

# RVator's Log

The Twin Cities RV Builder's Group

## Shop Notes

May 2005

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### Upcoming Events...

**May 20-22: Aviation Weekend** at Anoka County: Hangar party, fly-in breakfast, warbirds. All RVs invited (hey folks, if we can get 18 RVs to Superior for breakfast we should be able to get a couple dozen to ANE!!!) SEE YOU THERE SAT, MAY 21 at 9 am.

**June 4: MN Wing Builder Motivation Day.** See page 8.

**Sept 11: MN Wing Fly-In Picnic** at Steven Foster's strip.

**October 14-16: Mass flight of MN Wing RVs to the Land of Enchantment Fly-In.**  
Make your plans now!!!

-Doug



Last weekend, Jean and I flew the RV-4 from Lake Elmo to Kenosha, Wisconsin to watch son #2 kickoff the spring soccer season for UW-Milwaukee. As we motored along at 175 knots at 8500 feet enjoying the ride, I asked faithful wife if, after 12 years of watching this airplane take shape in the garage, she ever imagined we would be actually flying it this to visit our college soccer "star". No, she sometimes doubted whether I would ever finish this project (#2 son was in second grade when I started drilling aluminum). The "project" was always around... in the basement..., in the garage... parts in the closet... parts under the bed. Would it ever really become just another airplane in the hangar to be used for fun and transportation?

I can recall words of encouragement from other builders saying that just keep plugging along and one day you'll realize that you have nothing more to do. And they were right! Now as we zip along over central Wisconsin, I look out there at all those rivets I agonized over and marvel that that all those shiny aluminum pieces really morphed into "just another airplane in the hangar."

But that is really not the case. RVs are more than just another airplane. An RV is no more than just another airplane than a Porsche 911 is just another car. We have owned 10 other airplanes in the past 35 years and it would be very hard to go back to "just another airplane". Faithful wife comments that we could be putzing along in the 65 horsepower Piper Vagabond that I courted her with back in high school. With an optimum cruise of 90 mph, it rode like a cork in a hurricane on a bumpy summer day. Now we can leave the house, drive to Lake Elmo, jump in the RV and be on campus in Milwaukee in three hours door to door. NWA can't even come close.

After all those years of sleepless nights worrying whether I used the correct primer, my concerns have shifted to avgas prices, tire wear, and whether George W and his roving band of TFRs may disrupt this weekend's pancake flight.

Yes, there is light at the end of the tunnel and someday your concerns will shift to that of just another aircraft owner flying "just another airplane." But remember, its really not just another airplane. It's an RV and worth every

bungled rivet and every skinned knuckle. Have fun and see you soon on the ramp.

## Builder Profile - Mike Casmey

- Doug

In 1994, William Jefferson Clinton was our 42<sup>nd</sup> President and yes, Van's aircraft did not product a Quick-Build RV kit. No pre-drilled nothing.. except maybe the wing spars and a few other miscellaneous parts. The RV-6 and 6A were the predominant models selling by the hundreds as RV builder's found that they didn't mind sitting next to their passenger. But there still was a small contingent of purists who wanted to play fighter pilot and with the RV-8 still a gleam in Van's eye, the -4 was the model of choice.

Mike Casmey of Plymouth, MN decided if he was going to build an RV, it had to be the racy -4.

Although Mike is a highly experienced military pilot, his flight time had primarily been in helicopters. Here was a chance to bring out the latent fighter pilot!! Mike's project grew slowly in the basement and it took two attempts to get the horizontal stab just like he wanted it. The -4 kit and it's construction manual wasn't quite as refined as today's kits so he relied a lot on help from other RV builders in the area to iron out the wrinkles. Mike and I spent a lot of time on the phone discussing the nuances of RV-4 construction since our projects moved along pretty much in tandem.

Mike had been working as a manager in the training department at Northwest when 9/11 disrupted the airline industry. Mike was caught in the layoffs at NWA and decided to go back to school and shift careers (he still is a Lt. Colonel in the Army National Guard). He put the RV project on hold and two intense years later graduated as a manufacturing engineering technician. Newly employed at Boston Scientific, Mike is now working on the final assembly and inspection phase at Anoka County Airport. It is a basic airframe with gyro panel, EI instruments, and a 160 hp Lycoming and Sensenich fixed pitch prop. Mike has logged about a half dozen hours in a Citabria but he has elected to have Tom Irlbeck make the first flight later this spring. Paint will come later after all the bugs are worked out.



### What our members are up to...

Our resident test pilot, **Tom Irlbeck** has been recovering from two surgeries at his winter home in Ft. Meyers. Early in the winter he had knee replacement surgery and then about 2 months later he got a brand new hip. He should be back in the area in May and will soon be ready to get back into the air. "Bionic" Tom has several first flights to make this spring so look for him getting back to the business of fun flying real soon.

