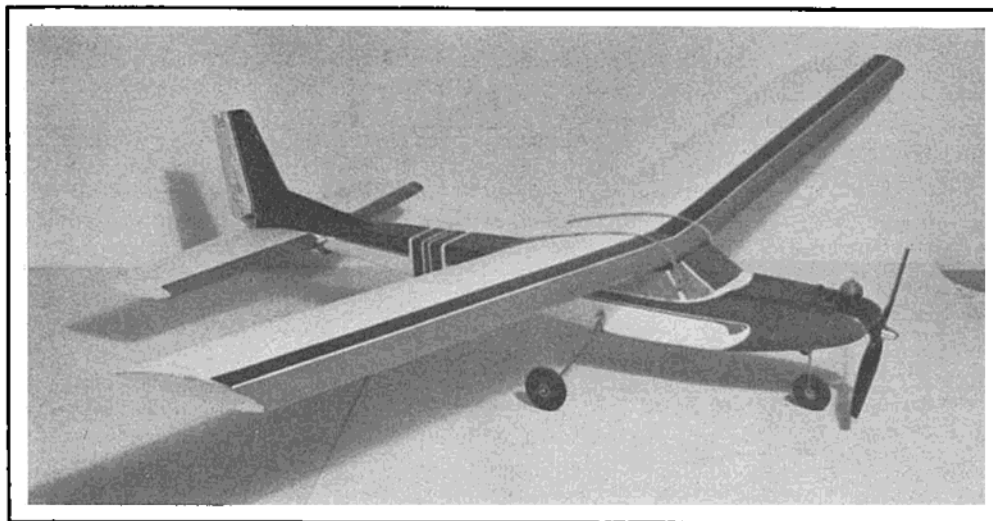


GETTING STARTED IN R/C



**WHIZ
KID**

AND

**CESSNA
150**



A STEP-BY-STEP PROGRAM FOR BEGINNERS

BY OWEN KAMPEN



Author's daughter Debbie, 15, and Cessna 150.

CESSNA 150

Models of full scale airplanes have always been the mainstay of our hobby, and while most do offer special problems for the modeler — both in building and flying, the "150" is a delightful exception! The clean, simple lines and excellent stability are made to order for us and this single channel version retains all of the fine flying characteristics of its "Big Daddy." As the big one is breaking all sales records for light planes, with the majority being used as trainers for student pilots, what better choice for Step 2 in an R/C building program?

The "150" is considerably faster and more responsive than the Whiz Kid, yet tame enough to allow you to easily make the transition. Properly trimmed it will fly hands off, and if you enjoy cross country running, don't bother with R/C! In the air, it's a joy to see as well as to fly, and the see-through windows give that extra touch of realism that makes it hard to distinguish from the real thing. As with the Whiz Kid, the major factor affecting performance is the thick semi-symmetrical airfoil of the foam wing. Now coupled with a heavier, faster plane, the results are surprising in terms of increased penetration plus the same gentle stall recovery and flat glide.

Added maneuverability is a direct result of the larger and taller rudder which, in turn, needs more power to move it. Here the Adams Dual Actuator comes into its own, giving true proportional control with plenty of bang when needed. The same battery pack can be

used, 3 penceils or 4 — 500 mah nicads with 3.6V tapped to the RCVR. The difference lies in the fact that the Dual puts out 3 times the torque of the Single at about the same voltage and current drain. As a result, response is immediate and positive.

Go easy to start with and set the push-rod in the outside hole of the rudder horn for less rudder throw. When full left or right is given the 150 will go into a steep bank and if the turn is held, will spiral dive rapidly and steeply. While a bit unsettling for the newcomer, this is the method for picking up excess speed to convert into rolls and loops.

A great deal can be done on rudder-only when mastered. The 150 also lends itself to conversion with the installation of a Galloping Ghost actuator such as the Rand LR-3 which will give elevator control for more advanced maneuvers.

