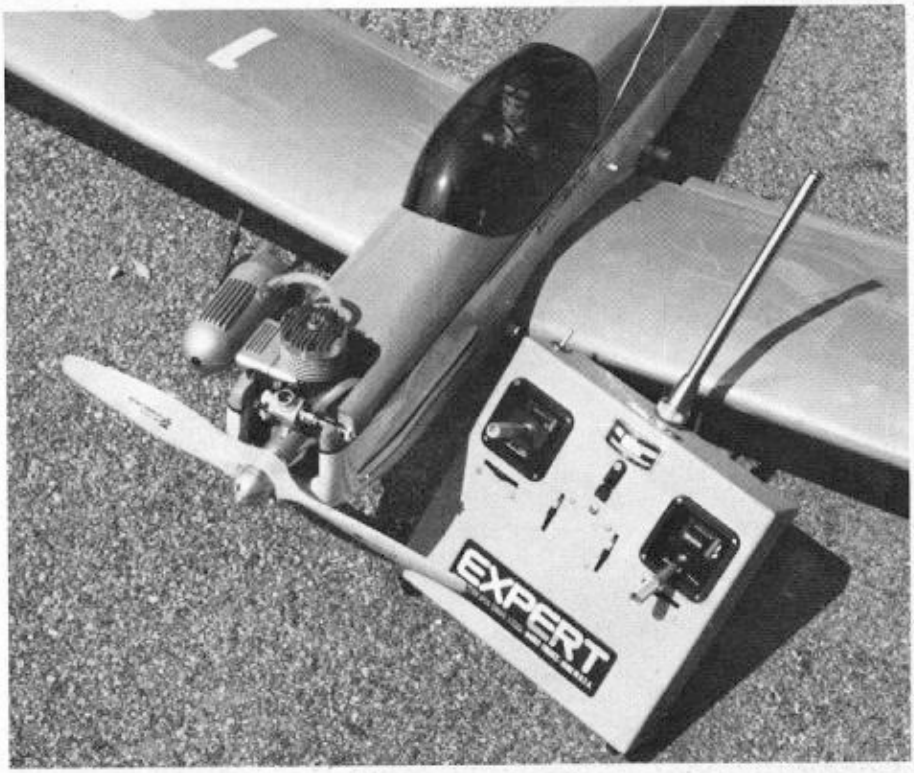
The Indy Re-Trainer

by Jack Sheeks

This one is the perfect R/C ship for the ex-R/C'er who wants to try it all again.

PHOTOS: JACK SHEEKS

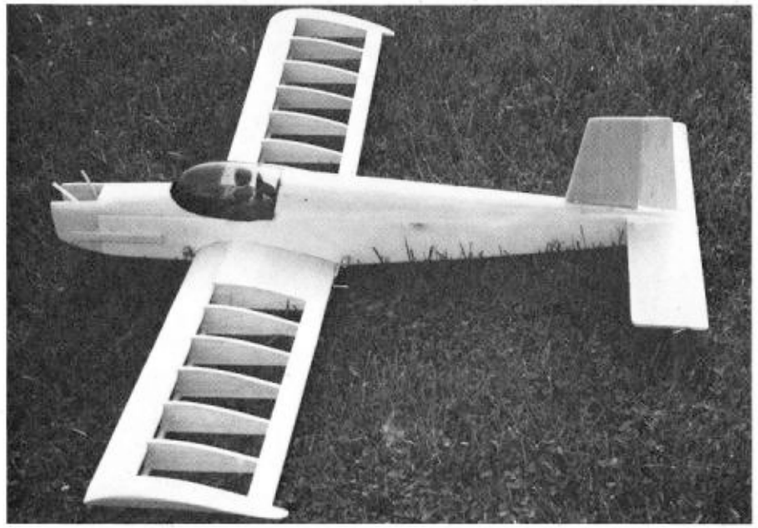


Appealing looks and good slow flight characteristics are what you need when you're inexperienced. If a ship is too fast it's way ahead of you in flight. Top Flite's Power Prop, a .30 powerplant.

