

HOMEWING



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



Intrepid Home Wingers all geared up and ready for action at the Reno Air Races 2000. From left to right: Mike Johnson, Gary Hanson, Bob Neuner, Rion Bourgeois, Kevin Lane. Photo by Kevin Lane.

Editor's Hangar

Financial recap

I thought it was about time to update the membership on how we're doing financially. Since we're a small club I'll dispense with the in-depth "treasurer report" and just give you an overview. At present our checking balance is \$981.65. We have positive cash

flow in the sense that membership dues exceed the expenses of publishing the newsletter, which are our only expenses other than when we buy tools. Having about 58% of our membership on e-mail distribution really helps expenses down. (hint to those who haven't converted yet) Typically the annual fly-in lunch puts a couple hundred dollars in the coffers, but light attendance this year due to the weather hurt revenues... we were

(Continued on page 2)



MONTHLY MEETING:

(2nd Thursday every month, various locations, 7:00 pm)

Place: Robin Wessel's house
10935 SW Pathfinder Way
Tigard, OR
Date: Thursday November 9th, 2000
Time: 7:00 pm
Phone: 503-639-4365

The November meeting will be at Robin Wessel's house. Robin is working on his RV-6A finish kit.

DRIVING DIRECTIONS:

From I-5:

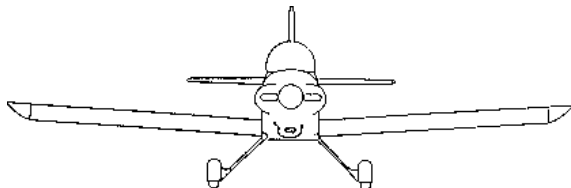
- Exit Hwy 217 west.
- Exit 99W turn Left (west).
- Drive approx. 2 miles, turn right on Walnut St. (BP gas station at intersection).
- Go 1/4 mile, turn left on Fonner.Road turns right, turn left on 107th, take immediate right (SW Pathfinder Way).
- House is on right, near end of cul-de-sac.



Future meeting schedule:

Dec: We need a meeting place, call Randall!
Jan: Randy Lervold's house (or hangar)
Feb: t.b.d.
Mar: t.b.d.

Meeting places are always needed; if you'd be interested in hosting a meeting please contact Randall Henderson at 503-297-5045 or randallh@home.com



EAA CHAPTER 105 Pancake Breakfast:

First Saturday of every month at Twin Oaks Airpark, 8:00 am, \$5.00 (always lot's of RVs to look at too!)

This month: 11/4/2000

EAA CHAPTER 105 Monthly Meeting:

Third Thursday of every month at the EAA 105 hangar/clubhouse, Twin Oaks Airpark, 7:00 pm. See www.eaa105.org for details

This month: 11/16/2000

EAA CHAPTER 902 Monthly Meeting:

Second Wednesday of every month at the Mulino Airport in the OPA building. For info call Gary Sparks at 503-251-0843

This month: 11/8/2000

Subscriptions Due

Mail subscribers: Your renewal date is in the upper right corner of your mailing label. Use the form at the back of this newsletter if there are any changes, otherwise just mail a check to the editor, or pay at a meeting.

E-mail subscribers: Look for your name and renewal date in the e-mail that the newsletter is attached to.

All subscription data is tracked in an Access database. Data entry errors can happen - if you find an error in your renewal date please contact the editor.

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lucky to break even. I drive over to Staples at Jantzen Beach to have the printing done because it's the cheapest place around, less than half as much as OfficeMax. My wife and daughter do the folding, stapling, and stamping, so far without charging me.

In summary we're quite healthy financially. Since one of the big benefits of the group is to share seldom-used and expensive tools I recommend we look at expanding our tool assortment. We bought the scales last year and now the cash balance has worked it's way back up — is it time to add some other goodies?

Tools

Is it time to add some new things to our Tool Exchange? Randall will have this on the agenda for discussion at the next meeting. There have been a few suggestions already: wing jacks, prop tach, and wheel bearing packer. Come prepared to discuss these and make suggestions for anything else you think would make a good



Home Wingers gathered in Steve Householder's hangar for the October meeting to inspect the work and talk RVs.

