Team Rocket

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Team Rocket Newsletter February 1, 2022

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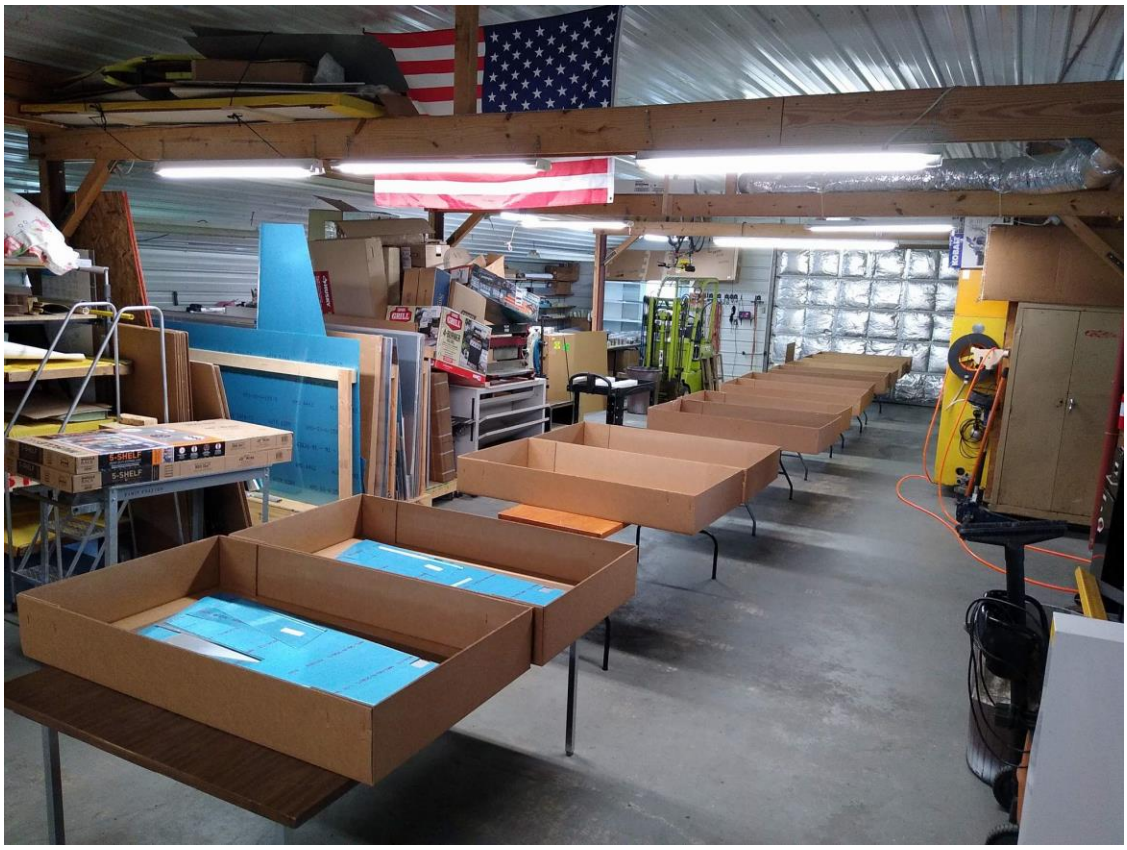
IMPORTANT NEWS:

This was announced earlier, but it will have a big impact on our operations in 2022.

We're going to be moving our entire operation about 200 miles north. This isn't going to be quick or easy. We'll definitely have some periods where we won't be able to supply parts in a timely fashion. There are no firm dates yet, but we expect to begin moving sometime around mid-April 2022. In the meantime, I am hoping to sell a few of the items listed in the classified ads below... 'cuz I don't want to move them!



Team Rocket opportunity?

I've been shepherding the Team Rocket parts production along since 2016, with help from Mark and Cheryl Frederick, and a lot of great vendors. My how time flies!

Mark still makes the 6 cylinder engine mounts and all of the items specific to the Continental IO-550 installations. He plans to continue doing that as far as I know.

