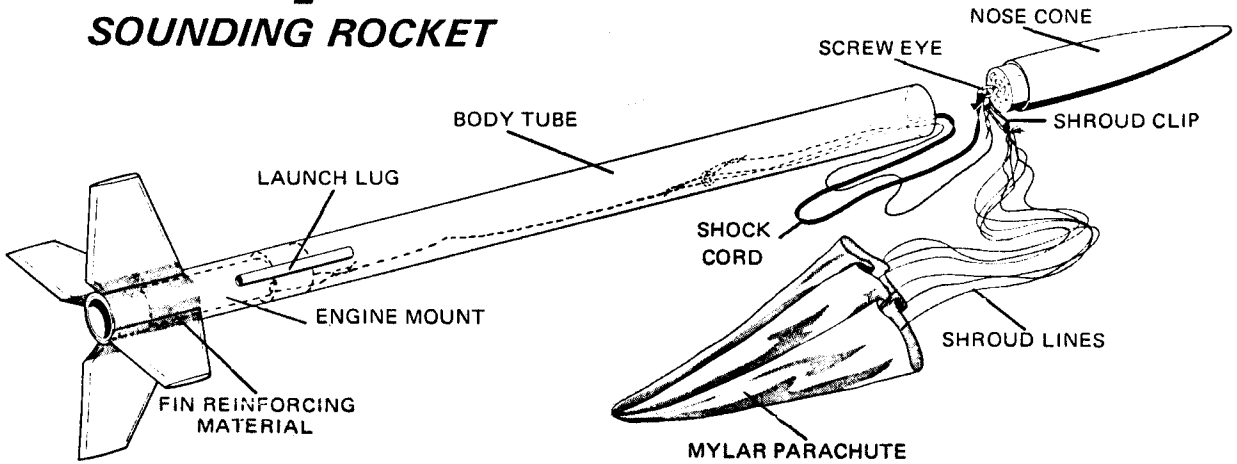




Scorpion

SOUNDING ROCKET

Centuri
LARGE SCALE ROCKETRY



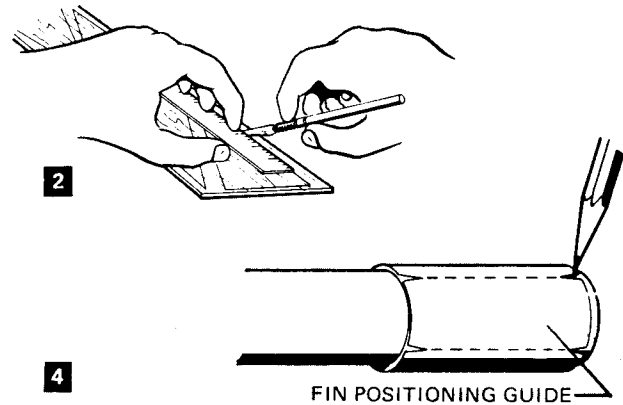
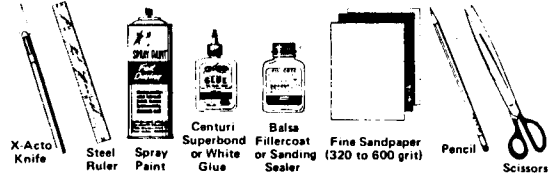
TOOLS: In addition to the parts supplied, you will need the following materials to assemble and finish this kit. DO NOT use model airplane glue for building flying model rockets.

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.



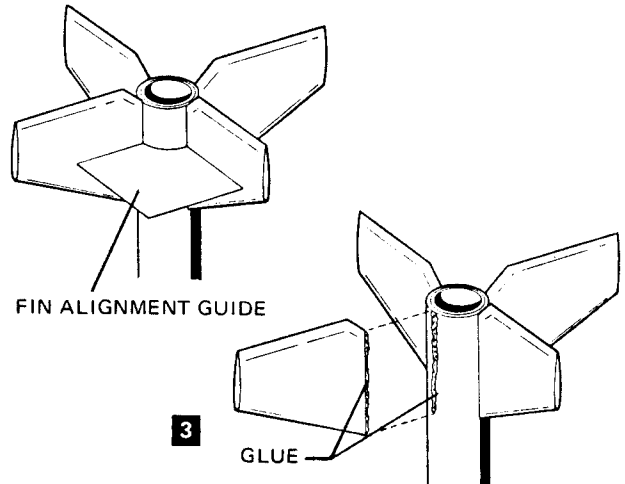
ENGINE MOUNT ASSEMBLY

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.



