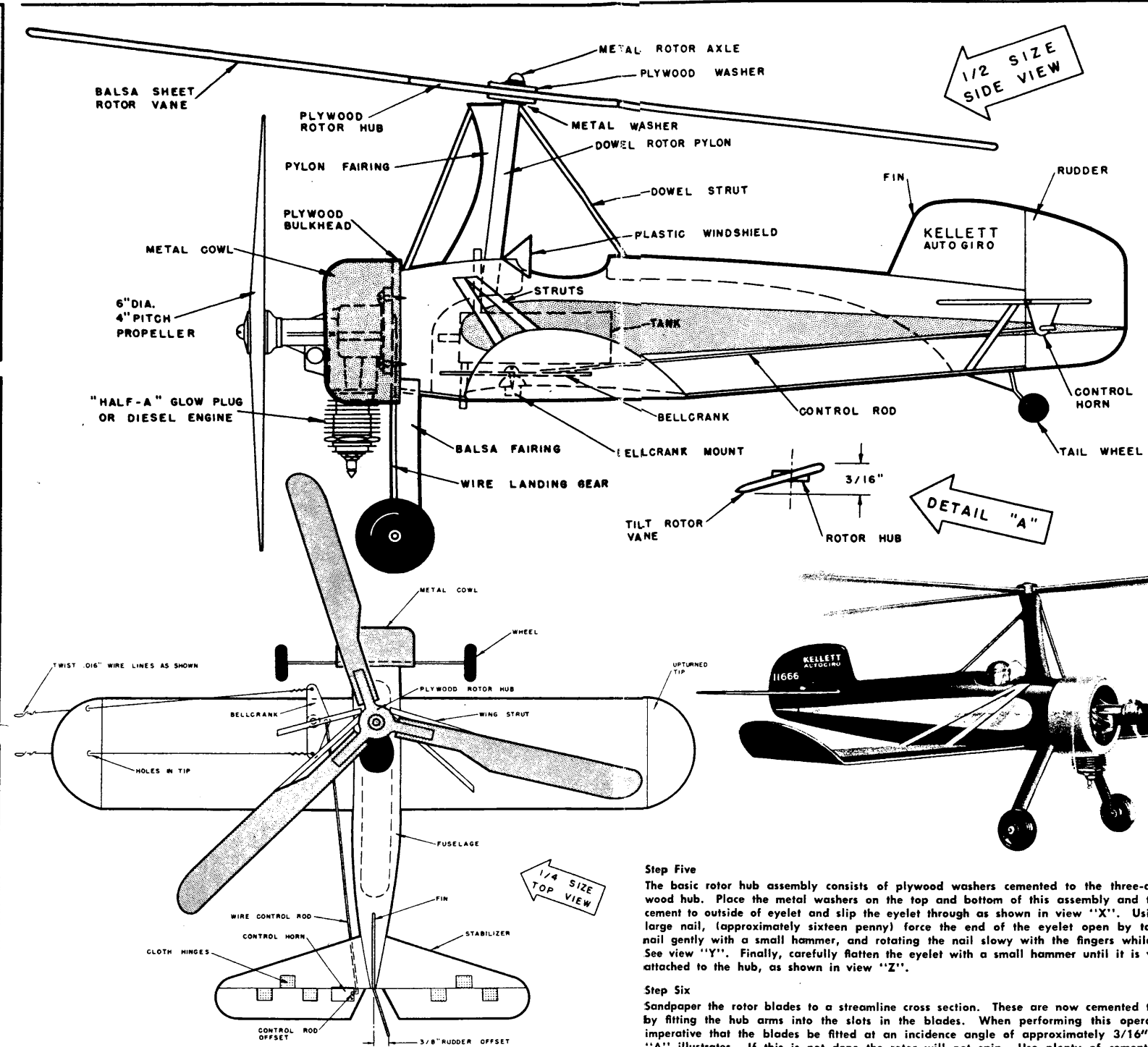


**Step One**  
Sandpaper all wood parts with 3/0 or finer sandpaper. The horizontal tail is assembled first. Cement the dowel elevator joiner to the elevator halves. When this is dry apply cement to the metal control horn and slip it onto the elevator assembly. Squeeze the horn gently with a pair of pliers and apply cement over it. Cut six pieces of  $\frac{3}{8}$ " x  $\frac{1}{4}$ " from handkerchief cloth. Be certain that this cloth is not worn or rotten as this will tend to make a weak hinge. Cement one end of these cloth pieces to the top of the elevator and the other end to the bottom of the stabilizer and vice versa. Be sure to alternate top and bottom as illustrated in sketch 1. Smear cement to the cloth after the initial application is dry.

