



VAN'S RV-12 CHECKLIST

[FLIGHT PLAN DESIGNATION IS "RV12", Comm equipment is "V", and Surveillance is "EB2"]

EMERGENCY CONTACTS

The following are Chesapeake Sport Pilot's emergency contact telephone numbers. We ask that you call the numbers in the order listed. In addition, please continue down the list until you reach someone. Please do not assume a voicemail left on one of the numbers will be immediately received.

Helen Woods (240) 620-8926
Terrie Mead (410) 349 7427
Dan Wroe (410) 991-5514
Hannah Lagno (410) 490-0354
Bay Bridge Airport (410) 643-4364
Linda Steiner (410) 212-2951
Ted Bryant (CGE) (443) 521-4281

INFO:

Fuel Type: Swift 84
Mogas 91 octane or higher (preferred)
or Avgas 100LL

One tank, 19.8 gal Total (19.8 gal useable in shallow climbs, level flight, and descents;
15.8 useable in climbs)

Oil Type—AeroShell Oil Sport Plus 4
(Do not use aviation oil) Quantity – 3.2 qts

Coolant – 50/50 glycol/distilled water mix

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V-Speeds (knots) and PERFORMANCE:

Vr – 50-55

Vx – 60, flaps 1st DETENT

Vy – 75

Best Glide – 63 knots

Vne – 136

Vno – 108

Va – 90

Vfe – 82

Vs₁ – 45

Vso – 41

Max Cross wind – 11 knots

Max Total wind – 30 knots

Maneuvers:

Aerobatic maneuvers and spins prohibited.

Weight and Balance

	<u>Weight</u>	<u>Arm</u>	<u>Moment</u>
Empty	769.0		62397.5
Pilot/Passenger	_____	78.85	_____
Fuel (6 lbs/gal)	_____	110.28	_____
Bag (50 lb max)	_____	110.81	_____
	_____		_____
1320 lb max			

Dual Instruction/Flight Briefing

Pilot in Command

During flights with two rated pilots, the pilots will decide before the flight as to which pilot will act as Pilot In Command for the flight.

Passenger Briefing

An appropriate passenger briefing will be given before the flight that covers the items in the STARTING area of the checklist.

Positive Transfer of Controls

During each flight, one person will be controlling the plane at all times. It is critical to know who this person is at all times. Use a three-way call back such as:

Person 1: "You have the controls"

Person 2: "I have the controls"

Person 1: "You have the controls"

Aborted Takeoff

If we should lose directional control of the plane, or if there is a problem with the engine, or if anything else unusual should happen, we will abort the takeoff roll by simultaneously retarding the throttle and applying full brakes.

In-Flight Emergency

During an in-flight emergency, the instructor will take control of the aircraft. Unless specified otherwise, the student will set the radio to 121.5 and the transponder to 7700. The student will also secure any loose equipment in the cockpit and his seatbelt prior to landing.

Engine Failure Immediately After Takeoff

If we should we lose the engine immediately after take-off the instructor will pitch DOWN for 63 knots and make shallow turns right or left.

The student should (as directed by the instructor):

Fuel Shutoff Valve: Off

Ignition: Off

Flaps: As directed

Master Switch: Off when airspeed is no longer required

Off runway 29 - prepare for ditching

Do NOT attempt to return to runway unless you have successfully practiced return to landing

Ditching

If we should have to ditch, instructor will fly the plane.

Student will set radio and transponder 121.5 and 7700 , remove his glasses, and tighten his seatbelt. Be prepared to open the canopy just prior to hitting the water!

Line Up and Wait (formerly Position and Hold)

Holding in the takeoff position on the runway at an uncontrolled field is not authorized.

Go-Arounds

A go around will be initiated if the approach does not look stable, the landing is in any way questionable, or the plane will land beyond the first 1/3 of the runway.

Propeller Safety

At no time will anyone enter or exit the aircraft while the engine is running. Before starting the engine, the student will call "**CLEAR**" and both the student and instructor will look for people in the way. The key will be removed from the starter after the flight and during the pre-starting checks if people should approach the plane.

USEFUL FREQUENCIES:

Emergency	121.5
Flight Service ("Leesburg Radio")	122.2
"Potomac Approach" SFRA	132.775
"Potomac Approach" (Flight Follow)	124.55/ 119.7

PREFLIGHT INSPECTION:

Preparation: remove tie down ropes, other plane protection items/covers

- ☐ Roll plane, back and forth to check all tires

CAUTION:

Once unlatched, the canopy may be damaged if a strong tailwind suddenly forces it fully open.

