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KR NEWSLETTER

RATES
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Spring! Finally...it's fly-in season again. Time to dust off the cap and sun glasses and get out among 'em. Every year brings more and more aircraft to more and more fly-ins. Remember when the Calendar of Events in "Sport Aviation" was only a half a column on half a page? Now the spill over from a full page of events is bigger than the whole schedule used to be. Participation is the reason. The "me first" attitude just does not seem to exist in homebuilders and EAAers. Everybody pitches in to make the happening a success. So get on out to a fly-in this spring. Enjoy the sun, the people and especially the airplanes. See ya there.

I have a flight report in this issue. It's not very long but it is informative. The report was written on the back of this photo and I wish I could tell you who wrote it. The report wasn't signed and I've misplaced the envelope it came in. Maybe the sender can give us a little more details for a later issue.

Flown...Oct. 8, 1981

Lift off...less than 350'

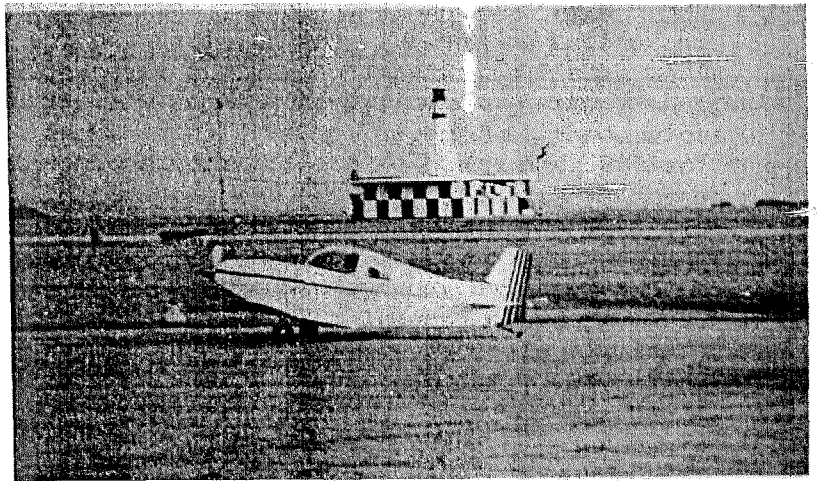
Engine...1834cc Duty. G.A. prop

Cruised at 155 mph, top 175 mph

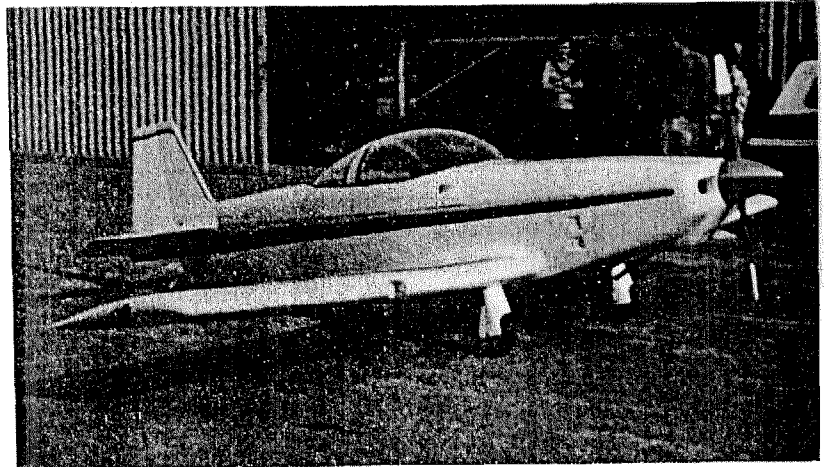
Max rpm used in level was 2800 rpm

Weight...555 lbs. empty.

Personal feeling?...Never flown anything like it. My partner at building died 10 months prior to flight. His name was Skeek Carney. He was my co-pilot. Was a perfect flight.



