

Issue no. 66
December
1980



KR NEWSLETTER

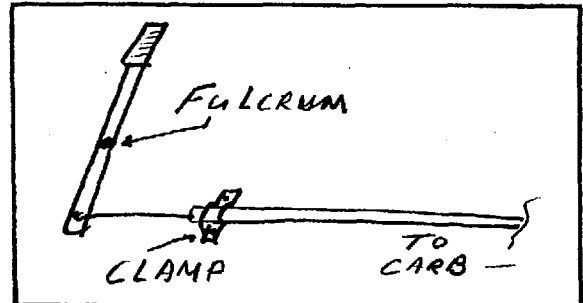
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Judging from the mail and phone calls, the last Newsletter was one of the more popular issues. I guess everyone likes to read flight reports. This month the Newsletter is going to deal with another aspect of flying our KR's, one with a somewhat less successful outcome.

Accident reports aren't as much fun to read but they are every bit as important. Hang on group, here we go.....

From Wayne James...."Sub title: "Hain't all fun". Whils't conducting high speed taxi trials preportory to leaving the ground in the week of last, faulty engineering raised its morbid head. I had raced down the runway, tail erect. Everything was fine. Power back, tail returned to ground. Suddenly the craft (KR-2) began to veer to the left. Opposite rudder had no effect. Went into a skid which the right landing gear bolts took exception to by declaring an illegal strike. After the dust had settled, the tailwheel axle bolt, undamaged but minus nut, was found near the wreckage. Part of the mount bracket was found where control was lost. No tailwheel to be found. Conclusion: tailwheel axle bolt came undone allowing tailwheel to go its own way. Reason: inadequate locking of bolt. R/R lock washer was used. For my throttle linkage, I used a throttle cable from a Cockshutt 137 SP combine. This is a heavier cable than that available from a high performance shop (choke cable). After the return spring for the Posa carb was replaced, it worked beautifully. Spring appeared to reduce binding of slide. Mechanism: control is a lever which is placed along left side of fuselage. A special thanks to you, Ernest, for the Newsletter and to all who contribute to it. A great supplement to the original plans."



From Jim Evans, 16956 Edgewater Ln., Huntington Beach, CA 92649....."I feel it is appropriate to warn KR builders about rudder pedal hinges. I used aluminum piano hinge on my KR-1 and suspended the pedals from the shelf behind the fire wall. I have big feet and a tendency to over control on landing. On Sunday, May 25, 1980, I kicked right rudder to stop a swerve to the left and the rudder pedal hinge came apart. With no rudder control, I rolled off the runway at Chino and nosed up in soft dirt. The damage was limited to one bent prop blade, some crumpled skin on the engine cowl and the top of the wing roots where the spring bar fashioned two new inspection holes. I remounted the pedal hinge (steel) on the floor. I think this is a better location anyway since it allows for inspection at the hinge during preflight. The carburetor was plugged with dirt, and I was afraid that I had ingested some into the intake manifold. However, I disassembled the turbo and found no damage. As the aircraft left the runway at about a 45° angle, it impacted a soft dirt berm about 8 to 12 inches high. The right wheel rolled over the berm, but the left wheel dug in and the strut collapsed. This sounds serious but the only damage was to the four nuts which stripped off the bolts attaching the strut to the spring bar. It also bent the bolts holding the down latches to the down latch bracket. Outside of some body and fender work, the damage was surprisingly minor. We recovered the aircraft by putting a dolly under the left wing attach fittings and pulling it back to the hangar behind a pickup truck. I balanced the plane on the right gear and the dolly by holding up the prop. We got it back with no additional damage. I owe many thanks to the airport crew at Chino for helping me."

