

**VANS RV-8**

Issue 8 Additional service bulletins added, as follows 12.02.08  
SB 07-11-09, SB 07-4-12

**1. UK contact**

There is no UK agent. Contact Vans direct: Van's Aircraft Inc, PO Box 160, North Plains, Oregon, 97133. USA. Tel. 001 (503) 6475117. UK Vans owners club - RV Squadron, run by Harry Hopkins, Cheltenham Tel. 01242 260242. Enthusiast and 2 x RV Builder, Nigel Reddish, Nottingham. Tel. 01623 752330.

**2. Description**

The RV8 can be built from standard or fast-build kit. Pre-built wing spars are also available. All are acceptable subject to the inspector being entirely satisfied with the quality of workmanship of any part-built assemblies. Solid-riveted sheet aluminium construction is used throughout. Many hundreds of these kits have been sold. The aircraft is fitted with integral wing fuel tanks and sealed during construction using a proprietary sealant. For UK-built examples recommend suitable corrosion protection of aluminium airframe throughout, e.g. epoxy primer on aluminium parts and assembly compound where steel parts are assembled to aluminium parts.

The RV8a is similar to the RV8 except that the RV8a has a nosewheel rather than tailwheel undercarriage. RV8a not yet cleared in the UK, none having been completed.

160-200 BHP Lycoming O-320, IO-320, O-360 or IO-360 engines may be fitted as recommended by Vans. Also accepted with equivalent 'XP' type engines manufactured by Superior Air Parts. Consult LAA regarding acceptable models of Superior Air Parts engines, in particular use of dual electronic ignition system only accepted if type-certified electronic system used. Single non-certified electronic ignition plus certified magneto is acceptable.

**3. Fast Build Kit 51% Compliance**

The contents of the standard fast build kit is accepted as compliant with the 51% 'major portion' requirements on the basis that it is the same kit standard that has been accepted as 51% compliant by the FAA.

**4. Build Manual**

RV8 Assembly Manual and RV8 drawings. Vans's newsletter, the RVator, provides useful additional guidance. A useful compilation of the content of past 'RVators' is also available from Vans.

**5. Maintenance Manual**

Nil. In the absence of a manufacturer's schedule, LAMS can be used as a guide to required inspections and this is reflected in the check list in Section 1 of the LAA's Permit renewal application form.

## VANS RV-8

6. Build Inspections

Build inspection schedule 44 (Vans RV Aircraft).

Inspector approval codes A-A, A-M, or K. Inspector signing off final inspection also requires 'first flight' endorsement

7. Flight Manual

Nil. Build manual contains section with advice on flight testing.

8. Mandatory Permit Directives

None applicable specifically to this aircraft type, but note

MPD: 1998-019-R1 Flexible Fuel Tubing Applies to all permit aircraft

MPD: 1999-003 and -004 applies to MTV-9 and MTV-3 propellers

9. LAA Mandatory Modifications/Operating Restrictions

Aircraft can be cleared by LAA for aerobatics or spinning but only following individual aerobatic and spinning flight test evaluation on each individual example, by a pilot authorised for the purpose by LAA.

Note also LAA advisory note regarding water leakage past fuel filler caps dated 3.9.02

LAA letter to owners dated 21.3.06 regarding Vans SB 06-2-23, advising caution in complying with Vans bulletin

10. Service information

In the absence of any over-riding LAA classification, inspections and modifications published by the manufacturer should be satisfied according to the recommendation of the manufacturer. Copies of service information can be downloaded from Vans' Website.

## Service Letters

#2 Battery cables	18.10.06
60 amp alternator	13.2.06
Filtered Airbox advisory	10.05
Inverted oil systems	2.6.05
Buying a second hand RV kit	11.8.04
Buying a flying RV	30.6.04
GAS-3 gascolator recall	4.9.03
Hartzell HC-C2YR prop	3.03
Hartzell HC-C2YK prop	3.03
CT 82F and CT 83F	14.11.01
RV-8/8A Quickbuilds	19.5.00
Fuel pickup tube anti-rotation bracket	12.6.00

## VANS RV-8

## Service Bulletins

SB 07-11-09 Nose gear leg and fork upgrade  
SB 07-4-12 Securing flap motor rod end bearing  
SB 07-2-6 Affixing the passenger control stick permanently.  
SB 06-9-20 Replace manual elevator trim cable rear attachment WD-415 by improved version  
SB 06-2-23 Safetying of standard and flop-type fuel pickup tubes  
SB 04-3-1 Electric flap motor recall  
SB 04-2-1 Fuel tanks  
SB-02-12-1 Pre-manuf. Hoses  
SB 96-10-2 Full swivel tail wheel  
SB 96-10-1 Filtered airbox

11. Standard Options

Vans offer a great number of options in their catalogue of accessories, the majority of which are accepted by the LAA. Refer to LAA technical leaflet TL3.08 for details.

