

Jayhawk TM

Advanced Mode

The AQM-37A Target Missile System was developed in 1959 by Beech Aircraft Corporatio missile was in continuous use by the U.S. Navy since 1963 with over 3,500 targets having been weapons development.

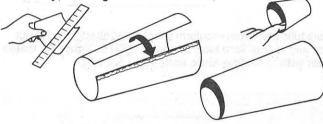
The Beech AQM-37A provided a wide variety of threat simulations for the defensive weap used to simulate enemy airborne threats for optical, radar or infrared guided missile systems such as the Sidewinder, Standard and Improved Hawk.

The AQM-37A Target Missile was an expendable rocket powered target missile that was of from Mach 0.7 to Mach 2.1 with an operational altitude from 15 meters (50 feet) to 2438 meters (kg (565 pounds) and is 383 cm (150.8") long, 33 cm (13") in diameter, and has a highly swept clipped of 100 cm (39.5"). Pitch and roll control is maintained by canard surfaces mounted on the nose and full on the trailing edges of the wings. Swept fixed vertical stabilizers are mounted on each wing tip to

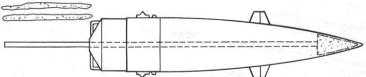
This model is a 1/5 scale model of the Navy version of the AQM-37A target drone. The AC branches of the service and each gave it its own "working name." The Navy called theirs the Javi

In order to complete the assembly of the rocket components supplied in this kit, you will need: a pair of scissors, a pencil, sandpaper, either Titebond Glue or Epoxy (six or ten minute type), a bottle of contact cement; a modeling knife, a paint brush, enamel spray paint of your choice, masking tape, sanding sealer or surface coat epoxy and waxed paper. Read all instructions carefully and test-fit all parts together before applying any epoxy glue. If there are any parts that do not fit, sand as required for proper fit.

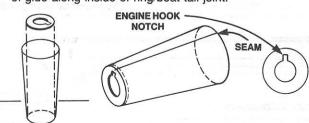
1. Cut out the paper boat-tail from the pattern sheet, cut on solid black lines with a sharp modeling knife. Pre-curl the paper by gently pulling up from under a ruler on a clean, flat surface. Form into a cone and apply glue to the glue tab. Line up the edge of the paper with the dotted line on the glue tab, and press together on a flat surface. Wipe away excess glue.

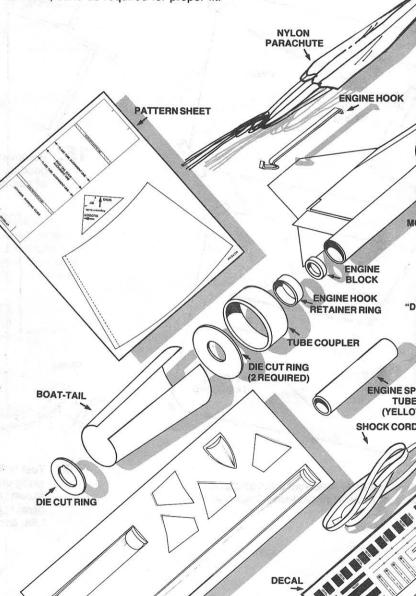


2. Locate the clay weights and the nose cone. Form clay into thin "worms" and insert one into the open end of the nose cone. Use a wooden dowel or pencil to tamp the clay into the front of the nose cone as far as possible. Tamp all the clay into the nose cone.