I've managed to put the new Mk3 tails into production, along with the formed, welded, or molded fuselage parts. And many parts of the Sport wing. As stated on the website, every F1/F4 parts isn't available, but **ALL** of the hard to make, tooling required, welded, or machined parts ARE available.

It must be working out for most builders as we're expecting several new completions this year. There are about 50 people at some stage of construction. Amazing.... I thought it would take a LOT longer to reach this many starts! People love these airplanes!!

What I'd like to do is to find the **right** person to step in and take over the items mentioned in the paragraph above. I'd continue to work with them, but I want to concentrate on getting the new F-wing tapered wing into production. It's really hard to do all of these things at the same time, not to mention, building a new house and shop concurrently.

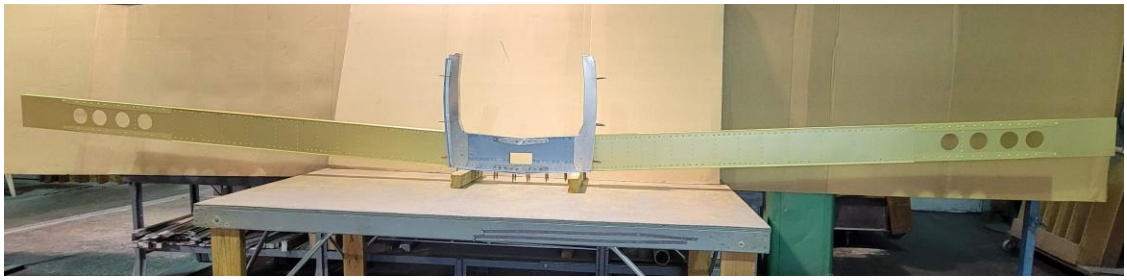
A relatively modest investment would be required. As much as I'd like to simply hand over the intellectual property, inventory, and related tooling, my wife says "No." It seems that she doesn't think that giving away 5 years of time and 6 figures of inventory is a good idea.

If the right person doesn't step up, nothing will change. We'll keep plugging along. If you think you're the right person, contact Vince and we'll discuss. No Nosey-Nellies or tire-kickers please. I don't have time for that.

F-wing update:

We're putting real parts in the fixtures. Shown here is a left main fuel tank, ready for drilling Spending time to make good fixtures is tedious, but it pays in the long run.

Much work is left to be done, but we keep plodding along!

