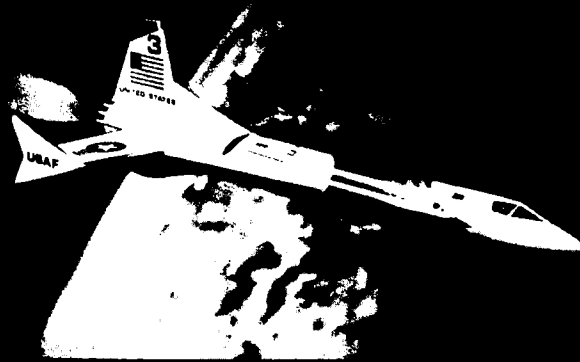


INTRUDER

SKILL LEVEL 3

HONORABLE MENTION
DESIGN OF THE MONTH

By ANDY TOMASCH
Mishawaka, Indiana



ESTES INDUSTRIES ROCKET PLAN NO. 82

★ BUILD THE INTRUDER WITH ESTES HIGH PERFORMANCE PARTS AND ACCESSORIES

PARTS LIST

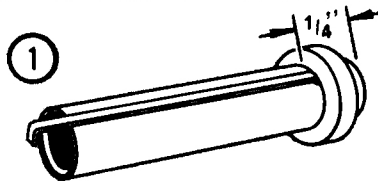
- 1 7½" length of BT-20. BT-20B
- 1 Nose Cone. BNC-20N
- 2 Nose Cone Weights. NCW-4
- 1 Mini-Engine Adapter Kit. EM-520
- 1 Shock Cord. SC-1
- 1 Parachute Kit. PK-12
- 1 Screw Eye. SE-3
- 1 Launch Lug. LL-2A
- 1 Fin Stock. BFS-30L

ADDITIONAL MATERIALS

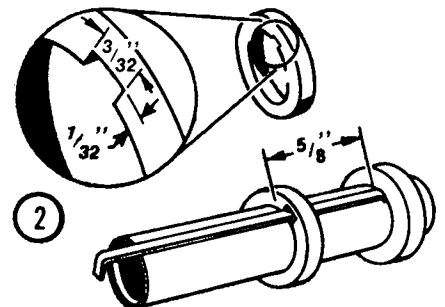
- Hobby Knife
- White Glue
- Ruler
- Sanding Material
- Sanding Sealer
- Enamel Paint (Spray)
- Sharp Pencil

RECOMMENDED ENGINES

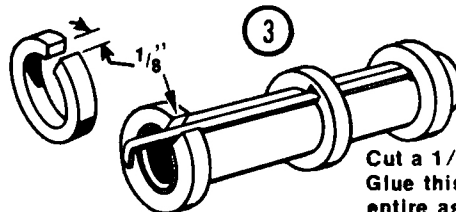
- A3-2T
- A3-4T
- A10-3T



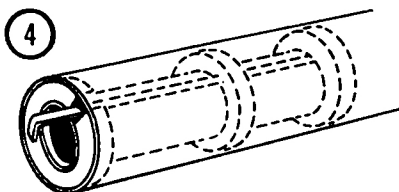
1 Mark the BT-5 engine tube 1/4" from one end. Glue one AR-520 ring to tube with edge of ring on mark. Punch an 1/8" wide slot just behind ring and insert the EH-3 engine hook.



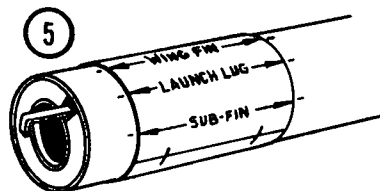
2 Cut a 1/32" deep by 3/32" wide slot on the inside surface of another AR-520 ring. Glue slotted ring to tube 5/8" from first ring with the slot over the engine hook.



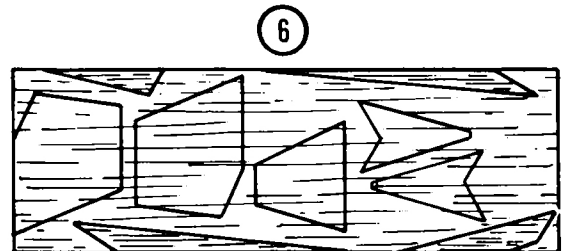
3 Cut a 1/8" wide gap in the remaining AR-520 ring. Glue this last ring to the end of the tube. Allow entire assembly to dry.



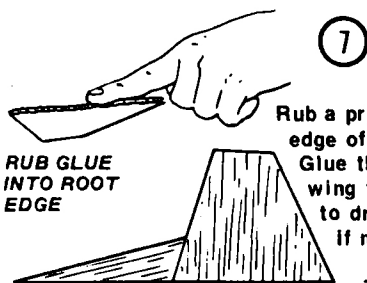
4 Smear glue around the inside of the body tube about 3/4" from one end. Immediately slide the engine mount unit into place so the end of the engine mount tube is even with the rear of the body and the engine hook projects from the tube. Do not pause during this operation or the glue may stick with the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



5 Cut out the body tube marking guide. Wrap it around the rear of the body so the end of the launch lug line is 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 extends about four inches from the end of the tube.



6 Using fin patterns, trace and cut out fins from balsa sheet. Note fin layout on balsa sheet for proper grain direction. Sand all root edges flat and all others round except where noted on fin patterns.

