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KR-1 KR-2  
N E W S L E T T E R

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Issue #15

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I don't believe I've ever had as much trouble with the first page of the newsletter. Everytime I had a format laid out there would be something else that needed equal time and space. First on the agenda has to be a report on Ken Rand's accident. Hopefully, it will help end the many rumors circulating throughout the country.

As the builders that attended the EAA Convention already know, Ken Rand and the KR-1 didn't make the fly-in. One week previous to the annual happening Ken & the KR-1 were involved in a serious accident. The KR-1 had been painted to appear as a pilotless drone (RPV) for an episode of the new TV series "Spencer's Pilots" on CBS this fall. The bubble canopy had been painted (white outside, black inside) with a small clear area at the front. Also a large dummy antenna was bolted to the top of the canopy. The pilot had to wear a black cloth hood plus dark glasses to insure against inadvertently being seen thru the clear area of the canopy. Combine all these factors with a rough, unsurfaced landing strip bulldozed out just for the purpose to filming the TV show and you can see there possibly could be a few problems. There was.....on July 19, the day previous to the accident, Art Scholl, who was to do the aerobatic sequences, was wheel landing the KR-1 and had the gear retract when he applied brakes. The extremely rough dirt strip was working the landing gear enough to cause both latch handles to bounce off their catches. Damage was minor, being limited to the prop & bottom fuselage skin. (An earlier landing into this field by Ken was uneventful, however being shorter than Art, Ken's legs actually rest on the latch handles. Also he 3-pointed it on and didn't use brakes until almost stopped.) An hour later, Frank Tallman was about to fly Ken to R/R shop in a Cherokee Six to pick up a new prop and repair materials when the gremlins struck again. A final jolt to the left landing gear as the Cherokee was taking off was so violent that it raised a foot high bulge and about 10' of wrinkles in the top of the wing. The airplane would not climb over trees at the end of the runway so Frank made a steep left bank and flew between them. (Only passenger was Ken, so the Cherokee wasn't exactly overloaded.) An emergency landing was made at Fox field in Lancaster, CA and the trip resumed in another plane. July 20....repairs had been made to the KR-1, filming was to start with Ken doing some flying for the cameras & Art doing the fancy stuff later. Take-off was made with no problems as was the climb-out. Leveling off at around 130mph ind. produced so much vibration that during radio communications Ken said he thought the prop was coming off. Returning immediately to the field, Ken aimed the KR-1 between the trees and set up for a landing. Because of the painted canopy (the black hood probably didn't help) he didn't see one of the trees. The left wing contacted a 4" dia. tree about 40' alt. and 65 mph in a 15 degree left bank. The tree sheared off, taking about 2' of leading edge with it. The KR-1 side slipped right wing low, into the ground and disintegrated. Ken suffered a broken collar bone, concussion & back injury. At this writing he is recovering nicely & has returned to work at Rand/Robinson.

Subsequent investigation of the wreckage showed no indication of prop or engine malfunction. The vibration experienced by Ken had probably been caused by the dummy antenna attached to the canopy. Many parts of the KR-1 were salvageable and there are already more parts in the pile than came out of the wreck. An electric starter, for example, and since the engine exhaust pipes were bent & have to be replaced anyway...a turbocharger is under consideration.

