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## NEWSLETTER

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AN ENGINE FOR YOUR KR.....At one time there were only one or two sources of parts and information on converting the hardy VW into a reliable power unit for aircraft. This situation is changing at last and the problem now is to select the one best suited for our particular aircraft. I'm going to list some of the suppliers I have had personal experience with and know to be reputable firms.

First on the list would have to be Revmaster Aviation. We've all heard of them and in my estimation they have the very best engine currently available. Unfortunately they do not sell separate conversion parts or plans to the individuals who wish to build their own engines. Revmasters basic engine is the 2100 CC version that sells for under \$2000.00, various options (which include turbocharging and constant speed prop) can bring the total up to almost \$4000.00. If you think this is the engine for you I would suggest you get on their waiting list to be assured of having the engine when your project is complete, there are several ahead of you. The address for further info is Revmaster Aviation, Dept. A, Chino Airport, Chino, CA 91710.

The following suppliers are listed alphabetically. All have excellent products and any one of them might have just what you've been looking for.

Custom Aircraft Engines (formerly Volkspower), Box 441, Sanford, NC 27330. You will find Gilbert Duty at Oshkosh each year, displaying a sampling of his wares. This includes everything from complete engines to almost any part you need to build your own.

Diehl Enterprises, 4132 E. 72nd, Tulsa, OK 74136. Dan Diehl wanted to build a strong, compact engine for his KR-2 but did not find the currently available systems met his needs. So...he designed his own. Dan does not sell complete engines or even all the parts necessary to build your own. He does have one of the finest accessory cases I have yet seen, the "Supercase". I ordered one of these cases along with a flywheel, magneto drive and 20 amp alternator. There are provisions on the case for mounting the magneto and a starter, the alternator fits inside the case and to the magneto drive. I was extremely pleased at the way everything fit, no tweaking, grinding, or bending. It just fits!. Dan also has a couple of other items for KR's so drop him a line.

H.A.P.I., Hangar 4, Calexico Intl. Airport, Box 5951, Calexico, CA 92231. Rex Taylor is the guiding force behind one of the newest entries in the VW engine conversion market. From the looks of his product Rex is going to be with us a very long while. I saw one of his H.A.P.I. engines on a test stand at the Ramona, CA EAA Fly-in recently and was impressed with the quality and compactness of his engine not to mention the low price. The H.A.P.I. Model 60 (1835cc) is top of the line and includes starter, alternator, oil cooler, and Slick magneto w/harness as standard equipment, each engine is test run before shipment. The price is \$1895.00 F.O.B. Calexico. I talked with Rex last week and he revealed that he has three engines ready for immediate delivery. They won't last long at these prices so if you need an engine in a hurry I suggest you give H.A.P.I. a try. Unlike Revmaster, H.A.P.I. will sell their conversion parts separately as well as several machine shop services for the individual who is building up his own engine.

These are not all of the suppliers by any means, only the ones I have had personal contact with and know to be conscientious and reliable companies. Write to them for further information if you are in the market for an engine or conversion parts. Include a S.A.S.E. for faster replies.

\*\*A note of caution! It doesn't matter how good the parts you buy if the VW engine you are converting is not of the same quality. You can't pull an engine out of a car or junk yard and expect to get a trouble free aircraft engine by simply bolting on some conversion parts. An VW engine being considered for converting should be torn down, inspected, and re-assembled using the appropriate manuals. Torque values of the assorted studs and bolts are extremely important for proper assembly, close attention here will enhance the reliability of your engine.