- ☐ Canopy – Open, Check Glass for condition and cleanliness

Cabin and Fuel Check:

- ☐ Spar Pins: Check
 - ☐ Fuel Gauge : Check
 - ☐ Fuel Gascolator Check
 - ☐ Fuel Tank Cap: Secure
 - ☐ AROW (Airworthiness/Registration/Operating limits/Weight and balance) Check
 - ☐ Control Lock Remove
 - ☐ Flaps 2nd Detent
 - ☐ Flight Controls: Check
- Check for freedom of movement and proper direction
- ☐ Flaps Up
 - ☐ Ignition A and B Off
 - ☐ Master Switch: On

Note: Electric Fuel Pump runs when Master Switch On.

- ☐ Hobbs Meter: Record
- ☐ Trim: Check
- ☐ Lights: Check
- ☐ Avionics Switch: On
- ☐ Stall Warning Vane: Actuate, listen for tone in headset

Note: Comm radio must be on to hear stall warning tone.

- ☐ Avionics Switch: Off
- ☐ Master Switch: Off

Left Wing

- ☐ Leading Edge and Wing Skin: Check
- ☐ Tie-down Rope: Remove
- ☐ Strobe, Nav Light Check
- ☐ Flaperon(freedom of movement, 3 hinge bolts) Check
- ☐ Tire (25 psi, condition) Check
- ☐ Wheel (Axle nut cotter nut) Check
- ☐ Brake (pad, disk condition, leaks) Check
- ☐ Chocks Remove

Left Fuselage:

- ☐ Flaperon Actuator Connected
- ☐ Static Port Unobstructed
- ☐ Antennas: Check

Empennage:

- ☐ Stabilator and Trim Tab: Check for damage, freedom of movement
- ☐ Vertical Stabilizer and Rudder: Check for damage, freedom of movement
- ☐ Tail Tie-down Rope: Remove

Right Fuselage:

- ☐ Static Port Unobstructed
- ☐ Fuel Cap Secure
- ☐ Flaperon Actuator Connected

Right Wing:

- ☐ Tire (25 psi, condition) Check
- ☐ Wheel (Axle nut cotter nut) Check
- ☐ Brake (pad, disk condition, leaks) Check
- ☐ Chocks Remove
- ☐ Flaperon (freedom of movement/3 hinge bolts) Check
- ☐ Strobe, Nav Light Check
- ☐ Leading Edge and Wing Skin: Check
- ☐ Tie-down Rope: Remove

Nose:

- ☐ Oil Quantity Check
- ☐ Coolant Level Check
- ☐ Tire (22 psi, condition) Check
- ☐ Wheel Check
- ☐ Chocks Remove
- ☐ Cowling (condition and screws) Check
- ☐ Air Inlets (3) Unobstructed
- ☐ Prop and Spinner Check
- ☐ Pitot Tube Unobstructed

STARTING:

- ☐ Safety belts:. ADJUST/TIGHT
- ☐ **Passenger Briefing**
 - o **Seat Belt use**
 - o **Canopy Release**
 - o **Emergency Equipment**
 - o **Motion Sickness**
 - o **Sterile Cockpit**
 - o **Propeller Safety**
 - o **Cockpit Resource Management Briefing (CRM)**
 - o **LSA Certification**
- ☐ Fuel Shutoff Valve ON (push down)
- ☐ Master Switch: ON
- ☐ Fuel quantity: Set on Dynon
- ☐ Fuel Pressure NORMAL
- ☐ Nav / Strobes ON

Cold Start:

- ☐ Throttle Closed
- ☐ Choke Pull ON

Warm Start:

- ☐ Throttle 1/8 inch Open
- ☐ Choke OFF

- ☐ **Canopy** Closed and Locked
- ☐ **Dynon:** Closed indication
- ☐ Brakes HOLD
- ☐ Propeller area: "CLEAR"
- ☐ Ignition A and B ON
- ☐ Ignition Switch: START
- ☐ Engine RPM: <2500 RPM
- ☐ Oil pressure: Check 12 psi within 10 seconds (shutdown)
- ☐ Choke OFF
- ☐ Ammeter Check Charging

Limit Starter Operation to 10 seconds duration with 2 minutes cooling off period between start attempts.