From Kenny Ranta, 11030 Jones St., Omaha, NE 68154...."This is not the kind of letter I want to write but it is necessary. Accident report on N49849....On 6-17-80 I took off from Millard airport on a routine flight which turned into a disaster. After about five minutes flying time I lost power at 1300 ft. AGL. Tried several restarts but no luck. Picked out a corn field to land in and made a normal landing attempt with the wheels up. On the second bounce the aircraft stuck in the mud and threw me out through the canopy. I received a broken nose and facial lacerations. The aircraft sustained app. \$1000 to \$2000 damage. Apparent damage was to left wing tip, canopy, right wheel well came through top of wing, battery box pulled loose in rear of plane, and seat belt eye bolt straightened out. I was in the hospital for three days for observation and when I returned to retrieve the aircraft I found the local sheriff dept. had allowed the general public into the landing area. They had, in turn, destroyed my airplane. All that remains are some parts at this time. I estimate they did \$5000 damage and totaling my airplane. I don't know who is responsible to protect downed aircraft but in OMAHA, NEB., nobody does it! The farmer claimed \$500.00 crop damage also which was done by others but I was held responsible. Since then I have checked the aircraft and found that the probable cause of the engine failure is due to the needle orifice separating from the solid fuel line and sliding up the metering needle allowing a large amount of fuel to enter the carb throat through the open fuel line and flooding the engine out. This connection was brass to steel using silver solder and probably wasn't clean to start with. Thanks for the Newsletters. I hope this doesn't happen to anyone else."

From Carl West, 1208 Vine St., Girard, OH 44420...."After four and one half years, my KR-1 was signed off on July 22 and flown July 25, 1980. I had intentions of making the first flight all along. However, after reading Bill DeFreze's letter in the Newsletter, I swallowed my pride and allowed my good friend Bill Reentz to do the honors. Bill has over 400 hours on his KR-1 so is very qualified. I felt like an expectant father as Bill taxied to the end of the runway. As he slowly fed in the throttle, my little plane rapidly picked up speed and lifted off. I couldn't believe my eyes as it flew by and climbed out to about 2500'. Bill flew around for about 20 min., checking control reponse and slow flight characteristics. I was thrilled as I stood on the ground and watched. I know Bill pretty well and he could not resist the temptation to make "missed approaches". Sure enough, he brought it down the runway at 140 mph ind. (found out later it wasn't wide open). A beautiful wheel landing came next. This is where our luck ran out. As he passed me, the tail came down and I saw a puff of blue smoke. The tail wheel came apart, sending pieces flying into the air. The wheel was a 3" dolly castor as per the plans. Bill held it straight as long as he could but just when I thought he had it made, it veered into a ditch on the right side of the runway. Bill was not injured but the plane did take some damage, one prop blade, smashed lower cowl, crack in left inboard leading edge, left gear leg bolts stripped, tailwheel bracket and the oil temp bulb broken off! This was a blessing in disguise as I will explain later. The very first thing I did at Oshkosh was buy a tailwheel from Dan Diehl. After returning from Oshkosh, I began by repairing the lower cowling. When the temp bulb broke it saturated the cowling with hot oil. As I cut away the damaged sections, I observed brass flecks of metal where the oil had been. My worst suspicions were confirmed when I checked the oil screen in the engine. A lot more brass particles. Well, needless to say, the engine was torn down. When I originally built the engine (1700) I had failed to remove the small gear that used to drive the distributor. With nothing to hold the gear down, it began floating and chewed up the brass worm gear on the crank. I don't recall ever seeing anything at all mentioned about the removal of this gear in any of the conversion instruction manuals, newsletters and etc., so I feel it is well worth mentioning so that someone else will not make the same mistake. Luckily, the case, crank, and associated parts were not damaged. However, new rod, main and cam bearings were required. At this time, the engine is being re-assembled, and most other damage has been repaired. My turn is next and I can hardly wait. My thanks to Bill Reentz and Bill DeFreze."

From Jim Dexter, 7325 Flora, Kansas City, MO. 64131...."After reading the accident reports of the last two issues, I was prompted to share my experiences. A couple of months ago I had an engine failure resulting in a successful forced landing. Although the KR-2 is more responsive than most factory built planes, the same principles apply to handling the KR. About two minutes after take-off the engine quit. I was about 1000' AGL and beyond reach of the airport. Suspecting fuel starvation I attempted to re-start the engine (VW). After a few fruitless seconds, I turned into the wind and set up a normal glide; exactly like a routine power-off approach. I sat down in a pasture approximately 60 seconds after take-off with no damage. The engine failure was due to the magneto coupler breaking in half. The point I'm trying to make is a forced landing in a KR is flown just like any other airplane. Also, it would be a good idea to stay proficient in forced landings, especially in any experimental aircraft."

