

# KR Newsletter

## SUBSCRIPTION RATES

ISSUE #38  
AUGUST 1978

One year \$9.00 Back Issues-75¢ ea  
Overseas air mail \$15.00

So many, many things to do! Oshkosh is on us again and the list of things to get ready seems to grow. Everytime I cross off a task completed, I have to add two more.

The family and I are bringing the camper and will stay at the campground this year. I hereby declare the camper as KR Club HQ for the duration of the EAA Convention and as soon as I get it situated, I'll post the location on the bulletin boards around the fly-in. All of you are welcome to come by for some cold suds or ice tea.

Looking for a great KR turnout this year. Most of the KR's that attended last year have indicated they will return this year. One notable exception is the KR-3, it will be around Christmas before it is ready for the next public appearance. The new airfoil and slightly re-designed fuselage should cure the problems experienced with the original. Soon as the guys are satisfied all is well with the KR-3....well, you know what's next, the KR-4. All efforts will be turned toward getting a tri-gear (retractable naturally) VW powered twin into the air. Should prove to very interesting.

On the current scene, Ken is flying the turbo KR-1 every day to get the hours flown off. If all goes well (and it has so far) he will fly it to Oshkosh "78" and someone else will either fly or trailer the KR-2.

Did you see the picture of the KR-2 in this month's "Sport Aviation" (July 78)? It showed the flaps very well. The KR-2 has logged about 30 hrs now since they were installed and no real problems to report. A few more hours and perhaps Ken will get some plans drawn up.

\*\*\*The KR Club membership list is growing by leaps and bounds. I'm going to send out the membership cards and area membership lists as soon as I get home from Oshkosh. I had planned on sending them sooner but with the many new members coming in each day, I want to send the most complete list possible.

\*\*\*Good news for our Australian KR-2 builders. The Australian D.O.T. has awarded Amateur Built Aircraft Approval No. 45. I understand several KR-2s were already under construction so it shouldn't be much longer now before we hear of the first flight of one of them.

## BUY SELL TRADE

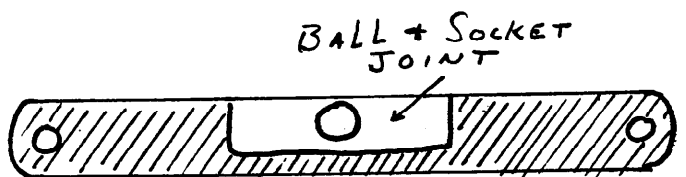
Customized pinstriping for your KR-1 or KR-2. A variety of colors to match your paint scheme. Tom Criss, Pacific Newport, Newport Beach, CA 92663. Phone 714-673-5372.

KR-2 Project: Fuselage completed up to step 3.18, installation of belly plywood is finished, 5 spars, spruce for tail, 2 VW engines, 1 set dual port heads, misc. materials, plans, catalogs and all KR Newsletters. \$600.00...Jim Dillner, 2603 SW 9 Ct., Fort Lauderdale, FL 33312. Phone 305-791-3421 at home or 305-581-3772 at work.

FOR SALE: KR-2 project, all materials except motor and instruments to completely build this plane. I only have the fuselage sides completed. Best start from scratch. Selling very reasonably...\$1,300.00. Gordon Young, 33825 Dlugosh Ave., Mission City, B.C. Canada, 604-826-1836 anytime. The proceeds of this sale will go toward the purchase of a turbo-charged Revmaster on the KR-2 I have purchased.