PRE-TAXI:

- ☐ Avionics Switch ON
- ☐ Autopilot ON
- ☐ Transponder (Check Code) ALT
- ☐ AWOS / ASOS / ATIS: OBTAIN
- ☐ Altimeter: SET
- ☐ GPS: SET
- ☐ Radio: Check WITH UNICOM
- ☐ **Briefing: Brief self or passenger taxiways that will be used to reach the runway**

TAXI:

- ☐ Brakes: Check
- ☐ Flight Instruments Verify Operation

RUNUP:

- ☐ Brakes HOLD
- ☐ Flight Controls Free and Correct
- ☐ Trim Neutral
- ☐ Fuel Shutoff Valve ON (push down)
- ☐ Stabilator Hold Stick Back
- ☐ Oil Temp ≥ 122 deg F.
- ☐ Throttle: 4000 RPM
- ☐ Test ignition systems: A - Off, then ON,
B - Off, then ON

Maximum drop: 300 RPM, Max difference: 115 RPM

- ☐ Engine instruments:
 - Oil pressure: 29-73 psi
 - Oil temperature: 122 - 230 °F
 - Fuel Pressure 2.2-7.2 psi
 - Voltmeter Check
 - Ammeter: Positive Charge
 - Cylinder Head Temp. 150-230 °F
- ☐ Throttle: IDLE
(check for roughness)
- ☐ Throttle: 2000 RPM
- ☐ Seat belts: FASTENED

BEFORE TAKEOFF

- ☐ Fuel Shutoff Valve ON (push down)
- ☐ Flaps: UP-Normal
Takeoff
- ☐ Magnetos 1st Detent-Short Field
- ☐ Trim: ON (Both A and B)
- ☐ Fuel Neutral
- ☐ Transponder: Adequate for flight
- ☐ Canopy: ALT
- ☐ Canopy: CLOSED and Locked,
Closed on Dynon
- ☐ **Takeoff Brief: Complete**
- ☐ Pattern: Check

- ☐ Radio: CALL
- ☐ Landing Light: ON or PULSE
- ☐ **Briefing: Brief self or passenger loss of engine contingencies (see front of checklist)**

TAKE OFF:

- ☐ Taxi to line-up Check Heading Indicator
- ☐ Brakes RELEASE, heels on floor
- ☐ Throttle: FULL
- ☐ Engine instruments: Check RPM, Oil Press.
Airspeed indicator alive / RPM up - or abort
- ☐ Vr (Rotation speed): 50-55 knots

NOTE

Rotate to takeoff attitude and accelerate to a climb speed of 75 knots with Flaps UP. (60 knots with flaps 1st DETENT)

CLIMB:

- ☐ Flaps: RETRACT safely
airborne
- ☐ Establish Vy clean: 75 knots
- ☐ Cruise climb: 85 knots

NOTE

Raise flaps when safely airborne and at a safe altitude and air speed (or at an altitude and airspeed specified by your instructor.)

CRUISE:

- ☐ Power: SET (5500 RPM max.)
- ☐ Engine Instruments: Check

PRE-MANEUVERS:

- ☐ Clearing Turns
- ☐ Select emergency landing area
- ☐ Va – 90 knots

DESCENT:

- ☐ Power: 3000 RPM minimum,
CHT and Oil Temp in Green Arc
- ☐ Landing Light: ON

LANDING:

- ☐ Safety belts Tight
- ☐ Landing Light: ON
- ☐ Brakes: Check Pressure
- ☐ Ignition Switches BOTH ON
- ☐ Flaps: AS DESIRED
- ☐ Approach Speed: 60 knots
(Short Field: Flaps, 2nd Detent, 55 knots)

GO-AROUND:

- ☐ Throttle: FULL POWER
- ☐ Pitch: Climb Attitude
- ☐ Flaps: Retract to 1st Detent
- ☐ Airspeed: 60 knots
- ☐ Safely Climbing Flaps: Up,
- ☐ Climb Speed 75 knots
- ☐ Stay to non-pattern side of runway

AFTER LANDING:

- ☐ Clear Runway: RADIO CALL
- ☐ Landing Light: OFF
- ☐ Flaps: UP
- ☐ Trim: Neutral

PARKING:**CAUTION:**

Once unlatched, the canopy may be damaged if a strong tailwind suddenly forces it fully open.

- ☐ Flaps: UP
- ☐ All Lights: OFF
- ☐ Hobbs Meter: Note Time
- ☐ Avionics Master: OFF
- ☐ Autopilot: OFF
- ☐ Ignition A and B Switches: OFF
- ☐ Master Switch: OFF
- ☐ Trash - Remove
- ☐ Chocks : INSTALL
- ☐ Pitot tube cover: INSTALL
- ☐ Control lock: INSTALL
- ☐ Aircraft: TIED DOWN
- ☐ Checklist in airplane
- ☐ Canopy: CLOSED/Locked
- ☐ Key Returned to Lockbox.

