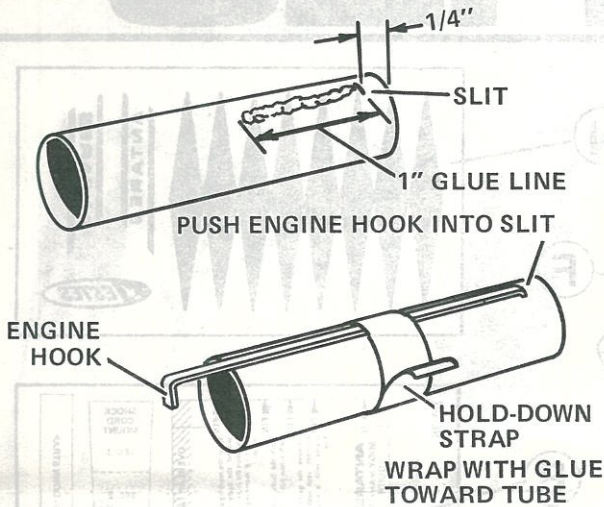
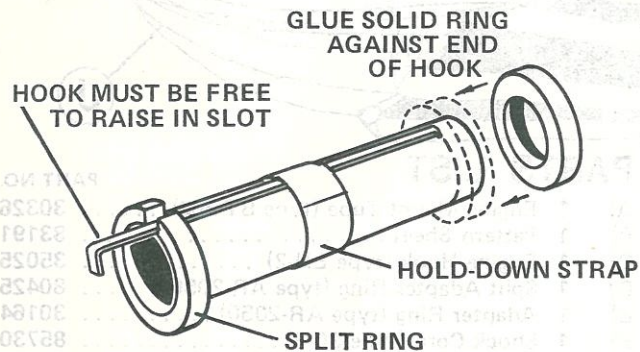


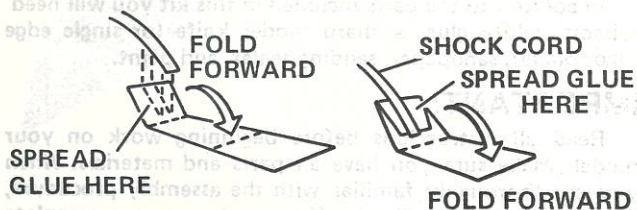
ASSEMBLY INSTRUCTIONS



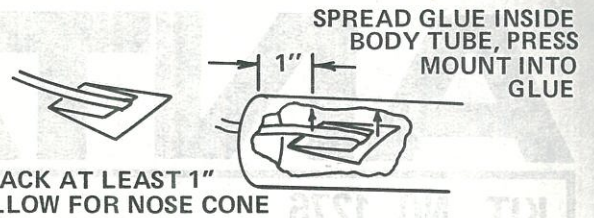
- 1 Mark the engine mount tube (part A) 1/4" from one end. Cut a 1/8" long slit in the tube at the mark as shown. Cut out the hold-down strap from the pattern sheet (part B). Apply a 1" long line of glue to the tube as shown. Push one end of the engine hook (part C) into the slit and press the main part of the hook into the glue. Apply glue to one side of the hold-down strap and wrap it tightly around the middle of the tube over the engine hook.



