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
- Sandpaper
- White glue
- Paint brush
- Modeling knife
- Enamel spray paint (White, Regal Blue)
- Masking tape
- Sanding sealer
- Screw eye
- Body tube
- Engine spacer tube (yellow)
- Balsa nose cone
- Launch lug
- Streamer
- Instruction
- Balsa die-cut fins

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.
ROCKET ASSEMBLY

1.
A. Mark spacer tube 1/4 inch from one end.
B. Using a piece of scrap balsa, smear glue inside body tube 2 inches from one end.
C. Push engine block up into body tube with spacer tube until 1/4 inch mark is even with end of body tube and remove spacer tube immediately.

2.
A. Fine sand balsa die-cut sheet. Carefully remove fins by freeing edges with sharp knife.
B. Stack fins together. Sand all edges smooth.

3.
A. Cut out tube marking guide from front of instructions.
B. Wrap guide around the tube and mark tube at arrows. Mark launch lug line.
C. Remove guide and save.
D. Draw straight lines connecting each pair of marks. Extend all lines 3 inches up tube.

4.
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!

5.
Glue launch lug on launch lug line even with end of body tube.
6. Cut shock cord mount from tube marking guide.
   A. 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.
   B. Clamp unit together with fingers until glue sets.

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

8. Apply a glue reinforcement to both sides of each fin/body tube joint and each side of launch lug. Smooth with finger.
   A. Support rocket as shown until glue dries.

9. Turn screw eye into center of nose cone shoulder and remove.
   A. Squirt glue into hole and replace screw eye.

    A. Lay center of shock cord over end of streamer material as shown. Tape shock cord and streamer together.
    B. Press tape down firmly to assure strong bond.
    C. Tie shock cord to nose cone screw eye.

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 gloss white 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 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

- CRUMPLE AND INSERT 3 SQUARES OF RECOVERY WADDING
- FOLD STREAMER IN HALF 5 TIMES
- ROLL STREAMER TIGHTLY
- NOTE: If nose cone fits too loosely, wrap tape around the shoulder until a snug but not tight fit is achieved.
- INSERT SHOCK CORD, STREAMER, AND NOSE CONE INTO ROCKET
- NOTE: If streamer fits too tightly into body, remove and re-roll. A too-tight fit could cause an ejection malfunction during flight.

PREPARE ENGINE

- SEPARATE THE IGNITERS
- INSERT IGNITER
- FOLD OVER AND BEND TIPS
- IGNITER TIP MUST TOUCH PROPELLANT DEEP INSIDE NOZZLE OPENING
- APPLY AND FIRMLY PRESS TAPE DISC OR MASKING TAPE IN PLACE
- WRAP TAPE AROUND REAR OF ENGINE FOR FRICTION FIT
- ENGINE MUST FIT TIGHTLY TO OBTAIN PROPER STREAMER DEPLOYMENT
- PUSH ENGINE INTO ROCKET UNTIL IT IS AGAINST ENGINE BLOCK

LAUNCH SUPPLIES

To launch your rocket you will need the following items:
- An Estes model rocket launching system
- Estes Recovery Wadding (No. 2274)
- Recommended Engines: A8-5, B4-6, B6-6, B8-5, C6-5, or C6-7
Use an A8-5 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.

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...