

Get a load of those reflections under the wing of our model. And before you pop that question about weight, the aluminum foil does not add much.

# the Cessna 180

**How to make metal-covered flying Half-A powered model, using Reynolds Wrap aluminum foil, contact bond cement.**

By JOSEPH LATERRA

► The greatest pleasure I get out of model airplanes is in watching a realistic scale job perform. The more real looking, the better. And what could be more real than a metal-covered flying model? This Cessna 180 is unusual because it is covered with aluminum foil over sheet-balsa covered frame. Using materials on the market, you will not find it very difficult to cover with metal.

Start construction by cutting out 1/16 in. medium sheet balsa sides. Mark off former locations with a soft lead pencil and cement formers in

place, with the exception of F-2. Drill landing gear J-1b Bolt locations shown on front view of plan. Bend landing gear to shape. Bolt to F-2 with 3/32 in. J-bolts, using plenty of cement on nuts. Cement F-2B in place and add ¼ in. sq. balsa to brace former to sides of fuselage.

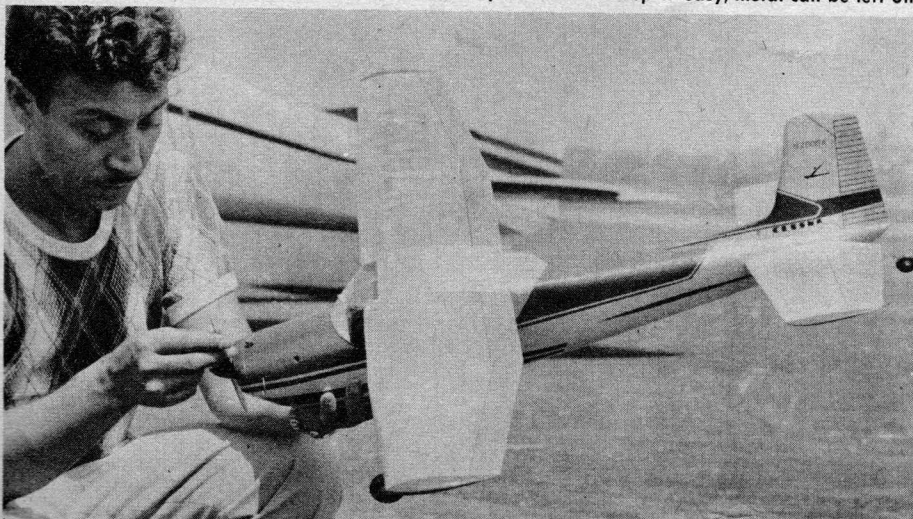
Cut four window frames from 1/32 in. sheet balsa. Cut two pieces of clear celluloid to window frame sizes and sandwich one piece of celluloid between two pieces of window frame with cement, being careful to keep

cement clear of window portion of celluloid; then cement in place on cabin sides. Add ¼ in. sq. cabin braces along formers and sides, as shown on plan. Cement ¼ in. OD thin walled aluminum tubing in place for wing strut locations. Next cut top and bottom sheets and cement bottom sheet in place.

Build wing center section and cement to fuselage in proper location. Tongue is made of ⅝ in. sheet hard balsa or pine. Add ¼ in. OD thin walled aluminum tubing for wing retaining rubber bands to pass through. Add top sheet and cover center section with grain running spanwise. Use 3/32 x 3/16 in. planking for fuselage corners. Tack-cement cowl blocks and carve. Take apart and cut motor mount slots in side pieces. Cement permanently bottom and side pieces of cowl and cement to front of fuselage. Top and nose pieces are fastened with dress snaps for access to motor compartment. I made windshield of .045 in. Plexiglas molded to shape because of the compound curve of original. It can also be made of 1/64 in. celluloid with a slight sacrifice in scale appearance. Make tail block of medium balsa. Cement tail wheel gear in place with plenty of cement before cementing to fuselage. Use masking tape to cover all glass to prevent scratching. Sand window frames to level of fuselage sides and finish sanding rest of fuselage.

The wing is built in two halves. Each half is built in two sections, inboard and outboard, which are cemented together after completion. Make box from plan. Insert box through ribs W-1, W-2 and W-3 and cement. Shape .020 in. music wire retaining hook and cement to medium balsa block. Cement between W-1 and W-2 in location shown on plan. Block

One paint job that wasn't goofed. Rivets don't show up in picture but author approximated rivets by means of an old clock gear on a handle. Or, if you want to keep it easy, metal can be left off.