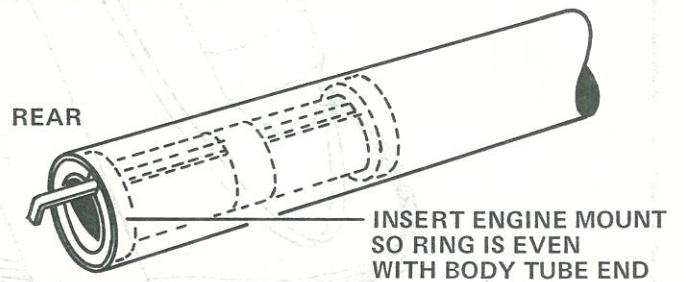
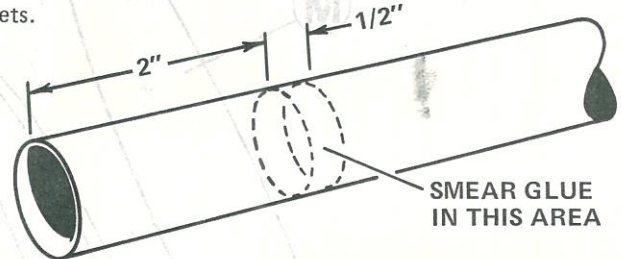
- 2 Glue the split adapter ring (part D) to the engine mount tube even with the rear end (the end with the overhanging hook) so the slot is over the hook. Avoid getting glue in the slot. Glue the other ring (part E) to the front of the engine mount against the end of the hook as shown.



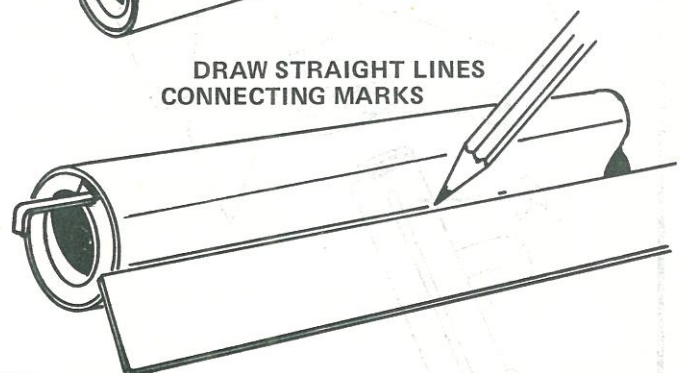
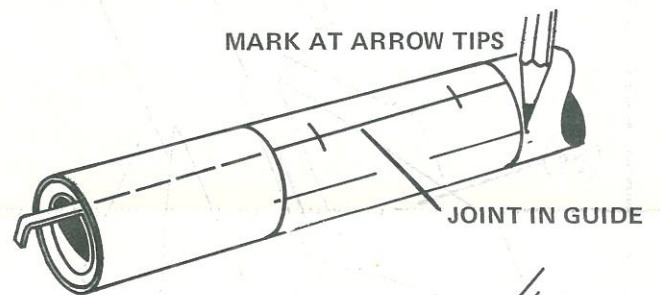
- 3 Cut out the shock cord mount from the pattern sheet. Crease it on the dotted lines by folding. Spread glue on the first section (1) and lay the end of the shock cord (part F) into the glue. Fold over and apply glue to the back of the first section and the exposed part of section 2. Clamp the unit together with your fingers until the glue sets.



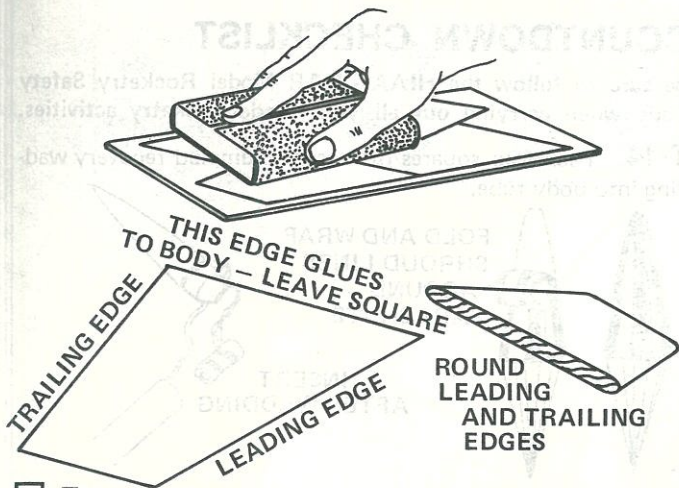
- 4 Apply glue to the inside of the body tube (part G) at one end over an area about 1" to 2" from the end. The glued area should be the same size as the shock cord mount. Press the mount into the glue as shown and hold it until the glue sets.