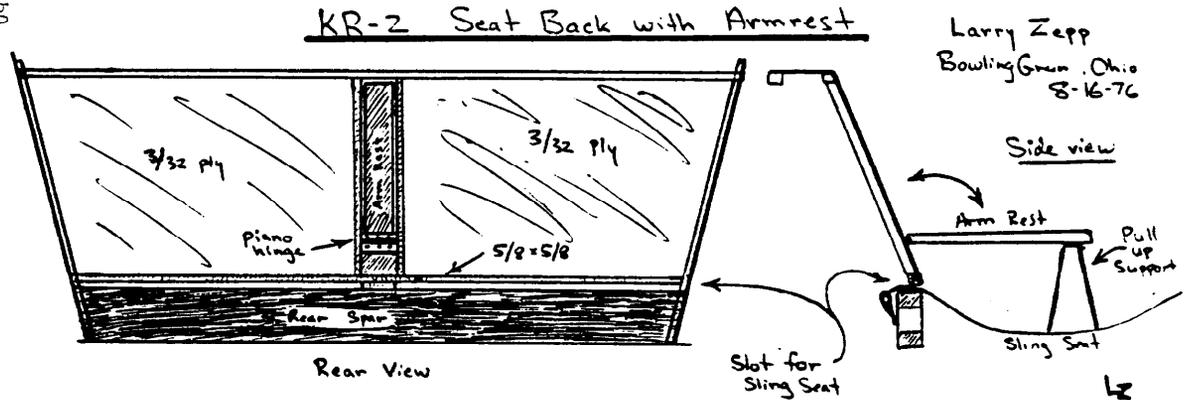
## QUESTIONS & ANSWERS

- Q. Can wood surfaces which will have foam glued to them be treated with preservative and/or varnish?
- A. Yes, just be sure to mask off any area which will later have dynel/epoxy skin contact.
- Q. In what direction should the grain run on the outside belly plywood?
- A. Fore and aft.
- Q. I can't find Titan Polyfoam in my area. Are there substitutes?
- A. Yes, most marine supply shops carry a two part liquid urethane foam. This is basically the same product and will have many different brand names.
- Q. I've just heard about using epoxy as the bonding agent for the wood portion of the airframe. Is this acceptable?
- A. I've personally used three different types of epoxy for the wood structures. I feel they were all superior to the powder mixture.
- Q. Some builders are having trouble bending the fuselage sides together after the skin has been applied. Should the skin be glued on after the framework is bent to shape?
- A. Either method will give satisfactory results. If you skin the sides first, bend them together slowly over a 24 to 48 hr. period. If you bend the framework first make sure you get proper glue/skin/frame contact.
- Q. Where do I find plans for the KR-2 wet wing?
- A. There are no actual plans. There are instructions in issue #5 of the newsletter and in the new KR-1 plans.
- Q. I have heard that by laying a poly-ethylene sheet over resin/cloth while wet and then peeling it off when cured will give a smooth finish. Have you heard of anyone doing this?
- A. Almost everything has been tried at one time or other. The problem with flexible material like poly-ethylene is it will not lay smooth over large surfaces. Best results have been obtained using 4 mil milar which is much stiffer and leaves a smooth surface with minimum sanding.
- Q. Is it OK to use VW engine instruments in lieu of aircraft type?
- A. Yes, electric or mechanical are satisfactory.
- Q. Can I get Rand's 3-blade adjustable prop drilled for an A-40 prop flange?
- A. Yes you can, but unless you plan on reversing engine rotation or using it in pusher configuration a la Varieze, the blades won't work. VW engine rotation is opposite to the continental. Rand/Robinson plans on marketing standard blades later this year as the KR-3 will be using them. (Pusher VW)
- Q. Has anyone used a different form of wing attachment such as a spring loaded taper pin to facilitate quick wing removal?
- A. Yes, but most builders are using bolts for a more positive system of fastening.
- Q. How many turn buckles are used in a KR-2?
- A. A minimum of 5, two for rudder, two for elevator and one for aileron. (same as for KR-1)
- Q. Do you have any engineering data on the wing panel connections as to G values? (the 4130 steel and the bolts)
- A. These fittings are by far the strongest part on the airframe. Computer stress analysis indicated they would withstand forces to 24Gs.
- Q. How far forward are the axels located from the rear face of the spar?
- A. From the rear face-5 7/8", fwd face-3 7/16". These measurements can be varied to allow an ideal weight of 5 lbs. at the tail wheel.(empty)

TIPS FROM OTHER BUILDERS

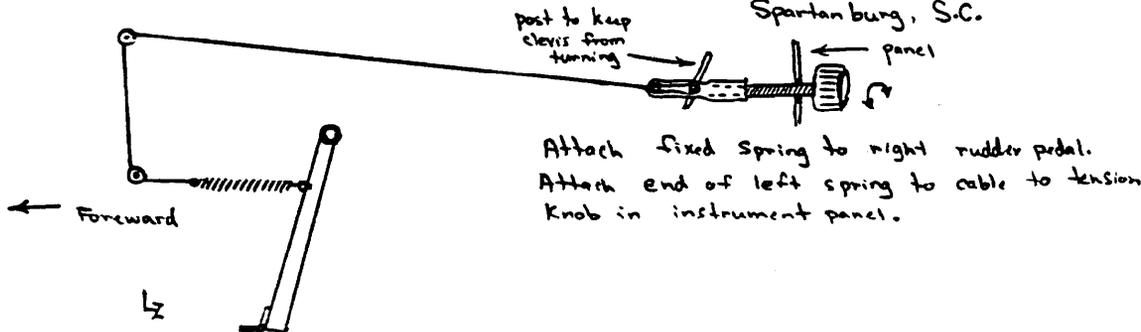
There are some builders who seem to devote their spare time looking for and thinking of new ideas to incorporate into their KR's. One such is Larry Zepp of Bowling Green, Ohio. Larry has been sending in tidbits and tips to the newsletter since Oshkosh '75. The drawings & tips on this page were sent in by him. I would like to take this space to thank him and all others like him. By sharing their ideas and general knowledge they are increasing the quality and quantity of not only KR aircraft but all of the sport aviation movement.

