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

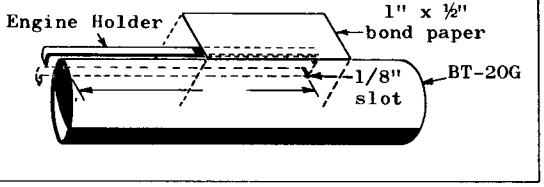
1	Rear Body Tube 2.75" long	BT-50J
1	Front Body Tube 7.75" long	BT-50H
1	Engine-holder Tube 3.5" long	BT-20G
1	Balsa Nose Cone for BT-50	BNC-50K
1	Stage Coupler for BT-50	JT-50C
1	Large Screw Eye	SE-1
1	Shock Cord 1/8" X 18"	SC-1
1	Engine Holder	EH-2
1	1/8" Sheet Balsa Fin Stock	BFS-40
1	Launching Lug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

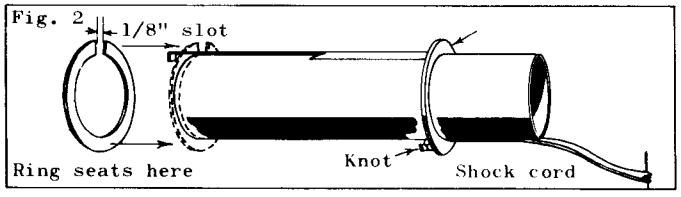
1. Mark the BT-20G engine holder tube 2-1/2" from one end. Cut a 1/8" slot at this point as shown and fit the engine holder into place. Cut a 1" x 1/2" hold-down-strap from bond paper and glue in place.

Fig. 1



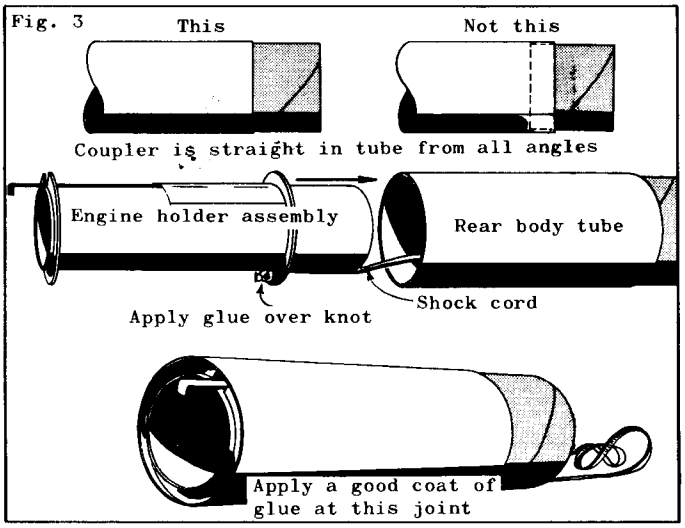
2. Tie a knot at one end of the shock cord. Lay it on the side of the engine holder tube opposite the front hook of the engine holder. Work a 2050 ring into the position shown. Cut a 1/8" slot in the other 2050 ring and place it centering the engine holder in the slot. Apply glue to the ring-tube joints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

Fig. 2



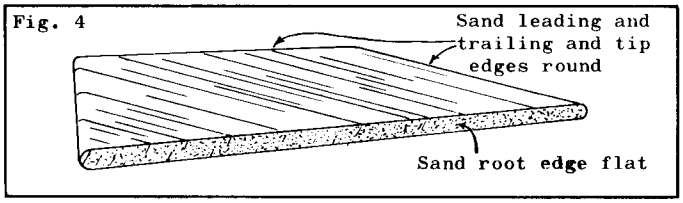
3. Mark the tube coupler 1/4" from one end. Apply glue just inside one end of the 2-3/4" piece of BT-50. Insert the coupler to the 1/4" mark as shown and make sure it is straight with the tube before the glue sets. Insert the engine holder tube (and the shock cord) into the other end of the body as far 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.

Fig. 3



4. Trace the fin pattern onto stiff paper, cut out, and lay out 3 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.

Fig. 4



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.