Meeting Recap

(Continued from page 2)

addition. You might drop Randall an e-mail in advance if you think of something so he can make sure it gets brought up in case you can't be there (randallh@home.com).

Lastly, I've made some changes (improvements?) in most of the standard sections in the back of the newsletter including the Tool Exchange — hope you like them. By the way, any suggestions you have for further improving the newsletter are *always* welcome.

Keep those articles and pictures coming!

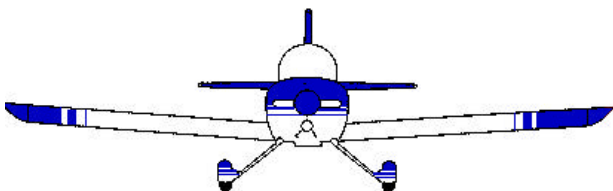
..Randy

The October meeting was held in Steve Householder's hangar at HIO. Quite a few new builders attended — welcome guys! It was suggested that wing jacks would make a good addition to our tool selection. See the Editor's Hangar for other possible additions which will be discussed at the next meeting. Steve's RV-6 was on display for all to inspect.

Bob Haan and his partner gave us a demonstration of their new wig-wag system. They are interested in getting a few units placed for testing and demonstration purposes. For more information see Bob's web site at www.easystreet.com/~bhaan, or contact him at 503-579-2729 or bhaan@easystreet.com.

Thanks to Steve for hosting!

...Randy



After the Paint

By Kevin Lane

For several years my plane has had the annoying tendency to pull to the left. It is easily overridden with additional right brake, but that takes its toll. C.C. Brown bailed me out in Laramie once by lending me his brake pads after I landed there and discovered I could turn left or turn 270 degrees left. The problem seemed to come and go, and a fresh set of pads would quickly put it on the back burner. Just like the shimmying nose wheel that could be temporarily stopped with more back stick after landing. The other day Brian and I were just sitting 'round the hangar looking for something to do other than polish our fuel caps. We jacked up the nose of N3773 and discovered there was noticeable rotational play in the nose gear leg. Upon removal it was easy to see that the socket had elongated holes. The hole in the leg was still a tight fit. It appeared that the gear leg could "flop" over to one side and give the steering a tendency to favor left tracking. On high speed taxiing with the nose wheel off the ground it seemed to track true, although the vertical stab may have influenced it at those speeds.

If you look at a RV-6A nose gear leg socket you will see that there isn't a whole lot of extra room to work. I had the foresight to hammer an indentation into the firewall so at least a wrench could easily reach the retaining bolt and the nut could be removed. But to fit a drill or reamer in there looked difficult. Pulling the lower bolts from the firewall and tilting the entire engine mount, with the engine still attached seemed like the best bet. It didn't need to move much, and most of the wiring and cables probably would flex enough without being disconnected. (that's the optimist speaking there, you know, the little voice that said you had 2000 extra hours in your life!). That way maybe I could get a straight shot with a reamer or drill bit.

This seemed like a good excuse to get the new, improved nose gear leg. I drove up to Harmon's shop with the original one. He measured twice, and then again. He milled a hole in the new gear that was for all practical purposes, identical to the original.

Now to fix the engine socket hole. Harmon once fixed John's -6 main gear shimmy problem by grinding bevels in each end of the socket holes, sort of like countersinking the retaining bolt at both ends. He then turned some special bevel washers and managed to at least double the bearing surface to resist the rotation exerted when landing. The fix had worked well. Of course he

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Harmon's vertical (horizontal?) mil



