

THE Basic Low-wing Trainer

By RANDY WRISLEY . . . The *Basic Low-wing Trainer*, or simply *B.L.T.* for short, is a fun little .049 gas or 035 electric powered model with a very descriptive name. It builds quickly, flies easily, and is plenty cute!

• The *Basic Low-wing Trainer* is a simple-to-build, simple-to-fly sport model. It has an interesting history. When the belt reduction unit came out for the Astro 020 electric flight system, I built the *B.L.T.* for it. On a good day, the model would stagger around the field, gaining perhaps 30 feet of altitude. Disgusted, I gave the model to a friend.

When Astro Flight came out with the 035 electric system, I borrowed the now dusty and neglected model back and installed the new system. It didn't even fly as well as I remembered! After a hard landing and some fuselage damage, I threw what was left of the *B.L.T.* in a corner of the shop.

When I finally got around to removing the electronics, by chance I checked the motor batteries. It was a six-cell pack alright, four cells connected to the motor and two connected to each other!

As the Astro 035 was now installed in my *Thush Mite R/C Old Timer* (MB plan No. 584-O.T.), I rebuilt the *B.L.T.* for gas. I still feel that if you built it lightly, used an 035 electric with belt reduction, and six or seven cells hooked up properly, *B.L.T.* would make a great electric!

CONSTRUCTION FUSELAGE

Begin by cutting two identical fuselage sides from medium 3/32 balsa. Cut the formers from balsa or ply as indicated. Install the doubler parts, using the former as a spacer.

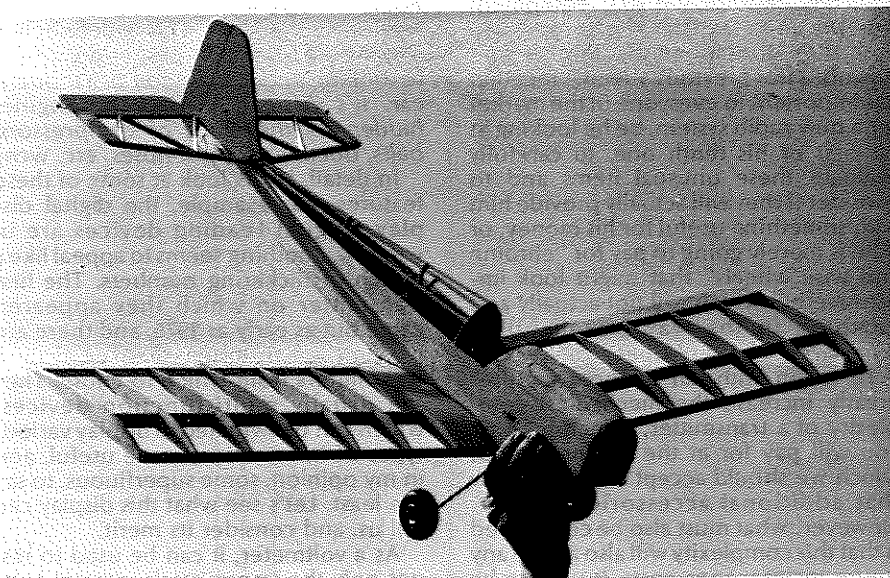
Bend the landing gear from 3/32 music wire and lace it to Former 2 with dacron control line. Epoxy the firewall in place. While the glue sets, align the sides. Once you're satisfied, use instant glue to affix Former 5.

Glue the 1/8 square cockpit stiffener in, and pull the tail together. Install the remaining formers: 2, 3, 4, 6, and 7.

Don't let the weird top stringers scare you. Here's how they're done: run a 3/32 square spruce strip from Former 4 to 7. With the stringer just sitting there, cut a notch in a piece of 1/8 x 1/4 balsa. Place the notched stick on Former 5, raising it up until it slips into position. Now you can glue this stick to the former. Repeat the procedure on Former 4, then do the rest of the stringers. It is much easier if you don't permanently attach any of the stringers until all the 1/8 x 1/4 pieces are installed.

Cement the 3/8 balsa filler block into place as shown, then plank the fuselage bottom with 3/32 balsa applied cross-grain.

Now is a good time to mount your



All framed up and ready for covering. The *B.L.T.* is lightweight, simple, and small . . . just perfect for schoolyard flying. Constant chord wing is very easy to build.

engine: while you still have access. I have shown the engine inverted . . . don't be afraid of it! With the Cox stunt tank now being used on Cox's long tank .049s, you simply turn the model upside down for starting. If you want, you could even side mount the engine or mount it upright.

Once you have the motor where you want it, plank the top of the fuselage with soft 3/32 balsa. The cowl is shaped from a 3/8 piece of balsa. Be careful not to make the opening too large. Remember, you have to have the same size hole to let the air out! Sand the completed fuselage smooth, and set it aside until we get the rest of the model built.

WING CONSTRUCTION

Using a template, cut out 19 wing ribs. Slice 1/16 of an inch from the top of seven of them for use in the center section.

Pin the leading edge, trailing edge, and spruce spar down over the plan. Cement the ribs in place, excepting those at the dihedral breaks. I cement a piece of 1/8 square balsa between each rib at the leading and trailing edges. It really helps to stiffen the wing, and keep the ribs from breaking loose.

When that's done, saw through the wing at the dihedral breaks and raise each wing tip up 1-1/2 inch. Epoxy the 1/32 ply dihedral brace in place. Add the remaining 1/8 balsa gussets, and ribs. Plank the only the top of the center-section with 1/16 balsa.

Remove the wing from the board and cement the 1/8 balsa end ribs on. Once you have the LE shaped and the rest of the wing sanded smooth, it's finished.

You will find it a good idea to cement a piece of 1/32 music wire to the trailing edge at the center section to prevent the rubber bands from cutting into it.

TAIL SURFACES

Cut the fin and rudder from 1/8 medium density sheet balsa. The elevators are also made from the same stock, joined together with a length of 1/8 dowel. The horizontal stab is built up from the wood sizes indicated. Sand the completed tail surfaces smooth, and round all the outside edges.

FINAL ASSEMBLY

Not too much to say here. Cover the model before you glue the tail surfaces together on the fuselage. I used a plastic film the first time, and one of the new cloth type iron-ons the second time. If you plan to paint, keep the tail light!

Install the radio with an eye toward the center of gravity. The model must balance at the spar! Once the radio is in, and the wheels are on, its time to go flying!

FLYING

If the CG is correct, and you haven't found any warps, you're ready. Use a 6-3 prop. ROG takeoffs require a little practice, but the *B.L.T.* is easy to hand-launch. Just grab it behind the wing, and heave the model skyward!

Happy flying!