



# NEWSLETTER

RATES  
1 Year \$9.00  
O/Seas Airmail \$15.00  
Back Issues .75 each

**\*\* A monthly publication for communication between KR builders and pilots world wide.\*\***  
Edited & published by Ernest Koppe, 6141 Choctaw Dr., Westminster, CA 92683 714-897-2677

## EDITORIAL.....

The freedom you enjoy in constructing homebuilt aircraft is due largely to the efforts of one organization...the Experimental Aircraft Association, better known as E.A.A.

Recently the F.A.A. came up with some proposed rule changes that would have made it almost impossible to enjoy flying that homebuilt or any other light airplane, unless you were among the very well-to-do builders who are putting in IFR equipment in their projects. The E.A.A. was again at the fore front in urging for a more sensible approach to a very real problem. Thousands of E.A.A. members wrote the F.A.A., their state and national elected officials, protesting the high-handed way the F.A.A. was treating our freedom to fly. It got results. A bill, HR 3480 has been introduced in Congress that would restrict the F.A.A. from making rules that affect U.S. airspace without first satisfying Congress for their need and applicability. Let your Congressmen know you want this bill passed.

The E.A.A. needs your support!! I know at least half the KR Newsletter readers are E.A.A. members, it is the other half I am now appealing to. Stand up and be counted!! Join the E.A.A., be a part of an organization that truly represents YOU!!

Membership in the E.A.A. is \$25.00 annually, and this includes 12 issues of Sport Aviation, the finest publication of its kind anywhere. The friendship and co-operation among fellow E.A.A. members is something that has to be experienced to be believed. Don't be left out, help out. Join TODAY. Write E.A.A., P.O. Box 229, Hales Corners, WI 53130.

The survey suggested by Bill DeFreze in the last issue is bringing in some response. I'm going to list names and percentage complete as the info becomes available. If you haven't sent in your answer to the survey, use the outline in the last issue. Send it in and we'll get it in the next issue.

- |      |      |                                    |      |     |                                 |
|------|------|------------------------------------|------|-----|---------------------------------|
| KR-2 | 30%  | Gerald Davis, Ft. Meyers, FL       | KR-1 | 40% | Arden Reiman, Perry, IA         |
| KR-2 | 40%  | Winton Lowery, Manassas, VA        | KR-2 | 40% | Bill Lee, Tavernier, FL         |
| KR-1 | 35%  | John Andre, Virginia Beach, VA     | KR-2 | 30% | Mark Kaufman, Shelocta, PA      |
| KR-2 | 80%  | L.A. Frouws, Oranjemund, SW Africa | KR-2 | 1%  | Clayton Howe, Bryant Pond, ME   |
| KR-2 | 55%  | Fred Richen, Puyallup, WA          | KR-1 | 30% | Frank O'Brien, Willingboro, NJ  |
| KR-2 | 10%  | Michael Hull, Redford, MI          | KR-2 | 30% | Dennis Harms, Newton, KS        |
| KR-2 | 20%  | Ron Jones, Vancouver, WA           | KR-2 | 40% | Milford Moss, Logansport, IN    |
| KR-2 | 30%  | Edward Ham, Sandy, OR              | KR-2 | 40% | Bill Ayers, Tracy, CA           |
| KR-2 | 10%  | Richard Palmer, Portland, OR       | KR-1 | 70% | Don Pearsall, Klamath Falls, OR |
| KR-2 | 1%   | Joe Ambrose, West Point, VA        | KR-1 | 15% | Gary Swanson, Edmond, OK        |
| KR-2 | 100% | L.C. Davison, Canyon, TX           | KR-2 | 30% | T.N. Skiles, Cedar Park, TX     |
| KR-2 | 65%  | Walt Nettle, Huntington Beach, CA  | KR-2 | 20% | Mike Ballard, Niangua, MO       |
| KR-2 | 8%   | Al Boyd, Tucson, AZ                | KR-1 | 75% | Laurence James, Fairmont, IN    |

SPECIAL REQUEST.....Fred Richen, 9917 152nd St. E., Puyallup, WA 98371 was the fellow that introduced me to liquid foam. He is helping in organizing a reunion of WW II pilots stationed in England. If you, or someone you know, might qualify have them contact one of the following addresses....

