

HAVE A GREAT "78"

KR Newsletter

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The "First Flight" report in this issue is on the KR-2 owned by Bob Stone and myself. It's been a long time coming. Many of you have already experience the thrill and satisfaction that comes with that successful first flight, for most though the time of watching a "project" graduate to "aircraft" status is still ahead. I am really looking forward to hearing from all of you as your KR's join the ever increasing number now flying.

Australian builders take note: There is a source of foam and Dynel in Australia. The address is: Dadson Enterprises Pty. Ltd., 101 Esplanade, Cairns 4870, P.O. BOX 1635, Telephone 51-4274 or 54-1903.

All flying KR's now near or past the 100 hr. make please notify the Newsletter if you haven't already done so. Australian builders cannot build a KR until it appears on their D.O.T. "Approved to Build" list. I'll list your names and Australian builders should see to it that they are brought to the attention of Walter J. Watkins of the Sport Aircraft Association of Australia, 39 Grandview Rd., Box Hill 5th, 3128 Victoria, Australia.

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KR-3 flights have ceased temporarily. The Maloof prop installed at the engine swap went into flat pitch on take-off. The aircraft stalled 8 ft. off the runway and came down hard. One gear leg was broken and some hull damage sustained. Repairs are under way and the craft should be flying in a week. Barring any more problems the 75 hr. restriction should be flown off in time for the Sun N Fun Fly-in at Lakeland, FL on Jan 23-29.

QUESTIONS AND ANSWERS

- Q. Have there been any structural failures in the KR-1 or KR-2?
- A. This question is asked in several letters each month. To date I know of no failure in either type aircraft attributed to structural design. Exception is the early model landing gear legs when weakened by using lightening holes between the webs.
- Q. I understand someone in Ohio is selling pre-fab fiberglass (molded) parts for the KR-1? Does the Newsletter have his address?
- A. I haven't heard of anyone supplying molded parts for the KR-1 other than the wing tips offered by Rand/Robinson. If anyone else has information on pre-fab parts for the KR-1 or -2 I would like to hear from you.
- Q. The Posa injector has been in use form some time now. Has anyone come up with a method for controlling the mixture from the cockpit yet?
- A. Two systems have been tried with varying degrees of success. One way is to control the fuel flow to the Posa via a needle valve in the fuel line. The other way is to rotate the metering needle in the injector slightly via mechanical linkage. I prefer the first method but many feel no mixture control is needed at all.
- Q. Can you epoxy over varnish?
- A. No, sand varnish off down to bare wood.
- Q. What is the maneuvering speed for a KR-1 or -2?
- A. 135 MPH IND.
- Q. We're all interested in spoilers to help the KR's stop flying, any news would be appreciated.
- A. Check the October and November issues of the EAA magazine "Sport Aviation". There are fine articles in these.

First Flight....KR-2, N31158, Corona Airport, Corona, Calif., Sunday, Dec. 19, 1977.

9:00 a.m.....The rain that had started on Saturday afternoon was gone. The sky no longer had that solid gray look of yesterday and was rapidly becoming the kind of day everyone looks forward to, especially pilots. After many hours of work by my partner, Bob Stone and myself, our KR-2 was going to show us what it could do. The first flight had originally been set for the previous week-end. A tachometer that had worked fine on several prior engine run-ups suddenly developed the jitters and the trip to the airport was postponed til the cause was determined and a cure effected. A check of the electrical system showed all connections correct...a loose ground wire was found to be the culprit. This was fixed and another complete check was made of all systems. Another engine run-up proved very satisfactory and now.....here we were.

11:00 a.m.....The sky was continuing to get better with each passing moment. The wind was blowing almost straight down the runway at about 5-8 knots and several other planes were now in the air, taking advantage of the excellent Sunday weather. Ken Rand had been keeping an eye on the progress of N31158 as it was being completed. Ken must have liked what he saw because he volunteered to make the initial flight to check out the in-flight handling. So....

11:20 a.m.....The KR-2 has been unloaded, wings attached and one more complete check of the airplane to see that all is right. Everything checks out and Ken is in the cockpit. The Posa injector is very susceptible to flooding so a careful starting sequence has been arranged.....

1. All switches OFF.
2. Throttle full open.
3. Fuel on 5 seconds and then off.
4. Throttle closed to fast idle positions (1/8" to 1/4").
5. Switches on.
6. Hand prop to start. That 3-blade prop comes around quick so be sure of your balance. You guys with electric starters are probably smiling but pay attention anyway, batteries have been known to fail on occasion. The engine will usually start after 2 or 3 flips on a warm day but a warm engine (previously run) will sometimes start on the first flip. ALWAYS use caution!!!
7. After the engine starts the pilot should check for oil pressure within 15-20 seconds. Engines that have sat nose high in the airplane for a length of time have left the pump high and dry. Don't ruin an engine. USE YOUR GAUGES.

