

Issue no. 67  
January  
1981



KR NEWSLETTER

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

A basis for ideas and food for thought only. Use of any of the idea material is at the user's discretion. Not affiliated with Rand/Robinson Engineering Inc.

HAPPY NEW YEAR!!

Well its that time.....time for New Year's resolutions again. Wouldn't it be nice if we could have kept last year's and wouldn't have to make new resolutions all over again this year? Maybe if I list mine here for all to see it will help me keep them a little better this coming year. A little prod from the Newsletter readers from time to time should do the trick.

RESOLUTIONS 1981

- #1. I will accomplish some work on my KR everyday this year, even if it is only a few minutes.
- #2. I will make parts and pieces to the best of my ability so I will have confidence in each and every part of my KR.
- #3. I will not change a part or design in my KR without knowing all the other changes necessary to accomplish the change.
- #4. I will not add gussetts, parts, or pieces to my KR that will increase the design empty weight unless these items are directly related to the safe operation of the aircraft.
- #5. I will have my KR inspected and examined by E.A.A. designees, F.A.A. inspectors and KR designees to insure I have not "built in" a flaw or defect in my KR.
- #6. When it is time to fly my KR I will go over every inch of it personally to see that each system is working properly and that there is a comprehensive safety check list for the pilot to follow.
- #7. NO ONE will fly my KR until they are familiar with every operation on the check-list.
- #8. Because so many first flights have engine related problems I will not allow the aircraft to be flown unless all temperatures are normal and static run-ups are perfect.
- #9. I will not fly the KR until I have been checked out by a competent pilot in a comparable aircraft.
- #10. I will always deport myself and my aircraft in a manner to be a credit to KR builders, EAA and all of sport aviation.

Now that is some list of resolutions! You can see why I could use a little help in keeping them...right? Right! There is also no doubt in my mind that I've left something out. If you have any thing to add to the list (or subtract) drop me a line. The idea is to get our KR's flying and flying safely!

I want to clear up a couple of things that appeared in the last Newsletter regarding the accident reports. First off, the POSA that failed in Ken Ranta's accident had been modified by Ken to include a mixture control. The part that failed was one he had silver soldered.

Jim Dexter's forced landing was due to a broken magneto coupling. This item was on the engine when the aircraft was purchased and its origin is uncertain. It was made of a phrenolic like many other couplings now in use so be aware it can happen.

Some builders have complained about a delay in getting parts from Rand/Robinson and I thought I would take this opportunity to offer a couple of reasons....personal checks being the first. Previous R/R policy had been to ship the parts when ordered and accompanied by a personal check. At least two individuals cancelled payment on their check before R/R ever received them. One check was for a very large order and of course the shipment was sent before the check came back from the bank. Since this happened, policy at R/R has been to ship after the checks have cleared. If you're in a hurry for your parts, send a cashiers check or money order. The other problem and one R/R has no control over is back order items from their suppliers. You can't ship what you can't get.

## HAPPENINGS

EL MIRAGE.....most of you have heard that the Chino Fly-in is being moved. Reasons for the move were financially motivated. Seems that almost every city, county, and state agency involved had their hands out for a cut of the gate receipts....very little left for the EAA Chapters who put the fly-in together. This year the fly-in will be held at El Mirage airport at El Mirage Dry Lake in California. This is good news to the many, many people who have tried to attend the Chino Fly-in in previous years and could not because of the haze that is so prevalent in the L.A. basin this time of year (April 25th and 26th). El Mirage is located in the California high desert about 45 miles north of Chino. The really good news is this years fly-in is being dedicated to the memory of Ken Rand and his contribution to homebuilding and sport aviation. Be there if you can, should be a great fly-in.

