Canarsie Canary

■ Don Ross

This little bird will have you singing with delight about Free Flight!

YEARS AGO Marty Taft decided he needed a new and different beginner's model for the Cub Scout and Boy Scout classes he was teaching. He felt that these modern youngsters would have trouble with simple stick-and-tissue construction, since they had little building skills or modeling experience.

Marty also wanted something more rugged and easier to trim that was capable of at least a 30-second flight with very little instruction.

He called his first design the Canarsie Cutie, in honor of the Brooklyn section where he grew up. Since it was named after the Canarsie Indians, who first settled there, the name would be unique—not at all like Paris, Kentucky or Rome, New York.

The model was designed to get the best wood yield from standard 36-inch-long sheets or strips, so the span and fuselage length were each 12 inches.

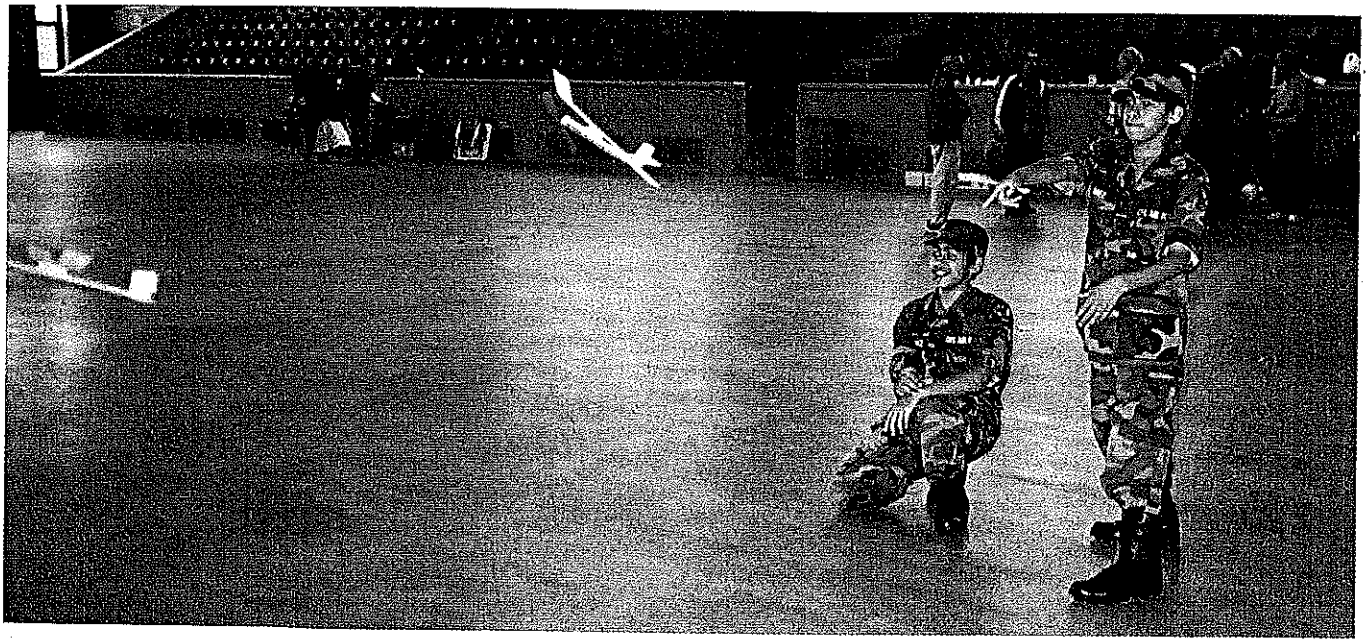
The wing, stabilizer, and rudder were 1/32 sheet balsa, and standard 1/8 x 3/8 strip balsa was used for the motorstick.

The wing was cracked to provide a flat center-section and tip dihedral. The wing cracks were strengthened on top with cellophane tape and on bottom with a strip of tissue soaked with glue. This helped a great deal with the inevitable crashes.

The fuselage stick was tapered 1/8 inch at the rear to provide decalage, and Marty added a clever extra section under the wing to make the assembly more rigid.

Both fuselage sections and the wing were held together with the same rubber bands, allowing for wing movement fore and aft, as well as small wing-incidence shims if required.