Another aircraft I would like more info on is pictured here. Fred Whitcomb sent me this photo of Steve Cogswell's KR-2 but no more information other than it has a HAPI engine and is the best looking KR-2 he's seen. Now Fred has seen a lot of KR-2s and a lot of them have been really sharp. This KR-2 of Steve's must be a jewel. I hope we can get some flight data and a note or two on the full bubble canopy.



Congratulations are in order to KR Designee, Steve Bennett. Steve has left "Ma Bell" and formed his own company, Great Plains Aircraft Supply Co. Also, this June, Steve will be getting married! Good luck and best wishes Steve in both endeavors.

QUESTIONS & ANSWERS

- Q. I just received my plans for the KR-2. I'm new to the homebuilt aircraft field and have a few questions...How do I obtain an FAA inspection? How do we as builders obtain plans updates and amendments? What is the criterion for grading spruce wood as "aircraft quality"? Is this grading done by the FAA inspector or can I do the grading myself? May I have a listing of people in my area who are building KR's? Where do I obtain some information on the different powerplants such as HAPI or Revmaster? Is there a system for finding actual performance figures? Could you give me some pros and cons of using turbos? Are FAA inspections required after the aircraft is completed and flying? What governs the homebuilt aircraft circle for safety, etc. That's all I can think of for now, I sure hope you can help me with these questions.
- A. Welcome to the homebuilt aircraft movement! The questions you listed are asked by almost all first time builders and it's time I tried answering them all at once. You've bought your plans, looked them over and now you want to start building. Now is the time to contact the local FAA G.A.D.O. office for your area. They are usually near the larger metropolitan airports and will be listed in the phone book under U.S. Government offices. Tell them you are going to start building a KR and would like to know at what point during the construction they want to inspect it. They usually will want to see the aircraft a minimum of 3 or 4 times during the construction and will let you know at what point these inspections should be made. Next thing you should do is join the Experimental Aircraft Association (E.A.A.) The EAA is a group of people with the same interest as yourself and I'm proud to count myself as a member. EAA headquarters is in Wisconsin but there are chapters all over the U.S. and most parts of the world. To join, send your name, address and a check for \$25.00 to EAA, P.O. Box 229, Hales Corners, WI 53130. You will quickly receive your membership card and a list of the EAA chapters near you. You will begin receiving "Sport Aviation", the best magazine you ever read about homebuilt aircraft and is worth the price of membership by itself. On to your other questions...plans updates and amendments are passed on to the builder thru the KR Newsletter. This is the only method R/R used to notify builders of changes to the plans. Very few lumber yards have aircraft quality materials. Unless you are very knowledgeable about selecting the wood yourself, your best bet is order it from one of the supply houses that advertise in "Sport Aviation". The EAA does sell a manual on wood that tells how to select aircraft grade material but most builders will order from one of the suppliers. I have a list of Newsletter subscribers in your zip code area and there is a KR Club you may join. The club dues are \$3.00 per year to Newsletter subscribers. New members are sent a listing of KR Club members in their area and are urged to contact each other. There is undoubtedly someone building a KR that has come across the same problems you will have and he may live close to you. Engine information is best derived from the manufacturers. Write to H.A.P.I. at Eloy Municipal Airport, RR 1, Box 1000, Eloy, AZ 85231. Their phone number is 602-466-9244. Revmaster is located at Chino Airport, Chino, CA. I'm not sure what you mean by a "system" for finding actual performance figures. Performance varies from aircraft to aircraft but the lightest KR's typically have the best performance. Turbos are great if 90% of your flying is on long cross countries or if you're based at high altitude airport (4000'+). If most of your flying is local (100 mile radius) or from an airport without an altitude problem, you will get much more enjoyment out of a non-turbo KR. Once your KR is completed and flying, you will be doing your own inspections. The FAA (at your request) will issue you a repairman's certificate good only for your aircraft and once each year you will do the annual inspection and sign it off in your log books. Safety is everyone's responsibility and it is up to you as a builder and pilot to use good building practices and common sense when constructing and flying your KR. The FAA, EAA, AOPA are all very much safety oriented and can give you an unending stack of pamphlets on safety. In the end though, it all comes back to you...you are only as safe as you make yourself.

