

The Newsletter of the Portland RVators; Builders and Fliers of Van's RV Series Aircraft



September Meeting

Frank Justice

The fifth anniversary meeting of the Portland Area Builders' Group was undoubtedly the greatest one yet. The only thing I can think of that would have made it better would be if Bill Kenny had put an airstrip out behind his house. The first area builder's group meeting was a rather small affair from what I hear but this one was a real social event. It was held at Bill's place out on Beef Bend road, the site of the first meeting. Bill and Brent Ohlgren provided barbecued boneless pork ribs, hamburgers, hot dogs, baked potatoes, and fresh-picked corn; the rest was provided as potluck by the other members.

This was more of a family affair than usual. A number of wives and girlfriends showed up along with some assorted kids. Bill had the swimming pool and hot tub heated up which kept the kids occupied when they weren't eating. Everybody else sat out on the deck eating, telling flying stories, swapping building methods, and watching the sun go down over the valley and the Coast Range. Afterwards, part of the crowd split off to the shop to see the two RV projects and various videos. As would be expected, it was far into the night before the last of the visitors departed.

Meeting Notice

Frank Justice, Meeting Coordinator (503) 590-3991

Place: Dick Zander's
 3120 SE Balboa, Vancouver WA
 Date: Thursday, October 12
 Time: 7:00pm
 Phone: 360-896-0132

The next builder's group meeting will be held in Vancouver at Dick Zander's RV-6 project. Dick is in the process of mounting fuselage bulkheads to the jig.

This should be of interest since so many people seem to be just finishing up their wings lately.

To get to Dick's house, take highway 14 west (also known as Lewis and Clark Highway) along the Washington bank of the Columbia from either Interstate 5 or 205. Then go north on 164th Ave, which is the first exit from highway 14 after you pass 205. At the second traffic light on 164th, go left on McGillivray Blvd. (west) to the second left turn and go in the entrance to Fairway Village (south). Take the next right turn on Fernwood Drive (west), go to SE Balboa and turn left (south). After you cross Blairmont go down the hill to where you see a sign on a lightpost that indicates a sharp turn and 15 MPH. This is Dick's place, 3120 SE Balboa.

General Business

Randall Henderson, Editor

EAA Tech Counselor/Flight Advisor Programs

In the August issue of this newsletter I wrote an article about the EAA Technical Counselor and Flight Advisor programs. Since then several people have signed up, and Scott Rider, a member of EAA Chapter 105, took over coordination of the local efforts. He will be the contact point for people who want to sign up to be a counselor or advisor, and is also the one to call to find out names/numbers of who might be able to come inspect your project, or help with preparation for your first flight(s) under the program. Scott's number is 645-1934.

More T-Shirts (sigh)

Yes, I still have a number of T-Shirts left over from the 1995 Northwest RV Fly-in. One XXL, one S, and a bunch of XLs. Better stock up, they'll be collector's items soon!

Top Ten List

I found the following top ten "rebuttal" tied to a brick that was thrown through my window shortly after last

month's newsletter came out. The only clue I have as to who it came from is that it was typed on Van's letterhead... -Ed

After reading the Top Ten Reasons why RV Builders are like a Cult in the September issue of the Portland RVators Newsletter, we were temporarily frightened by the similarities. However, when we considered the facts about Van and the RV builders, we realized that we are not a cult in the classic sense, because of the:

Top Ten Reasons Why the RV Phenomenon is NOT like a Cult

- 10. To have an effective cult, more than one person must think exactly alike
- 9. Despite the suspicions of spouses about their mates unexplainable attraction to RV Builders Group Meetings, they don't even remotely resemble sex orgies
- 8. RV builders' heads are so full of AN nomenclature, rivet length formulas, and fraction/decimal conversions, that they couldn't remember a mantra if it was tattooed on the inside of their eyelids
- 7. RV builders never give money to Van without expecting something tangible in return (cosmic utterances notwithstanding)
- 6. Van hasn't "Done Dope" in over 17 years, about the time he sold his last owned fabric covered airplane
- 5. When RVers "get high", they take their bodies with them
- 4. RVers often go to airports, but never to sell flowers
- 3. When Van sits at his design board apparently in deep meditation, he's actually asleep
- 2. Yes, there was one builder who shaved his head, but it was only because he got his hair into the pro-seal while building his fuel tanks
- 1. Van's followers haven't given him even one lousy Rolls Royce, let alone 70 of them (Hell, he even had to travel clear to Australia just to be offered a ride in one!)

