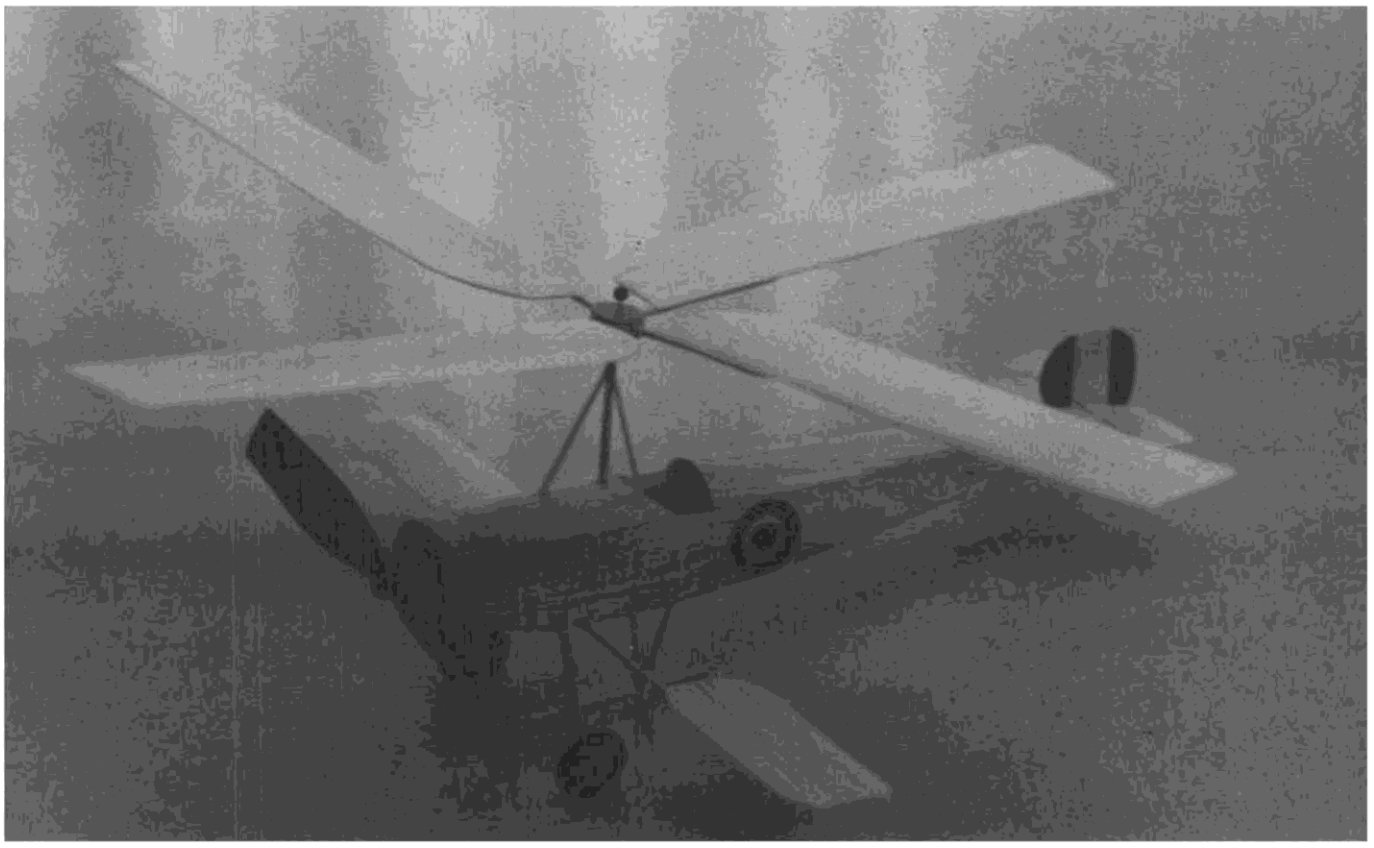


CIERVA C.6C AUTOGIRO

By DON DRURY . . . If you've ever thought about building an autogiro, but dismissed it because of the complexity and/or time and material investment, here's your chance to satisfy your curiosity. Go for it!

• While looking for something different to fly indoors this winter, I ran across the Cierva Autogiro in Doug Rolfe's book of historical aircraft.

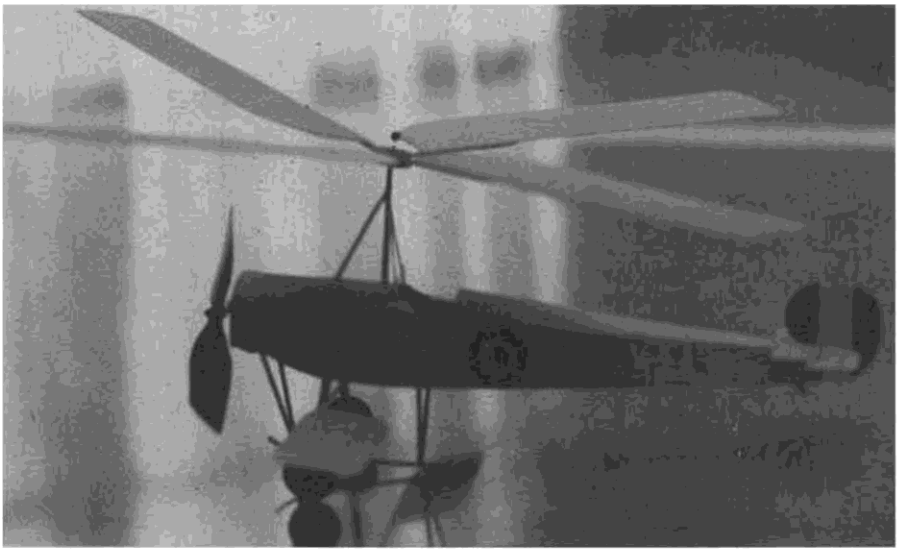
Some twenty-five years ago, I built my first autogiro, using an existing rubber-powered sport model, with the addition of twin sub-rudders and three-bladed rotor for the wing. This little 24-inch span model required a lot of experimenting, but once the formula was figured out, it flew very well.

The gym, which the Ann Arbor Board of Education has made available to the modelers of the area, is very small and has a twenty-foot ceiling, which led to a Peanut Scale design of the British version of the C.6A Cierva Autogiro. The design lends itself to sheet balsa throughout; however, it must be built as light as possible. Use lightweight 1/32 sheet sanded to 1/64, except for the bulkheads. The rotor hub is a 1/32 ply and foam sandwich mounted to a 1/16 hardwood dowel or toothpick with a pin. Rotor blades should track uniformly and freely.

The following adjustments are necessary for success with your autogiro: 8 degrees positive incidence to the plane of the rotors; 5 degrees of dihedral; 3 degrees negative incidence in each blade. Best results are obtained with about 6 degrees of down thrust, and the model should fly to the left. To achieve this, bend the rotor shaft a bit to the left. Use thrust and blade angles for all trimming. The elevator and rudder have little or no control. The glide pattern is flat, but straight down.

The rotor blades must be spinning prior to flight or test glide. Hold the model with the nose up and move forward to start the blades rotating. If test gliding, drop the model; if wound up, launch the same as you would with any small rubber job. The only other adjustments needed would be to increase or decrease the amount of rubber used.

This model will surprise you with its stability and is a real thrill to watch. I hope everyone will try one and have as much fun with it as I have had. •



For those looking to build something different for Peanut Scale, look no further. Simple all-sheet model is quick to build, is surprisingly stable in flight. Looks really neat in the air!