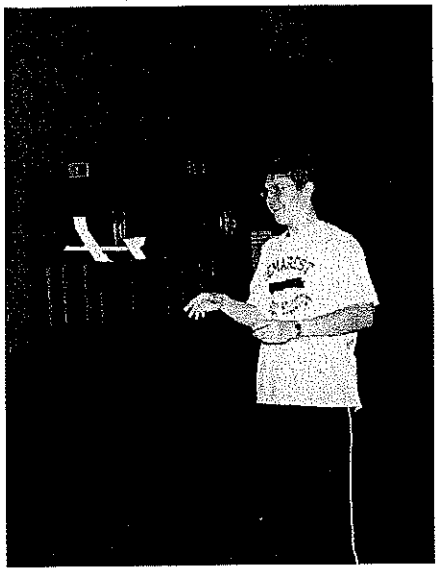
With the Peck 5½-inch propeller and bearing driven by a 12-inch loop of 1/8 rubber, the model did very well in young hands, but seemed to require more careful flight trimming



Two Civil Air Patrol (CAP) Cadets participate in a two-Canary mass launch at the Teaneck, New Jersey Armory.

Photos courtesy the author Graphic Design by Carla Kunz

The rugged Canarsie Canary is a stable, easy-to-trim first Free Flight trainer. It's great for beginners! This young man displays perfect hand-launch technique.



A more nonchalant approach to launching seems to work just as well!

than Marty wanted.

Near that time, I got involved with Marty and a group he was teaching at an unused hangar at Floyd Bennett Field.

I thought some small changes might improve the design, so I eliminated the extra fuselage strip and added an adjustable pylon and two card-stock trim tabs—one on the rudder and one on the left wing.

The pylon would help the model better absorb the torque of a fully wound motor, and too steep a left bank after launch could be corrected by bending down the left wing tab. The rudder tab could control turn, and incidence was easily adjustable, as was fore and aft wing movement.

We rechristened the model Canarsie Canary, retaining its origin and adding a reference to small, quick flight.

Since we usually assembled kits for each meeting, it was natural to try to simplify manufacturing.

We cut the 2 x 12-inch wings and laid them on a 12 x 24-inch board, with strips of cellophane tape (adhesive side-up) under the areas where dihedral cracks would appear. The tape held the wings so we could run a razor blade down a dozen wings at once to score them.

A simple one-inch block under the wing center provided a dihedral fixture, and the young builder could turn the wing upside-down, place the center on the block, hold the tips down on the table with tape, glue the dihedral joints, then add bracing tissue strips while they dried.

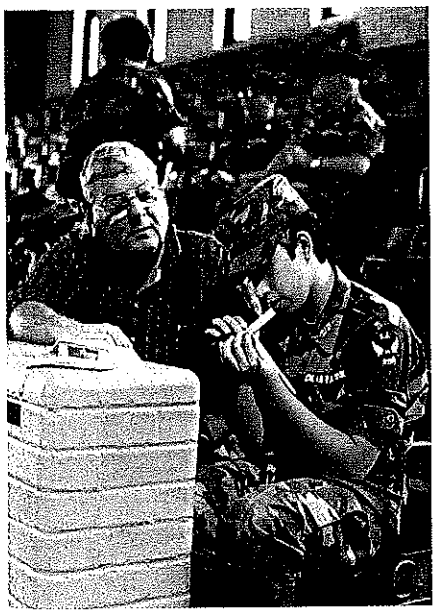
We also decided to preassemble the pylon, since it had to be as square as practical to ensure easy flight trimming.

The 1/16 square balsa wing brace was glued on top of the pylon, then a carefully cut, measured, and waxed 1/4 x 2½-inch spacing block was slipped under the 1/16 square brace.

We made three or four pylons at once, by spacing them apart on a board and using a 12 x 1/4-inch spacer. This takes longer to explain than to do.

Although the Canary looks simple and similar to many kits now available, the movable pylon, trim tabs, and tapered stabilizer mount have made it extremely easy to build and trim.

As long as light wood is used, indoor flights of more than 30 seconds are



An engrossed Cadet works with a mentor to assemble his Canary.

The Metropolitan Sport Squadron (MSS) and their CAP students look as if they're having a great time! Many good-flying Canarys are shown here.

common for the first-timer, and longer adventures often happen outdoors.

The model can be built from thin foam, and will perform almost as well.

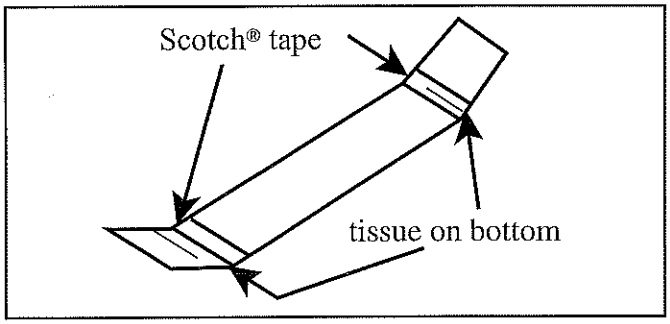
In several years of successful mentoring of perhaps 40 groups, the Canary has performed well above our original expectations and has earned us some wonderful flying sites, as well as the shining eyes and huge smiles of possible new recruits to modeling.

