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March 1979

# NEWSLETTER

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**\*\* 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

With the loss of Ken Rand, sport aviation has lost one of its brightest stars. The void left behind seems unfillable.

What happens now? True, Ken has gone on, but he has left behind his ideas, his friends, and....his family. It's like what happens when a bright light is extinguished. We have to take a moment to adjust to the dimness and then continue as well as possible. And continue we will!!! Ken showed the way and we can use his path as a guide. He built an airplane that was simple, didn't cost a fortune and performed better than any other aircraft made with comparable horse power. Then he said we could do the same thing and showed us how. We listened...right now there are more KR's under construction than any other home-built aircraft.

The business of supplying the builders of KR's with parts and materials will also continue. Tho Ken was the major force in its' development, his business will not stop because he is not there to take charge. His family will carry on Ken's work, his friends will build his designs. He will be remembered.

A few of us have set up a memorial fund in Ken's name, a fund to be used to finance awards or trophies at fly-ins around the country. Donations to this fund have already begun so an award to be presented at Oshkosh each year is a certainty. I feel sure there will be one at Lakeland and Chino also. Some have asked to be allowed to contribute to this fund and they are certainly most welcome, as is anyone else that wishes to contribute. ALL monies received will be applied to the awards.

\* \* \* \* \*

We wish to express our appreciation for the sympathy and concern that has been shown for our family since Ken's accident. Most of all, thanks for the friendship you had for Ken.

Sincerely,  
Jeannette Rand  
and girls

\* \* \* \* \*

Letter from Warren R. Aiken from Ohio...."Have just passed the 2nd anniversary of flying the KR-2, N48161 with GA(W)-1 airfoil. Most recent flight was with a load of 445 lbs. including pilot, co-pilot, gas, oil & baggage for total gross of 915. The 1800cc VW swinging my own 51 x 48 carving at 3200 rpm had us off in about 700 ft., temp 50, elev. 700. Landing control is even better with the extra weight on the tail, but there is a substantial trim change. 110 landings have made the tires nearly smooth. The FAA engineer advised that 4130 thick wall steel tube spacers should be used over the four main spar wing bolts. Be sure to cut a hair long and file to fit. Torque the nuts to about 15 ft. lbs. Inboard and outboard fitting will thus be brought together in a friction fit rather than placing the total load in shear on the bolts. It also tends to make the 3 piece spar more integrated in any twisting moments and should prevent sloppiness from wear. Won the Chapter balloon break last month, even beating the Breezy. Also have volunteered to participate in aerodynamic tests for the Ohio State University Aero Engineering Dept. research for NASA on the GA(W) airfoils toward application on light aircraft. I have flown Jim McCoy's with the RAF 48 airfoil, so am able to compare. The GA(W) is markedly higher lift at slow airspeeds so can be flown nose up and in turns without stalling to much slower airspeeds."

BUY SELL TRADE

**Advertising rates are as follows:** Newsletter subscribers seeking or selling parts, materials, etc. for their projects are not charged. Other ads, including completed aircraft for sale, will be charged according to size. . . "business card" ads. . . \$6.00, 1/8 page. . . \$10.00, 1/4 page. . . \$18.00, 1/2 page. . . \$35.00, full page. . . \$65.00. prices are per monthly issue and may be raised without notice. Ads should be camera ready. Typesetting and halftones available at extra charge.

FOR SALE....."THE SUPERCASE"...converting a VW yourself? Use this compact accessory case that allows you to bolt on the magneto starter, and alternator. Uses Rand/Robinson's latest style engine mount.

Dan Diehl  
4132 E. 72nd St.  
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918-492-5111

FOR SALE....KR-1, flown 10 hrs on Rands' original 36 hp VW. Now installing rebuilt 36. Rand 3-blade, excellent workmanship. Too many airplanes. McLay, 1206 Cheyenne Ct., Boulder City, NV 89005, 702-293-4644.

FOR SALE....KR-1 project N89AM, registration complete, 50% of construction. Fueselage, spars, horizontal stab & elevator signed off. Cockpit widened 2" (O.K.'d by R/R), center mounted joystick, R/R 3-blade prop, airpath compass, magneto and harness, 1600cc VW dual port, many extras. Nees only prop hub, instruments and 6 gal. epoxy to finish...\$2200.00

PDQ-2 Model "C", latest version for VW. Fuselage, seat, landing gear, some fittings...\$250.00

Unused Volksplane VP-1 plans...\$40.00

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Phone 817-723-7875, no collect.