Special seating foam--forms to fit your bod. Modified polyurethane foam developed for Apollo seats feels great & is available: Ask for info & samples TEMPER FOAM-Edmont-Wilson Co. Coshocton, OH 43812



Super Simple Rudder Trim

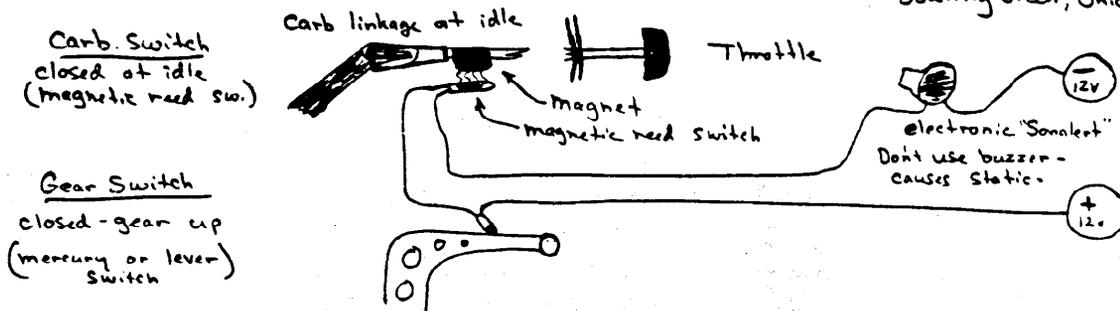
by Brian Benjamin  
Spartanburg, S.C.



Electric Trim Servos--RC servos made for landing gear retraction on aircraft models are ideal for electric trim. They have built in limit switches and static filter. A gas gauge sender and gauge can also be used as a trim position indicator. Servos are made by: WING MFG. CO Carl Goldberg Mfg. See your local hobby store.

Landing Gear Warning Circuit

by Larry Zepp  
Bowling Green, Ohio



\*\*\*COMING NEXT MONTH\*\*\*

More goodies from Larry Zepp plus new ideas on KR construction from Bob Briggs, a Canadian builder. Lookin' good!!!

OSHKOSH '76....Although the original KR-1 didn't make the fly-in, it was well represented by the four that did. George Andrew was back this year with his KR-1 P-51. (It's for sale, see the want ad section.) Another KR-51 made a short appearance but left before I could talk with the builder. Ray Ellis brought his KR-1 with the sliding canopy (see issue #14). The other KR-1 belonged to Bob O'Day who had made an effort to turn out a nice looking aircraft.

KR-2 builders must still be building as the only KR-2s in attendance were back from last year. The Rajay Turbo installation in the Rand/Robinson KR-2 attracted so much attention the cowling was on the ground more than it was on the airplane. Wicks Organ was displaying their "9 week special". The dual sticks from last year are gone, replaced with a single center stick.

Stu Robinson was well received by the crowd of interested builders attending the KR forum. Questions brought out at the forum and during talks with builders around the display area are in this issue & should be of interest to all.

I want to say hello to all the builders I talked with at Oshkosh this year and a special thanx to all who helped bed down the KR-2 each night. Looking forward to next year, see y'all then.

#### BUY SELL TRADE

FREE....Brand new crank from a Super Beetle, various parts (cylinder, pistons, etc) plus one old partially disassembled VW engine. I'm willing to give them away--just come and get them--to anyone who feels that they can be useful. BOB GAULIN 82 East 2nd St. New York, NY 10003

SELL....KR-1 modified to P-51 configuration. 1700 cc VW, 4-blade prop, sliding canopy, 150 mph cruise. Colors-silver w/red & white checkerboard tail & wing tips. GEORGE ANDREW 5200 N. Lovers Ln. #4 Milwaukee, WI 53225 Ph. 414-463-5758

BUY.....Wanted---completed KR-2 with 1834 or 2100 cc engine. BOB COWART Rte. #3 Box 348 Harlingen, TX 78550

SELL....Fiberglass Cowling for KR-2. Weight 12 lbs, very strong. Firewall template & engine, baffle templates are included. \$125.00 DAN DIEHL 4132 E. 72nd St. Tulsa, OK 74136 Ph. 918-492-5111

TRADE...Will trade good corvair engine for usable VW engine. C.S. GALLIAN P.O. Box 32 Huntington, WV 25706

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