Subscriptions Due:

Look at the date under your address on the cover. **THAT IS THE DATE YOUR \$10 IS DUE.** Mail to me or give it to me at the next meeting (my address is the return address on the cover). If you are paid up but the date doesn't reflect this, please give me a call so I can correct it.



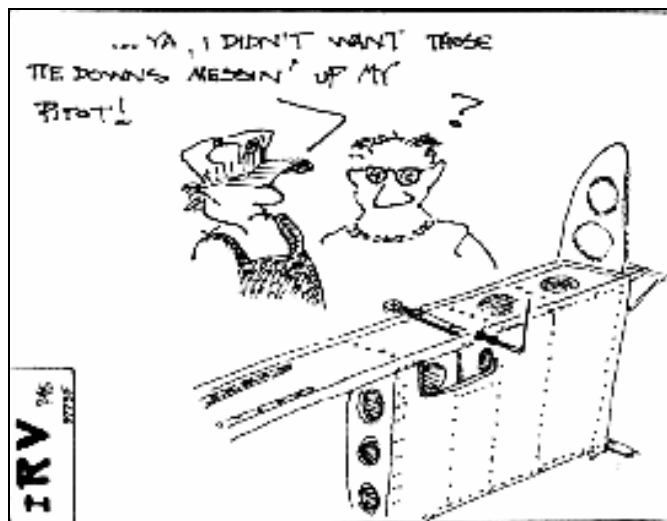
EVENTS CALENDAR

EAA Copperstate Regional Fly-In October 12-15, Mesa, AZ. Don Wentz is planning on heading down there, anyone else?

EAA Chapter 105 Meeting Thursday, October 19 (third Thursday of every month) 7pm at Twin Oaks Airpark. This month's program is Tom Murphy, who flew the replica Curtiss Pusher Biplane off the top of the Multnomah building last month. Should be a good one!

EAA Chapter 105 "Breakfast at the Aileron Cafe" Saturday November 4, (first Saturday of every month) at Twin Oaks Airpark, 8am. All the grits you can eat!

Oregon Air Fair Saturday/Sunday December 9-10, at the Portland Convention Center. Volunteers needed to man the EAA Chapter 105 booth and the kiddie simulators. Call Rion Bourgeois, 646-8763.



Kevin Lane



Flying the RV-8

By Ken Scott

Randall has asked me to write a short article on the RV-8. About the best I can tell you is that I've gotten to fly it and you haven't.... neener, neener, neener!

By now, the basic details of the RV-8 are no mystery to local RV enthusiasts. Van has showed up at meetings and local airports with the airplane and usually had to fight his way through a crowd to leave, so I know many of you have gotten a chance to look it over. The cockpit is wider, the canopy is taller and the rudder pedals are adjustable, all of which give the front seat occupant more useable room. At Oshkosh this year, you could always tell when Mike Seager or I had been flying the RV-4. We had stripes of alumi-

num dust on our shirt sleeves from the longerons -- even though I was never aware of rubbing against the sides of the airplane while I was flying it. This laundry dilemma, at least, will not affect those flying the RV-8. In the rear seat, the additional room - compared to an RV-4 -- is more dramatic. This is surprising because the fuselage at this station and the seat itself are no wider. In fact, the rear seat back is a stock RV-4 part. The difference is vertical: The taller canopy allows tall people in the back to sit up straighter and use a thicker seat cushion. Several RV-4 builders have installed custom recessed footwells for the rear



seater that allow the foot to rest at a more natural angle (Steve Harris and I spent a couple happy evenings making and installing a set in Steve's RV-4) and these were incorporated in the RV-8. These make more difference in comfort than I would have imagined. All in all, I was as comfortable in the rear seat of the RV-8 as I am in an RV-6 and much better off than I would be in the back of a -4.

The front baggage compartment is another nice feature. In the prototype, it is held closed by a piano hinge reached from within the cockpit. The hinge prevents the "fishmouth" gaps commonly seen when large thin flanges are held closed by camlocks (say, on a Citabria cowl) and when the canopy is locked the baggage compartment is too. It is quite a useable space. Two cases of aviation oil will fit with a bit of room left over. The usual baggage compartment behind the rear seat is still there, and the pilot can arrange his load to optimize the CG.

