

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



**March Meeting**

The March meeting was a pleasant switch -- a Saturday afternoon fly-out/drive-out to Vernonia airport, where Mike Seager hosted the gathering at his hangar. Mike doesn't currently have a flying RV of his own -- nonetheless he had THREE of them there for us to check out. Van's RV-6, which Mike has "taken over" for use as Van's "crew trainer", was there, complete with a newly redone instrument panel. Also present was the beautiful RV-4 that Mike was preparing to ferry back to Vermont. And Mike's RV-6 fuselage was there, his second, under construction in the shop.

Tom Green flew in in his RV-6, Norm and Donna Rainey in their -6A, and the rest of us had to plod out there in various spam-cans, ragwings, and ground vehicles.

The meeting consisted mostly of a relaxed few hours of BS-ing (just the way I like em), but we did take some time for group business... Stan VanGrunsven showed us the special mandrels he made for use when cutting your canopy, and Rion Bourgeois' five year old son Elliot told us all that his dad has lots of tools and we could borrow them any time we want to.

**Meeting Notice**

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

Place: Arnie Schmucker's 17940 NW Elk Meadow Ln, Portland Date: April 11 (2nd Thursday of the month) Time: 7:00 pm Phone: (503) 690-4348
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The April meeting will be held at Arnie Shmucker's place, where he is working on his RV-6 empennage.

To get there, take Sunset Hwy (US 26) to NW 185th avenue, turn North off the exit (right if coming from Portland) on 185th, go past the High school and turn right at the 4 way stop at West Union. Go to Elk Run

(the second street on the right -- subdivision sign says Allenbach Acres), and turn right, then immediately right again on Elk Meadow Lane. Arnie's is the last house on the left before the turn in the cul-de-sac.



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

*Randall Henderson, Editor*

It's been said that there's only one way to build an airplane, and that's one rivet at a time. But it seems to me that if you think too much about just how many rivets that is, you'll never get started. The opposite can also be true -- If I spend too much time thinking about the final product, it just seems so far off that it's hardly even real, and I get all depressed.

I've found that the way to stay motivated is to instead approach it as a series of manageable milestones. After working on my horizontal stabilizer for a couple of weeks I was really looking forward to the time when I could wrap that up and get started on the V-stab. Then it was the control surfaces -- man when I got to working on some parts that actually *move*, then I'd know I was accomplishing something. Of course it wasn't long before I was itching to just cram all that tail stuff in a corner and get going on some BIG airplane parts -- the wings. Eventually I got sick of those rows and rows of identical wing ribs, and I just couldn't wait to get started on my fuselage -- when I got to that, I'd really be working on the airplane, hoo boy!

So now I'm doing just that, and my next milestone is a really big one -- the day I pull it out of the jig, turn it over, sit in it and make airplane noises.

But still... when I'm in there working on it, it's hard to get away from the fact that it really does come down to.... just one... rivet... at a time.

Sigh.

**Fly-In**

The date for the fly-in has been finalized -- it will be on Saturday, June 22nd. We were originally going to do it on June 15, but changed it due of a conflict with the Salmon Arm BC fly-in. Don Wentz will be getting plans together at the next meeting, so be there ready to volunteer to do your part!

**Top Ten List**

Match-drilled tail kits, pre-punched wing skins, pre-drilled firewall assemblies, and as Bill and Ken keep saying, "you ain't seen nothin' yet!"... Well in MY day we had to mine the raw ore and smelt the aluminum ourselves....

After seeing all these new improvements in the last RVator (and hearing some rumors of what's yet to come) I decided to go out to the skunkworks to see what else they had up their sleeves, and you'll never guess what I found? Yes, it's the

**TOP TEN UPCOMING RV KIT OPTIONS AND IMPROVEMENTS**

10. Fuselage improvements -- I don't know what they are (or if they even exist), but I know they're just waiting until *I'm* done with *mine* before they come out with them (like they did on the tail... and the wings....)