TIPS FROM OTHER BUILDERS

I'm building a KR-2 which has been under construction for 15 months and I plan to have flying by early spring. I have modified my landing gear to your article in Issue 19 and it works super. All my control cable work is in and signed off. All spars are signed off along with the tail surfaces, covered and finished. Forward deck and fuel tank is nearly complete with dash in. After contact through your Newsletter with Odran Benson, I've purchased a Continental 65, built my engine mounts and installed the engine, temporarily, and built my fiberglass cowling around it from which I'll pull a mold and make a fiberglass cowling. I'm installing a posa-carb and putting my oil tank on the firewall to keep it above the fuselage bottom so I can streamline my cowling. One modification I made which I haven't seen yet is to my control stick mounting bracket. I used a 4" swivel caster mount with ball bearings which bolted on to main spar using bolts from center gear hinge with no modifications to the caster mounting plate. Incorporated into this I used a push rod from the stick to behind the seat as in one of your previous Newsletters, with cables from bellcrank behind the seat on aft to the elevator. For the aileron control cables to the stick I used a ball swivel joint mounted on the bottom of the stick facing forward with the socket facing toward each wing tip, a piece of 4130 welded to the socket part with holes in each end for cable attach points. This enables a full amount of swivel in all directions which eliminates any tightening of the cable with motion of the stick. Below is a drawing if you wish to use it. One thing I would like to see in the Newsletter is a list of the fly-ins Ken Rand will attend around the country. I've attended several around our northwest area and I still haven't seen a completed KR. I guess I'll have to finish mine to see one! Keep up the good work.....E.H. Nelson, Box 858, Pinehurst, Idaho 83850.