**Step Two**  
Many commercial fuel tanks are available that fit this model, such as Acme, Perfect, Maeco, From, Kap Pak, etc. Attach plastic tubing to the filling, vent and feed connections. Using a sharp instrument or drill make a hole in the front of the fuselage for the feed line, and a hole in the fuselage top, forward of the cockpit, for the filling line. Wedge the tank in place and, if necessary, force pieces of scrap balsa against the tank to insure a rigid mounting. Apply several coats of cement around the tank. Remember, a loose tank can cause erratic engine operation due to vibration. Cement the  $\frac{1}{4}$ " dowel (with the small hole up) in the  $\frac{1}{4}$ " hole in top of fuselage. The dowel should extend deep enough so that it protrudes  $\frac{1}{16}$ " inside fuselage. Use plenty of cement in hole and apply some around the base of the dowel both inside and outside the fuselage.



Scientific's large plastic pilot head is the correct size for this model and is available from your hobby shop at 10c.

**Step Three**  
Raise the wing tips 1" and cement well, holding in place with straight pins until dry. Now, cement the wing to the fuselage. Apply cement in the slot at rear of fuselage and slide the stabilizer into this slot. Cement the rudder to the fin at the offset angle shown. Follow this by cementing the unit to the fuselage. Now, attach the sheet balsa bottom. Hold in place with pins until dry. Remove the pins and sand the bottom corners of the fuselage slightly to a rounded shape. Apply several additional coats of cement to the wing and tail joints for added strength and to form fillets.

**Step Four**  
Smear a coat of cement on the surface of the plywood bulkhead and fuselage front. Let this dry. Apply another coat of cement to these surfaces and then press them together firmly. When thoroughly dry, after 4 or 5 hours, apply several more coats to the exterior of this joint. The model should now be painted. Before applying the color it is advisable to apply several coats of sanding sealer to the entire craft. Brush this on very liberally and, after each coat is dry, sand lightly with fine sandpaper. From two to ten coats can be applied, depending upon the quality of the finish desired. Now brush on the colored dope. Red, blue, green, black or chocolate brown can be used. Apply two or three coats. The cowl on the prototype model was yellow, and balance of model was painted red. The wheels are now fitted to the axles. Use fibre washers to hold the wheels in place. Cement the fibre washers to the axle. Fit the wire landing gear into the groove in the bulkhead. Screw the engine to the bulkhead thereby holding the landing gear in place. The metal cowl is held in place with short straight pins and cement.

#### Step Five

The basic rotor hub assembly consists of plywood washers cemented to the three-armed plywood hub. Place the metal washers on the top and bottom of this assembly and then apply cement to outside of eyelet and slip the eyelet through as shown in view "X". Using a very large nail, (approximately sixteen penny) force the end of the eyelet open by tapping the nail gently with a small hammer, and rotating the nail slowly with the fingers while tapping. See view "Y". Finally, carefully flatten the eyelet with a small hammer until it is very firmly attached to the hub, as shown in view "Z".

