

Estes Industries Rocket Plan No. 40

MITOSIS

Featuring
BREAKUP RECOVERY

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The Mitosis uses the principle of breakup recovery. When the ejection charge is activated the nose and main body separate from the fin section. With a shock cord connecting the two pieces, each is unstable and the whole assembly flutters down to a safe landing. Since the model returns faster than it would by parachute, it generally lands close to the launcher, making it a good contender in spot landing contests.

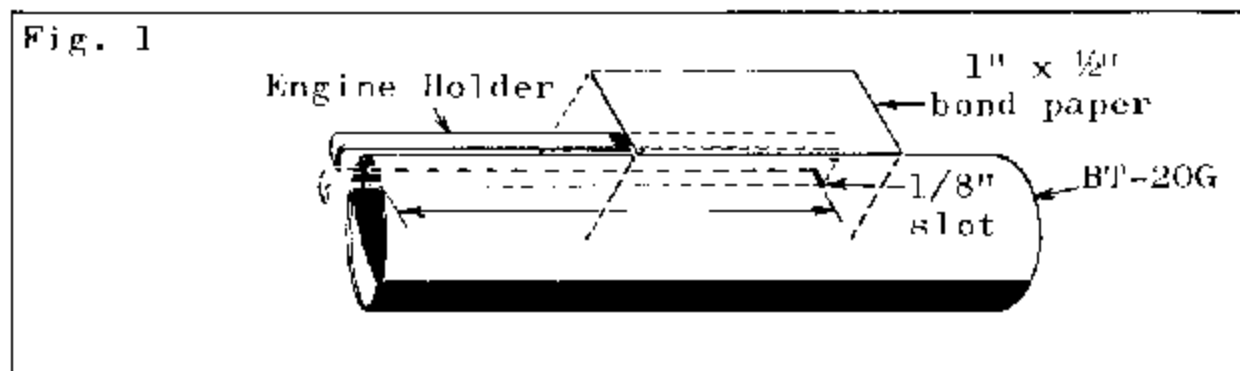
PARTS

1	Rear Body Tube	2.75" long	BT-50J
1	Front Body Tube	7.75" long	BT-50H
1	Engine-holder Tube	3.5" long	BT-20G
1	Balsa Nose Cone for BT-50		BNC-50K
1	Stage Coupler for BT-50		JV-50C
1	Large Screw Eye		SE-1
1	Shock Cord	1/8" X 18"	SC-1
1	Engine Holder		EH-2
1	1/8" Sheet Balsa Fin Stock		BFS-40
1	Launching Lug	2-3/8" long	LL-2B
2	Ring Adapters BT-20 to BT-50		RA-2050

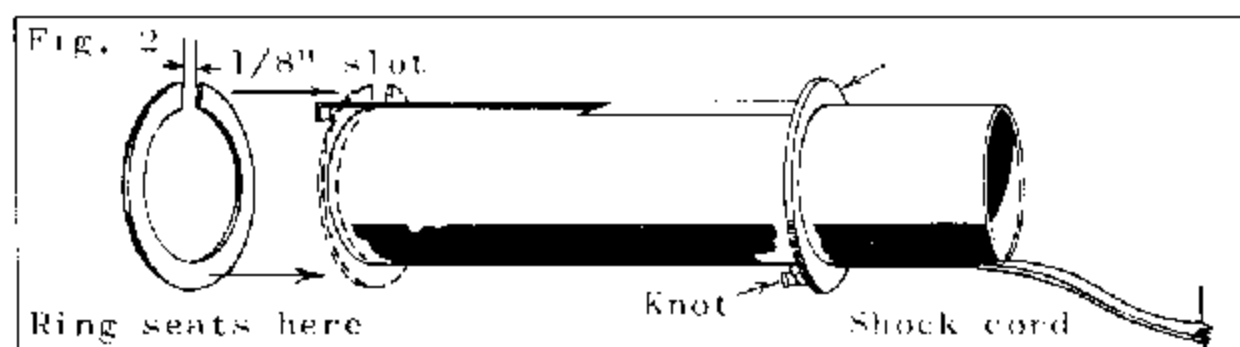
CONSTRUCTION

Standard construction is used with the Mitosis with the exception of the steps individually illustrated below. Because this model will land harder than most parachute rockets, extra care should be taken to insure good glue joints. Accurate alignment of all parts is important for top performance.