swivel dial indicator finds true center when rotated in chuck

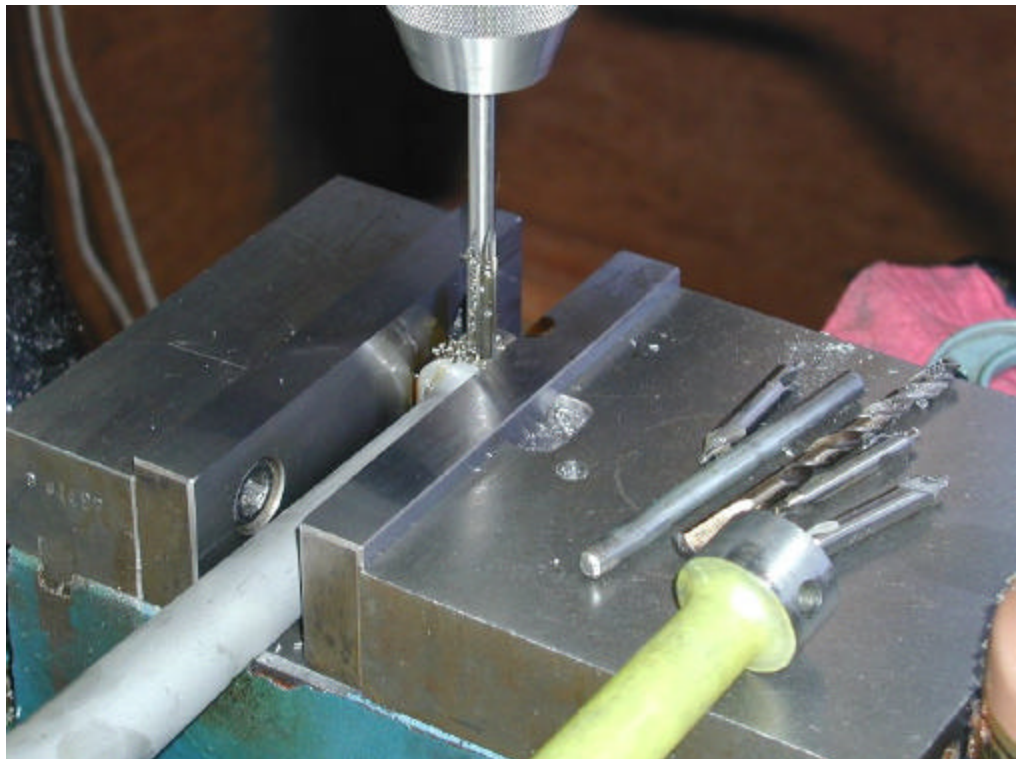
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had machined a special tool for these special washers and of course someone had borrowed it and not returned it.

Another option would be to straight ream the hole to a bigger size. I wasn't having too much luck finding oversized bolts. The metric ones we guessed were too close to the 5/16" bolt size to eliminate the elongation. The 3/8" drill bit looked awfully big. I found my answer in Aircraft Spruce: AN386 taper pins. Don't forget the special reamer. These pins have twice the taper (1/2" per foot) of the common industry pins. The pin has a 1/4" threaded end on the small end to hold it in place.