Two-piece wings detach, just like the real thing. Requisite for metal covering is liberal use of Sanding Sealer and a velvet smooth sanding of wood.

size to be flush with upper and lower surface of ribs. Make sure hook location lines up with aluminum tubing in center section. Cut 1/16 in. sheet balsa skins for inboard section of wing. TE of lower skin is tapered as shown in rib view of plan.

Mark off rib locations and cement ribs in place. Cement upper skin in place. Sand LE of skin flush with ribs and cement LE in place. Follow same procedure with outboard section of wing and add soft balsa block tip. Cement panels together and pin on flat board, top side down, to insure straight line on top surface of wing. Cut 1/4 in. length of 1/32 in. ID brass tubing. Sew and cement in location on bottom surface of wing shown on plan.

For stabilizer, cut sheet balsa skins to shape and mark off rib locations. Cut ribs and cement in place on sheet. Cement top sheet in place. Sand LE and TE of skin flush with ribs. Add LE and TE. Use soft balsa for tips. Cement in place and finish shaping and sanding.

For rudder, follow same method as for stabilizer. Add dorsal fin before shaping LE. After cement has dried, finish shaping and sanding.

Now you're ready to put finishing touches to your model. Give all parts two coats of clear dope and sand to remove rough spots. If model is to be covered with aluminum foil, it is imperative that finish on wood be perfectly smooth. This is accomplished by the liberal use of Sanding Sealer, sanding between coats with 400 grit wet-or-dry sandpaper. Use sandpaper dry. Finish sanding with 600 grit wet-or-dry.

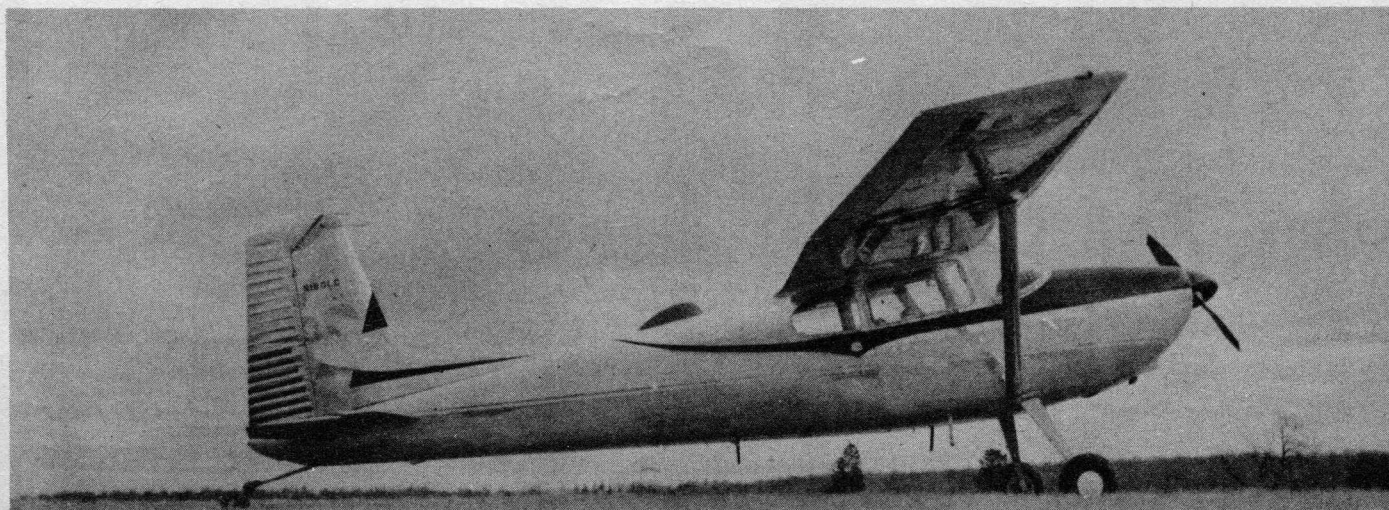
The aluminum foil, which, incidentally, is the same stuff the little woman uses for lining her baking pans, can be obtained in any grocery store. Just ask for "Reynolds Wrap."

