



The Newsletter of the Home Wing of Van's Air Force; Builders and Fliers of Van's RV Series Aircraft

January Meeting

With 47 people crammed into Frank Justice's garage, the January meeting was probably the best attended yet. Fortunately it's a 3 car garage so we all fit comfortably in there. As usual Peggy put out a good spread, so no one went hungry.

Ken Scott filled us in on the recent annual inspection and maintenance of his RV-6, as well as the installation of a lighspeed ignition. The cold weather is putting a damper on getting the ignition done, but he hopes to have it flying again soon.

Carl Weston showed off the really nice taper jig he made for tapering your wing spar flange strips on a table saw.

Steve Harris talked a bit about the Sacramento Sky Ranch engine manual he recently picked up, and also about the classes they have down there. Both come highly recommended. Steve also has directions and schematics for what looks to be a nifty remote compass kit.

Chris Lund showed off the prototype custom chocks he's made and hoping to market to RVers.

We voted on the name change, and I'm pleased to say we're now "Van's Air Force, Home Wing".

Frank wrapped up the meeting with a tutorial on the various methods and "gotchas" that he's encountered so far building his RV-6A. Nice work Frank, and thanks for hosting the meeting!

Meeting Notice

Frank Justice, Meeting Coordinator (503) 590-3991 e-mail: Frank_K_Justice@ccm.ssd.intel.com

Place: Van's Aircraft "Skunk Works"
 316th Place, North Plains, OR Date:
 February 8 (2nd Thursday of the month) Time;
 7:00pm Phone:647-5117

The next meeting will be at Van's Skunkworks, on Sunset Airstrip in North Plains. Should be an interesting one.

To get there, go west on Sunset Highway (US 26), take the North Plains exit, turn left on Glencoe Road, turn right shortly on Beach road, turn right on 316th place. The Skunkworks is at the end of 316th.

As always, bring in any tools, templates, fixtures, etc. that you want to loan, trade, or show off.

The March meeting will be at Mike Seager's in Vernonia.

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From the "Big Ugly" (That's supposed to describe my shop, not me)

Randall Henderson, Editor

One day last week my father came into my shop, took one look at my fuselage which is starting to take shape on the jig, and said "Oh! So you've finally started building that airplane you've been talking about for so long!". And to think I spent the past couple of years wasting my time building* that useless tail and wings. But to be honest, that's kind of the way it feels to me too. It's true what I've heard from other builders, that fuselage is pretty fun. Of course it took me some time to get the firewall and the bulkheads all built up, but once I got the longerons bent and them and the firewall in the jig, things really started to take shape. Such was the scene last Saturday morning when, after an almost sleepless night due to my excitement about

having a whole weekend of working on my FUSELAGE ahead of me, I got up to find 6 inches of snow on the ground and the electricity out! I paced nervously around the house (at least it kept me warm), until I around 3:00 when I got tired of waiting, and finally went out there and opened up the doors and windows so I could see. Then, bundled up against the 32 degree weather and armed with only a flashlight, hack saw, cordless electric drill and a tank full of compressed air, I set to work. Believe it or not I actually got a few things accomplished before the light started to fail. Then Jeanne and I went to a movie. When we got back the lights were on — yay! So I went back out and got about 2 hours in, plus all of Sunday, so at least the weekend wasn't a total loss. As it sits now, my firewall, wing spar carrythrough bulkhead, and seat back bulkhead are all in place and tied together with the various intermediate longerons and stiffeners.

Fifth Annual Northwest RV Fly-In

It's time to start thinking about arrangements for our next Fly-in. Yeah I know it's only February, but the sooner we get started the better. First order of business - a date! Let me or Don know of any dates for other fly-ins or airshows that might conflict. Of course there is always something that will conflict, but we'd like to find a day that isn't the same day as another RV event or big airshow. Call me or Don Wentz (590-3991).

