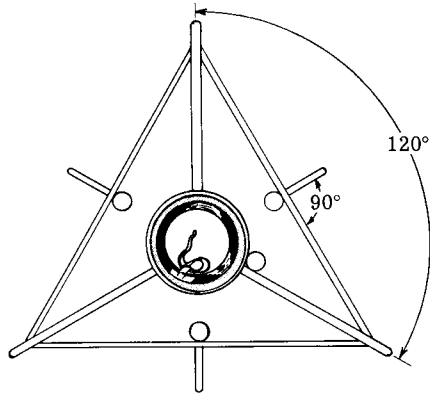


# 4<sup>TH</sup> FLIP FLAP

Design by Dennis Kurovsky  
Medford, Oregon

Here you see one of the few designs built around a Series III engine, and one having an "airbrake" type of recovery system.

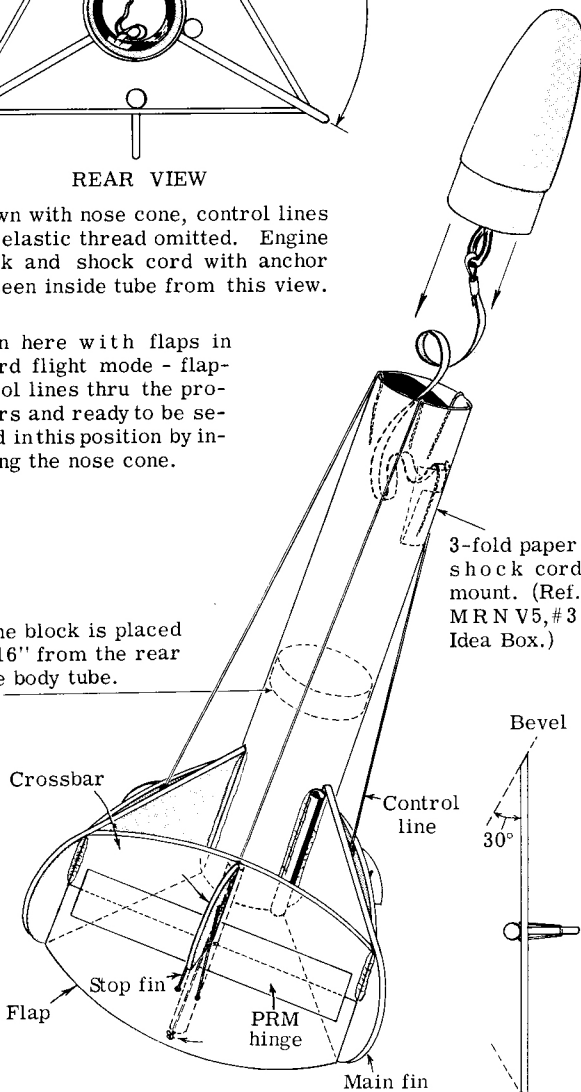


REAR VIEW

Shown with nose cone, control lines and elastic thread omitted. Engine block and shock cord with anchor as seen inside tube from this view.

Shown here with flaps in upward flight mode - flap-control lines thru the protectors and ready to be secured in this position by inserting the nose cone.

Engine block is placed 1-9/16" from the rear of the body tube.



FLAP DETAIL

3-fold paper shock cord mount. (Ref. MRN V5, #3 Idea Box.)

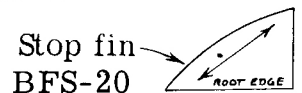
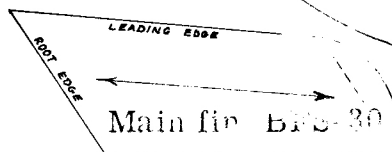
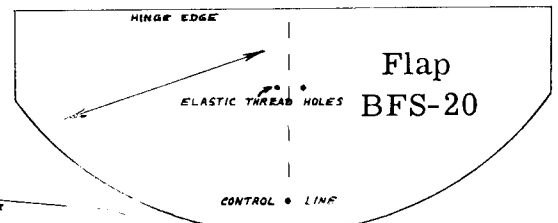
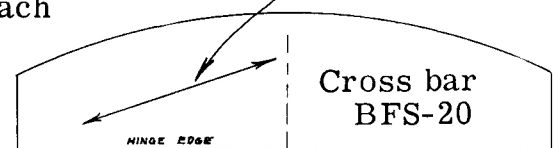
Bevel

30°

Make 3 of each part.

PATTERN GROUP

Grain direction indicator



Glue the engine block in place. Mark the body tube for 3 fins. Assemble the shock cord mount and install it in the front end of the body tube, leaving enough room at the front for the nose cone to seat properly. Set this assembly aside to dry.

Trace all the patterns onto stiff paper; cut them out, and use as templates to lay out 3 of each part on the proper thickness of balsa fin stock. Cut out all the parts. Round all edges except root edges, hinge edges and the ends of crossbars and flaps. Sand the sides of all parts smooth. Lightly draw in all dots and positioning lines as shown on the patterns.

Glue the main fins to their locations around the rear of the body tube. (See rear view.) Stand the tube on its nose until the main fins are dry. Install the screw eye into the nose cone in the usual way.

Cut three 3/4" x 2-3/4" pieces of PRM-1. Apply one piece to each pair of crossbars and flaps as shown. Glue stop fins in place on the hinge side of each crossbar. Set the assemblies aside to dry.

Cut a 1-1/4" piece of launching lug and glue it beside any one of the main fins. Apply a fillet of glue around each tube-fin joint and support the model horizontally until the glue has dried.

Bevel the ends of the bar-flap assemblies to fit against the main fins as shown in the fin detail. Thread the elastic thread thru the dot on the stop fin and thread each end thru one dot on the flap as shown. Fold the flap against the stop fin, draw both lengths of thread thru the flap until tension of the thread holds the flap against the stop fin. Force a drop of glue into each thread hole and when set, trim off the excess thread. Repeat this step with the other two bar-flap assemblies.

Cut three 1" and three 1/2" pieces of launching lug. Glue the 1" pieces to positions on the flaps, and the 1/2" pieces in line with the first ones, on the crossbars. Cut three pieces of shroud line 6-1/2" long. Thread one line through both sections of "line protector" from the top and thread the end through the flap as shown or glue the last 1/4" of the line to the bottom edge of the flap. Repeat this with the other two lines and bar-flap assemblies.

Apply glue to the beveled edges of the crossbar only of one bar-flap assembly and put in place between two main fins on the location marks. Repeat this step with the other two bar-flap assemblies.

Give the rocket a fine finish (ref. MRN V6, No. 1 "Finishing..."), and FLIP FLAP is ready to fly. Use any of the Series III single stage engines.

## 5th through 10th Place Winners

SAUCY SAUCER I by Stan Thorp, Denver, Colo. 5th Place.  
PROBE 12 by Morris Edelman, Huntington Woods, Mich. 6th.  
BOX KITE by Roger Garrett, Sussex, New Jersey. 7th Place.

GYROSTABLE by Paulo R. Krohling, Minas, Brasil. 8th Place.  
THE SPEAR by Lamar Stoller, Latty, Ohio. 9th Place.  
EXOS by Gaetano Lo Bue, Demarest, N. J. 10th Place.