There was now a regular flow of aircraft going in and out of the airport so Ken had to get in line to wait his turn at the runway. A Stearman was just ahead of Ken and remembering an incident at Oshkosh when Ken was in his KR-1 behind a Staggerwing Beech caused me a couple of nervous moments. The fears proved to be unfounded as the Stearman rolled into position for take-off and then was gone.

11:25 a.m....A group pilots, people and interested parties had gathered while we were preparing the KR-2 for its maiden flight. Word of the coming event had spread and now there were two dozen or more people watching the proceedings. All eyes were on the trim little KR-2 as Ken rolled onto the runway and advanced the throttle. I know there have been smoother take-offs than the sort of wobbly, lift off we were watching but I tell you for sure, none ever looked so sweet to me. The airplane lifted off after a 350 to 400 ft. run and then it was climbing. I had expected Ken to wait til reaching pattern altitude before retracting the landing gear but when he turned downwind and the wheels were still extended I suspected a problem with the gear latch. I saw the gear was retracted however, as he made a fly-by of the airport so if there had been a problem, it must have been minor.

11:35 a.m....The KR-2 appeared to be flying well as Ken made a couple of circuits of the airport. The 1700 cc VW engine was performing well and was moving the KR-2 thru the air with ease. Ken flew further from the airport after each pass. He made one low level run at a high rate of speed that really showed off the lines of the sleek little craft.

12:00 a.m....Ken is downwind again, looks as tho he's going to attempt a landing. There is still a lot of traffic in the pattern and I worry about the other pilots being able to see the KR-2. It is only half the size of anything else in the air today. Sure enough, as Ken is on final about 1/4 mile from the threshold, a Cherokee 140 drove onto the runway

First Flight (cont.)

and started his take-off run. Ken applied power and went around for another try. This time there were no other aircraft waiting to take-off and I felt much more at ease.

12:05 p.m....The KR-2 came down like it was on a wire. Ken chopped power, and greased it on. The flight was over. Short, sweet, and beautiful. Congratulations were the order of the moment...a time to remember.

12:15 p.m....Pilot de-briefing: The wobble on take-off was explained, there was too much friction in the control system for Ken to get a positive feel of the aircraft at first. As he became used to the heavy feel, the problem became minor. Gear retract latch was slightly mis-aligned and created some difficulty in getting the gear properly retracted. Everything else functioned beautifully. A full stall was not attempted but the aircraft was slowed to 40-45 IND and still had good aileron response. Rudder was very effective, more so than



the prototype. The reason for this is not yet apparent since both are the same size. Highest airspeed attained was 160 IND. Full power was never used, even on take-off but a 3000 RPM tach reading at 110 IAS produced a 1000 FPM rate of climb and approx. a 130 IAS cruise. These readings were made with a Rand 3-blade adjustable prop set at the low stop (climb configuration).

More flying is planned for the following week-end after a thorough check of the entire aircraft. The control system will be checked, the gear latch fixed. Should be a great week-end.

BUY SELL TRADE

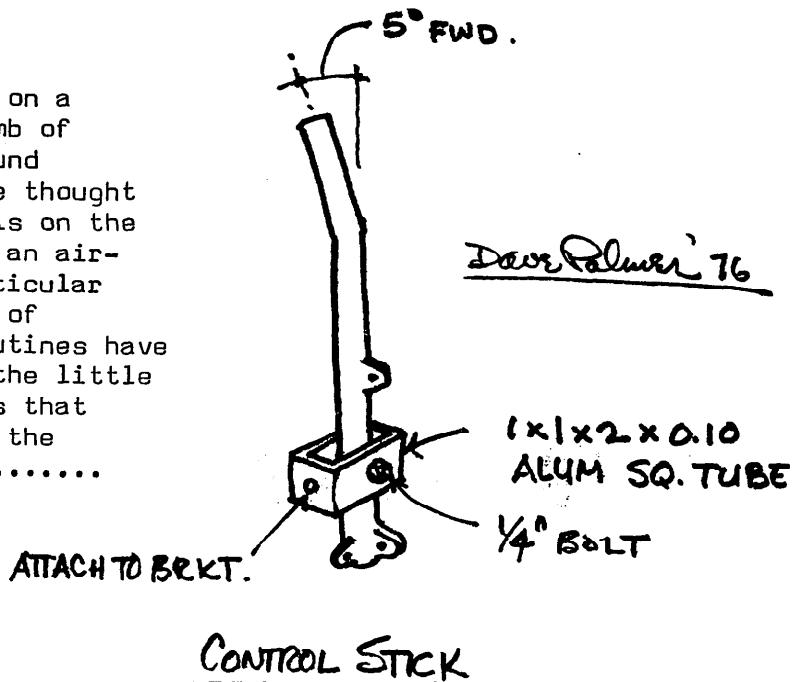
TRADE?...Does anyone have a set of KR-1 plans for sale? I have the KR-2 plans and am considering the -1 instead. Bill Tidmore, Box 632, MSU, Mississippi 39762