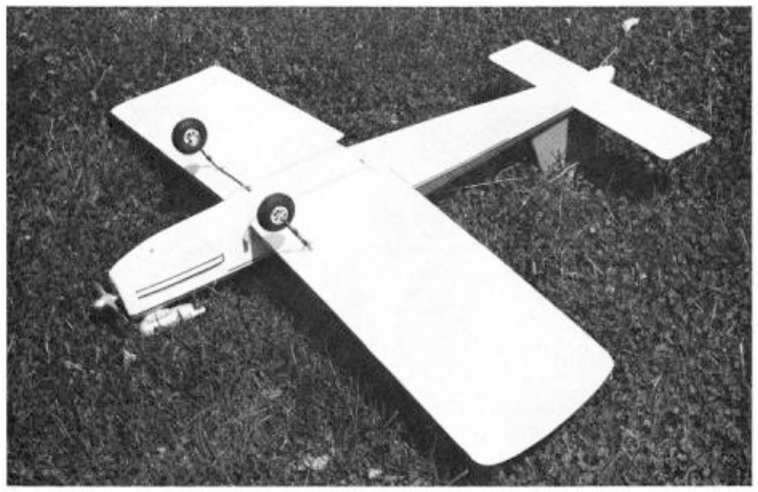
Why would anyone name a ship the Re-Trainer? Well, over the past few years I've been in and out of R/C like a door knob, and I felt a strong need for some retraining before I dorked a biggy from lack of practice. One of the reasons behind my irregularity in R/C stems from my two teen-aged boys flying competitively in Controline Scale. (Just for the record, Mike, the oldest, won Senior Scale, and Scott took 2nd in Junior Scale at the '76 Nats.) How's that for reasons?

Anyway, with a less than educated pencil, parts from three unfinished birds and a large scrap box, I began designing what I felt a suitable re-trainer should look like. A low-winged docile aircraft devoid of evil habits. Like its designer. Small enough to squish into any car without tearing the wings off when loading, light enough so you don't slip a disc carrying it to and from the field. (3 lbs, 7 ozs.) and powered by an engine that doesn't cost an arm and a leg to operate. (OS .30 power.)

After all this contemplation and a few



Check that terrified look. Pilot may have had experience in Jack's last load. Kraft engine mount. **At top:** It's just a simple bird, a lifting section to float in on. Framework is routine, sturdy. **Below:** If this is a landing you are rusty Jack. The gear is rugged, typical torsion type action.



dream fragments of Stand-Off Scale kind of realism, laziness and practical considerations won out and the lines took form on paper. When all is said and done I feel that the resulting Re-Trainer design makes for an attractive model which is quick and easy to build, along with it being a fine and predictable flyer.

With the model completed, I was just sitting there, beginning that old admiration period. It's always best to admire your own airplane in case nobody else does. My solitude was cut somewhat short by the clanging of the telephone, Bernie Ash and Bob Godfrey throwing down the gauntlet. "Come out and fly it, right now!" I hadn't figured on such a rash thing. My new airplane? The cold sweats again!

One blowout later my arrival at the old mudpatch was in itself sufficient distraction to cause one Bernard Ash to plant his airborne effort vertically into the corn. Following the ten minute postmortem I was reminded it was now my turn to fly. On half charged batteries. My pleas for a test pilot for the occasion, all current on the questionable art fell on stone deaf and snickering ears. Bob informed me he couldn't on account of how he was going to take the pictures. And so it went.

With quaking fingers I looked the bird over once again. Bob displayed a minimum of confidence in the whole thing by checking out the control sequence, aileron motion and all that. All went well however, in spite of my nervous knees. The throttle was eased forward and the ship tracked beautifully and lifted off in about 30 feet. Much to my surprise the Re-Trainer needed no real trim changes other than a little down in the elevator. It performed very well. The only thing it wasn't too great at was inverted flight, but for this it was never intended. The flat-bottomed airfoil is fine for rolls and loops and Immelmans, and mild, slow training type approaches. You can't have everything.