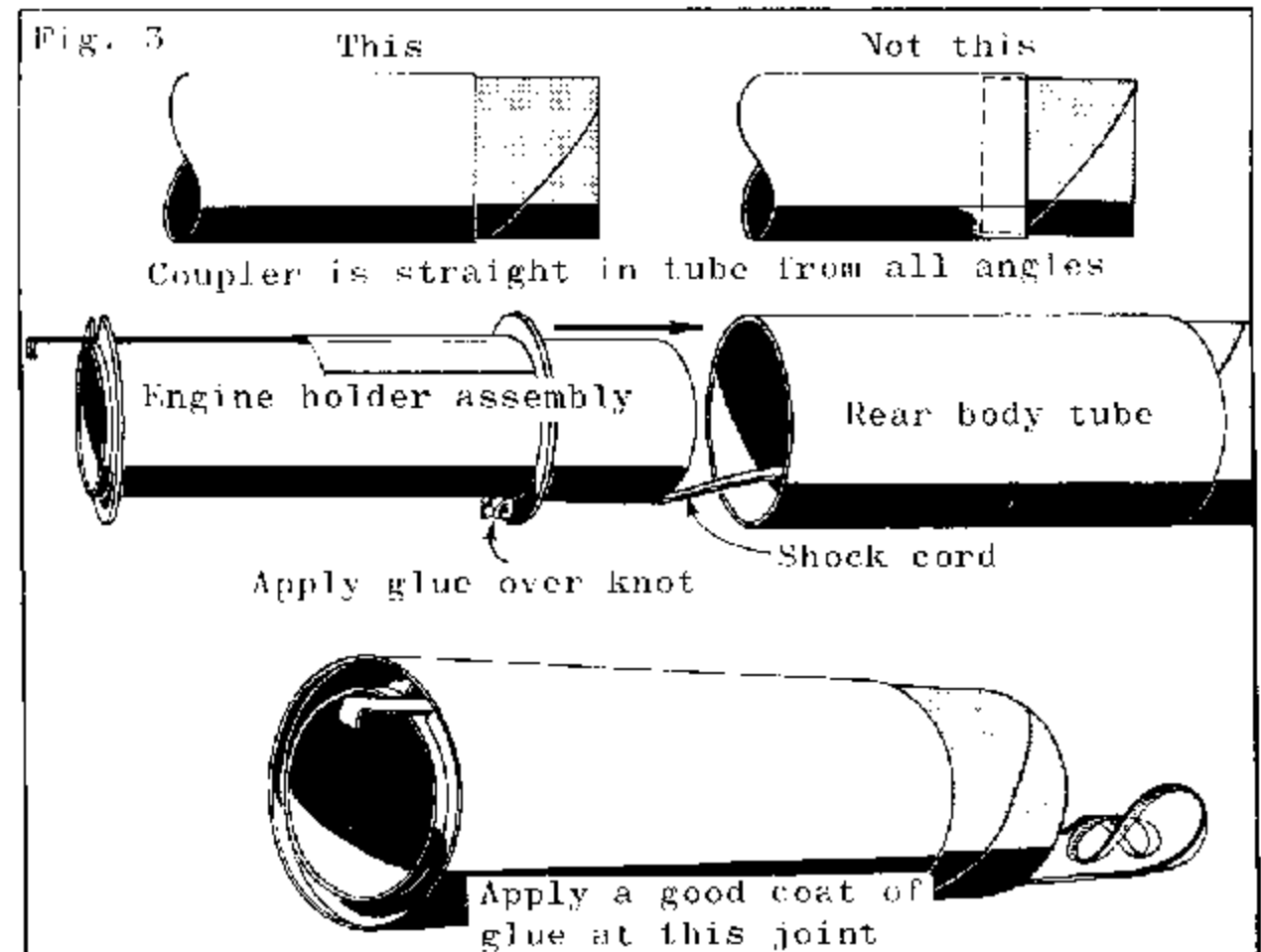
1. Mark the BT-20G engine holder tube 2-1/2" from one end. Cut a 1/8" slot at this point as shown and fit the engine holder into place. Cut a 1" x 1/2" hold-down-strap from bond paper and glue in place.



