



VANS RV-12 CHECKLIST (SEPT 2021)



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P.A.V.E.

- P**.....PERSONAL / PILOT
Illness/Meds/Stress/Alcohol/Fatigue/Emotion
- A**.....AIRCRAFT
Air Worth / Registration / Ops Limits / W&B
Air Speed / Tach / Oil Press / Manifold Press /
Altimeter / Temp Gauge / Oil Temp / Fuel
Gauge / Land Gear Indicator / Anti-Collision /
Mag Compass / ELT / Safety Belts
- V**.....ENVIRONMENT
NOTAMS / WX / Known ATC / Runway Length
/ Alternates / Fuel Req / TO+Lnd Data / (TFR)
- E**.....EXTERNAL
Invulnerability / Impulse / Macho / Get Home

PREFLIGHT INSPECTION

- WX/NOTAM/TFR.....CHECK
- FRAT.....COMPLETE
- Weight/Balance.....COMPUTE
- Aircraft Binder.....OBTAIN
- Rudder Lock.....REMOVE
- Fuel Quantity.....CHECK

Interior

- Canopy.....OPEN check condition
- Flt Control Locks.....REMOVE
- Spar Pins.....CHECK
- ELT.....OFF
- Avionics Switch.....**OFF**
- Documents (AROW).....PRESENT
- Master + Avionics.....ON
- Radio Panel AUXON
- Stall Vane + Horn.....ACTUATE/ON
- Avionics Switch.....**OFF**
- Fuel Shut-off.....OPEN
- Gascolator.....DRAIN & CHECK
- Lights / Strobes....CHECK, then OFF
- Trim.....TAKEOFF POSITION
- HOBBS.....RECORD
- Master Switch.....OFF
- Baggage.....RESTRAINED
- FOD.....CHECK

Fire Extinguisher.....IN GREEN

Left Main Landing Gear

- Tire.....CHK CONDITION (**25 psi**)
- Brake Assembly.....CHECK
- Axle Nut Cotter Pin.....CHECK
- Wheel Bearings.....SHAKE, CHECK
- Chocks/Tie Down.....REMOVE

Left Wing

- Leading Edge.....CHECK CONDITION
- Wing Hand Hold.....CHECK
- Flaperon.....FREE
- AOA Static Port.....CLEAR
- Flaperon Hinge Brackets.....SECURE

Empennage

- L Static Port.....CLEAR & OPEN
- Vert Stab.....CHECK
- Stabilator.....CHECK FREE & SECURE
- Anti-Servo Tab.....CHECK
- Rudder.....CHECK FREE
- Tie-Down.....CONFIRM UNTIED
- R Static Port.....CLEAR & OPEN
- Navigation Antenna.....CHECK
- Comm. Antenna.....CHECK
- Fuel Vent Lines.....CLEAR
- Fuel Cap.....SECURE & VENT OPEN

Right Wing

- Flaperon.....FREE
- Flaperon Hinge Brackets.....SECURE
- Wing Hand Hold.....CHECK
- Leading Edge.....CHECK CONDITION

Right Main Landing Gear

- Tire.....CHK CONDITION (**25 psi**)
- Brake Assembly.....CHECK
- Axle Nut Cotter Pin.....CHECK
- Wheel Bearings.....SHAKE, CHECK
- Chocks/Tie Down.....REMOVE

Nose Section

- Transponder Antenna.....CHECK
- Muffler.....CHECK
- Coolant.....CHECK LEVEL

**WARN: MASTER & LANE A & BS
OFF**

- Oil Level.....CHECK LEVEL
- Nose Landing Gear.....CHECK
- Tire.....CONDITION (**22 psi**)
- Wheel Chocks.....REMOVE
- Cowling.....CHECK
- Air Inlets.....CHECK
- Prop and Spinner.....CHECK
- Pitot.....CLEAN & OPEN

PRE-START

- Passenger Brief.....S.A.F.E.T.Y
- §91.327(e) special airworthiness
- Avionics Switch.....**OFF**
- Master.....ON
- Nav / Strobe.....ON
- Canopy.....DOWN
- Safety Belts.....FASTENED/SECURE
- Fuel Valve.....OPEN
- Throttle.....ADJUST FRICTION
- Brakes.....TEST

ENGINE START

CAUTION: No Start < -25°C/>50°C

- Brakes.....HOLD
- Fuel Pump 1 Switch.....ON
- Fuel Pump 2 Switch.....OFF
- LANE A and B.....ON

