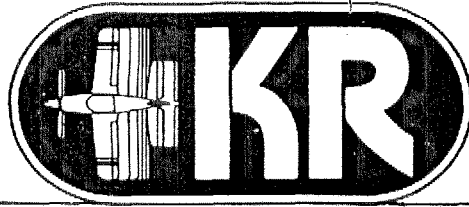


Issue no. 77
NOV.
1981



KR NEWSLETTER

	RATES		
USA	\$12.00	Yr	
CANADA	\$15.00	Yr	U.S.
OVERSEAS	\$20.00	Yr	Funds

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This Newsletter is late! Oh, you noticed already. I hope it hasn't inconvenienced too many people and I do have a reasonable excuse (I think). The planned move to Oklahoma is now fact. For better or worse, I'm here.

Actually, I don't have anything but a mailing address while I look for a house. I'm using my brother-in-law's home as a base of operations and should have a place of my own by the time you get this Newsletter. The return address on the front of this issue is permanent and will be used no matter where I eventually find a home. You can address all your correspondence to me and the Newsletter at: P.O. Box 981, Jenks, OK 74037. I will have a phone as soon as possible and will publish the number next issue.

Meanwhile, back to the business of building airplanes!

QUESTIONS & ANSWERS

- Q. Main dwg. KR-2, top of firewall, side elevation shows a spruce filler block. OK, also shows end view of a cross piece. Page 6 of notes section C-C shows $\frac{1}{4}$ " ply $4\frac{1}{2}$ " long but shows no cross piece. Exploded view of KR-2 shows a cross piece but no filler block. I know there is a filler block but is there a cross piece support for the rear edge of the $\frac{1}{4}$ " ply?
- A. The main drawing you refer to is one of the original drawings, as is the exploded view. Early plans were to use $\frac{3}{32}$ " ply for the firewall shelves and a $\frac{5}{8}$ cross piece was necessary. When the plans were changed to $\frac{1}{4}$ " ply for the shelves, a cross piece was no longer needed. Another point I wish to make...DO NOT use the exploded view drawing for anything but a general perspective. The plans have been changed in various areas...the exploded view drawing does not reflect or include these changes.
- Q. On section C-C page 6, top of firewall, there appears to be a metal angle. I can't find any specs on it as to material, steel or aluminum, nor size. Is there a metal bracket on the bottom of the firewall also?
- A. The metal angle is not needed when the $\frac{1}{4}$ " plywood is used for the firewall shelf. No shelf or metal angle is needed for the bottom of the firewall.
- Q. I'm going to have my KR-2 at Oshkosh '82. Do I have to send in a request to EAA to park my KR-2 with all the other KR's?
- A. The parking of aircraft at Oshkosh is a first come-first served basis. Early arrivals usually watch for those coming later and try to arrange space in or near all the other KR's. This has worked very well in previous years and 1982 should be no exception.
- Q. I would like to know if anybody has tried putting a Subaru engine in a KR?
- A. At least two builders have planned on using the Subaru engine. One is going to use a geared version, the other direct drive. My files are packed away at present and I can't give you their address. I can print yours tho' and maybe they, or someone else will contact you. OK guys, write to : Kelly Lindblad, 311 16th St. S., Benson, MN 56715.
- Q. Has Bill DeFreze sent in a flight report on his KR-2 since he added the gull type canopy and fiberglass fuselage? I think it looks better and is much safer than the side opening canopy.
- A. No flight reports on that particular modification from Bill yet. There are several builders currently going to this "Diehl type" canopy though and some of them have flown. No reported problems.

