inspect flap mechanism for proper operation and weldment for cracks
- _____ Inspect condition of seat belts and attachments
- _____ Inspect rear flight controls, check attach security, lubricate rod end bearings
- _____ Inspect front under seat area including spar bolts, and wing wiring connections
- _____ Inspect fuel selector valve, fittings, fuel lines, boost pump security, wiring connections and operation, clean fuel filters, and lubricate fuel selector
- _____ Inspect fwd flight control mechanism, lubricate rod end bearings
- _____ Check general condition behind instrument panel for loose wires, chafing, etc.
- _____ Check all avionics and instruments for mounting security
- _____ Check cabin heater and controls
- _____ Check rudder pedals and brake cylinders for operation and leaks
- _____ Comply with **SB 96-12-1 rudder cable to foot pedal security**
- _____ Inspect conditions of firewall and all firewall area penetrations
- _____ Inspect canopy and canopy structure for security, operation, and wear
- _____ Lubricate canopy latch mechanisms
- _____ Check fire extinguisher condition
- _____ **SB 97-5-1 Rear seat-back gussets permanently complied with**
- _____ Re-install interior floor panel, baggage panel, seats and cushions

Propeller Group

- _____ Remove spinner noting orientation
- _____ Inspect spinner and back plate for cracks or damage
- _____ Inspect prop hub for cracks, leaks, security
- _____ Check prop pitch and bolt torque 60 - 65 Ft/Lbs
- _____ Inspect prop blades for nicks, cracks and/or surface erosion, leading edge security
- _____ Clean and wax prop blades
- _____ Re-install spinner

Engine Group

- _____ Remove engine cowl
- _____ Clean cowling interior and inspect for cracks, distortion, loose or missing fasteners, heat damage
- _____ Drain engine oil
- _____ Remove spin-on oil filter, replace and safety wire
- _____ Cut open oil filter, inspect for particles
- _____ Remove oil pan finger screen, inspect, clean, and re-install with new crush washer (AN960-16). Torque: 135*
- _____ Refill engine with oil per engine manufacturer's recommendations
- _____ Remove spark plugs noting current installed location
- _____ Inspect spark plug condition, clean and gap, or replace with new. Gap: .16-.19. - MAG; .16-.35 - SIM
- _____ Perform leak down compression test:
#1_____#2_____#3_____#4_____
- _____ Spark plugs - apply anti-seize, install, torque to .35 ft/lbs
- _____ Remove air filter and inspect/clean FAB
- _____ **SB 96-10-1 permanently complied with using safety wire.**
- _____ Service K&N air filter element
- _____ Reinstall air filter and all attachments
- _____ Check carburetor hose attachments for leaks/security
- _____ Inspect carburetor mounting nuts for security
- _____ Check engine controls for proper movement and security and lubricate
- _____ Check exhaust system and mounting brackets for cracks and security, lubricate slip joints with mouse milk
- _____ Re-torque exhaust mounting nuts

- _____ Inspect accessories on rear engine case for security and leaks including: oil temp sender, oil pressure sender, magnetos, vacuum pad cover, oil lines& fittings
- _____ Inspect crankcase vacuum vent system and breather exhaust tube attachment
- _____ Remove, clean, reinstall vent tube on exhaust pipe
- _____ Inspect oil cooler condition including fins for damage or blocking, lines for leaks and/or chafing
- _____ Inspect oil cooler shutter mechanism for proper operation and security
- _____ Inspect ignition harness for condition and spark plug attach security
- _____ Inspect starter: pinion & ring gears, mounts, connections, lubricate w/grease
- _____ Inspect alternator: mounts, lead connections, belt condition and tension
- _____ Inspect baffles for damage and air leaks
- _____ Inspect engine mount system for damage and attachment security
- _____ Inspect all firewall penetration seals
- _____ Inspect fuel and oil lines for condition, chafing, and signs of leaks
- _____ Inspect all wire bundles for security and chafing
- _____ Inspect all lines, hoses, and clamps for leaks, improper condition, looseness, and chafing
- _____ Check/set magneto ignition timing

Operational Inspection

- _____ Verify all inspection panels and fairings secure
- _____ Brake system check

Test run engine:

- _____ Check oil pressure/temperature within limits
- _____ Check aux fuel pump for proper fuel pressure
- _____ Check ignition switch, magneto grounded check
- _____ Check magneto drop (run-up)
- _____ Check alternator shut off operation
- _____ Check fuel gauges for operation
- _____ Check static run up
- _____ Check for proper idle RPM
- _____ Check RPM rise upon leaning mixture
- _____ Check fuel selector for engine shutoff

After shutdown:

- _____ Inspect FWF area for fuel, oil, and hydraulic systems for leaks
- _____ Re-install cowling

Documentation

- _____ Verify Registration, Airworthiness Certificate, weight and balance information, and Operating Limitations in aircraft
- _____ Verify external data plate secure and installed
- _____ Verify EXPERIMENTAL placard installed in cockpit
- _____ Verify PASSENGER WARNING placard installed in cockpit
- _____ Verify equipment list up to date
- _____ Review Airworthiness Directives for applicability and compliance
- _____ Review Service Bulletins/Letters for compliance
- _____ Check altitude encoder & transponder certification (every 24 months)
- _____ Document Condition Inspection and record maintenance performed in airframe and engine logs