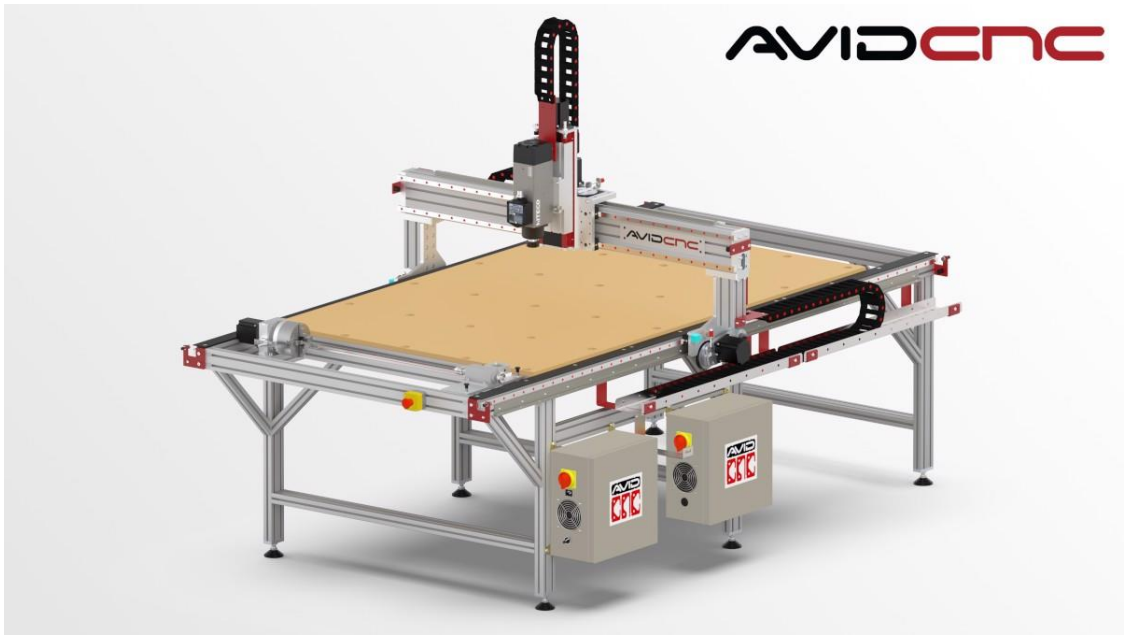


Phlogiston news:
As of the last newsletter, the Phlogiston team were looking for folks who wanted fuselages, wings, or tails put together, aka hired gun work. However, because of uncertainties in the supply chain, Covid, inflation, etc., they have decided to shut down their operations. Wayne has certainly earned the right to retire, after building hundreds of RV spars over the years.

So, we wish Wayne and Tammey a happy, healthy retirement.

And on the flip side of the equation, we've got 5 more Phlogiston pre-assembled, riveted, and anodized F1 Rocket, or F4 Raider spar sets on hand. Rear spars are included. **When they are gone, they might be gone forever.** Of course, you can still build your own from unassembled parts, but... ugh. Who wants to do that?

Contact Vince to order. vincefrazier@gmail.com



A new CNC router in our future!

Our friends at Dark Aero have had great success with their Avid CNC router. Nothing sells better than success, so we're awaiting our new 14' Avid CNC router, similar to the one shown.

We anticipate that this new router will greatly expand our current capabilities, allowing pieces up to the full spar length to be fabbed right in our shop. This should be a big improvement for making and testing new parts... like parts for the new F-wing. Yay.

With the technical innovation grant generously provided by the state of Indiana, we can actually afford to make this investment too. It's a win/win!

State of the industry, a report from Van's Aircraft

Although we're most certainly not Van's Aircraft, we are having many of the same challenges that they are with regard to the supply chain and shipping. You may want to watch this video that describes the state of the industry right now.

And just like Van's, we are also taking steps to insure that F1 and F4 parts remain available and affordable. Building a new shop is part of that plan, as is buying new production equipment, as is the invite for the "right" person(s) to join the team. All of those things were mentioned above.

https://www.youtube.com/watch?v=KMTkDq2g-p0

Van's President Rian Johnson and Vice President Greg Hughes discuss some of these significant changes and provide an update on manufacturing operations and product delivery.

Dual instruction - always needed!

I get a lot of calls and emails from folks who need a Rocket check out, i.e.some dual instruction to keep their insurance company happy. This is a good thing as it helps keep all of our insurance rates down when people don't have accidents.

If you're someone who is qualified and willing to do this type of instruction, please contact me right away. The need never goes away!

Cerakote for your aircraft?

Note: Al Mullenbach's seat back is made using John Harmon's HRF-450 lower longeron angles, which have a nicely rounded edge, as opposed to typical sharp-edged aluminum angle. Your back seater will thank you. See also Danny Melnik's report below.

The sheet metal parts above are coated with a ceramic material called "Cerakote." You can Google it if you're interested. It is often used on firearms.

Cerakote is available in many colors, typically with a semi-flat, or matte, finish. It is durable and scratch resistant. It is available in "bake on" or "air dry." This is "air dry."

We have been using the bake on for our steel parts recently. It is durable, and corrosion resistant. It is also incredibly thin. As far as I'm concerned, it is much more desirable than powder coating.

Al Mullenbach chose it because he wanted to try to avoid the chips and scratches that typically appear in the cockpit after a few hours.