- Q. How much larger diameter prop may be used if the LAMB tire is used?
- A. $\frac{1}{2}$ ". I recommend using 54" or less regardless of the tire size if you are using a VW engine tho. Most of the more successful KR's are using a 52" prop.
- Q. How do you recommend building up a step area on the center left wing for easier entrance into the cockpit?
- A. Most successful method I saw was a layer of 1/8" birch plywood over the foam and glass already existing. Additional ribs under the step area would be a good idea.
- Q. What is the best method to get accurate cuts for bottom and top cross members without wasting a lot of spruce?
- A. This is not an easy question to answer in print but I'll give it a shot. The problem, as I'm sure you're aware is that there are two angles to contend with at each end of the cross piece instead of just one. I used a straight edge and a tool called a scribe to find and mark these angles. Here's how. Lay a straight edge across the fuselage at the exact station of the piece you want to fit. Take the scribe (an adjustable angle square) and line up the blade fore and aft with the longeron while the body is held against the straight edge. Mark this angle on the top of your cross member. Now, with the straight edge at the same station and in exactly the same place, use your scribe to find the angle up and down of the side of the longeron. Set this angle on your table saw. Now, carefully, saw the cross member following the mark you made in the first step. Take care that the angles you are cutting are in relation to the fuselage (no backwards angles). The opposite side of the fuselage and the opposite end of the cross member are opposite angles and will require re-marking the cross member and re-setting the saw. The exact length of the cross members can be measured at each station along the length of the fuselage. For this method to work will require a sharp pencil, a sharp saw blade and patience.
- Q. The plans say to use epoxy on everything. Does that mean that you can use the same epoxy for wood, dynel, or fiberglass?
- A. The Rand/Robinson epoxy can be used in all three applications. There are other epoxies that may be used with wood and fiberglass but not with dynel. It is too brittle. Ask your supplier if there is any question about the epoxy you are using.
- Q. May I use "hardware store" machine bolts for elevator and rudder hinges or must I get aviation quality nuts and bolts?
- A. Always use aviation quality nuts and bolts in your KR. If you are not sure what sizes you need get a catalog from a supplier that advertises in "Sport Aviation". Most will have a chart for you to use and select sizes from.
- Q. My airworthiness inspector (Canada) wants more structural ties holding the firewall to the fuselage. Do you have any suggestions on this?
- A. Explain to the inspector that additional structural ties in this area are not necessary, would add weight, and are not in the plans. If he still insists, have him do the engineering to prove the necessity of the modifications he wants. Then tell me or Rand/Robinson so we can notify the hundreds of builders that feel the plans version is adequate.
- Q. What is happening with the KR-3?
- A. The KR-3 is currently in North Carolina in the shop of Gilbert Duty of Custom Aircraft Engines. Gilbert is installing a type IV VW of 2400 cc and should begin flight tests in December. The KR-3 will be at the "Sun-in-Fun" in March 1982. Come and see it there. P.S. Gilbert expects to have the type IV conversion available by the first of the year. Price tag is approx. \$3500.00 with full electrics. Write to Custom Aircraft Engines, Rt. 3 Box 427, Sanford, NC 27330 phone (919) 776-0202.

TIPS FROM OTHER BUILDERS

About 1/10th of the KR Newsletter subscribers are from outside the USA. Most are in Canada but there are quite a few across the oceans. These guys have to really be dedicated! The problems with plans, parts, supplies and suppliers that we have here in the States are doubled and tripled for our overseas counterparts. Added to this is the usually negative reaction of whatever government office is involved. The more

I correspond with these builders the more I appreciate our freedom to use parts, materials, modifications not in the plans and our relatively encouraging FAA inspectors.

Occasionally, I get letters from these fellows with a problem or question they need help with. These questions usually find their way into the Q & A section of the Newsletter. More rarely, I get letters from overseas with tips for all KR builders. It is always a pleasure to pass the letters on, I hope we get more in the future!