Actually, the elevator serves a function even in unadvanced maneuvers. The obvious loops, elevator turns, and flare out landings are part of the package but another application sometimes goes unnoticed in the excitement. Like what? Well, like simple straight and level flight. A rudder only model without motor control tends to climb under power until turned. With elevator control — even elevator trim — straight and level flight is possible, turning engine thrust into forward speed which in turn makes it easier to perform many stunts.

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CESSNA 150

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The additional drag of the extra flapping surfaces would suggest adding more power, and here a Cox Tee Dee .049 or .051 is in order. As these engines do not have self contained fuel tanks, a $\frac{3}{4}$ oz. tank should be installed behind the ply engine mount. Beam mount adapters for the engine must also be used.

The Rand LR-3 also has provision for motor control, so this is another progressive step you may wish to take. Again, the option is yours.

As for construction procedures, the foam wing is treated the same as for the Whiz Kid with one exception. A notch is cut in the center trailing edge section for scale effect and to permit easier handling of the hold down rubber bands. Note the plywood lining as shown on the plans. The "150" weighs in at about 26 oz. with the Dual Adams and 4 nicads, so wing chopping is not recommended here.

The fuselage construction is quite typical and the triangular balsa makes it easy to make a nice rounded contour.

The aluminum landing gear can be cut from tempered aluminum or use one of the commercially available blanks. Again, the spring nose gear can be bought or built.

FUSELAGE CONSTRUCTION:

1. Butt glue the plywood windows to the fuse sides and then add the vertical doublers on the inside of each fuse side. Be sure you have a left and a right side. Add $\frac{3}{32}$ " sheet strips at top and bottom of windows.
2. Glue tail doublers in place and then add $\frac{1}{2}$ " triangular balsa strips to fuse top and bottom where shown.
3. Place the right side over the side view on plan and mark location of former F3 — glue F1 and F2 in place. Then add nose doublers using contact cement.

4. When dry, place the left side on top and glue to F1 and F2 making sure the fuse is square.
5. Drill the motor mount for the engine 3-48 blind nuts and install the nose gear.
6. Glue F3 and F4 in place being careful both sides bend equally. Hold with pins and rubber bands. Glue and clamp the $\frac{1}{8}$ " tail post between sides.
7. Glue top rear deck in place.
8. Glue ply motor mount in position. Cut slot for nose gear and add $\frac{1}{2}$ " nose bottom sheet.
9. Glue $\frac{3}{8}$ " nose blocks in place.
10. Add bottom sheeting back to F3.
11. Tack glue the $\frac{1}{4}$ " top of the battery compartment in place, then carve and sand to a rounded shape.
12. Mark location of rounded $\frac{1}{8}$ " ply front and back window formers then white glue in place. Add wing hold down dowels then finish with $\frac{3}{8}$ " sheet to complete top of cabin.
13. Glue fin together and install making sure it's vertical. Do not attach rudder at this time.
14. Install actuator, push rod switch etc. Remove nose top, line the battery compartment with foam and then glue top firmly in place.
15. Finish sheeting the fuse bottom and stab saddle.
16. Give fuse 2-4 coats of clear dope sanding between each coat, then add windows, color and trim and finish with a final coat of clear.
17. Bolt on landing gear and attach rudder using nylon thread in a figure 8 stitch. First flights should be made with about $\frac{1}{4}$ " rudder throw each side of center.

FLYING:

1. Make sure the plane balances with batteries and receiver installed at $2\frac{1}{4}$ " back from the leading edge.
2. The glide should be flat and quite fast — shim the stab if necessary to achieve this.
3. Plane performs best using a Cox 6 x 3 prop. Launch straight out or in a slight climb.
4. As the model is very responsive to rudder, give small control signals until familiar with the plane. The nose will drop quite fast if rudder is held too long.
5. Model slows up considerably when engine quits and glide is surprisingly flat and smooth.

Well, gang, that's the package as promised. If instructions are carefully followed, this pair will deliver many, many hours of flying pleasure for you. Keep your eye on the RCM for future words on a follow up program to hook you for good. In the meantime, you'll have plenty to keep you busy and happy.