These accident reports were sent in by the people that experienced them. Happily, except for Ken Rantas, the accidents were relatively minor. There was one other report sent in, one with a more tragic ending. A KR-2 in South Africa crashed and the test pilot (very experienced) was killed during the second flight of the recently completed aircraft. The first flight had exposed a few small problems, i.e. slightly low left wing in flight, high oil temp, insufficient climb rpm, and poor taxi due to weak springs at the tailwheel. These problems were dealt with and the following day the second flight took place. All seemed to be going well as the observers on the ground saw the pilot execute a couple of stalls about 2000' over the airport. Then a barrel roll...and then after 10-15 seconds of level flight the pilot put the aircraft into a spin to the right. Two and a half turns later the pilot apparently attempted to recover from the spin. The nose came up and the aircraft went immediately into a flat spin and continued in this manner all the way to the ground. The pilot was killed on impact.

Investigation of the wreckage found no visible malfunction of any controls. A weight and balance sheet showed a slightly forward position (approx. 1 1/2") well within limits and not enough to be considered a cause for the flat spin. Perhaps the pilot might have recovered with more altitude...perhaps not. We can't ask him.

I know other KR's have been spun without the drastic consequences of the KR-2 in Africa so I am at a loss to explain the flat spin. I do know this....any spins attempted in any aircraft should be done with plenty of altitude. This first spin in a new aircraft should be done with several thousand feet of air between you and the ground and with a parachute.

Any comments on these accidents or your own experiences are appreciated. We want to avoid accidents and the best way to do that is through knowledge of their cause.

BUY \diamond SELL \diamond TRADE

HAVE SOMETHING TO SELL?

Advertise it in the KR NEWSLETTER
25 words FREE to NEWSLETTER subscribers
seeking or selling parts for their KR's.

Other rates are as follows:

15¢ per word for typed ads.

Display ads are charged according to size.

1/8 page...\$12.00 1/4 page...\$22.00

1/2 page...\$42.00 Full page...\$80.00

Typesetting and halftones extra.

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Embroidered KR patches for hat and jacket...\$1.50 ea or 3 for \$3.50.

Vinyl patches, stick anywhere....

50¢ ea or 3 for \$1.00

KR belt buckles....\$5.50

T-Shirts..med, large, extra large
cotton/polyester blend

\$6.50 ea or 3 for \$18.00

Ernest Koppe

6141 Choctaw Dr.

Westminster, CA 92683

FOR SALE: Complete KR-2 spruce kit for \$250.00. Has never been touched. Herbert Hostetler, 121 Lake Hill Dr. Oak Ridge, TN 37830 phone (615) 483 3954.

TRI-GEAR PLANS...Retractable system that uses Rand's parts, wheels, gear legs and spring bar. Conversion plans...\$25.00. Bill DeFreze, 7530 Ironwood Dr., Dublin, CA 94566 phone (415)828-2111.

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THE DIEHL SUPERCASE

The only accessory case on the market designed to fit either of Rand's engine mounts. Provides electric starting and 20 amp solid state alternator. Now available with starter on top to allow clearance for tri-gear.

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ACCESSORY CASE.....\$125.00
RING GEAR ASSEMBLY.... 85.00
20 AMP ALTERNATOR..... 100.00
MAGNETO DRIVE..... 40.00
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We also have the special tailwheels for the KR's. These are \$15.00 and will fit the Rand fork. And... TRANSISTORIZED FUEL TRANSFER PUMP for \$25.00. Price on wheels and pumps include shipping...Dan Diehl, 4132 E. 72nd St., Tulsa, OK 74136 Phone (918)492-5111.

"ENJOY THE BIBLE"

VNE COMPOSITE RESEARCH
1328 CANAL ST.
LONG BEACH, CA 90813
Phone (213)435-2310

NEW ADDRESS

Jig built wings for KR-1, KR-1B & KR-2, Wells type lach mechanism, airframe hardware and custom building. December 10% sale...8-32 bolts (aircraft), aluminum machine screws (approx. 5/8" long), 1 1/4" grip drilled head, precision ground 3/16" diameter bolts, 10-32 thread, normal list price \$1.30 ea., and nuts for above, 10-32 aluminum lock nuts available, all just 10% ea. Supplies limited.

Special this month on wing attach fittings..\$100.00 per set, 1/2 sets available.

