
Old Glory

Big Bertha™

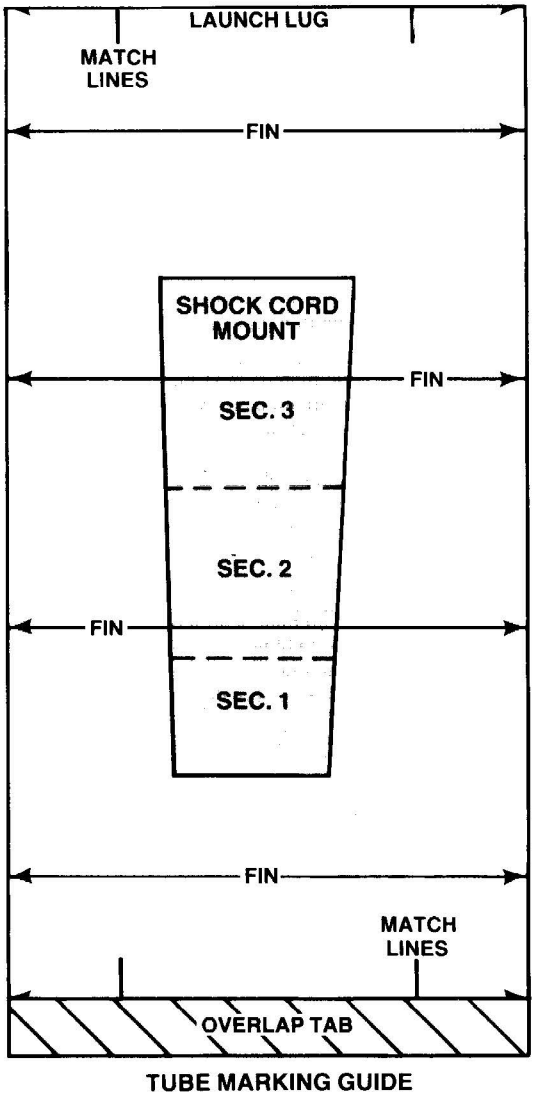
#1948

ESTES
A DAMON COMPANY

Estes Industries
1295 H Street
Penrose, CO 81240

ASSEMBLY TIP

Read all instructions before beginning work on your model. Make sure you have all parts and supplies. Test-fit all parts together before applying any glue. If any parts don't fit properly, sand as required for precision assembly.



TUBE MARKING GUIDE

PARTS AND SUPPLIES

Locate the parts shown below and lay them out on the table in front of you. In addition to the parts included in the kit you will also need:


SCISSORS

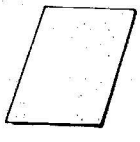

PENCIL


RULER


PAINT BRUSH

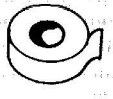

MODELING KNIFE

ENAMEL SPRAY PAINT (Yellow and Black)

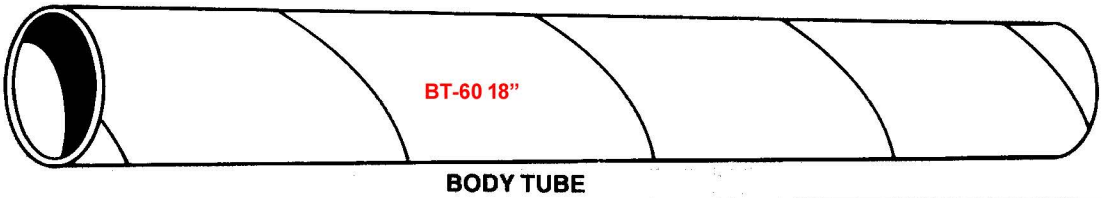

SANDPAPER

WHITE GLUE

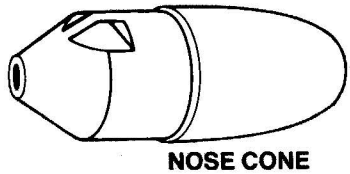

SANDING SEALER


MASKING TAPE

ENGINE MOUNT TUBE



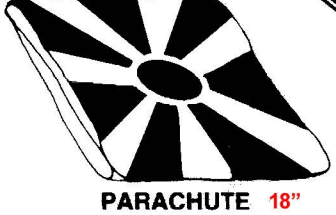
BODY TUBE


NOSE CONE PNC-60MS


ENGINE HOOK


DIE-CUT BALSA SHEETS 1/8"


LAUNCH LUG

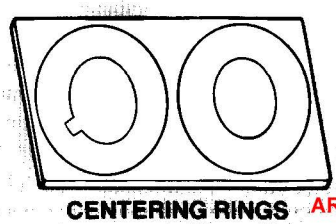

PARACHUTE 18"


TAPE DISCS

DECAL


SHROUD LINES

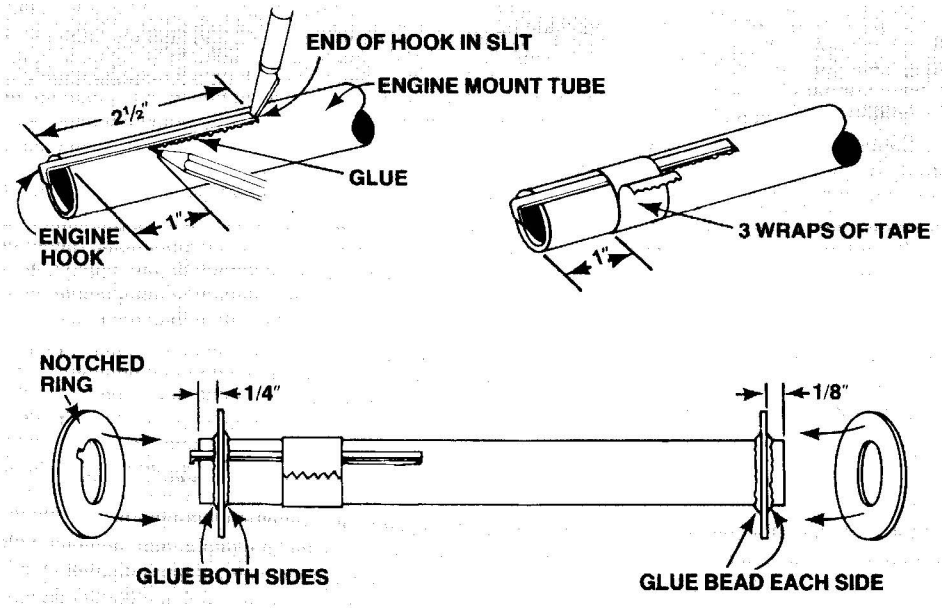

SHOCK CORD


CENTERING RINGS AR-2060

ROCKET ASSEMBLY

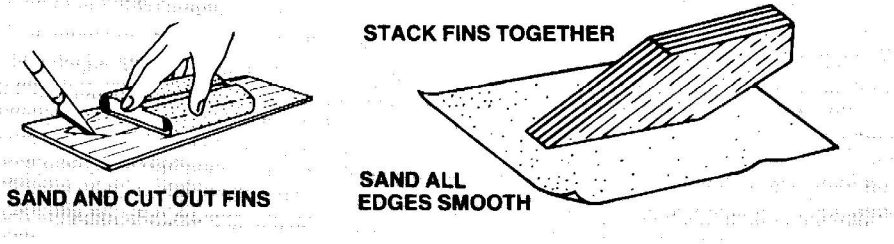
1

A. Mark engine mount tube 1" and 2½" from one end.
B. Cut 1/8" long slit at 2½" mark.
C. Run a line of glue from slit to 1" mark.
D. Insert one end of engine hook in slit and glue line.
E. Wrap masking tape around tube/engine hook at 1" mark three times.
F. Slide notched ring over engine hook end of tube 1/4 inch and glue both sides.
G. Slide remaining ring over opposite end of tube and repeat gluing operation.



2

A. Fine sand both balsa die-cut sheets. Carefully remove fins by freeing edges with sharp knife.
B. Stack fins together. Sand all edges smooth.

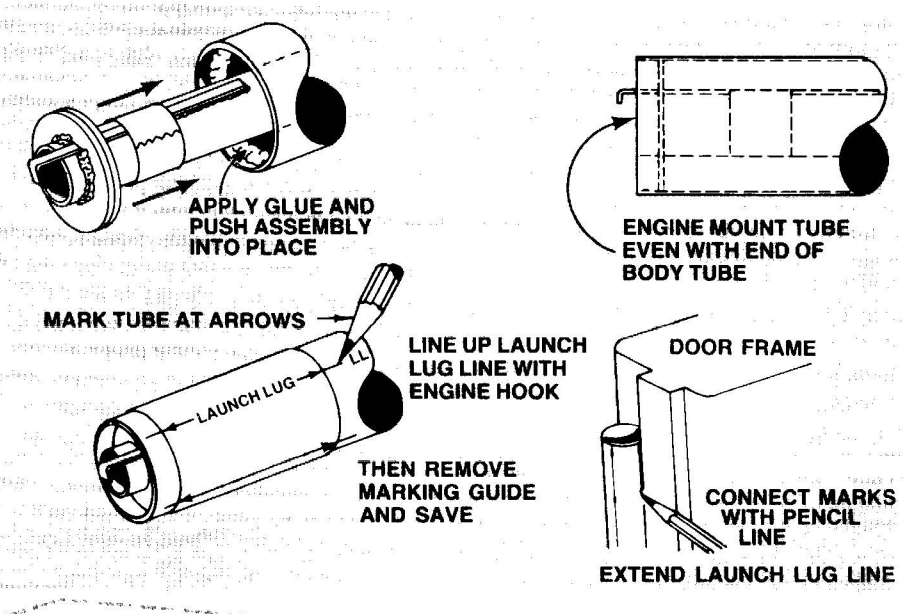


3

A. Slide engine mount tube part way into body tube.
B. Run a line of glue around inside of body tube.
C. Slide engine mount tube into body tube until the ends of the tubes are even.

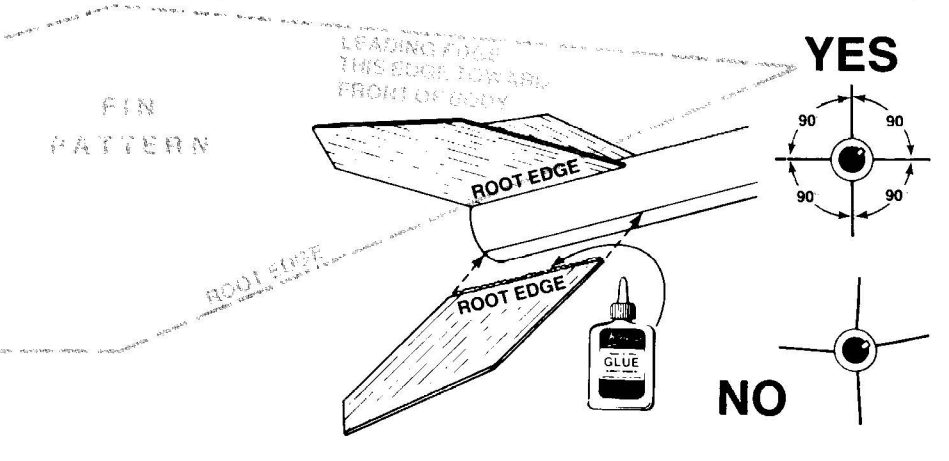
4

A. Cut out tube marking guide from front of instructions.
B. Wrap guide around the tube and mark tube at arrows. Remove guide and save.
C. Draw straight lines connecting each pair of marks.
D. Extend launch lug line full length of tube.



5

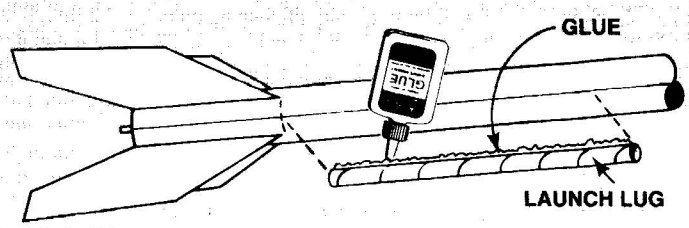
A. Lay fins on pattern to find front (leading) and gluing (root) edges.
B. Position and glue fins on alignment lines one at a time. Let each dry several minutes before applying the next one.
C. Adjust fins to project straight out from tube.
D. Do not set rocket on fins while glue is wet.



FINS MUST BE ATTACHED CORRECTLY FOR STABLE FLIGHT!

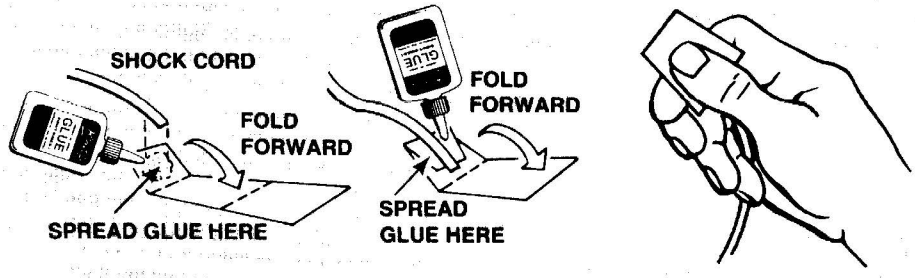
6

Glue launch lug straight on launch lug line with its rear edge even with the front tips of the fins.



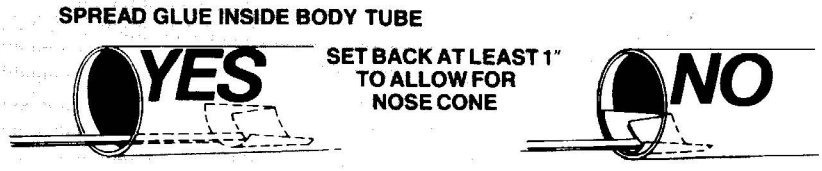
7

A. Cut shock cord mount from tube marking guide.
B. Crease on dotted lines by folding. Spread glue on section 1 and lay end of shock cord into glue. Fold over and apply glue to back of first section and exposed part of section 2. Lay shock cord as shown and fold mount over again.
C. Clamp unit together with fingers until glue sets.



8

A. Apply glue to inside front of body tube to cover an area no less than 1" to 2" from end. The glued area should be same size as shock cord mount.
B. Press mount firmly into glue as shown.
C. Hold until glue sets.

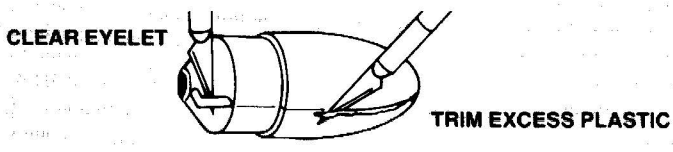


9

A. Apply a glue reinforcement to each fin/body tube joint and each side of launch lug.
B. Support rocket as shown until glue dries.

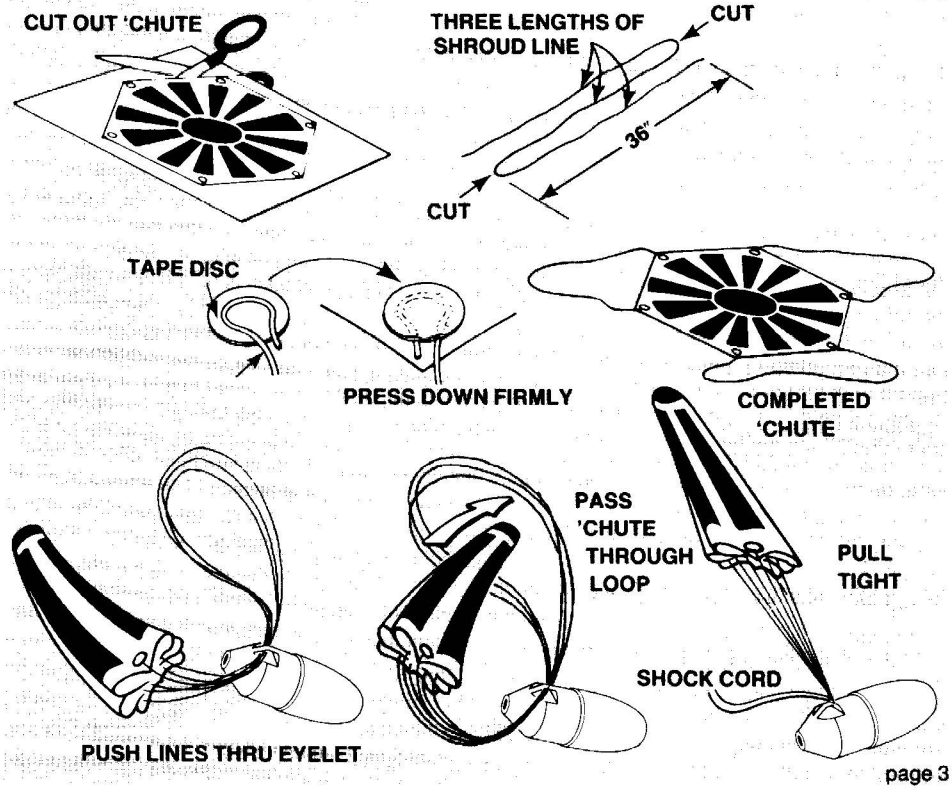
10

Trim excess plastic from around sides of nose cone with a sharp knife. Also remove any excess plastic from inside molded eyelet. Wipe nose cone with damp cloth to remove oil and dirt.



11

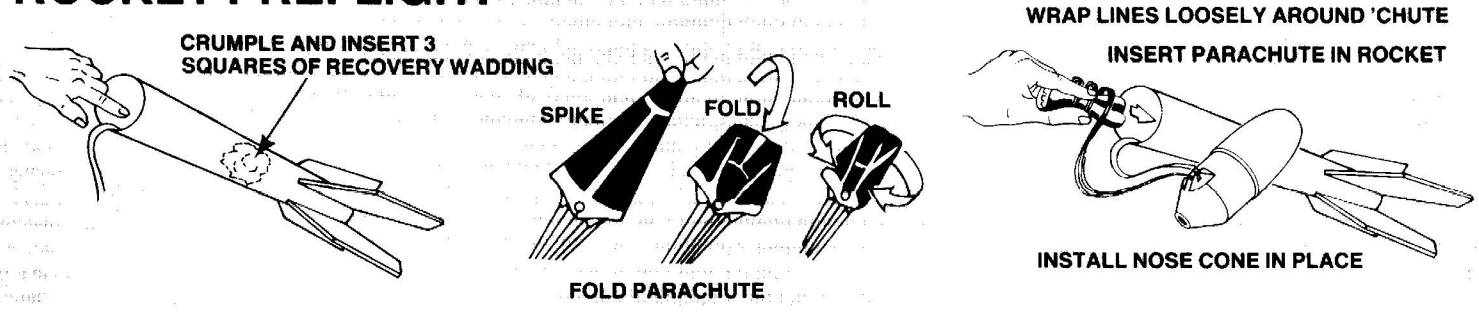
A. Cut out parachute on edge lines.
B. Cut three 36" lengths of shroud line.
C. Form small loops with shroud line ends and press onto sticky side of tape discs.
D. Attach tape discs with line ends to top of parachute as shown.
E. Firmly press tape discs into place until both tape discs and parachute material are molded around shroud line loops.
F. Pass shroud line loops through loop on nose cone. Pass parachute through loop ends and pull lines against the nose cone.
G. Tie free end of shock cord to nose cone eyelet.



FINISHING YOUR ROCKET

Apply sanding sealer to wood parts with small brush. When sealer is dry, lightly sand all sealed surfaces. Repeat sealing and sanding until balsa grain is filled and smooth. When sanding sealer and glue are completely dry, paint model with spray enamel. Follow instructions on spray can for best results. Let paint dry overnight before masking to paint second color. To apply decals, cut each out, dip in lukewarm water for 20 seconds and hold until it uncurls. Refer to photograph on front page and/or on front of panel for decal placement. Slip decal off backing sheet and onto model. Blot away excess water. For best results, let decals dry overnight and apply a coat of clear spray paint to protect decals.

ROCKET PREFLIGHT



PREPARE ENGINE

LAUNCH SUPPLIES

To launch your rocket you will need the following items:
—An Estes model rocket launching system
—Estes Parachute Recovery Wadding (No. 2274)
—Recommended Engines: A8-3, B4-2, B4-4, B6-2, B6-4, B8-5, or C6-5

Use B6-2 engine for your first flight, to become familiar with your rocket's flight pattern.

FLYING YOUR ROCKET

Choose a large field away from power lines, tall trees, and low flying aircraft. Try to find a field at least 250 feet square. The larger the launch area, the better your chance of recovering your rocket. Football fields and playgrounds are great.

Launch area must be free of dry weeds and brown grass.

Launch only during calm weather with little or no wind and good visibility.

Don't leave parachute packed more than a minute or so before launch during cold weather, colder than 40° Fahrenheit (4° Celsius).

MISFIRES

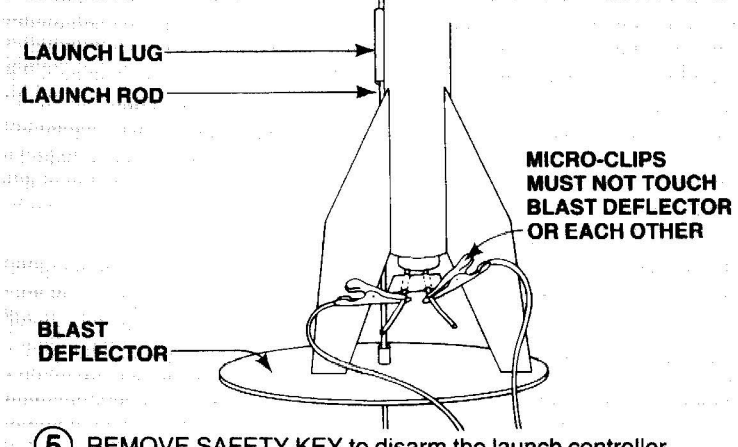
Failure of the rocket engine to function properly is nearly always caused by a failure to install the igniter correctly. This failure permits the igniter to heat and burn into two pieces without igniting the engine.

FOR YOUR SAFETY AND ENJOYMENT

Always follow the NAR-HIA* MODEL ROCKETRY SAFETY CODE while participating in any model rocketry activities.

*National Association of Rocketry–The Hobby Industry of America

COUNTDOWN AND LAUNCH



(5) REMOVE SAFETY KEY to disarm the launch controller.

(4) Remove safety cap and slide launch lug over launch rod to place rocket on launch pad. Make sure the rocket slides freely on the launch rod.

(3) Attach micro-clips to the igniter wires. Arrange the clips so they do not touch each other or the metal blast deflector. Attach clips as close to protective tape on igniter as possible.

(2) Move back from your rocket as far as launch wire will permit (at least 15 feet).

(1) INSERT SAFETY KEY to arm the launch controller.

LAUNCH!!! PUSH AND HOLD LAUNCH BUTTON UNTIL ENGINE IGNITES

Remove safety key—Replace cap on rod.

1/8"
Balsa

ESTES

37273

Big Bertha™


Big Bertha™
FLYING MODEL ROCKET
SKILL LEVEL 1
• Rocketeer's Favorite
• Big & Burly
• Awesome Flights
• Huge Decal
Length: 24 in. (61 cm)
Dia: 1.63 in. (41.6 mm)
Weight: 2.2 oz. (62.4 g)
Recommended Engines: A8-3, B4-2, B4-4, B6-2, (First Flight), B6-4, B6-6, C6-5
Big Bertha
TWO FEET TALL
This is a model kit requiring assembly. Glue and finishing supplies, launch system and engines for flight are not included.
ESTES
#1948
ESTES INDUSTRIES
PENROSE, CO 81240 USA