\*\*\*FIRST NATIONAL KR FLY-IN\*\*\*....Bill "Reverend Billy" DeFreze has done it! The date isn't set for sure but either the second or third week-end in June will be the date for the 1st National KR Fly-in. Place is Pope Valley airport, 24 miles from the Santa Rosa omni on the 55<sup>0</sup> radial, San Francisco sectional. Beautiful area for a fly-in, lots of grassy area for camping. All the arrangements have not been made and "Reverend Billy" has put out a call for volunteers to help make this 1st National KR Fly-in one to remember. If you can spare an hour or two on a week-end in June give Bill a call at (415) 828-2111. Several KR builders from close by states have promised to fly-in or bring projects so we're looking for a good size turn-out.. Watch for details here in the News-letter. See you there!!

A "Round the World" KR-2! Mark Price, 2107 204th St. SW, Alderwood Manor, WA 98036 had built a KR-2 he has named "Wanderlust". Known to the FAA as N13MP, Mark's KR-2 has 27'2" wings and a 4000+ mile range via 64 gallons of usable fuel. The flight around the world is expected to take place this spring. Stay tuned for more info as it becomes available.

## QUESTIONS & ANSWERS

Q. Has anyone tried Kevlar and Thornel 300" in building their KR? If not, what do you think of the idea?

A. A very few KR builders are utilizing Kevlar in constructing their KR's but I am unfamiliar with the properties of "Thornel 300". I assume it is one of the graphite fibers. The fellows using Kevlar do report lighter weight assemblies before finishing but I'm unaware of any real weight saving on a completed aircraft. Possibly an entire KR, fuselage, spars, and all could be built using graphite re-inforced Kevlar, but at today's prices the cost would eliminate all but the most dedicated builder.

Q. Does the Revmaster 2100 engine have a forged or cast crankshaft? Is one as safe as the other?

A. As near as I have been able to ascertain, the Revmaster 2100 utilizes a cast crankshaft unless the forged crank is specially ordered. As for safety..I don't think the cast crank should be used in an aircraft. The failure rate of this item has led me to believe it would serve best as a boat anchor.

Q. I have heard that there are "counterfeit" aircraft bolts being circulated. How can we tell these "bogus bolts" from the real thing?

A. Unfortunately, unless you have sophisticated test equipment, it is impossible to tell the fakes from the real thing. Our only hope is to buy bolts from a reputable supplier and hope that they know the quality of the bolts they are selling.

Q. Who do I see about insurance on my KR once it is finished?

A. Contact any independent aviation insurance underwriter in your phone book. They will shop around for the best price for your aircraft and experience.

Q. Does anyone have a fixed gear modification for a KR-1 or -2? I operate from a very rough, short strip and think those little wheels will get me into trouble.

A. I have seen several KR's with fixed gear and all looked very capable of handling rough fields. What I haven't seen is a set of plans designed specifically for putting a fixed gear on a KR. Any attempts along these lines should be taken with the usual precautions but the most important thing to check out is the geometry required for a good safe installation. A landing gear that is strong enough to handle the terrain you want will also have to be designed with positive handling in mind.

Q. I'm installing the trim tab and the control rod end seems a little flimsy. Has any builders had a problem with this unit?

A. I don't know which type control end you have but I used a Quik-link from a R/C model kit. Never had any problem at all.

Q. Are the spruce landing gear shims glued or or just bolted on? The R/R book doesn't say.

A. Glue them on. Just bolting them in place will allow problems to develop in alignment and support.

Q. Where can I get my A/C serial numbers? I purchased my project already started.

A. The serial number on your plans book is a Rand/Robinson designated number and should appear on on any paper work you become involved with the FAA in your area. Contact the FAA, make sure all your logs and papers are in order and they will have all the information you need.

Q. Has anyone really installed Don Land's tri-gear in a KR-2 and did it work?

A. Don Land's tri-gear system for the KR-2 is strong and well thought out. The plans Don sold are not clear however and has caused some builders to give up on using his system. There are two builders that struggled thru the plans and have a good strong landing gear for their trouble but it has added years to the building time of their KR's.