9. Pre-drained wallet (comes with the tail kit -- purchase this option and you won't have to wait till the finish kit and engine)

8. "Van's Air Force" emblem pre-applied to the vertical stabilizer

7. Coveralls already smeared with pro-seal

6. First trim tab already munged up so you don't have to do *that* yourself

5. Prefabricated "big ugly" garage extension for when you outgrow your shop space (special price for two)

4. Bag of aluminum chips to spread on the floor and make it look like you drilled all those holes yourself

3. New Video: "How to land at Van's Homecoming Fly-In Without Bouncing"

2. Companion video: "How to Start Up and Taxi at Van's Homecoming Without Blasting Dirt at All The Other People and their Airplanes"

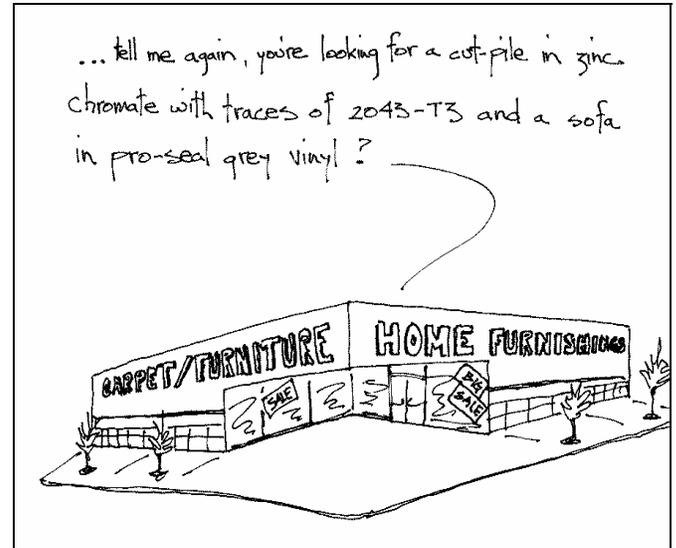
And the number one future RV kit option:

1. A personal attendant to wipe your hands off when they get dirty

**Subscriptions Due:**

Look at the date under your address on the cover. **THAT IS THE DATE YOUR \$10 IS DUE.** Use the form at the back of this newsletter to subscribe or renew. A short note updating me on your status would be appre-

ciated too. *If you are paid up but the date doesn't reflect this, please give me a call so I can correct it.*



Kevin Lane



**EVENTS CALENDAR**

**EAA Chapter 105 Monthly Meeting** Thursday April 18 (third Thursday of every month), 7:00 pm at the EAA 105 Hangar/Clubhouse, Twin Oaks Airpark.

**EAA Sun-n-Fun** April 14-20. Lakeland FL.

**EAA Chapter 105 "Breakfast at the Aileron Cafe"** Saturday May 4, (first Saturday of every month) at Twin Oaks Airpark, 8:00 am.

**Schrock's Fly-In**, Schrock's Strip (South of Corvallis) Saturday May 18 (unverified)

**EAA Young Eagle's Day** Saturday June 8. If you want to give rides or help as "ground crew", contact Joel Haugen, 543-6879, jthaugen@bpa.gov.

**Salmon Arm BC Fly-In** Saturday June 15

**Fifth Annual Northwest RV Fly-In**, sponsored by the Home Wing of Van's Air Force (that's us!). June 22 Scappoose, OR. Don Wentz 643-2298, don\_wentz@SSD.intel.com.

**EAA NW Regional Fly-In** July 10-14, Arlington, WA



**Wired Part 2-Getting Current**

*by Brent Anderson*

Becoming current in knowledge of aircraft electrical systems and accepted wiring practices becomes increasingly important as the wiring project looms near. A number of publications address the subject, and a few that I have found useful are mentioned below:

- When I begin a new project that I haven't tackled before, I usually reach for Tony Bingelis' books first. Sport Plane Construction and Firewall Forward both

have chapters on electrical systems and wiring related topics that provide excellent background information including the useful tips and techniques we have come to expect from reading Tony's monthly articles in Sport Aviation. There is some overlap in the subject matter between the two books, but both are worth looking at. If you don't already have these books, they are locally available at Powell's Books in Portland.

