Ace R/C AIR SCOUT

An answer to "learning the ropes" in this wonderful world of R/C.

by MIKE LEE

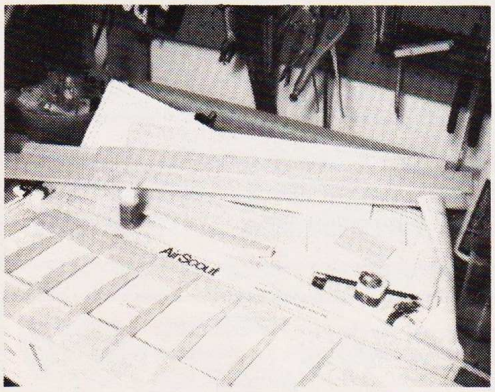
LIKE OUR full-scale counterparts, a new model airplane pilot should learn to fly on something slow and easy. Ace R/C* has introduced their latest for those who are just learning the ropes—the Air Scout. Designed by Owen Kampen, and co-developed by Romey Buckolt and Tom Runge, the Air Scout is an aircraft built in the classic lines reminiscent of the old Pipers, Cessnas, and Taylors of the '30s and '40s.

The basic planform of the Air Scout is that of a high-wing, cabin-type passenger ship. The wing sports a doubled dihedral break, just at the wing saddle, incorporated into a very strong D-tube construction wing. The fuselage is equally strong, built almost entirely of light plywood throughout. Overall, the Scout has a wingspan of 54 inches, an area of 490 square inches, a length of 40 inches, and is powered by anything in the .15 to .25 engine size range.

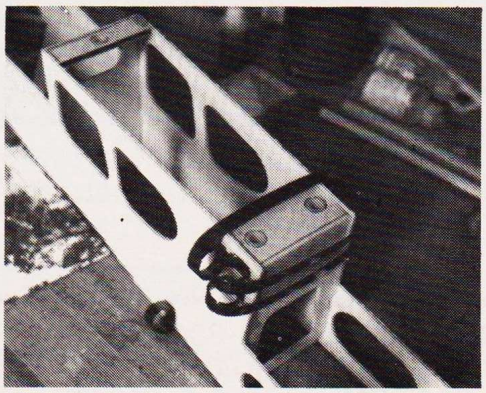
THE KIT. The kit contains a forest of light plywood and balsa. All hardware is included, except the wheels, basic covering, glues, and of course the engine and radio. Most parts are die-cut, which is nicely done, or machine cut, which is excellent.

CONSTRUCTION. Construct the wing first. You will need a hobby knife and your favorite adhesive. Begin by separating all the ribs into lots, as they differ. When all ribs are accounted for, find the lower wing spar and sheeting. Adhere the spar to the trailing edge of the sheeting, using the plans for alignment. Cyanoacrylate-type glues make assembly quick, so please indulge.

Once the spar to sheeting joint is set, place the assembly on the plans, and glue the ribs in place according to the plans. This is a rather fragile assembly, so glue the top spar, the leading edge, trailing edge, and center sheeting all in place. Sheet the top and trailing edges of the



Wing construction is very simple and involves balsa sheeting and pre-cut ribs.



Coil clamps aid in drawing fuse sides into close compliance with F-3 and hold-down block.

Mike's method of joining the fuselage sides to insure that formers are 90° to fuse sides.

Left: Proud papa and his Air Scout. Mike used the excellent Silver Seven Radio. Right: Tail feathers are simple balsa sheet. Air Scout is an ideal project for R/C newcomers.

wing, and set it aside to dry. Do the same for the opposite wing.

The center section of the wing is next. This requires just a hair of wood trimming to make a good fit. The leading edge also has the lead hold-down hole, which is already machined out. Place the false ribs against the leading edge, then glue the dihedral braces firmly in place. Place more false ribs behind the dihedral braces, and allow to dry.

When the entire wing is dried, glue the three parts together. Firmly weigh down the center section and butt the wing panels up to the center section. Set the dihedral angle with magazines at the tip. When the fit is correct, adhere all three together with epoxy (five-minute works well here) and recheck the dihedral angle one more time. After the glue sets up, finish the wing by sheeting the center section and giving it a final sanding.

The fuselage is next and is quite easy. Starting with the side panels, glue all doublers and stringers in place along the top and bottom edges of the sides. Note there are lots of holes in the sides, just aft of the wing saddle, to cut the weight. This is not wasted material, there are parts which are cut from the pieces which pop out of those holes, so be on the watch.

After the stringers and doublers are set, place the bulkheads on one fuselage side only. Use the plans for the proper alignment. Make certain the bulkheads are perpendicular to the sides at this point. Once this is set, mate up the other fuselage half and glue it in place. Note there is a taper at the F-3 former about one-half the way up the former and you will not be able to join the fuselage there for some time.

Now place the firewall, then the tapered joint at F-3. It may require some strong tape to keep the sides in place while the glue hardens. A little water helps here. Simply drip water on the wood to coax the wood into bending. F-4 and F-5 are the last formers to be placed on the fuselage. Mount them on the top of the fuselage, just between the two sides.

The wing hold down blocks belong at the top of the fuselage. Place them at the front and rear of the wing saddle and firmly butt them to the sides, as well as the F-2 and F-3 formers. Pre-cut holes for the nylon wing hold-down nuts are in the wing hold-down blocks. Dab some Super Glue onto the outside of the nuts and place them in the holes for fitting.