TIPS FROM OTHER BUILDERS

The stock KR-2 canopy leaves a little to be desired as far as head room goes. If you are taller than about 5'6" you may want to modify the canopy to a shape that will give you more room. How to do it is outlined very well in the following letter:

From Terry McClain & Rick Whisenhunt, 204 W. Shady Shores Road, Denton, TX 76201

"We decided to use a flat wrap windshield on the KR-2. The first step was to mock up the windshield and window/door bows to check for head room and looks. Templates were made to outside mold line. Two forms were made, one for clamp, one for rubber band clamp. I don't like the clamp type. Too much work and poor clamping. The rubber band form worked very well - easy to load, cheap to build - fast to build. With the rubber band tool the inside mold line of the bow was determined. A 3/4" plywood form was cut, two braces cut and several nails driven in each side around the edge for rubber band. Total tool building time approx. 2 hrs. The wood is Douglas fir ripped approx. .080 x .750 with grain perpendicular to the face. The strips were soaked in water, then loaded on the form and left til dry. Dryness was checked with a multi-meter on the highest ohms scale. When the meter wouldn't move they were dry. Probes were approx. 1/4" apart and in full contact. The rubber band is sold for fisherman trot lines. It is 1/2" x 1/32" x 50' for \$5.00. We protected the form and the rubber band with plastic wrap.

FORMING THE WINDSHIELD...After reading many horror stories about forming plexiglass I thought I would share our experience with the "Dan Diehl" method for flat wrap forming. I read this method in the KR Newsletter. It seemed simple and low cost. The method would be too slow for factory but I only wanted to form one ship set and 4-5 hrs extra wouldn't matter.

Step 1 is to mock up the windshield or build aircraft to this point. As I wanted to be sure I could build a replacement if required and also make sure the windshield would fit, I chose to mock up the area that would be fuel tank. The windshield bow and side attachments were built and installed. The fwd deck/gas tank were mocked up and installed.

Step 2 using poster board, a pattern of the windshield was made. This pattern was transferred to tin - I now had a tin windshield (.025 2024 would be ok). My tin windshield was cut net on the fwd edge and sides and left 2-3" full on the aft edge. The tin windshield was then installed on the ship. A few clamps, some small nails and a little wire held it in place. Over the tin a draped flannel (thermal liner was used, flannel cost too much).

Step 3 I borrowed a 100,000 BTU space heater (kerosene type). We set the heater on two trash cans and a box about 6 ft. from the plex. I tied a candy thermometer to a stick to check the temperture from the discharge to the plex. I wanted to keep the plex below 200°F. We moved the heat up 3 inches at a time til we ended up with it 3-4 feet from the plex. The plex began to droop. After it took light pressure to cause the plex to form, clamps were applied one at each end of a sood strip on the lower edge. The heater was moved to blow on the formed area. Clamps were then pulled up and plex was heated for another 10 min. The heat was then turned off and the plex allowed to return to room temperature. When the clamps were removed it only took a few ounces of pressure to hold the plex in place. So far, so good...one side done. The other side was done in the same manner. First side took 2.5 hrs. Second side too 45 min. The optics look great. By the way, the plex we used is .125 clear from Handy Dan hardware - they carry clear and heavy smoke in acrylic and styrene. Acrylic is plex, styrene is very brittle and doesn't form well. Cost of the 36" x 72" sheet was \$37.00 or about \$1.94 a sq. ft. It is not well protected so check for scratches. A little beats \$5.00 a sq. ft.

