

BUILD A FLOPPY DISC

Corrugated polypropylene forms the basis of this fast-building circular flying machine, designed for either glow or electric power. Despite the unusual configuration, it's a terrific flier with no bad habits. Build one today!

BY GLEN WEBER

The Floppy Disc is quite possibly the simplest, most rugged and fun aircraft ever invented! Its simple, rugged construction is accomplished by using common corrugated polypropylene board (as used in real estate signs). The "FD" is quite happy with a .15-.25 glow engine or an .05 electric, your choice. Performance is excellent with either.

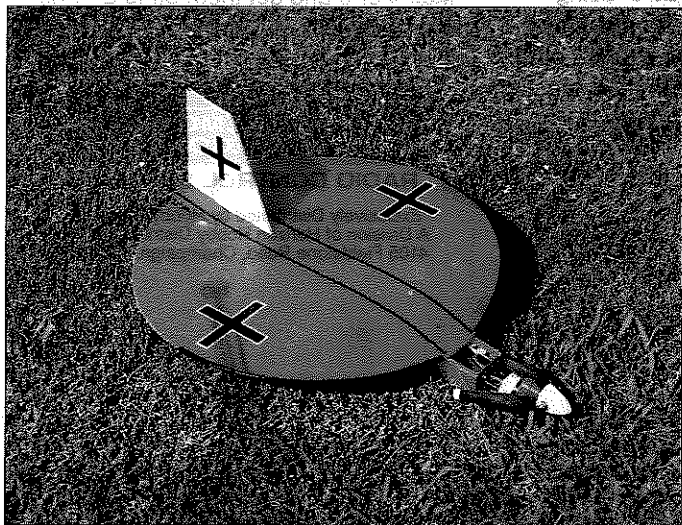
CONSTRUCTION

Fuselage—Trace the plan template onto the polyboard with a ballpoint pen. Carefully cut out the pattern with a sharp X-Acto-knife. With a screening tool (available at your local hardware store) or rounded nail and straightedge, score the indicated fold lines between the corrugations. Fold the fuselage

like a taco shell. Insert the bulkheads and glue (use triangles to ensure squareness). Glue in the front, side and bottom doublers. Fit the firewall between the doublers and epoxy it in place. Cut out the front hatch and secure it using your favorite method (we use tape).

Wing—Draw a 24-inch diameter circle on the board using a compass, string, stick or whatever. With the corrugations running from side to side (perpendicular to the fuselage), mark the fin and wing slots and cut them out. Mark the elevon locations and cut the bottom skin only; this makes an automatic hinge. This completes the wing construction.

Fin—Cut out the fin with the corrugations running vertically. Be sure to leave the tabs.



■ RIGHT: Miss Sunny Chevez displays the completed O.S. .25-powered Floppy Disc shown being assembled—in about an hour—in the following photos. Advantages of the corrugated polypropylene material are that it's cheap, is readily available, comes in a myriad of colors (including fluorescents), is easily worked, assembles quickly with CA glue, is completely fuelproof, and is incredibly tough. For "quick and dirty" model construction, what more could you ask? ■ ABOVE: Floppy Discs have also been flown with electric power, all the way up to Astro 15 Cobalts—this particular model uses an Air Supply motor with a Master Airscrew prop and gearbox. Open section of the fuselage top just in front of the wing provides cooling air to the batteries.



3931

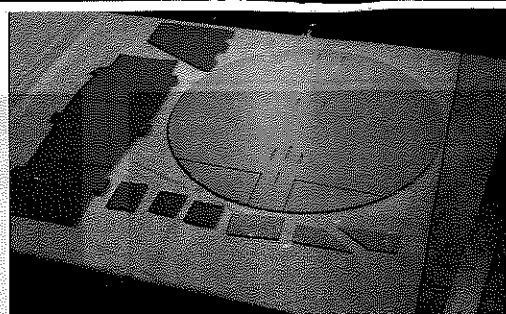
1 of 3

Assembly—With the fuselage flat on the table, insert the fuselage tabs flush into the front wing slots and glue (Polyzap works best!). Work your way to the rear, pressing and gluing the wing to the tabs and fuselage. This will produce the wing curvature required for flight. Place the fin in the slots and glue it at 90° degrees to the wing. Attach the landing gear if desired. Trim the tabs flush with the top of the wing.

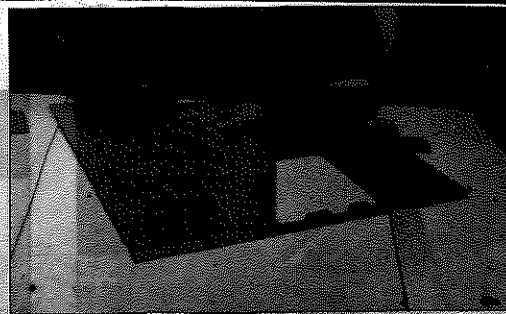
Radio—We used two servos taped to the fuselage sides to operate the elevons with a mixing radio. You can also use a sliding tray or Du-Bro mixer. A third servo is used for throttle or, in our electric version, a motor switch with BEC was used. Hatches are cut according to the plans, on the bottom of the fuselage. Cut these on three sides only, so they will fold into place. Tape or attach them as you like. Our pushrods (yellow inner Nyrod) were run through the corrugations in the board, which acts as the outer pushrod guides. Control horns are attached to the elevons. Turn on the radio and check the elevons and throttle for proper operation.