Wait till Fault lights are off

- Fuel Press.....CHECK > 0
- Cold Start.....THROTTLE 50%
- Warm:THROTTLE 35%
- Propeller....."CLEAR PROP"
- Lane A & B
- Key.....ENGAGE

- CAUTION: 10 sec max, wait 2 mins**
- Throttle.....2,000 RPM
- Oil Pressure.....Check
-- **12 psi min w/in 10 seconds**
- Throttle.....2500 RPM for 5 SEC

Engine Gauges

- Check Shift Gen B to A

- Ammeter.....CHARGING
- Fuel Pump Switch 2.....ON

AFTER START

- Avionics.....ON
- Headset.....ON
- COMMS.....AS REQ'D
- PSM ATIS: 132.05 GRND: 120.95**
- Altimeter.....SET
- XPDR.....CHECK
- Flight Instruments.....CHECK
- Flight Plan.....LOAD



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TAXI

Airport Diagram.....AS REQ'D
 Landing Light.....STEADY
 Taxi Area.....CLEAR
 Brakes.....TEST
 Taxi Clearance.....OBTAIN
 During Taxi.....VERIFY
 -- Flt Instruments move in turns
 -- **1800-2500 RPM until Oil 120°F**
 -- Controls: Climb Into/Dive Away

CROSSWIND ROT'S

30° = 50% / 45° = 75% / 60° = 100%

ENGINE RUNUP

PSM TWR: 128.4

Brakes.....HOLD
 Flight Controls.....CHECK
 Flight Instruments.....CHECK & SET
 Fuel Quantity (**4 gal min**).....CHECK
 Canopy.....LATCHED
 Oil Temp.....**120°F min**
 Stick.....BACK
 Run Up Area.....CLEAR BEHIND
 Throttle.....MAX > 5000
 Throttle.....4,000 RPM

Wait for Lane Fault Light Off before cont. with each LANE

-- Lane.....CYCLE A & B
 -- **180 max RPM Drop /115 DIFF**
 -- Engine Instrument.....CHECK
 -- Ammeter.....CHECK
 Throttle.....IDLE (GENTLY)
 Throttle.....2,000 RPM

Throttle Friction.....ADJUST
 Fuel Pump.....CYCLE 1 & 2
Wait 5 sec Pres. 40.6 / 55.1
 Fuses.....CHECK
 Seat Belt.....FASTENED & SNUG

PRE-TAKEOFF BRIEF

Engine Fail/Abnormal on T/O Roll
 - Throttle IDLE / Stop St-Ahead

Engine Fail: Liftoff w/ RWY remain
 -- Airspeed.....**60 KIAS**
 -- Throttle.....IDLE
 -- Land.....MAX BRAKING
 -- Flaps.....UP

Airborne: Insufficient Runway
 -- Airspeed.....**60 KIAS**
 -- Landing Area.....SELECT
 -- Flaps.....UP
 -- Fuel Shutoff Valve.....CLOSED
 -- Lane A & B
 Switches.....OFF
 -- Master.....OFF
 -- Land.....MIN AIRSPEED
 -- 180 Min Alt / Direction of Turn?
 Takeoff ROT... 70% Spd NLT 50% Rwy

BEFORE TAKEOFF

BOS DEPT: 125.05

Pre-Takeoff Brief.....COMPLETE
 Landing Light.....PULSE
 XPDR.....SET
 Fuel QTY.....CHECK
 Fuel Valve.....OPEN
 Trim.....SET



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Engine Instruments.....CHECK
 Canopy.....LATCHED
 Flaps.....UP
 Takeoff Procedures.....REVIEW
 -- Stab.....RAISE NOSE SLIGHTLY
 -- Rotate.....**50 - 55 KIAS**
 -- Climb.....**75 KIAS (Vy)**
 -- Flaps.....UP @ 500' AGL

SHORT FIELD TAKEOFF

Flaps.....HALF
 Brakes.....HOLD until FULL Power
 Rotate.....**50-55 KIAS**
 Climb.....**60 KIAS (Vx)** until Clear

SOFT FIELD TAKEOFF

Flaps.....HALF
 Stabilator.....RAISE NOSE
 After Lift Off.....LEVEL FLIGHT
 -- Attain Vx or Vy as Req'd

ENROUTE CLIMB (> 1000' AGL)

