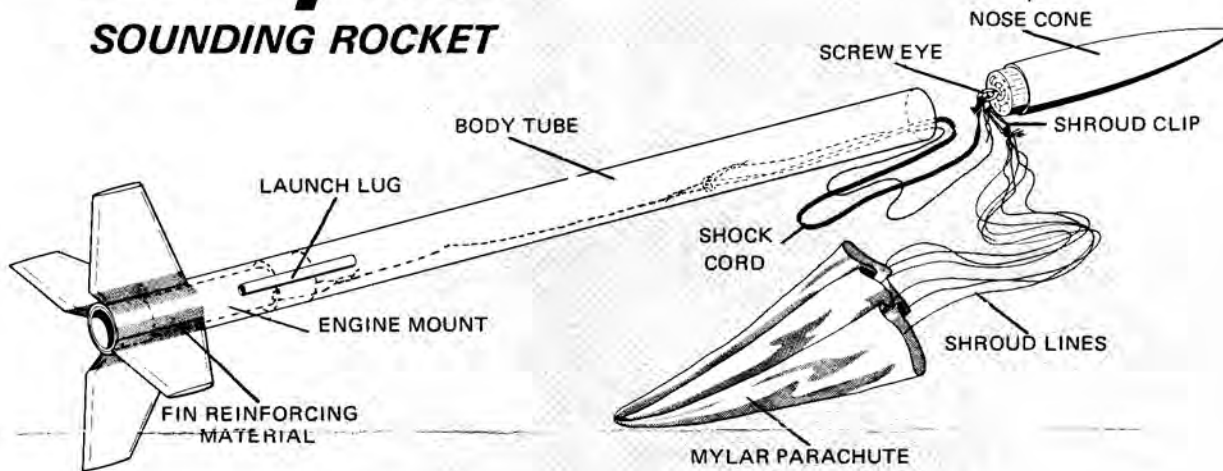


Scorpion

SOUNDING ROCKET

Centuri
LARGE SCALE ROCKETRY



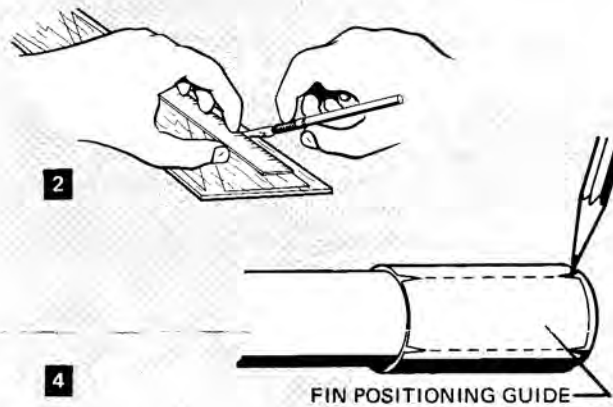
TOOLS: In addition to the parts supplied, you will need the following materials to assemble and finish this kit. **DO NOT** use model airplane glue for building flying model rockets.

INTRODUCTION

"Sounding", as applied to rockets, means to investigate or examine. A "sounding rocket" is a meteorological rocket used to gather upper atmospheric data such as temperature, pressure, radiation and wind velocity. Sensitive instruments within the nose cone and payload compartment are exposed to the upper atmosphere for purposes of measuring these objects of study. This information is sometimes recorded within the rocket itself, but is most often telemetered back to Earth by means of radio transmitters within the payload compartment.

The SCORPION sounding rocket is capable of reaching altitudes far in excess of 1500 feet. With the addition of a short section of tubing and a balsa coupler, it can be modified to carry a payload.

When properly assembled, the SCORPION will soar straight as an arrow to its maximum altitudes (apogee), eject a parachute, and return safely to be flown again and again.

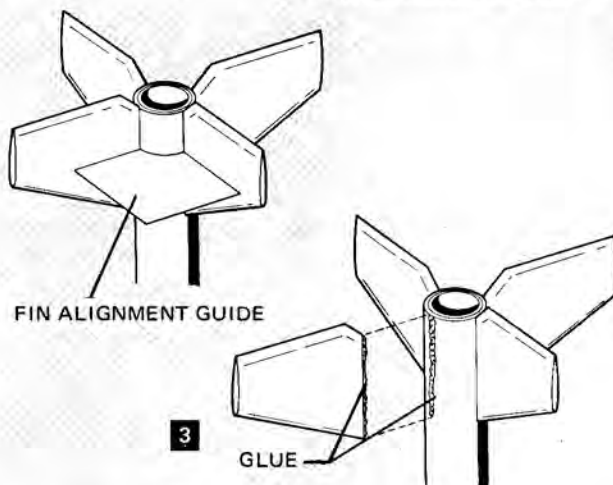


ENGINE MOUNT ASSEMBLY

- 1 To assure accurate positioning, the SCORPION's engine mount has been installed for you at the factory. At the same time, one end of the chute securing cable was firmly anchored to the forward engine mount.

FIN ASSEMBLY

- 2 Carefully cut out the fins with a sharp knife using a metal straight edge for a cutting guide. Round the leading edges and taper the trailing edges of the fins using medium to fine sandpaper. Square up the root edges and slightly round the tip edges.
- 3 Apply white glue or Super Bond to each fin root cord edge, one at a time, and also along the tube where the fins are to be attached. When glue has just begun to set, place fins in position over the location marks.