8th Airforce Clearing House  
c/o E.A. Fessler  
3911 N.W. 173rd Terrace  
Opa-Locka, FL 33055

91st Bomb Group (H)  
Western Division  
Geo. W. Parks M/Sgt (Ret.)  
109 Wilshire Ave.  
Vallejo, CA 94590

## KR CLUB NEWS

\*\*Ron Sorrell reports that the 1st flight of his KR-2, N78RS went off without a hitch. He plans on flying the hours off and getting it to Oshkosh '79 so look for him there. Ron has promised more info on performance figures for his KR so watch coming Newsletters. Other club members around Ron can benefit from his experience as he has volunteered to be our newest KR designee...Ron Sorrell, 6505 Sassafras Dr., Independence, KY 41051.

\*\*I need an update for KR Club meeting dates around the country (or countries). The local meet here is at my place, 2nd Monday every month at 7:30 pm.

\*\*I liked the "super tin" mentioned by one of our Canadian builders in a previous issue so I set out to buy a set for myself. These baffles are already formed to fit the lower half of a VW engine and will direct airflow in a manner to avoid "hot spot" areas. I found a shop that will sell these baffles in quantities at a good savings. Price per set is \$12.50 plus shipping. California add 6% tax. Send orders to Ernest Koppe, 6141 Choctaw Dr., Westminster, CA 92683

\*\*Development of the tuned intake/exhaust system has progressed nicely. Design is finalized and the prototype is at a tube bender for copying. Hope to have photo and prices in the next Newsletter.

\*\*Ron Jones, a KR Newsletter subscriber in Washington, read of Brad Hummel flying an assortment of KR-2s and wrote for a few pointers on what to expect from his KR-2 on the first flight. Ron's KR will be powered by a Revmaster 2100 turning a Rand 3-blade prop. He wants to widen the fuselage 2" and install flaps. Here is a copy of Brad's reply to Ron, I thought it worth repeating....

Dear Ron,

I think your idea of widening the KR-2 fuselage by two inches is a good one. My own KR-2 is widened 2 1/4 inches over the rear spar and it really makes a big difference. Ken used to tell builders that it would probably slow the plane down two or three miles per hour but that is all. No one has ever had any C.G. problems from a wider fuselage. If you could make the bottom a little wider at the same time your seat room will improve your control ability with two people and your gear hinges will be farther apart and you probably won't have the gear spring bar problems.

Keep it light. Every ounce is directly related to your rate of climb. Squeeze all excess glue out of your wood joints and put it back in the can. Carve your foam and sand it to as close to perfect as you can get it. Take the time now and you will save double time later. Apply your epoxy and dynel so that it is totally soaked in epoxy and then squeegee it as dry as you can get it without breaking the foam. Then let it harden for a few days and take a disc or belt sander to it. Knock off the rough tops of the dynel until you can see clearly the weave of the cloth. Don't go through the cloth. If you do, carve out a small dish in the spot and repair with a small round patch of dynel and epoxy. After sanded you can lay a light layer of epoxy over the cloth, (to be sanded almost off totally later), to fill in any dry spots. Or, just fill with a light coat of feather-fill polyester paint. This method of glass work will really keep the weight down.

Also, don't be afraid to grind or sand down your spars to conform to wing contour. Be sure the dynel contacts the spar as it crosses over it. Don't fill with foam as it will separate in flight. O.K.?

From the KR-2 you described to me I would say you will have pretty much a normal KR-2. Ground visibility will depend on how much angle you put on your tail wheel, (more down angle, less top speed, more visibility). When you add full power for take-off, the tail will come off the ground as soon as you want it to. Take-off roll will be about 800 ft. Climb at 90 to 100 mph will be about 1200 fpm alone and 550 fpm with a passenger. Your engine will probably overheat if you try to climb out with your gear down and there is about a 40 mph difference in top speed with it down. Your cruise will be about 160 mph with a top speed around 175 mph. With the R/R 3-blade prop you can set it for a much faster top and cruise speed (probably 190 and 175). But your take-off roll and rate of climb will suffer.

Once in the air you will find your KR to be a fast, touchy, quick reacting little airplane. Don't let it scare you. Control movements are slight. An inch one way or the other on the stick will do what a full control movement used to do in a standard airplane.

(cont.)

DON'T TRY to go around the pattern on your first flight if you can help it. Climb out to about 5000' AGL and fly it for about an hour. After 45 minutes you will notice that the KR seems to have lost most of its sensitivity and you will begin to feel more comfortable. Now you can try a landing or two if you want. You're getting used to the airplane.

Downwind between 90 and 100, (don't forget your landing gear at this point). Once below 80 mph you can lower your flaps. You probably could lower them at a higher speed but Ken never did.