Flaps.....CHECK UP
 Airspeed.....**85 KIAS**
 Throttle (**5,800 max 5 mins**).....FULL
 Oil Temp.....MONITOR

CRUISE

Level Off.....ACCELERATE
 Flaps.....CHECK UP
 Throttle (**5,500 max CONT**).....SET
 Engine Instruments.....CHECK
 Exterior Lights.....A/R
 Fuel.....MONITOR
CRUISE ROT (RPM/TAS/GPH/ENDR)
 2.5K: 5,000 / 103kts / 4.4gph / 4:25
 5K: 5,000 / 101 kts / 4.0gph / 4:53

DESCENT (APPROX 15 - 20 NM)

PSM ATIS: 132.05 / TWR 128.4

ATIS/AWOS.....CHECK
 Altimeter.....SET
 Airport Diagram.....BRIEF
 Runway Review / Field Elevation / Pattern
 Altitude / Winds / Touchdown Point /
 Turnoff Side / Taxi Route / Parking
 Location

Flt / Nav Instruments.....SET
 Fuel Quantity.....CHECK
 Landing Light.....PULSE
 Min Altitude.....CONFIRM
 Descent.....500 fpm @ **100 KIAS**
 Engine Instruments.....MONITOR

BEFORE LANDING

Fuel Shutoff.....OPEN
 Seat Belts.....FASTENED
 Lane A & B.....ON
 Fuel Pump 1 & 2.....ON
 Landing Lights.....STEADY
 Normal.....FLAPS A/R (< 82)
 -- Speed.....**55 - 60 KIAS**
Short Field.....FLAPS FULL
 -- Speed.....**55 KIAS**
 -- Touchdown.....FLAPS RETRACT
 -- Brakes.....MAX
Soft Field.....FLAPS A/R (< 82)
 -- Speed.....**55 - 60 KIAS**
 -- Touchdown.....POWER ON
 -- Nose Wheel.....LOWER GENTLY

BALKED LANDING / GO AROUND

Throttle.....FULL
 Airspeed.....**60 KIAS**
 Flaps.....HALF
 Airspeed.....**75 KIAS (Vy)**
 Flaps.....UP @ 500' AGL



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CROSSWIND ROT'S

30° = 50% / 45° = 75% / 60° = 100%

AFTER LANDING

PSM GRND: 120.95

Flaps.....UP
Trim.....SET
Landing Light.....STEADY
XPDR.....CHECK
Flt Controls...Climb Into/Dive Away

SHUTDOWN / SECURE AIRPLANE

Landing and Strobes.....OFF
Avionics.....**OFF**
ELT.....LIGHT OFF + **121.5**
Throttle.....2000 RPM
Lane A & B.....OFF
Throttle.....IDLE
When Prop Stops.....KEY REMOVE
Fuel Pump 1 & 2.....OFF
HOBBS.....RECORD
Master.....OFF
FLT Control Lock.....SECURE
Chocks.....INSTALL
Post Flt Walkaround.....COMPLETE
Rudder Lock.....INSTALL

FIRES

ENGINE FIRE DURING START

Key.....CONT CRANKING
Throttle.....FULL
Fuel Shutoff Valve.....PULL UP-OFF
Fuel Pump 1 & 2.....OFF
Master.....OFF
LANE A & B.....BOTH OFF
Aircraft.....INSPECT

ENGINE FIRE – IN FLIGHT

Fuel Shutoff.....PULL UP/CLOSED

Fuel Pump 1 & 2.....OFF
LANE A & BBOTH OFF
Air Vents.....CLOSED
Cabin Heat.....CLOSED
Airspeed.....INCREASE
-- Do not exceed **Vne (136 KIAS)**
Forced Landing.....PERFORM
Radio.....MAYDAY on **121.5**
XPDR.....**7700**

WARN: DO NOT RESTART ENGINE BEFORE TOUCHDOWN

Master Switch.....OFF
Airspeed.....**60 KIAS** (55 Min)
Flaps.....DOWN (Land assured)

ELECTRICAL FIRE – IN FLIGHT

Electrical Switches.....ALL OFF
-- **Leave LANE A & B Switches ON**
Air Vents.....AS REQ'D
-- Open if for smoke removal
Fire Extinguisher.....ACTIVATE
Land.....AS SOON AS **POSSIBLE**

IF ELEC POWER ESSENTIAL

Master Switch.....ON
Fuses.....CHECK TO ISOLATE
Electrics.....1 AT TIME, CHECK FUSE
Air Vents.....OPEN w/FIRE OUT