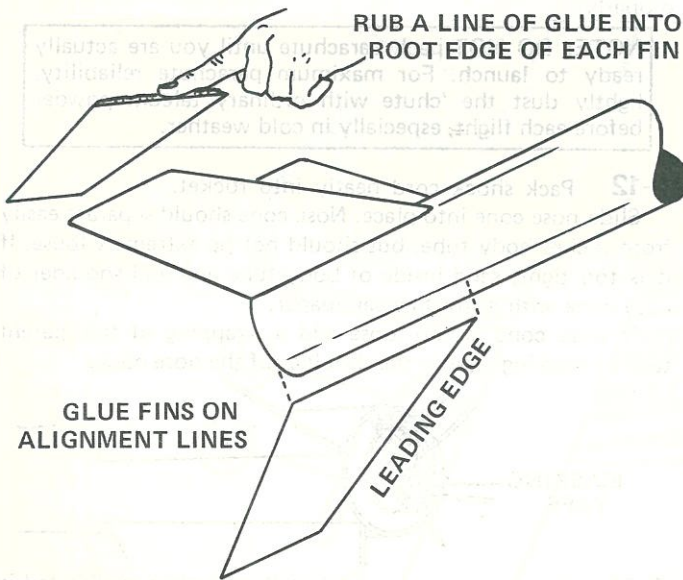
- 5 Smear glue around the inside of the other end of the body tube to cover an area about 2" to 2-1/2" from the end of the tube. Immediately insert the engine mount unit, being careful to position it so the engine hook will stick out of the end of the tube. Push the engine mount in with one smooth motion until the ends of the tubes (and the split ring) are even.



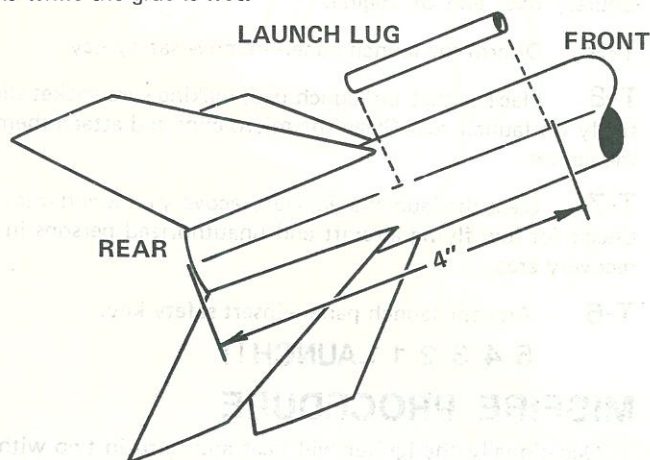
- 6 Cut out the body tube marking guide from the pattern sheet. Wrap it around the rear of the body so the joint in the guide is in line with the engine hook. Mark the tube at each arrow point, front and rear. Draw a straight line connecting each matching front and rear mark (use a ruler when drawing lines). Extend the launch lug line forward 5".



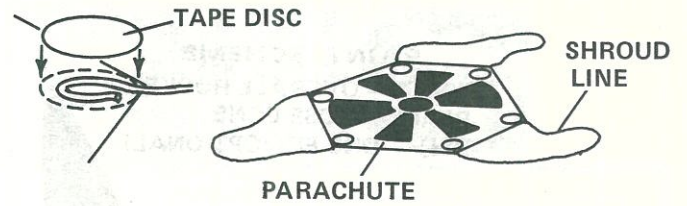
7 Fine sand the balsa sheet (part H), then carefully remove the die-cut fins from the sheet. Free the edges with a sharp knife. Sand the leading and trailing edges of the fins round. Leave the other edges square.