Q. If tri-gear on a KR is so safe and desirable, why doesn't R/R come up with their own version.

A. The folks at Rand/Robinson have been through much since Ken Rand died. Without Ken's vitality to spark the progress of several ideas he left behind there has been somewhat of a lag in the "new products" department. This could have proved the demise of many companies but due to the the appeal of Ken Rand's basic designs, the KR-1 and KR-2, Rand/Robinson is still very much involved in supplying orders for these two models. The KR-3 (amphibian), long reported finished, is still waiting to begin anew flight test plans that ended with Ken's death. Hopefully, this spring should either let the KR-3 take its place along side the 1 and 2 or if flight tests don't prove out...go the way of many ideas whose time is not yet. Now to answer you question.....A R/R developed tri-gear? You bet! Ken knew that the KR-2 would have to evolve into a tri gear to become an "everymans" aircraft and had planned to get a good cheap system on the market. These plans are being carried out at R/R today, as a KR-2 fuselage is being built around the tri-gear concept. It is to be a bolt-on system that can also be retro-fit to the 1000s of KR-2s already being constructed. It will take your encouragement for this tri-gear to become a reality. While the system does exist as a proto-type, firm orders would have to be forth coming before tooling could be set up for a large production run.

FROM H.A.P.I.

Posa Supercarb  
26 & 29 MM.....\$99.50  
Will convert yours.....\$50.00  
32, 35, & 37 MM.....\$119.00  
Will convert yours.....\$70.00

AND

F. J. Tillotson carbs  
a side draft 30 MM float bowl carb  
replaces Posa on all VWs...\$49.50  
while they last.

AVAILABLE SOON!

Bendix Zenith carbs with mixture  
control...\$89.50. We expect to  
have these in stock in 3 months.

NEW THROTTLES

Friction lock, as used in Cessna  
152s...\$13.95.

ORDER FROM

H.A.P.I.

BOX 5951

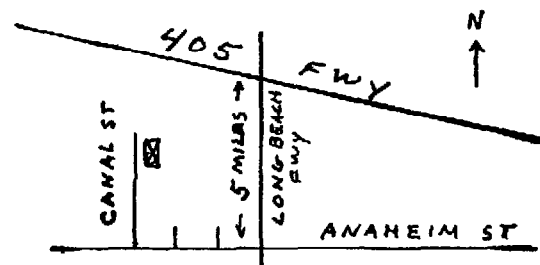
CALEXICO, CA 92231

(714)357-6342

"ENJOY THE BIBLE"

VNE COMPOSITE RESEARCH  
1328 Canal St.  
Long Beach, CA 90813  
(213)435-2310

Jig built wings for KR-1, KR-1B & KR-2,  
Wells' type latch mechanism, airframe  
hardware. Custom building services  
for KR designs and W.A.R. replicas.



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

# BUY $\diamond$ SELL $\diamond$ TRADE

WANTED...Used prop hub and Diehl Supercase for VW conversion. Also starter, magneto, etc. D. Lewis, 1856 Old Ridge, Virginia Beach, VA 23464 phone (804)467-7737.

FOR SALE...KR-2 on gear, tail feathers signed off, controls in, fuel tanks built, turtledeck foamed, spars built & ready for attachment. Includes canopy, Dynel, foam to finish, also altimeter & compass...\$1200.00 firm. (415)931-7429 week-days after 1 p.m. (Calif)

WANTED...New Revmaster 2100. Please note Mfg. date & accessories with price (no premium). Call or write John H. McClain, Jr., 7175 Salineville Rd NE, Mechanics-town, OH 44651 phone (216)768-2481 after 6 p.m. Eastern.

FOR SALE...R/R 3 blade prop. New, never used...\$250.00. Gera Warstler, 311 Oak Georgetown, IL 61846 phone (217)-662-8509

FOR SALE...KR-1 85% complete, HAPI engine, Warnke prop, instruments installed, wiring & controls almost complete...\$4000 FIRM...Connie Lauber, 502 N. Rodehaver, Oberlin, KS 67749.

FOR SALE...Revmaster 2100 D turbo and Maloof constant speed prop. All accessories. Still in shipping containers. \$4185.00 ...Tony Zeringue, (318)667-6385

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 \$53.00. We can make these parts from your material for \$35.00. Order now from..