From Al Mullenbach:

I used Cerakote C series. The C is for cold meaning it's air dry no baking required. It comes ready to spray. No mixing required and is sprayed directly to the bare aluminum. It's extremely chemical resistant. My poor paint gun will vouch this. Clean paint gun immediately. The metallic colors have a very light texture that makes it slip or skid resistant compared to a painted surface. It's extremely durable. I'm hoping it holds up better than paint in the cockpit, especially on the top cockpit rails.

An example of its thin film build and durability, Cerakote has a piston coating that is used on tops of pistons, in combustion chambers, turbo exhaust housings or any where a thermal barrier is needed. Like the floor up by the firewall or firewall on our Rockets all with minimal weight added.

Do not ceramic coat your exhaust where the heat muff goes if you want to stay warm. Ceramic coated exhaust is another debate if it should be done or not on our air cooled Lycomings.

A down side I did notice is it does not hold up to dimpling well. I assume it's so hard it's brittle. I'll be bringing a sample up to Steinair to see if lettering can be lasered into it.

The latest control Columns that we made are C-187 Transfer Grey for those who are wanting to match it.

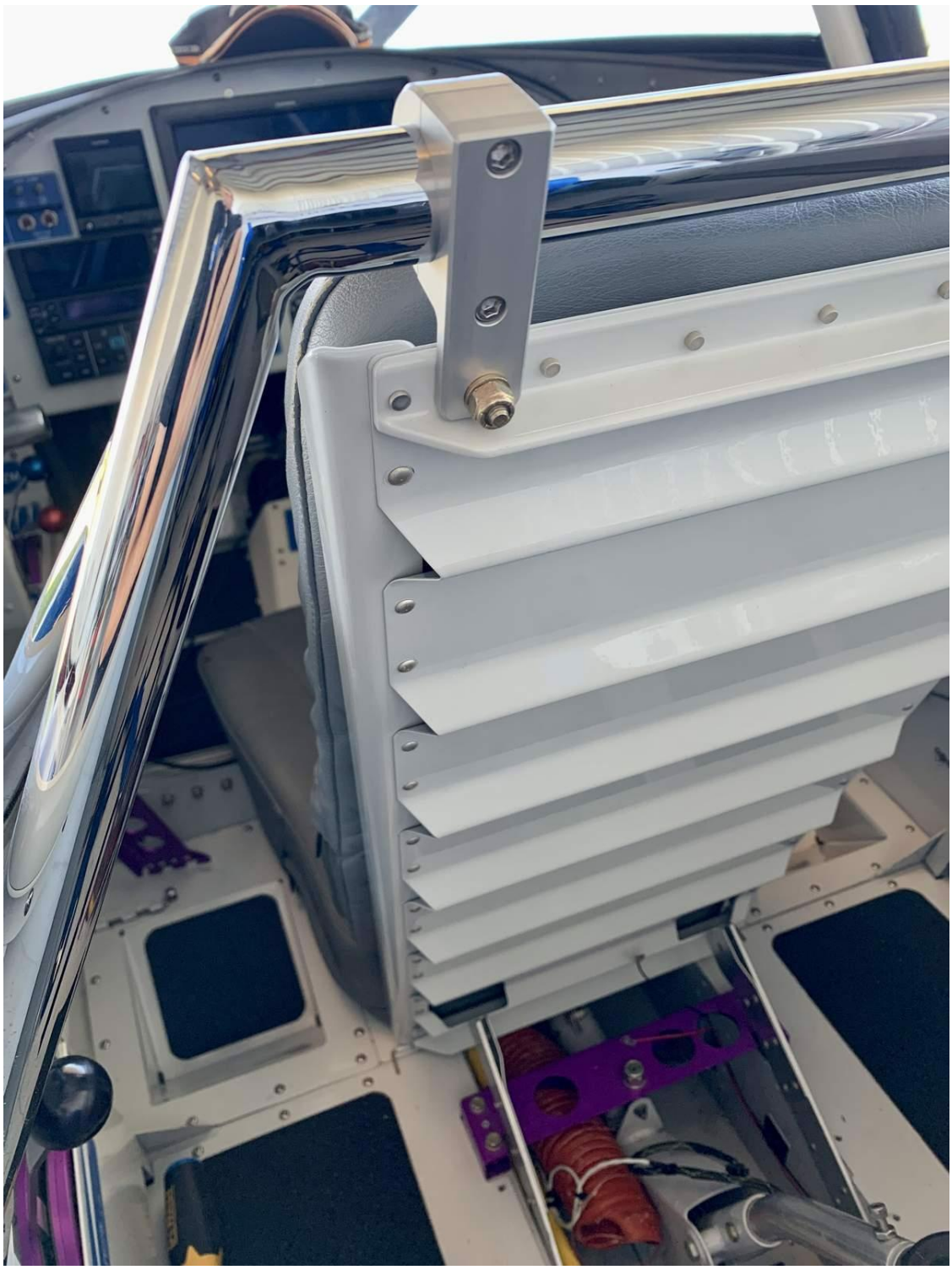
As always with painting, use a respirator and have plenty of ventilation. This stuff will take your breath away.