Mobile custom building service takes me out of the shop Mon. thru Wed. as per work load so if you have tried to call and got no answer, please try during the 2nd half of the week. Thank You.

Hours..9-6 M-F 9-12 Sat.
\$1.00 price lists, spec sheets or estimates.

FOR SALE: New 3 1/8" vacuum Turn & Bank w/doghouse...\$15.00. New small venturi..\$7.00. New R/R VW prop hub 3" taper..\$10.00. New Aircraft Spruce & specialty homebuilder special tailwheel (without wheel).. \$20.00. Kurt Kannwischer, 2785 Lake Capri Rd., Lithonia, GA 30058 phone (404)482-1827.

FOR SALE: R/R 3 blade prop, unused.. \$245.00 U.S. funds. Don Chisholm, 124 "W" Manville Rd., Scarborough, Ontario, Canada MIL 4J5. Phone 690-5369 no collect.

FOR SALE: KR-2 project, was purchased from Rand/Robinson. 50% complete, all construction was done by the R/R staff. Work to date has been signed off by FAA. Paid \$2000.00 for plane Moving, must sell fast. Asking \$1700.00 but no reasonable offer refused. Lee Biancur (714)963-7376.

FOR SALE: Fiberglass KR-1 cowl, forward deck, & fuel tank by Danny McCormick. Never used..\$150.00 or best offer. Also aluminum welded engine mount and aluminum extrusion and mounts for the original KR-1 engine installation...D. Roth, (218) 386-2631 or (218)386-2160.

HEY GUYS!

Do you buy parts & supplies from a business that the rest of the KR builders might benefit knowing about? Would it benefit that business to have the thousands of KR builders as potential customers?

Of course it would!

Talk to the owner or manager about taking out an ad in the Newsletter. Results are guaranteed. The business benefits, the builders benefit & you will get a free three month extension on your Newsletter subscription for every paid ad you send in! One year for full page ads! Advertising rates are listed in the Buy*Sell*Trade section.

MINATURE METRICS

Now you can get your aluminum parts precision machined. In addition to our large supply of hard to find bolts and lock nuts, we now supply ready-made aluminum hinges and bellcranks. Our 11 piece "Starter Set" consists of one (1) tailwheel arm, two (2) bellcranks (elevator & rudder) and two (2) corresponding hinge halves, top rudder hinge (2 pieces) and outer elevator hinges (4 pieces). Total price for all 11 pieces is \$45.00. We can make these parts from your material for \$30.00.

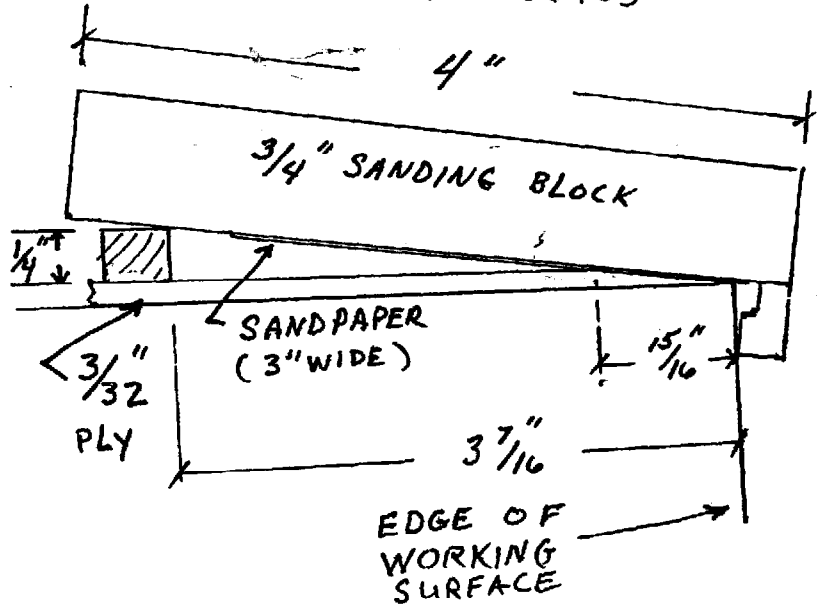


Order now from.....