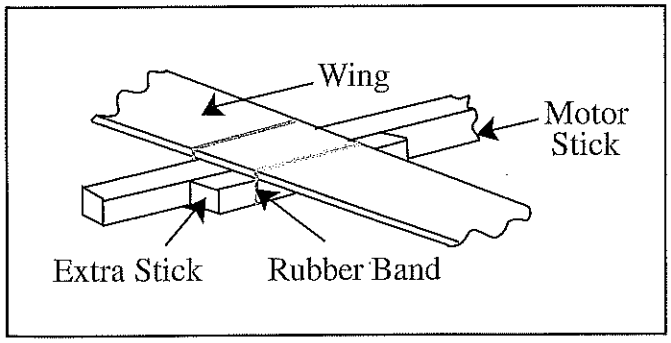
The parents who come to watch are often impressed and grateful to have their kids learn a bit more about the magic of flight, and perhaps some new coping skills they won't find in computer games. MA

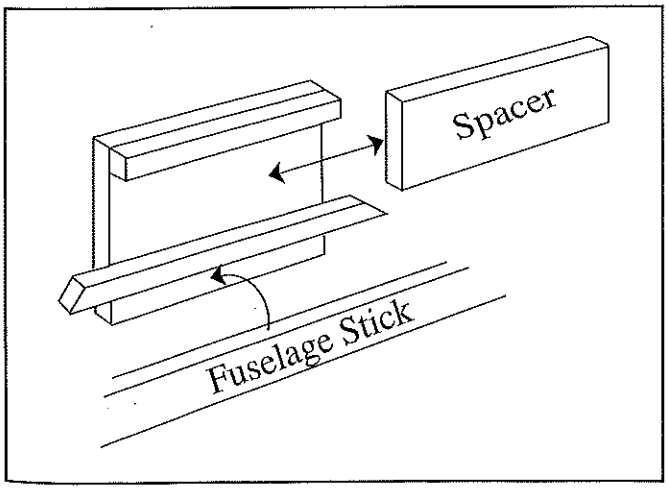
Don Ross
38 Churchill Rd.
Cresskill NJ 07626
flywords@aol.com

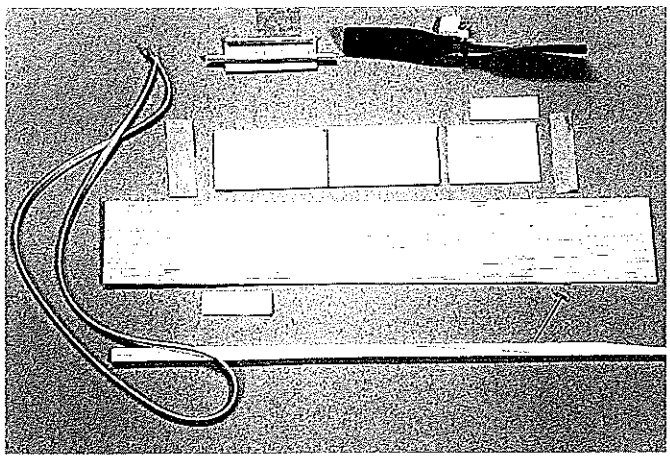
(Editor's note: The subjects of building, rubber winding, and flight trimming for the Canary and other rubber-powered models are contained in Don's book, Rubber Powered Model Airplanes, *available from AMA.*

The book can also serve as a valuable primer for Science Olympiad teachers or mentors who are involved with the very popular model-airplane event.)