Stand tube on top end and allow to dry. With the Fin Alignment Guide, check the angle between fins before glue has completely set.

5 For increased fin strength, cut out and glue reinforcing material over fin-body joints, as shown in the assembly drawing, after the initial gluing has thoroughly dried.

6 Two launching lugs are supplied with the SCORPION; one to fit over a 1/8" diameter launching rod, and one to fit over a 3/16" diameter launch rod. Glue the proper lug to the body tube in the position shown.

SHOCK CORD & PARACHUTE ASSEMBLY

7 Thread the screw eye into the nose cone base. Unscrew the eye, squirt glue into the resulting hole, and thread the eye back into place. This gluing will keep the eye from pulling out during recovery. Attach the parachute to the screw eye by using the shroud clip.

Assemble mylar parachute according to instructions included with the chute materials.

8 Fold up the chute temporarily and insert, together with the shock cord and secure cable, into the body tube. Push the nose cone into place, and the SCORPION is ready for finishing.

FINISHING THE SCORPION

9 To obtain maximum performance all balsa surfaces (including nose cone) should be painted with several coats of balsa fillercoat. Each coat should be allowed to dry and sanded smooth before the next application. Finish the model with a spray paint applied in several light coats from a distance of about 15 inches. Black or fluorescent colors are easiest to track at high altitudes.

LAUNCHING THE SCORPION

10 Just prior to launching, fold and pack the parachute as shown.

11 Wrap the chute shrouds around the folded canopy. Insert piece of flameproof cotton wadding, about the size of a large egg, into the body tube first. Next, insert shock cord and secure cable, followed by the folded parachute and nose cone.

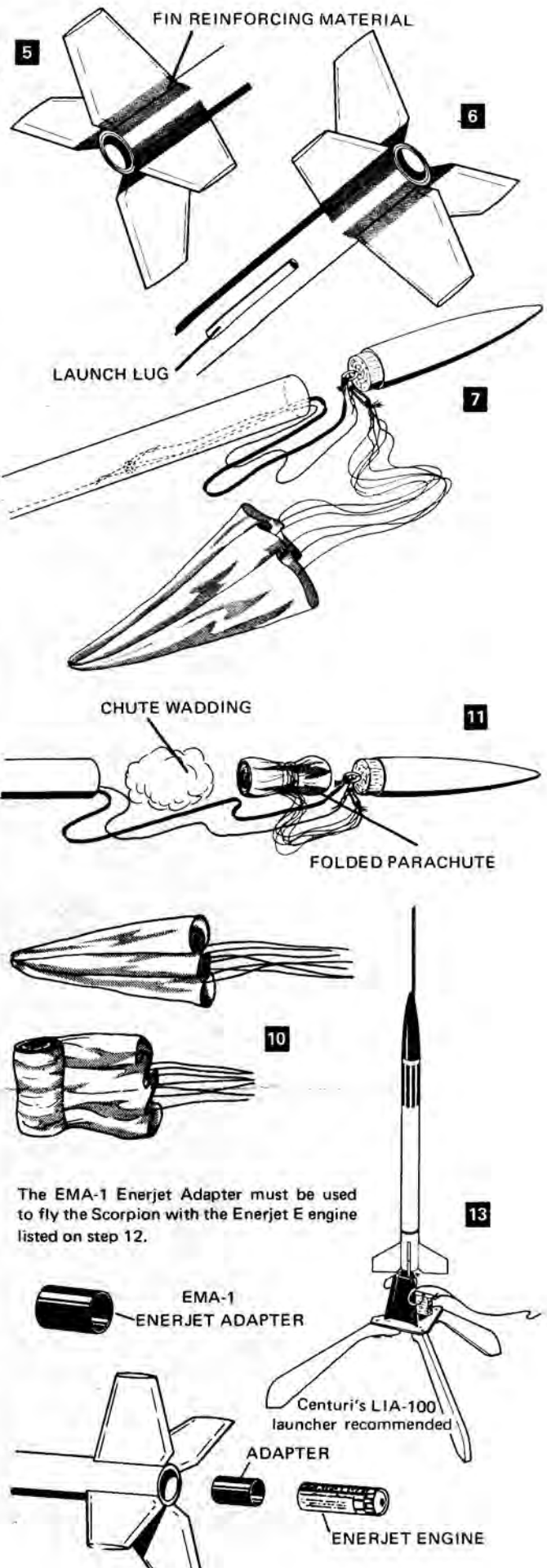
12 Launch the SCORPION with the following MINI-MAX and ENERJET ENGINES:

- MM-E15-4
- MM-E62-7
- ENJT-E24-7

13 Launch the SCORPION from a 1/8" or 3/16" diameter x 36" long launching rod mounted firmly in a sturdy base block or stand like those shown in Centuri's catalog.

The elastic shock cord absorbs the shock created by the opening parachute while the steel secure cable secures the rocket to the recovery parachute.

14 The SCORPION should be launched from the center of an open field measuring at least 600 feet on a side. Do not launch from a backyard or in populated areas. Select a clear, unobstructed launch site away from houses, highways, and trees. Avoid launching in windy or overcast weather, as recovery under these conditions will be difficult, if not impossible. Always give a short countdown before launching to alert spectators and trackers.



The EMA-1 Enerjet Adapter must be used to fly the Scorpion with the Enerjet E engine listed on step 12.

