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.

Decal Sheet (2) 37500
White Body Tube (2) (30414)

Operation Enduring Freedom Sticker (1) (60586)

Die-Cut Balsa Sheet (1) (32220)

Yellow Body Tube (1) (30426)

Blue Engine Mount Tube (1) (30326-1)

Engine Hook (1) (35021)
Nose Cone (1) (72057)
Red Tube Coupler (2) (30176-5)
Green Engine Block (1) (30182-2)
Shock Cord (1) 1/8" x 18" (36374)

Launch Lug (1) (36178)
Assembled Parachute 12" (30 cm) (1) (35601)
Centering Ring Card (1) (30128)
Mylar Retainer Ring (1) (30188)
Tube Marking Guide

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
MASKING TAPE
SPRAY PRIMER (WHITE)
SPRAY PAINT (RED)
SPRAY CLEAR COAT (OPTIONAL)
1. ASSEMBLE ENGINE MOUNT
   A. Mark Engine Tube.
   B. Cut 1/8" (3 mm) at 2 1/2" (64 mm) mark.
   C. Apply glue around tube just ahead of the 1 1/4" (32 mm) mark. Insert engine hook end into slit.
   D. Slide Mylar Retainer Ring onto Engine Mount Tube up to 1 1/4" (32 mm) mark.
   E. Apply glue inside front of Engine Mount Tube. Insert Green Engine Block.
   F. Carefully remove Die Cut Rings with a hobby knife.
   G. Apply glue around tube at 1/2" (13 mm) mark and slide Notched Centering Ring into place. Let glue set. Apply glue around end of tube and slide unnotched Centering Ring in place flush with tube end. Let dry.
   H. Apply glue fillets to both sides of Centering Rings. Let glue dry completely.

2. ASSEMBLE BODY TUBES
   A. Mark red coupler (2) tubes at the 3/4" (19 mm) mark from end.
   B. Apply glue inside White Body Tube as shown. Insert red coupler into body tube up to the mark. Let dry. Apply glue inside second White Body Tube as shown and push together until flush. Let dry. Apply glue inside other end of White Body Tube. Insert Red Coupler into body tube up to the 3/4" (19 mm) mark. Let dry.
   C. Apply glue inside one end of Yellow Tube. Push the tube coupler into the Yellow Tube until flush. Let dry.

3. MARK FIN AND LAUNCH LUG LINES
   A. Cut out Tube Marking Guide. Wrap and tape around the rear section of the White Body Tube.
   B. Mark at arrows, mark Launch Lug Line "LL". Mark tube at arrow points.

4. INSERTING ENGINE MOUNT
   A. Use finger to smear glue 2" (51 mm) inside rear of Body Tube.
   B. Align Engine Hook with Launch Lug line and insert Engine Mount until Engine Tube is even with Body Tube end.
   C. Use a small piece of Balsa to apply a glue fillet to Centering Ring/Body Tube joint. Let dry.

5. FIN PREPARATION
   A. Using fine sand paper, sand both sides of Die Cut Fin Sheet. Carefully remove fins from Die Cut Sheet using a modeling knife.
   B. Stack Fins together. Sand all edges smooth. Leave edges square, do not round them.
6. ATTACH FINS
A. Mark fin lines 3/16" (5 mm) from rear of Body Tube.
B. Apply thin layer of glue to edge of Fin, wait one minute. Apply second layer and attach Fin to Body Tube along one of the Fin Lines. Repeat for remaining Fins.
C. Check alignment of fins as shown. Allow glue to set.
D. Stand rocket on flat table until glue dries completely.

NOTE: Fins must be attached correctly for stable flight.

7. ATTACH LAUNCH LUG
A. Place a mark on the Launch Lug line 6" (152 mm) from rear of body.
B. Glue Launch Lug onto "LL" line where shown. Align straight with tube. Let dry.
C. Apply glue fillets to all Launch Lug and Fin/Body Tube joints, smooth each fillet with your finger. Let glue dry completely.

8. INSTALL SHOCK CORD MOUNT
A. Cut out Shock Cord Mount.
B. Apply glue. Fold forward.
C. Apply glue. Fold forward.
D. Squeeze tightly and hold for one minute.
E. Glue Mount 1" (25 mm) inside front of Body Tube. Hold until glue sets. Let dry completely.

9. ATTACHING PARACHUTE AND SHOCK CORD
A. Remove excess flash and clean the eyelet of nose cone using a hobby knife.
B. Push shroud lines of parachute through eyelet.
C. Pass ‘Chute through loop.
D. Tie Shock Cord to Nose Cone in a double knot.

CAUTION: DO NOT CUT OFF EYELET.

PAINT SCHEME
A. Mask off yellow section of rocket and spray rocket with white primer, let dry and sand. Repeat until rocket is smooth.
B. Remove masking and remask off area not painted red. Paint fins and forward end of Yellow Body Tube Red.
C. Peel decals one at a time from backing sheet and apply where shown. Rub down to remove bubbles.

PREPARE PARACHUTE FOR FLIGHT
A. Insert 6-8 squares of loosely crumpled recovery wadding into rocket.
B. Spike Parachute.
C. Fold.
D. Roll.
E. Wrap lines loosely. Insert ‘Chute, Shock Cord and Nose Cone into Body Tube.

NOTE: Use Estes Wadding (EST 302274) Only.
PREPARE ENGINE

A WARNING: FLAMMABLE

To avoid serious injury, read instructions. All 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.

COUNTDOWN AND LAUNCH

KEY ALWAYS OUT UNTIL FINAL COUNTDOWN!

1... Masking Tape

4" (10 cm)

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

2... U.S. ARMY

3...

4...

5...

INSERT KEY, PUSH DOWN AND HOLD.

HOLD KEY DOWN AND PRESS LAUNCH BUTTON UNTIL LIFT-OFF!

LAUNCH BUTTON

PRECAUTIONS

NO DRY GRASS OR WEEDS

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! Disconnect the igniter clips and remove the engine. 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.

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