

RV-8 N143B

DESCRIPTIVE DATA:

ENGINE

Engine Manufacturer: Lycoming

Engine Model Number: YIO-360-M1B

Engine Type: Four-cylinder, Direct Drive Horizontally Opposed, Air-Cooled, Fuel-Injected

Horsepower Rating: 180 BHP

Maximum Engine Speed: 2700 RPM

Displacement: 361 cubic inches

Compression Ratio: 8.5:1

Time Between Overhaul: 2000 hours

Starter: SKY-TEC 149-12LS

Alternator: Plane Power AL-12-E160/V

Ignition: Two Slick magnetos

Spark plugs: As listed in the latest revision of Lycoming Service Instruction No. 1042.

PROPELLER

Manufacturer: Hartzell

Model: HC-C2YR-1BFP/F7947-2

Number of blades: 2

Diameter: 72 inches

Type: Hydraulically Actuated Constant Speed

Time Between Overhaul:

FUEL

Total Fuel Capacity: 42 US gallons

Usable Fuel Capacity: 41 US gallons

Approved Fuel Grades: 100/100LL

OIL

Oil Capacity: 8 US qts; normal operating level: 6 U.S. qts.

Oil Filter: Champion CH 48110-1

MAXIMUM WEIGHTS

Max Take-Off Weight: 1800 lb.

Max Landing Weight: 1800 lb.

Empty Weight: 1,136 lbs. (incl full oil) -Weighed 7/5/15

Max Useful Load: 664 lbs. (subject to weight & balance calculations)

AIRSPEED LIMITATIONS:

SPEED KIAS

Vne, Never Exceed Speed 200

Do not exceed this speed in any operations (KTAS).

Vno, Maximum Structural Cruising Speed 167

Exceed this speed only in smooth air.

Vno, Maneuvering Speed 123

Do not make full control movements above this speed. Full elevator deflection will result in a 6g load at this speed.

Vfe, Maximum Flap Extended Speed 87

Do not exceed this speed with flaps down

Vy, Best Rate of Climb 93

Vx, Best Angle of Climb 78

Vs, Stall Speed Clean 62

Weight: 1640; CG 80.81

Vso, Stall Speed Landing Configuration 56

Weight: 1640; CG 80.81

WEIGHT LIMITATIONS

Maximum Takeoff Weight 1800 lb.

Maximum Landing Weight 1800 lb.

Maximum weight for operations from non-paved runways1800 lb.

Maximum aerobatic gross weight (full +6g/-3g envelope available)1600 lb.

Maximum gross weight 1800 lb.

Maximum weight in forward baggage compartment (subject to weight and balance calc) 50 lb.

Maximum weight in rear baggage compartment (subject to weight and balance calc)75 lb.

OPERATION LIMITS

The airplane is approved for:

- Day VFR
- Night VFR
- Day IFR
- Night IFR

Flight in known or forecast icing conditions is prohibited.

FUEL LIMITATIONS

Total capacity 42 gallons
Usable fuel 41 gallons
Unusable fuel 1gallon
Approved fuels 100/100LL

Performance

Performance figures as provided by Van’s Aircraft:

Takeoff ground roll distance (1400 lbs.) 275 ft
Takeoff ground roll distance (1800 lbs.) 575 ft
Landing roll distance (1400 lbs.) 350 ft
Landing roll distance (1800 lbs.) 500 ft
Service Ceiling (1400 lbs.) 23,000 ft
Service Ceiling (1800 lbs.) 20,500 ft

Flight Instruments

A Dynon Skyview 10” HDX touchscreen displays the flight instruments. Attitude and magnetic heading information is provided via the Skyview network from a Dynon SV-ADAHARS-200 unit installed aft of the aft baggage bulkhead. Static air for the airspeed, altimeter, and vertical speed instruments is provided from two static ports installed on the mid fuselage aft of the cockpit. A Dynon heated pitot tube installed on the left wing provides input to the airspeed indicator, and the angle of attack input is also provided from the pitot tube. Refer to the most current version of the Dynon Skyview Pilot’s User Guide for information on the Dynon Skyview display.

A Garmin G5 is setup for backup to the Dynon. Airspeed, Altitude, Heading, Artificial Horizon and Altimeter.

Engine Instruments

A Dynon Skyview 10" HDX touchscreen displays the engine instruments. The Skyview display has an interface through the Skyview network to a Dynon EMS unit connected to the various engine sensors to provide engine data. Refer to the most current version of the Dynon Skyview Pilot's User Guide for information on the Dynon Skyview display.

Communications

There are two communication transceivers installed. COMM1 is a Garmin SL40 communications radio, and COMM2 is part of the Garmin GTN-650 navigator system. Each transceiver has a respective circuit breaker installed on the CB panel. Both communicator transceivers have an interface with a PS Engineering PMA5000X audio panel. Each transceiver has its own Delta Pop VHF COMM antenna installed on the bottom of the aircraft. Refer to the most current version of the Garmin GTN-650 and SL-40 pilot guides for information on how to operate the units.