- The most comprehensive and complete information set I have yet found on the subject of aircraft electrical systems comes from the Aeroelectric Connection, which I was referred to by Ken Scott. I was pestering Van's on a daily basis with lots of electrical questions during my wiring project, and one day Ken happened to answer the phone. (As some of you probably know, Ken is the fellow who is reputed to tape up his wall sockets at night to prevent the electrons from rolling out and getting away). I called the number he gave me, and learned that The Aeroelectric Connection is an information service, publishes a periodic newsletter, and also a book titled *The Theory, Operation, Design, and Fabrication of Aircraft Electrical Systems*. 14 chapters in all, this book answered most of my questions, and should be considered a **Must Have** for those of us that are non-expert in the subject. Starting with basic DC electrical theory and progressing through the design and fabrication of homebuilt aircraft electrical systems, each aspect of the subject is covered in a very complete and understandable way. Example schematics of electrical systems for simple, complex, and even p.. p.. pl.. pla...plas... (you know what I mean) homebuilts are included. A number of concepts are presented that are beyond the mainstream of conventional wisdom. Whether you decide to use with them or not, this text will stimulate your thinking and point out some interesting alternatives in planning your system. Do it yourself avionics projects are included for those who may want to venture into a new experience, or just save a few bucks (or both). I chose to build a solid state dimmer control circuit for my cockpit lighting based on a kit purchased from the Connection, and there are other kits available. A listing of parts and materials suppliers is also included, and even some tools (like good quality ratcheting style terminal crimpers) are available directly. The Connection is the brainchild of Bob Nuckolls, an electrical engineer involved in aircraft power systems and related components. His designs have appeared in aircraft ranging from those like Voyager and include various jet aircraft. He is currently with Beech Aircraft in Wichita, and is also a member of NASA's AGATE team. Bob Nuckolls can be reached by e-mail at "Robert L. Nuckolls, III"<72770.552@compuserve.com or by snail mail at The Medicine River Press Inc., 6936 Bainbridge Rd, Wichita, Kansas 67226-1008. Don't overlook this source if it's electrical knowledge that you are after. \$42 will get you a copy of the book, 9 back issues of the periodic newsletter "Hot Flashes", and a 1 year newsletter subscription. This may sound a bit steep, but I found it worth more than all of the other books

combined. (And by the way, Ken, it turns out that taping over your wall sockets is just a waste of tape.... but don't take my word for it, self proclaimed neophyte that I am... call Bob at area 316-685-8617, and he will tell you.)

- The Standard Aircraft Handbook (available from Van's and at Powell's Books) is an excellent general reference, and has a few pages of good info on wiring that are worth looking at.

- Other books that I have reviewed, but would not recommend specifically as good sources for wiring knowledge are CAM 18 Aircraft Maintenance (available from EAA), and Aircraft Ignition and Electrical Power Systems (available from EAA).

So much for written info... but how can that possibly compare to a live performance?? As our EAA Chapter Prez recently said, we are extremely fortunate to live in the land of the Home Wing, and have many local experts that can be tapped with just a little coaxing. Case in point.... I have been fortunate enough to listen to two excellent presentations on wiring during my RV-4 construction years (no, you don't need to know how many!) by Bill Benedict, himself an electrical engineer. I still have my notes from those talks, and have put them to use on my project. It's been awhile since Bill has given his talk, and it's high time we asked him to do it again. There are a lot of new faces in the crowd, who would surely appreciate the wealth of knowledge that Bill has to offer.

Once prepared with knowledge, you will be ready to dive into your project, right?... well almost. If you want to save time overall, making a plan is the next logical step. First, start with a listing of all of the components in your aircraft and the amount of current (amps) that they draw from your electrical system. The list I used is shown here, and is probably not much different than the average RV equipped for day/night VFR operation.

Note that there are 4 columns of data showing amps required under different conditions. The first two columns (Amps-Lo and Amps-Hi) are from actual data sheets, where I could get them, but some are estimates. Tony's books were sources for some of these, some I got from Van's, and some came from calls to manufacturers. The first two columns do not represent real flight conditions but simplistically illustrate the low and high current levels possible with all systems operating simultaneously in the different states anticipated. For example, the KLX-135A draws 1.3 amps minimum (in the receive state), but up to 6.3 amps when transmitting. Likewise, the amount of current drawn by the flap motor varies considerably from a no-load state to a maximum load state. The next two columns are crude estimates of average current levels anticipated during extremes of typical flight conditions, (day VFR cruise, and night landing configuration).

