



LAA TYPE ACCEPTANCE DATA SHEET
TADS 339
VANS RV-10

Issue 6	Addition Vans SB	Dated 25/7/18	JV
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This TADS is intended as a summary of available information about the type and should be used during the build, operation and permit revalidation phases to help owners and inspectors. Although it is hoped that this document is as complete as possible, other sources may contain more up to date information, e.g. the manufacturer's website.

Section 1 contains general information about the type.

Section 2 contains information about the type that is **MANDATORY** and must be complied with.

Section 3 contains advisory information that owners and inspectors should review to help them maintain the aircraft in an airworthy condition. If due consideration and circumstances suggest that compliance with the requirements in this section can safely be deferred, is not required or not applicable, then this is a permitted judgement call. This section also provides a useful repository for advisory information gathered through defect reports and experience.

Section 1 - Introduction

1.1 UK contact

There is no UK agent. Contact Vans direct: Van's Aircraft Inc, 14401 NE Keil Road, Aurora, Oregon, 97002, USA

Tel: 001 (503) 6786545

Website: www.vansaircraft.com

UK Vans owners club - RV Squadron, www.rvuk.co.uk

Enthusiast and first UK RV-10 builder, Roger Hopkinson, Reading

Tel: 0118 9472583

1.2 Description

The Vans RV-10 is a single-engine, four-seat monoplane design of all metal construction, originating from the USA. The aircraft is a direct development of the Vans line of single and two seat aircraft, most of which have previously been investigated by the LAA and built in numbers in the UK.

The aircraft is constructed from a kit, and unlike some of the other RV designs, is only available in nosewheel undercarriage configuration.

The aircraft is a low-wing monoplane of conventional layout. The fuselage is of monocoque construction with sheet aluminium skins. The design methodology borrows heavily from the Vans RV-3, -4, -6/-6A, -7/-7A, -8/-8A and -9/9A designs. Unusually, however, the cabin top and windscreen pillars are manufactured as a one-piece fibreglass moulding, and twin gull-wing doors are fitted allowing straightforward access to both rows of side-by-side seating. A large rear baggage locker is incorporated, which is accessed via a hinged baggage door on the left hand side of the aircraft. Full dual controls are fitted.

The aircraft is designed to use six-cylinder Lycoming IO-540 type engines. Examples of the type must be fitted with a certified engine and propeller combination. Note that



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the only propeller(s) approved for an individual aircraft are those listed on the individual aircraft's Operating Limitations document or in the [PTL/1](#) (Propeller Type List) for the type.

The Vans RV-10 is an SEP Aeroplane (colloquially known as 'group A category') with a maximum gross weight of 2700 lb (1225 kg).

Section 2 – Mandatory information for owners, operators and inspectors

At all times, responsibility for the maintenance and airworthiness of an aircraft rests with the owner. Condition No 3 of a Permit to Fly requires that: *"the aircraft shall be maintained in an airworthy condition"*.

2.1 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.

2.2 Build Manual

RV-10 Assembly Manual and RV-10 drawings. Vans's newsletter, the RVator, provides useful additional guidance. A useful compilation of the content of past 'RVators' is also available from Vans.

2.3 Build Inspections

Build inspection schedule 56 (Vans RV-10 aircraft).

Inspector approval codes A-A, A-M or K. As a four seat aircraft, the inspector must also be specifically accepted by the LAA for inspecting the Vans RV-10 type aircraft. Inspector signing off final inspection also requires 'first flight' endorsement.

2.4 Manuals

A POH specific to each aircraft must be compiled using a template available from LAA Engineering.

A maintenance schedule specific to each aircraft must be agreed with LAA Engineering prior to initial issue of a Permit to Fly. This must include scheduled 50 hour/6 month checks.

2.5 Mandatory Permit Directives

None applicable specifically to this aircraft type:

Also check the LAA website for MPDs that are non-type specific ([TL2.22](#)).



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2.6 LAA Required Modifications (including LAA issued AILs, SBs, etc)

The following modifications are required to be installed:

<i>Reference</i>	<i>Description</i>
MOD-339-001	The addition of a restraint system or barrier to prevent baggage in the baggage compartment moving forward into the cabin area during an accident. Standard Modification SM12569 gives a standard method of achieving this.
MOD-339-002	To minimise the risk of trim servo runaway causing control difficulties in flight, the electric trim systems must be fitted with an isolator switch easily accessible to the pilot in flight.
MOD-339-003	An acceptable stall warner system must be fitted to provide artificial stall warning.
MOD-339-004	To minimise the possibility of elevator trim tab flutter due to the Teleflex cable attachment failing at the back end, an acceptable improved design of attachment must be fitted replacing the standard Vans part WD-415-1 which consists of a nut edge-welded to a steel plate. An acceptable alternative is the alternative machined rear anchor for the elevator trim cable available from after-market suppliers 'Rivethed'; however, Rivethed is no longer trading. The equivalent part as supplied by 'IFLYRV10' is also acceptable.
MOD-339-005	To minimise the loss of strength in the critical section of the composite cabin top at elevated temperatures, the cabin top must be painted white in the vicinity of the shoulder harness attachments.

2.7 Additional engine operating limitations to be placarded or shown by instrument markings

Notes:

- Refer to the engine manufacturer's latest documentation for the definitive parameter values and recommended instruments.
- Where an instrument is not fitted, the limit need not be displayed.