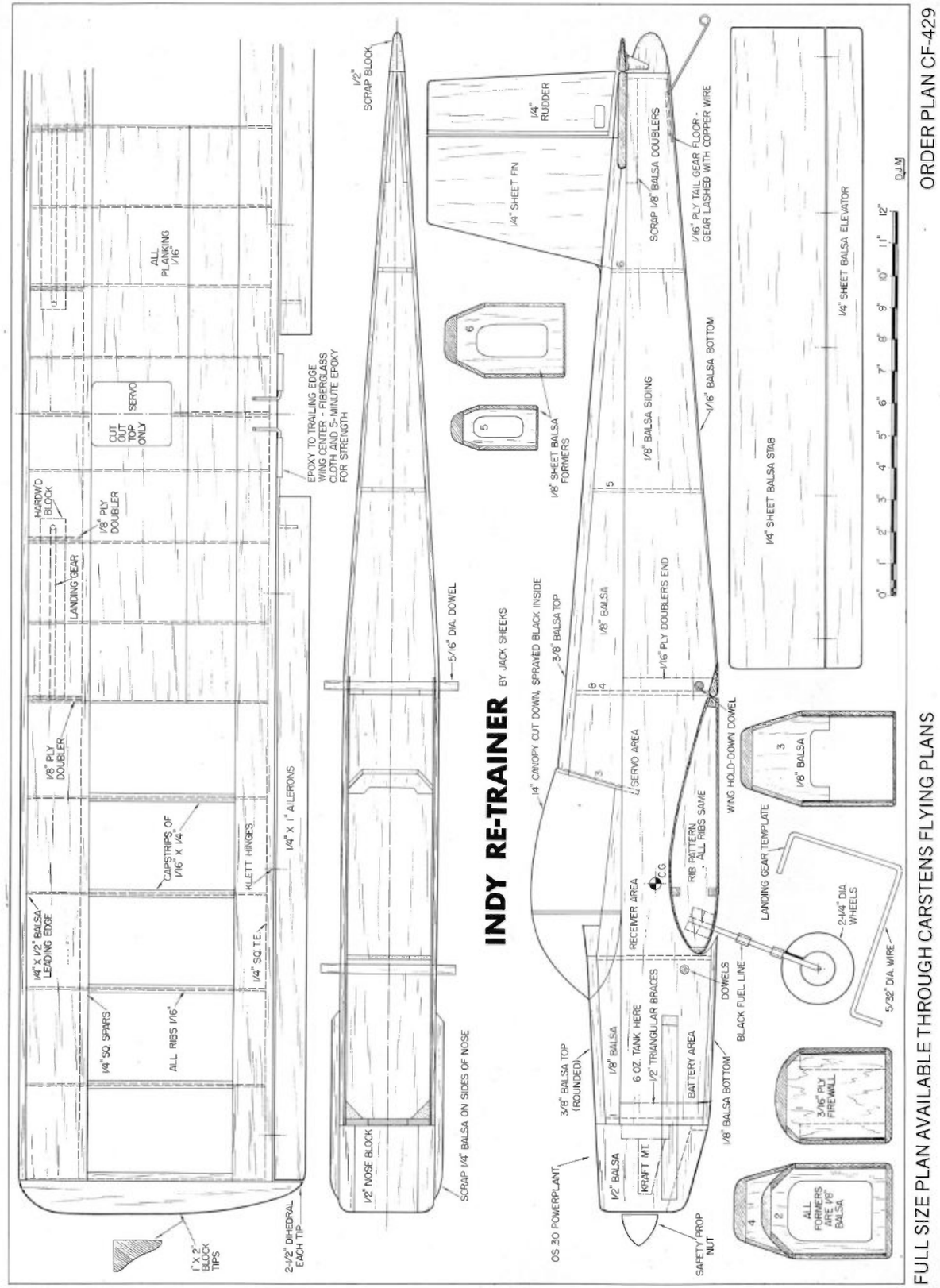
Next flight up Bob Godfrey tried his hand and rang a lot more performance out of it than I would have thought possible. I could see I was really out of practice, though the mad Irishman wonders if I was ever in practice. Bernie ruined my day by telling me I should stick to R/C as they fly better than my ukies. This utterance was delivered as my engine dried out a quarter mile off and the Re-Trainer just floated on back to the runway. It was pretty. All who have seen the bird fly feel it is a nice, mild aircraft and as such it might just fill the bill for you. Doesn't cost too much either, so maybe it will do.

