

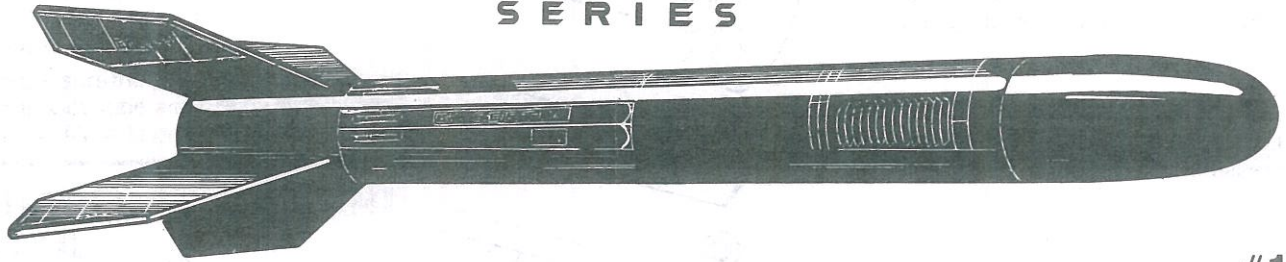


ESTES INDUSTRIES
1295 H STREET
PENROSE, CO 81240 USA

BETA
SERIES

BIG BERTHA™

FLYING MODEL ROCKET KIT



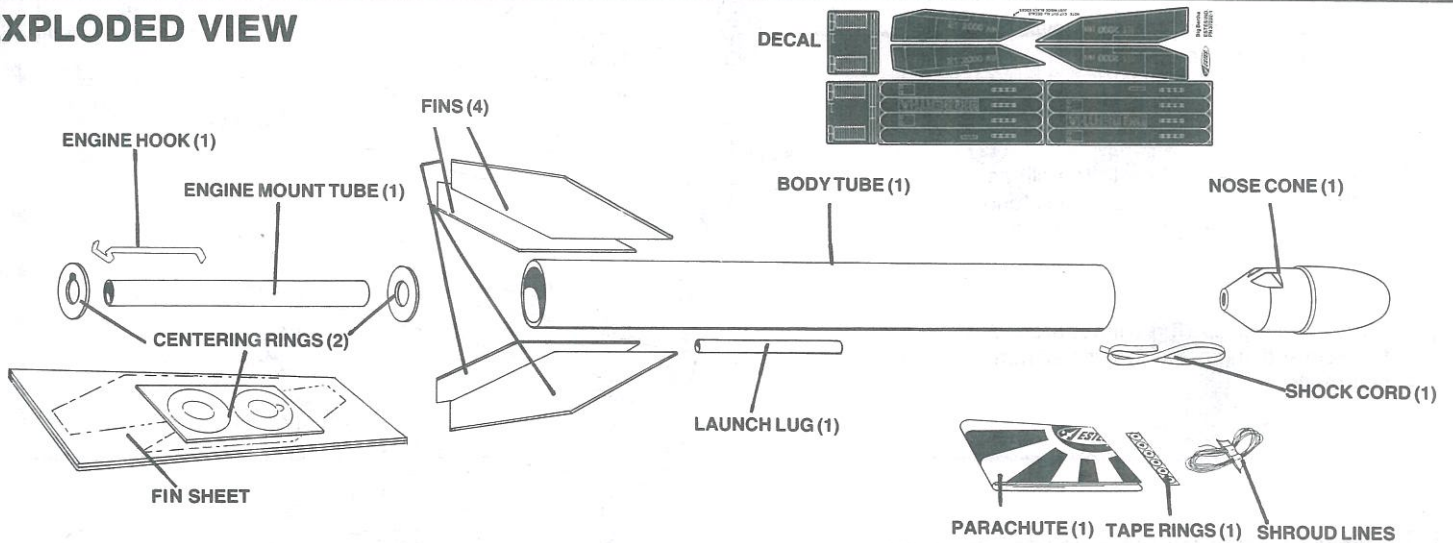
#1948

HOW TO USE THESE INSTRUCTIONS:

READ ALL INSTRUCTIONS BEFORE STARTING WORK ON THIS MODEL

- A. This rocket, incorporating basic model rocketry construction techniques, will help you in the development of your rocketry modeling skills.
- B. Read each step first and visualize the procedure thoroughly in your mind before starting construction.
- C. Lay parts out on the table in front of you. (Check inside tubes for any small parts.)
- D. Use exploded view to match all parts contained in kit.
- E. Collect all construction supplies that are not included in the kit.
- F. The tube marking guide and shock cord mount are printed in the instructions and will be found on page 5.
- G. Test fit parts before applying any glue.
- H. Sand parts as necessary for proper fit.
- I. The construction supplies required for each step are listed at the beginning of each step.
- J. Check off each step as you complete it.

EXPLODED VIEW



SHOCK CORD MOUNT & TUBE MARKING GUIDE LOCATED ON PAGE 5

EXTREMELY IMPORTANT: THE EXPLODED VIEW IS FOR REFERENCE ONLY! DO NOT USE THIS DRAWING ALONE TO ASSEMBLE THIS MODEL.

The exploded view is only intended to assist you in locating the parts included in this kit. Refer back to this exploded view as you build your model step by step. This method will help you to put the parts into perspective as you progress through the construction.

CONSTRUCTION SUPPLIES

In addition to the parts included in your kit, you will need these construction supplies. Each step shows which supplies will be required.



PENCIL



HOBBY KNIFE



MASKING TAPE



WOOD GLUE
(white or yellow)



SCISSORS



SANDPAPER



SANDING SEALER



SPRAY PAINT
(Black)

GLUE IS APPLIED TO SURFACES SHOWN IN RED.

1. ENGINE MOUNT ASSEMBLY



- A. You will need the engine mount tube, engine hook and two centering rings.
- B. Locate the ruler printed in the center crease of this instruction sheet.
- C. Lay one end of the engine mount tube on the zero mark of the ruler.
- D. Take your pencil and place four marks on the engine mount tube at 6 mm (1/4"), 25 mm (1"), 64 mm (2 1/2") and 216 mm (8 1/2") from zero.
- E. Cut a 3 mm (1/8") wide slit as shown at the 64 mm (2 1/2") mark only.
- F. Insert the engine hook into the slit as shown. The engine hook should extend beyond the rear of the engine tube.
- G. Wrap masking tape three times around the tube and engine hook at the 25 mm (1") mark.
- H. Carefully remove the centering rings from their card. Use a knife to finish cuts.
- I. Slide the notched centering ring 6 mm (1/4") onto the rear of the engine mount tube with the notch over the engine hook. Slide the remaining centering ring over the front of the engine mount tube down to the 216 mm (8 1/2") mark you made in step D.
- J. Once the rings are in place, apply glue to both sides of the rings. Set assembly aside and allow to dry.