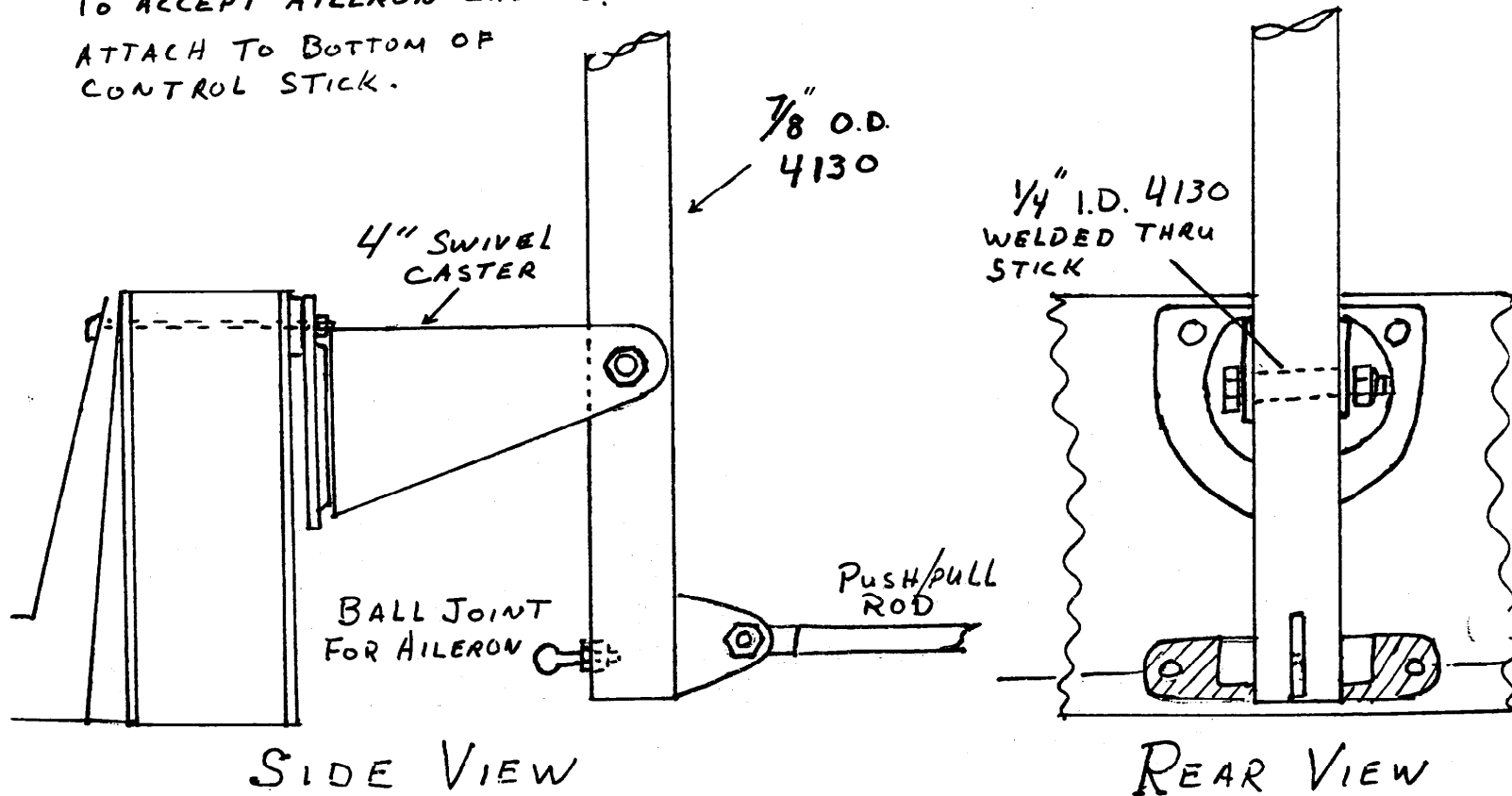


BALL SOCKET WELDED TO 4130  
TO ACCEPT AILERON CABLES.

ATTACH TO BOTTOM OF  
CONTROL STICK.

STICK MOUNT AND  
AILERON BALL + SOCKET  
CONSTRUCTION

PLUG IN YOUR OWN  
MEASUREMENTS TO SUIT  
YOUR STICK TRAVEL



SIDE VIEW

REAR VIEW

## Tips from other builders (cont.)

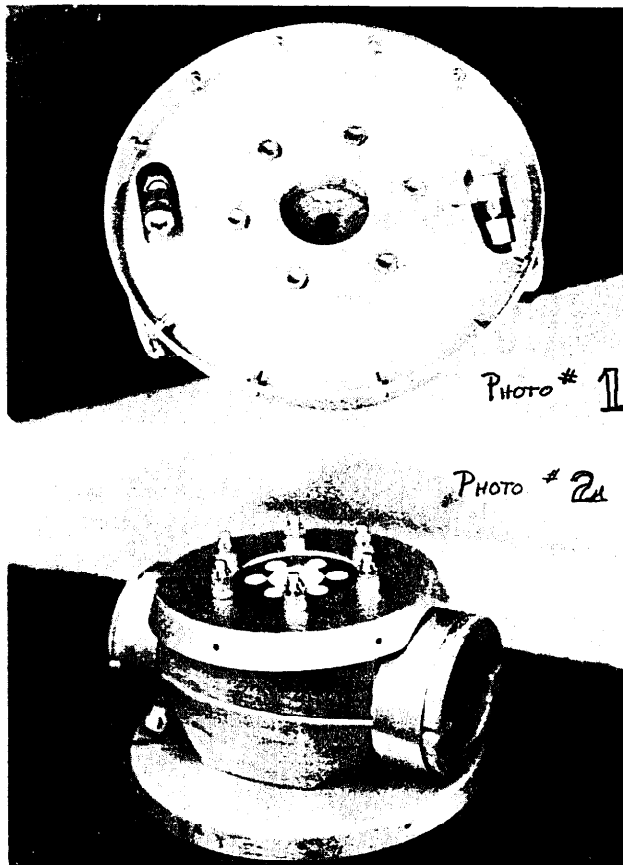
The VW engine, as adopted to aircraft use, is undoubtedly the most popular of all the auto engine conversions. Assembled with reasonable care, it will give many hours of trouble free performance. As more and more VW powered aircraft take to the air, we are becoming aware of the various problem areas to watch for and get a fix on. The EAA Designee Newsletter ran the following letter about a possible problem area in the VW engine:

Gentlemen: This may be of interest to other EAA members like myself who fly behind (or in front of) Volkswagen powerplants. A few weeks ago a planned Saturday of airport hopping came to an abrupt end when after having run the engine for a few minutes and shutting down once, it seized up solid during the next start up. A tear-down revealed that one of the three bolts holding the timing gear to the samshaft had backed out - the oil pump was ruined and both the timing gear and gear of the crankshaft were damaged and of course the engine was locked up tight. I'm thankful that it happened on the ground. The bolts (metric) are a locking type that have anti-slip ridges on their inner face which I suppose should prevent backing out but I now have a ruined engine to prove that they sometimes do. Looking back, I can see that his unhappy event could have been prevented by having the bolt heads drilled, then safetying such as prop bolts are done. The bolts can be checked on existing installations by pulling the oil pump and turning the crank slowly. Each one will come into view for checking. On my next build-up of a VW, I plan to drill and secure them with .040 wire before assembly. As I stated this may be of interest to someone who if flying a VW. It sure was to me. Happy building and flying...Richard D. Fehiner, 1816 Kenwood Ave., Spring Lake, NC 28390.

While this is the first instance of this problem of which I've heard, obviously it could and did happen. A few minutes spent on prevention of a problem can save hours of overhaul at a later date.

\* \* \* \* \*

Here is an item which may be of interest to KR owners using Warnke's newest prop with 7/16" pinch bolts on hub. With the pinch bolts installed to the front, a large cutaway is required in the spinner for bolt clearance. I flew my KR-1 18 hrs. with Warnke's prop, then experienced a little problem. Returning from Watsonville, CA to San Diego I had flown 400 miles and was within 10 miles of my home field when i experienced quite heavy vibration. After landing, I discovered the prop spinner cracked and torn loose from half of the 8-32 bolts to the backing plate. The cracks had started from the bolt clearance cutaways. As can be seen from the pictures, I have solved the problem by turning the clamps to the rear (photo #1) and fabricating a front backing plate for the spinner (photo #2). I have machined a die for spinning the front backing plate and can supply them to interested parties for \$6.00, postage paid..... Butch Grafton, 1605 Eucalyptus Dr. El Cajon, CA 92021.



## QUESTIONS & ANSWERS

- Q. What torque is used for the hinge bolts in the elevator and rudder spars?
- A. The procedure for tightening bolts passing thru wood is to tighten them enough to compress the wood using care not to break the fiber of the surface grain. Torque values required will vary greatly with different pieces of wood.
- Q. What adhesive must I use when glueing foam to foam or foam to wood?
- A. There are several alternatives, epoxy -five minute or regular and the two-part liquid foam are the easiest and most common methods used.
- Q. How are the rudder cables routed thru the fuselage on a KR?
- A. Nylon guides called fairleads are the best way unless you have a sharp bend and then you should use a pulley.
- Q. I'm having trouble getting the wheel bearing over the 5/8" AL axle. Do you force them on or grind down the axles until they fit?
- A. They are supposed to be a snug fit but not forced. Use 400 grit emery to polish the axles enough to get the bearings on.
- Q. Here in New Zealand the Revmaster 2100 is not approved for two person operation, could you advise whether a KR-2 has been flown with a C-65 or similar aero engine?
- A. While there are three or four KR's flying with aero engines, Rand recommends only the VW.
- Q. Can you give me an address of a firm that would supply seamless steel tube to make rudder pedals? Steel tube has become almost impossible to purchase here in S. Africa.
- A. Aircraft Spruce and Specialty is listed as a supplier in your plans book. They are a reputable firm and ship world-wide.

Here is a little hint for sanding the wing spars to the right contour. Attach some sheet metal to each side of the spar (fore and aft) along the desired contour and then sand with a belt sander. It is fast, accurate and does a beautiful job.....G. Fred Richen, 9917 - 152nd St. E., Puyallup, WA. 98371.

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