

Portland Area RV Builder's Group Newsletter

Issue 91.9

April 1992

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Last Meeting, Group Happenings

The last builders group meeting was held at Ron Ebersole's house. He is building a nice RV-6 and has both of his wings jiggged up. I think that everyone there agreed that Ron had just about the most luxurious RV building shop they had ever seen. It's not every shop that has a built in Bose stereo system! I guess when you build your house with an RV shop in mind you can do those sorts of things. Van talked for a while about the progress of the light aircraft certification process. It sounds pretty encouraging compared to where we were just a year ago.

A new RV—6 took to the air last weekend near Albany. I forgot the name of the builder, but it was flown for the first time by Mike Seager out of a 1600 foot farm strip. After a thorough inspection and some taxi tests that found a slight mixture problem (it was running too rich), the glitches were fixed and Mike took it up for it's maiden flight. Other than a slightly heavy wing, easily fixed with a trim tab, it flew "just fine".

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April Meeting:

APRIL MEETING:

Place: Hallmark Inn Restaurant
(Across from the Hillsboro Airport)

Topic: Hosting a Fly-in
and setting up a summer meeting schedule.

Date: April 9, 1992

Time: 7:00

Flying season is here. Several of the local RV Builders thought it would be nice to host a local fly-in.

Please bring your ideas to this April Meeting on a summer meeting schedule and Hosting a Fly—in for other RV Builders Groups.

Mike Seager (the Vernonia Airport Manager) and RV—6 Builder, has offered the use of his hangar at the Vernonia Airport for a Fly—in. Mike has

checked the Calender of Events in the Flyer and thinks June 27,1992 looks like a good Saturday to host an event.

This is just an idea. We would like your ideas and input.

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Calendar & Miscellaneous

- Don't forget, EAA Chapter 105 meetings are every month on the third Thursday, 7:00 PM at the PGE building, corner of Murray and Scholls Ferry Rd.

Discount Available on Rocky Mountain Instruments uMonitor and uEncoder.

Rocky Mountain Instruments makes two instruments of interest to RV builders (both of which are kits), the first is their uMonitor, it combines all of the engine instruments into one fairly compact package. It includes fuel pressure, oil pressure & temp, carb temp, outside air temp, manifold press, egt, cht, tachometer, tach hours, tuners, ammeter, voltmeter, a fuel totalizer and some things I probably forgot. It lists for \$969 without all of the sensors. You have to purchase things like egt, cht probes, manifold pressure sensor, fuel totalizer sensor, and carb temp sensor. If you load it all up, it comes to about \$1500. The second product is the uEncoder. It functions as an encoder for your transponder and also includes VSI, altimeter, airspeed, outside air temp, and calculates TAS, Press alt, & density altitude. It lists for \$849 and comes with all the sensors. These are pretty good deals for those folks with RV-4 panels with limited space. If you add up all the things they replace in your panel, it is about a push on dollars as well.

Builders can buy their instruments for \$50 bucks off either instrument, but the deal is you have to get together enough people to order 5 or more at a time. I plan on buying both of these, but not right now. But I would be happy to act as a focal point for people interested in getting together to take advantage of the discount. So if you are interested, drop me a line and I will compile the list.

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Tips & Tricks

Propellers and Prop extensions - -Norm Rainey.

After having had a builder to builder conversation with Dick Smith at Van's, I decided to investigate the Bernie Warnke prop from Tucson, Arizona. Bernie seems to know the prop business and has just moved into a new shop. During a conversation with Bernie he suggested that I consider using a 7" prop extension rather than the standard 6" extension now in Van's catalog. The reasoning was quite simple -a 30% increase in the grip area when bolting up the prop and only a 5—ounce increase in weight. He suggested that I call Lynn Woofter in Florida.

Lynn was very knowledgeable also and probably asked more questions than I had answers for during my first call, thereby requiring another call back after talking with Bernie for the correct answers. Lynn sent out both the prop extension and crush plate almost immediately and when I received it I was convinced that the few additional dollars (there's always a price to pay) was worth it. The steel drive lugs are threaded, flanged and press fit right into the extension. Lynn also sent with my having to send a check before I received them. He also gives RV-ers a discount as noted on the attached flyer that I have from Lynn (*flyer is attached—ed*).

While I haven't yet received my Warnke prop (60 day backlog) I believe Bernie recommended a cruise prop of 72—71 for the 6A folks. Bernies new shop number is (602) 682-2550 and I'll bet he has a nice shop, especially after he gets my \$700.00! Ouch! — Norm Rainey

Miscellaneous hints - - Jeff Hedrick

The little boxes that air rifle pellets come in these days are just the slickest thing for holding rivets

while riveting on an RV. Just cut the top off for convenience. These plastic boxes have belt clips on them that clip superbly to any vertical part (skin, rib, bulkhead, etc.). The Daisy brand has a tighter clip but square corners. The Crosman brand is easier to remove rivets from but doesn't clip as snugly. Until you have used one of these, you can't appreciate the convenience.