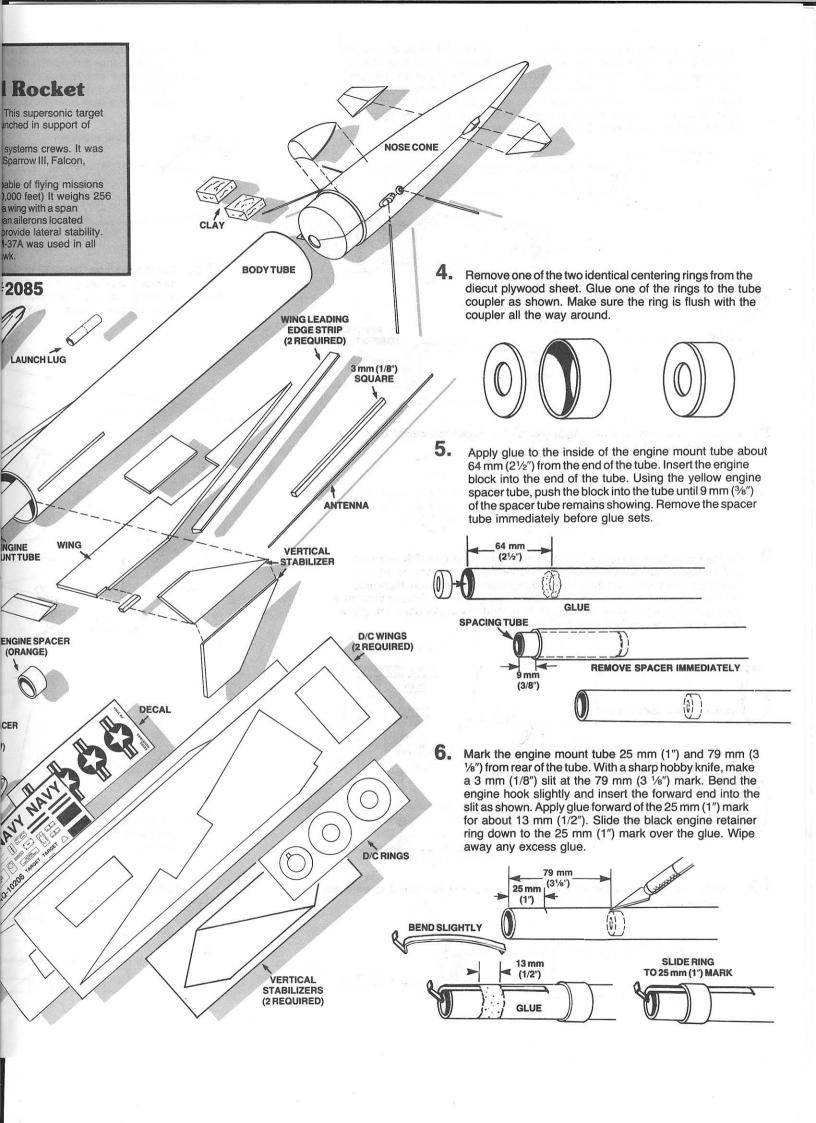


3. Stand the boat-tail on end with the smaller opening down. Drop the smaller diecut ring from the diecut ring sheet into the boat-tail. Line up the engine hook notch in ring with the seam on the boat-tail. Tamp ring gently into place so ring is flush with edge of boat-tail. Make sure the engine hook notch in ring is still lined up with the seam on the boat-tail. After you are sure of the alignment, apply a fillet of glue along inside of ring/boat-tail joint.

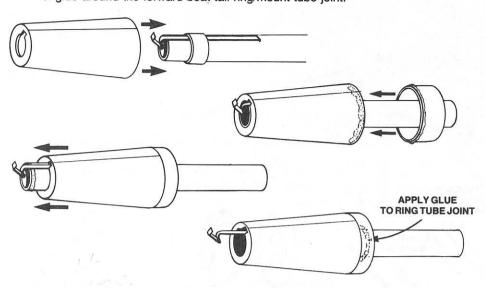




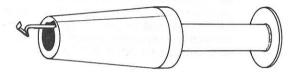
VACUUM FORMED PLASTIC SHEET



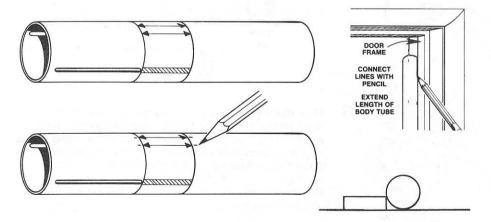
Slide boat-tail onto the engine mount tube from the rear end. Slide tube coupler assembly onto mount tube and test fit into the boat-tail. Slide tube coupler assembly back, apply a ring of glue just inside front edge of boat-tail and slide tube coupler back into place. Slide boat-tail assembly forward on engine mount tube and apply a small amount of glue to the end of mount tube. Slide boat-tail assembly back until end of tube is flush with boat-tail assembly. Apply a ring of glue around the forward boat-tail ring/mount tube joint.



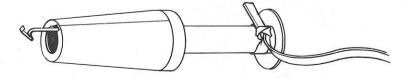
8. Glue the remaining plywood ring to the front of the engine mount tube flush with end of the tube.



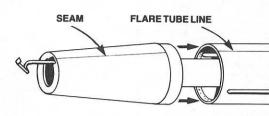
Qut out the tube marking guide from the pattern sheet, cut on solid black lines with a sharp modeling knife. Wrap guide around the tube and secure with tape. Align the slots of the body tube with the slot locations on the guide. Mark tube at all arrow points as shown. Find a convenient groove or channel such as a door jamb or open drawer. Very carefully extend the marks down the entire length of the tube, making sure they are straight.



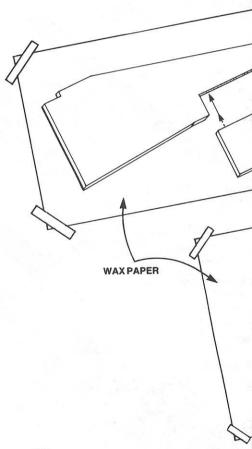
10. Tie the elastic shock cord around the engine mount tube behind forward ring as shown.