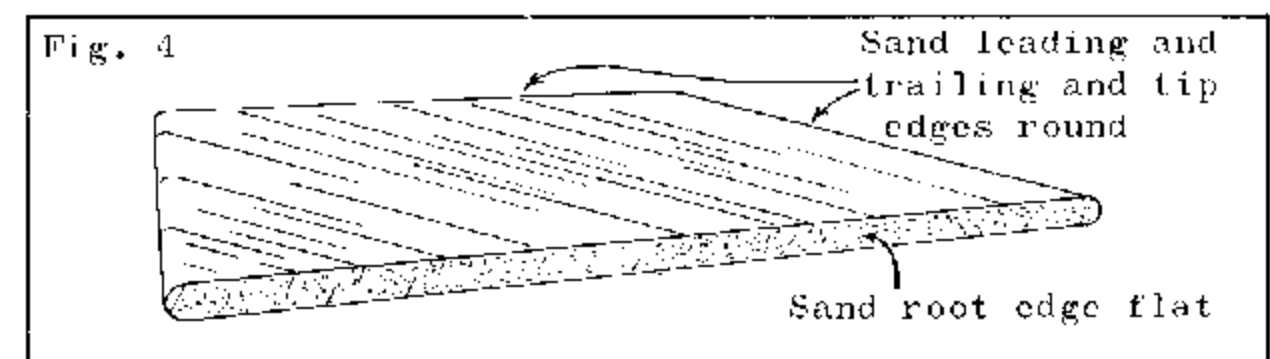
2. Tie a knot at one end of the shock cord. Lay it on the side of the engine holder tube opposite the front hook of the engine holder. Work a 2050 ring into the position shown. Cut a 1/8" slot in the other 2050 ring and place it centering the engine holder in the slot. Apply glue to the ring-tube joints and set the unit aside to dry.



3. Mark the tube coupler 1/4" from one end. Apply glue just inside one end of the 2-5/16" piece of BT-50. Insert the coupler to the 1/4" mark as shown and make sure it is straight with the tube before the glue sets. Insert the engine holder tube (and the shock cord) into the other end of the body as far as it will go without forcing. Spread glue generously around the ring-body tube joint at the rear. Do not allow glue to flow into the engine holder slot. Set the assembly on the stage-coupler end while it dries.

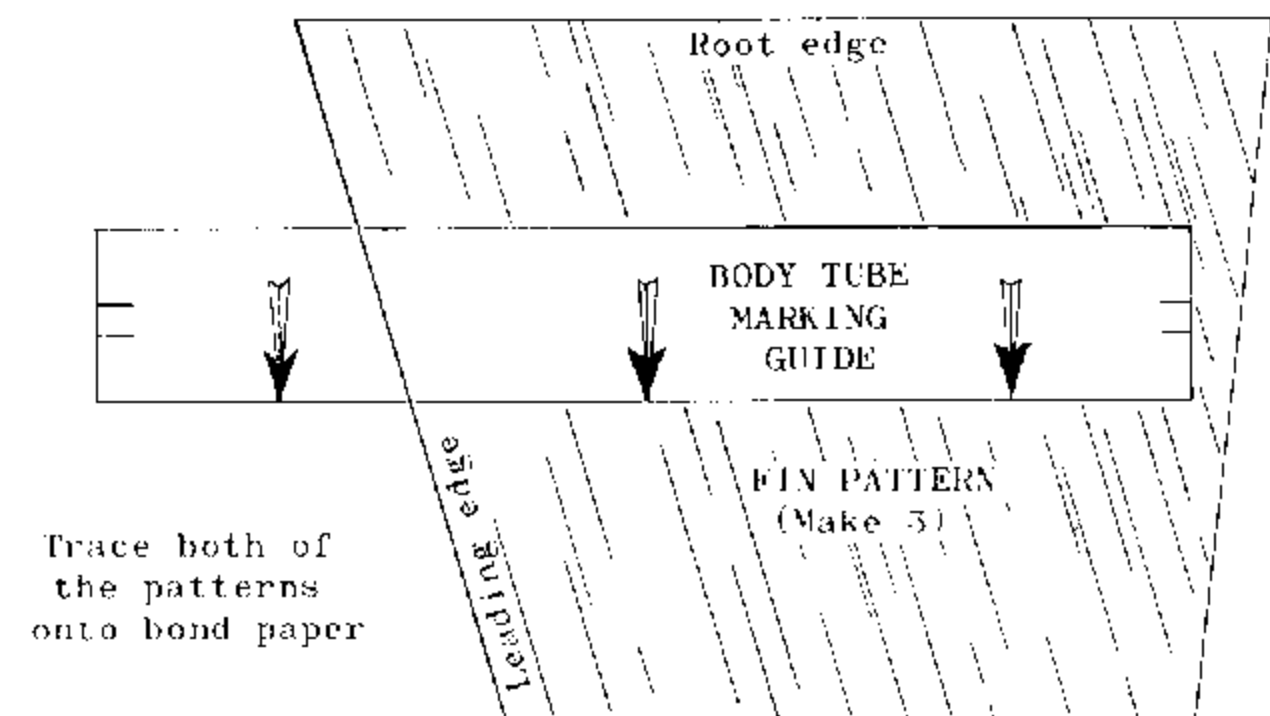


4. Trace the fin pattern onto stiff paper, cut out, and lay out 7 fins on the sheet balsa stock. Make sure the leading edge of the pattern is parallel to the grain of the wood. Cut out the fins with a sharp knife and sand the sides smooth, the leading and trailing edges and tips round, and the root edges flat.