So where's the **Beef**? Sizing the alternator becomes obvious for one thing. In this case a 35- 40amp alternator will handle all normal operating conditions with the exception of operating with both the landing and taxi lights on simultaneously. This is OK, because the lights will normally be used only one at a time, and if they are used together, it will only be for a brief time. Next, it is interesting to note the most important things

tomter connections, so even if you don't know a diode from a doorknob, it's going to be easy to do the job right. I have always found the pricing fair from Van's, and even if the item you want is not in their catalogue, they may be able to source it for you.

It may sound tempting to short cut the process, and not generate the chart and wiring diagram(s), but they really are quite valuable as a road map. They serve as

Cat	Vendor	Part Number	Description	Amps-Lo	Amps-Hi	Amps-Av	Amps-Av
				All Sys On	All Sys On	Day Vfr	Nite Ldg
Avionics	King	KLX-135A	Comm/GPS	1.3	6.3	2.5	3.5
	Terra	AT-3000	Alt Encoder	0.16	0.16	0.16	0.16
	Terra	TRT-250D	Transponder	0.75	0.75	0.75	0.75
	Flightcom	FC-403	Intercom	0.16	0.16	0.16	0.16
Lighting	Duckworks		Landing Light	8.3	8.3	0	8.3
	Duckworks		Taxi Light	8.3	8.3	0	0
	Whelen	A650PG	Posn Lights (Wingtip)	8.2	8.2	0	8.2
	Whelen	A490 HTDF	Strobe Lights	3.4	3.4	3.4	3.4
	?		Instr Flood Lights	0.3	0.3	0.1	0.3
	Airpath		Compass Light	0.1	0.1	0.1	0.1
	King	KLX-135A		0.1	0.4	0.3	0.2
Engine	Rochester	3050-54	Oil Pressure	0.02	0.02	0.02	0.02
	Rochester	3070-62	Oil Temp	0.02	0.02	0.02	0.02
	Rochester	3050-58	Fuel Pressure	0.02	0.02	0.02	0.02
	Elec Internatl	US-8	Ultimate Scanner	0.1	0.1	0.1	0.1
	Facet	40108	Fuel Boost Pump	3	4	0	3.5
	Honeywell	B2DX62	Fuel Prime Solenoid	0	0	0	0
	Stewart Warner	SER 4605-CA	Fuel Gauge Sender	0.4	0.4	0.4	0.4
Other	Motion Systems	85615	Electric Flap Motor	0.4	3.4	0	2
	RC Allen	A1605	Turn & Bank Gyro	0.2	0.5	0.2	0.2
	Van's Aircraft	?	Batt Master Contacter	0.6	1	0.6	1
TOTAL CURRENT (AMPS)				35.83	45.83	8.83	32.33

a guide in ordering parts and materials, help in monitoring progress (by highlighting connections as they were made), and will be the gospel for continuity checks with an ohm meter prior to applying any power to the system. The wiring diagrams are also an important maintenance tool for implementing future upgrades or trouble shooting problems. Also, if you choose to sell your airplane in the future, this will be important documentation that may provide you with a better price than you would otherwise get.

So much for getting current, (and doing planning).... next month we'll

to turn off in an electrical emergency (e.g. an electrical system failure that leaves you with only battery power to last until a safe landing can be made.) Note that the position lights take as much power to operate as a landing light. Also, listening to your COM radio takes very little power, but transmitting takes a lot. Finally, knowing the amperage of each component is essential information for sizing circuit breakers (or fuses). Amperage (and wire length) are also necessary for selecting the proper wire gauge for each circuit.

The second part of the wiring plan is literally that... a wiring diagram showing how all of the components are connected just as installed on your airplane. If you purchase a wiring kit from Van's, Bill Benedict's basic power distribution schematic and a list of helpful notes are included. This will cover most of the basics, but if your experience is like mine, you may choose to make some variations in certain areas, where generating your own drawing may make sense. I asked for, and got a cad file of the schematic, which reduced the work to a minimum. If you buy your avionics from Van's, Bill will even provide help with your avionics wiring harnesses. I was unaware of this, until making a purchase, but pleasantly surprised. After all, this sort of assistance might prevent liberation of some very expensive smoke signals from your avionics (read as WARRANTY VOIDED). Bill color codes all of the cus-

talk about Part 3- Getting Down to the Wire.

### N17RV

*By Gary Standley*

N17RV, destined for glory...and now, sadly, also a memorial.