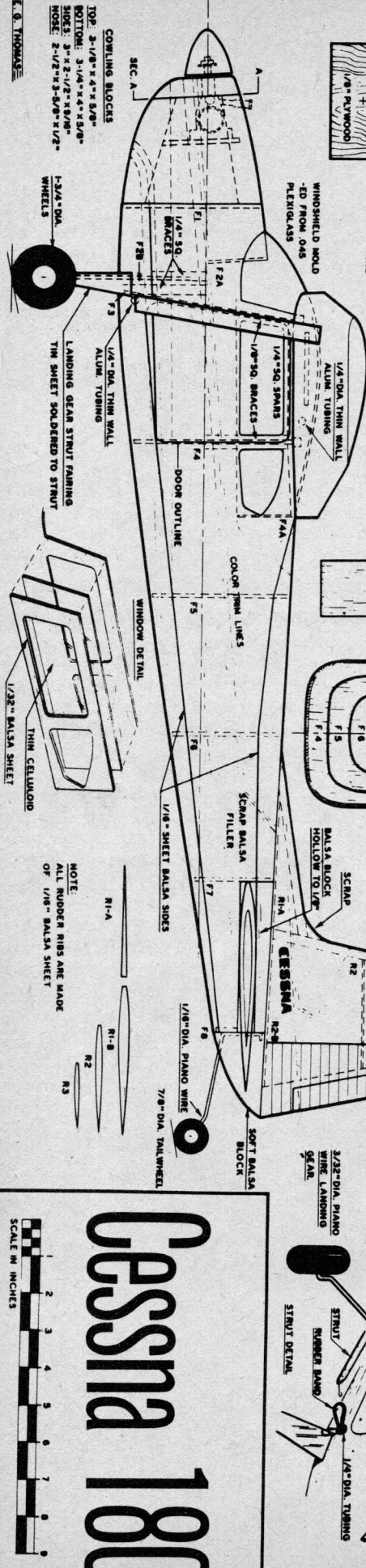
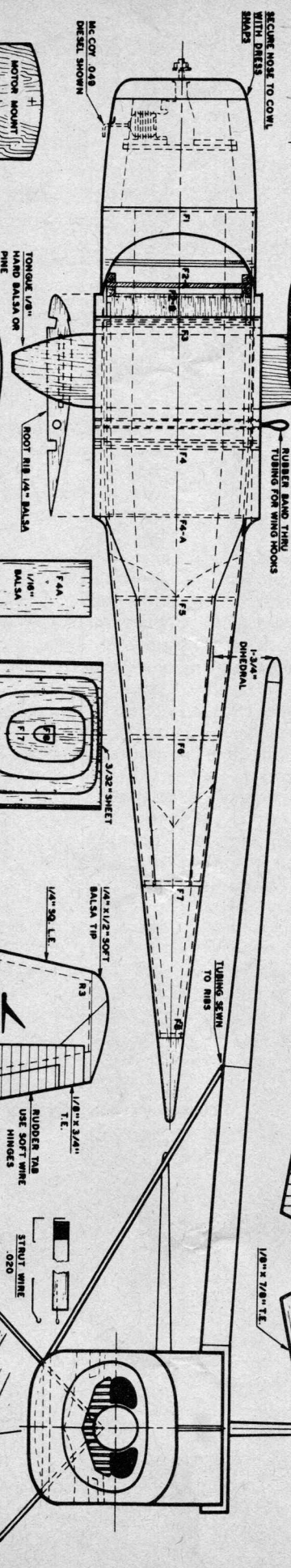
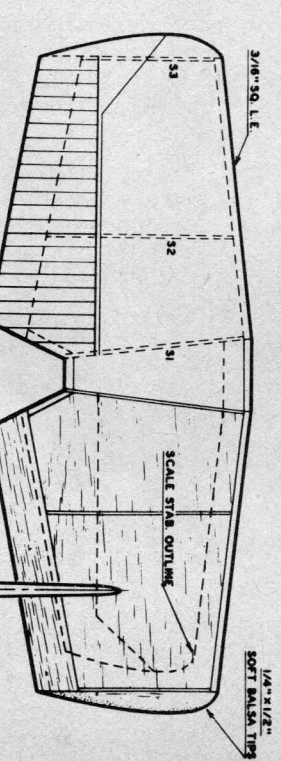
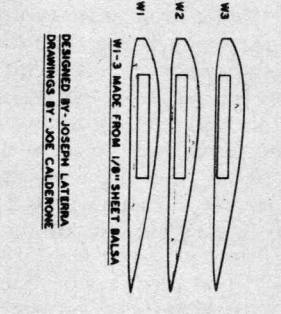
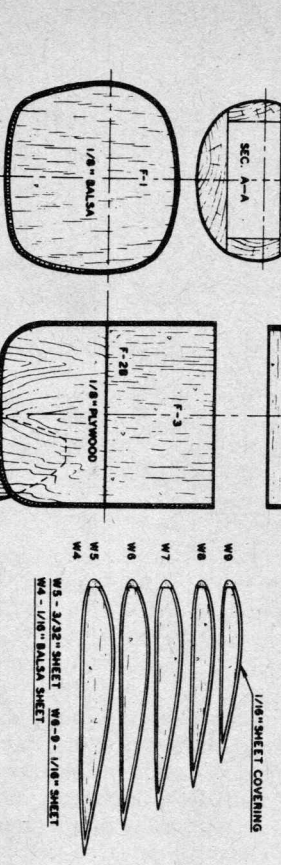
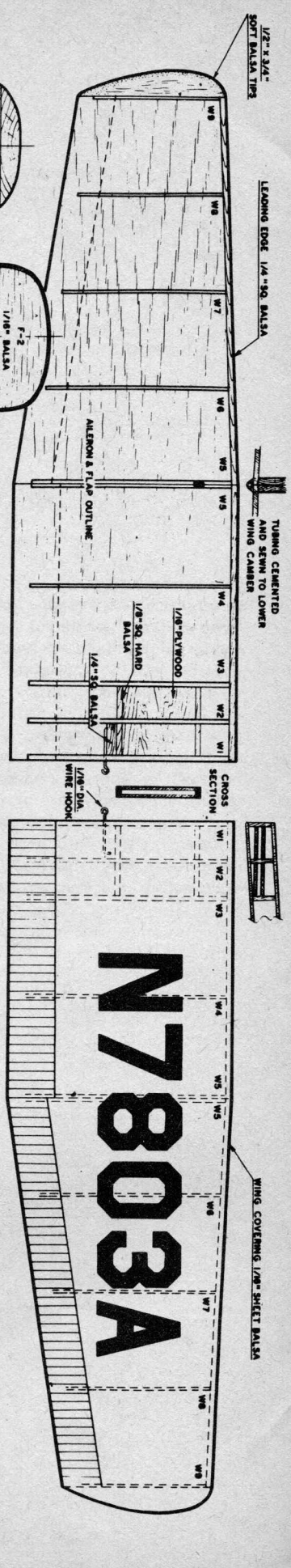
I tried different adhesives for applying the aluminum foil with little success until I tried "Ed Schlosser's 10-Minute Glue" thinned with two parts of lacquer thinner to one part of glue. This is a contact glue and both surfaces have to be coated before joining. Follow directions on bottle for use.

