

J A Y H A W K   M O D E L   M A S T E R S

N E W S L E T T E R

JULY 1988

President: Richard Ballard  
Vice-President: Bill Andes  
Secretary, Editor: Dave Plamann  
Safety Officers: Darrel Cordle  
Nate Ericson

Opportunity Knocks Once At The July 16th Meeting

Our meeting this month should be of interest to everyone. Mr. Jr. Hammig has invited our club out to see his most recent building project. (Or should I say rebuilding project.) A N2-S1 with a 220 Continental in the nose. Still don't know what it is? A few folks used to refer to them as Stearmans, or PT-17s. Most of us know the plane best from seeing it at air shows. But actually, it was one of the greatest Trainers ever built.

Famous for producing some of America's best pilots, students would learn from the rear cockpit, where visibility was anything but good, because of the planes wide cockpit and Radial engine, thus forcing the student to rely more on his own senses of sight and sound to keep it in the air. Uncle Sam couldn't run right out and buy a full I.F.R. instrument package, and fancy radios.

This particular airplane was built in 1940 at Boeing Aircraft Co. in Wichita, Kansas. My understanding is that it's being prepared for covering at this time. So if you've never seen one stripped down to the bare bones, meet at 6:00, July 16th at the Gaslight Village Clubhouse and you'll get your chance. We'll carpool out from there. Remember, that's 6:00 PM at the GASLIGHT VILLAGE THIS SATURDAY NIGHT.

COMING EVENTS

- July 16.....- Jayhawk Model Masters Meeting. (6:00 PM)
- July 17.....- Operation Handshake, Richards-Gebaure Airbase
- July 23-31.....- NATS, Virginia Beach, Va.
- Aug. 10-14.....- Byron Originals Expo. Ida Grove, Iowa
- Aug. 20.....- Jayhawk Model Masters Meeting. 7:00 PM
- Aug. 27-28.....- Milford Lake R/C Fun Fly, Farnum Creek Field, Milford Lake



"CRAWFORD"

FIELD RULES



I WORK ALL NIGHT IN A TUNNEL TO GET MUD TO BUILD MOUNDS THAT GET STOMPED BY THE A/C GUYS. WHY?

FIELD RULES



ITS A DIRTY JOB, BUT SOMEBODY HAS TO DO IT!

Many thanks to Nate Ericson for the following information . More later as testing progresses.

### Rutan's Firm to Develop All-Composite Pond Racer

WASHINGTON

Burt Rutan and Scaled Composites, Inc., are developing the Pond Racer, a twin-engine, all-composite aircraft designed to compete in the unlimited racing class and break existing world speed records in the propeller-driven category.

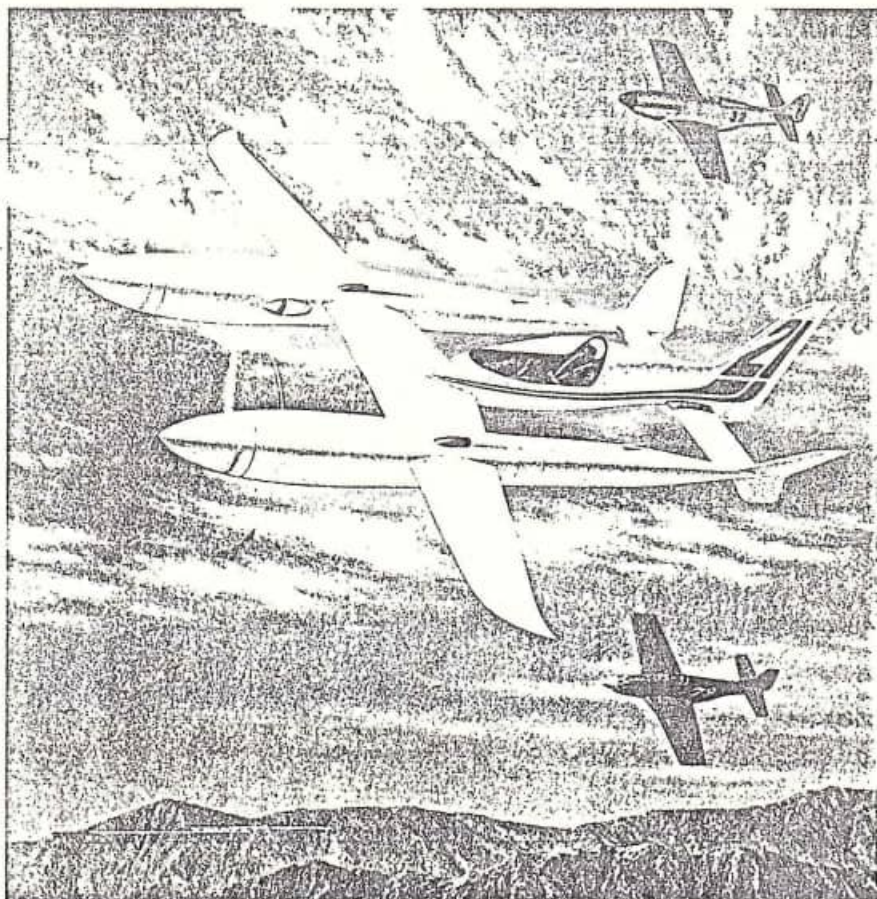
First flight of the 3,000-lb. Pond Racer is scheduled for June, 1989. The twin-boom aircraft features graphite composite construction for the airframe. The pilot sits in a pod-type fuselage between the booms, which house the powerplants.