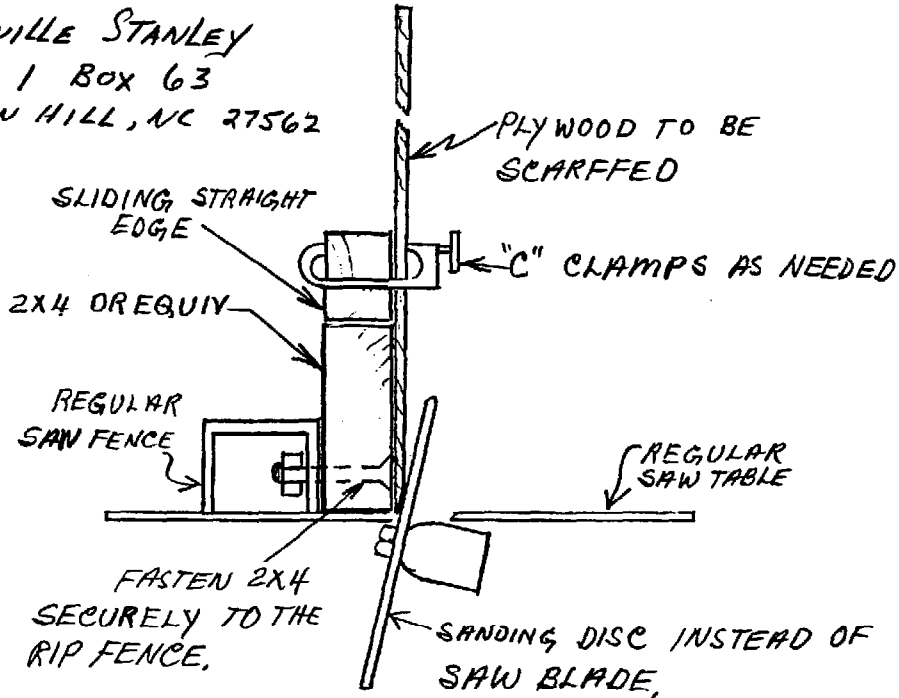
MINATURE METRICS
7801 14th St.
Westminster, CA 92683
phone (714)894-4875

There is a note in the KR Plans book to check the Dec. 1973 "Sport Aviation" for a scarfing device. You may not believe this, but not everyone has a 7 year old copy of E.A.A.'s fine magazine. So.... here is a couple of methods for making accurate scarfs.

FROM: GRANT FOLEY
1625 AVALON AVE.
LAKE HAVASU CITY, AZ
86403



FROM: ARVILLE STANLEY
RTE 1 BOX 63
NEW HILL, NC 27562



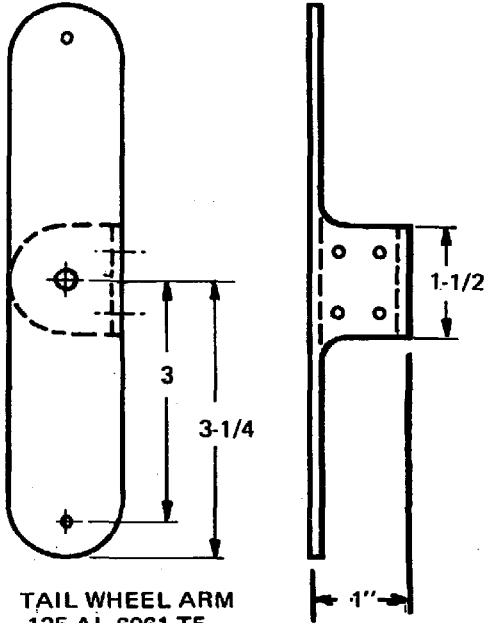
PLANS ERRORS AND CHANGES

Most of these errors and omissions have been noted in earlier KR Newsletters. Recent questions I've received show that you guys aren't getting the information so I'm repeating a few of the more recurring problems along with a new glitch or two.