12. Special Inspection Points

- The flaps are operated by rod-ends on the operating pushrods without any back-up capturing feature and therefore the rod-ends must be checked carefully for wear to ensure that there is no possibility of a rod-end coming adrift from a flap.
- Check that fuselage fairing around rear of tailplane is well secured since if this fairing comes loose it could cause the elevator to jam.
- Take care to minimise operating friction in flying controls by careful attention to hinges, rod-ends, lubrication etc.
- Note that the trailing edge profile on control surfaces is critical to control characteristics.
- If manual elevator trim fitted, refer to SB-06-9-20 regarding problems with rear attachment of trim cable.

13. Operating Limitations and Placards

Maximum number of occupants authorised to be carried: Two

The aircraft must be operated in compliance with the following operating limitations, which shall be displayed in the cockpit by means of placards or instrument markings:

## Aerobatic Limitations

Aerobatics permitted prohibited.

Intentional spinning is prohibited.

## Loading Limitations

Maximum Total Weight Authorised: 1800 Lbs

CG Range: 78.7" to 86.82" aft of datum point.

Datum Point is: A point 70.0" forward of the leading edge of the wing.

## Engine Limitations

Maximum Engine RPM: 2700 rpm.

(2600 rpm when Sensenich 70CM 2 blade metal propeller fitted to O-320 or IO-320 engine)

## VANS RV-8

## Airspeed Limitations

Maximum Indicated Airspeed: 230 mph

Maximum Indicated Airspeed with flaps extended: 110/100 mph

## Other Limitations

The aircraft shall be flown by day and under Visual Flight Rules only.

Smoking in the aircraft is prohibited.

Solo from front seat only.

## Additional Placard

"Occupant Warning - This Aircraft has not been Certificated to an International Requirement"

Fireproof identification plate must be fitted to fuselage, engraved or stamped with aircraft's registration letters.

a. In addition, when certain types of propeller are fitted to the RV-8, RPM 'avoid bands' are necessary as specified by the propeller manufacturer, in which case these must also be placarded.

b. In addition, when Hartzell blended airfoil HC-C2Yor -C2YR propeller is used with 360 engines and FADEC or LASAR ignition, extra engine rpm and manifold pressure limitations apply (ref Service letter dated 3.03)

c. In addition, when a three blade constant speed propeller is fitted, 'minimum indicated airspeed for power-off approach, 80 mph IAS' (due to braking effect when discing).

Aerobatic approval is subject to individual assessment and flight tests including spin testing. For those aircraft cleared for aerobatics and spinning, the following alternative / additional operating limitations and placard requirements apply:

## Aerobatic Limitations

The following aerobatic manoeuvres are permitted not exceeding +6G or -3G:

<u>Manoeuvre:</u>	<u>Recommended Entry Air Speed:</u>
Inside Loop	150 mph
Aileron/Slow/Barrel Roll	135 mph
Stall Turn	140 mph
Roll Off The Top	160 mph
Cuban Eight	160 mph

Maximum speed for full control deflection VA = 142 mph.

Intentional spinning is permitted not exceeding two turns.

## Loading Limitations

Maximum Total Weight Authorised: 817 kg (1800 lb)

Maximum Aerobatic Weight Authorised: 703 kg (1550 lb)

CG Range: Limits 78.7 inches to 86.82 inches aft of datum point.

CG Range For Aerobatics and Spinning: 78.7 inches to 85.3 inches aft of datum.

Aircraft cockpit is to be placarded: "Warning: this is a high performance aircraft in which care is required particularly during aerobatic manoeuvres to avoid exceeding structural limits and/or maximum permitted airspeeds".

14. Maximum Permitted Empty Weight

N/A

## VANS RV-8

15. Special Test Flying Issues

VP Prop flight test schedule required if VP prop is fitted.

Adjustments to lateral trim can be made by lightly dressing aileron trailing edges.

These are high-performance aircraft but nevertheless the designs are well developed and thanks to good handling characteristics they have achieved a good accident-free record. Care must be taken with the distribution of baggage between the front and rear baggage compartments depending on whether flying solo or with a passenger, otherwise cg range limits can be exceeded.

The engine compartments of these aircraft are fairly cramped and care should be taken to avoid overheating problems, charring of the cowlings near the exhaust, vapour-lock due to pre-heating of fuel in gascolator etc. Insulating the exhaust pipes has been found to help, but can cause problems with premature and hidden corrosion of the exhaust pipes underneath.

16. Significant LAA Airworthiness Approval Notes

LAA-303/431 O-360 engine, fixed pitch Sensenich prop  
 LAA-303/431 supplement 1 IO-360 engine, MT prop  
 LAA-303/431 supplement 2 IO-360 engine, MT or Sensenich prop  
 LAA-303/431 supplement 3 AEIO-360 engine, Hartzell prop  
 LAA-303/431 supplement 4 Superior XP-IO-360 engine, MT prop

17. Control surface deflections

Ailerons	Up:	25-32 degrees
	Down:	15-17 degrees
Elevators	Up:	25-30 degrees
	Down:	20-25 degrees
Rudder	Left	30-35 degrees
	Right	30-35 degrees
Flap	Down	40 degrees
Elevator tab	Up	TBD
	Down	TBD

Approved :

F.R. Donaldson  
 Chief Engineer

----- END -----