Flying characteristics are just what you would expect from an RV with a lot of horsepower. Van and I loaded it up to 1800 lbs (the suggested gross, so far) by putting my lard butt in back, the aforementioned two cases of oil up front, a sack of sand in the back baggage, and filling it up with Bob Stark's finest. We then headed out of Twin Oaks for a full-gross climb test. We were airborne by the windsock, (on a perfectly calm morning at full gross!) and proceed at best-rate-of-climb speed to 9000'. The trip took about six and a half minutes. That's an average of about 1400'/minute, or about what my 150 hp RV-6 will do down low with one person and half tanks. When I later soloed the airplane at about 1400 lbs, it showed me about 2300'/minute. Of course, nothing

is free (TANSTAAFL.... R.Heinlein) and when you have the IO-360/constant speed dialed up for take-off, the fuel flow meter is showing something like 24 gallons an hour through the pipes -- no problem, it's Van's gas!

My first impression when I first soloed it was not the acceleration and climb -- I'd flown the RV-6T (the Red One) enough to be ready for that -- but how incredibly smooth it was. My RV-6 with the wood prop is pretty damn smooth and I've always enjoyed that, but this thing was an order of magnitude better. It was like flying behind an electric

motor. Maybe it has something to do with the counterweighted crank in the engine. I don't know.

At altitude, I fooled around a while with slow flight, edged into a couple power off stalls, did some steep turns and wingovers. There were no surprises, except that the ailerons were even lighter than the other RVs I have flown. Roll rate is plenty quick!

I headed to Hillsboro for my first landings. I will admit to being a bit nervous on downwind. Here I was, with no coach in the back, about to land my boss's new baby for the first time....the only RV-8 in the world. Somewhere on short final, though, all the trepidation went away. The airplane just felt good. I landed it like any other RV and it was down and stopped in about 700' with no effort at all. The leaf spring gear was rock solid, it tracked perfectly straight with nothing more than toe pressure. As to speeds and all that, the spec sheet here will give you all the performance data we have.

By the time I got home I was very impressed. The airplane seems to combine the best qualities of the RV-4 and the RV-6. It puts the pilot on the centerline, feels like a fighter must feel, but provides excellent comfort and baggage space for cross country flying.

Would I like to build one? Sure I would. Would I wait for a long time until the kit was ready, rather than build another RV where the kit is already available? Tough question, but I don't think so. I'd rather build what is available now. I flew Van's RV-4 to Oshkosh this year, my first real experience in a -4, and with the 160 hp engine it is a very, very good airplane. The more I fly my RV-6, even with the little 150 in it, the more I realize how good an airplane it is. I fly demo

rides in the RV-6A every week and I like that airplane more all the time. (I've been flying a Cessna 172RG lately. I used to think that was a pretty cool airplane: 180 hp, constant speed, retractable, etc. One of the better airplanes the factories have to offer the average pilot. Now it seems like an old pickup truck with no power steering. Suddenly I re-realized why the pilots I take on demo rides get so excited.....). Building an RV-4, RV-6, or RV-6A is not settling for second best and you can get one of those right now. Of course, if nothing else will do and you just have to sit on the centerline, climb at ridiculous angles, do rolls with about one quarter stick and out run any other fixed gear airplane (and most retractables), well, we hope to have empennage kits ready early in 1996.



Builder's Tips ...Thanks to all who share them with us!

Battery Box Hold-Down for Quick Access

The top of the battery box is held on with hinges like several other items in the RV; You remove the hinge pins to get the top off. Usually the pins are held in place with safety tire, screws, or screwed-on brackets of some sort. The battery box is a little awkward to reach, so it would be better if the top could be removed quickly without tools. Here is one way to do it.

After you make the box, make the two side hinge pins about one and a half inches longer than the hinge, then bend one end of each to make a half-inch long foot. The bend radius does not need to be sharp (saves overstressing the pin). Then make the rear pin about two inches too long, with a foot that is only about 3/16 inch long (make the bend first and then cut the excess foot off). Insert the two side pins with their feet to the rear and laying down away from the box. Insert the rear pin.

Slide the side pins back until they hit the rear pin, then cut them off even with the front of the box. Remove the rear pin. Drill a hole in the battery box mounting plate, in line with the rear hinge pin, and right next to the right edge of the box.

Cut the excess length off of the rear pin, leaving it just long enough that when you insert it in the hinge and put its foot in the drilled hole, the other end is even with the end of the foot on the left side.

To remove the battery box top, lift the foot of the rear pin out of the hole and pull it out. This frees the side pins so you can pull them out.