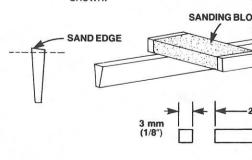
11. Test fit boat-tail/engine mount tube the shock cord through the body center line. Remove assembly part body tube. Pull shock cord tight at fit place. Make sure boat-tail seam it



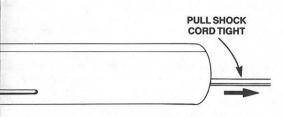
12. Carefully remove balsa wing sect sections together, sand flat all straig together properly. Lay a piece of parts together. Repeat this process



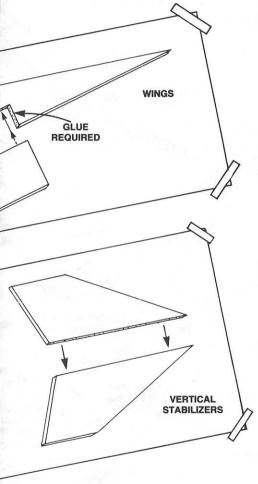
13. Locate the two leading edge pieces Locate the 3 mm (1/8") square wood shown.



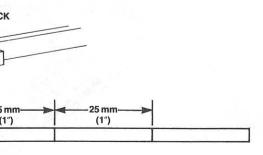
assembly into the main body tube. Feed ube. Align seam of boat-tail with flare tube vay, apply glue around inside edge of main ont of tube as you push assembly back in aligned.



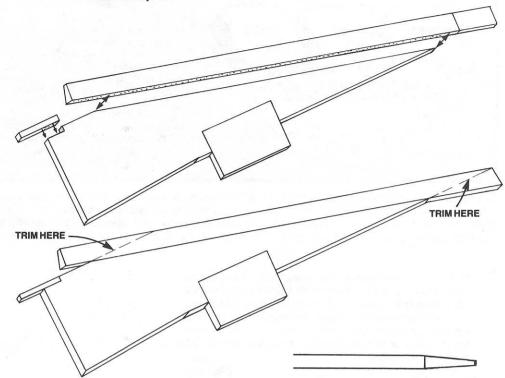
ns from diecut sheets. Holding identical ht edges. Test fit parts making sure they fit axed paper on a flat surface and glue wing ure for vertical stabilizers.



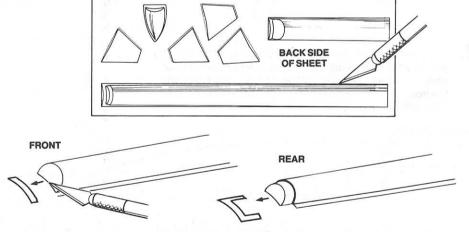
of wood. Gently sand thick edge as shown. strip and cut two pieces to the dimension



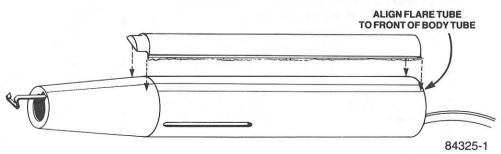
14. With the wings still over the waxed paper, glue the 3 mm (1/8") wood strips into notch and leading edge pieces to wings. When glue is dry, trim leading edges to shape as shown. Make sure bevel of leading edges are correct, sand if necessary.



15. Remove plastic flare tube parts from vacuform sheet. Sand all edges lightly for good fit. Trim front and rear of flare tube as shown. NOTE: Score on inside of vacuform sheet with modeling knife until parts are free.

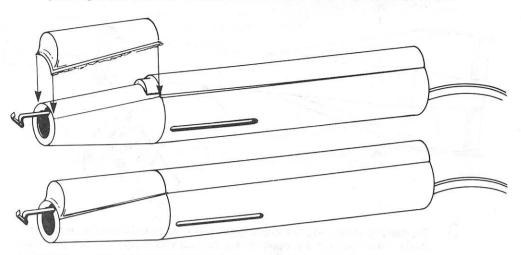


16. Test fit flare tube onto main body tube. Remove and apply contact cement along edges of flare tube and along alignment lines on main body tube as shown. Allow cement to become tacky. Align front of flare tube with front of main body tube and position flare tube onto cement area of tube. Hold flare tube and body tube together until cement sets.