WING FIRE

Lights/Strobes.....OFF
Side Slip.....PERFORM
Land.....AS SOON AS **POSSIBLE**



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ENGINE

ENGINE FAILURE – REJECT

Throttle.....IDLE
Brakes.....APPLY
Flaps.....RETRACT
Lane A & B Switches.....BOTH OFF
Master Switch.....OFF
Takeoff ROT...70% Spd NLT 50% Rwy

ENGINE FAILURE - AFTER TAKEOFF

Airspeed.....**60 KIAS** IMMEDIATELY
Engine Fail: Liftoff w/ RWY remain
Throttle.....IDLE
Land.....MAX BRAKING
Flaps.....RETRACT

Airborne: Insufficient Runway

Landing Area.....SELECT
Flaps.....FULL DOWN
Fuel Shutoff Valve.....CLOSED
Lane A & B Switches.....OFF
Fuel Pump 1 & 2.....OFF
Master Switch.....OFF
EMS Battery Switch.....OFF
30A "GEN Main Bus" Fuse.....PULL
Land.....MIN AIRSPEED
180 turn MIN ALT/ Direction of Turn

ENGINE (CONT)

ENGINE RESTART – IN FLIGHT

Airspeed.....**60 KIAS** (55 Min)
Best Place to Land.....CHOOSE
Checklist.....PERFORM
Lane A & B Switches.....BOTH ON
EMS Battery Switch.....ON

Fuel Pump 1 & 2.....ON
Fuel Shut-off.....OPEN (DOWN)
Throttle.....55% to 65% OPEN
Spar pin override switch hold down
Ignition Key.....ENGAGE
IF ENGINE DOES NOT START
Throttle Setting.....CHANGE
Forced Landing.....PERFORM

NOTE

Engine starter may be engaged in flight should prop stop windmilling.
Prop will not windmill < 80 KIAS

PARTIAL POWER / RUN ROUGH

-- Follow Engine Air Restart
-- Land As Soon as **POSSIBLE** using
Precautionary Landing Approach

ABNORMAL OIL PRESS / TEMP

RPM.....REDUCE MIN NECESSARY
Precautionary Landing.....ASAP

POH NOTES

- Check other Engine instruments
- **Hi Temp:** Loss of oil or Overheat (Check CHT). Land **PRACTICAL**.
- **Lo Press:** loss of oil / defective gauge. Land **PRACTICAL**.
Engine Fail possible at any time
- **Hi Press:** Cold? Land **PRACTICAL**



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DESCENT / LANDING

EMERGENCY DESCENT

Throttle.....IDLE
 Stick.....Bank 30° - 45°
 Speed.....INCREASE
 -- Do not exceed **Vne (136 KIAS)**
 Throttle.....(every 1,000 ft) CLEAR

FORCED LANDING – NO POWER

Airspeed (Max Glide).....**63 KIAS**
 -- Min rate of descent.....**59 KIAS**
 Fuel Shutoff.....PULL UP/OFF
 Fuel Pump 1 & 2OFF
 Flaps.....UP
 Radio.....MAYDAY on **121.5**
 XPDR.....**7700**
 Lane A & B Switches.....BOTH OFF

FINAL APPROACH

Airspeed.....**55-60 KIAS**
 Flaps.....FULL (Land assured)
 Master Switch.....OFF
 30A “GEN Main Bus” Fuse.....PULL
 Seat/Harness.....CHECK SECURE

PRECAUTION APPROACH / LAND

Airspeed.....**60 KIAS** (55 Min)
 Throttle.....IDLE
 Flaps.....LOWER AS NEEDED

LOSS OF BRAKE

Landing Spot.....LONG RUNWAY

NOTE

X-Wind from Inop brake side
 Touch Down.....MIN AIRSPEED
 When Stop.....SHUTDOWN ENGINE

NOTE

Good Brake (Drag) in the middle

ELECTRICAL

GENERATOR FAILURE

Failure of GEN A & B will result in
 Engine failure
 Non- Essential Electrical.....OFF
 EMS Backup switch.....ON

PERFORM ENGINE RESTART – IN FLIGHT PROC.