I quickly realized that there was no way I was going

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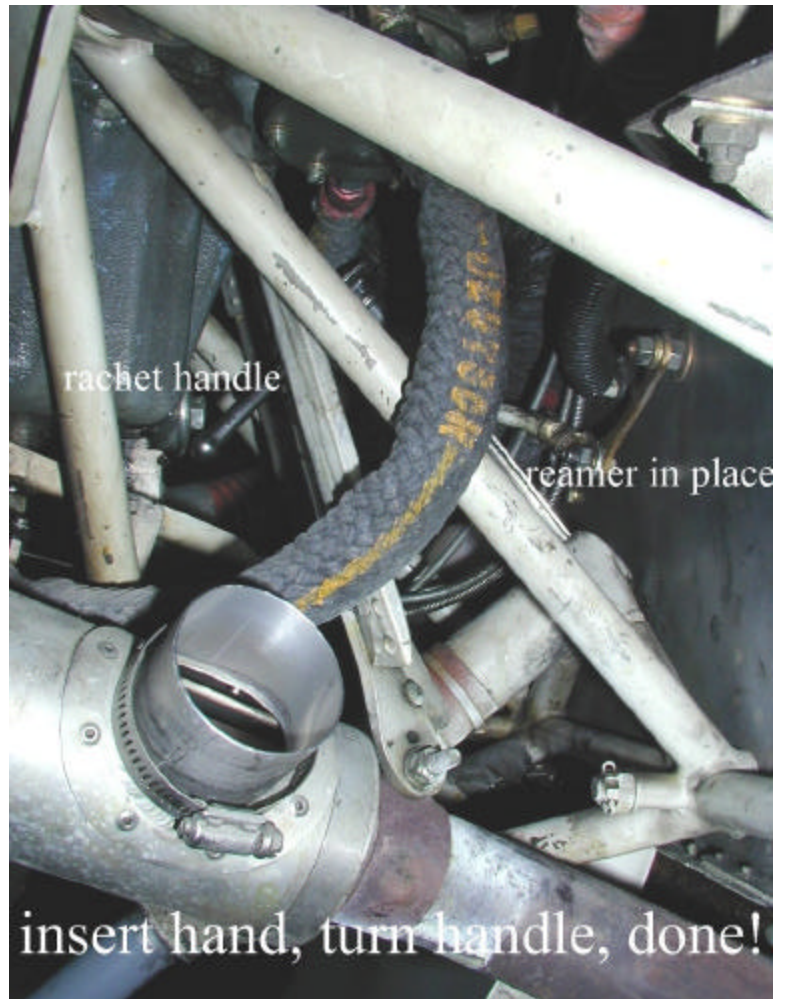
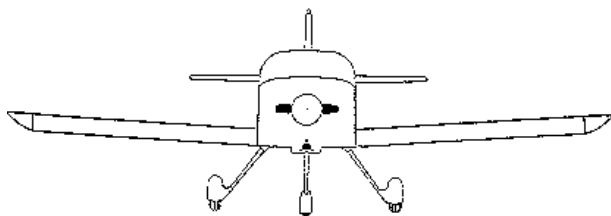
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to ream the gear leg in place by hand, using a socket handle and square socket, there was too much meat to be removed. So I chucked up the reamer in my HoleHawg, a slow speed, geared drill, and carefully measured as the reamer ate its way through the solid gear leg. The taper pin comes with specs on how much of the pin should be exposed on the threaded end. A special AN975 washer would insure the nut would apply tension to the socket and not just the pin shoulder. I would then insert the leg in place and start hand reaming using the leg to center the reamer. When the hole was reamed to the size of the leg I would remove the leg, ream it some more in the vise and repeat the process. This all took about three hours total. The flesh on the back of my ratcheting hand grew back in a week (don't tell me to wear gloves, you'll sound like my wife).

The new nose gear leg is solid as a rock. The list to the port side is gone. Those taper pins are odd when you remove them. One light tap and they fall right out since the friction all gives at once. The tapered hole is now .34 to .41". The original bearing surface cylinders on the socket were, 3/16" thick, 5/16" dia = .368 square inches. The new tapered one has more than .44, or 20% improvement. A simplistic calculation, but I'm a carpenter, not an engineer ("looks good, hmmm, feels strong, let's fly"). After ordering all the supplies through A/C Spruce I decided I needed the next larger pin. Turns out that A/C Spruce is supplied by Columbia Aeromotive, just a mile from my hangar. These taper pins are difficult to find and I was lucky that the size I needed was available.

So Brian is still polishing. I, meanwhile, have to make a new nose gear fairing which I promise not to write about (they're made from the F word stuff).

...Kevin



insert hand, turn handle, done!



Duckworks Lens Mod

Thought I would pass on a tip to make the lens on the Duckwork landing light fit better. I've never been thrilled about the lip created by the Plexiglas lens and the .025 leading edge skin on the Duckwork lights. I had discussed with some RVers in the Chicago area the idea of recessing the lip of the lens .025 inches. The intended result would be the exposed portion of the lens will protrude even with the outside of the leading edge skin, therefore eliminating the lip between the skin and the lens. I finally took the time to go back and fit the lens and the result is quite acceptable.

After I trimmed the overall dimensions of the lens I covered both sides in masking tape. I then placed the lens inside the leading edge and transferred the outline of the skin cut out to the outside of the lens with a Sharpie marking pen. Using an exacto knife I trimmed the tape along the mark and removed the tape on outside perimeter lip of the lens. I then set up a laminate trimmer (I suppose you could use a router) with a 1/4" straight bit. I set the depth at .025". I clamped a straight edge fence to the lens to allow me to shave along the left and right edges of the lens. I used a piece of the plexi I had previously cut off when cutting the lens to size as the fence guide. I proceeded to shave the entire left and right lips of the lens. I then shaved only the top portion of the lip in a similar manner. I trial fit the lens back on the wing and made a new mark for the bottom edge of the skin cut out. It shifted slightly due to the recesses cut on the other three sides. After trimming the tape to the new line I finished by shaving the plexi along the bottom lip.