****KR-1 and -2 drawing #21, Part "B" of the aileron bellcrank should have a 1/2" radius instead of 5/8".**

****KR-1 and -2 drawing #8 has a side view drawing of the rudder and elevator hinges showing a measurement of 3/4" to center of the hinge hole. This should be changed to 7/8" on the 1 1/4" hinge half and to 5/8" on the 1" hinge half. See drawing.**

****KR-1 and -2 drawing #15 shows 2 views of the tail-wheel arm, with a notation of 3 each required. The hinge hole for rudder and elevator bellcranks must be drilled in line with the other hinges, i.e. 5/8". The holes will then be "in plane". Overall length of the bellcrank should be increased to a minimum of 6 5/8". See drawing.**

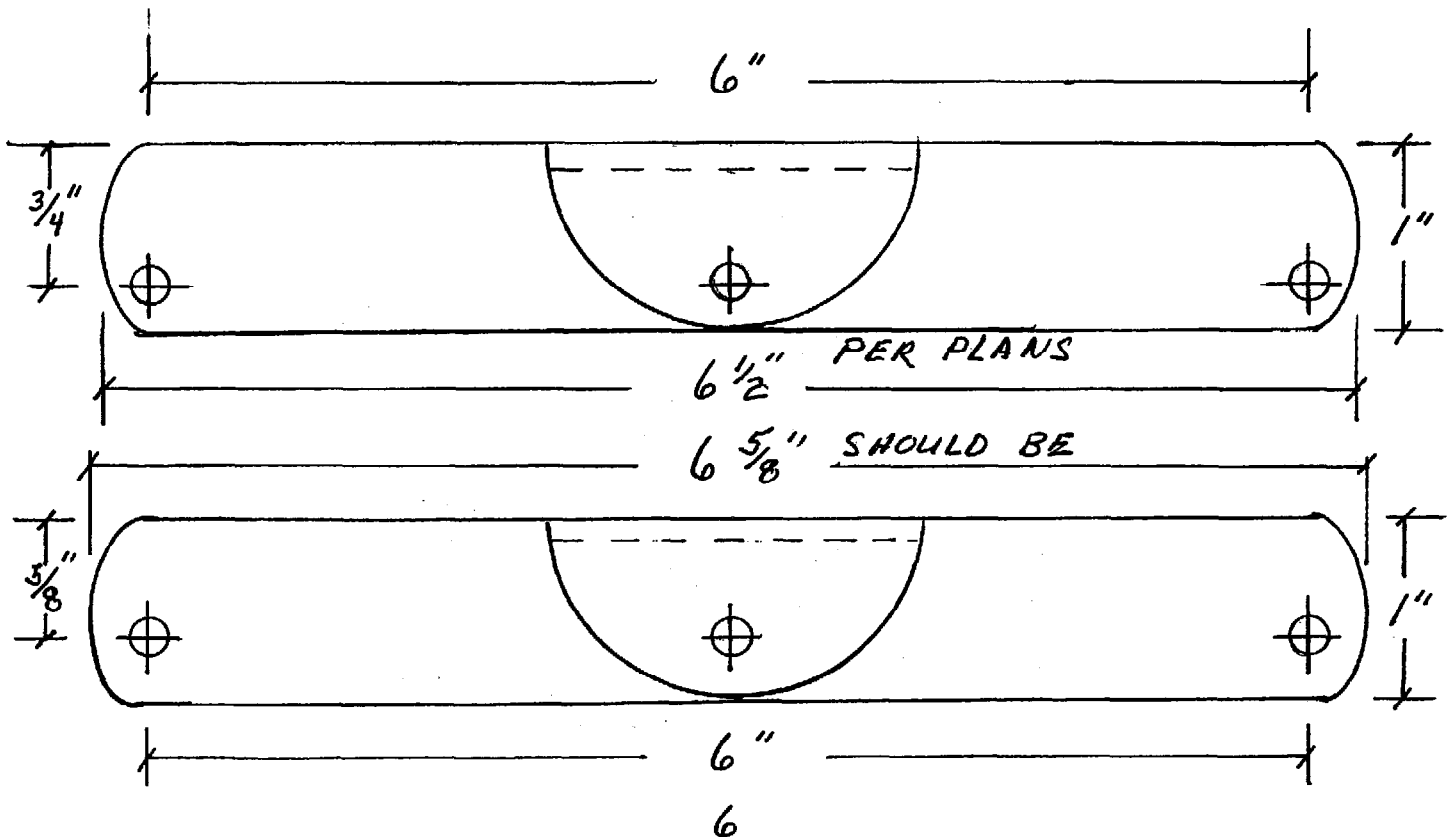
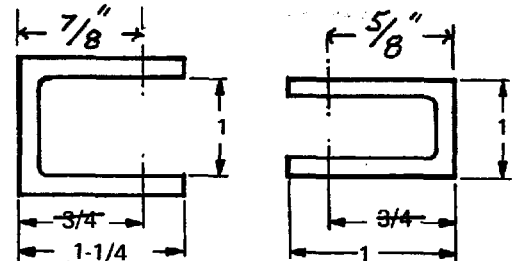