Roster

I've updated the roster and am including it in this issue. I've also counted up all of the projects and flying aircraft of people in the group. At this writing, not including Van's airplanes, there are in the group 23 flying RVs, and 66 under construction or restoration. The breakdown is as follows (I expect that some of the projects I show as RV-6s are actually RV-6As):

- RV-3 2 flying, 2 under construction, 2 restoration
- RV-4 9 flying, 14 under construction
- RV-6 10 flying, 26 under construction
- **RV-6A** 2 flying, 22 under construction

More stats:

- 20 at the tail stage
- 19 wing stage
- 22 fuselage stage
- 5 Finish kit stage

Calendars

I still have a few of Van's 1996 calendars, for \$8 each. Get em at the meeting.

Top Ten List

Sometimes it seems like I never get enough time to work on my airplane. It's no wonder, what with my

TOP EXCUSES FOR NOT WORKING ON MY AIRPLANE

10. Got an EAA Meeting to go to
9. Got a Builder's group meeting to go to
8. Got a Pancakes and Grits Breakfast to go to
7. It's COLD out there!
6. I'm over helping someone else work on THEIR airplane
5. Have to watch Van's promotional video for the hundredth time
4. Got a newsletter to write
3. Need to go snoop around and see what's going on out at the Skunk Works
2. Have to figure out what my N number's going to be first
 1. Three words: "Let's ll go flying!"

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). A short note updating me on your status would be appreciated too. *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 Chapter 105 Monthly Meeting Thursday February 15 (third Thursday of every month), 7:00 pm at the EAA 105 Hangar/Clubhouse, Twin Oaks Airpark.

EAA Chapter 105 "Breakfast at the Aileron Cafe" " Saturday March 2, (first Saturday of every month) at Twin Oaks Airpark, 8:00 am.

Runaway Electric Trim

Jim Anglin

I took my -6 out for the first time since Oct., did a good pre-flight, started up and taxied out to Bravo intersection runway 30 at Hillsboro. I did my pre-takeoff check, which includes setting trim. I have Van's trim kit in the elev. with the Mac servo and rocker switch, which USUALLY works perfectly. I was cleared to T/O, did so, and after my departure turn I started to trim the aircraft at 2500' msl or so. I realized that after a couple stabs at the switch that I was holding more stick pressure than before I trimmed, so I went back the other way thinking I may have overshot. This yo-

going continued, and it started getting warmer as my anxiety level rose, thinking I probably had a short in the circuit! I decided I'd had about enough rise in pucker factor! This is where foresight comes in: when I installed the trim kit I put it on it's own circuit breaker, because I figured if I ever had this happen, I could shut down the trim by itself. I was afraid that if it ran away, I might not be able to overcome the trim force. Not true (but a LOT of stick force, and I doubt it ever went full travel). As it turned out when I got on the ground, the rocker switch was sticking. A little WD-40, and everything was fine. My advice is to put any electrical flight control augmenters, trim or autopilot or whatever, on their own circuit.

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Custom Chocks

Chris Lund made two sets of chocks as prototypes for possible production, which he showed off at the last meeting. The chocks are made out of aluminum angle, and Chris uses a CNC machine to mill out letters spelling out your model of RV on one side, and N-number on the other. The prototypes are gold anodized, but Chris plans to powder coat them in the future. Several builders offered input on how they could be improved — the main one being to reduce the size. Chris brought two sets to the meeting — one for Van's RV-8 and one for Dennis Jackson, in recognition of the , recent first flight of his RV-4. We hope to make this 1 "first flight commemorative chocks" thing a tradition with the group.