From **Bob Barrett**: "I am continuing to plug along on my RV-6A and making progress. It may take me longer to build my Quickbuild RV than it took you to build your RV4! I started a standard RV-6A tail kit in March of 1999 and got my quickbuild wings and fuselage on 8/24/01. Here's a tip I would like to pass along: RV-7A builder Dan Checkoway has an outstanding website ([www.rvproject.com](http://www.rvproject.com)). It has a link that gives you the daily updated NTSB Accident Data for RVs which is [www.rvproject.com/ntsb.html](http://www.rvproject.com/ntsb.html). He also has some other interesting linkages and information. If other people in the MN Wing aren't familiar with this web site it could be helpful. I have also joined another web group, **www.RivetBangers.com**, which can be helpful to people building or contemplating building an RV."

**Larry Mills'** RV-6 is moving along rapidly. He has hung a new Aerosport O-360 and is planning to paint the airplane this summer prior to assembly.

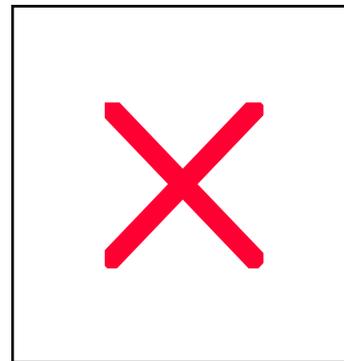
Speaking of paint, **Jim Lenzmeier** has been racking up the time on his new RV-6 and is now about ready to paint his pride and joy. Since he is waiting for the FAA to re-certify his medical certificate, this spring will be a good time to get it into the shop.

Several RV-10s are under construction in our club, but it appears that super-builder **Paul Irlbeck** will win the race. Paul and partner **Elden Lampretch** will finish their high-tech RV this summer. The panel will be loaded with

all the electronic goodies you could ask for. Here's the details: IO-540 0 SMOH, Hartzell Blended Airfoil C/S propeller, Chelton Sport EFIS GPS PFD & MFD with weather, Garmin SL30 nav com, Garmin GTX 330 mode S, Tru Trak IIVSVG autopilot, PS Engineering audio panel with Sirius & cell phone, ICOM A-200 dual com. If that gets your attention, this RV-10 will be for sale after completion. Elden has the details at **(651)777-7349**.

**Bruce Fiedler** has the tail finished of his RV-7 (after reworking the left elevator and trim tab). *(Ed note: I would venture to guess that Van has sound more replacement trim tab skins than any other RV part!!)* His quickbuild kit has arrived and he is now wondering just what he has gotten himself into. What a big box!!!

**From the pres...** We are tweaking the MN Wing Logo and by our next meeting we'll be announcing the final layout and the availability of MN Wing logo items (shirts, jackets, whatever. This layout will be close to the final product.



### Gluing the Slider Canopy on an RV-9A – Pete Howell

#### Introduction

Everyone has had lots of fun with the canopies on our projects. After hearing some horror stories on cracking canopies, I looked for a different way. I only needed to look as far as the February 2003 (p86) issue of "Sport Aviation". Chalkie Stobbart from South Africa pioneered a different way and wrote an article. He also posted some pictures on the Matronics photo share site. I encourage you to look at both sources. I know there are people that disagree with this method of canopy attachment. So

be it. We like to disagree on props, primer, and third wheel location as well. We are building an Experimental - read all the material and make up your own mind.

### The Materials

- RV-9A with Slider (works for tip-ups, too)
- Sika ([www.sikaindustry.com](http://www.sikaindustry.com))
  - Get materials mail order from Jamestown Distributors
  - Cleaner 226 (\$10), Primer 209 (\$40)
  - Adhesive 295 UV (3 Tubes at \$13/each), white or black (better UV protection).

### Pros and Cons:

- Pros
  - Provides flexibility between Plexiglas and frame allowing for different heating/cooling expansion
  - No stress points in Plexiglas due to point loads
  - Looks Cool (OK, my opinion only)
- Cons
  - Possible UV deterioration
  - Longevity unknown (2 examples flying over 6 years with this system)
  - Dirty looks from traditionalist who don't approve

### The Preparation

There is lots of prep work to do before it is time to glue anything. First you get to make the frame fit the fuselage. If yours was like mine, you will invent

new swear words and your wife will know she made a mistake after saying "build one" as she jumped out of the cockpit of Tom Irlbeck's RV-8. My only advice here is if the frame does not fit well, cut it at the aft bows and weld or epoxy it back together. I then painted my frame a textured black to make the upcoming glue lines nearly invisible.

Next, I trimmed the canopy per the kit instructions. Heat the shop as they say. I made a canopy support

table out of plywood and 2x4 to keep the edges of the canopy from splaying out as the flanges were trimmed and support waned. I used a Dremel tool with a fiberglass reinforced cutoff wheel - it worked great. After each cut, I used a sharp steel wood scraper to dress the cut edges and round them off. Next I laid the frame in the upside down canopy and marked the handle hole and drilled it to size with a unibit, that will be the only hole I drill. The frame was put in the canopy again and the windshield cut was made. This is messy, smelly and stressful - be careful and it will go fine. The back was trimmed 1" past the aft bows.