2.8 Control surface deflections

<i>Ailerons</i>	<i>Up: 25 to 32°</i> <i>Down: 17 to 25°</i>
<i>Elevators</i>	<i>Up: 25 to 30°</i> <i>Down: 20 to 25°</i>
<i>Rudder</i>	<i>Left 30 to 35°</i> <i>Right 30 to 35°</i>
<i>Flap</i>	<i>Down 30-33°</i>
<i>Elevator tab left</i>	<i>Up: 0°</i> <i>Down: 32-35°</i>
<i>Elevator tab right</i>	<i>Up: 23-25°</i> <i>Down: 32-35°</i>



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2.9 Operating Limitations and Placards

(Note that the wording on an individual aircraft's Operating Limitations document takes precedence, if different.)

1. Maximum number of occupants authorised to be carried: Four
2. 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:
 - 2.1 **Aerobatic Limitations**
Aerobatic manoeuvres are prohibited.
Intentional spinning is prohibited.
 - 2.2 **Loading Limitations**
Maximum Total Weight Authorised: 2700 lb (1225 kg)
CG Range: 107.84" to 116.24" aft of datum
Datum Point is: a point 99.44" forward of the leading edge of the wing
Maximum baggage weight: 100 lb (45 kg)
 - 2.3 **Engine Limitations**
Maximum Engine RPM: 2700
 - 2.4 **Airspeed Limitations**
Maximum Indicated Airspeed (V_{NE}): 230 mph (200 kts) IAS
Maximum Indicated Airspeed (Rough Air): 180 mph (157 kts) IAS
Max Indicated Airspeed Flaps Extended:
0-18°: 110 mph (96 kts) IAS
19-33°: 100 mph (87 kts) IAS
 - 2.5 **Other Limitations**
The aircraft shall be flown by day and under Visual Flight Rules only.
Smoking in the aircraft is prohibited.

Additional Placards:

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

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

2.10 Maximum permitted empty weight

N/A

Section 3 – Advice to owners, operators and inspectors

3.1 Maintenance Manual

See Section 2.4.



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3.2 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.

The following items are also permitted to be fitted as optional equipment, without further reference to LAA Engineering. Installations must be inspected by an LAA Inspector against the supplied installation instructions and a PMR entered into the logbook.

- Andair lockable fuel caps.
- Andair fuel pump PX375-TC (on fuel injected engines only and only pump serial numbers 30453 and on).
- Dynon pitot head on a Gretz mount (ref LAA mod 14324).
- Dynon pitot head on a Safeair1 mount (ref LAA mod 12551).
- Garmin GAP 26 pitot head on a Safeair1 mount (ref LAA mod 14084)

3.3 Manufacturer's Information (including Service Bulletins, Service Letters, etc)

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. It is the owner's responsibility to be aware of and supply such information to their Inspector. Copies of service information can be downloaded from Vans' Website.

Service Letters:

<i>Dated</i>	<i>Description</i>
3.7.14	SAIB HQ-14-16 (all-metal lock nuts)
20.12.11	Fuel valve lever II installation
13.2.08	Door latch switches
26.11.07	Soft rivets
16.11.07	Inspect master switch
6.9.07	Tricycle gear aircraft nose wheel torque
5.4.07	Dynafocal II mounts
15.1.07	Motor/motor mount interference
18.10.06	#2 Battery cables
21.9.06	U-1023 nose wheel bearing spacers
12.6.06	Fuselage tunnel temperature
18.5.06	Door handle spur gear
13.2.06	60 amp alternator
9.1.06	Axle nut thread depth
10.05	Filtered Airbox advisory
11.8.04	Buying a second hand RV kit
30.6.04	Buying a flying RV
14.11.01	CT 82F and CT 83F
12.6.00	Fuel pickup tube anti-rotation bracket (the RV-10 design uses a different arrangement and this letter is therefore not applicable)

Service Bulletins:

<i>Reference</i>	<i>Description</i>
SB 18-05-21	Proper installation of gauge plug in fuel spider
SB 18-03-30	Elevator control stop inspection



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SB 16-06-28	Cracking of wing aft spar web at the inboard aileron hinge bracket attach rivets
SB 14-12-22	Nose stop flange installation
SB 14-8-29	Engine mount elastomer plate
SB 11-9-13	Fuel tank slosh inspection
SB 10-1-4	Install door safety latch (not mandatory on UK fleet)
SB 08-6-1	F-1010 bulkhead reinforcement
SB 07-4-12	Securing flap motor rod end bearing (included in RV-10 drawings)
SB 07-2-6	Affixing the passenger control stick permanently (included in RV-10 drawings)
SB 06-9-20	Trim cable anchor (MOD-339-004 covers this)
SB 06-2-3	Vertical stabilizer
SB 04-3-1	Electric flap motor recall
SB 02-12-1	Pre-manufactured hoses
SB 96-10-1	Filtered airbox

3.4 Special Inspection Points

- Check and inspect elevator trim systems with rear empennage fairing removed for correct operation and security, including servo and associated drive and electrical system.
- Builders not familiar with the form of solid construction used in this type are encouraged to practise on scrap test pieces to learn techniques of riveting before starting on actual construction.
- These are high-performance aircraft and top quality workmanship is essential.

3.5 Special Test Flying Issues

None noted at this issue.

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Please report any errors or omissions to LAA Engineering: engineering@laa.uk.com