LAA TYPE ACCEPTANCE DATA SHEET
TADS 393
VANS RV-14

Issue 2	Added SB-00027. Additional standard options in section 3.2	Dated 14/07/21	JV
Revision A	Addition of options to section 3.2	Dated 05/10/21	JV

This TADS is intended as a summary of available information about the type and should be used during the build, operation and Permit to Fly 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

3.2 UK contact

There is no UK agent. Contact Van's direct:

Van's Aircraft, Inc
14401 NE Keil Road
Aurora
OR 97002
USA

Tel: 001 (503) 678 6545
Website: www.vansaircraft.com

UK Van's Aircraft owners club – further details at www.rvuk.co.uk or email the 'RV Squadron' RVSqn+subscribe@groups.io

1.2 Description

The RV-14 is a low-wing monoplane of all rivetted aluminium alloy construction, seating two side-by-side in an enclosed cockpit with a forward-hinged canopy. A baggage compartment occupies the rear of the cockpit. The type is larger and heavier than the other two-seat types produced by Vans, but uses the same basic construction techniques.

The wings are similar to those used on the four-seat RV-10, using the same aerofoil section and also being of constant chord and thickness and fitted with slotted flaps and conventional ailerons. The wings house a 25 US gallon fuel tank in each leading edge at the root, and incorporate provisions for landing, position and strobe lights. Ailerons are controlled by a conventional system of pushrods and bellcranks; flaps are controlled by direct linkages to a torque tube driven by an electric motor.

The fuselage incorporates a turn-over structure mounted just aft of the seat positions. The rudder is controlled by cables running the length of the fuselage, with the elevators being controlled by a series of pushrods and cranks.

The RV-14 is available both in a traditional taildragger configuration and a tricycle undercarriage arrangement (the latter designated an RV-14A). At the current time, only the taildragger configuration has been assessed by LAA. The main landing gear consists of tapered steel tubes.

The type is designed for basic aerobatic manoeuvres with the structure designed to meet the aerobatic category standards of +6/-3g when flown at the maximum aerobatic gross weight of 1900 lbs. The type has not undergone aerobatic or spin flight assessment by the LAA at this stage, therefore aerobatics and spinning are prohibited pending investigation.

The standard powerplant recommended by Vans is a Lycoming YIO-390-A3B6 engine developing a nominal 210 HP at 2700 RPM and a Hartzell HC-CY2R-1BF/F7492-2 two-bladed, aluminium alloy, constant speed propeller. Vans also recommend the 215 HP IO-390EXP119 engine, although this has yet to be installed in an LAA example.

Note that 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.

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' and 'quick build' kits are accepted as compliant with the 51% 'major portion' requirements on the basis that they are same kit standards that have been accepted as 51% compliant by the FAA.

2.2 Build Manual

RV-14/-14A Assembly Manual and RV-14/-14A drawings. Revisions to the drawings can be found in the RV-14 Service Information and Revisions section of the Vans Aircraft website.

2.3 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.

2.4 Flight Manual

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

2.5 Mandatory Permit Directives

None applicable specifically to this aircraft type.

Also check the LAA website for MPDs that are non-type specific (TL 2.22).

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

None.

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

Ailerons	Up: 25 to 32° Down: 15 to 17º
Elevators	Up: 25 to 30° Down: 20 to 25°
Rudder	Left: 30 to 35° Right: 30 to 35°
Flaps	Down: 30 to 33°
Trim tab	Up: 11 to 13° Down: 32 to 35°

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: Two
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: 2050 lbs (930 kg)
CG Range: 82.08 inches to 88.24 inches aft of datum
Datum Point is: 72.0 inches forward of the wing leading edge

2.3 Engine Limitations
Maximum Engine RPM: 2700

2.4 Airspeed Limitations
Maximum Indicated Airspeed (V_{NE}): 200 knots IAS
Maximum Indicated Airspeed, Flaps Extended: 100 knots IAS
Manoeuvring Speed, V_A: 124 knots 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

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 FWR-1 Permit to Fly revalidation application form. Alternatively, the LAA Generic Maintenance Schedule may be used.

Vans RV-14 Service Information and Revisions should also be reviewed regularly. Maintenance is typical of riveted aluminium alloy airframe.