Control columns and bent sticks

F1 builder, Al Mullenbach, is making the F1/F4 control columns. They are available through Team Rocket now. So, if you don't have your control column, contact Vince to order. Using these will eliminate any cutting or welding like you'd typically do if using a Van's control column.

They are Cerakoted a gray color. They don't typically show when installed, but if the color isn't to your liking, you can blast and re-paint them. Otherwise, the Cerakote should protect them nicely.

Al is also in the middle of a batch of S-bent control sticks. Hallelujah!!! S-bent sticks are just the ticket for the front seat and nice to have in the back too. Stand by for details in the next newsletter... or just contact Vince in a few weeks.



Danny Melnik's new seat back

Danny Melnik made a new front seat back using RV-8 parts. You'll notice that the RV-8 seat back side angles are made from bent sheet. This is a GREAT modification that will help keep your back seater's knees from rubbing on a sharp, uncomfortable angle.

I assume that the RV-8 parts are slightly shorter than the typical Rocket seat back, hence the nicely machined fittings on the cross bar.

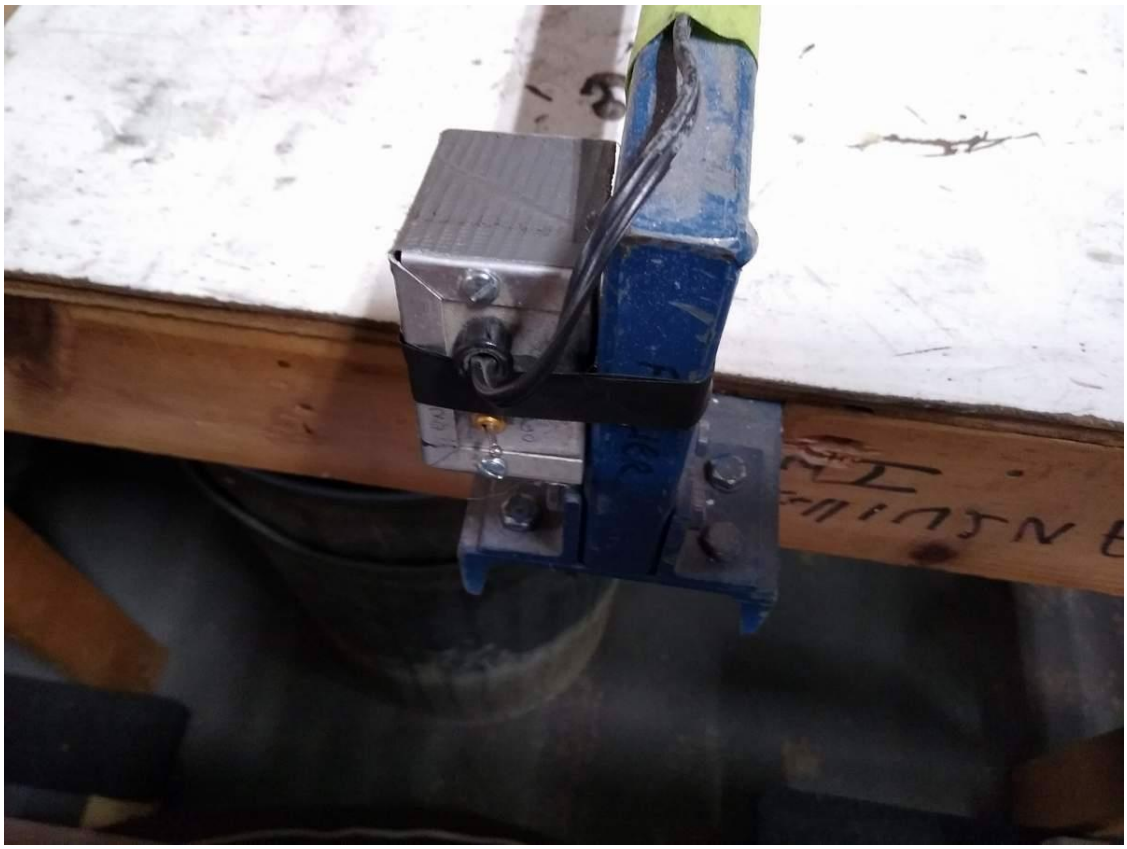
See also Al Mullenbach's seat back above.