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JACK MOELL  
11432 GLEN COVE DR.  
GARDEN GROVE, CA 92643

BUY SELL TRADE (cont.)

TRADE.....Want KR-2, flying or very close to flying. Have mint original '42 Crosley Convertible Sedan (see picture on right) trade up or down. No phone calls. Write: L. Roberts, Box S 23A, Rte. 2, Waupaca, WI 54981.



WANTED....Revmaster with or without add-ons for KR-2. Cost secondary for right engine. Curtis I Wilson, Box 118, Clarkfield, MN 56223 or phone 612-669-4883.

FOR SALE....KR-2..flown 12 hrs, flies beautifully...\$4000.00. Have girl friend, no time for plane. Jack Aldrich, 2404 Emory Ave., Bradento, FL 33507 or phone 813-755-2738.

FOR SALE....KR-2 project. Fuselage complete, main spar signed off, most metal fittings completed. 1834cc engine professionally rebuilt, with accessories. Everything except prop...\$1600.00. Stan Boyd, 48239 Arcadian St., Fremont, CA 94538 or phone 415-651-1900.

FOR SALE....Complete plans, instructions and photos of retractable tricycle gear as pictured in Newsletter #35....\$20.00. Bill DeFreze, 7530 Ironwood Dr., Dublin, CA 94566 or phone 415-828-2111.

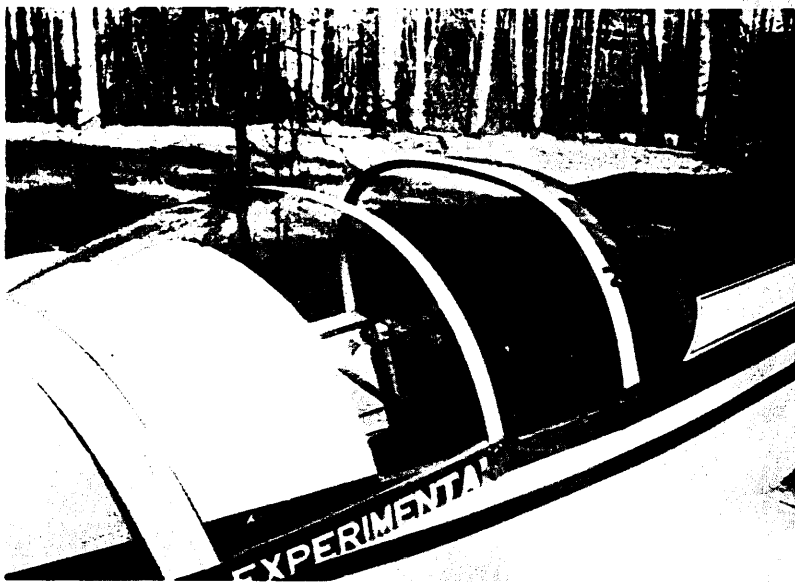
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Bill DeFreze has given substance to an idea that is long over due. "Why not have certain qualified people named as designees, inspectors, or whatever so other KR builders could contact them for advice on any problem they might encounter?" Now this idea is sound, its' success tho' will depend on two things....1. selecting qualified people and 2. getting them to volunteer. What qualifications do you think are necessary? I think to be really qualified to give meaningful advice the person volunteering should have built and flown a KR-1 or -2. There are already three people, counting myself, that have volunteered and here is how the idea will work.

If you have a problem or question you need help with, contact the person nearest you. Where possible, we will come to you to help resolve whatever is bugging you. Where it is not possible to make the trip out to your place, the next best thing is for you to contact us in person or by telephone. By talking to a person that has already encountered all the problems related to building and flying a KR, your questions can be answered by someone that understands what you are up against. If telephones are a hang-up then we resort to the postal system. While not the best of late, the mail usually gets through. We ask that questions be stated so there will be no mis-understanding and room left on your paper for the answers. Also include a self-addressed stamped envelope (SASE) for the reply. It doesn't take but a few minutes this way and we can usually answer the questions(s) by return mail.