The forward swept wing has a span of 25 ft., with three integral fuel tanks per side, and a one-piece, carbon fiber spar. Rutan has added small, canted surfaces, called butterflies, on each tail boom to improve directional and longitudinal stability. The butterflies will be oversized for initial flights and will be reduced to optimum size during flight tests.

Funding for the racer is being provided by Robert J. Pond, owner of the Planes of Fame museum at Flying Cloud Airport in Eden Prairie, Minn.

Dick Rutan of Voyager Aircraft will perform all flight testing. Wing and propeller airfoils are being developed by John Roncz. Steve Ericson is project engineer.

The main landing gear retracts into the booms, and a single, steerable tailwheel will be installed for ground steering. The racer is powered by two Nissan V-6 engines developing 1,000 hp. at 8,000 rpm. with four-blade, constant-speed propellers turning through a reduction gearbox. The



Pond Racer is depicted in competition with modified North American P-51 Mustangs, whose records it is designed to break. Note canted "butterflies" on each tail boom.

aircraft is designed for speeds approaching 600 mph.

Pond expects to enter the aircraft in the 1989 unlimited class air races held at Reno, Nev. After the Reno races, the

Pond Racer is expected to attempt world records for speed over courses of 3 km., 15-25 km., 100 km. and 500 km. Modified P-51 Mustang World War 2 fighters currently hold those records. □



S R BATTERIES INC.

The "source" for Ni-Cad packs.

If you are in the market for a Ni-Cad battery pack of any size or shape, and also want it to be of the highest quality available, the place to get it is S R Batteries Inc. This business started out as a one man operation. It is now supplying the U.S. Navy and AT&T with NI-Cad packs. S R Batteries is still a small family owned business and as such, can offer you service and products you can't get anywhere else. How about:

- : Aerospace grade batteries used in all packs. (The same as is used in the F-16, B-1, B-52, and TOW missile system!)
- : Each cell cycled and tested 6 times before it is assembled into a pack.
- : Silicone glued cells to give a flexible but strong pack.
- : Guaranteed to not form memory for one year after date of purchase.
- : All packs can be left on your standard radio charger indefinitely without damage.
- : No capacity loss between -5 to +125 degrees. If this isn't good enough for your intended needs, extreme temp. packs can be ordered to fit your requirements.
- : Packs made up from 50 mah. up to 10,000 mah. if you are planning a world record duration attempt.
- : A 900 mah. flite pack that is the SAME SIZE as a Futaba 500 mah. pack.
- : A transmitter "piggy back" pack that DOUBLES your flying time for \$49.95.
- : A Ni-Cad "Starter Pack" that wraps around your Sullivan Starter and will crank up a .61 engine 30 times on one charge, also for \$49.95. (You can hold the whole thing in one hand!)
- : A charger for 1200 mah. packs (1/4 Scale) for only \$6.95.
- : Help with any battery problem only a phone call away.
- : Transmitter packs made up to fit ANY TRANSMITTER in use, anywhere!

