MORE ROOM. QUICKER BUILD TIME. OUR MOST ADVANCED AND REFINED KIT EVER.

THE DESIGN

The RV-14 is the newest airplane from Van's Aircraft, Inc. It continues and improves on the legacy of the most successful side-by-side two-seat kit aircraft in history: Van's RV-6, RV-7, RV-9 and RV-12.

But the RV-14 (Tailwheel) and RV-14A (Tri-Gear) are different.

Probably the first thing you'll notice is that the RV-14 sits tall. The upright seating position and large bubble canopy provide superb visibility in all directions. The large cabin (as wide as many four-seat airplanes) is truly roomy. Lots of headroom, lots of legroom, lots of room between the seats. Big people will like this airplane!

The tip–up canopy (Van's designed canopy of choice) uses a new hinge arrangement that allows it to open wide for entry and loading baggage. It also allows complete access to the back of the instrument panel and avionics connections. It is possible to stand on the ground next to the airplane and reach everything in back of the instrument panel.

Our intent is to make the RV-14 Avionics installation as simple as possible for builders. There will be no standard avionics kits available through Van's Aircraft, but there will be choices for those who want a complete avionics system. Broadly, we have designed the electrical system around three basic EFIS options for those who want "Plug & Play" panels. These are: Advanced Flight Systems, Dynon Skyview, and the Garmin G3X Touch. For a professionally wired and completed panel utilizing one of the systems above, Advanced Flight Systems will handle the AFS and Skyview installations, and SteinAir will provide the G3X product line. A blank panel for those who want to develop their own panel from scratch is also available.

The relatively long wing uses the proprietary airfoil that's proved so successful on the RV-10. The wing is constant-chord and constant thickness, so it's easy to build and completely predictable in flight. Big slotted flaps keep landing speeds low. Leading edge fuel tanks can be removed without taking the wing off the airplane. Ailerons are controlled by rigid pushrods moving on bearings and bushings — a very low friction system that helps provide the control feel for which RVs have become famous. Leading edges and wingtips have provisions for landing, position and strobe lights.

Up front, a 210 hp Lycoming IO-390 lives under the graceful cowl and supplies plenty of power! A 4-into-1 exhaust system keeps exhaust noise relatively low, especially in the cabin.

RV-14 structure is typical of all RVs — and most production aircraft, for that matter. It is a monocoque aluminum airframe held together with rivets. This method has been the standard in aircraft construction for almost seventy years. It is very difficult to beat the combination of light weight, structural integrity, simplicity and

Above:Van's factory RV-14 sports an Advanced Flight Systems /IFR Panel

affordability that aluminum provides.

Occupant protection is an important concern. A massive roll-over bar spans the cockpit just behind the seats. Seats, belts and harnesses are designed to keep pilots and passengers safely restrained

The Tri-Gear main landing gear is extremely simple, consisting of tapered steel leaf springs with a wheel on one end and the airplane on the other. There are no oleos, bungee cords or shock absorbers. The nosewheel rides on a robust steel strut. The tailwheel version of the uses a substantial tapered rod gear leg configuration.

CAPABILITIES AND PERFORMANCE

The RV-14 cabin accommodates full-sized adults — in fact, the basic idea was to provide RV-10 room and comfort in a two-seat airplane. The results are impressive. Both seats will hold people at least 6'4" tall and provide them with truly comfortable leg and headroom.

The quality that has always made RVs stand out, from the original RV-1 to the RV-14, is the way they feel in flight. The famous "RV Grin" can be found on any pilot who has just taxied up in one…the result of a flight in a truly responsive, agile airplane that goes exactly where you want it to — almost as if it read your thoughts directly. The RV-14 continues this tradition. It responds almost instantly to the pilot's touch, but that response is predictable, proportional, and precise. It handles basic aerobatic maneuvers easily and gracefully. The structure meets the aerobatic category standards of +6/-3Gs when flown at the aerobatic gross weight of 1900 lbs.