Another idea that I think gets overlooked is the value of tracing paper. Rib location, cutout positions, and various overlapping skin configurations can be located or confirmed accurately using the ol' private investigator note pad trick.

Rivet Line spacing - Steve Harris

There are many places where you need to mark the spacing of rivets on 3/4" by 3/4" aluminum angle. For the rivet spacing, the rivet fan tool from Van's or Avery tools is a real time saver. But you still need to locate the rivets in the center of the angle. I have found a very simple and fast way of doing this is to use a small scrap of angle (polish the edges so it won't scratch your work) and drill a hole in the appropriate place such that you can slide it down the work with your sharpie in the hole and it will draw a nice center line. If you make the hole large enough and spaced correctly, then you can use the same item for both inside and outside marking.

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Trading Post

- RV—6 fuse jig for sale. Very accurate, save yourself major hours. 244-6022.
- Technician available to assist you with your RV wiring. (Advanced circuit design to basic wiring) Reasonable rates. Gordon Lawrence. 638-6464.

LYNN WOOFER MANUFACTURING

1951 NW 84TH TERRACE • PEMBROKE PINES, FL 33024 • C305) 436-3436

PROP EXTENSIONS AND CRUSH PLATES ___ - ___ FOB Pembroke Pines , ___FL ___ - November '91

6" DIAMETER PROP EXTENSION - 2024 T-351 ALUMINUM - 6ⁿ diameter on both ends
Prop end: 5/8" threaded drive lugs installed, 3/8-24 or 7/16-20, please specify
Engine end: counterbored for 5/8" lugs and 3/8" or 7/16" bolts, please specify
3": \$190 4": \$230(\$199) 5": \$250 6" : \$265 7": \$378 8": \$450

6" DIAMETER PROP EXTENSION - 2024 T-351 ALUMINUM
Prop end: 7" diameter with 5/8" or 3/4" threaded drive lugs installed
Engine end: 6" diameter, counterbored for 5/8" or 3/4" lugs, specify bolt size
Length and Price: 4"X7: \$330 (\$290) 6" X 7: \$350 8" X 7: \$490

CRUSH PLATE - 6" OD, 3/8" thick, SAE-1 or -2, 3/8" or 7/16" holes (specify) \$29
7" OD, 3/8" thick, SAE-2, 3/8" or 7/16" holes (specify)..... \$48
7" OD, 1/2" thick, SAE-2, 1/2" holes.....\$60

Most items are in stock for immediate shipment. We also make hybrids, such as for adapting an SAE-1 prop to an SAE-2 engine, as well as custom lengths.

There have been failures of prop extensions made from SOS! T-6 aluminum, which is too brittle for this application, and therefore subject to fatigue. We machine our extensions from solid 2024 T-351 aluminum billet, which has the necessary strength and fatigue resistance. Material certification will accompany your prop extension.

To further strengthen the part, we machine an ogee (S-curve) in the bore to make the transition from one ID to the other. This is critical in a safety part such as this, where a sharp corner or step would create a stress riser which could propagate a crack under the stress of vibration and torque reversal. It is for this same reason that we guarantee our extensions to be completely free of tool marks and chatter .

For the higher horsepower engines, we manufacture an extension with a 7" diameter prop flange, for a 30% increase in grip area, and only a 5-ounce increase in weight.

In addition, from a safety and reliability standpoint, our 4130 steel drive lugs (threaded, flanged, and press fit installed) are superior to the tubular lugs which are supplied in some prop extensions. There have been instances of loss of a prop due to the tendency of tubular drive lugs to vibrate forward into the counterbore of the wood prop, leaving the bolts in shear. The flange, or shoulder, on our drive lugs prevents such forward movement. Some extensions we have seen come with, loose fitting lugs which are not even installed, but are packaged separately. The builder is instructed to drop them into place, but they fall back out when the extension is inverted. Lastly, since our lug is internally threaded, use of a nut and washer is unnecessary. The prop bolt screws directly into the internally threaded lug. Consequently, you can remove the propeller or re-torque the bolts without removing the upper cowling to access propeller nuts.

REFERENCES Our prop extensions and crush plates are also distributed by AERO COMPOSITE TECHNOLOGY, AIRCRAFT SPRUCE, AVMAR-DEMUTH PROPELLERS, B & T PROPS, COMPOSITE DEVELOPMENT COMPANY, CULVER PROPS, ED STERBA PROPS, JJ ENTERPRISES, PERFORMANCE PROPELLER COMPANY, PRINCE AIRCRAFT COMPANY, SENSENICH PROPELLER COMPANY, STDDARD-HAMILTCN, TED'S CUSTOM PROPS, VAN'S AIRCRAFT, VELOCITY AIRCRAFT, WARP DRIVE PROPELERS , and WICKS AIRCRAFT SUPPLY. We have made several extensions from magnesium AZ31B for Formula I air racers and we keep the material in stock. For magnesium prop extension prices, please call.