Next I made spacers to allow the proper glue depth. I wanted something that would stay on the bars by themselves and would be easy to grab and remove. The aviation department at Menards had "deluxe hose washers" by the Nelson Company. I cut them into C-shape that worked just great on the larger tubes. This gave a spacer depth of about 3/16" The smaller aft bows were spaced with sections of 1/2" fuel line cut into small sections and sliced into C's for a 1/8" spacer depth. Both were easy to remove when the sika cured. The spacers were spaced every 4" along the frame, except near the bottom of the front and aft bows, there needs to be no gap there to facilitate fitting of the side skirts.



Next I clamped the canopy down and marked the cut for the lower edge and then made the cut. Dress the edges and you are ready to glue the puppy down.

**The Process**

At this point, I was joined by my friend and -7A builder Bernie Weiss. 4 hands are good, 6 would be better. Here is what we did:



- Lay frame in tub to mark where bars will be glued to the Plexi
- Mask where the bars go – We used 3m electrical tape - go a bit wider than the frame bars to allow for fillets of sika
- Scuff frame and unmasked plexi areas with scotch brite or sandpaper
- Remove sanding dust



- Prime frame and plexi with sika primer 209 and a soft brush wait 20 min but not more than 2 hrs to apply the adhesive



- Move the frame to “jig” for gluing – we used 2x6s on a plywood table – if possible hold it in slightly narrower than the slider rails - the
- plexi will widen it out a bit (Ask me how I know)
- Reapply spacers as in the trial fit – the fact that they stay on the bars it a big plus here



- Cut the caulk tube nozzle to the smallest opening and apply Sika 295 UV to frame – leave spaces around spacers – you will fill them in later when you remove the spacers
- Place canopy on the frame – line up using the handle tube



- Use aluminum scraps to keep the sides of the plexi in line with the lower rails



- Clamp – use lots of clamps - mini bar and quick clamps seem to work best.



- Smooth the sika as best possible use Popsicle sticks and gloved fingers – this stuff is sticky like Proseal – black death II –
- You can fill in spots and make it pretty on the second pass
- Clean up with mineral sprits or lacquer thinner on frame, but keep it away from the plexi
- Allow sika to cure – 24 hours



- Pull spacers with needle nose pliers
- Clean and re-prime the spacer gaps
- Apply more Sika to gaps
- Touch up ugly spots with more sika after cleaning with the Sika cleaner
- Allow second application to cure
- 



- Remove masking from the plexi - Trim cured Sika with razor if required
- Cured Sika sands easily if required

#### Next Steps

- Windscreen using sika to attach to the rollbar and as the intersection fairing (after wiring is done)
- Side and aft skirts – will try to glue as well
- Paint over the adhesive to on the top of the canopy to shield Sika from UV

#### Lessons Learned

- Squeeze canopy frame a bit narrow when gluing- the frame will widen when the plexi is attached
- Get lots of Popsicle sticks to smooth and trowel the Sika
- Use gloves –Sika takes days to wear off
- Get lots of clamps
- Get at least one helper
- It will take about 2.5 hours
- It does not smell too bad
- Sika will come off unprimed plexi easily when cured, so don't sweat any oopsies on the plexi.

#### Conclusion

I like way this turned out. If you want to take a look at what we did or discuss it, give me a call or come visit the airplane factory as my daughter Kate calls it. If you bring a 6 pack of Newcastle, my wife will let us chat longer.....

Pete Howell  
651-334-5479, [pete.howell@gecko-group.com](mailto:pete.howell@gecko-group.com)

***Just a Friendly Reminder...***

**2005 Dues are due!!!!**

**Your friendly treasurer Jim Lenzmeier is patiently waiting by his mailbox!**

**\$10/year for electronic, \$15/yr for hard copy of the newsletter.**

**Checks to Jim Lenzmeier, 65 15<sup>th</sup> Ave SW,  
New Brighton, MN 55112**

Minnesota Wing – Van's AirForce  
65 15<sup>th</sup> Ave. SW  
New Brighton, MN 55112-3454

First Class

***Minnesota Wing – Builder Motivation Day!!***

**Date: Saturday, June 4, 2005, 9:00 am**

**Place: Doug Weiler and Paul Hove's Hangar at Lake Elmo Airport**

Spring is here... it's time to get **MOTIVATED!!** So come up from the basement and let's go flyin'!!!

Here's the plan: We've assembled a small squadron of our best RV pilots to give rides to MN Wing members. This is required therapy every so often to get those creative juices flowing again!

1. We'll be able to accommodate 25-30 riders. Slots will be filled on a first come, first served basis. If you would like to sign up for a ride, send an email to Doug Weiler at [dcw@nomadwi.com](mailto:dcw@nomadwi.com) or call his cell at 651-398-1184 and leave a message.
2. Indicate what model RV you might like to ride in (RV-4, 6, 6A, 7A, or 8). We'll do our best to match you with the appropriate airplane (200 lbs max pass weight for the RV-4s)
3. Available to current MN Wing members in good standing only. (Wives are invited!)
4. If the weather is a no-go, we'll reschedule at a later date and advise those riders who have signed up.

Even if you are not a rider, come out anyway and hangar fly. Bring a lawn chair if you like. Coffee, donuts, etc. We're in Mooney Lane, Hangar 41C at Lake Elmo. Contact numbers: 651-398-1184 (Doug), 651-779-0747 (hangar phone).