Easy-to-construct foam-plate glider is a great way to introduce youngsters to the joys of model flight



(FD)(B-9)

HOW CAN YOU keep 50 or 60 kids excited for a couple of hours, and maybe much longer, for less than \$5? With a bunch of FPG-9 airplanes!

This little model was born out of a great idea and a well-planned afternoon at a local grade school that went terribly wrong. Two volunteers went to the school to put on a

program designed to interest kids in model airplanes using egg cartons as modelbuilding materials. Sounds great so far, right?

When the volunteers arrived, they found themselves in the room with approximately 60 kids and learned that they had only 40 egg cartons with which to build models. It

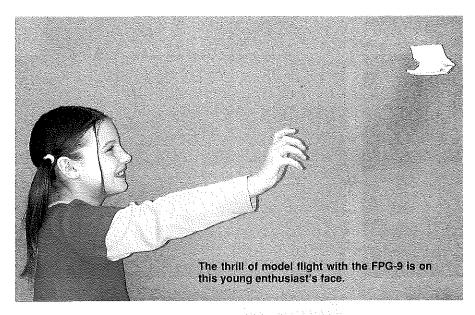
doesn't take much to figure out how it went from there; with at least 20 kids without airplanes, the results were disastrous.

I felt so bad for the kids and the well-meaning volunteers that I started to design an airplane that could be built inexpensively, but it had to fly well, and the result was what we called the "FPG-9." You can build 100 of these models for roughly \$5. All you need are two rolls of pennies and 100 foam dinner plates.

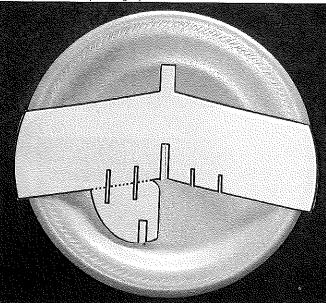
I have crash-tested the FPG-9s at my daughter's day care, and they are a big hit with the kids and the adults. The models will take several launches and retrievals by a 3-year-old, which speaks well for their durability.

These airplanes are easy to assemble, and the plans are included in this article. Build a few, hand them to some children (3 to 70 years old), and watch the fun begin. Construct an FPG-9 with the plans and get a feel for how it flies, then let your imagination go wild and design your own; we have built several designs. The airplane will fly as long as you stay close to the wing design. If you have a pair of pinking shears, you can even build a "stealth" model.

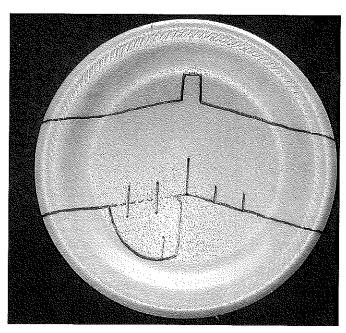
And the name "FPG-9" stands for "foam plate glider—9 inches."



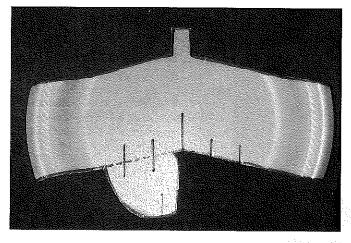
Photos by the author Graphic Design by Carla Kunz



The first step in making the FPG-9 is to cut out the pattern and place it on a 9-inch-diameter foam plate, as shown.



Trace completely around the model pattern using a felt-tip pen, then lift the pattern off of the plate.



Foam can be cut easily using plastic children's safety scissors.

CONSTRUCTION

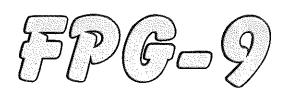
To make the template for the wing, fold an $8\frac{1}{2}$ x 11-inch piece of paper to $5\frac{1}{2}$ x $8\frac{1}{2}$ inches. Place the fold on the left, and measure a $3\frac{1}{2}$ -inch-wide x 1-inch-tall tab along the left top of the fold. Measure $3\frac{1}{2}$ inches down from the top along the fold, and make a dot on the folded edge of the paper.