Land..... as soon as possible

LOW VOLTAGE DISCHARGE (<12V)

Non Essential Elec Equip.....OFF
 Avionics Switch.....OFF
 Land.....AS SOON AS POSSIBLE

HIGH VOLTAGE (> 15V)

Master Switch.....OFF
 30A Main Bus Fuse.....REMOVE
 Avionics Switch.....OFF
 Land.....AS SOON AS POSSIBLE

LOSS OF FLIGHT INSTRUMENTS

Throttle.....AS REQ'D
 -- Maintain present throttle posit
 -- Engine Noise

POH NOTE

Stall Warning aural warn will still
 function with Master + Avionics ON

EFIS REBOOT PROCEDURES

GARMIN G3X
 Master Switch.....OFF, then ON

30A “GEN Main Bus” Fuse.....PULL
 30A “GEN Main Bus” Fuse...Reinstall

FLIGHT CONTROLS

RUNAWAY TRIM

Trim Fuse..REMOVE IMMEDIATELY
 Autopilot Switch.....OFF
 Stabilator.....HOLD
 Airspeed.....REDUCE
 Land.....AS SOON AS PRACTICAL
 Flaps.....UP (For landing)

LOSS OF TRIM TAB

Airspeed.....REDUCE
 Stick.....FIRM GRIP
 Land.....AS SOON AS POSSIBLE

LOSS OF AILERON CONTROL

Rudder.....USE FOR LOW RATE TURN
 Autopilot.....MAY BE USED
 Speed.....**70 KIAS**

LOSS OF RUDDER CONTROL

Runway.....INTO WIND
 X-Wind.....OPP WORKING RUDDER
 Speed.....**70 KIAS**
 After Land.....SHUTDOWN ENGINE

LOSS OF STABILATOR CONTROL

Trim.....AS REQ'D
 Flaps.....AS REQ'D
 Throttle.....AS REQ'D

WHEN LANDING

Throttle.....REDUCE
 Airspeed.....**75 KIAS**

Flaps.....HALF POSITION

-- More nose wheel clearance
 Airspeed.....TRIM TO **60 KIAS**

Throttle.....USE FOR GLIDEPATH
SHORT FINAL

Airspeed.....**50 KIAS**
 Touchdown.USING POWER + TRIM
POH NOTE

-- Go-around: advance throttle
 slowly to avoid sudden pitch up

LOSS OF FLAP CONTROL

Speed.....**65 KIAS**

FLIGHT CONTROLS (CONT)

SPINS

Throttle.....IDLE
 Rudder.....FULL OPPOSITE
 Stabilator.....SLT FWD OF NEUTRAL
 Ailerons.....NEUTRAL
 Flaps.....UP

WHEN ROTATION STOPS

Rudder.....NEUTRALIZE
 Attitude....RAISE NOSE SMOOTHLY

INFLIGHT OVERSTRESS

Throttle.....REDUCE
 Airspeed.....**65 - 75KIAS**
 Flaps.....UP
 Land.....AS SOON AS PRACTICAL

WARNING

DO NOT make large control
 movements or subject the aircraft
 to additional G loadings.



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WEATHER

UNINTENTIONAL FLT INTO ICING

- Icing Area.....LEAVE ASAP
- Cabin Heat.....ON
- AutoPilot.....OFF
- RPM.....INCREASE
- Flaps.....LEAVE RETRACTED
- ATC.....ADVISE

CAUTION

Ice increases stall speed. Carry extra speed on final. Stall warning horn may not function.

SEVERE TURBULENCE

- Airspeed.....< **108 KIAS**
- <**90 KIAS** Personal Discomfort
- Attitude.....LEVEL FLIGHT
- Visually. EFIS may be erratic.

SULLY MANEUVER

DITCHING

- Approach.....AS REQ'D
- Hi Wind/Hvy Sea: INTO WIND
- Lt Wind/Hvy Swell: PARALLEL
- Airspeed (Max Glide).....**63 KIAS**
- Min Rate Descent.....**59 KIAS**
- Fuel Shutoff.....PULL UP / OFF
- Fuel Pump 1 & 2.....OFF
- Lane A & B Switches.....BOTH OFF
- XPDR.....**7700**
- Radio.....MAYDAY on **121.5**

- Flaps.....DOWN
- Master Switch.....OFF
- 30A "GEN Main Bus" Fuse.....PULL
- Canopy.....UNLATCH
- Seat/Harness.....CHECK SECURE
- Touchdown.....NOSE HIGH

POH NOTE

Aircraft cannot be depended upon to provide flotation after contacting the water.