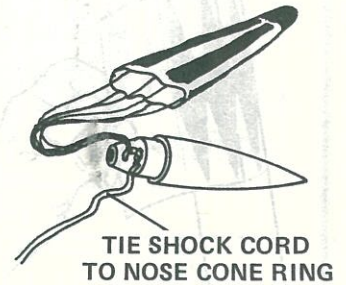
8 Rub a line of glue into the root edge of each fin and allow to dry. Glue the fins to the body on the fin alignment lines drawn in step 6. Refer to the illustration to be sure you position the fins correctly. Adjust the fins so they project straight away from the body tube. Do not set the rocket on its fins while the glue is wet.



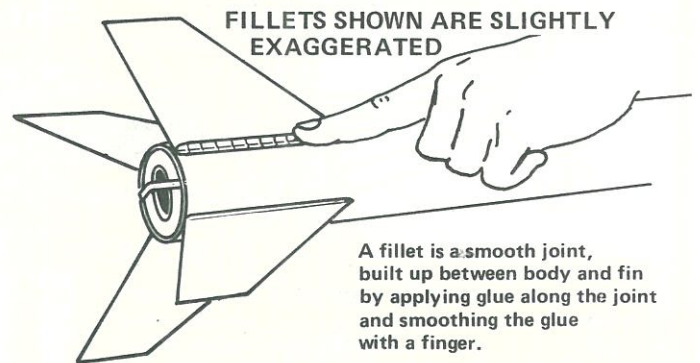
9 Glue the launch lug (part I) to the body on its line. The front of the lug should be 4" from the rear of the body. Align it straight on the body.



PULL TIGHT



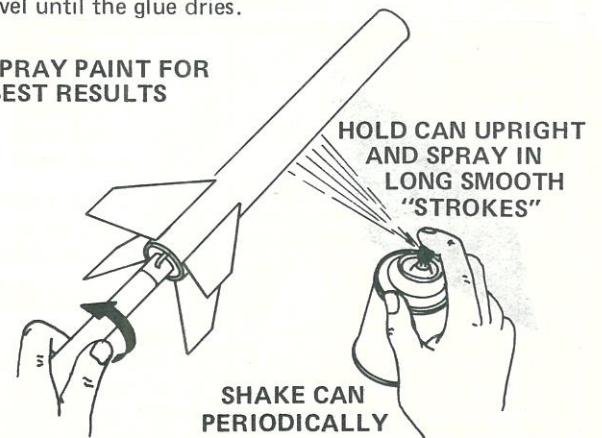
10 Cut out the parachute on its edge lines. Cut three 20 inch lengths of shroud line. Attach line ends to the top of the parachute with tape discs as shown. Pass the shroud line loops through the ring on the rear of the nose cone. Pass the parachute through the loop ends and draw the line tight against the ring. Set the knot with a drop of glue. Tie the free end of the shock cord to the nose cone ring.



A fillet is a smooth joint, built up between body and fin by applying glue along the joint and smoothing the glue with a finger.

11 Apply a glue "fillet" to each fin joint. Holding the rocket horizontally (level), apply a line of glue to both sides of each joint. Smooth out the glue with your finger. Keep the rocket level until the glue dries.