On the right side of the paper, measure $2\frac{1}{2}$ inches down from the top and make a dot on the edge of the paper. Measure $2\frac{1}{2}$ inches down from that dot and make a second dot.

Draw a line from the bottom dot on the left to the bottom dot on the right side of the paper. Draw a line from the bottom of the $\frac{3}{2}$ x 1-inch flap line you drew on the left to the top dot on the right side of the paper. Now you should have two parallel lines going from the upper left down to the right with a tab at the upper left. Unfold that template, and you have a full-size plan for the airplane's wing.

Place the plan on the foam plate, and line up the fold crease with the center of the plate, with the end of the $\frac{3}{4}$ x 1-inch tab even with the side of the plate where it starts to curve up.

Trace the pattern onto the foam, and cut it out with scissors, a



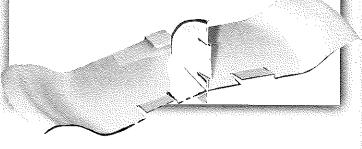
Type: Inexpensive foam glider

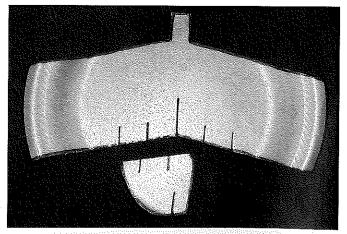
Wingspan: 9 inches

Power: Steady toss by hand

Construction: Cut from standard foam plate

Covering/finish: Trim with felt-tip pen to your liking





Separate the model's vertical-fin piece, as shown.

sharp knife, or even plastic children's scissors; it cuts easily. Cut a slot in the center of the rear edge of the wing that is roughly the thickness of the foam material of the plate. From the scrap left below the wing, cut a right triangle measuring $2\frac{1}{4} \times 2\frac{1}{4}$ inches, and join the ends of the lines. Cut the slot in the triangle so it will slide into the slot on the wing.

Place the penny on the top of the wing under and even with the end of the flap, and tape the flap down over the coin. Slide the triangle fin into the slot on the wing up to the penny, and secure with a small piece of tape under the wing.

You are ready to fly. Small adjustments to the penny will trim the airplane to fly straight and level many times with glides of more than

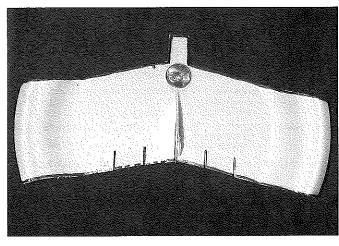
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 $30\ {\rm feet}.$ We have had glides exceeding $40\ {\rm feet},$ but $25\ {\rm to}\ 30\ {\rm feet}$ is normal.

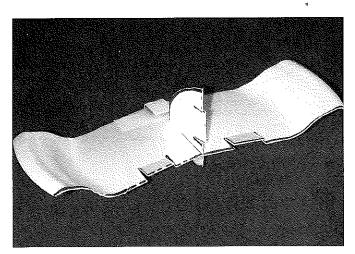
If you're short on time and need the pattern in a burry, you can find it on the AMA Education Committee Web site at www.buildandfly.com. It's in the "educator's packet" section, which you can access near the bottom of the list on the left side of the front page.

The FPG-9 glider is a fun little airplane for kids of all ages. You may find yourself having as much fun as the kids with which you build them. Get someone started flying and have fun. M4

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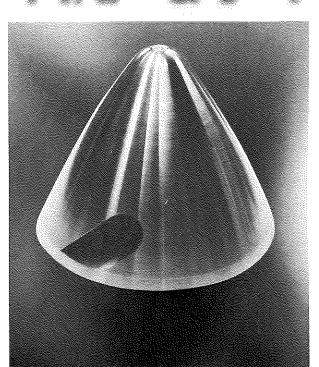


Place a penny on the front of the glider. This is the perfect amount of weight for balance.



Fold the foam tab over the penny and secure it with a piece of tape, and you're ready to fly!

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