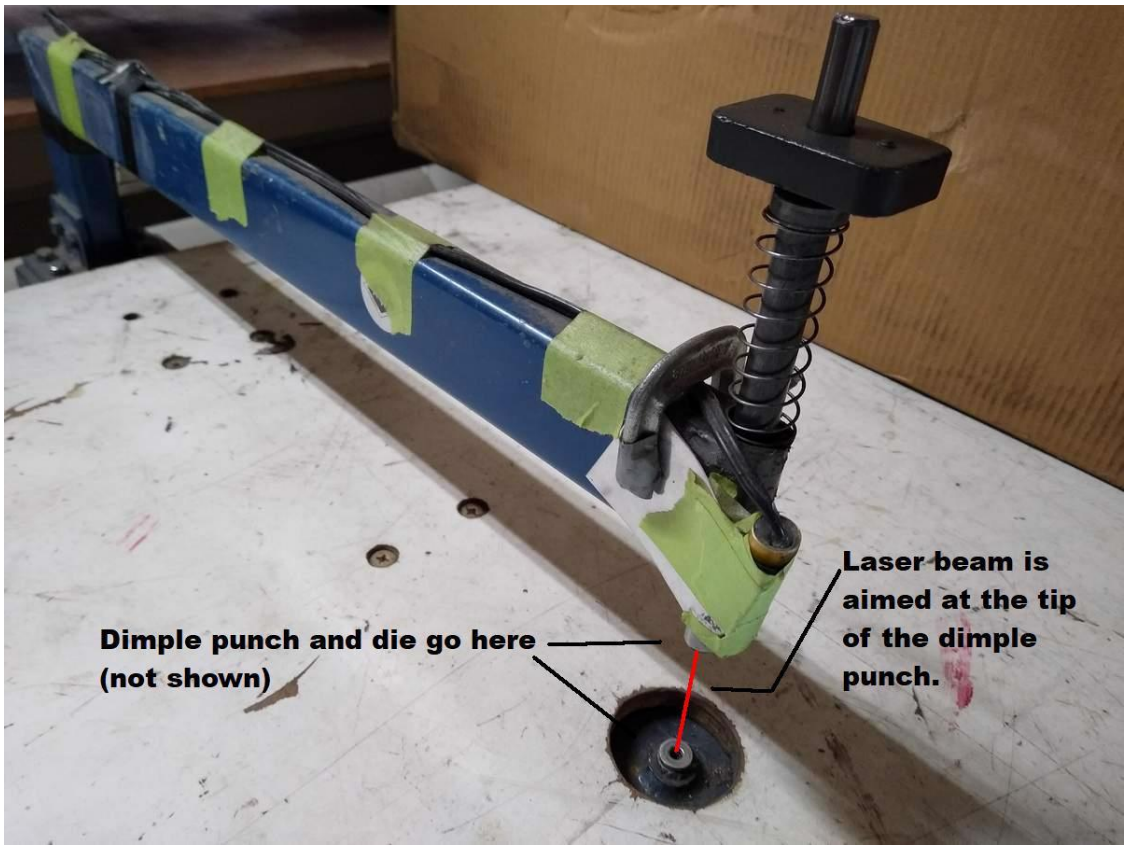
Danny Melnik also made a nifty iPad mount. I've asked if he can share the CAD details for others to copy.