"Ernest, I think I've become an addict: must have your fine newsletter for another year. I don't know if you realise how much it means for us in parts of the world where home builders are scattered over wide areas. Here in Sweden we're eight KR-2 builders and I, for example, have seen only one of them. He is now dead. He and another home builder were killed in a plane crash on their way to our annual EAA fly-in this summer. No, it was not a KR but an old veteran Luscombe Silvaire on floats. Too low airspeed and too much bank I think. Now on to an interesting lay up method that I have used on my wings. As you might remember, I wrote to you about a year ago and asked for your help in getting R/R's approval of PVC foam. They never replied but I decided to use the stuff anyway simply because it is superior to Rand's "dust". I think six out of eight builders over here use this foam. Sure it is more difficult to sand, but due to the strength you can often bend it to shape instead of sand it. Anyway this is a sample of this foam with first the heavier fibre glass and then the lighter top cloth on it. I did my fin rudder and elevator with only the heavier cloth and was impressed with the hard strong surface but did not like the amount of epoxy/micro-balloon filler needed to cover the cloth texture, so I tried this top cloth laid on the heavier cloth while it was still wet. There was only very little additional epoxy needed to wet the top cloth and the smoothness of the surface was super. I think the extra weight added with the top cloth is almost eliminated with the smaller amount of filler needed and it goes without saying that fibre glass is stronger than filler. The top cloth is not nearly as easy to lay on the compounds though, so I left it out in the wing roots. Also I did glue the foam panels flush with the ply ribs not 1/8 above as the plans say and I did not have to sand at all. By the way, try to peel the cloth off the foam. If you have tried this with R/R foam I don't think you'll ever use it again. I can't translate the weight of these kinds of cloth to your ounces and square yards but in metric they are 152 grams/sq. meter resp. 85 grams/sq.m. I'm aware that several other builders have come up with similar or better ways of using the foam/dynel method but I thought I'd give you a report of what we are doing over here....Gunnar Clarfjord, Box 16, 780 64 Lima, Sweden".

The foam Gunnar refers to may or may not be available here in the U.S. I've never seen a sample of it before. Texture appears to be much like extruded 2 lb. density styrofoam but, being P.V.C., it is impervious to fuels. I did try to peel the glass/epoxy layer...might as well try to get the skin off your teeth.

If anyone here in the U.S. is familiar with this foam, please drop me a line. I am impressed by its' qualities and would be interested in using it on my next project. The cloth samples appear to be standard weaves and should be available from any fiber-glass supply house.

BUY * SELL * TRADE

FREE ADS! NEWSLETTER subscribers get the first 25 words free! Ads with more than 25 words or ads from non-subscribers are \$5.00 up to 50 words. Display or photo ads are charged by size:
1/8 page @ \$15.00, 1/4 page @ \$25.00,
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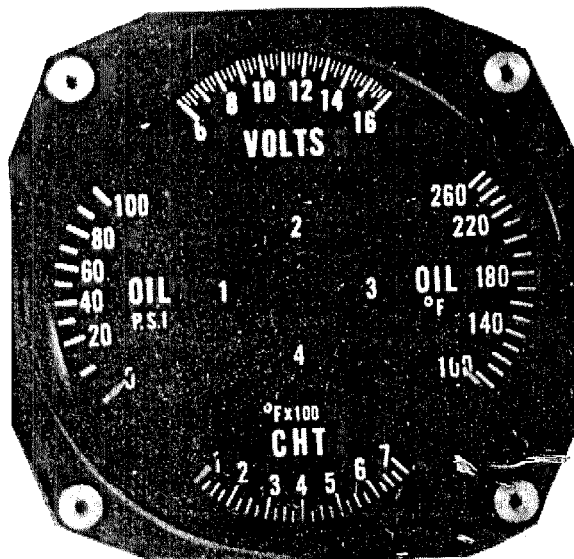
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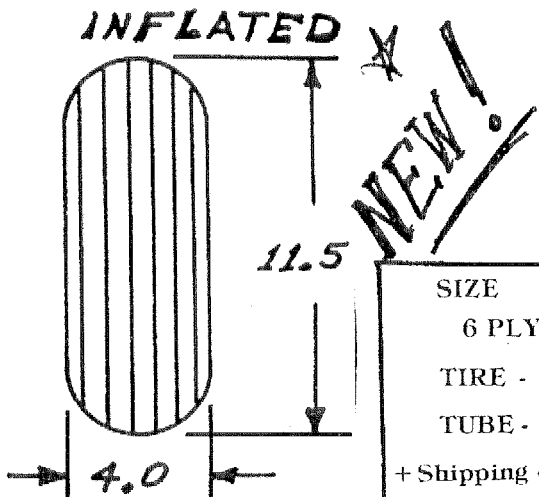
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FOR SALE...KR-2 turbo. Low time, signed off by FAA..\$6500.00. Fred Whitcomb, 13502 1/2 Village Dr., Carritos, CA 90701 phone (213)926-5710.