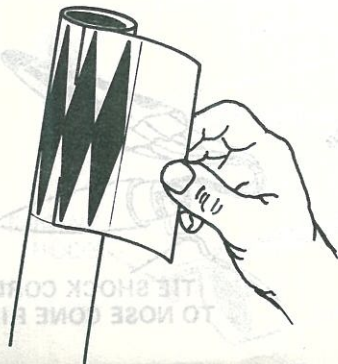
SPRAY PAINT FOR BEST RESULTS



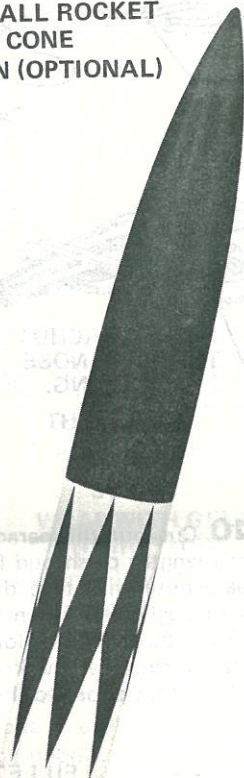
SHAKE CAN PERIODICALLY

12 When all glue on the outside of the body is dry, prepare the fins for painting. Apply at least two coats of sanding sealer to the fins. Let dry and sand lightly between coats. Do this until the tiny holes in the wood are filled and everything looks and feels smooth. Paint the body and fins white. Paint the nose cone black. (Optional: Paint one fin red for color trim.)

PAINT SCHEME
 WHITE – OVERALL ROCKET
 BLACK – NOSE CONE
 RED – ONE FIN (OPTIONAL)



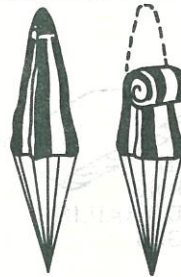
**SLIP DECAL OFF
 THE BACKING SHEET
 ONTO MODEL.**



COUNTDOWN CHECKLIST

Be sure to follow the HIAA - NAR Model Rocketry Safety Code when carrying out all your model rocketry activities.

T-14 Pack four squares of loosely crumpled recovery wadding into body tube.



**FOLD AND WRAP
 SHROUD LINES
 AROUND
 PARACHUTE**



**INSERT
 AFTER WADDING**

T-13 Fold the parachute into a triangular shape. Roll 'chute tightly as shown and wrap shroud lines around it. If 'chute is too large, unroll it and repack until it slides easily into rocket. A fit that is too tight may prevent parachute from ejecting properly.

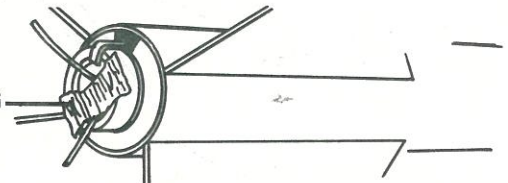
NOTE: DO NOT pack parachute until you are actually ready to launch. For maximum parachute reliability, lightly dust the 'chute with ordinary talcum powder before each flight, especially in cold weather.

T-12 Pack shock cord neatly into rocket.

Slide nose cone into place. Nose cone should separate easily from rocket body tube, but should not be extremely loose. If it is too tight, sand inside of body tube end and shoulder of nose cone with extra fine sandpaper.

If nose cone is too loose add a wrapping of transparent tape or masking tape to the shoulder of the nose cone.

**MASKING
 TAPE**



T-11 Select an engine and install an igniter as directed in the engine instructions. Engines recommended for use with this rocket are the 1/2A6-2, A8-3, B4-4, B6-4 and C6-5 made by Estes. Use an A8-3 engine for your first flight.

T-10 Insert engine into rocket. Engine hook must latch securely over end of engine.

T-9 Disarm the launch panel---remove safety key.

T-8 Place rocket on launch pad, making sure rocket slides freely on launch rod. Clean the micro-clips and attach them to the igniter.

T-7 Clear the launch area, alert recovery crew and trackers. Check for low flying aircraft and unauthorized persons in the recovery area.

T-6 Arm the launch panel---insert safety key.

5 4 3 2 1 LAUNCH!!

MISFIRE PROCEDURE

Occasionally the igniter will heat and burn in two without igniting the engine. This is almost always caused by a failure to install it correctly. Disarm the launch panel, remove the model, clean the igniter residue from the nozzle, and install a new igniter. Follow the launching procedure again.

83190A

13 When all paint is dry, apply decals (part L). Cut out a decal section, dip it in lukewarm water for 10 seconds, and hold it until it uncurls. Slip the decal off the backing sheet and onto the model. Blot excess water away. For best results, let the model dry overnight and apply a coat of clear spray to protect the decals.