CLOSED PATTERN OPS CHECK LISTS

HOLD SHORT LINE

- ☐ Engine Instruments: CHECK
- ☐ Fuel Quantity CHECK
- ☐ Fuel Valve: ON
- ☐ Flaps: As Required
- ☐ Trim: Centered
- ☐ Canopy CLOSED/DYNON
- ☐ Takeoff Brief: REVIEW
- ☐ Pattern: CHECK
- ☐ Radio: CALL

CLIMB:

- ☐ Rotate 50-55 KIAS
- ☐ Accelerate 75 KIAS
- ☐ Flaps: RETRACT as necessary
- ☐ Establish Vy clean: 75 KIAS
- ☐ Trim: ADJUST

LANDING:

Check safety belts tight

- ☐ Fuel Valve: ON
- ☐ Flaps: AS DESIRED

AFTER LANDING:

- ☐ Clear Runway: RADIO CALL
- ☐ Flaps: UP
- ☐ Trim: CENTERED

EMERGENCY PROCEDURES:

ENGINE FIRE DURING START

- ☐ Continue Cranking with Starter
- ☐ Choke PUSH OFF
- ☐ Throttle FULL OPEN

If fire extinguished, shut down and inspect.

If Fire Persists:

- ☐ Fuel Shutoff Valve: OFF (Pull Up)
- ☐ Ignition A and B: OFF
- ☐ Master Switch: OFF
- ☐ Evacuate Aircraft
- ☐ If available, direct fire extinguisher through air outlet tunnel at the bottom of the cowl

ENGINE FAILURE DURING TAKEOFF RUN

- ☐ Throttle: IDLE
- ☐ Brakes: APPLY AS NEEDED
- ☐ Ignition Switches: OFF
- ☐ Master Switch: OFF
- ☐ Fuel Shutoff Valve: OFF (Pull Up)

ENGINE FAILURE IMMEDIATELY AFTER TAKEOFF

- ☐ **NOSE DOWN/Pitch for best glide 63 knots**
- ☐ Find a suitable place on the ground to land safely. The landing should be planned straight ahead with only small changes in direction not exceeding 45° to the left or 45° to the right
- ☐ Flaps: AS REQUIRED
- ☐ Ignition Switches: OFF
- ☐ Fuel Shutoff Valve: OFF (Pull Up)
- ☐ Master switch: OFF when
airspeed not
required

ENGINE FAILURE IN FLIGHT

- ☐ Airspeed 63 knots, flaps up
- ☐ Best Field Select
- ☐ Fuel Shutoff Valve ON (push down)
- ☐ Ignition A and B Both ON
- ☐ Choke FULL OPEN/PUSH

IN-FLIGHT ENGINE RESTART

-IF TIME PERMITS-

- ☐ Master: ON
- ☐ Throttle: Mid Position
- If propeller is stopped, Engage Starter
- ☐ If the restart fails: Procedure for a Forced Landing Without Engine Power or Ditching: APPLY
- ☐ If engine starts: Land as soon as possible.

FORCED LANDING WITHOUT ENGINE POWER

- ☐ Airspeed: 63 knots, flaps up
- ☐ Locate suitable terrain, land into wind
- ☐ Radio / Transponder: 121.5 / 7700
- ☐ ELT: Activate
- ☐ Safety belts: TIGHTEN
- ☐ Fuel Shutoff Valve: OFF (Pull Up)
- ☐ Ignition Switches: OFF
- ☐ Flaps: AS REQUIRED
- ☐ Master switch: OFF when
airspeed not required

DITCHING

- ☐ **Airspeed:** 63 knots, flaps up
- ☐ Land into winds if winds are high;
- ☐ Land parallel to swells in calm winds
- ☐ Radio/Transponder: 121.5 / 7700
- ☐ ELT: Activate
- ☐ Safety belts: TIGHTEN
- ☐ Fuel Shutoff Valve: OFF (Pull Up)
- ☐ Ignition Switches: OFF
- ☐ Flaps: UP
- ☐ Master switch: OFF when
airspeed not required
- ☐ Canopy UNLATCH before
touchdown
- ☐ Ditch with nose high attitude

ENGINE FIRE IN-FLIGHT

- ☐ Cabin heat/air vents OFF/CLOSED
- ☐ Fuel Shutoff Valve: OFF (Pull Up)
- ☐ Ignition Switches: BOTH OFF
- ☐ Throttle: FULL IN until the
engine stops running