80 mph usually gives me a good rate of descent and a good constant view of the runway. Then as I am coming up on the numbers at around 50 feet I will pull the power and level off. Slow the plane down to around 60 and push the nose over and dive on the numbers. At 10 feet or so I level off in ground effect and then land normally. This is the way I like to land but it can seem scary at times.

With flaps you can probably come in at 65 or 70 down to the runway and just land normally. As a rule the rate of descent can be controlled with power, but, under 75, without flaps, you're in such a nose-high attitude that you can't see the runway until you're on top of it or side slip. I have flown a KR-2 as low as 28 mph I.A.S. without a loss of altitude. Stall is gentle and gives you lots of warning.

If you should get the airplane in a very slow stall (like 20 mph) and it rolls off on you, bring your controls to neutral and wait for 60 mph to recover. Any earlier attempt can cause a secondary accelerated stall and maybe even a snap roll, but this is rare.

The posa-carb does not require a carb heat or mixture control to fly in normal conditions. However, in extreme conditions it can and has iced up on me and you will lose some power from 10,000' on up without some sort of mixture control. So, you will have to decide. Keep it light! Ken used his on/off needle valve as a mixture control.

I don't think you will have many problems flying the KR-2 but I would suggest some touch and goes in a fast tail-dragger, like a Citabria before you go up. Maybe two hours of touch and goes and some air time in a Grumman TR-2 trainer. The TR-2 will give you a little preparation for the sensitivity.

I hope to be in your area in the next year but if not, I will definitely be at Oshkosh for the fly-in this year. Please feel free to contact me in the future if you have any further questions or want a check-out ride in a KR-2 before you fly yours.

Sincerely,  
Brad Hummel  
14161 Chestnut St.  
Westminster, CA 92683  
Ph. 714-894-3888



#### GET A HANDLE ON IT!

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#### HAPPENINGS.....

- June 9 & 10.....E.A.A. Chapter 135 is assembling an indoor display of homebuilt aircraft, 20 to 30 display aircraft expected, 4 KR's for sure and the possibility of 4 more. Its at the Merle Hay Mall, Des Moines, IA. Contact Arden Reiman, 1418 Highview Dr., Perry, IA 50220 or phone 515-465-2490.
- June 21-24.....M.E.R.F.I. at Springfield, OH. Contact Bernie Yeates, 200 Countryside Dr., Enon, OH 45323 or phone 513-864-1728.

## QUESTIONS & ANSWERS

- Q. Can the KR-2 fuselage side frames be assembled without first putting on the plywood skin?
- A. Yes, but I would do it in a jig to assure perfect alignment.
- Q. I built the wood portion of my KR using Weldwood Plastic Resin. Is this acceptable?
- A. Yes, the prototype KR-1 and -2 were built with Weldwood Plastic Resin.
- Q. Is it normal for the KR-2 fuselage sides to bow at the center top longeron when curved to the proper dimensions?
- A. Yes, there may be as much as 3/4".
- Q. Will this curvature present special problems when determining the angle of incidence of the wing or the horizontal stabilizer?
- A. The wing spars will rest on the bottom longerons and will not be affected by the curvature. The fwd spar of the horizontal stab can be raised 1/8" above the top longeron but to select the ideal angle of incidence for the horiz stab. use the table in Newsletter #40.
- Q. Will the intake/exhaust system you mentioned in the last Newsletter (47) fit a 1200 cc (40 HP) VW?
- A. No, it is designed for the larger VWs, 1300 to 2200 cc.
- Q. Are the AN4 bolts thru the axles really strong enough?
- A. I have seen landing gear castings broken from potholes, runway lights, hard landings, etc. I have yet to see a properly fit axle bolt fail.
- Q. Where do I position the pitot tube and static air outlet?
- A. Position the pitot tube out of the prop slipstream on the leading edge of the center section wing. Positioning of the static port requires experimenting with locations on your aircraft. Most builders leave the static vent open to cabin air but some have found that the area on the side of the fuselage about 12" aft of the cabin 6" below the top longeron is an acceptable site for a static port.
- Q. Do you have all of the back issues of the KR Newsletter? What is the costs for all?
- A. I try to keep a full supply of back issues at all times and reprint issues as it becomes necessary. Normal price of the back issues is 75¢ each but due to reprinting of several large amounts lately I can lower the costs to 50¢ each in orders of 24 or more.
- Q. My hands have become sensitive to epoxy (Rand's two years ago). I've tried vaseline, gloves, etc. to no avail, has anyone found an effective barrier to the epoxy fumes?
- A. I don't know of anyone that has found an acceptable glove or lotion once they have become sensitive to epoxy. I hope someone will read this and let me know if they have found something that works. Meanwhile the epoxy Rand/Robinson supplies has been changed to a less allergenic formulation. One builder that was very sensitive to the previous blend is able to use the new stuff with no problems.
- Q. Is Revmaster still in business? I ordered an engine last October and it still hasn't been delivered.
- A. Revmaster is very much in business. The increasing popularity of VW powered aircraft has kept them from catching up with their back orders.
- Q. Has anyone used Kevlar on their KR?
- A. Yes, Don Land is using Kevlar exclusively on his KR-2. See his ad this Newsletter for his address.
- Q. How is the fiberglass fast back attached to the fuselage on a KR-2?
- A. Position the fiberglass piece to suit the desired lines. You may trim or add to get the desired shape. Tack glue the piece in the final position and configuration. After this has set up, run a strip of Dynel or fiberglass cloth 4"-6" wide along the seam, overlapping wood and fiberglass part equally. Run another strip inside the fuselage (about arms length) from each end. Allow to cure then fair in with a microballoon filler.
- Q. Has anyone tried a CB in a KR? Would it work?
- A. I don't know about a KR but I know it has been tried in other aircraft. Transmissions are loud and clear for miles from a 5000 ft. altitude. Unfortunately, your reception is equally as good. You pick up all transmissions for miles around. Very difficult to pick out any one signal.