RVs are known for short-field capability and the RV-14 is no exception. The generous wing area and big slotted flaps allow the RV-14 to land at virtually any small airport. It is perfectly happy on grass, dirt or gravel runways. If you can land closer to your destination, you can gain a lot of time over "faster" airplanes that must use big paved airports a long way from town. Even at gross weight, the RV-14 can operate from very short runways and climb well at high density altitudes.

When many pilots say "performance", they really mean "speed." By most standards the RV-14 is quite a fast airplane, but speed is only part of the story.

The RV-14 derives its high cruise speed from a light, clean and fairly small airframe, instead of from a big, consumptive engine. This means not only will it cruise at relatively high speeds, but cruise at lower speeds and can be very economical. Company pilots often choose to cruise at 50-55% power and take advantage of the economy available there. At 175 mph, the RV-14 is getting better miles-per-gallon than most of the luxury cars and SUVs it is flying over.

We expect that the RV-14 will really come into its own as a sport touring airplane. The power and the wing will take a fully loaded RV-14 to cruising altitudes that easily clear any terrain on the continent. The wide cabin and large instrument panel give the occupants lots of room and lots of information. With a full fuel load of 50 US gallons, there's 510 lbs left over for people and baggage — in other words, two 200 lb people can take fifty-five pounds of baggage — each! Better yet, you won't have to leave your pocketknife or shampoo at home…

Pilot workload is very low, because the airplane responds quickly and positively to small control inputs. It is not the least bit "twitchy" and does not require constant attention to maintain heading or altitude. Cruising at 70% power and 190 mph, it can cover about 1400 nautical miles in eight flying hours with just one stop for fuel. At economy cruise, it can do thousand mile legs if you can!

A long trip in the RV-14 can be positively relaxing.

BUILDING IT

The RV-14 kit has the full benefit of the RV kits that have gone before. It comes into the world ready to set new standards in completeness and accuracy. We expect that with these improvements, builders will complete RV-14s in significantly less time than the other 'driven-rivet' RVs.

All the aluminum components are formed and pre-punched for all the rivet and bolt holes. The "matched-hole" punching technology makes the airframe essentially self-jigging: when all the holes line up, the airframe *must* be straight. As with all other RV kits, all welding is complete. Wing spars come fully assembled and ready to install. The canopy has been the focus of considerable design effort and installs with much less effort than any previous RV. Fully designed wiring, avionics and engine installation packages will reduce the time spent on those traditionally very time-consuming tasks dramatically.

A QuickBuild (QB) option is also available for those that want to reduce the overall build time.

For either kit, you'll need a shop about the size of a two-car garage, an air compressor, bench grinder and a set of aircraft hand tools like rivet guns, dimple dies, etc.

BUYING IT

Empennage/Tailcone, Wing, Fuselage, Finish, and Firewall Forward kits are currently available for both Nosewheel and Tailwheel models. The kits includes everything necessary to completed the entire airframe and operate the engine.

Avionics kits are shipped from the previously mentioned suppliers.

We think the RV-14 will be a great addition to the RV story — adding its new abilities and features to what is already the most successful line of kit aircraft in the world.

VAN'S AIRCRAFT, INC.

Step 1: Apply sealant to the T-1001-l Fuel Tank Skin from the T-1002 Tank Baffle rivet holes forward. Upon installation the tank baffle acts as a squeegee and the bead of sealant will be pushed ahead as the baffle is moved forward. Use a maximum of 3/16" bead of sealant; too much and the thickness can start to build-up making the tank difficult to install on the wing. Put a bead of sealant along the inside edge of the flange on each end rib. Put a heavy glob of sealant where each corner of the baffle will meet the end ribs (this is one of the most common locations for leaks).

Put a thin smear of sealant around each of the rivet holes on the back flanges of the tank ribs.

With the tank sitting in the Leading Edge Assembly cradle, install the rear baffle by dropping it straight down on the the rear flanges of the ribs as shown in Figure 1.