4 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

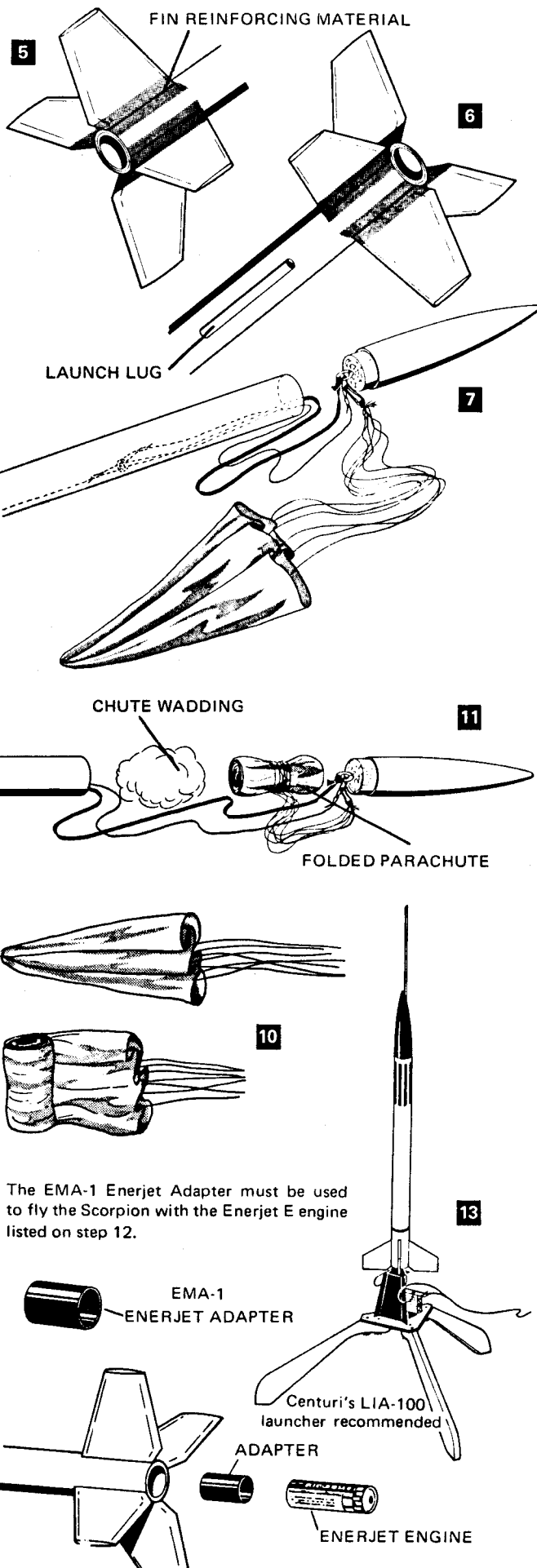
MM-E62-7

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.



Cut out balsa
parts carefully

ROOT CHORD
Glue this edge to body tube

ROOT CHORD
Glue this edge to body tube

ROOT CHORD
Glue this edge to body tube

Cut out balsa parts carefully

ROOT CHORD
Glue this edge to body tube

Contour's
SCORPION
CONTOUR ENGINEERING COMPANY
PHOENIX, ARIZONA

INTRODUCTION

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The Scorpion sounding rocket is capable of reaching altitudes far in excess of 1500 feet when powered by the 6 sec. Atlas rocket engine. 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 altitude (apogee), eject a parachute, and return safely to be flown again and again.