5. Trace the tube marking guide onto typing paper. Cut it out and wrap it around the rear body tube. Mark the tube at each of the arrow points. Use a door or drawer sill for a straight edge and extend the marks the length of the tube.

6. Glue the fins in place as shown in the overall view. Attach the launching lug to the front body tube as shown. Insert the screw eye into the base of the nose cone, remove it, squirt glue into the hole and replace the screw eye. Thread the shock cord thru the upper body tube tie it onto the screw eye. Glue the nose cone into the front body tube. Your MITOSIS is now ready for painting and flying.



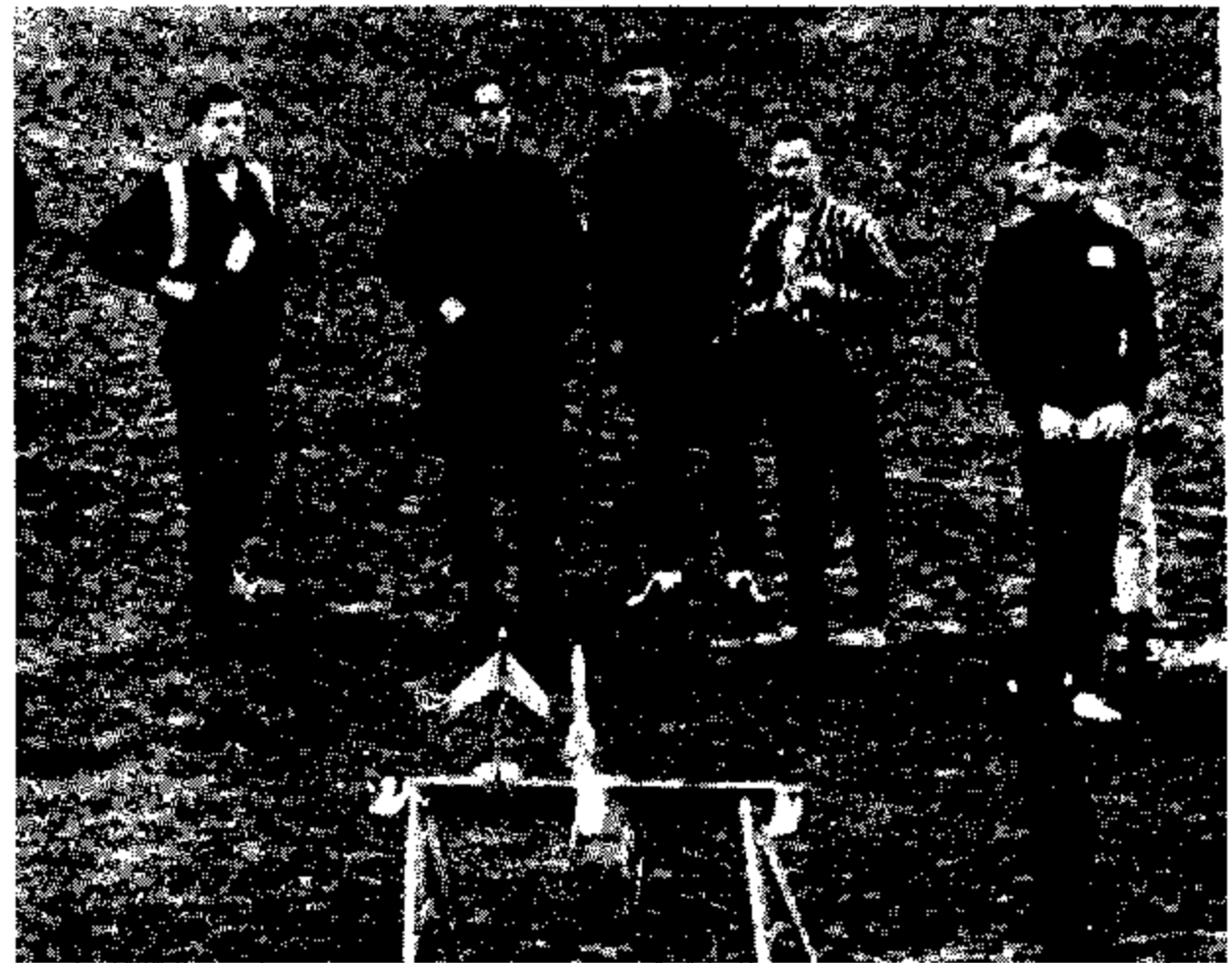
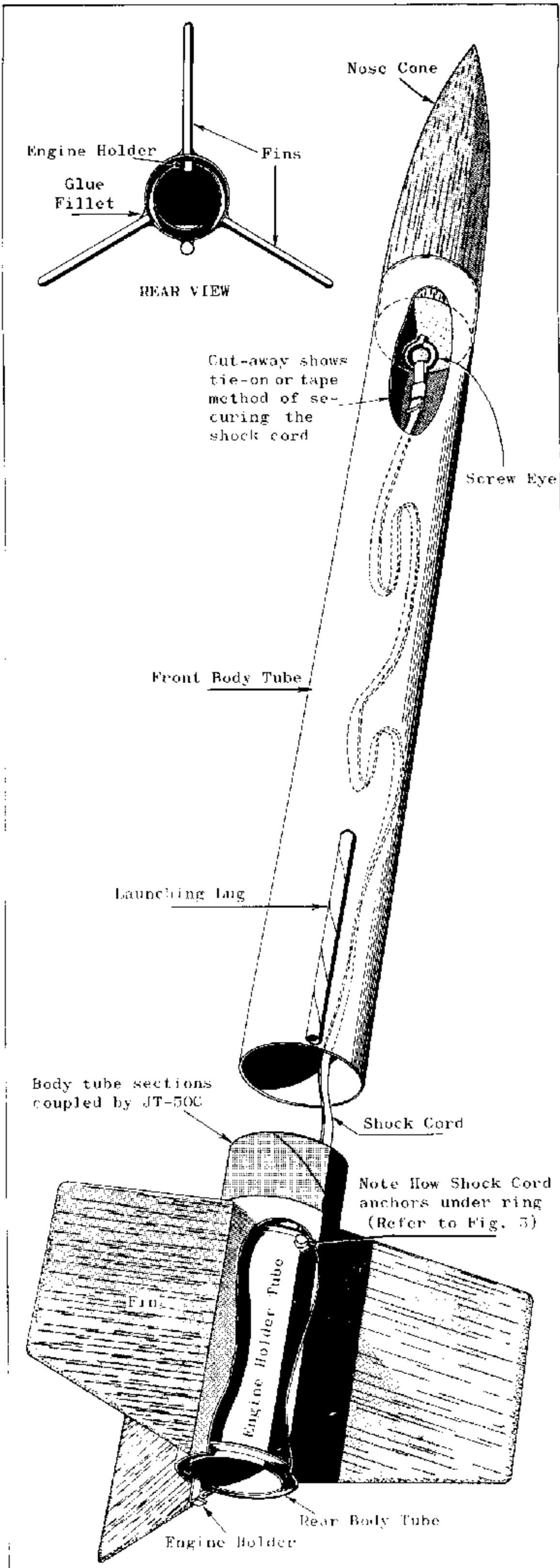
Trace both of the patterns onto bond paper