Navigation

The primary navigation source is the Garmin GTN650 touchscreen navigator. The GTN-650 provides WAAS RNAV capability and a conventional ILS and VOR navigation receiver. The GTN-650 has a dedicated circuit breaker on the CB panel. The GTN-650 has an interface with the PS Engineering PMA5000EX audio panel. The GTN-650 has a Garmin GA-35 GPS antenna installed forward of the cockpit and a RAMI AV-532L VOR/LOCALIZER antenna installed on the top of the vertical stabilizer. The GTN-650 has an ARINC 429 interface with the Dynon Skyview display and navigation data is transferred to the Skyview for display. Refer to the most current version of the Garmin GTN-650 pilot guide for information on how to operate the units.

Autopilot

A two-axis autopilot is installed as part of the Skyview system. A Dynon SV32 servo is installed aft of the aft baggage bulkhead for elevator control, and a Dynon SV32 servo is installed in the right wing for aileron control. Autopilot control is through the Skyview 1000T display unit and through the Dynon SV-AP-PANEL control unit installed on the instrument panel. Refer to the most current version of the Dynon Skyview Pilot's User Guide for information on the autopilot.

Transponder and ADS-B

A Dynon SV-XPNDR-261 Mode S transponder is installed to provide both radar and ADS-B service. The GTN-650 provides the certified GPS position for the ADS-B output. The transponder is controlled through an interface with the Dynon Skyview 1000T touchscreen display. The aircraft has a discrete Mode S code assigned. The SV-XPNDR-261 has a dedicated circuit breaker on the CB panel. The transponder antenna is a Delta Papa antenna mounted on the bottom of the aft fuselage.

Also installed is a Dynon SV-ADSB-470 unit to provide UAT traffic input into the Skyview display and provide weather and other flight information from the UAT system. The SV-ADSB-470 has a dedicated circuit breaker on the CB panel. The SV-ADSB-470 antenna is a Delta Papa antenna mounted on the bottom of the aft fuselage

Refer to the most current version of the Dynon Skyview Pilot's User Guide for information on the SV-XPNDR-261 and SV-ADSB-470 units.

ELT

An ACK-406 ELT unit is installed on a panel behind the aft cargo bulkhead. It provides both a 406 MHz and a 121.5 MHz output. The ELT is registered with NOAA with a discrete Beacon ID assigned. The GTN-650 provides a position source to the ELT. A remote-control panel for the ELT is installed on the instrument panel. See the most current version of the ACK-406 user guide for information on how to operate the unit.

Navigation and Strobe External Lights

The installed navigation /strobe lights are the wingtip strobe and navigation lights, and the Aero LED Suntail light mounted on the lower rudder. They are controlled via switches on the left subpanel in the cockpit labeled NAV LTS and STROBE LTS and the circuits are protected by fuses on the fuse panel.

Landing and Taxi Lights

The installed landing and taxi lights are AeoleD's. Sunspot36-4313 for Taxi and Sunspot36LX for Landing. The landing light is installed on the left outer wing leading edge and the taxi light is installed on the right outer wing leading edge. Both lights are protected by individual fuses located on the fuse panel. Both lights are controlled by switches on the cockpit left subpanel labeled LND LT and TAXI LT.

Equipment List

Engine

Lycoming

YIO-360-M1B

Propeller

Hartzell

HC-C2YR-1BFP/F7947-2

Blades L53479 & 53481

Fuel Servo

Avstar

AVX 5VA1

Propeller Governor

Hartzell

S-1-0

Alternator

Plane Power

AL-12-E160/V

Starter

SKY-TEC

149-12LS

Textron Part # 31A22104

Fuel Transducer

Electronics Intl

FT-60

Left Mag

Slick

4373

M-2988 LH: 25° Lag; Rot L

Right Mag

Slick

4370

M-2984 RH: 0° Lag; Rot L

Avionics

ELT

Comm #1

Garmin

SL-40

Mods U,AA,AB,AC,AD,AE

GPS Navigator

Garmin

GTN-650

GPS Antenna

Garmin

GA-35

Audio Panel

PS Engineering

PMA5000EX

SkyView Display

Dynon Avionics

10" HDX Skyview

Mode-S Transponder

Dynon Avionics

SV-XPNDR-261

ARINC Interface

Dynon Avionics

SV-ARINC-429

Autopilot Control

Dynon Avionics

SV-KNOB-PANEL/H

TFC/WX Receiver

Dynon Avionics

SV-ADSB-470

Backup Battery

Dynon Avionics

SV-BAT-320

ADAAHRS

Dynon Avionics

SV-ADAHRS-200

Engine Monitoring System

Dynon Avionics

SV-EMS-220

Autopilot Servo

Dynon Avionics

SV32

Pitch

Autopilot Servo

Dynon Avionics

SV32

Roll

ADS-B Receiver

Dynon Avionics

ADSB-472