MINATURE METRICS  
7801 14th STREET  
WESTMINSTER, CA 92683

\*include \$2.00 shipping per order  
\*\*prices subject to change due to fluctuations in material cost.

FOR SALE...one Continental 4 cyl, 4 cycle O.H.V. air-cooled engine, 32 cu.in., mfg. 2-63, rebuilt 7-71. Does not run, but could be rebuilt. And...one Chrysler Outboard Corp. 4 cyl., 4 cycle O.H.V., air cooled engine 32 cu.in. Runs fine. Both engines are rope start but could be electric, have fuel pumps, mags, oil filter, oil pumps & pans...\$250 for the pair. Clyde Wetherbee, 817 Evans, Waupaca, WI 54981 phone (715)258-5191 after 5.

FOR SALE...all KR-2 kits and R/R fiberglass parts, R/R 3 blade prop, Revmaster engine mount, all KR Newsletters, Defreze tri-gear planes...\$2400. Will deliver up to 600 miles. Bill DuRee, 6461 Macleay Rd. SE, Salem, Or 97301 phone (503)399-1703 days.

FREE...one KR-2 canopy (clear). New, never used, just come pick it up. Robert Sawyer, 1140 W. Ovington, Lancaster, CA 93534 phone (805)942-5144.

WANTED...KR-2, flying or not. Rebuildable wreck, construction stage, kits, engine, parts, etc. Send details to Ted, Box 8981, Strongsville, OH 44136.

## 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.



## KR STUFF

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



## "THE STING"

A Performance Tuned Exhaust  
 for the VW Aircraft Engine:

\*"The Sting" will give you a 5 to 15% increase in engine performance over the customary "straight pipes":

\*Fuel economy is increased! You get more power from less fuel due to the efficient design.

\*Exhaust valve life is prolonged due to the long tubes creating a "buffer zone" between the valves and rapid temperature change.

\* Will fit 1600cc to 2200cc conversions. It's ready to bolt on your engine, nothing to fabricate.

\*"The Sting" is designed specifically for Revmaster, Diehl, and HAPI VW conversions as installed in a KR. Will fit most other VW powered aircraft also.

\$150.00 ppd. in U.S.

Ernest Koppe  
 6141 Choctaw Drive  
 Westminster, CA 92683

## BUY ◊ SELL ◊ 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.

## 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.

Current Prices

ACCESSORY CASE.....\$125.00

RING GEAR ASSEMBLY.... 85.00

20 AMP ALTERNATOR..... 100.00

MAGNETO DRIVE..... 40.00

STARTER..... 65.00

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.

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.



## HANGER 4, CALEXICO INTL. AIRPORT

BOX 5951, CALEXICO, CA 92231  
774-357-6342

Dear KR Builders:

Three years ago nobody had ever heard of H.A.P.I. INC. Ernie Koppe saw our first test engine at the Ramona Fly-in in 1978 and mentioned it in this newsletter. We delivered our first customer engine just 2 years ago.

Since that time we have grown to now produce and deliver more V.W. aircraft conversions than all our U.S. competitors combined.

Our engine philosophy has always been simple, build them from the very best new parts to be reliable above all else, deliver them quickly, and follow up with after sale service and advice for the builder. We are proud of the fact that our customers are our best salesmen.

H.A.P.I. engines are designer recommended on AeroSport Scamp & Quail, Flaglor Skyscooter, VP-1 & VP-2, Der Cricket and have just been chosen to power the "DragonFly". Rand Robinson has approved our engines for KR-1 & KR-2. We manufacture KR-1 & KR-2 motor mounts & tuned exhaust systems, designed to fit, & bolt it on. We will release an engine installation kit Feb. 1, 1981 for KR's that will include engine controls, fuel strainers, lines, gascolators, fuel valves, and drawings showing how to install everything to be airworthy on that critical first flight.