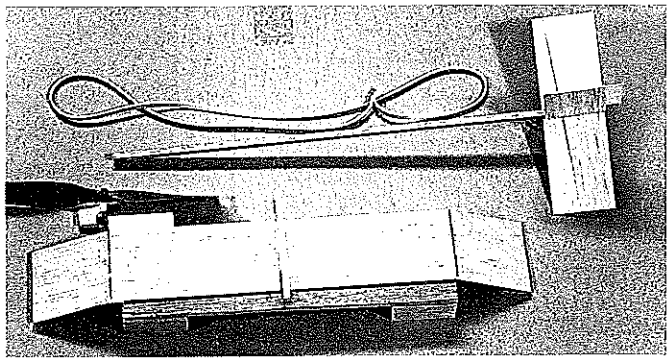






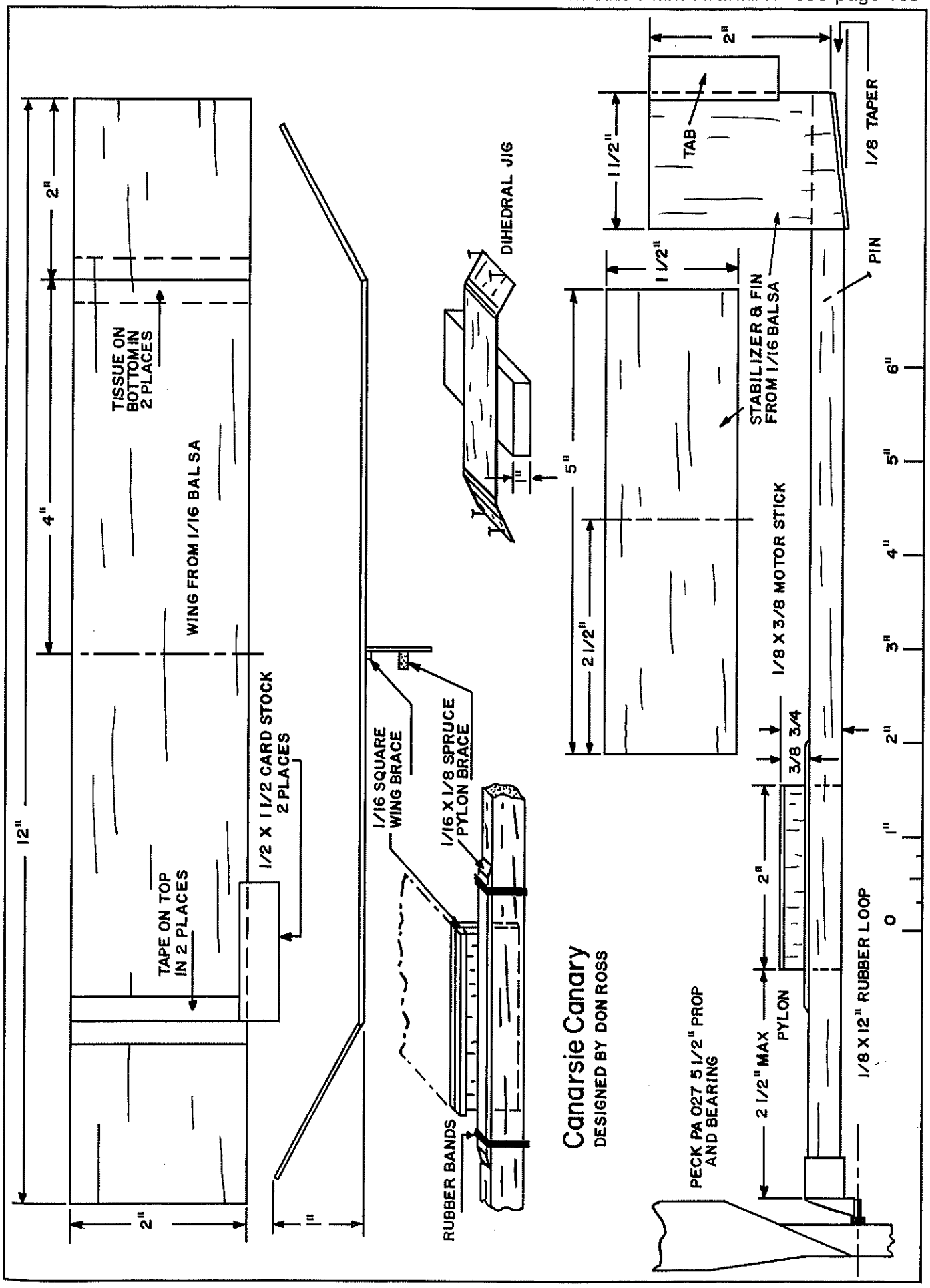


All the parts needed to build a Canary. Not a complicated model, but one that teaches the fundamentals of flight and trim.



The wing is shown sitting on its dihedral fixture. Notice the trim tabs on the wing, stabilizer, and rudder.

A dozen Canarys under construction. This airplane teaches proper cutting, sanding, gluing, and assembly techniques.


Canarsie Canary
DESIGNED BY DON ROSS
WING FROM 1/16 BALSA
TISSUE ON BOTTOM IN 2 PLACES
TAPE ON TOP IN 2 PLACES
1/2 X 1 1/2 CARD STOCK 2 PLACES
1/16 SQUARE WING BRACE
1/16 X 1/8 SPRUCE PYLON BRACE
RUBBER BANDS
DIHEDRAL JIG
STABILIZER & FIN FROM 1/16 BALSA
TAB
1/8 TAPER
PIN
1/8 X 3/8 MOTOR STICK
3/8 3/4
PYLON
2 1/2" MAX
PECK PA 027 5 1/2" PROP AND BEARING
1/8 X 12" RUBBER LOOP
12"
4"
2"
1"
5"
2 1/2"
1 1/2"
6"
3"
0