The All

Scor

SOUNDING

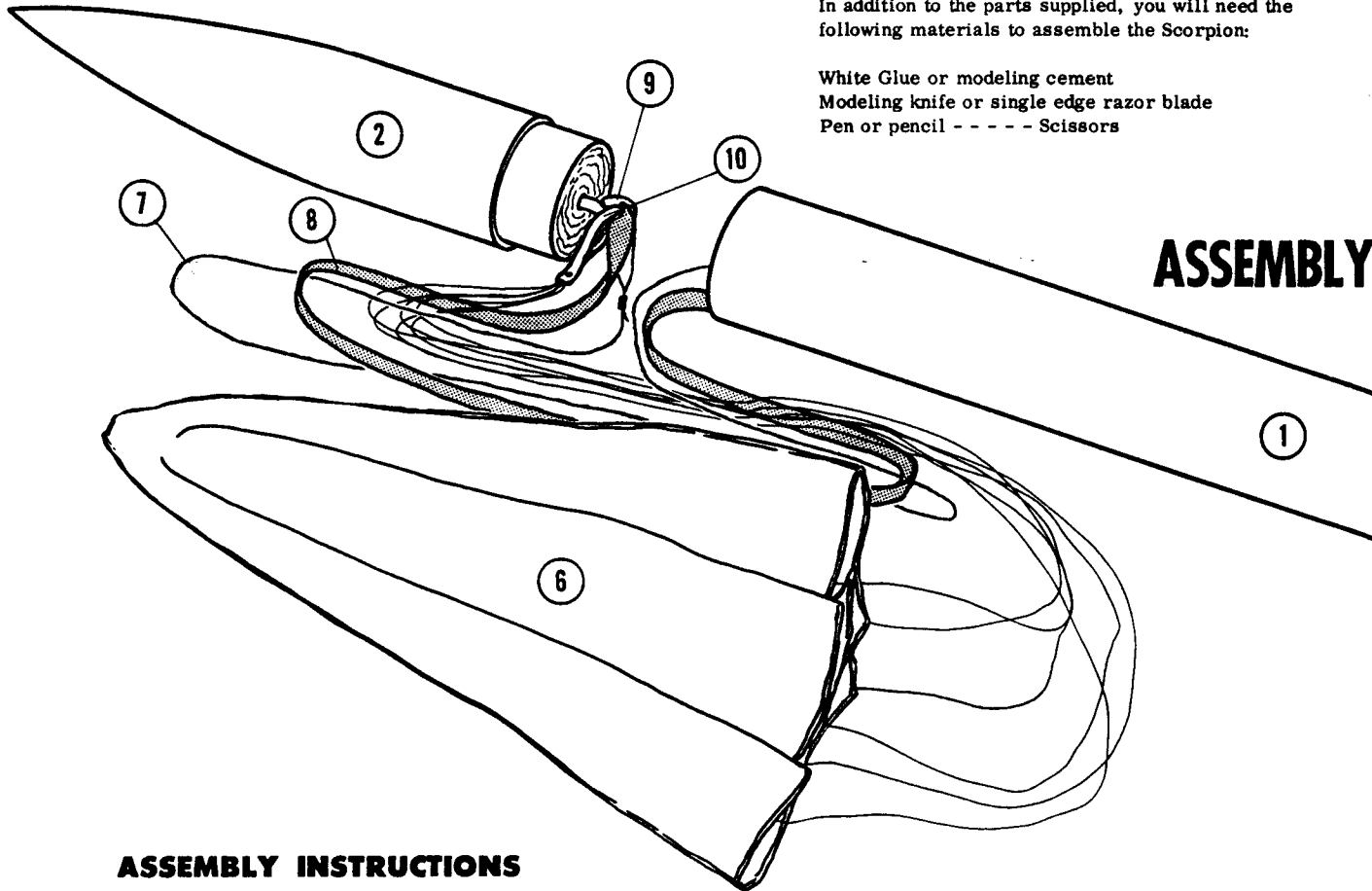
PARTS LIST

PART NO.	PART NAME
1	Body Tube
2	Nose Cone
3	Engine Mount (2Pcs)
4	Stabilizer Fins
5	Launch Lug
6	Parachute
7	Secure Cable
8	Shock Cord
9	Screw Eye
10	Chute Clip

In addition to the parts supplied, you will need the following materials to assemble the Scorpion:

White Glue or modeling cement
Modeling knife or single edge razor blade
Pen or pencil - - - - Scissors

ASSEMBLY



ASSEMBLY INSTRUCTIONS

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 secure cable was firmly anchored to the forward engine mount.

ATTACH STABILIZER FINS

For proper aerodynamic flow, the fins should be sanded as shown above. Round the leading edge and taper the trailing edge of each fin. Slightly round off the tip edge.

Cut out the enclosed Fin Positioning Guide, wrap around the body tube base, and mark the fin locations with pen or pencil.

Apply white glue or modeling cement to each fin root chord 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 Allignment Guide, check the angle between fins before glue has completely set.

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

ATTACH SECURE CABLE & SHOCK CORD

Centuri's unique shock cord/secure cable has been installed for you. One end of the fine steel cable is firmly anchored to the forward engine mount. The opposite end is anchored to the nose cone screw eye.

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 glueing will keep the eye from pulling out during recovery.

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

New!!