Engine maintenance as appropriate to the engine manufacturer's advice, e.g. Lycoming (further reference information can be found in LAA TADS E04: Lycoming).

3.2 Manufacturer's/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 TL 3.08 for details.

There are a number of specific options available for the RV-14/14A which have been accepted by the LAA. 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.

Manufacturer/Supplier	*Description*	*LAA Mod No*
Beringer	Nose wheel RA0014(A) with 5.00-5 tyre	15739
Dynon	Autopilot installation as per Vans build manual consisting of Dynon Skyview system controlling an SV-42 or SV-32 servo on pitch and an SV-42 servo on roll controls[1]	15624/ 15741
Dynon	Heated pitot probe 10667-000 on Gretz mount	15625
FlyLEDs	'The Original' wingtip nav/strobe lights	15671
FlyLEDs	'Tail light kit' nav/strobe lighs	15671
FlyLEDs	'Seven Stars' leading edge mounted landing lights (in standard Vans position)	15671
Garmin	Autopilot installation as per Vans build manual consisting of Garmin G3X system controlling a GSA 28 servo on pitch and roll controls[1]	15372
Garmin	GAP 26 heated/unheated pitot head on Gretz mount	15373
JD Airparts	Tip up canopy latch	15626
Whelen	Microburst series nav and strobe lights	n/a
n/a	Canopy jettison handle pushrod C-01444 and associated parts deleted; actuation bellcrank WD-618-1 wirelocked in engaged position	15126

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 RV-14 continuing airworthiness, service information and plans revisions can be downloaded from the Van's Aircraft website: RV-14 Service Information and Revisions

Notifications and Service Letters:

Reference ID	*Dated*	*Description*
N RV-14 V-speeds	18 Feb 18	V-speeds for the RV-14/14A (note that the LAA operating limitations document takes precedence if any number differ)
N RV-14 Control deflections letter	17 Feb 18	RV-14 control surface deflections
N RV-14 Garmin AP and trim setup	15 Feb 18	G3X autopilot/trim settings
N RV-14 Avionics letter	14 Feb 18	RV-14 avionics update
SL 16-11-04	16 Nov 16	Tip-up canopy operation
SL 15-11-20	23 Dec 15	RV – Aerobatic gross weight
N 14-12-11	11 Dec 14	VS-801PP vertical stabiliser skins

[1] If installing as part of initial build, please submit forms LAA/IC-APP and LAA/IC-APR with build completion paperwork; if installing retrospectively, please contact LAA Engineering prior to fitting.

N 14-07-03	03 Jul 14	SAIB HQ-14-16 all-metal lock nuts
N Buying a Flying RV	19 Apr 11	A letter to prospective buyers of flying RVs
N Buying a Used RV Kit	11 Aug 04	Buying a second-hand RV kit

Service Bulletins:

Reference ID	*Dated*	*Description*
SB-00027	05 Nov 20	Modification of RV-14A nose gear and new part
SB 00006	06 May 20	Potential leaking of Kavlico pressure sensors
SB 18-09-17	17 Sep 18	Cracking of the F-01478 aft fuse forward bottom skin
SB 18-05-21	21 May 18	Proper installation of gauge plug in fuel sender
SB 16-03-28	28 Mar 16	Cracking of wing aft spar web at the inboard aileron hinge bracket attach rivets (note that the rectification actions given in this Service Bulletin are acceptable to LAA and no separate repair application is necessary)
SB 11-09-13	03 Sep 11	Fuel tank slosh inspection
SB 04-2-1	01 Feb 04	Inspect fuel tanks

3.4 Special Inspection Points

1. 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.
2. These are high-performance aircraft and top-quality workmanship is essential.
3. Take care to minimise operating friction in flying controls by careful attention to hinges, rod-ends, lubrication etc.

3.5 Operational Issues

The following Safety Spot articles are relevant to Vans RV-14 aircraft:

None currently indexed.

Other operational issues and notes:

1. Unusually, the flaps are controlled by a switch on the stick grip – this feature has been assessed as satisfactory for this type in flight test.
2. Stall warning/angle of attack warning speeds must be adjusted so that the system gives a positive warning of an impending stall condition at between 4 and 12 knots above the stall speed, in each configuration.

3.6 Standard Modifications

None at the current issue.

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