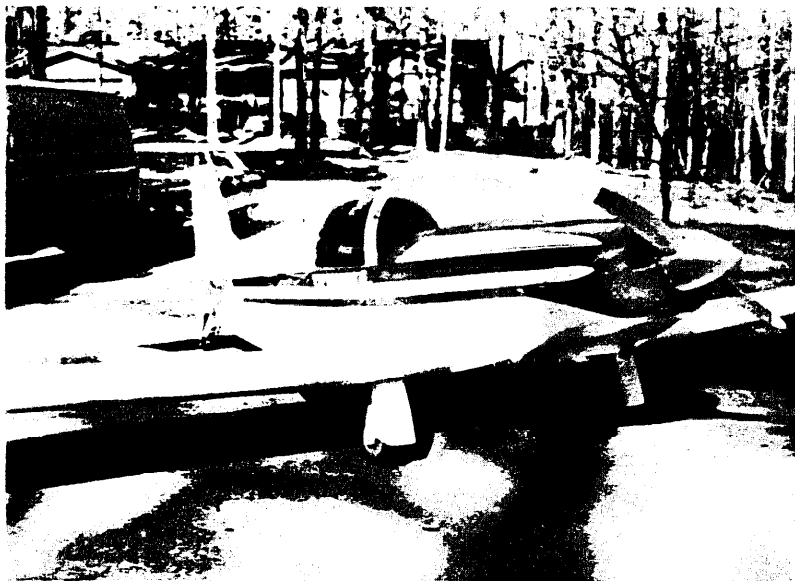
My address and phone number is on the front of this Newsletter. The other two guys are: Bill DeFreze, 7530 Ironwood Dr., Dublin, CA 94566 Phone 415-828-2111 and Dan Diehl, 4132 E. 72nd St., Tulsa, OK 74136 Phone 918-492-5211. I know more guys around the country that are qualified to offer help to the new KR builders. I'm hoping they read this and volunteer their knowledge and experience. I'll list their names in the Newsletter when they do.

HAPPENINGS.....5th Annual So. Calif. Regional EAA Fly-in at Chino, Calif. on April 28 & 29. VW Fly-in at Mojave Airport on May 19 & 20 at Mojave, Calif.



Here are some pictures of my KR-2 with the sliding canopy, hope you can use them in the Newsletter.

Not much to my first flight report. First and only flight so far around the Sunday before Thanksgiving '78, it was an accidental take off lasting 30 min. I had just meant to do some taxi runs since it had been 22 yrs since flying a stick control and 9 yrs since flying a tail dragger-- she was off the ground before I knew it so I took her up. She felt terrific except for the sensitive elevator which I had been warned about. I had no trouble getting her down, made a perfect landing (luck). I didn't keep her up longer because the engine was running a little rough. Ken told me at Lakeland to change my carburetor from a 32mm to a 29mm which I have done but haven't had weather to check it out again.



My KR-2, N28RL took me 2½ yrs to complete, has Duty's 1834 cc single mag. engine with 52"x43" pitch prop. Aluminum gas tank, sliding canopy and Dan Diehl cowling is only changes made. She weighs 603 lbs empty. Overweight is due partially to canopy and the rest I guess is too much epoxy.

Hope to have a better report on performance in the near future.



Ray Lawson  
1849 Lake Lucerne Way  
Lilburn, GA 30247

# FLIGHT REPORT

by Steve Bennett

I started building my KR-1 in 1973. It was completed in 1977 being flown the first time on July 21. To date the plane has approx. 220 hrs. Power is a 1600 cc VW turning a R/R 3-blade prop. Empty weight is 463 lbs. Fuel capacity is 11 gallons. Pilot dimensions are 6'3" and 200 lbs.

I received my flying ticket in 1971. Between 1971 and 1977 my total time was 86 hrs, 36 hrs being in the first 3 months of '71. That being what it is I believe the KR's are a safe plane for the low time pilot. Please remember several items though. The elevator is very, repeat, VERY sensitive. I built my elevator control with 6" spacing for the cables. I think 4" would be more than adequate. Acceleration and torque will also give the first time KR pilot a surprise.

For N31123 I use the following...increase power gradually but firm. Apply needed amount of right rudder, raise tail slightly (one doesn't have to be level but just get the tail up enough to see). Lift off occurs at 60 mph indicated. I hold it level until speed builds to 100 mph and then climb. Climb rate is about 1000 fpm (3100 rpm), cruise is 3200 rpm and gives the plane an indicated airspeed of 152 mph. Actual ground speed is a little slower. Before the R/R 3 blade prop I had a Hegy 50 x 40. This gave me a cruise of 120 mph at 3200 rpm - quite a big difference. Landing the KR is somewhat harder than take-off. I use an approach speed of 80 mph and carry approx. 1800 rpm all the way to the black top, touching down at 65 mph. Slower landing speeds can be used but sink rate is very high. On my plane 70 mph power off, works good when landing over an obstacle and applying power when close to ground to slow the sink rate. Contrary to belief, my KR does not float long in ground effect. The stall speed on it is around 40-45 mph and to date highest altitude has been 9,500'.