Scorpion

LAUNCHING ROD ROCKET

FINISHING THE SCORPION

To obtain maximum altitude flights, all model rockets should be filled in with several coats of balsa filler. Sand smooth between applications. The body tube does not require this treatment. Finish entire model with a lightweight paint such as spray type dope or laquerized enamel. To aid in tracking, use bright colors such as white, yellow, orange, or red. Flourescent colors are quite easy to spot at high altitudes.

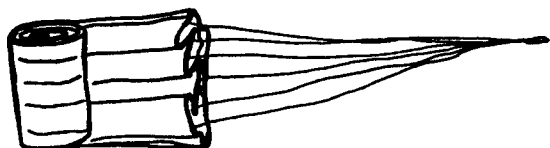
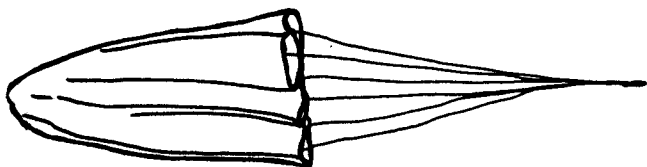
LAUNCHING THE SCORPION

The Scorpion can be powered by any of the "E" series Atlas rocket engines, with chute ejection, listed in Centuri's catalog. Complete mounting and ignition instructions are supplied with the Atlas engines. Read these instructions carefully before launching.

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.

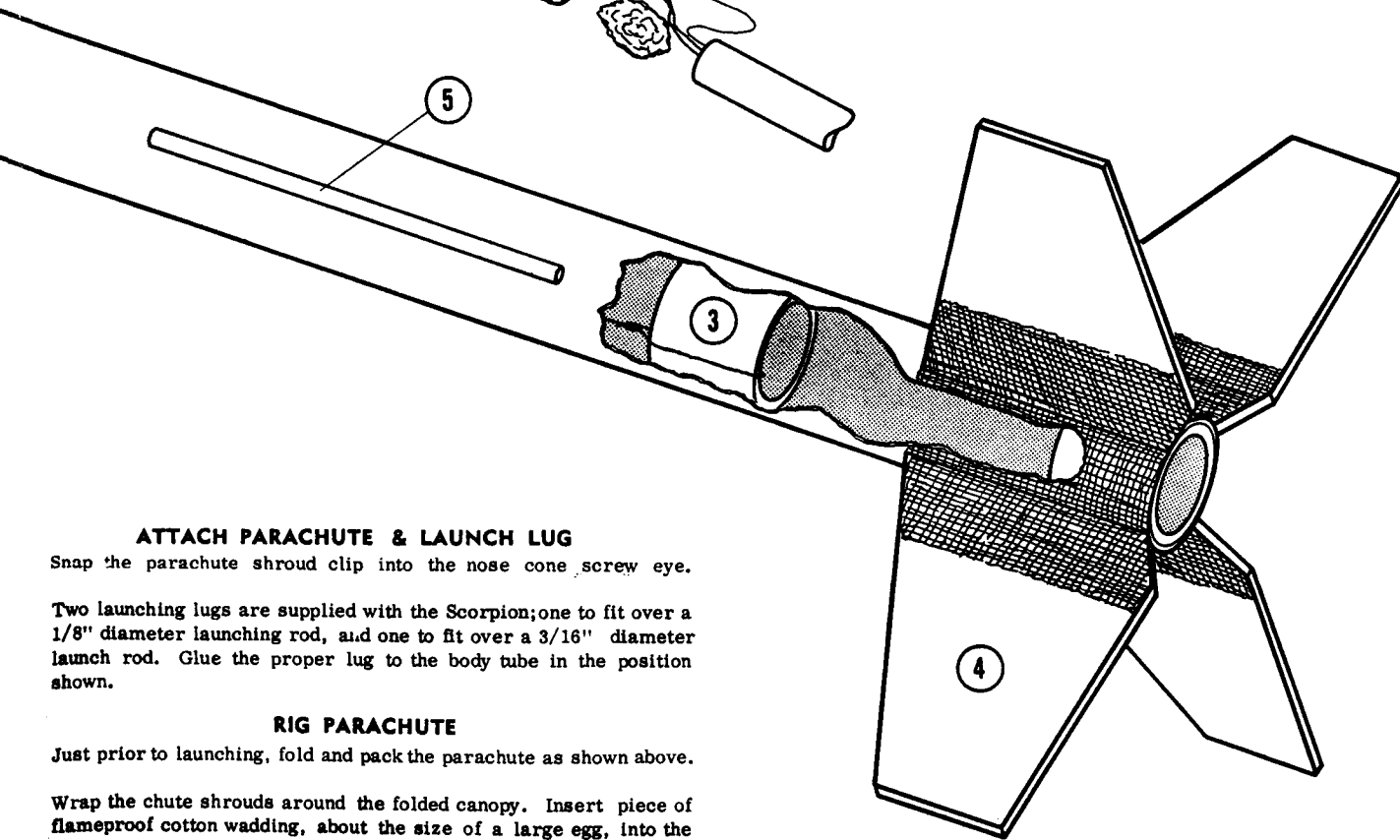
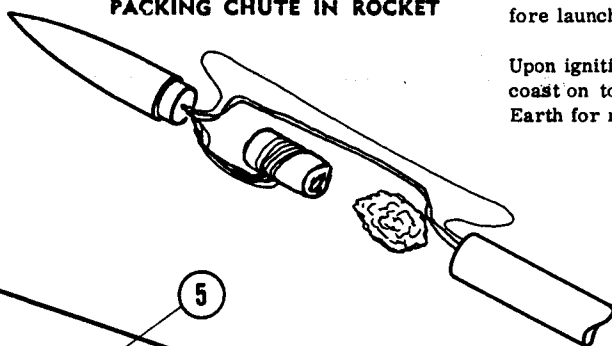
The Scorpion should be launched from the center of an open field measuring at least 500 feet on a side. Do not launch from a backyard or in populated areas. Select a clear, unobstructed launch site away from houses, highways, and trees. Avoid launching in windy or overcast weather, as recovery under these conditions will be difficult, if not impossible. Always give a short countdown before launching to alert spectators and trackers.