This re-build project began about two years ago with the donation of the damaged RV3 prototype by Dr. Steve Moseley. The first year showed a lot of interest and participation. Major hurdles were overcome and the pieces began to come together.

The engine/gear mount was twisted and broken and brought back to health by Bob Larsell. The fuselage was split in half, the front section needing a complete reconstruction, the tail cone had about half the skin drilled off flapping in the breeze. The tailfeathers were in good shape but needed some TLC, you know, the dirty work done. "Dangerous" Dan Delano took them as well as parts of the wing control surfaces and massaged them back to health. The wings are mismatched. One is from the prototype, the other from another airplane.

The original wing had the skins fitted and drilled and Ron Poe, Larry Berry, and myself spent a few hours at

Van's riveting them back on. The "other" wing is in pretty sad shape. The main spar was severely bent at the root end, the leading edge skin badly dented and top skins warped. Larry Berry drilled off the old skins leaving a sad looking skeleton. Jim Anglin took on the chore of cleaning this up for us.

Because the wings are not the matched set for the fuselage we had our work cut out for us. Rion Bourgeois, Randall Henderson, Neal Arney and myself beat, banged, stretched, bent the root end of the bad spar back to some semblance of straight, drove some rivets to hold it in shape and began the setup to align and drill the wings to a new fuselage main spar bulkhead. With the fuselage main spar bulkhead constructed and fastened to a bench we inserted the wings, leveled them, and moved them around to get the dihedral set. We drew our string tight from tip to tip and measured and measured again, then clamped the \$#@&\*\$#% out of it, then turned Rion loose with a powerful drill motor. We hope when the wings are actually in the fuselage they appear approximately the same distance from tip to ground. This done, Don Wentz now has the mismatched wing and new skins to install. There is a flap and aileron to build for this wing too.

A custom fuselage jig was built to accommodate the tailcone as it had to fit down inside rather than sit on top as in new construction. The front section of the fuselage was put together and the mating of the old and new began. We stabbed the tailcone to the new longerons and measured and aligned as best we could. We called Bill Kenny in with his transit and took many sightings from several angles to best insure alignment etc. Once we were comfortable we'd done all we could, we started drilling and ultimately riveting it all together. Laird Smith has been a big help with much of the fuselage work. The fuselage is off the jig, engine/gear mount installed and now can be rolled around the shop. The rudder/brake pedals are in.

There is still much to do. Don Wentz has the wing to re-skin, the interior of the fuselage needs to be completed, instrument panel built and instruments installed, engine installed, canopy bubble installed, forward fuselage cowling installed, wheel pants installed, control stick and associated tubes installed, engine cowling fitted and installed, wheel, wing, horizontal stab fairings made and installed. Then it'll be time to begin the cleanup and get ready for paint. There is plenty to do.

Looking back, much time has passed but the actual time of working on this project probably isn't that long. I haven't kept track of the hours but work has been intermittent depending on participation from our membership. In the early stages there was much interest and participation, mostly from RV builders. We even had a guy from Austin, Texas, come over one night to spend an evening as he was in town on business.

**SCHEDULE:** Same as always, 1st and 3rd Wednesday evenings, 2nd and 4th Saturdays. Call (503-591-9040) and find out what we're up to. You don't have to commit to a whole day or evening. Getting the little chores done adds up to getting the big chores done. There are occasional days/nights off for life in general but we stick pretty close to the schedule.

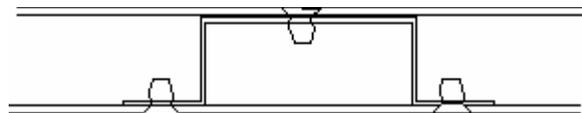
**TIME LINE (a new goal):** A few weeks ago Van mentioned that Oshkosh 1997 would be the 25th anniversary of the first appearance of the RV3, N17RV. He estimates 1500 RV's might be flying by then. Thought it might be a gala affair to present the prototype to the museum and have as many RV's there as possible while celebrating a quarter of a century of this great, affordable design. Thanks, Dick.

*Note: The April 27th work day is canceled as Gary will be out of town that weekend.*

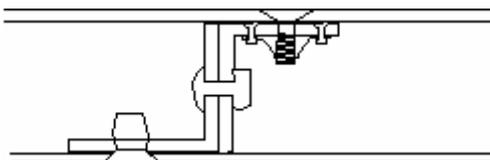
### **Builder's Tips** ...Thanks to all who share them with us!