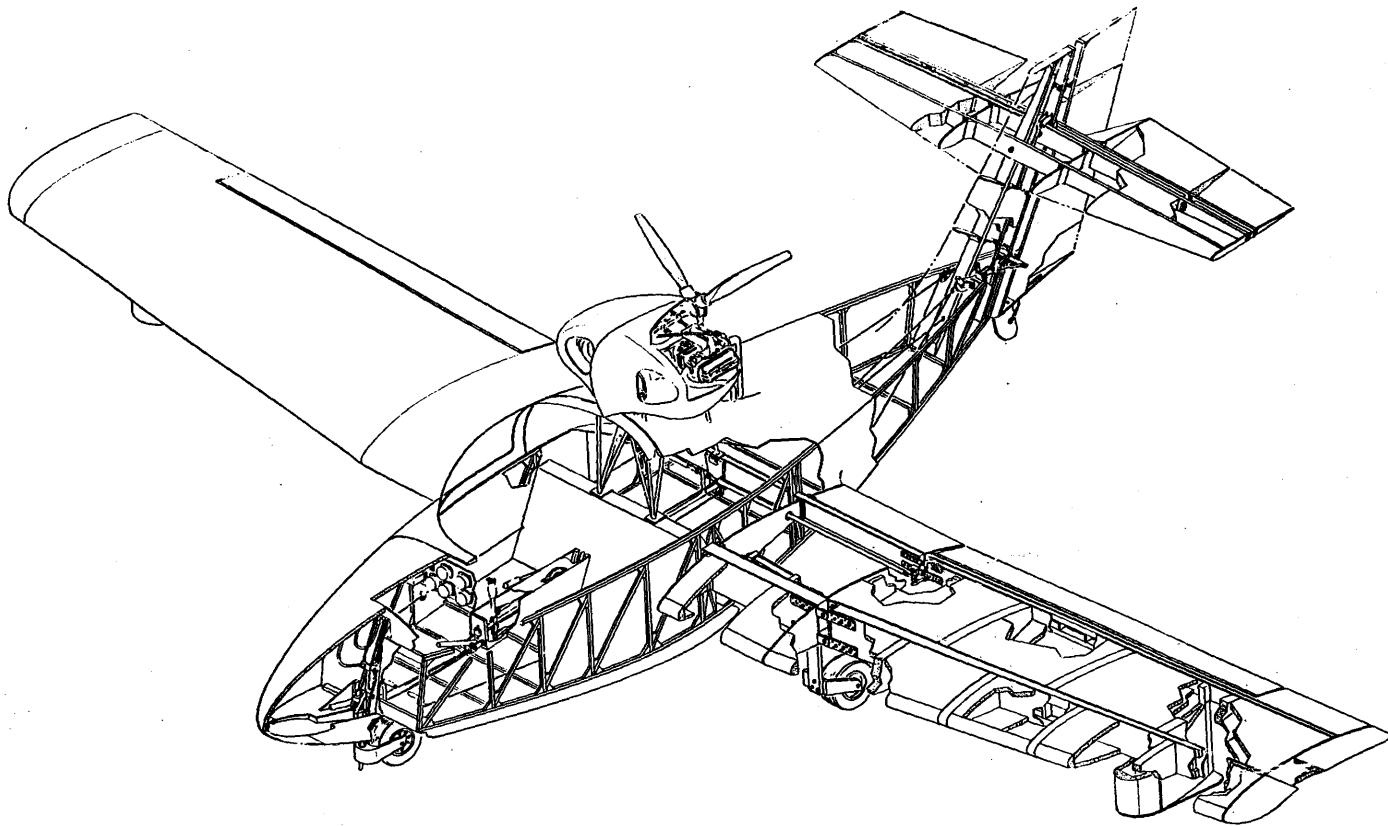
SALE.....Beautiful VW props our specialty. As displayed at Oshkosh. Send for free brochure. The Prop Shop, Box 237, St. Ansgar, IA 50472.

TIPS FROM OTHER BUILDERS

Recently I had the opportunity of sitting in on a technical conference with Dr. Richard Whitcomb of airfoil and winglet fame. When talk got around to airfoil design technology, I asked what he thought of the use of the GA(W)-1 and GA(W)-2 airfoils on the KR-2. He pointed out that, to be effective, an airfoil must be designed specifically for a particular airplane, or at least for a particular range of Reynolds numbers, and that the new design routines have not yet been applied to the regime in which the little KR-2 wings operate. His specific comment was that "the RAF airfoil is probably just as good as the GA(W) airfoils for that particular airplane"..... Doug Garner.

The control stick drawing on the right is about the simplest yet. Should be very easy to make.





KR-3

RAND/ROBINSON ENGINEERING, INC.
1843 K. ANAPODY, INC. INDUSTRIAL BEACH, CALIFORNIA 92023

ERNEST KOPPE
6141 CHOCTAW DRIVE
WESTMINSTER, CA 92683
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