## QUESTIONS & ANSWERS

- Q. What is the status of the KR-3?  
A. The hydraulic system on the landing gear is currently being completely re-plumbed. Some foam work is done on the wings. No completion date has been set but I expect the KR-3 could be at Oshkosh "79" No plans will offered until flight tests are complete.
- Q. What instruments do you recommend for my KR?  
A. There is an urge in all of us to go overboard on filling up our instrument panel. The best course of action is to install only what the law requires for the purpose you intend for your particular aircraft. If you don't feel safe with this minimum of instruments, add only what you need to feel comfortable.
- Q. Are the fiberglass parts from R/R heavier? What type of cloth should be used over them?  
A. The fiberglass parts sold by R/R are lighter than their foam/dynel/epoxy counterparts. As for covering them, it is not necessary.
- Q. What's the latest dope on keeping the oil cool? Mine runs to an excessive heat in 15 minutes of flying.  
A. Most auto parts stores and all dune buggy shops sell a combination remote oil cooler and filter unit that will fit nicely in a KR cowl. They are simple to install and should cure your over-heating problem. A scoop or vent might be necessary to direct air to the cooler but I did not need one on my KR-2.
- Q. Is anyone building a KR using conventional construction, i.e. truss ribs, plywood skin, etc.?  
A. I suggest you contact J. E. White, 3 Howdenhall Dr., Liberton, Edinburgh EH16, Scotland. He has become sort of a clearing house for KR information in the U.K. where there is at least one KR-2 being built with conventional construction.
- Q. I put together Rand's fiberglass tank and found I have a 26 gal. capacity with the tail wheel on the ground. Is this safe? What will this 175+ lbs of fuel do to the CG?  
A. Most builders will find the Rand fiberglass tank will hold in excess of 20 gal. of fuel tho I've never heard of one with as much capacity as yours. Whether or not it is safe depends on adequate re-reinforcement of the joints, corners, and bottom. What this much fuel will do to the CG will depend on the weight distribution of the rest of the aircraft but I would think a KR-2 would tend to be nose heavy.
- Q. I can't find a serial number on my plans, how do I get one?  
A. Look on your receipt for the number or write to R/R and ask to have a number assigned.
- Q. What does R/R charge for their parts and supply catalog?  
A. Just send them a S.A.S.E. and they will send you their latest parts/supply price lists.
- Q. I just got Rand's turbo and manifold system...no instructions. What's the story on adjustments and wastegate?  
A. There are no adjustments and no wastegate is necessary if you gave R/R the size engine you were installing the turbo on. All VW engines 1600 thru 1834 should use the Rayjay 302-B25 and the VW engines from 1834 thru 2200 should use the Rayjay 302-B40 turbocharger. The oil lines are  $\frac{1}{4}$ " ID. pressure line to the turbo and a  $\frac{3}{4}$ " ID. drain line back to the engine. A manifold pressure gauge is mandatory to let you keep a check on things and to avoid overboosting. If your engine has more than 1650cc displacement sustained boost above 20" HG can cause serious damage. Boost pressures about 40" HG may cause the engine to self-destruct. Due to higher oil temps an oil cooler should be used. Special carburetors and ignition systems are not necessary.

## RAND/ROBINSON UPDATE

- \*\*Builders looking for an inexpensive 2" saw will find a very workable substitute at the local 5 & 10. A pizza cutter blade works great, use a  $\frac{1}{4}$ " bolt for an arbor, chuck it in your electric drill and use it just as you would the 2" saw blade it replaces.
- \*\*The Slick 4016 magneto is no longer available. It has been replaced by the Slick 4216. Advantage is that it is rebuildable, the 4016 was not. Disadvantage is a higher price... \$118.00.
- \*\*Dynel...R/R has just purchased a full year's supply from their distributor. There is plenty more available, so no problem in filling your orders is expected.
- \*\*Look for Ken and the KR-1 or -2 at these fly-ins this month...Jan 6 & 7--Pomona Valley Air Fair, Upland, CA and Jan 21 thru 27--Sun-N-Fun Mid-winter Fly-in at Lakeland, FL.

BUY SELL TRADE

FOR SALE: KR-2 project. Fuselage done, main spar done and signed off. All metal parts completed by professional. Have most other accessories and lumber, also a Dan Diehl "Super case" and flywheel...\$500.00. Phone 1-518-785-8316..No collect calls, please.

FOR SALE: Revmaster 2100 D, New in crate, with starter, alternator, aluminum cyls. Revmaster mount for KR-2...\$2200.00 FIRM. Bill Gidden, 3533 Oxford Dr., Santa Clara, CA 95051 or phone 408-746-7427.

FOR SALE: KR-2 85% complete, fiberglass deck, tank, cowling and canopy. Instruments, Alpha 200 radio, Rand 3-blade prop. All materials to finish except epoxy and engine, many extra parts.....804-794-7225. Leon Freeman, 1110 Clearlake Rd., Richmond, VA 23235.