HIGHLIGHTS OF THE *Pittsburgh Convention*

The first regional model rocket convention was held March 11-13, 1966 at the Shady Side Senior Academy, Pittsburgh, Pennsylvania. Some 150 rocketeers from nine states were present, along with representatives from the National Aeronautics and Space Administration, the National Association of Rocketry and Estes Industries.

The convention was arranged by the Steel City Section of the NAR. Convention leaders included Jay Apt, Arnold Pittler and Elaine Sadowski, all of Pittsburgh.

Discussion groups, both formal and informal, were numerous throughout the convention. Model rocketry, past, present and future, was the central theme of the sessions. Special discussions on the fundamentals of model rocketry, model rocket design, model rocket stability, forming clubs and keeping clubs active drew the greatest attention from those attending.



A launch session was held Saturday afternoon with a group of representative models flown. Familiar sights were the Streak, V-2, Camroc, and even the Buchanan Buster. The Camroc was especially well represented with six different ones counted. Many home designed birds were flown. The Pittsburghites were visibly impressed with both the achievements of the models and the safety shown by the launch and recovery crew. The flights had to be cut short because of wind and rain.

Sunday afternoon seemed to come all too soon for the rocketeers. It had rained off and on from Friday night through Sunday, but this didn't stop any of the interest and the rocketeers left for their homes a little tired but with unbounded determination to create new and better rockets and rocket clubs.