Upon ignition, the Scorpion will rise under power, high into the sky, coast on to maximum altitude, eject its parachute and return to Earth for many more flights.



PACKING CHUTE IN ROCKET

DRAWING



ATTACH PARACHUTE & LAUNCH LUG

Snap the parachute shroud clip into the nose cone screw eye.

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.

RIG PARACHUTE

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

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.

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.

For further information regarding rocket kits, engines, ignition devices, launching accessories, or replacement parts, write to:

CENTURI ENGINEERING COMPANY

P. O. Box 1988

Phoenix, Arizona 85001

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The All New!! Scorpion SOUNDING ROCKET

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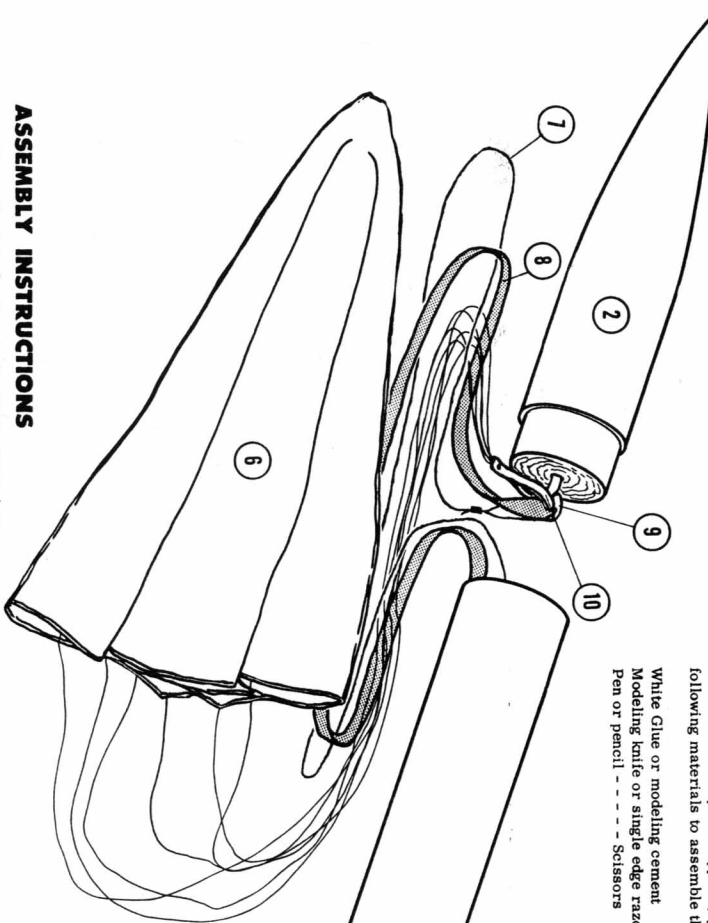
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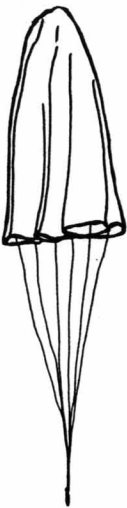
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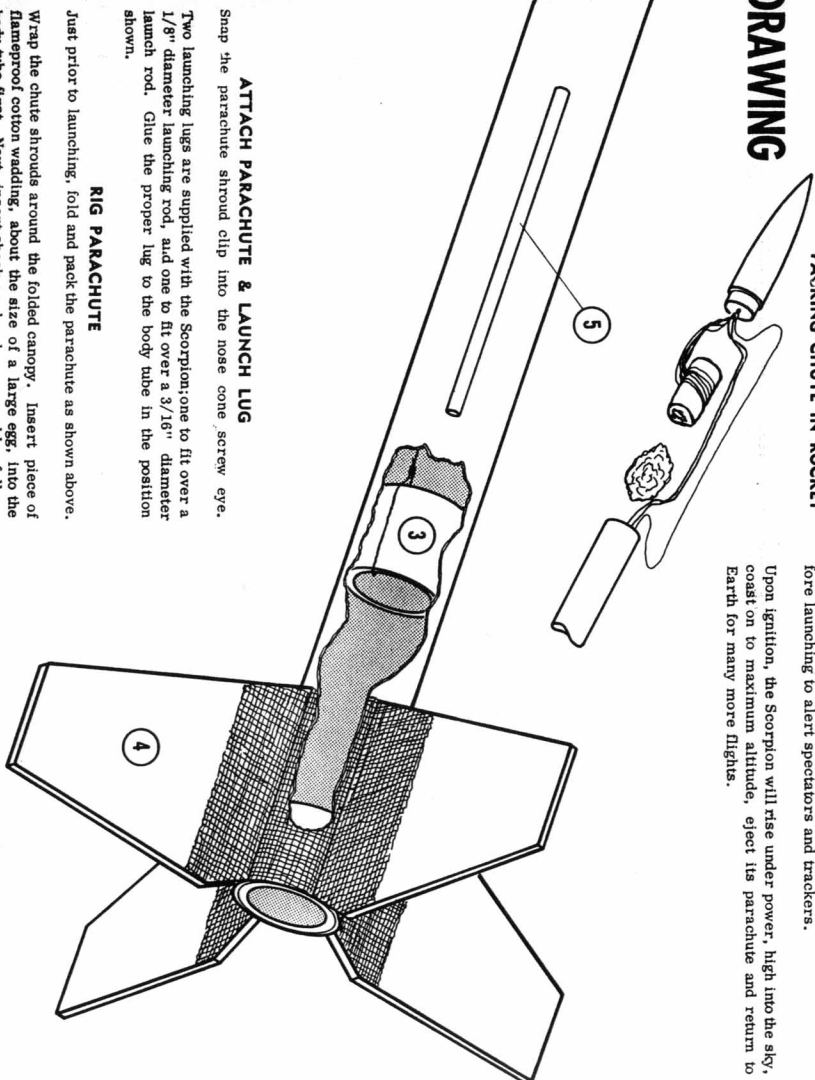
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ASSEMBLY DRAWING



PACKING CHUTE IN ROCKET



ASSEMBLY INSTRUCTIONS

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ATTACH SECURE CABLE & SHOCK CORD

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.

Centuri's unique shock cord/secure cable has been installed for you. One end of the fine steel cable is firmly anchored to the forward engine mount. The opposite end is anchored to the nose cone screw eye.

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.

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

ATTACH PARACHUTE & LAUNCH LUG

Snap the parachute shroud clip into the nose cone screw eye.

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.

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P. O. Box 1988
Phoenix, Arizona 85001

Here is a Parts List for some of the Centuri K-6A Scorpion kit

- 1 - LT125A Body Tube 1.25"ID x 1.34"OD x 22" Length
- 1 - 1.14"ID x 1.22"OD x 5.5" long Engine Mount Tube
- 1 - TR-115 Thrust Ring (black fish paper) 1 5/8" long
- 1 - BC-125B Balsa Nose Cone 6" long + shoulder
- 1 - Balsa sheet 4" x 12" x 3/16 printed fin patterns
- 1 - MCM-36 Chrome Mylar Parachute Material to make parachute
- 1 - ??? Launch Lug -----" long

Engine mount, thrust ring, wire & sewing elastic shock cord came pre installed right from Centuri.

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Larry A Broadbent
E-Mail : rockets@mnsi.net
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