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.

PARTS
Locate the parts shown below and lay them out on the table in front of you. DO NOT USE THIS DRAWING TO ASSEMBLE YOUR ROCKET.

- **BT-60 14.75”** Body Tube (1) (030395)
- **BT-20 2.75”** Blue Engine Mount Tube (1) (030326-1)
- **AR-2060** Ring Adapter Card (1) (030128)
- **1/8” x 2 3/8”** Launch Lug (1) (038178)
- **24” x 24” Elastic** Shock Cord (1) (038383)
- **Same as Big Bertha** Nose Cone (1) (071020)
- **Die-cut Balsa Sheet (1)** (032243) 3/32” Balsa
- **Scoop (Die-cut paper) (1)** (030130) 67 lb. Cardstock
- **Decal Sheet (1)** (037505)
- **Assembled Parachute** 18” (46 cm) (1) (035802)

SUPPLIES In addition to the parts included in the kit you will also need:

- **SCISSORS**
- **PENCIL**
- **RULER**
- **FINE SAND PAPER** (#400-600 GRIT)
- **CARPENTER’S GLUE**
- **MODELING KNIFE**
- **SPRAY PAINT:** (WHITE)
- **SPRAY CLEAR COAT**
- **RED, YELLOW & BLACK PAINT PEN**
- **RED, YELLOW & BLACK 1/4” (6.4 mm) PIN STRIPE**
- **MASKING TAPE**
- **PRIMER (WHITE)**
1. **MARK ENGINE TUBE.**

   - Cut 1/8" (3 mm) slit.
   - 5/8" (16 mm), 1 1/2" (38 mm), 1/4" (6 mm).

2. **FINE SAND BALSA SHEET.**

3. **USE FINGER TO SMEAR GLUE 2" (51 mm) INSIDE END OF BODY TUBE.**

4. **CUT OUT TUBE MARKING GUIDE FROM FRONT PAGE.**
   - Align engine hook (EH) line with engine hook.
   - Tape guide around end of tube, mark at arrows.

5. **APPLY THIN LAYER OF GLUE. WAIT 1 MINUTE. APPLY 2ND THIN LAYER AND ATTACH FIN CENTERED ON FIN LINE. REPEAT FOR OTHER FINS.**

   - Fins project straight from the body.

   - Note: Fins must be attached correctly for a stable flight.
6. A. PUSH SCOOPE FREE. IF NEEDED, USE KNIFE TO HELP CUT FREE.

B. FOLD ON ALL DOTTED LINES.

C. ATTACH SCOOPE SO THAT EDGES ARE FLUSH WITH FINS #2 & #4.

D. ALLOW GLUE TO DRY.

7. A. MARK 4" (10.2 cm) ON FIN #2 & #4 LINES.

B. USE STEP 5A TO ATTACH WINGLETS ON FIN #2 & #4 LINES AT 4" (10.2 cm) MARK. LET DRY.

C. ATTACH LAUNCH LUG.

8. A. CUT OUT SHOCK CORD MOUNT FROM TUBE MARKING GUIDE.

B. FOLD FORWARD.

C. FOLD FORWARD.

D. SQUEEZE TIGHTLY.

E. GLUE MOUNT INSIDE BODY TUBE. HOLD UNTIL GLUE DRIES.

9. A. APPLY GLUE FILLETS TO WINGLETS, SCOOPE & LAUNCH LUG/BODY TUBE JOINTS.

NOTE: PROCEED WITH THIS STEP ONLY AFTER THE GLUE ON WINGLETS, SCOOPE & LAUNCH LUG IS THOROUGHLY DRY.

B. SMOOTH WITH FINGER TIP.

C. ALLOW GLUE TO DRY.

10. A. REMOVE EXCESS FLASH.

B. C.

D. E.

F. DOUBLE KNOT.

SHOCK CORD

"CONVENTIONAL" PAINT SCHEME

FIRST SPRAY ROCKET WITH WHITE PRIMER, DRY AND SAND. REPEAT UNTIL ROCKET IS SMOOTH.

DECALS

*CLEAR COAT ENTIRE ROCKET WHEN PAINT DRIES.
"WILD" PAINT SCHEME

FIRST SPRAY ROCKETS WITH WHITE PRIMER, DRY AND SAND. REPEAT UNTIL ROCKET IS SMOOTH.

DECAL  BLACK PEN  DECAL  YELLOW  BLACK PEN  DECAL  OLIVE  BLACK PEN  OLIVE  BLACK PEN  DECAL

USE OLIVE, ANTIQUE WHITE & BROWN TO CREATE A CAMOUFLAGE LOOK.

DECALS

*CLEAR COAT ENTIRE ROCKETS WHEN PAINT DRIES.

ROCKET PREFLIGHT

A. INSERT 3 OR 4 LOOSELY CRUMPLED SQUARES OF RECOVERY WADDING.

B. SPIKE

C. FOLD

D. ROLL

E. WRAP LINES LOOSELY, INSERT CHUTE, SHOCK CORD AND NOSE CONE.

ENGINE PREP

WARNING: FLAMMABLE
Before proceeding read instructions & NAR Safety Code included with engines.

PREPARE YOUR ENGINE ONLY WHEN YOU ARE OUTSIDE AT THE LAUNCH SITE PREPARING TO LAUNCH.
If you do not use your prepared engine, remove the igniter before storing your engine.

A. TIP MUST TOUCH PROPELLANT.

B. MASTIC TAPE

D. E. F. INSERT ENGINE.

COUNTDOWN AND LAUNCH

KEY ALWAYS OUT UNTIL FINAL COUNTDOWN!

1...

2...

3...

4...

5...

HOLD KEY DOWN AND PRESS BUTTON UNTIL LIFT-OFF!

LAUNCH SUPPLIES
(Sold Separately)
- Estes® Porta Pad® II Launch Pad and Electron Beam® Controller
- Recovery Wadding
- Igniters (with Engines)
- Igniter Plugs (with Engines)
- Estes® Engines:
  AB-3, B4-4 (First Flight)
  B6-4, C6-5

FLYING YOUR ROCKET

Choose a large field (500 ft. [152 m] square) free of dry weeds and brown grass. The larger the launch area, the better your chance of recovering your rocket. Football fields and playgrounds are great. Launch only with little or no wind and good visibility.

Always follow the National Association of Rocketry (NAR) SAFETY CODE.

MISFIRES

TAKE THE KEY OUT OF THE CONTROLLER, WAIT ONE MINUTE BEFORE GOING NEAR THE ROCKET! Take the plug and igniter out of the engine. If the igniter has burned, it worked but did not ignite the engine because it was not touching the propellant inside the engine. Put a new igniter all the way inside the engine without bending it. Push the plug in place. Repeat the steps under Countdown and Launch.

PRECAUTIONS

NAR Safety Code

NO DRY GRASS OR WEEDS

(2/01) PN 82113
FLYING MODEL
ROCKET

MENACE™

- FLIES TO 650 FT. (198 M)!
- GROUND-TO-AIR MISSILE!
- ONE ROCKET - MANY DESIGNS

GO WILD!
DESIGN YOUR OWN WILD LOOK AS SHOWN!

WIN Rocket Stuff! Details inside

Length: 19 in. (48.3 cm)
Diameter: 1.84 in. (46.7 mm)
Weight: 2.4 oz. (68.2 g)
Pressure: 15 in. H2O (222 kPa)

Recommended Engines: Estes A4, A5, F1, E2, G2, H2, H4, J2, K1, K4

E31172

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