This has been in my instructions for a while, but one of the RV-list members went bonkers over it last week so I thought I would print it up for the locals. --
Frank Justice

Alodyne and Age of Aluminum

I wanted to Alodyne my tank parts for max corrosion protection, but I had some concern about it as I've experienced varying amounts of Alodyne residue on other parts I've done. Not anything to worry about normally but I was afraid on the tank parts it might interfere with a perfect bond of the pro-seal. I talked to Tom Green about this and he told me something that I hadn't heard before, which is that the proper "dwell" (length of time you leave the solution on there) for Alodyne will change with the hardness of the material (makes sense), which will change with the AGE of the material (hadn't thought of that). Sure enough, when Rion and I Alodyned our tank parts prior to prosealing, my parts all developed more residue after the same amount of time in solution than Rion's. Mine were about a year newer than his, and

SPECIFICATIONS	
N118RV	
Span	23' 0"
Length	21' 0"
Height	67"
Chord	58"
Wing area	110 sq. ft.
Wing loading	16.36 lb/sq. ft
Power loading	9lb/hp
Empty weight	1,067 lb
Gross weight	1800 lb
Useful Load	733 lb
Fuel Capacity	55 US gallons
Engine	Lycoming IO-360 A16D, 200 HP
Prop	Hartzell HC C2YK-BF/F7666A4
PERFORMANCE	
Top speed	222 mph
Cruise (8,000', 75% power)	212 mph
(8,000', 50% power)	189 mph
Stall (solo)	51 mph
Takeoff distance (solo, 1/2 fuel)	250'
Climb (1800 lb gross weight)	1900 fpm
(solo, 1/2 fuel)	2700 fpm
Ceiling (solo, estimate)	25,000'
Range (75% power)	800 statute miles
(50% power)	1,000 statute miles
PROJECTED TOP SPEEDS	
150 HP	202 mph
160 HP	206 mph
180 HP	214 mph

apparently his had age hardened that much more, so the Alodyne didn't react as quickly as it did with mine.

I wiped most of it off during the rinse and I'm sure it will be fine, but the moral is, if you want to avoid excessive residue, be aware of the potential discrepancies in dwell time based on the age of the material. A light gold color and little or no powdery residue is what you're shooting for. -- *Randall Henderson*

Economical Clock/Timer

I have an approach timer I purchased from Radio Shack which has a clock and two timers, one counts up, the other counts down from your preset number, then gives beeps audibly for quite a while. The LCD display is 1.9 inches wide and .8 inches high. Case dimension is 3" wide x 2.5" high x .6" thick. It uses a

watch battery (or maybe 2). Catalog number 63-884, cost less than \$20.

I modified it to run a red LED on my instrument panel instead of the beeper. I put a Darlington pair amplifier on the buzzer output inside the case of the timer which flashes the LED at countdown. Used aircraft power to drive the LED.

It's very handy for knowing when to switch fuel tanks. It remembers your countdown number when you acknowledge the countdown and re-start. Sportys sells the same thing but for a much higher price -- *Jim Stugart on the internet (DerFlieger@aol.com)*



Project Status

After flying un-painted for nearly 2 years, **Carl Hay** is doing the final paint prep work on his RV-6. He's arranged to have Aero Air do the actual painting in mid-October. The price they quoted him is pretty good, but it does require that he do most of the prep work, and when I visited him he and his hangar were appropriately covered with a fine coating fiberglass/featherfill dust. Carl claims to have finally settled on a color scheme -- white with metallic red and gold trim. -*rh*

Chris Lund and **Dave Locke** are still "almost done" with their RV-6A wings. Yeah, like I was for 6 months or so. They dropped by my place the other night to have a look at the fancy tapered fuselage jig that I borrowed from Stan VanGrunsvan. Dave, who owns a machine shop, plans to build a similar one out of steel or aluminum. New builders take note -- you may want to start thinking about getting early dibs to borrow that when the time comes to build *your* fuselage! -*rh*



The Tool Exchange

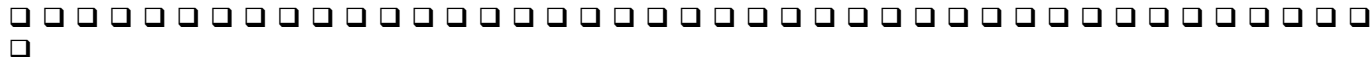
This section is devoted to listing any tools, jigs, shop space, specialized machines, etc. that are available for loan, or "group property" that is available to pass on to the next builder. Please give me a call (Randall Henderson, 297-5045) to let me know if you have jigs, tools, shop space, etc. to loan, exchange, or otherwise provide, or if you are looking for something specific to borrow. And whether your item is listed here or not, go ahead and bring it to the meeting. Items for rent or sell should still go in the "Don't Want Ads".