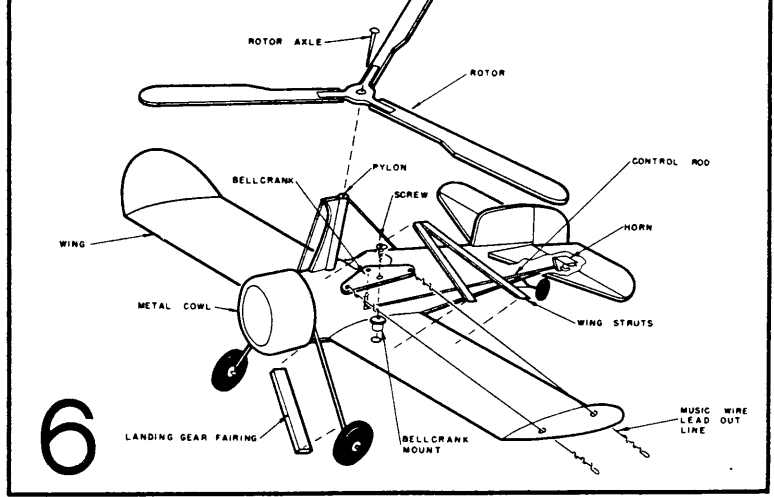
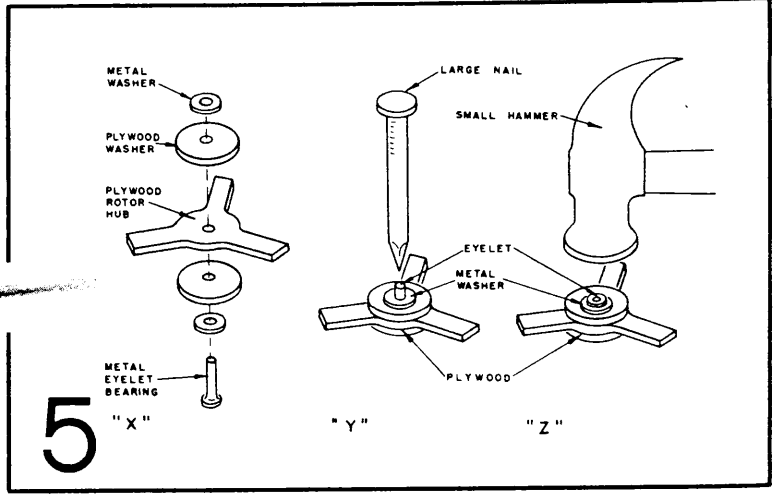
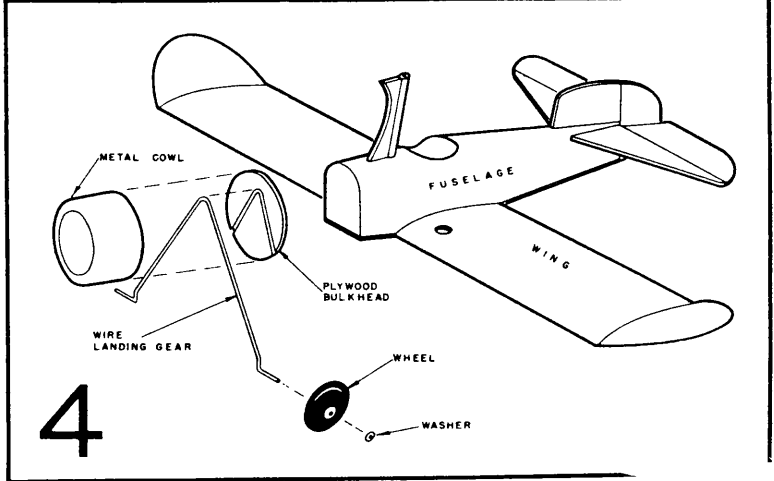
#### Step Six

Sandpaper the rotor blades to a streamline cross section. These are now cemented to the hub by fitting the hub arms into the slots in the blades. When performing this operation it is imperative that the blades be fitted at an incidence angle of approximately  $\frac{3}{16}$ " as detail "A" illustrates. If this is not done the rotor will not spin. Use plenty of cement and hold the blades in position with straight pins until dry. Apply sanding sealer and paint the rotor yellow. Attach the rotor to the model using the sharpened rotor axle. Slip a metal washer between the rotor and pylon, then insert the axle into the hole in the pylon and tap it gently with a small hammer. Hold the pylon and not the fuselage while tapping the axle into the pylon. Be certain the rotor turns freely. Sand, paint and install the landing gear, rotor and wing struts at this time. Cement the bellcrank mount firmly in the hole in the wing. While this is drying bend the forward end of the control rod up and break off the remnant with pliers, leaving the upturned portion  $\frac{1}{2}$ " long. Attach the .016" music wire lead out lines to the bellcrank by twisting ends as shown. Slip the offset end of the control rod into the control horn and the other end into the bellcrank. Now, fasten the bellcrank to the mount with a round head screw. Slip the lead-out lines through the two holes in the upturned tip which acts as a line guide. Add the decals now. If fuel proof colored dope was not used the entire model should receive one or two coats of clear fuel proof. Nevertheless the decals should be protected in this manner from the ravages of glow plug fuel.

#### Flying

Be certain the model balances  $\frac{1}{2}$ " behind the wing leading edge. Add weight in the nose or tail to remedy any unbalanced condition. Flying can be accomplished on lines from twenty to forty feet long. These can be made of strong carpet thread. Always take off with the model facing downwind. Do not try to lift the model off the ground. Let it rise by itself with the controls in neutral position. If necessary, merely lift your entire arm to cause the model to leave the ground. Always dive into the wind and climb with the wind. It is imperative that the control lines be taut at all times. Slack lines mean loss of control. Always be prepared to step backward to maintain taut lines. Try to turn as fast as the model is flying rather than have the craft "drag" the lines. When the engine stops, keep turning slowly as the Kellett Autogiro model settles to a thrilling landing.

Happy Flying!



## KELLETT AUTOGIRO

WINGSPAN 18"

LENGTH 10 1/2"

WEIGHT WITH ENGINE

5 OUNCES

FOR ENGINES OF .020 TO .074 DISPLACEMENT

Design and plans by Walter A. Musciano 54

Licensed under Jim Walker's U-Control (U.S. Patent 2,292,416)

SCIENTIFIC MODEL AIRPLANE CO.  
NEWARK, NEW JERSEY