I know some of this sounds like a bunch of bull! I thought so to untill I put an S R pack in my old Futaba transmitter about a year ago. All I can say is, it won't run down! I can fly untill my Futaba flite pack is "in the red" on my E.S.V. and the S R in the transmitter is still a strong "GO"!

I highly recommend this company and their products. Write and ask for their info. Its good reading on NI-Cads, and its also free!

S R Batteries Inc.  
Box 287  
Bellport, New York  
11713

Phone # 516-286-0079

HOW: TO: BEND BRASS FUEL TUBING

Here is a helpful tip from Larry Wise. When bending brass fuel tube, it is very difficult to get a good bend without the tubing collapsing. Larry uses Weed-Eater nylon line to keep this from happening. Just insert the line inside the tube and bend away! When done, tie a knot in the end of the line and pull it out of the tube.

We tried it, and it works like a charm!!

## WHY NOT SCRATCH BUILD A SCALE FIESELER STORCH?

(and several other stupid questions!)

Well, I can think of several reasons. First of all:

- \* A simple stick and covering job turns into a 3 month project that looks a little like it should and may or may not fly!
- \* Its going to be too heavy! Once you start adding scale details there is no place to stop!
- \* A \$50.00 model will end up costing a lot more then that by the time you find and buy the correct paint, pilot figure, decals, etc.
- \* I can't read or write German and there is nothing in print in English that even mentions the Storch!
- \* Functional wing struts, fowler flaps, and leading edge slats add building problems at the ratio of 4 X (each) to the power of Pi X 12! Gentlemen, thats a lot of problems!
- \* It is impossible to glue in 16 window panels without getting glue smears on at least 15 of them!
- \* Because I could have built 6 kits while I was Storching around with this Fieseler!
- \* Because if I had built a scale L-4 cub or L-5 Stinson every one of you would know exactly what it should look like and would also know you could have done it better!
- \* How do you make a 1/8 scale Zipper?
- \* Did the Germans use fabric or leather seat belts in 1939? What color?
- \* Was the color seperation line masked off straight, or was there paint over-spray? Only Mr. Fieseler and 2,800 Luftwaffe crew-chiefs know for sure!
- \* What did the little roller-chain that came down from the top-left corner of the cockpit do? Are you sure?
- \* Where does the C.G. go when the flaps move back 3/4 inch? Are you real sure?
- \* Was it possible to shoot off your own tail while tracking a P-51 across your six with the MG-15 machine gun?
- \* If a Storch had a P-51 on its tail, would it make any difference if you did?

These reasons, and other as yet unanswered questions did make the project interesting. Besides, as I always say, IF YOU CAN'T DAZZLE THEM WITH CRAFTSMANSHIP, BUILD SOMETHING THEY NEVER HEARD OF BEFORE SO THAY CAN'T TELL IF IT IS RIGHT OR NOT!!!

RLB



BEGINNERS CORNER  
Questions and Answers

Time for more Q&A this month. I would like to thank some of the new people in the club for providing some very good questions for this column. What about you old timers? You must have some questions you would like answered. As I said at the start, we won't use your real name! Lets hear from you.

Q. CAN I TELL IF THE WING IS MOUNTED PROPERLY IN THE WING SADDLE IF IT IS TWISTED SLIGHTLY (BEFORE COVERING)?

A. Yes you can. Any measurements necessary to check wing saddle incidence should be taken right up next to the fuselage sides. Any wing twist would have little or no measurable effect at this point. (assuming that the wing panels have been joined straight at the center section)

Q. THE ONLY PLACE THAT I CAN MOUNT MY ENGINE TO GET PROPER COWL TO PROP CLEARANCE IS RIGHT OUT ON THE END OF THE MOTOR MOUNT. WILL THIS CAUSE EXCESSIVE VIBRATION?