I used a straight file to clean up the edges recess and sanded the shaved areas of the plexi smooth. At this point you can easily press the lens into position and make any small corrections simply using a file. I finished by mounting the lens according to the original instructions.

The end result is a landing light lens that fits tight into the leading edge skin cut out and is flush with the skin. The entire process probably added two hour of additional work for what it's worth. I hope this makes sense. E-mail if you have any questions.

Rick McBride
rickrv8@qwestinternet.net

More Confusion!



The day after I sent out last month's newsletter with the picture of Randall Henderson and I (Randy Lervold) in an attempt to eliminate the perpetual confusion we encounter, I received an e-mail from someone who had met Randall at AirVenture and had us confused... aack!

At the last Home Wing meeting we realized the situation was worse than we had thought — we have two Randys and a Randall. So, keep this page handy and you have a pictorial guide to "those guys named Rand... something".

Randall Henderson

- Finished a beautiful RV-6 this year known especially for it's stunning Craig Roberts paint job.
- Meeting coordinator, flying activities coordinator
- Fly-in and VAF t-shirt guy
- Flew to OSH this year

Randy Griffin

- Building an RV-8, currently finishing fuselage
- Hosted our August meeting
- Wants to put big wheels on his plane to go to Idaho back-country strips to fly-fish

Randy Lervold

- Building an RV-8 that he hopes to fly next spring
- Newsletter editor/publisher, group treasurer
- Dreams about flying to OSH

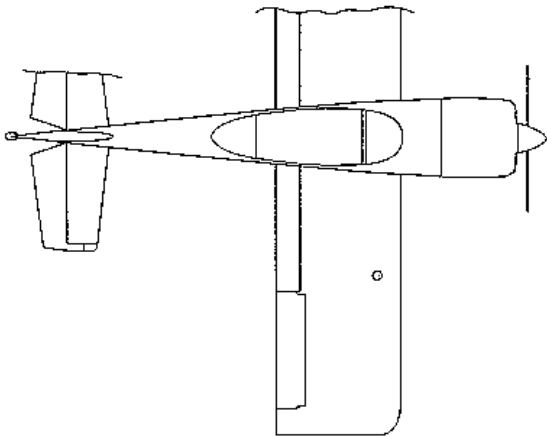
Does that help?

...Randy

Flying Activities

Coordinator: Randall Henderson

SUSPENDED FOR THE WINTER.



EAA Technical Counselors

Listed below are our Chapter 105 Tech Counselors:

Randall Henderson

503-297-5045, randallh@home.com

Dave Lewis, Sr.

503-690-8237

Don Wentz

503-543-2298, jwentz@columbia-center.org

EAA Technical counselors wanted! There are more and more new builders these days, and the three Technical Counselors we have could use some more help. If you've finished an RV, or hold an A&P rating, or are otherwise qualified under the EAA Technical Counselor guidelines, please consider signing up for the program, and adding your name to the list of EAA Technical Counselors available to the Home Wing and local EAA chapters.

1/1/2001

Builder's Bookstore

for the builder, technician, & pilot

[HTTP://WWW.BUILDERSBOOKS.COM](http://www.buildersbooks.com)



Van's RV Specific

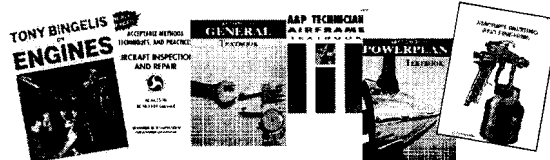
18 Years of the RV-ator	\$27.95
Orndorf Construction Videos	full set
Van's preview plans/manuals	RV-4,6,8
Aiming High	17.95
The RV-Story - VHS	10.00

Other RV Appropriate Titles

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43.13-B Accept. Methods	18.95
Bingelis - Sportplane Techniques	24.95
Bingelis - On Engines	24.95
Sky Ranch Engineering Manual	19.95
Aero Electric Connection	32.00
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AC Painting 101	25.95
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TAC Charts	3.95
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Other RV Appropriate Titles

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Aircraft Auto Engine Installation	19.95
Instruments & Avionics	23.95
Taming the Tail Dragger	9.95
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- Engine Selection
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- Engine Accessories
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- Paint & Interiors
- Self Design & Engineering
- A&P Training & Testing
- Sport Flying Skills
- Sport Flying Stories
- Choosing a Homebuilt
- Log Books
- NOAA Charts

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Builder's Bookstore

<http://www.buildersbooks.com> for book and video info call 970 887-2207 PO Box 270 Tabernash, CO 80478

CLASSIFIEDS...