FOR SALE...KR-1 plans, unused..\$25.00. Dane Hillerman, 12773 North Ave., Ballico CA 95303.



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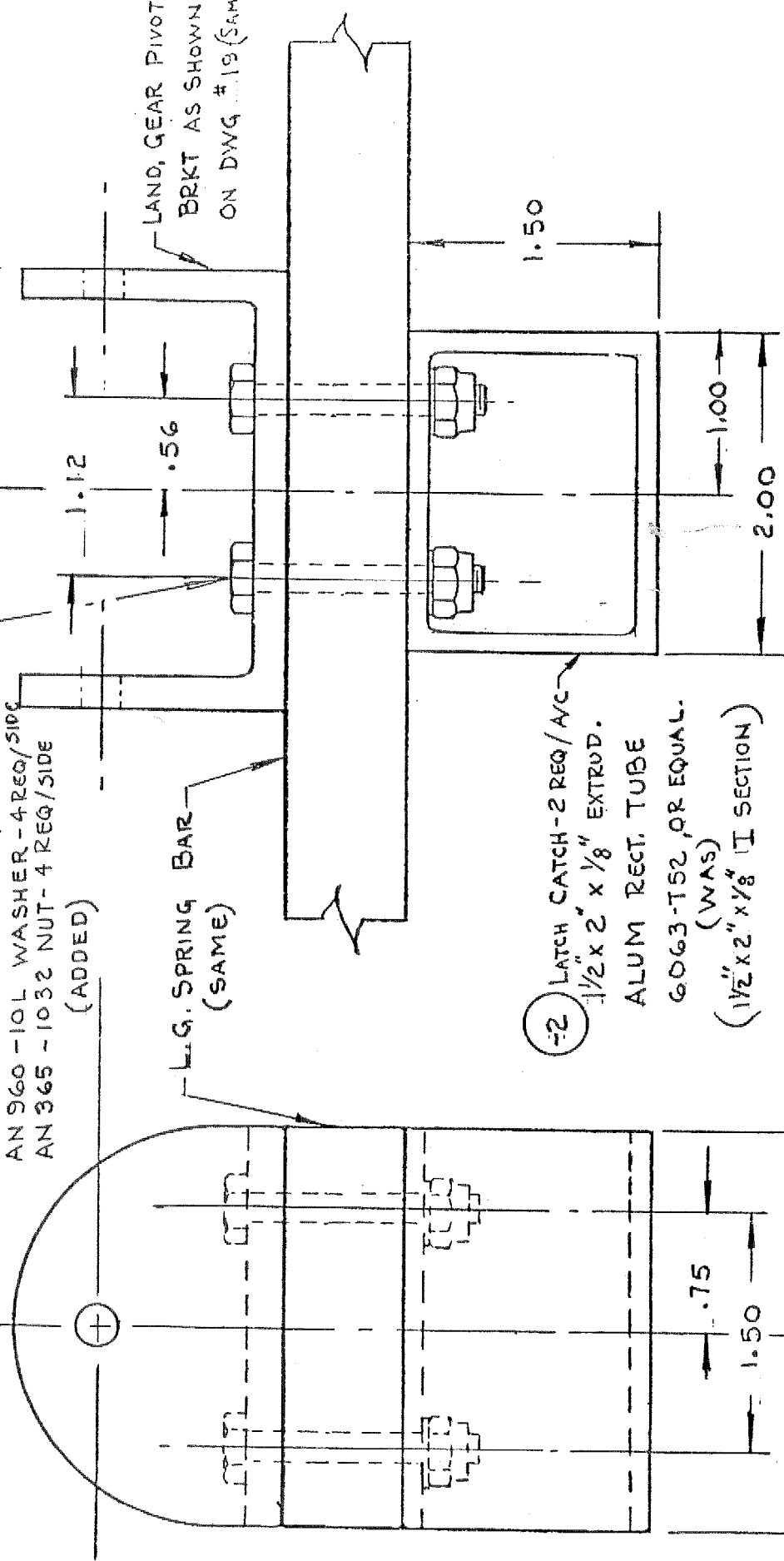
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2. PICTURE OF LATCH CATCH ON DW'S # 7 & 17 IS CHANGED
1. INSTALLATION IS TYP. FOR RIGHT & LEFT SIDES