#### **Floorboard Stiffeners**

In talking to people who have finished RV-6s and -6As, one issue that often comes up is the tendency of the forward belly skin to vibrate, resulting in increased cabin noise, pilot fatigue, and sometimes "smoking rivets", especially with the higher powered/CS prop installations. The latest word I hear from Vans is that they are changing the plans to specify larger rivets and possibly some specific methods to use installing them. But even if you don't have any working rivets, you are still likely to have a lot of vibration and noise up front. One way to alleviate this is to glue down some dense insulation -- Don Wentz did this and it reduced the vibration and noise significantly. The Orndorf's use 3/4" of sleeping bag pads between the stiffeners carpet over that and say that that cuts down the noise and vibration significantly. Mike Seager is going one step further -- he had some special stiffeners made up to put in place of the two outboard floorboard stiffener angles -- "hat" shaped pieces, approx. 1 1/4" wide.



He told me he plans to put insulation between the stiffeners and then pop-rivet a sub-floor over them. I had thought of doing something similar even before I saw Mike's set-up, but instead of the special stiffeners (which I'd have trouble making anyhow since I don't have access to a sheet metal brake), I plan to rivet .040 angles to the existing .063 angles, in effect creating a 3/4" high "Z" channel, with nut-plates in the top (.040) leg of the "Z" to screw the sub-floor to.



The sub-floor will be .040. It does add some weight, but with the subfloor on top you can put much less dense insulation than you'd have to if you were planning on stepping right on it, so it probably isn't much (any?) heavier than if you put some dense insulation there. My plan is also to run wiring and fuel lines under the sub-floor, which will get them out of the way of stray feet. One disadvantage to doing this however is that you loose 3/4" of leg room, and your feet will be higher up on the rudder pedals. Not insignificant, considering my size thirteen "gunboats". We'll see if I end up having to move my rudder pedals up. Anyhow, I'm not promoting any of these methods as the "best" way, just trying to provide some food for thought....-- *Randall Henderson*

**Tap Those Rivets**

Several builders have indicated that tapping the rivets from behind with an oak dowel makes the skins smoother. I found that using a pencil is a good substitute for the oak dowel. I sawed the pencil point off to create a square surface for the hammer taps and I use the rubber eraser end of the pencil (with most of the eraser cut off) as the end that contacts the shop head of the rivet. This makes a tool that does not mark the surfaces and does not skid. Pencils are, of course, readily available and priced right.

The skins do appear to be smoother when this extra step is taken. -- *Bob Haan*

**Salvage Yard**

I heard there was a salvage yard in Redmond and was thinking of visiting the place. A friend of mine, Jerry Darrah, (who is retired) also wanted to go. Jerry is



**Project Status**

**Kevin Lane** is well along with his RV-6A fuselage, and has just finished hacking off his seat ribs and riveting on new flanges, about an inch and a half lower. Kevin is taller than most, but more importantly he is loong waisted. So while at 6'3" he's an inch shorter than Tom Green, when he sat in Tom's plane he found that with the canopy sitting on his head it was still open by about an inch.



**New Members & Guests**

**Rainer Greve, John VanStry, Bill Fitt, and Mike Billear** signed the guest log at the meeting.



**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.*

I sure wouldn't mind if the group had a brake and/or shear. We could keep it out at Twin Oaks -- maybe a bit far for some of us to drive, but just think, on a weekend you need something bent, or a nice straight edge trimmed off, you

building a GlasStar (its OK, it does have aluminum wings and tail feathers). Knowing how badly he wanted to go and how important it was to him I decided to take the day off & fly there with him - oh the sacrifices we make for friends. So, we jumped into a 150 and did it. This place is called Specialty Aircraft and is located at Cline Falls which is a 15 minute drive from Redmond airport. The yard is quite close (1/4 mile) to Cline Falls airport which is a private 3000' long grass strip. It was being re-seeded at the time so we landed at Redmond. If you call ahead, they will come and pick you up. Their number is 1-800-500-6786. A low pass over their bldg. will announce your arrival. Most folks park at the west end of the strip which is closest to their yard. I didn't see places to tie down so you might need to bring your own tie down stuff. It would probably be a good idea to ask them how to tie down if you plan to visit them.