Classifieds are free to Home Wing members. Ads will run for three months. Send to editor by e-mail or mail. Renewals ok, just let editor know. Date at end of the ad is last month ad scheduled to run.

FOR SALE

RV6A KIT.— Empennage (finished), Wing Kit with pre-finished PHLOGISTON SPAR. \$5,500., I also have many high quality tools available. Bill Anderson 949-240-4842, email hobihawk@aol.com, 12/00

Misc. For Sale:

- 3 1/8" mechanical tach and cable from -6A/160hp. Cable was new, tach rebuilt, used 500hrs, works fine, went to small electric unit. \$50
Contact Kevin Lane, 503-233-1818 or n3773@mciworld.com. 12/00

Paint For Sale — Changed my mind on paint schemes (twice) after buying paint. Have several unopened quantities of PPG Concept acrylic urethane available cheap:
1 gal. #13594 Spanish Blue (dark blue)
1 qt. #27381 Golden Mist Metallic
1 qt. #71844 Pop Red
Gallon: \$153, sell \$50. Quarts: \$57 new, sell \$25
Great for practice!
Randy Lervold, randy@rv-8.com, 360-817-9091

Lowrance Airmap 300 — For sale at \$575.00. Greg Halverson 503-591-0105, 12/00

Duckworks Landing Lights - Retro-fittable, light, easy installation. Kits start at \$69, discount for Home Wing-ers. Don Wentz, 503-696-7185

BACK ISSUES are available at \$2.00 each including postage for hardcopy. Limited availability, contact newsletter editor. Adobe Acrobat versions free to members.

WANTED

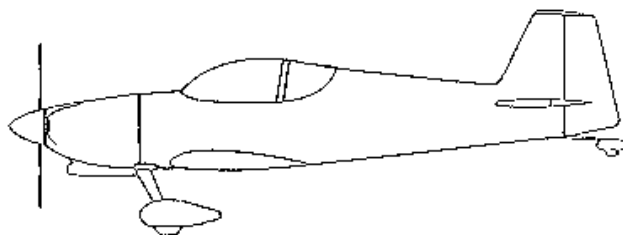
Wanted: Wing Storage Rack — Anyone have a wing storage rack they're done with? My wife is getting tired of these two wings in the bedroom and wants them in the hangar. Randy Lervold 360-817-9091, randy@rv-8.com

Use 'em!

Members are encouraged to take advantage of the classified section. Since it's free why not take a stab at unloading that unused airplane stuff. Besides, it's kind of interesting to look at all the odds 'n ends for sale.

Please note that the date at the end of each ad is the expiration date. They run for three months and then are dropped unless you want them renewed by notifying me.

...Randy



Newsletter Delivery

Our member database continues to hover around the 150 mark (presently 148). Newsletter delivery is split 68 mail, 80 e-mail. I'd like to encourage those still receiving b/w snail mail to switch to e-mail delivery. Some of the benefits include...

- **Faster delivery:** you receive the newsletter 2-3 days ahead of snail mail.
- **Full COLOR:** with the increasing use of photos this adds another dimension you don't want to miss.
- **Storage flexibility:** you can print it on your own printer, or leave it stored electronically, or both.

If you're interested but unsure let me send you a test copy. Just send me an e-mail (randy@rv-8.com) and I'll send you a test copy.

Lastly, I would encourage ALL members to make sure I have your e-mail address even if you don't get your newsletter that way. I occasionally send out e-mail to all on important notices.

Thanks!

...Randy

THE TOOL EXCHANGE

The Home Wing owns a selection of tools for use by its members. The Toolmeister is: **Brent Ohlgren, 503-288-8197, obrento@aracnet.com**. Please observe our Tool Policy:

Home Wing Tool Policy

- Everything goes through Brent — do not give the tool to another member.
- Brent will keep an accurate sign-out sheet for each item so he knows where it is at all times.
- Brent will inspect all tools upon their return. If there is any damage he will ask you to pay for the repair (with the threat of public humiliation if you fail to be a grown-up).