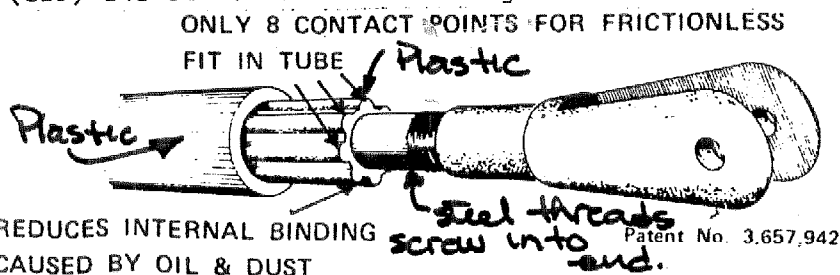
NOTES...Homemade and handy - abrasive wheel. Need a thin abrasive wheel to cut some plex. In the past I had used a Zippidi-do but over the years the Zippidi-do has changed. It is thicker and coarser and not as flexible as it used to be. I had some coarse grit left over from a rock tumbling project. I stretched some 9 oz glass over a one gal. round can with both ends cut out. A small amount of epoxy was mixed and applied to the glass. The grit was sprinkled on the wet epoxy on both sides. The resulting disc has worked very well on plex and wood."

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From Richard Kunc, 7429 Tufts Court, Orlando, FL 32807...."For cutting your wings away from the wing roots after glassing, FORGET ABOUT SAW BLADES! Go to your local well-stocked hobby shop or place where they sell Dremel-type stuff and get on of those TUF-GRIND abrasive wheels. No shattering, no teeth to dull, no high expense. This little sucker works GREAT, and makes a clean, smooth, straight cut when chucked in an electric hand drill. I used an 8-32 bolt and nut and some washers for my arbor, but you can also buy a factory made arbor with the tool if you wish.....The Garlock bearings referred to in Issues 7 and 27 are still available, but the manufacturer has moved. The new address is: Garlock, Inc., Bearing Division, 700 Mid Atlantic Parkway, Thorofare, New Jersey 08086 (609) 848-3200. The new catalog number for the DU series is now 781.....When in-

stalling elevator trim, use Sullivan #506 Semi-Flexible special plastic tube/rod instead of metal. Lightweight; no rust or corrosion; VERY smooth!"



I'm sorry to report that Richard's KR-2 was hail damaged in a recent storm and that he has decided to sell it. I'm happy to say that Richard is well into a KR-1 project tho so he won't be out of the air long. (Also means we'll keep getting those tips!)

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FREE ADS! NEWSLETTER subscribers get the first 25 words free! Ads with more than 25 words or ads from non-subscribers are \$5.00 up to 50 words. Display or photo ads are charged by size:
 1/8 page @ \$15.00, 1/4 page @ \$25.00, 1/2 page @ \$45.00, full page @ \$80.00. Display/photo ads must be camera ready or include \$10.00 for set-up. Charges are per issue, payable with ad copy.

FOR SALE...R/R wingtips, unused, \$50.00. Also KR-2 foam kit from R/R, unopened, \$160.00. John Gregory, Star Rt. A, Dripping Springs, TX 78620 (512)858-4419.

FOR SALE...KR-2 project. Fuselage and spars completed. Now installing tri-gear and flight controls. Durward Boyles, P. O. Box 274, Brent, AL 35034.

FOR SALE...Hail damaged 160 mph KR-2 (see Newsletter #82). Needs skin repair, engine & canopy. Smooth hybrid controls, special tailwheel, with engine mount, accessories...\$1500.00. Richard Kunc, (305)677-5904 Florida.

WANTED...Unused KR-1 canopy, grey or easy eye tint. Richard Kunc (305)677-5904.

FOR SALE...Revmaster KR-2 engine mount & hardware at 1979 price in Canadian dollar. Brand new, never used..\$184.00. Also Hansen Panel Layout KR-2 Overlay. Made of ABS/APVC. Will not fit R/R pre-cast fiberglass forward deck & tank because of Radio indent...\$35.00 (Canadian) Michael A. Halsall, 1917 Bass Rd. R.R. 3 Williams Lake, B.C., Canada V2G 1M3.