FOR SALE" KR-2 project. All wood, two fuselage frames completed, 3 yrs Newsletters and plans. Must sell...make offer. 618-833-6972. T.J. Menees, R.R. #2, Anna, IL 62906.

CUSTOM MADE LEATHER BELT with your "N" number for your new KR Belt buckle...\$9.95. State KR-1 or -2, "N" number and waist size. Jack Moell, 11432 Glen Cove Dr. Garden Grove, CA 92643.

KR builder attending Sun-N-Fun desires fist ride in KR. Also, ride wanted to Sun-N-Fun from Washington, D.C. Tom Hoopengardner, 1658 Primrose Rd. NW, Washington, D.C. or phone 202-291-2135.

Will the KR builder in Montreal, Canada that purchased Bill DeFreze's tri-gear plans please send him your address. There has been a revision to the plans.

KR BELT BUCKLES, antique brass finish...\$5.50. KR Logo Jack Patch...\$1.50 each or three for \$3.50. Ernest Koppe, 6141 Choctaw Dr., Westminster, CA 92683

VENNE KR CONSTRUCTION

Most experienced KR builder offers complete technical assistance, inspections, and construction. Charges to suit any budget...international inquiries welcome.  
919 Grand Ave., Long Beach, CA 90804  
or phone 213-433-0520

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AN UNFINISHED SYMPHONY

Recently, a discussion was held at Rand/Robinson about a growing number of KR's being started and not finished. It seems the builders would reach a point or plateau at which progress on their project stops. This "plateau" appears to be at the stage of construction where the fuselage is on the gear, all controls installed, and just short of glueing the foam in place on the spars and fuselage. The end result is a number of KR-1 and KR-2 "skeletons" around the country with no flesh on their bones. The consensus of opinion was that inexperience on the part of the builder working with foam was deterring him from getting off the "plateau" and finishing the project.

I don't have any new solutions to this problem but I can offer a suggestion. Should you reach a point in your KR project where you think you lack the experience to continue, try this: make a trial run with some scrap material, i.e. foam, wood, aluminum or whatever. Even though this might not cure all your problems or answer all your questions it is a place to start. There is only one way to get experience at anything, that is by doing it! So....if your KR has been neglected of late because you reached a "plateau", take another look. Maybe, just maybe, it's not that difficult to get over that hump. E.K.

TRICYCLE GEAR KR? Why not? Most of the pilots today received their initial flight training in aircraft with a nosewheel, it's only natural that they would want the aircraft they build for themselves have a nosewheel too. There have been a few KR's built with fixed tri-gear but the loss in performance reported by these builders have kept others from following suit. Things are changing! Those who want the performance of the conventional geared KR and the positive features of the tricycle gear have a choice of three different retractable tri-gear systems. These units are in the process of being tested, all on KR-2s but it is my understanding they will fit the KR-1 as well.

Bill DeFreze is selling plans for his modification, the only one to fly so far. His system uses many of Rand's parts, including the spring bar, gear legs and wheels. This would undoubtedly be the least expensive way to go for those who wish to convert a KR already complete (or nearly so). Bill's address is 7530 Ironwood Dr., Dublin, CA 94566. The plans are \$20.00.

The system seen at Oshkosh "78" was developed by Mike Lamb. No plans are available for this system as it is going to be sold as a complete unit when testing has been completed. Price is expected to be around \$1000.00. For more info, write to Finellis Welding, 5327 W. L10, Quartz Hill, CA 93534.

The third system is being developed by Don Land and is the type I'm planning on using in my next project (a KR-1½). Plans are being drawn up and a stress analysis is being run on the components. There is a lot of welding necessary to build this system but it shouldn't be beyond the capabilities of anyone with some welding experience. Those with no welding expertise will be able to buy the unit already fabricated. The plans are \$40.00, the complete unit is expected to go for approx. \$800.00. For more info, write Don Land, 906 Manzanita, Los Angeles, CA 90029.

Airframe modifications necessary to utilize either of these three systems are minor and are easily completed when installing the tricycle gear components. So...if you have been hesitating building your KR because of in-experience with tail dragger aircraft, wait no more. Get the plans from DeFreze or Land or buy the complete units as offered by Land or Finellis and lets get flying.

ERNEST KOPPE  
6141 CHOCTAW DRIVE  
WESTMINSTER, CA 92683  
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