The Construction

To begin with, this ship has no mean tricks up its sleeve so it's very easy to build. Begin by selecting some good straight wood from your scrap box, your buddy, or if all else fails, from your dealer.

Start things off by pinning the ¼" sq. balsa stringers to the plan of the wing. Build this in two halves. Cut all the ribs the same from 1/16" balsa sheet, then commence gluing them in position. Next, install the top stringer, along with the leading and trailing edges. The rear of the wing is planked with 1/16" sheet balsa, then allowed to dry.

Cut the stab and elevator surfaces from ¼" balsa, suitably textured. Sand to air-



foil shape and install the hinges carefully. Watch the hinge alignment to lessen the load upon your servos.

About now we return to the wing to install the forward sheeting, 1/16" in thickness, followed by those fun struts, the capstrips, 1/16" x 1/4" soft balsa. Put aside to dry.

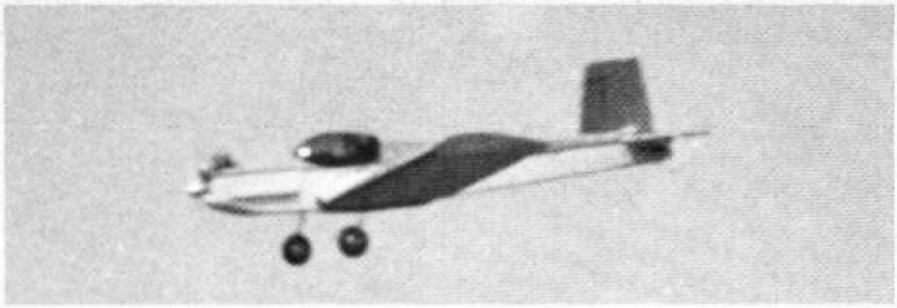
Time now for the fuselage sides. These should be matched sheets of firm 1/8" balsa. 1/16" plywood doublers are next sawed and laminated to the inner surfaces of the siding. Do not use white glue for this.

Reach for the wing again, unplucked from the plan at this time for the addition of the lower capstrips. Leave the center planking off until later. The other wing panel should now be assembled in like order.

When a few minutes present themselves, chop out the rudder and fin from suitable 1/4" sheet. Hinges are again installed. The wing halves can also be fitted and joined at this point. 5" dihedral is suggested, measured with one panel flat upon the board. (2 1/2" in each panel.) Install the landing gear blocks somehwere in the building process and the plywood doublers before you get too far along. This is a nice time to tell you. Wing tips are of sort of soft balsa block. The center-section is reinforced after planking with 2" width fiberglass cloth. Epoxy should be used when the panels are joined together.

Trailing edge stock will do well for the ailerons, or you may shape them down out of 1/4" sheet balsa. Once they are hinged to the wing and all is final sanded, it's about complete.

Your old body is not yet finished. Start by jigsawing out the formers from 1/8" plywood and balsa as noted. The firewall is first epoxied in position and the rear section is cemented together with a bit of scrap. The remaining formers find their place and the engine mounts are installed.



The lift-off and gliding in. Good slow flight characteristics, yet really spirited in maneuvers. **Below:** If it's your first R/C, watch your C.G., free hinges and slight washout toward wingtips.

Test fit the tank of your choice. I used a Kraft mount and a 6-ounce tank whose name has long since rubbed off.

The tailskid is best to fit. A tailskid seems to track better in grassy situations, less drag to overcome. 1/2" sheet nose blocks are added and the fuselage takes on a more complete look. After this has dried thoroughly, trim and sand the fuselage to its final pre-covering form.

If you want any cockpit detail, now is the time as you are going to install the 14" canopy you have just cut down to fit. The stabilizer is installed before the final planking is placed on the rear of the body. The rudder is now attached and the wing hold-down dowels are added. You may use wing bolts if you wish, there's enough room for them.

Dust all the structure off and give thought to covering it. The original was finished with orange and white MonoKote with black pin-striping to set it off. Vinyl stick-on lettering completed the task and it looked kind of nice.

To date the aircraft has performed well on the World Engine's Expert system which was installed, and seems well matched for the .30 sized powerplant. Fly it with care, the head you land on may be yours.