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Internet Update

Randall Henderson

I've talked about the resources available on the internet before, but things change pretty quickly on the ol' "information airway", so I figured it was time for an update. Here is a summary of some of the RV and aviation resources available that I find useful. Other than what you pay for your service, all of the below are free:

World Wide Web Sites

John Hovan's RV Web Page - a neat collection of RV related items, including Frank Justice's supplemental instructions, RV project articles and pictures (Don Wentz has a nice section), builder's tips, builder's group listings, and a whole lot of other stuff. [http://atlantis.austin.apple.com/people.pages/jhovan/](http://atlantis.austin.apple.com/people/pages/jhovan/)

Homebuilt Homepage - a listing of different available homebuilt kits and addresses, with links to some other web sites and e-mail addresses. <http://www.azstarnet.com/~cmddata/homebuilt/>

General Aviation Home Page — FARs, ACs, Aircraft Registry, you name it. <http://niit1.harvard.edu:80/GA/>

Van's Aircraft Home page - "Semi-official" home page of Van's Aircraft, created and administered by Jeremy Benedict, <http://www.earthlink.net/~rkhu/vans/>

RV-list home page - Matt Dralle of "Matronics" fame created this web page which includes product information about his trim tab servos and fuel management systems, as well as a lot of neat RV related stuff. <http://www.matronics.com/>

Avweb - a pretty good online aviation magazine. <http://www.avweb.com/>

While it's true that the world wide web stuff is neat and flashy and has lots of cool pictures and all that, I find that simple e-mail by itself is worth being connected to the internet. Just being able to fire off a question to one or several builders (as well as exchange newsletter articles!) in the time it takes to type it into the word processor is extremely useful. The broadcast e-mail lists are becoming pretty common, and allow you to send mail to a single address from where it is distributed to everyone who subscribes to that list. Several e-mail lists of interest are:

The **rv-list** - started a couple of years ago by Matt Dralle, this list has grown to over 400 subscribers, and generates a large number of RV related questions, answers, as well as a fair amount useless chatter. I find it to be most useful in passing the time at work instead of doing something completely boring, like working. To subscribe, send e-mail to rv-list-request@matronics.com, and put the word "subscribe" in the body of the message. Thereafter mail sent to rv-list@matronics.com will be broadcast to everyone on the list. But be forewarned, there are around 40 messages in a typical day that will pop up in your mail reader, so if you are paying by the message (or want to get any *work* done), you might want to think twice before subscribing to this one.

The **pdxrv-list** — my local (to Oregon and to some extent the Northwest) version of the rv-list. Not much traffic on this one, but it is useful for messages of a more local nature. For example, I broadcast meeting reminders to this list, and some people use it to inquire after tools or jigs to borrow. To subscribe, send e-mail to me, randall@edt.com, and ask to be added to the list. After subscribing, the broadcast address is pdxrv-list@edt.com

Opa list: Steve Kimura of Corvallis recently set up this list for the Oregon Pilot's Association. The OPA list is intended for piloting questions, and its audience is state-wide. The hope is that the OPA list will allow sharing of local flying information between all Oregon aviation organizations and businesses. I think this list is really good to be on, as it helps you keep in touch with the aviation political issues important to Oregon

pilots. To subscribe, send "subscribe opa" in the body of a mail message to *majordomo@maillist.PEAK.ORG*. As a member of the list, you can send email to *opa@maillist.peak.org*, and everyone else on the list will be able to read and respond to your message.

And of course there's **Van's Aircraft** Technical support address, *76455.1602@compuserve.com*

A final note on the e-mail lists: Be sure not to get the *administrative* addresses (the ones you use when you want to subscribe and unsubscribe) mixed up with the *broadcast* addresses (the ones you use once you've subscribed). There's nothing more annoying than when someone tries to "subscribe" or "unsubscribe" to the broadcast address. When you do that your message distributed to the dozens or hundreds of other subscribers, instead of the *one* person that can deal with your request.

Builder'3 Tips ... Thanks to all who share them with us!