Surveyor's transit level -- makes fast, accurate work of leveling your wing spars in the jigs. Bill Kenny, 590-8011

Back Riveting Contraption -- large, counterweighted bucking bar and suspension system, and offset back rivet sets. (See "Back Riveting Wing Skins, December 1994 issue). Bob Neuner 771-6361

Lead crucible with electric heating element for melting lead for the elevator counterweights. Doug Stenger, 324-6993

Wing/Empennage jig (single). Coffee can lead melting gizmo with plenty of lead for your elevators. Aileron bracket locator tool. Adjustable aileron push-pull tube (for measuring the exact length to cut the real ones). Randall Henderson 297-5045



Don't Want Ads

Let us know what you got but don't want, or vice-versa. Ads are FREE.

Pilot Avionics Headset -- brand new, never been used, \$95. Randall Henderson 297-5045h, 690-1234w.

Hangar/builder space available. EAA Chapter 105 Hangar at Twin Oaks Airpark. Builder space Includes the use of a large custom-built moveable builder's work table. \$60/month for space to build, or \$120/month to hangar a plane. Rion Bourgeois 579-8800w, 646-8763h.

Electronics International 4 channel EGT w/probes. Don Wentz 696-7185

Leading edge fishing rod storage compartment kits \$20. Rion Bourgeois 579-8800w, 646-8763h.

RV FLIGHT BAG is having a 25% OFF CLEARANCE SALE on everything in the catalog excluding earrings and RV models. Contact Judy VanGrunsvan at 33770 NW Bagley Rd Hillsboro OR 97124-8303 or call (503) 648-3464.

David Clark H10-30 headset with mic. No volume control. Works good. \$90 - Gary -- (503) 591-9040.

I have a used Warneke prop for a Lycoming O-320, 160 HP. It includes prop extension and all the accessories. It is 71"D x 72" P, and worked good on my -6. If any builders need a prop for their project, it would be ideal and less money than new. It has been flying for 3 yrs. and 300 hrs. with no problems. Jim Anglin 642-2797.

O-320 D2G 2024 SMOH by Western Cylinder Overhaul, Inc. Hollow crank, can be modified to C/S prop. Chrome cylinders using 1qt in 14 hrs. Will fit RV-4, -6, -6A. \$5500.00. Dave or Bill (503) 829-6379.

40 #8 closed end nutplates for fuel tank access covers - \$36 (20% below my cost). Note that the rivet spacing is different than the standard nutplates supplied with the kits, so if you have already drilled your access plate-reinforcing ring-root ribs like I did (or have the new pre-drilled access covers & reinforcing rings), you will have to fabricate new ones to use these nut plates. Also: two brand new old style (steel pot) Stewart-Warner fuel gauge sending units -\$20 for the pair. Rion Bourgeois, 579-8800, 646-8763.

Avionics Work, \$20/hr. Experienced, will work with you. Tim Steele 452-2575

Heated Pitot-tube (Piper blade style), missing heater element, \$35. Brent Anderson 646-6380

3-month old Ilmorrow 920, GPS-North American Continent database. Wally Anderson 623-2328 work, 342-5240 home

Duckworks Landing Lights. Retro-fittable, light, easy installation. Kits start at \$69 (discount for Ptlid RVators). Don Wentz, 503-696-7185 for info.

Wanted: bending brake, sheet metal shear. Also anyone who wants to go in on one or both of these who lives close to West Slope give me a call. Randall Henderson 297-5045.

Hot tip! The low fuel level warning switches offered by Aircraft Spruce for \$35.80 can be purchased from the Madison Co. for \$22.00. They are model # M7700. Their phone number is (202) 488-4477. Chris Brooks (internet)

Before you order a rivet set for your gun, check out Wacky Willy's, they have all shapes and sizes, new surplus, for \$5 each. Also squeezer sets but beware! The shanks are "industrial size" and won't fit most of our squeezers. Also jewelers file sets (handy for deburring tight corners, etc.) for \$5. The number for their west side store is 642-5111.