Put a cleco in every hole of the tank skin to baffle joint. After cleco-ing, inspect the skin to see if it is pillowed-out between the cleocs. The contact surface of the tank baffle flange may require pressure to force out excess sealant. The easiest method to squeeze-out the excess is to apply a c-clamp or strong spring clamp between each set of rivets. If you are unsure, clamp the flange in a couple of spots and see if it makes a difference.

Step 2: Install the rivets attaching the T-1002 Tank Baffle to the T-1003 and T-1004 Fuel Tank Rib flanges as shown in Figure 1. Twirl the closed-end blind rivets in sealant just before installation. The solid rivets that are installed through the end ribs need not be twirled in sealant.

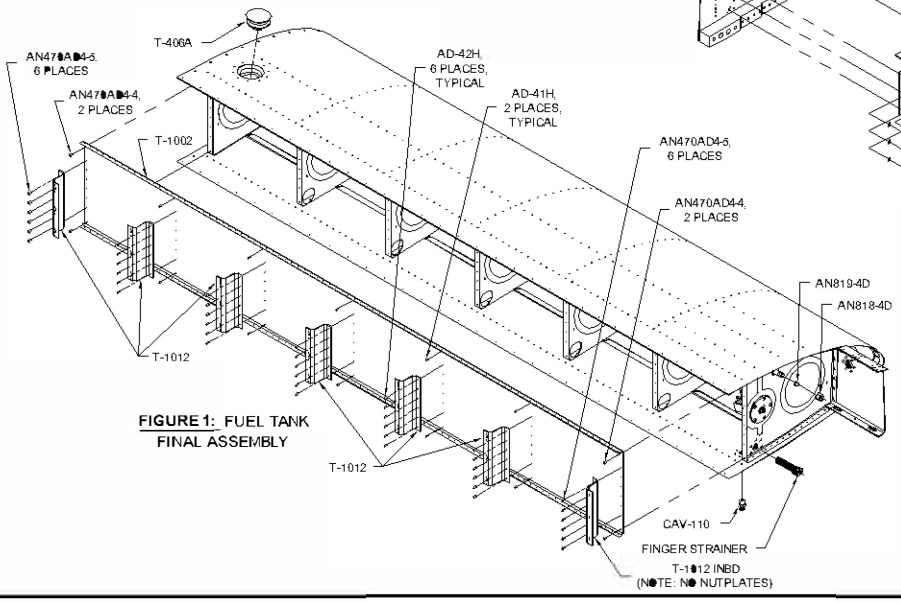
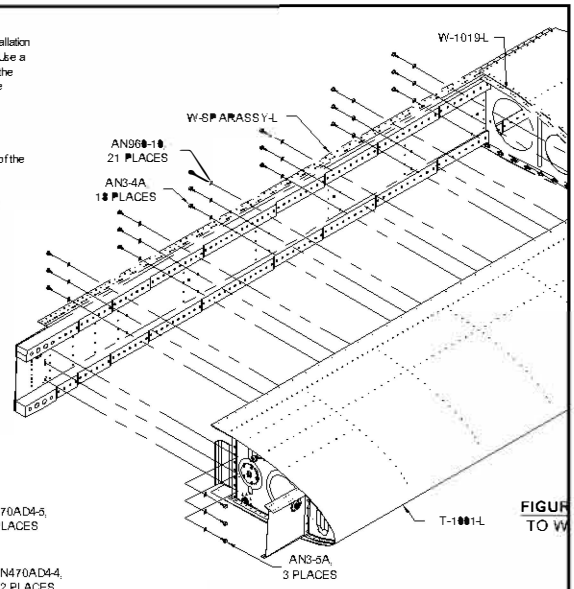