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Don Land  
906 Manzanita  
Los Angeles, CA 90029

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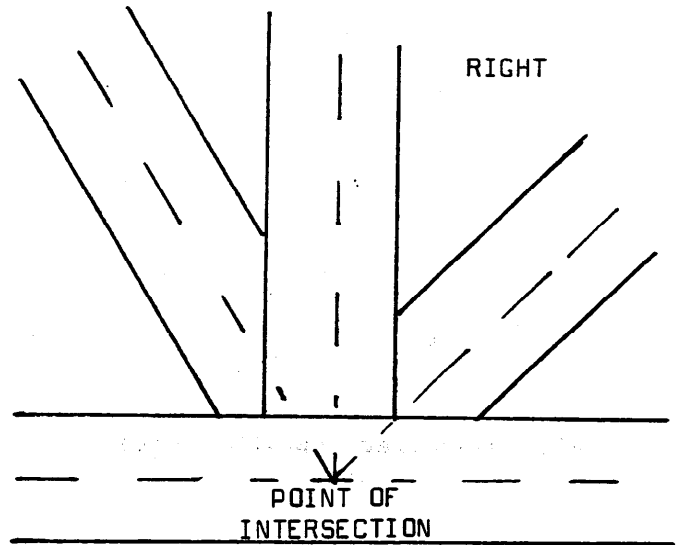
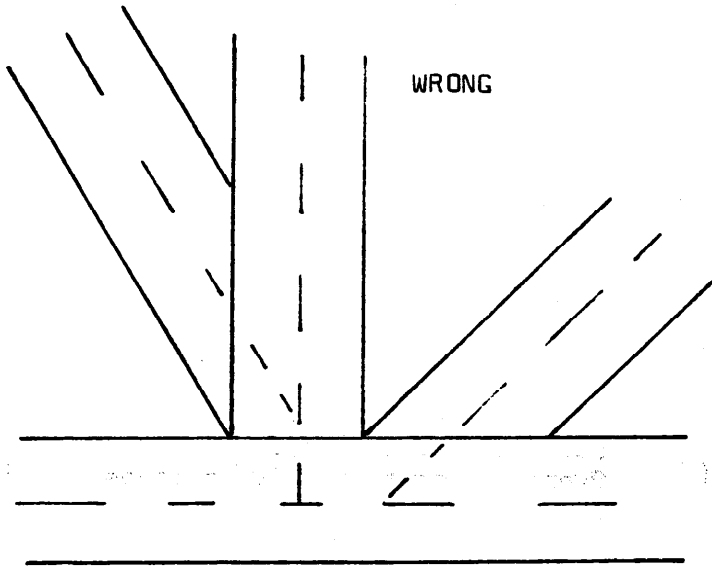
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Tips From Other Builders

Good building practice dictates that the centerline of all fuselage longerons, uprights, cross members, and angular braces intersect whenever possible. D.O.T. inspectors in Australia insist on this practice and will not accept otherwise. Keep this in mind when you are laying out the fuselage side frames for your KR.

Ray Creed  
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