TAIL WHEEL ARM
 .125 AL 6061-T5
 3 each req'd also,
 rudder & elevator
 arm

KR-2 DRAWING NO. 15

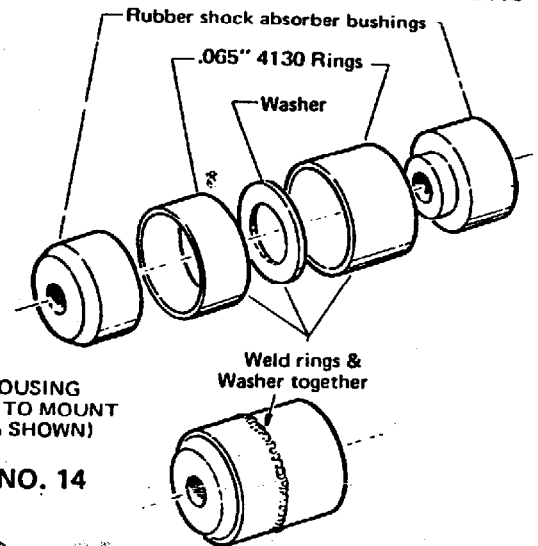
KR-2 DRAWING NO. 8

rudder &
 elevator hinges
 .125 6061-T5 or
 equivalent



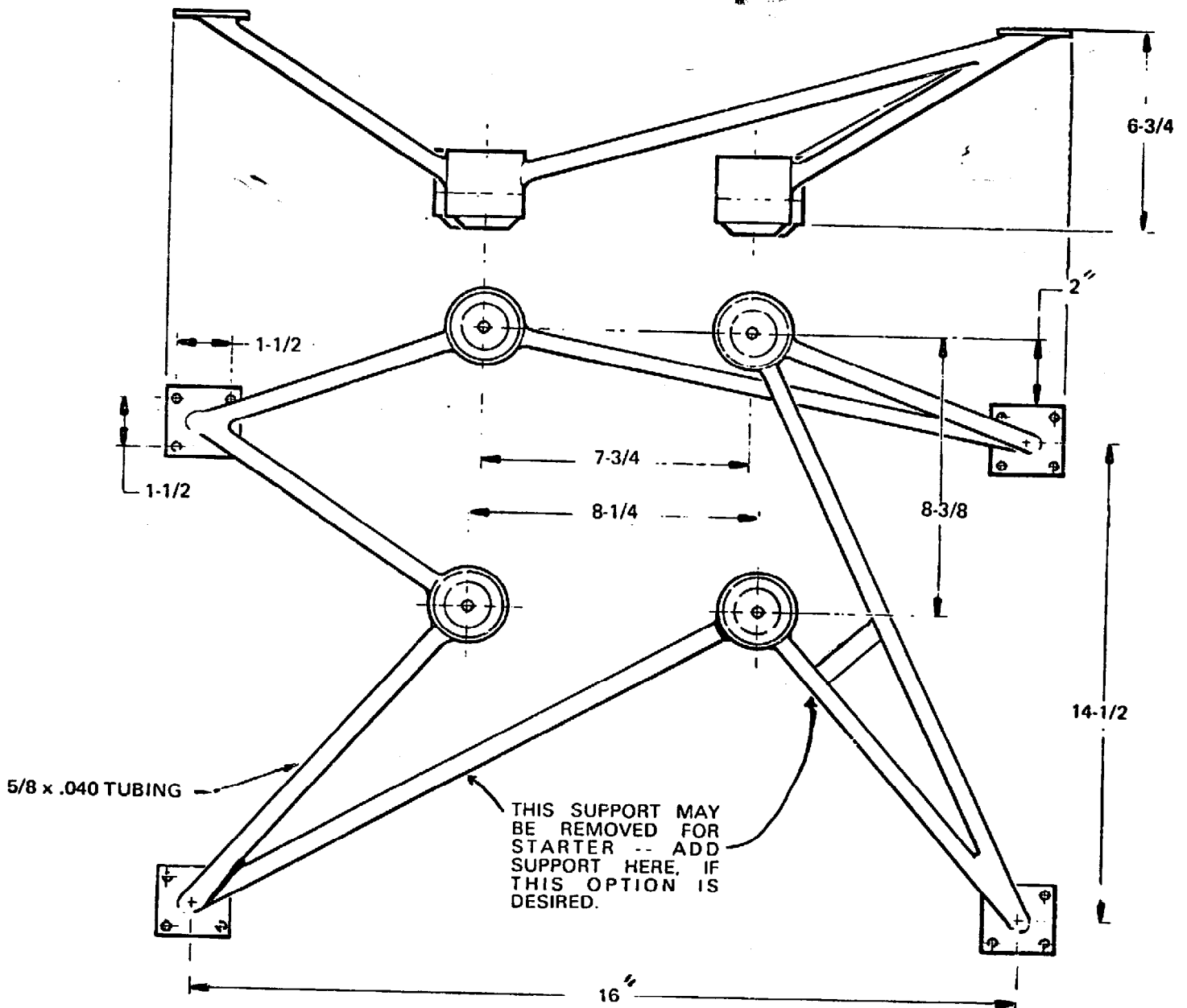
Paragraph 14.9 on page 49 of the KR-1 plans book has a note to "see drawings #13 and #14". Unless you have a KR-2 plans book you don't have these drawings. They are details of the welded type engine mount and if you bought one you don't need the drawing. But...if you want to weld your own engine mount, here are the drawings. Note, the 16" spacing of the plates is for a KR-2, this measurement is 12" for a KR-1.

