



More test flights for the restored RV-1 prior to going to Sun 'n Fun.

Photo courtesy Scott Card

Original Van's RV-1 resurfaces

By Kevin Horton

Readers are likely familiar with the amateur-built Van's Aircraft RV series that are proliferating like the proverbial rabbits, but how many know about the RV-1, which started it all off?

In 1963 Richard VanGrunsven and a friend purchased a Stits SA-3A Playboy, a single-seat, open cockpit, tube and fabric, strut-braced low wing aircraft.

The Playboy was a popular amateur-built design from early homebuilder Ray Stits. It was somewhat like a very small Piper Pawnee. The aircraft was purchased without the original 75 hp engine - VanGrunsven installed a 125 hp Lycoming O-290G.

In 1964 VanGrunsven purchased the aircraft outright, and started a long series of modifications, as he was not completely satisfied with its performance and handling. The aircraft was nose heavy with the 125 hp engine, and he felt that it had excessive drag.

He made a series of design changes to the cowling to reduce cooling drag, lowered the top line of the rear fuselage, enclosed the cockpit with a teardrop shaped bubble canopy, changed to lower drag landing gear legs and redesigned the tail surfaces.

Still not satisfied, he designed and built all aluminum cantilever wings with the same airfoil, wing span and wing area as the original strut-braced wings. At some point in this series of modifications, VanGrunsven reregistered the aircraft as an RV-1, as he had made so many design changes it was effectively a new aircraft of his own design.

The performance and handling of the aircraft in its final configuration were much improved (see table below), and Van sold plans to interested builders. A very small number of other RV-1s were built (at least two others were completed, perhaps more).

The RV-1 as finally modified by VanGrunsven looked quite similar to the later RV-3. In 1968 VanGrunsven sold the aircraft to a friend. He took the knowledge



The aircraft in its "original" Stits Playboy configuration.

he had gained modifying the Playboy into to RV-1, and designed the all-aluminum RV-3. This aircraft was a real winner, and Van's Aircraft was started on the journey that eventually brought us the whole family of designs that we see all across the country.

As of today, over 7,500 of the

RV models are known to have had their first flights, and tens of thousands more are in various stages of construction around the world.

The bare bones of the RV-1 story were known to some Van's Aircraft enthusiasts, but it was generally assumed that the actual RV-1 aircraft had vanished. Then, in September 2007 on the outskirts of Houston, Texas, Paul Dye, an RV-8 builder, visited a small airport to inspect an RV-6 project in his role as an EAA Technical Counsellor (Technical Counsellors are experienced builders who inspect aircraft under construction to provide feedback and advice to the builder). The builder said he had something interesting to show him and led Dye into a hangar.

There he saw a small yellow and white, single-seat, low wing tail dragger aircraft, with the letters "RV-1" on the cowling cheeks, and "Built by Dick VanGrunsven" painted on the canopy skirt. The fabled RV-1 had surfaced!

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	Stits SA-3A N-5827N	VanGrunsven RV-1 N-5827N
Wing Span	19' 10"	19' 11"
Engine	125 hp Lycoming O-290G	same
Empty Weight	815 lb	730 lb
Fuel Capacity	21.5 USG	22 USG
Top Speed	152 mph	171 mph
Cruising Speed (sea level)	135 mph	150 mph
Cruising Speed (8,000 ft)	--	165 mph
Stall Speed, power off	65 mph	50 mph
Take-off ground run	350 ft	250 ft
Landing ground roll	600 ft	300 ft
Rate of climb	1,350 ft/mn	1,750 ft/mn
Minimum descent rate, power off	1,200 ft/mn	850 ft/mn
Speed Ratio (top speed/stall speed)	2.34:1	3.42:1

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Above:
Van's RV-1 configuration on first flight this year.

Photo courtesy Doug Reeves

At left:
The RV-1 sports new wheel pants.

Photo courtesy Stan Price

Van's RV-1

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After inspecting the RV-6, Dye flew back to his home airstrip, told his friends about his find, and posted the story on the Van's Air Force web forum. The news of the finding of the RV-1 sparked quite a flurry of interest, and Ernie Butcher suggested that perhaps the aircraft should be purchased and restored.

It took six months of work to track the owner down, but he wasn't interested in selling. But Butcher kept in contact with the owner, and two years later he finally agreed to sell the aircraft.

The Friends of the RV-1 was formed, funds were raised, the aircraft was purchased and moved to RV Central, a builder assistance shop on the outskirts of Fort Worth, Texas.

Many companies and individuals donated components and funds. Aerosport Power in Kamloops, B.C. donated an overhaul of the O-290 engine. Regular work parties of RV builders from all over the USA met regularly in Texas, and by February 2012 the RV-1 had been restored to a configuration

as close as possible to what it was when it was sold by VanGrunsven. The first flight of the restored aircraft occurred Feb 19, 2012.

The restored RV-1 made its public debut at the Sun 'n Fun Fly-in at Lakeland, Florida at the end of March. It then will go on a tour around the USA and Canada, stopping at a series of aviation events, culminating in its donation to the EAA Museum at Oshkosh, Wisconsin during the annual AirVenture Fly-in in July.

Weather and aircraft serviceability permitting, the RV-1 will attend three events in Canada. It will be in Stanley, Nova Scotia for the Victoria Day Fly-in breakfasts on May 19 and May 20. The next weekend it will be in Windsor, Ont. on May 26, with a rain date of May 27. Then it heads back into the USA and reappears in Langley, B.C. on June 23.

Tour details may be tracked online at: http://www.kilohotel.com/rv8/article.php?story=RV1_Canadian_Tour

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by Peter O. Walpole



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