Tech tip: Edge rollers

From Al Mullenbach - Many of us have these edge rollers. They do a good job of "breaking" an edge slightly, which helps the sheet not pucker up when riveting.

Longer screws allow adding rollers at different lengths for wider flanges or different radius bends. Shown here is a canopy skirt with a generous bend along the edge.





Tech tip: Dimpling table laser

When dimpling large sheets of aluminum, it can be quite difficult, and time-consuming, to align the hole in the sheet onto the dimpling punch. Having a small laser aimed at the tip of the dimpling punch is one way to guide the sheet into position.

I made this many years ago. It is super crude, but it works great!

There are undoubtedly better laser pens out there now. I suspect a laser pen would work for many hours on a couple AA or AAA batteries. Years ago I made a separate battery pack to run mine, since the early lasers were battery hogs.. I doubt if that is necessary anymore.

Because of the intensity of the laser reflecting off of the shiny metal parts, it will be necessary to attenuate the beam so it doesn't blind you. Keep that in mind when you're shopping for laser pointers. Buy the least powerful one that you can get!

If you have some x-ray film, old sunglasses, photo negatives, or other semi-transparent plastic, you can use a paper punch to punch out little circles and use those to attenuate the beam. A little bit of hot glue should hold them in place, or tape, or whatever. Otherwise, the specular reflection from the laser on the shiny dimple die is quite blinding! *Yes, specular is a word. https://en.wikipedia.org/wiki/Specular_reflection*

Also shown in the photo is the spring and the rubber donut on top of the dimple ram. It makes it much easier to press the ram into position before you whack it with the hammer, and then it automatically returns out of your way when you let go of it. Easy peasy stuff here. You just need to find a spring and something suitable to hold it in position, like that rectangular rubber piece. You could saw that out of a piece of car tire if you wanted to.

FOR SALE: RV-4 wings:

Several years ago I bought a set of RV-4 wings, intending to put them on my F4. Things changed and now I intend to put the new FX tapered wing on instead. That means that I have a nearly completed set of wings, along with the control surfaces, to sell. Overall, the workmanship appears quite good.

I had done some work to convert the center section, but more work remains, such as moving the root rib, tank flange modifications, and (probably) building new tanks. There is a set of completed and sealed 32 gallon fuel tanks included.

There may be a few small items missing, i.e. some hardware, but I believe that all of the

structure is there. The flaps, if I recall, are completed, while the ailerons are untouched. The matching splice plates are included.

I have a crate that these could be shipped in, BUT I don't recommend freight shipping for these. The freight monkey odds would be 9:1 that they'd damage them. However, when you come to pick up the wings, you can pack then in the HUGE crate and haul them away on your trailer. Bring lotsa packing blankets.

The wing kit is sold "as is". I don't know of anything that would preclude using these parts on any project, but I am not guaranteeing it. This was the same guarantee I received when I bought them. **Asking $7500 OBO**. Yes, I'll consider reasonable offers, **keeping in mind that Van's lead time is over a year on wing kits.**

FWIW, the price I'm asking is roughly what one of our new Phlogiston spars would cost, so this is a good deal for the right F4 builder!

Email Vince for more info. vincefrazier@gmail.com

Until next time, build on, read the Dropbox info, post stuff to the forum, and fly safely!

Thanks,

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