A. It is possible, especially with engines larger than .35-.40 size. It is always a good idea to mount the engine as far back in the mount as possible. This can easily be done if you are using a Nylon or aluminum mount by adding an aircraft grade plywood shim behind the mount. This moves the mount forward and allows the engine to be mounted further back. If you have a hardwood beam type mount, there isn't much you can do, short of re-designing the front of the plane during construction.

Also, be sure to check and balance your prop. This will go a long way towards reducing vibration at the source. You have to remember however, that no single cylinder engine can be balanced perfectly, so expect some vibration. Wrapping the receiver, battery pack, and fuel tank in foam rubber is still the best insurance we have against vibration problems.

Q. THE DIE-CUT RIBS IN MY KIT ARE NOT ALL THE SAME SIZE, ALTHOUGH THEY ARE SUPPOSED TO BE. WILL I GET IN TROUBLE IF I STACK THEM AND SAND THEM SO THEY ARE ALL THE SAME?

A. No, in fact this is an excellent idea! Just be sure you don't overdo it, and be sure to maintain the same profile, spar notch depth, etc.

Q. I WANT TO GET INTO R/C BUT CAN'T AFFORD TO SPEND A LOT OF MONEY. COULD I START OUT WITH A 2-CHANNEL RADIO AND SMALL PLANE?

A. You can, but you are going to be on your own as far as getting help learning to fly. It is not that an instructor won't want to help you, but rather that he can't help you! All two channel radios are set up with rudder on the right stick and elevator on the left stick. This is backwards to anyone who flies a 4-channel or more style of radio. It is impossible to switch stick functions without starting all over learning to fly that way!

Better to spend a little more for a 4 or 6 channel radio to start with. Most come with Ni-Cad battery (2-channel sets use dry cells) and in general are much higher quality radios with good re-sale value. By the time you learn to fly, you will save enough in battery costs to pay for the better radio. You will also be able to find an instructor who can fly with your radio and give you some help in learning.

Q. WHAT TYPE OF HINGE SHOULD I USE ON MY NEW PLANE?

A. The hinge material that came with your kit is probably good. Most experienced modelers don't use them however, preferring instead to use a pin type hinge like the Dubro or Goldberg "Klitt type". I personally prefer the Robart #308 pin type hinge as it is very strong, very free acting, and most importantly, very easy to install!

Perhaps you should check out a well stocked hobby shop where you can look at each type and decide which you like the best. In the end, this is what matters most!

RLB



## THE K&B STORY

(NEW LIFE FOR THE K&B .40)

By now, most of you have heard all the K&B .40 joke's and heard over and over again, "Don't buy a K&B. They won't run!" The truth is, they will run, and run pretty good at that. You see, there was nothing really wrong with the engine. It was the carb that wasn't any good! A few years ago K&B was the leader in the sport engine field. After all, they were cheap to buy, (and still are) They lasted forever, (and still do) and they ran real good!

Up until a few years ago, you got a Perry Carb on your new K&B when you bought it. Somewhere along the line, the bean counters at K&B figured out that if they could make engines, then they should be able to make carbs. If they could make carbs, then they could make them cheaper than they could buy them from Perry. This was a Big Mistake!

The carburetors K&B made were machined out of a solid die-cast block of aluminum alloy and came to be known as the "block carb." In an effort to save tooling cost, it was designed to fit both the .40 and the .61 engine. No way is a carb that is big enough to feed a .61 ever going to work properly on a little .40! The venturi on the "block carb" is so big that the air velocity drops on the .40 below that which is necessary to pull fuel from the tank to the spray bar. To further compound problems, end play in the carb barrel made it almost impossible to reach a satisfactory idle/mid-range setting! As a result, the K&B engine earned a very poor reputation and sales fell off badly.

In 1986 K&B announced the Sportster series of engines and with these, a new carburetor. Through design (or luck!) this new carb will also fit the #4011 K&B .40 engine. Everything I had read about the new engines was good, so I decided to find out. I sent my old "Block Carb" back to K&B with a sob story and ask that they replace it with a new style carb! They did just that, and didn't charge anything for it either!

Somewhere along the line, I had given up on the Block carb and bought a Perry Pump and Pump carb. These two additions really built a fire under the K&B and I was pleased with the engine. The only problem was that it cost \$53.00 for the pump & carb to make the \$49.00 engine run like it should!