FIGURE 1: FUEL TANK FINAL ASSEMBLY



FIGUR
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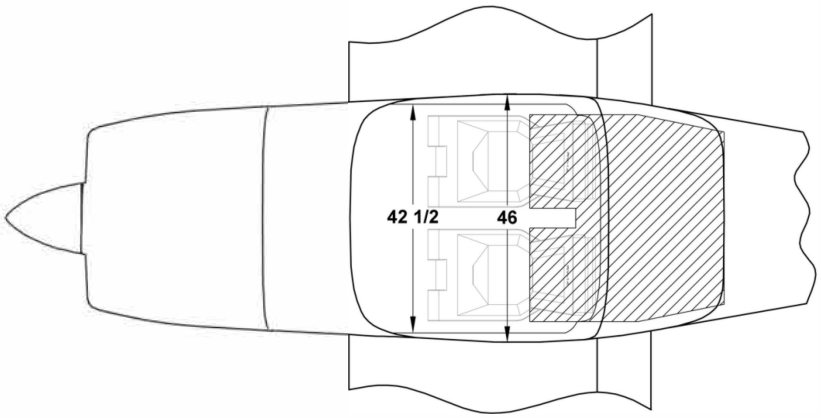
Step 2: Apply a thin smear of sealant over each hole fo
Zee's. Cleco the tank attach zee's in place. Check for prop
shown in Figure 1.

Install the tank attach zee to tank baffle to rib flange rivets
closed-end blind rivets in sealant just before installation
through the end ribs need not be twirled in sealant.

Step 3: Install rivets attaching the T-1001-L Fuel Tank Ski
holes that have been countersunk. See Page 18-5. Fig
cured, machine countersink the remaining skin holes and

Step 4: Install fuel cap, drain fitting, and finger strainer
thread the vent line fluid nut and sleeve onto the vent li
when the vent line routing is completed during fuselage
to use a cut-off rubber glove finger or similar cover ove
keep debris and/or nesting insects from blocking the vent

Step 5: Install the tank to the spar and leading edge sub



Above: an excerpt from the plans. Each part has a part number and is provided in the kit. Step-by-step construction sequences are shown and described on the same page

At left: Room. All kinds of room. The RV-14 boasts one of the widest and tallest cabins in any two-seat airplane. A generous baggage compartment behind the seats has space and structure enough for each occupant to take fifty pounds!

SPECIFICATIONS - PERFORMANCE

RV-14 SPECIFICATIONS	
Span	27’
Length	21’ 1”
Height	8’ 2”
Wing Area *(sq.ft.)*	126.1
Engine *(hp)*	210
Gross weight *(lbs)*	2050
Wing Loading *(gross)*	16.25
Power Loading *(gross)*	9.76
Empty Weight *(lbs)*	1240
Propeller	Hartzell c/s
Fuel Capacity *(US gal)*	50
Baggage *(lbs)*	100

LIGHT WEIGHT PERFORMANCE	
1700 lbs. Speeds and ranges in statute mph	
Top Speed	218
Cruise (75% @ 8000’)	205
Cruise (55% @8000’)	182
Stall Speed	54
Takeoff Distance *(ft)*	225
Landing Distance *(ft)*	330
Rate of Climb *(ft/min)*	2,050
Ceiling *(ft)*	26,000
Range *(75% @ 8000’)*	920
Range *(55% @ 8000’)*	1050

GROSS WEIGHT PERFORMANCE	
2050 lbs. Speeds and ranges in statute mph	
Top Speed	216
Cruise (75% @ 8000’)	203
Cruise (55% @8000’)	179
Stall Speed	59
Takeoff Distance *(ft)*	375
Landing Distance *ft)*	340
Rate of Climb *(ft/min)*	1,680
Ceiling *(ft)*	18,000+
Range *(75% @ 8000’)*	911
Range *(55% @ 8000’)*	1033

NOTE: Performance numbers are based on the 215 HP IO-390-EXP119 configuration

On the "Other" Coast? Our East Coast representative is located in Pennsylvania and can help with questions and demo rides in the RV-10 and RV-14A.

E-mail: zack@vansaircraft.com

VAN'S AIRCRAFT
TOTAL PERFORMANCE

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