Recently, Goodyear's famous Pliobond was introduced into our field.

Foil can be worked around compound curves if used in small sections. Use soft balsa block for smoothing foil. A visit to the local airport will give you an idea of where to locate skin edges and rivet lines. Rivets can be simulated by using old clock gear fastened to suitable handle. Using straight edge, roll gear on aluminum to form rivet impressions. Scale color scheme is jet red or mallard green on aluminum. Color lines should be masked off and portions where colored dope is applied should be sanded with 600 grit sandpaper, so dope can adhere to surface. License numbers are cut from red Trim Film. Emblem and Cessna name on rudder may be cut from black Trim Film. Corrugated control surfaces and door outlines can be drawn in with Indian ink.

To fly, test glide and add clay or solder until smooth straight glide is obtained. Model has downthrust built in. Adjust rudder for right turn in glide and a left hand turn will result under power.





# Cessna 180



FULL SIZE PLANS AVAILABLE. SEE PAGE 51.

E. B. THOMAS

TOP - 3-1/8" x 4-1/2" x 5/8"  
 MOTOR - 3-1/8" x 4-1/2" x 5/8"  
 NOSE - 2-1/2" x 3-3/4" x 1/2"  
 MOTOR MOUNT - 1/8" PLYWOOD

NOTE: ALL RUDDER RIBS ARE MADE OF 1/8" BALSAs SHEET

DESIGNED BY JOSEPH LATERRA  
 DRAWINGS BY JOE CALDERONE