Employ slip to keep flames away from firewall

Do not attempt an in-flight restart

- ☐ Procedure for a Forced Landing Without
Engine Power:
APPLY

ELECTRICAL FIRE IN CABIN IN FLIGHT

- ☐ Master Switch: OFF
- ☐ Cabin Air Vents: OPEN
- ☐ 30 amp Main Bus Fuse PULL
- ☐ Fire Extinguisher USE
- ☐ Emergency descent and Procedure for a
Power-On Forced Landing.
- ☐ Flaps: AS REQUIRED

POWER-ON FORCED LANDING

- ☐ Descent: ESTABLISH
- ☐ Airspeed: 63 knots
- ☐ Landing area: SELECT
- ☐ Radio / Transponder: 121.5 /
7700
- ☐ ELT: Activate
- ☐ Safety belts: TIGHTEN
- Landing assured:**
- ☐ Flaps: AS REQUIRED
- ☐ Fuel Shutoff Valve: OFF (Pull Up)
- ☐ Ignition Switches: OFF
- ☐ Master switch: OFF when
airspeed not required

LOW OIL PRESSURE

- ☐ Oil temperature: Check
- ☐ If oil temperature is stable
within the green arc: LAND as soon as
possible
- ☐ If oil temp. increasing: LAND as soon as
possible and be alert for impending engine
failure

RUNAWAY TRIM

- ☐ Stabilator Hold Aircraft Attitude
- ☐ Trim Fuse Pull
- ☐ Autopilot OFF
- ☐ Airspeed Reduce or increase to
minimize control forces
- ☐ Land As soon as practical

LANDING WITH A FLAT TIRE

- ☐ Apply rudder and brakes to stay on runway
- ☐ Make radio call to UNICOM and inbound
traffic about closed runway
- ☐ Push plane off runway

GENERATOR FAILURE/LOW VOLTAGE

Indicated by Ammeter Discharge and Volts less than 12.

- ☐ Non-Essential Electrical Equip. OFF
- ☐ Land as soon as practical since battery and EFIS internal battery provide only a limited time of usefulness.

Note: Electric Fuel Pump is powered by the battery. Battery can be conserved by pulling the fuel pump fuse.

GENERATOR OVERVOLTAGE

Indicated by voltage greater than 15 volts.

- ☐ 30-amp fuse PULL
- ☐ Non-Essential Electrical Equip. OFF
- ☐ Land as soon as practical since battery and EFIS internal battery provide only a limited time of usefulness.

Note: Electric Fuel Pump is powered by the battery. Battery can be conserved by pulling the fuel pump fuse.

BRAKE FAILURE DURING TAXI

Failure of one or both brakes during taxi eliminates any control of the airplane, either steering or stopping.

- ☐ Ignition Switches OFF

BRAKE FAILURE DURING FLIGHT

Failure of one or both brakes during flight will require planning to execute a safe landing. Find the longest, widest runway available. In light wind conditions, plan to land on the side of the runway opposite the functioning brake. (Right brake good, land on the left side of the runway.)

If a crosswind exists, the airplane will tend to weathervane into the wind. If possible, choose a runway that will allow the most control during the rollout. (Right brake good, choose a runway with a left crosswind.)

On the landing rollout, the rudder will provide adequate directional control down to approximately 15 knots.

Immediately after touchdown:

- ☐ Ignition Switches: OFF

UNINTENTIONAL FLIGHT INTO ICING CONDITIONS

- ☐ Get away from icing conditions by changing altitude or direction of flight in order to reach an area with warmer outside temperature.
- ☐ Increase rpm to avoid ice formation on propeller blades.
- ☐ Cabin heat: ON
- ☐ Land as soon as practical
- ☐ Do NOT use flaps

WARNING

In case of ice formation on wing leading edge, stall speed may increase.

NOTE

It may be necessary to slip the plane on landing to see out.

RECOVERY FROM UNINTENTIONAL SPIN

- ☐ Reduce the power to idle
- ☐ Stabilator – Slightly Forward of Neutral
- ☐ Ailerons - Neutral
- ☐ Rudder – Full Deflection Opposite direction of Spin Rotation
- ☐ As rotation stops, neutralize rudder, and make a smooth recovery from the resulting dive.

LOST PROCEDURES

- ☐ Climb and Circle to better see prominent landmarks
- ☐ Conserve fuel
- ☐ Communicate with ATC (121.5)

Comply with ATC instructions