With all this in mind, I decided to run an engine test to compare performance using both the Perry and new style K&B carbs. Figures were taken with a Master-Airscrew 10/6 prop, Fox glow plug, and Red Max 10% fuel. Air temp. was 85 degrees and humid. Not the best of conditions for an engine test!

### #4011 K&B .40

	Max. RPM	Min. Idle
Sportster carb =	12,200	2,000
Perry pump carb =	12,800	2,400

The new Sportster Carb has a die cast aluminum body with a steel barrel and brass spray bar. It only has one adjustment (High-Speed needle) as the idle mixture is Pre-set at the factory and is not adjustable. It appears to be somewhat similiar to a Perry in the way it operates, but is simpler to adjust. Performance was good, however it did tend to load up badly if the idle speed was set too low. 2,000 RPM seemed to be pushing it, but the engine would clean out and run unless full throttle was applied very quickly. No problems were evident at a slightly higher idle speed which you would most likely use anyway.

Would I buy a new K&B .40 with the new Sportster carb? No, I wouldn't because there are much better engines in the same price range. The O.S. FP .40 and the FOX BB.40 come to mind as much better engines in the same price range. Should you already have a K&B .40 with the old style Block Carb however, by all means send it back to K&B and ask for an exchange. You won't be sorry!

RLB



1-PIECE OR 2-PIECE CASE DESIGN

Recent trends in engine design seem to be drifting away from the two-piece (actually three-piece) crankcase design. Witness the new O.S. SF engines, Super Tigre sport engines, Rossi .40, etc. In all of these engines the one-piece case is advertised as "better", "stronger", and on and on! But is it better? That is a question I keep hearing lately. Lets take a look at some of the advantages and disadvantages and I will let you decide.

Some of the points to consider relate directly to the manufacturing process used to make the engine. Improvements in die casting and machineing processes in the last few years have made it possible to make a perfect crankcase at low cost in one piece. This was not possible only a few years ago. Once the die casting is removed from the mold all that remains is one set-up on a computer controlled mill and "ZAP" its done! A few relatively simple machining steps to ream the case for bearings, sleeve, carb shank, and tap the bolt holes and the case is done. (usually about 30% fewer bolt holes and 50% fewer gaskets)

Crankshaft bearing alignment then stands about a 100% chance of being perfect with a one-piece case design because both bearing seats are cut at the same time on one machine set-up. A two-piece case on the other hand would have each bearing seat reamed in a separate operation with separate reamers. Case alignment then becomes dependent on two machined surfaces aligning with each other and a gasket to seal the joint. Bearing preload and case seal depends on four bolts keeping everything together under heating and cooling cycles and high R.P.M. vibration. Which would you prefer?

Proponents of the two-piece case design often point out that you can rotate the case 180 degrees and make a left hand engine for that scale P-38! This is true, but do you know anyone who has actually done it? Me neither!

The next point that always comes up is crash damage. If you break the front off of the engine you can replace just the front housing and not the whole crankcase. True again, but lets compare prices just for the heck of it. I am unable to directly compare prices from the same manufacture but we can look at two typical .40 size engines in the same price range. On the two-piece case from a K&B .40 the front housing and gasket set sell for \$38.00. The complete crankcase and Gasket set for the one-piece FOX .40 cost \$27.00!

Carrying it a step further, assume that if you crash hard enough to break the front housing you will also most likely need a crankshaft and carburator to get the engine running again. On the FOX .40 for instance, we are talking about a \$75.00 repair bill on a \$65.00 engine! You figure it out.

Whats the bottom line? Well, I guess personally I would go for the one-piece case design if everything else were equal. Usually though they are not, so all I can say is, don't worry about it! Buy the engine that you like and know to be good. (and try not to break it in half!!) RLB

New Wings

Im pleased to announce that Larry Broddle, and Tom Puckett are amoung those who have earned their wings reciently. Darrel Anderson is comming along nicely and should be well on his own soon also.

Please let me know of any new pilots that are new to the sport this year.

Thanks  
Dave



66042