H.A.P.I. engine models range from our basic "E" engine, without starter or alternator to the -2TDM Engine that has (-2) starter and 20 amp alternator, (T) turbo charging, (D) our own new solid state dual ignition, (M) mechanical fuel pump, allowing the tank to be anywhere. All our engines can be equipped with the "Vari-Prop", a cockpit adjustable pitch propeller, available from H.A.P.I.

All H.A.P.I. engines have forged steel crankshafts, are electronically balanced, built by A & P mechanics and completely test run before shipment.

H.A.P.I. is now delivering a special export engine, designed to comply with all the D.O.T. regulations in Australia and New Zealand. This will help our foreign builders to get into the air with a lot less red tape.

H.A.P.I. stocks propellers, instruments, every engine part, 4 different carburetors, in fact more goodies for the V.W. aircraft conversion than anyone, anywhere!

Send for our 40 page catalog \$3.50 postpaid in U.S. only. \$3.00 refundable on \$25.00 purchase. See what we have to offer! H.A.P.I.'s engine building manual, "How to Build a Reliable Volks Aero Engine" has sold over 3000 copies and many novices have built fine engines following these step by step instructions, \$11.00 postpaid U.S. only, \$14.00 overseas.

H.A.P.I. Engines, ask the man who flies one!

Sincerely,

The H.A.P.I. People!

Did you know the most popular homebuilt aircraft in South Africa was the KR? It's true, at last count there were 8 KR's flying there. Pitts Specials were next with 7 in the air. I'm sure fuel prices have something to do with the KR's popularity at \$3.50 and higher per gallon, an aircraft that gets 35 to 40 miles or more per gallon is bound to be popular.

Leon Coetzee, from S. Africa, was a visitor here in the States and brought some pictures of KR's flying there. Unfortunately, the photos of the KR-2 built by Leon and Peter Eich were not clear enough to reproduce well...but not to despair! A photo of what Leon described as one of the nicest KR's (or any other aircraft) ever built should be clear enough to make your mouth water. The KR-2 was built by Sakkie Halereen and is seen flying regularly in the Johannesburg area. Obvious modifications are the external balances on the rudder & elevator and the 13 gallon capacity each tip tanks. The not so obvious include a turbo charger on a Type 4 VW and a dive/speed brake. The tip tanks were sculpted from solid styrofoam, covered with glass & epoxy then the foam was melted out with a solvent. Sakkie's KR-2 has been flown at an indicated 200 MPH with no problems with the tanks or balance weights. The dive brake works very well. A 500 FPM glide can be turned into a 1500 FPM elevator ride without a change in airspeed.



Leon and Peter have been distributors for Rand parts and kits in S. Africa for years and the popularity of the KR's there reflect the enthusiasm of these two men. I have asked Leon to become our first international KR Designee, since he qualifies on all counts. O.K. guys, lets welcome our newest KR Designee, Leon Coetzee. You can reach him at 10 Lark Str., Meredale 2091, Johannesburg, Rep. of South Africa.

#### THE KR DESIGNEES

There will probably be several times during the construction of your KR that you will reach a point you must have some more information before you can continue. The guys listed here have each completed a KR and have volunteered to help get you over these humps by passing along information they have gathered while building and flying their KR's. Need some help? Get in touch with a KR Designee!