The ability to have use of these expensive tools is a real membership benefit, let's respect the group's assets.

Home Wing Tools

HVLP paint sprayer, turbine type. Includes gun and air turbine.

Hole template for instrument panel.

Wire crimping tool & die

Brake lining rivet set.

Tune-up & annual kit (compression checker, mag timing light, timing dial, mag adjustment tool, plug gapper, high voltage cable tester, and plug vibrator cleaner.

Aircraft scales — allows you to accurately weigh your beast and also determine CG.

Oil filter cutter—custom make by Stan V.

In addition to the Home Wing's tools, certain benevolent members have tools they may be willing to loan. Let the editor know if you have jigs, tools, or shop space to loan, exchange, or otherwise provide — at no cost — or if you are looking for something specific to borrow.

Tools For Loan

Item	Owner/lender	Phone / e-mail
Custom cutting wheel mandrel (for cutting your canopy)	Stan VanGrunsven	
Prop tach (calibrate your tach)	Mike McGee	503-534-1219, jmpcrftr@teleport.com
Engine stand	Don Wentz	503-696-7185
Engine hoist	Norm Rainey	360-256-6192
Surveyor's transit level (handy way to level wing and fuselage jigs)	Bill Kenny	503-590-8011
Back riveting contraption (large, counterweighted bucking bar and suspension system and offset back rivet sets)	Bob Neuner	503-771-6361
Lead crucible (for melting lead for elevator counterweights)	Doug Stenger	503-324-6993
Table saw taper jig (for tapering wing spar flange strips)	Carl Weston	503-649-8830
48" pan break located at hanger PLS D-10 at Troutdale if an RV builder needs some metal bent.	Kevin Lane	503-233-1818, n3773@mciworld.com
Aircraft tire bead breaker, for tire removal	Kevin Lane	503-233-1818, n3773@mciworld.com
Special letter drill used to ream rear spar bolts/straight reamer for rear spar/	Kevin Lane	503-233-1818, n3773@mciworld.com
Lasar T-300 magneto timing tool.	Randy Lervold	360-817-9091, randy@rv-8.com
Precision Steel Fuselage Jig for RV-6/6A	Bill Drake	360-687-1698, rv6134WD@uswest.net,

Home Wing info:

A non-profit volunteer organization dedicated to building and flying Van's RV Series Aircraft

Newsletter editor & publisher Randy Lervold 360-817-9091, randy@rv-8.com
 Membership (dues & database)..... Randy Lervold 360-817-9091, randy@rv-8.com
 Meeting coordinator Randall Henderson 503-297-5045, randallh@home.com
 Flying activities coordinator Randall Henderson 503-297-5045, randallh@home.com
 Annual fly-in leader Don Wentz 503-543-2298
 Home Wing web site www.edt.com/homewing
 Webmaster Randall Henderson randallh@home.com

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Home Wing Membership Sign-up/Renewal

To join or renew, fill out this form and mail to **Randy Lervold, 5228 NW 14th Circle, Camas, WA 98607**, along with \$10 for renewals or new subscriptions. **Please make checks payable to either Randy Lervold or Home Wing.** If you are renewing you only need to give your name, payment method, and any other information that has changed. Please don't forget your e-mail address and newsletter distribution method.

Use this form for address changes too!

Name: _____ Home phone: _____
 Address: _____ Work phone: _____
 City, State, Zip: _____ E-Mail: _____

Project: RV-3 <input type="checkbox"/> RV-4 <input type="checkbox"/> RV-6 <input type="checkbox"/> RV-6A <input type="checkbox"/> RV-8 <input type="checkbox"/> RV-8A <input type="checkbox"/> RV-9A <input type="checkbox"/>	Status: Not started <input type="checkbox"/> Empennage <input type="checkbox"/> Wings <input type="checkbox"/> Fuselage <input type="checkbox"/> Finish kit <input type="checkbox"/> Flying <input type="checkbox"/>	Newsletter Distribution: Mail <input type="checkbox"/> E-mail (pdf) <input type="checkbox"/>	Payment: Check <input type="checkbox"/> Cash <input type="checkbox"/> Info change only <input type="checkbox"/>
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