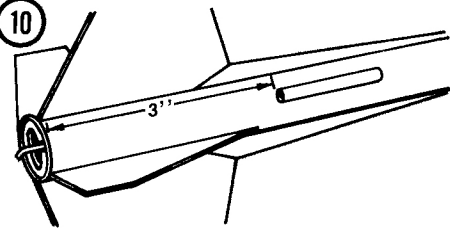


7 Rub a priming coat of glue into the flat edge of each fin and allow to set. Glue the two rudder fin and the two wing fin parts together and lay flat to dry. Pin together while drying if necessary.

8 Glue the tip-plates to the wing-fins and set aside to dry. Glue the rudder-fin and sub-fin to their appropriate lines on the body tube. Align fins straight away from the tube and allow to dry.

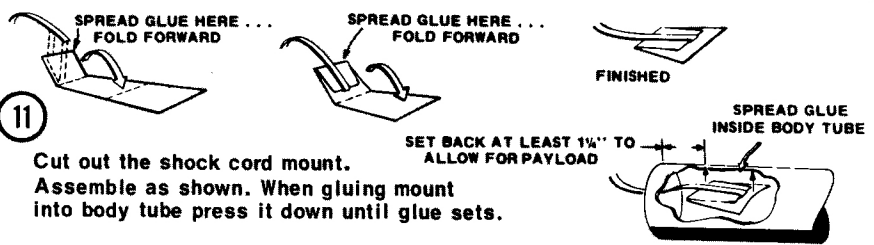
9 Apply a glue fillet to both sides of each fin joint after the glue is completely dry.

10



Glue the launch lug to the body tube 3" from the engine end, between the wing and the sub-fin.

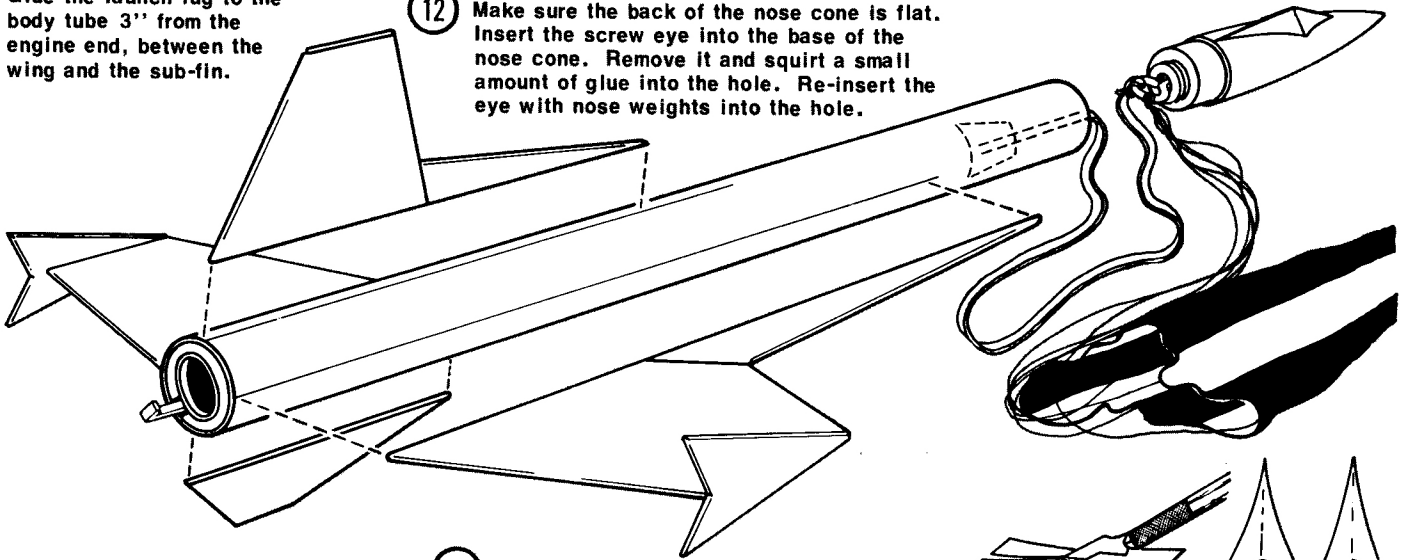
11



Cut out the shock cord mount. Assemble as shown. When gluing mount into body tube press it down until glue sets.

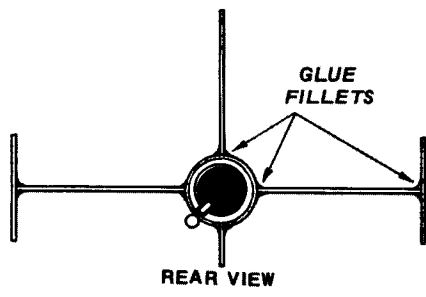
12

Make sure the back of the nose cone is flat. Insert the screw eye into the base of the nose cone. Remove it and squirt a small amount of glue into the hole. Re-insert the eye with nose weights into the hole.



13

Cut out the canopy on its edge lines. Carefully crease it exactly on the dotted fold lines. This can best be done by scoring with a very dull, rounded blade and then folding on the scored line. Apply glue to the outside of flap "A" and stick this to the inside of the matching front canopy panel. Hold this joint until the glue sets. Apply a line of glue to the inside of the canopy all around the edges. Matching the rear of the canopy to the shoulder of the nose cone, set the canopy in place so it is straight on the cone. Press down all edges securely. Hold the canopy in place until the glue sets.



14

Assemble the parachute according to its instructions. Apply a spot of glue to the lines where they loop around the screw eye. Tie the free end of the shock cord to the screw eye and insert the nose cone into the body tube.

15

FINISHING PROCEDURE: Sand all balsa surfaces smooth, then apply sanding sealer. Repeat this procedure until balsa is smooth. Refer to photo for decor ideas.