ENGINE VIBRATION ISOLATORS



TYPICAL SHOCK HOUSING BEFORE WELDING TO MOUNT (RUBBER BUSHING SHOWN)

DRAWING NO. 14



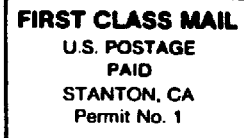
KR-2 DRAWING NO. 13
ENGINE MOUNT DETAILS

Several builders have reported an allergy to the epoxy resins we use in our composite aircraft. A recent phone conversation with a KR builder brought a new possibility into the picture.

From Carl P. Laetare, 804 Daisy St., Escondido, CA 92025...."As you requested, I will try to give a run down about our (Mr Forbing and myself) difficulty with fiberglassing or resin reaction?? I'm building a KR-2 with R/R supplies, while Mr Forbing is working on a Long-eze with Safety-Pox. And may I also say, when I describe my experiences, the same thing happened to Mr Forbing in every way. At first no protection at all was used with no problems but after repeated warning, it was decided that maybe we better take heed. Ply #9 Gel was purchased but then set aside in favor of Latex Medical gloves (Arbrook Micro-Touch brand). It was at this point the problems erupted. Twelve hours after the first wearing, overnight, I had what looked like pin-head size blisters all over my hands including the palms. And they itched like blazes. After peeling, I finally healed. It took about three weeks. The second wearing was a repeat of the above. Except that Ply-9 was applied before putting on the gloves...no help. After comparing notes and talking to others, who assured us that it was a resin reaction, we decided on one more try with only Playtex Living Gloves for protection. EUREKA, Mr Forbing and I have had no further reaction at all, after doing several lay-ups each on our birds. So, Ernest, it boils down to a reaction to either the powder in the gloves or to the gloves themselves. A doctor said this is not common nor is it extremely rare. My son (Air Force medic) had the same trouble. Rex Taylor's daughter said he was wearing the medical gloves when he had his problem (H.A.P.I. engines). She didn't think he had trouble before than. Any others, I wonder? For what it is worth, the doctor said some use Covicone cream by Abbot before putting on the gloves.

And for healing the hands, he recommended Hydrocortisone .5% ointment. Both available over the counter. As for me, the idea of putting on medical gloves makes me cringe. I'll use the Playtex, thank you just the same. Hope my experience will help someone else."

ERNEST KOPPE
6141 CHOCTAW DRIVE
WESTMINSTER, CA 92683
ISSUE #66 DEC. 1980



SEASONS GREETINGS!!