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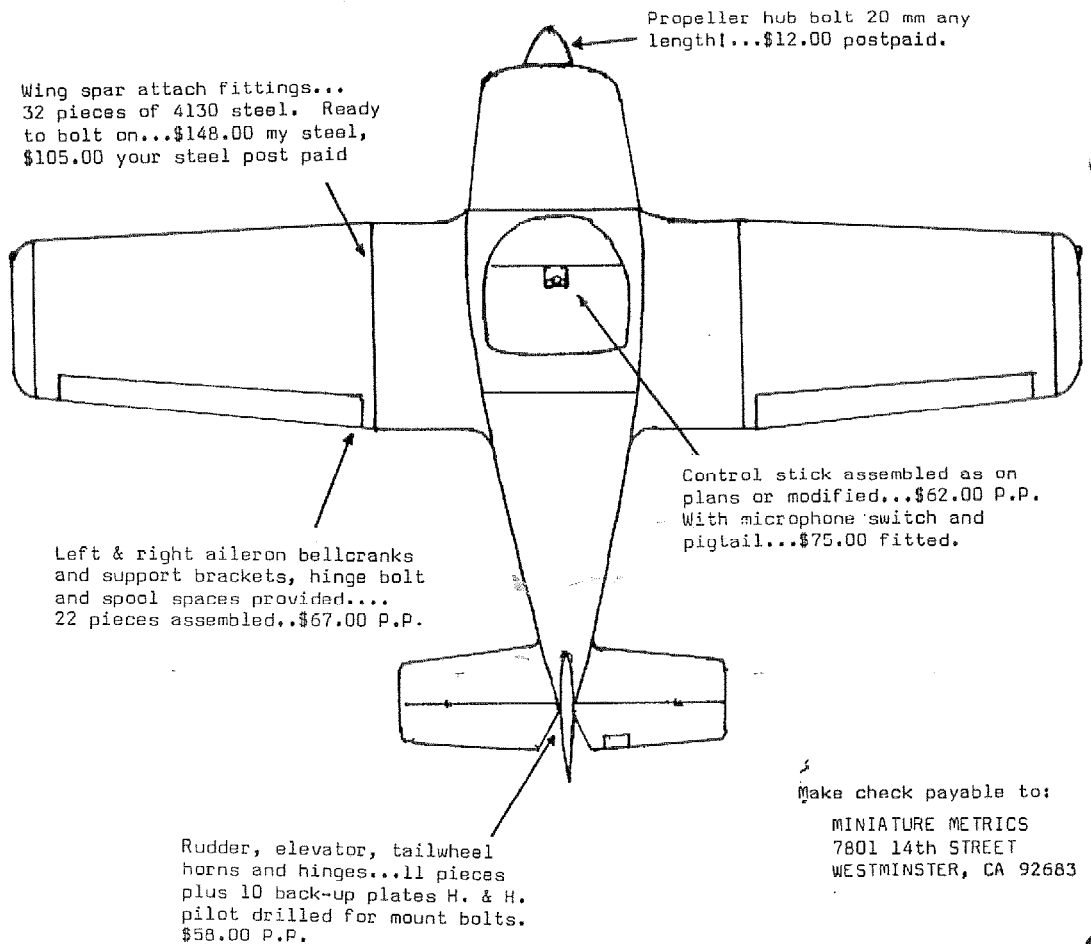
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