

SO YOU'RE CONSIDERING BUYING A FLYING RV....

With increasing frequency, prospective buyers of flying RVs are calling Van's Aircraft, Inc. for advice about finished RV aircraft they would like to buy. This puts us in a difficult position.

Our business is airframe kits and the airframe is only part of an airplane. We are not in the business of inspecting, brokering or judging finished aircraft. We can not recommend for or against the purchase of any particular airplane, or offer any opinion about the builder. With very few exceptions, we've never seen the airplane in question and know virtually nothing about it, its equipment, construction quality, or history.

That said, here's a few suggestions derived from our experience:

PAPERWORK

If you are buying a flying RV, it must have all the pertinent paperwork: Airworthiness Certificate, Registration, Weight and Balance, and, because it is registered in the Experimental category, a set of Operating Limitations specific to this one airplane.

In addition, regulations require an Operator's Handbook. This handbook is the responsibility of the aircraft builder/owner/test pilot. Because an RV might be fitted with almost any engine, propeller, avionics and other equipment imaginable (and sometimes, equipment Van's never imagined!) the data needed to compile the Operator's Handbook must be derived from flight test of the specific airplane.

Similarly, the almost infinite possibilities prevent Van's from supplying a Maintenance Manual. Van's does strongly suggest that the plans and builder's manual used during construction remain with the airplane. Also, copies of the builder's log and photo record would prove very useful for any future maintenance and repair.

Radios, instruments, engine accessories, etc., all come with installation and operation manuals. These should be included with the airplane – much of the information in them can be found nowhere else.

A prospective buyer should insist on receiving all pertinent documents.

THE AIRFRAME

RVs are built the same way the vast majority of certified airplanes are built. The airframes are largely aluminum, with some steel components. Composite materials are used in some areas like the cowl, wing tips and wheel fairings. They are powered with the same Lycoming engines found in Cessnas, Pipers, etc. The standards for acceptable construction quality of aluminum airplanes and safe Lycoming engine installations are well established, and any mechanic or inspector familiar with production light aircraft should be able to competently inspect an RV.

Over the years, Van's Aircraft has issued Service Bulletins for most RV types. Copies of these are available from Van's Aircraft, and posted on Van's website www.vansaircraft.com. These Service Bulletins have been issued for a reason, and, although Van's has no way of knowing if a particular airplane is in compliance, it would be foolish to ignore or postpone acting upon them.

A prospective buyer should schedule a complete airframe inspection with a trusted mechanic.

ENGINES

It is important to realize that in an Experimental airplane, there is no such thing as a "standard" engine installation. Builders may choose any engine, engine accessory or component they desire. For instance, some RVs have gascolators, some have inline fuel filters, some have no provision for fuel filtering at all.

RVs are designed around Lycoming engines, although kit builders are free to put in any engine they like. Lycoming engine installation is very straightforward and any mechanic or inspector familiar with production light aircraft should be able to inspect the engine and related systems.

It is possible that a flying RV may be equipped with a Lycoming engine that is not appropriate for the airframe. For instance, Van's has never recommended the 200 hp IO-360 for the RV-4 or RV-6/6A. Some

builders have installed this engine anyway. Prospective buyers should familiarize themselves with the potential drawbacks of bigger, heavier, more powerful engines. These include increased stress on the airframe and landing gear, as well as the potential for loadings and speeds outside design limits.

If the engine is anything other than a Lycoming, then it is likely that the builder had to design and install many of his own systems (Van's does not supply components for anything other than Lycomings). Not only the engine, but the engine mount, cowling, cooling system, fuel, and ignition systems, in particular, should be inspected with great care.

A prospective buyer should schedule a complete engine/system inspection with a trusted mechanic.

FLIGHT TRAINING

RVs are not difficult to fly, but the characteristics of a small, quick airplane with a low-aspect ratio wing and a low power loading are quite different than many production aircraft. We highly recommend Transition Training specific to RVs, even for experienced pilots. Insurance companies may insist on it as well.

The FAA also has an Advisory Circular on the topic that is a must-read for new owners.

http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/1018499

For more details and information on RV Transition Flight Training, click on the Van's website link below:

<http://www.vansaircraft.com/public/trainfly.htm>

A prospective buyer should do everything he can to familiarize himself with RV flying and handling qualities.

MAINTENANCE

One of the big advantages of an Experimental airplane is that the builder may receive a Repairman's Certificate. This document allows him to sign off all necessary maintenance and repair on this one airplane. This privilege does NOT go with the airplane if it is sold. It remains with the builder. The new owner must have condition inspections signed off by an Airframe and Powerplant certificate holder, or by the holder of the Repairman's Certificate for that aircraft. The owner without these credentials can perform all other maintenance and repairs but should seek supervision if he/she is unfamiliar with any maintenance or repair task. Check the FARs for permitted maintenance.

Van's Aircraft, Inc. does not offer assistance on repair or maintenance.

A prospective buyer should study and understand the maintenance history of the aircraft, and what he is permitted to do.

SO YOU WENT AHEAD AND BOUGHT IT...

- If you've bought a completed RV, there are a few things you should do shortly after: Notify Van's Aircraft in writing, with the builder's number of the airplane, a copy of the bill of sale, and all the pertinent information – your name, address, contact information, etc. This will allow us to keep accurate records – a good thing if we must issue a Service Bulletin, for example.
- Do your own weight and balance, following the directions in the Builder's Manual.
- Learn your airplane. Take the cowl off and learn the routing, position and operation of the various systems. Remove the seat pans and learn how the control linkages work. Remove the wheel fairings and learn how to change a tire or brake pad.
- Get Transition Training.
- Practice.

A prospective buyer should understand that the airplane he is considering is unique. It is up to him to acquire the skills and knowledge to operate it safely and enjoyably.