The rear deck is next. Place formers F-5 and F-6 on top of the fuselage side pieces. These will be rather fragile at first, but the top sheeting, which is next, will fix this problem quickly. Now afix a couple of stringers to the sides between the top sheeting and the upper edge of the fuselage sides. This will help shape the sides, plus give a more stylish look.

Bottom sheeting from the nose rearward will finish the fuselage for now, and all that's left is a final sanding and landing gear assembly.

The tail feathers are sheet balsa parts, engineered for maximum strength and easy sanding. This means that there are several parts to each feather, but nothing to think about. Once the vertical stabilizer is assembled, the upper tip has the balsa grain running horizontally, so take care you don't snap it off. After the tip is covered, this is not a concern.

Notice the rudder and you'll see this is a tail dragger. Ace has thoughtfully included the steerable tail wheel assembly. The plans call for the tail wheel axle to be pre-bent when mounted to the tail bracket, lest you want to do a lot of re-bending later on. The entire assembly is simply punched onto the underside of the fuselage with the tiller arm inserted into the rudder itself. This allows some very effective steering without wrenching the rudder. All dropping torque is absorbed by the fuselage.

After the tail assemblies are dry, mount them to the fuselage, insuring they are straight and true with the wing and fuselage. A string measure works well here, measuring the distance from the stab tip to the wing tip, insuring each measurement from tip to tip is equal. For you bare beginners, this is a good time to enlist the aid of the local expert.

Once all adhesives have completely dried, it's time to sand the entire plane. Take care sanding the top sheeting to the fuselage. Since this piece is rather free-floating, one may have a tendency to oversand a bit, resulting in an undesireable contour. The best thing to do is sand the edge round toward the bottom, lightly sanding on the top. Also watch the stab fairing. Sand everything but the fairing, because of the position. Simply place some masking tape along the edges of the fairing and then begin sanding. The masking tape will not allow the sandpaper to eat away the surfaces adjoining the part that you wanted to sand in the first place.

My model was finished in no time as I found assembly a breeze. I finished the Air Scout with Super MonoKote covering material for all surfaces. Either use a plastic covering entirely, or a paint that will accept covering material. There is so much open frame area on the Scout, the easiest thing to do is use an iron-on covering.

The radio I installed in my Air Scout was my beloved Ace Silver Seven radio,

sporting the new Silver Seven receiver. The new Silver receiver is very compact and almost gets lost in the spacious cabin of the Air Scout. I used the largest servos in the house to see how the fit was. Three very large servos fit easily into the cabin of the Scout with little worry. There is one very nice touch for mounting the servos into the Scout. Ace thoughtfully engineered the servo mounting rails to fit into small U-shaped balsa saddles. These are glued to the fuselage side in the interior of the cabin, and the rails are then seated in them. They are simple, but very effective.

I used the legendary Veco .19 engine. The Veco can handle its own in this engine class on any day. The Veco has a Kraft* 4-ounce tank, which is sufficient for about 8 minutes worth of wide-open flying. The tank compartment is also capable of holding a larger tank.

All loaded up, the Air Scout came in at 52 ounces, within the specified design parameters. Everything checked out at the shop, so after a quick photo session, Air Scout and proud papa went off to the field with transmitter in hand.

FLYING. No matter how many times you check a plane at home, there is no substitute for a field check. Mine was a good one, with all controls neutraled and trims centered. The Veco took little urge to get it humming, and I lined up for launch.

Believe it or not, I never touched the trims upon lift off. The Air Scout went straight as an arrow, as pretty as you please. Handling was solid, and she was amazingly responsive. In fact, she was so responsive that I elected to fly her on low rates from the transmitter. This made things quite pleasant and I smiled from ear to ear. Ace advertises the Air Scout to be a slow and gentle flyer, and, given the low surface throws I ignored, she is what they claim. While quite docile and forgiving, the Scout is also quite honest—she gives no quarrel about going where you put her.

I had to see what she would really do with high surface throws and plenty of power, so I poured everything I had into the plane. All I can say is I did have some fun! The Air Scout will do most anything you ask when it comes down to aerobatics. She performs rudder rolls quite well, and loops and stall turns were very smooth.

Landing the Air Scout was like the beginning of the flight—nice. She remained quite stable and steady all the way to touchdown, with no bad habits. Three-point landings are also nicely done, although the plane would prefer to have two-wheeled landings as it looks scale when rolling on two wheels.

All in all, the Air Scout is a very pleasant airplane to fly and a good first aircraft for any aspiring novice. It is easy to build, stable, gentle to fly, and designed to be tossed around without falling apart.

My Silver Seven receiver was also a fine piece of equipment which the builder should consider. Performance was solid with no problems at all.

To top it all off, the Veco .19 was flawless from first flip through full throttle. Together, the combination can be a very promising team to get the novice off the ground. For the sportsman, the Air Scout is excellent for fun and relaxation. Someone finally made the good all around sport trainer—the Air Scout.

**The following are the addresses of the companies mentioned in the above article:*

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Kraft Systems, 450 W. California Ave., P.O. Box 1268, Vista, CA 92083. ■