Specialty A/C just sells Cessna parts. Their stuff is pretty well organized. They base a lot of their prices on 50% of Cessna's new price - so things seem expensive (what else is new). Gascolators are over \$100 as are master solenoid switches. I bought a panel mount magnetic compass for \$25 (Vans sells for \$75 or so), an ASI for \$60 (\$200 or so at Van's), a split master rocker switch for \$12 and port & starboard nav lights complete for \$25 ea. They guarantee their stuff to work even if it is some time before you fly (keep the receipt though). They had no O-320' or O-360s. They did have a waiting list for them, however. -- *Brian Moentenich*

could drive out there, bend some metal, and while you're at it bum a ride off that guy who just pulled his RV up to the fuel pump.... Anyone interested? Give me a call. Randall Henderson 297-5045.

Custom-made Cutting Wheel Mandrel, for use cutting your canopy. Stan VanGrunsvan made two of these mandrels, and gave them to me (Randall) as "keeper of the tools". What's special about these is that they have a knob on the outside of the mandrel, enabling you to use two hands, one on the die grinder and one holding the knob on the outside of the cutting wheel, which makes it much easier to guide the tool while it's cutting. I also have some graduated diameter screw dimple dies that Stan made -- useful for dimpling the tight spaces in the wing spar aft of the fuel tanks. Randall Henderson 297-5045.

Rion Bourgeois has generously offered to loan his joggle tool to group members who need it. Rion also has a couple of aileron/flap alignment fixtures. 646-8763

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

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. Also works to level your fuselage jig. 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

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 don't want, or vice-versa. Ads are FREE.*

Trade: especially nice Bakeng Duce (Sport Aviation, Apr. 1995, pg 108) for equally nice RV3 or RV4. Please call Paul at (517) 644-2451 4/96

RV-4 Wings Available. Newly constructed wings include one-piece top skins, extended range fuel tanks (38 gallons), and foam-reinforced wing tips. Subassemblies for other RV models available. For further information, contact: Art Chard 647-9803. 4/96

Mechanically experienced party interested in helping you put your RV kit together. George Ganoung 691-1694 3/96

RV-6/6A Empenage kit nearly untouched (only the HS Spar), Avery deluxe tool package. Will sell all for \$1400. Greg Strom (503) 284-1211. 2/96

For Sale, untouched RV6A empennage kit and brand new tool package from Avery. Discounted to sell. Call Craig or RoseMarie 360-887-0823 (Vancouver). 1/96

1/4 Share in 1956 Piper Tripacer hangared HIO. 3100TTAE, 1050SMOH. KT76A Txpdr w/ Mode C, 4 place Sigtronics intercom, VAL com, Apollo Loran. Cleveland wheels/brakes, Peterson Autogas STC. Estimated flying expenses of \$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 12/95

RV-6A Tail, Wings & Tools for sale. Tail finished, wings partially finished. Includes heated pitot tube (plumbed & installed), electric elevator trim kit (not installed), all tools, including Avery Master Build kit. Wing kit has the latest improvements, 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 EGT 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)



March Meeting -- Tom Green's RV-6 (left) and the factory "crew training" RV-6 (right). That's Mike Seager's hangar in the background.



**“Home Wing” Newsletter Subscription/Renewal**

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, date, payment method, and any other information that has changed. Use this form for address changes too.

Name \_\_\_\_\_ Spouse's Name \_\_\_\_\_  
 Address \_\_\_\_\_ Home Phone \_\_\_\_\_  
 City, State, Zip \_\_\_\_\_ Work Phone \_\_\_\_\_  
 Pmt (\$10/yr) Check  Cash  Info change only  E-mail Address \_\_\_\_\_  
 Project (RV-3, 4, 6, 6A) \_\_\_\_\_ Comments?

Progress:

Tail	In	Progress	Finished	<input type="checkbox"/>
	<input type="checkbox"/>			
Wings	In	Progress	Finished	<input type="checkbox"/>
	<input type="checkbox"/>			
Fuselage	In	Progress	Finished	<input type="checkbox"/>
	<input type="checkbox"/>			
Finish	In	Progress	Finished (i.e. flying)	<input type="checkbox"/>
	<input type="checkbox"/>			