Plastics

The [internet] discussion on plastic wiring conduit reminded me of a catalog I have from a plastics company: United States Plastics 1-800-537-9724. One of the most useful items that they stock is UHMW Polyethylene tape with an adhesive backing that is .010" thick. You can get it in widths of 1/4" to a maximum of 17". The rolls are 54 feet long. I bought the 5" x 54' for \$57.00. I used this material (cut to the appropriate size) for the leading edge of the flaps instead of using stainless steel tape. I also used a strip about an inch wide on the contact surface on the bottom of the top wing skin. That way you have UHMW rubbing on itself with a total thickness of .020". The material is almost transparent and is barely noticeable on my white flaps. I've also used this material anywhere there is a chance of rubbing. I built my RV-6 tilt up canopy so the side skins overlap the fuselage. I put a strip of the UHMW on the inside of the canopy side skins to help prevent chafing on the fuselage. I molded a fiberglass lip on the rear of my canopy that overlaps the roll bar and use the UHMW on the bottom of the lip to help prevent rubbing on the rear glass. I used it on the engine mount anywhere there was a chance of something rubbing the paint off the mount: vertical bottom cowl hinge pin, scat tubing, etc. I put strips around gear leg fairings to help prevent rubbing and it could be used on the two piece gear leg fairings at the joint on both pieces to prevent rubbing of the paint. Another idea that you might find useful. I got this idea from Andy Bajc from Lincoln, Nebr. He built a RV-4 that won, I believe, "best metal" airplane at Sun & Fun several years ago. He put a plastic "cable cover" over his rudder cables. This material comes in 6 foot lengths, \$1.00/piece (from old invoice) and is slit the full length. It snaps over the cable. When you use this you eliminate possible cable wear on the snap-in bushings and therefore will probably never have to replace them. It

also makes things quieter as you eliminate the "sawing" noise echoing in the tail cone. I got this cablecover from: West Marine, 1-800-538-0775 (order), 1-800-262-8042 (customer service) - *Bob Skinner BSkinner@ltec.net (internet rv-list)*

"Watch That Girth", and Other Miscellaneous Tips

The following tips may seem obvious to the more experienced builder, but while they are fresh in mind I will submit them:

1. Fixture placement - The fixture/jig should be accessible from both sides and comfortable to work while crouching and holding a tool in your hands. For myself, with a somewhat ample girth, a distance from the wall of 36 inches is comfortable.
2. Rivet Removal - I have taken to drilling out 1/8" rivet heads with a #40 drill bit. While requiring more effort to break off the head, this smaller diameter allows for some diametrical misalignment without notching the base metal. [After you get a bit better at it you might try using a 1/8" bit, which is only slightly smaller in diameter than a #30 - Ed.]
3. Potential screw-up: Before riveting the skin to the rudder skeleton, make certain that the rudder hinge reinforcement plates do not overhang the vertical bar. /bops/7

— *Arnie Schmucker*

Fuselage Jig Centerline

If you attended the December meeting at Mike Wilson's you probably saw his centerline/plumb-bob setup for keeping the centerline located on the jig and bulkheads. I subsequently noticed that Dan Benua had done something similar, and I did as well, so I thought it might be helpful to describe it a bit more for the benefit of those who didn't get a chance to see it at the meeting. It's a pretty simple deal really, just a center-line cable or string suspended from the ceiling, with plumb-bobs hanging from the main string or cable. The plumb-bob strings can be hooked to the main centerline with paper clips. I made plumb bobs by cutting off the head of a 16 penny nail, hammering the upper end flat, and drilling a 3/32" hole in the flat part.

<missing drawing – Scanner>

- *Randall Henderson*

Project Status

Ernie Johnson reports: "I may have moved to A4« - ~~Albueq - Albuquerque~~ - ALBUQUERQUE, but my heart is still in Oregon. I'm working on the horizontal stabilizer of the empennage of an RV-6. There are a few RV-4s here and a fellow by the name of Charles Fink is going to allow me to help him clean out his garage this week-end. His RV-6 only needs the wings attached."

Ralph Schildknecht tells me he's somewhere between slow & full stop on his RV-6. Bummer. Maybe a bunch of us should go over there some time and give him a ~~kick in the rear~~ - I mean, some help getting started back up!