Bill DeFreze  
7530 Ironwood Dr.  
Dublin, CA 94566  
(415)828-2111

Ray Ellis  
2416 E. Douglas  
Des Moines, IA 50317  
(515)265-3007

Jere Rosser  
2305 Wilderness Way  
Marietta, GA 30066  
(404)977-0843

Dan Diehl  
4132 E. 72nd St.  
Tulsa, OK 74136  
(918)492-5111

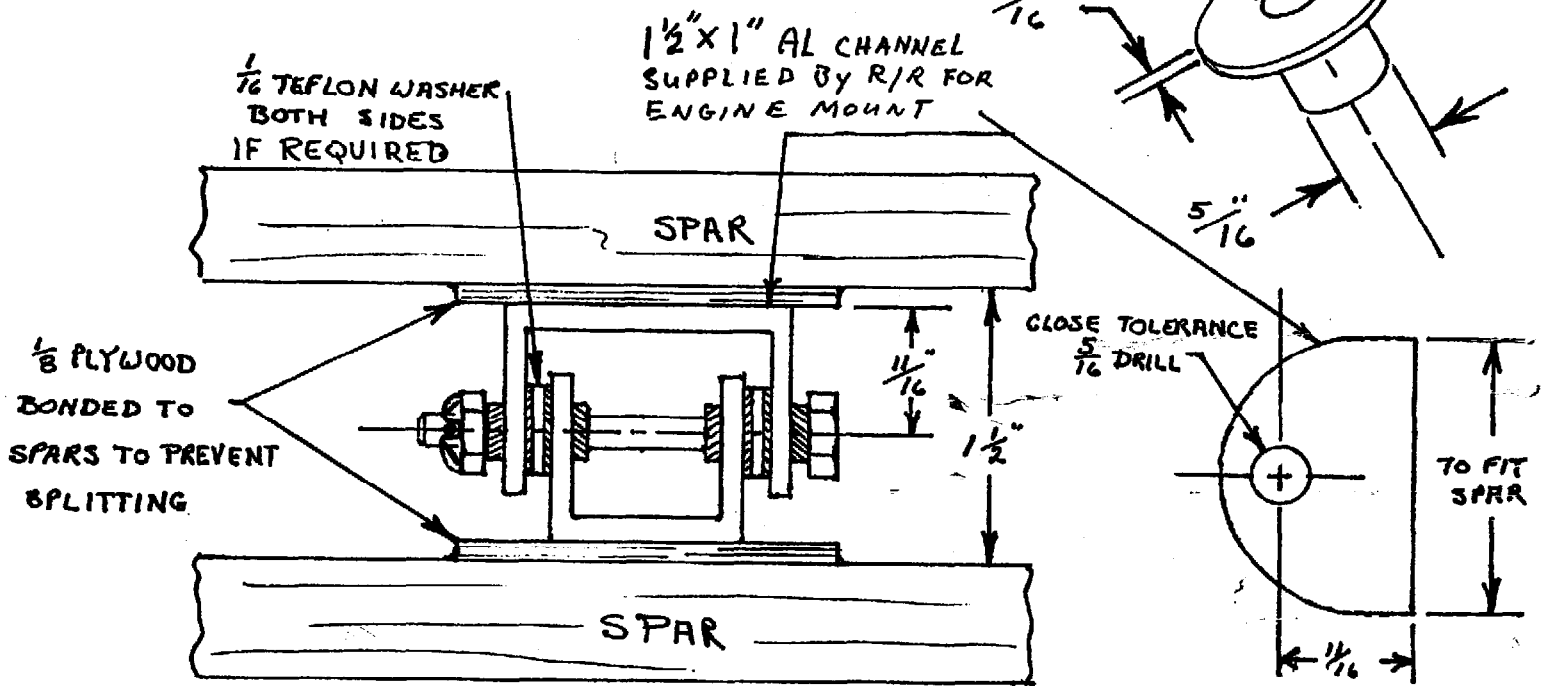
Ernest Koppe  
6141 Choctaw Drive  
Westminster, CA 92683  
(714)897-2677

Leon Coetzee  
10 Lark Str.  
Meredale 2091  
Johannesburg  
Rep. of So. Africa

Most current KR builders have already completed their rudder and elevator hinges. When the notice appeared in the last Newsletter about the change in hinge hole location, they wanted to know if the parts built to the original dimensions were safe. The answer is yes.... But I would make the empennage hinges a mandatory inspection point on my preflight checklist. Excessive wear means immediate replacement!

The drawing on the back page of this Newsletter is one builders answer to getting around this problem. Rich has a few more of the bushings shown if you want some. They are 50¢ each.

From:  
Rich Seifert  
5306 W. Lucky Way  
Santa Ana, CA 92704



ERNEST KOPPE  
6141 CHDCTAW DR.  
WESTMINSTER, CA 92683  
ISSUE #67 JANUARY 1981

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