The last year has put the major time on the plane. The first year was spent working out the bugs such as having your landing gear fold up on take off. This incident caused the firewall to be completely torn off the front of the aircraft. I made extensive mods in repair of firewall and re-design of gear hold down latches. The  $\frac{1}{4}$  AN bolts are, in my opinion, insufficient for the gear system. I used 5/16 bolts with 3/8" o.d. bushing pressed in pivot points so bolts do not rotate on pivots but rather inside the bushing. After 80 hrs. they are still like new.

The CG of my plane was in limits but only by 3/4 of an inch. In the re-vamp I spaced the engine out 3/4 of an inch which moved my CG a little better than 2 in. Also the 3-blade prop and prop extension were added. At the time I was worried about damage to the crank so a dial indicator was run out on the crank without taking the engine apart. This was a mistake. I'll explain later. By coincidence on July 21, 1978 I flew the plane for the second "first" time. With the new cowling on, I found I had cooling problems. After this was corrected I was ready to go again. I made trips to MN, NE, IL and Oshkosh but one day after all the above while flying over Boone, IA, my oil pressure dropped and a very audible clang developed. The crankshaft broke...in the back. So please if you happen to dig dirt at 3000 rpm ....tear your VW down and check thoroughly. Also if your gear folds up, take the castings off and have them fluxed. I had one break off several months later while hardly moving.

The weather being what it is in Iowa has caused several cracks to develop on the A/C mainly in the wing root area. My KR does not have a heater installed as of yet. However, with the addition of a snowmobile suit I have been able to keep flying. Condensation on the canopy only occurs at slower speeds. Contrary to what I have read in the Newsletter, the air flowing through the cockpit at cruise speed exits through the gear openings. I can document this with my breath but when I get ready to land, put the gear down and slow up to 80 mph the air flow reverses and air exits to the rear there by flowing up over the canopy and fogging up somewhat. How cold can you fly 'em? I made an attempt to go to the Sun n Fun Fly-in. On the morning I left Ames, IA it was -8°. I left about 8:30 am by 4:30 pm I was in Chattonoga. The next day Atlanta was as far as I made it because of weather. Because of conditions along the route I opted not to go on to Florida. The A/C performed very well during its longest C/C. When your light bulb burns out and your A/C won't start when its cold, just get a piece of flexible tubing and hook one end over the exhaust of your car and put the other end in your cowling. All you have to get warm is the intake manifold so the fuel will atomize. Speaking of fuel, I have ran mine on no lead, low lead, regular, premium and avgas. I found that when I use car gas the engine will quit when it

FLIGHT REPORT (cont.)

is hot and I have to carry 1200 or better rpm to keep it running. This is next to impossible to do and taxi the A/C. AVgas cured the problem. Now it will run as low as 400 rpm and not quit when hot. I think the reason for this is the difference in atomization of the fuels.

Over all the KR has been a very enjoyable A/C to own and operate. Please just remember to use common sense in your approach to its operation cause you've never flown anything like it!

N31123.....engine 1600cc with Posa 28mm  
Empty weight.....463 lbs.  
Take-offs.....65 mph ind.  
Cruise.....152 mph ind.  
Top.....162 mph ind.  
L/S on touchdown....65 mph ind.  
Stalls.....40-45 mph ind.  
Cht.....350<sup>o</sup>F

Oil temp.....150<sup>o</sup>F  
Oil pressure.....22 lbs.  
Max. rpm with 50 x 40 Hegy.....3900 rpm  
Max. rpm with R/R 3-blade set at  
15<sup>o</sup>.....3300 rpm  
12<sup>o</sup>.....3500 rpm  
10<sup>o</sup>.....3800

Steve Bennett, 1135 - 58th, Des Moines, IA 50311

QUESTIONS & ANSWERS

The questions from everyone lately is "What caused Ken's engine to lose power?" The answer to this question isn't an easy one. We can only guess at the reason for the power loss and base our guesses on the information available. Examination of the engine, a turbo-charged 2100 Revmaster, proved the engine was mechanically sound. Guess #1. Ice...Ken reported as being "on top" and was probably clear of the cloud tops. But...could he have picked up impact ice that would block the 2" air scoop that led directly to the Posa carb? Guess #2. Fuel exhaustion....to the best of our knowledge Ken's last fuel stop was in Texas. 30 to 40 knot head winds reported along his course could have depleted his fuel. Guess #3. Fuel contamination....a possibility but not likely. A problem here should have shown much sooner. I suppose we could keep on guessing. There isn't any way of knowing if we come across the right answer though. We can only guess.....

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