New Members

Robert Chrnacchia, who lives in Markham, IL got the address for the newsletter off the internet and signed up. Robert is building an RV-6 and is just starting on the wings.

Kenny "Cobb" Crabtree, of Bakersfield recently signed up for the newsletter. He writes " I just received preview plans for RV6A and plan to order tail kit in Feb. This will be my first project and I am gathering all the info that I can. Hope to fly it to Oshkosh year 2000". [*me too - Ed.*]

Now we're REALLY international - **Graham Taylor**, who lives in Australia, just signed up to the newsletter. Graham is building an RV-6, and says he's about 5 months from flying.

Andy Hanna, who works as an Engineer at Vans and has been seen hanging around a lot, nevertheless didn't get around to signing up to the group until now. Welcome aboard Andy!

The Tool Exchange

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.

Precision chemical scale, for measuring pro-seal. Brent Anderson, 646-6380.

Surveyor's transit level - makes fast, accurate work of leveling your wing spars in the jigs. Bill Kenny, 590-801 1

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

Aileron bracket locator tool. Adjustable aileron push-pull tube (for measuring the exact length to cut the real ones). Last I saw, Rion Bourgeois had this - 646-8763h

RV-4 fuselage jig to loan (rent?) - made by Roger Hooper, but Mike Wilson currently has it - 397-6207 (Scappoose). Table saw taper jig, for tapering wing spar flange strips. Carl Weston 649-8830.

Don't Want Ads *Let us know what you got but dont want, or vice-versa. Ads are FREE.*

RV-6/6A Empennage kit nearly untouched (only the HS Spar), Avery deluxe tool package. Will sell all for \$1400. Greg Strom (503) 284-1 211.

For Sale, untouched RV6A empennage kit and brand new tool package from Avery. Discounted to sell. Call Craig or RoseMarie 360-887-0823 (Vancouver).

1/4 Share in 1956 Piper Tripacer hangared HIO. 3100TTAE, 1050SMOH. KT76A Txpdr w/ Mode C, 4 place Sigtron-ics intercom, VAL com, Apollo Loran. Cleveland wheels/brakes, Peterson Autogas STC. Estimated flying expenses of

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\$65/month fixed costs including hangar, insurance, annual. \$25/hr for fuel, oil, engine reserve. \$4000. Call Steve, 324-8131 or email steven.l.harris@tek.com

RV-6A Tail, Wings & Tools for sale. Tail finished, wings partially finished. Includes heated pitot tube (plumbed & in-^l stalled), electric elevator trim kit (not installed), all tools, including Avery Master Build kit. Wing kit has the latest im- ~ provements, including pre-punched skins and prefabricated aileron & flap stiffeners. Excellent craftsmanship - local builders Norm Rainey or Dick Zander have seen it and commented on the exceptional workmanship. Will sell all for \$8600 (my cost) Ron Gray 360-254-1501

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.

Wanted: Apollo FlyBuddy GPS. For Sale: Electronics International 4 channel EOT w/probes. Don Wentz 696-7185

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.

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

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)

Wacky Willy Watchneat/useful stuff seen at Wacky Willy's. West side store 642-5111

Before you order a rivet set for your gun, check out their selection. 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 comers, etc.) for \$5.



Bill Benedict's RV-4 from the right seat of Don Wentz's RV-6. Photo Randall Henderson

"Home Wing" Newsletter Subscription/Renwal

Please fill out and mail to **Randall Henderson, 7233 SW Benz Park Court, Portland OR 97225-3201**, along with \$10 for renewals or new subscriptions. If you are renewing, you only need to give your name and any other information that has changed.

Name

Spouse's Name

Address

Home Phone

City, State, Zip.

Work Phone

Project (RV-3, 4, 6, 6A).

E-mail Address

Progress (Check all that apply)	Working on	Finished
Tail		
Wings		
Fuselage		
Finish/Engine		
Flying	N/A	

Please add any comments or project updates below: