MATERIALS

PARTS LIST

MINI BERTHA

KIT NO. 0803

ETES INDUSTRIES

5-2-2 LAUNCH!

1. Aim the launch pads.
2. Check for flying stick and unlatched launchers.
3. Clean the launch area, set recovery crew and targeters.
4. Lower the control into position on the launch rod or rail.
5. Dismantle the launch rail.
6. Inspect the recovery system.
7. Recruit the recovery team.
8. Clear the launch area. Start recovery crew and targeters.
9. Set the recovery crew in an appropriate position with a setup of recovery team and equipment. The recovery team must be ready, and the recovery crew must be ready to assist the recovery team and equipment. The recovery team must be ready, and the recovery crew must be ready to assist the recovery team and equipment.
10. Inspect the recovery system.

COUNTDOWN CHECKLIST

1. Inspect all equipment.
2. Clear the launch area.
3. Set the recovery crew in an appropriate position with a setup of recovery team and equipment. The recovery team must be ready, and the recovery crew must be ready to assist the recovery team and equipment.
4. Inspect the recovery system.
5. Dismantle the launch rails.
6. Inspect the recovery system.
ASSEMBLY INSTRUCTIONS

1. Cut a 1/8" wide gap in one of the adapter rings. Glue the split ring on one end of the engine mount tube. Glue the remaining ring on the other end as shown.

2. Make a 1/8" wide slit in the engine mount tube directly in line with the gap in the split ring and against the other ring. Insert one end of the engine hook into the slit. Lay the hook along the tube so it passes through the gap in the split ring. Cut out the hold-down strap from the pattern sheet, apply glue to one side, and wrap it tightly around the middle of the tube and hook as shown.

3. Smear glue around the inside of the body tube about 3/4" from one end. Immediately slide the engine mount unit into place so the end of the engine mount tube is even with the rear of the body and the engine hook projects from the tube. Do not pause during this operation as the glue may stick with the mount in the wrong place.

4. Cut out the body tube marking guide. Wrap it around the rear of the body so the ends of the guide are in line with the engine hook. Mark the tube at each arrow point. Remove the guide and draw a straight line connecting each matching front and rear mark. Draw the launch lug line so it reaches about four inches from the end of the tube.

5. Cut out the fin pattern. Trace four outlines on the balsa sheet as shown. Cut out the fins carefully and sand the edges as illustrated.

6. Rub a priming coat of glue into the root edge of each fin and allow to set. Glue the fins directly on the alignment lines at the rear of the tube. Align straight away from the tube and allow to set. Apply a glue fillet to both sides of each fin joint after the glue is completely dry.

7. Glue the launch lug to the body on the lug alignment line as shown, 2-1/2" from the rear of the tube. Make sure the lug is perfectly straight on the body.

8. Cut out the shock cord mount. Pre-fold it on the dotted lines. Apply glue to section 1 and lay the shock cord end into the glue. Fold this first section over. Spread glue over the back of the first section and the exposed part of section 2. Lay the shock cord as shown and fold over again. Clamp the unit together with your fingers until the glue sets.

9. Apply glue to the inside of the body tube at the front over an area about 1/4" to 1-3/4" from the end. The glued area should be the same size as the shock cord mount. Press the mount into the glue and hold it until the glue sets.

10. Insert the screw eye into the base of the nose cone. Remove and squirt a small amount of glue into the hole. Slip the nose cone over the shaft of the screw eye and re-insert it into the hole. The nose cone should separate easily from rocket body tube, but not be extremely loose. If it is too tight, sand inside of body tube end and shoulder of nose cone with fine sandpaper. If nose cone is too loose add a wrapping of transparent tape or masking tape to the shoulder of the nose cone.

11. Cut out the plastic parachute on its edge lines. Cut three 20 inch lengths of shroud line thread. Attach line ends to the top (printed side) of the parachutes with tape discs as illustrated. Be sure to rub disc firmly into place over the shroud line.

12. Tie the free end of the shock cord and the shroud lines to the screw eye.

13. Apply two or more coats of sanding sealer to all balsa surfaces. Sand lightly with extra fine sandpaper between coats. Repeat until all pores are filled and the surfaces smooth. Give the rocket a spray base coat of white and follow with your choice of colors.
MINI-BERTHA

- Super Fun Model
- Easy to Build
- Two Color Decal

Skill Level: 1

Specifications:
Length: 11.25" (28.58 cm)  Weight: 0.664 oz (18.871 g)
Body Dia: 0.129" (3.28 mm)  Parachute Recovery

Recommended Engines:
1/2A2-2T, A2-2T

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