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FOR SALE...R/R flap handle..\$35.00, KR-2 canopy & frame..\$75.00. I need an engine cowling! Johnnie Bullens, Rte. 2, Paint Lick, KY 40461 (606)925-3248.

WANTED...Engine parts to fit HAPI engine, i.e. Mag, mag coupling, turbo charger, exhaust manifold. Send details to Col. R.W. Moore, P.O. Box 622, Toccoa, GA, 30577.


FOR SALE...New Revmaster 2100D w/forged crank, dual mags, oil filter & cooler system, starter & alternator..\$3100.00. For details call or write Jim Wolter, 25051 Ward Ave., Ft. Bragg, CA 95437 (707)964-0076.

FOR SALE...KR-2 project on gear, wood done. Tail, turtleback & wings fiberglassed, finishable 70% off..\$500.00 trade. Alan Mackey, 5 Indiana Dr. Nashua, NH 03060 (603)883-8613.



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Hope to be hearing from you soon and discussing the progress of your project; remember canoes do turn into aircraft.

Steve

Steve Bennett



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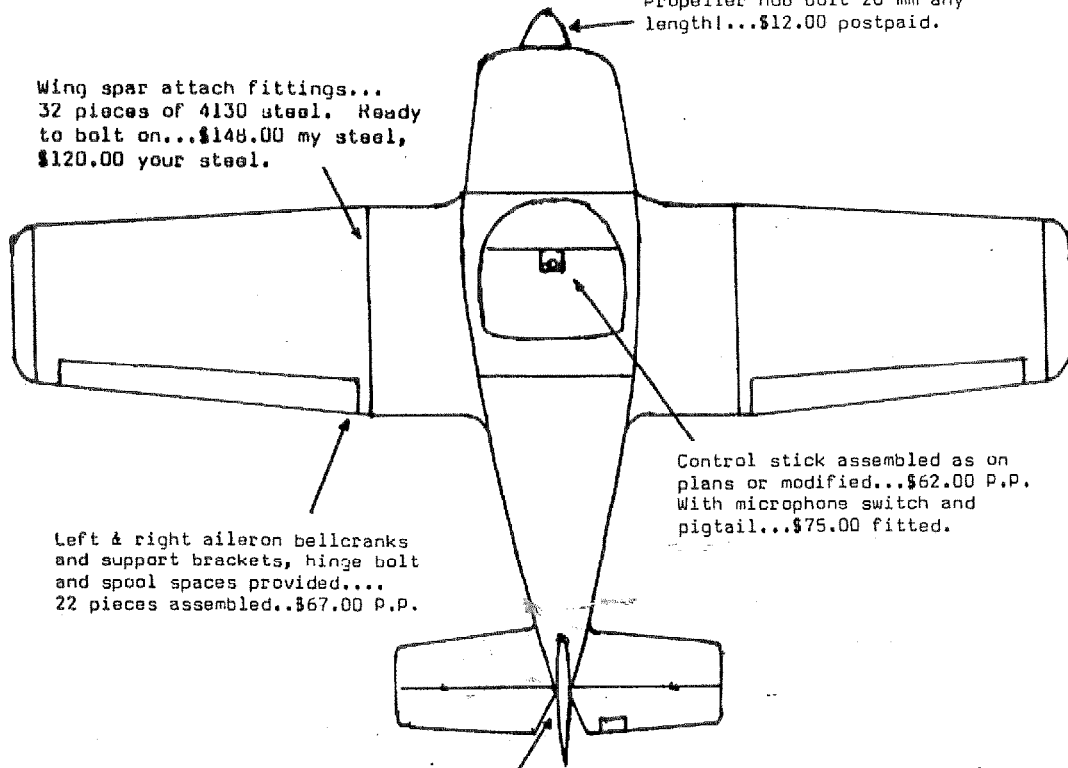
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