Flying—With the elevons at the neutral position shown and the CG in the correct place, the Floppy Disc should handle just like any normal plane. It's fast, very stable, and will fly hands-off once trimmed. It has no bad habits and will perform any maneuver that elevons permit. Landing approaches should be kept fairly short, because the airplane sinks quickly with power off. (Yes, it does glide better than a field box!)

So, if you have some aileron experience, not much building time, and want a truly simple, rugged and fun plane, build a Floppy Disc. For the hour it takes to cut and fold, you will be rewarded with many hours of fun. *continued*



Floppy Disc parts layout. The only wood parts are the plywood firewall, side doublers and front bottom doubler.



Cutting out the fuselage. The young fellow seen in these photos is Mike Ault, age 15. Mike had little previous building experience prior to this project, but still managed to do the complete basic assembly in under an hour.



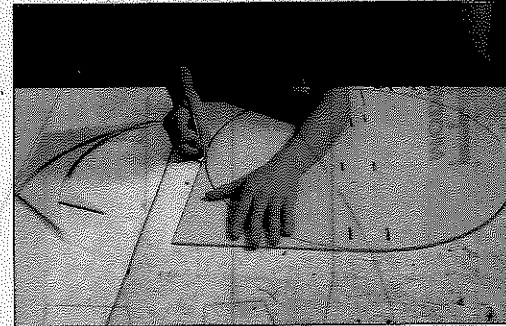
Fuselage is folded like a taco shell. Those tabs sticking up out of the top fit into slots in the wing for extra strength and ease of alignment.



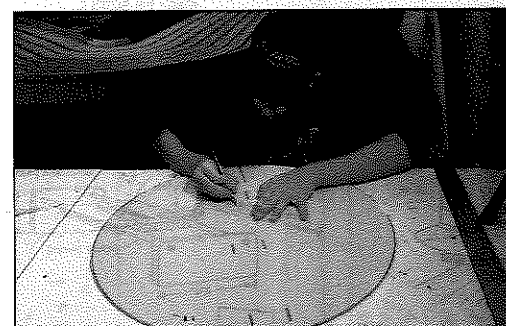
When installing the bulkheads, use a triangle (this one's cut from scrap wing material) to ensure squareness.



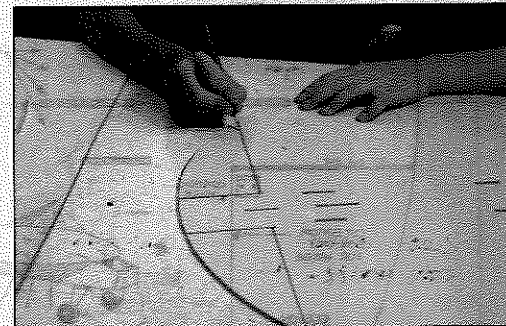
Installing the plywood firewall and doublers with CA glue.



Cutting out the wing shape—just a 24-inch diameter circle.



Cutting out the slots for the fuselage tabs and rudder tabs.



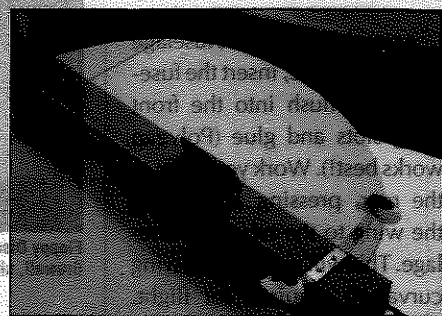
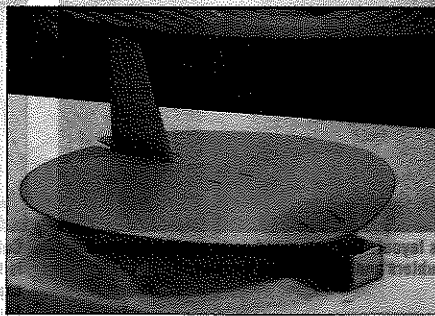
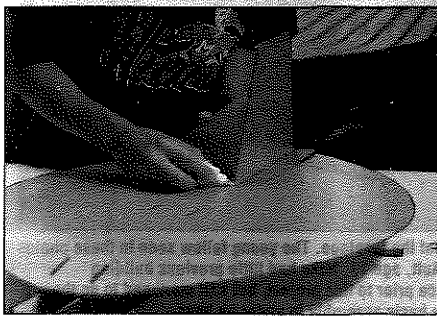
Along the hinge line, the elevons are cut free on the bottom only, leaving the top attached to act as a skin hinge.



The wing is inserted over the fuselage tabs and glued with CA (author finds that Polyzap gives the best results).



With the wing held in place by the tabs only, the wing/fuselage assembly is inverted and bonded with CA along the entire length.



■ LEFT: Gluing the fin in place. ■ CENTER: The completed basic airframe. Note that the wing alignment tabs have been trimmed flush with the top of the wing. ■ RIGHT: Radio access hatch is made by cutting the bottom on three sides, using the fourth for the hinge. The yellow inner Nyrod pushrods run through the corrugations in the fuselage material—no outer sheath required. Pretty clever, huh?

Did I mention how inexpensive this thing is?

Material sources? Check with your real estate agent or local sign shop. The "board" comes in many colors (including fluores-

cent) and can be trimmed with sticky pressures or felt-tip pens. Colors and various thicknesses of the corrugated polypropylene are also available from a model manufacturer—U.S. AirCore, 4576 Claire

Chennault, Hangar 7, Dallas, TX 75248; (214) 250-1914. Call or write for material pricing and shipping information.

Any questions? Call me at (504) 366-8744. **MB**