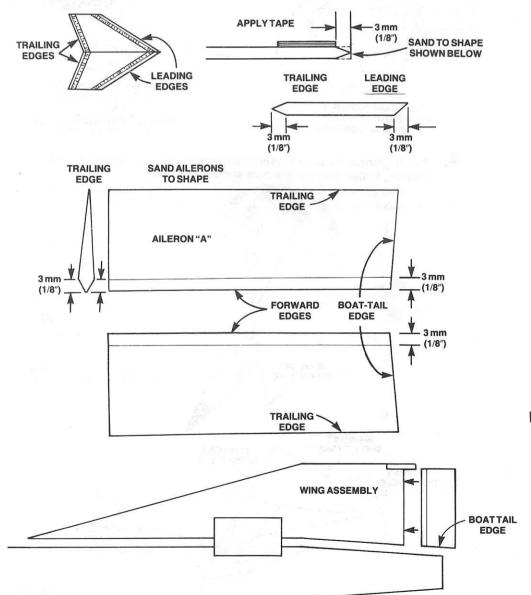


Page 2

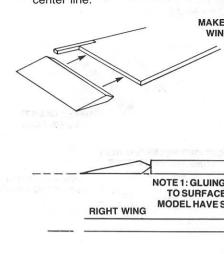
17. Test fit flare tube rear shroud onto boat-tail. Hold part in place and draw around part with a pencil on the boat-tail. Remove part and apply contact cement to part edges and boat-tail. Position part onto boat-tail and hold until glue sets.

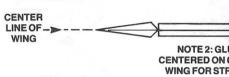


18. Apply three to four layers of masking tape 3 mm (1/8") back from trailing and leading edges of rudders as shown. Sand rudders to shape as shown. Sand only one leading edge of each rudder. Sand aileron parts to shape shown using the technique below.

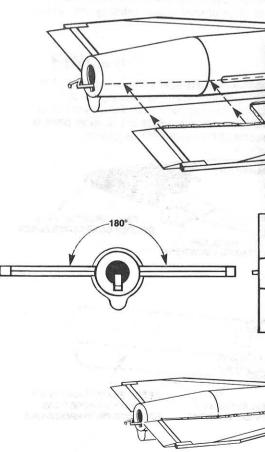


19. Glue ailerons to wing assemblies as the angle of the ailerons when gluing t flight. Make two identical wing assemblight path straight with no spiral, be center line.

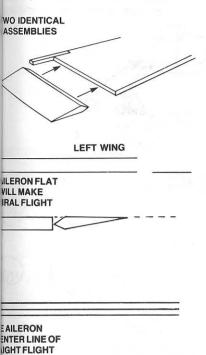




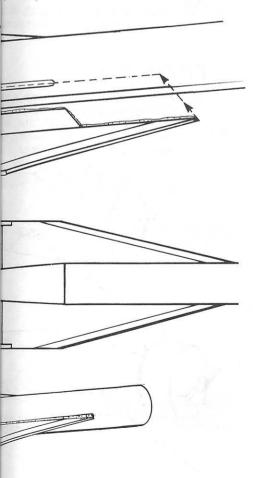
20. Test fit wing assemblies into slots of rand apply a line of glue to the root edgalign wing straight along tube. Repostraight along tube and straight acrosdry, apply a glue fillet along wing/be



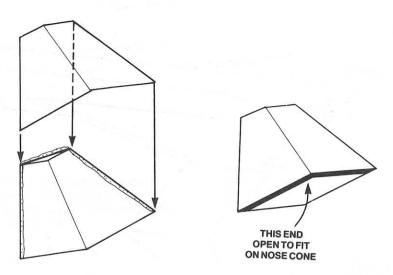
shown. NOTE 1: It is important to note emin place so rocket will have a spiral ies. NOTE 2: If you wish to make the ure to align ailerons straight with wing



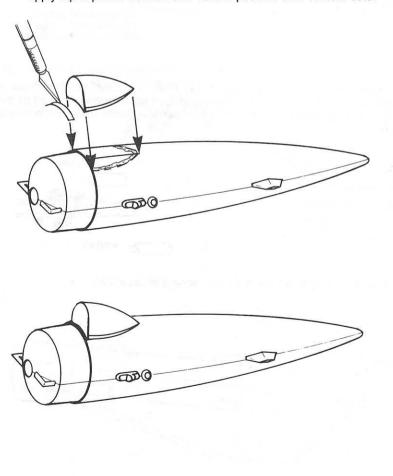
ain body tube. Sand if necessary. Remove sof one wing. Slide it into the slot and at with other wing. Make sure wings are from each other. When glue is completely by tube joint.



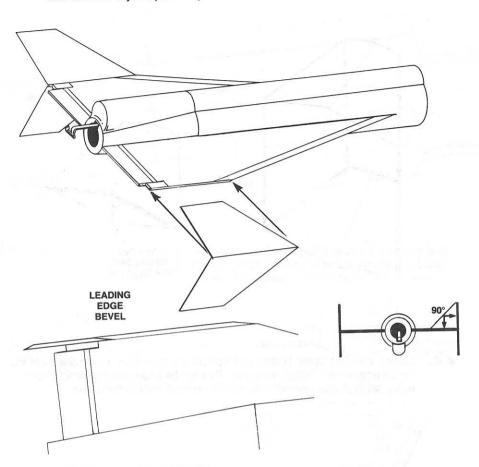
21. Remove the four canard halves from the vacuformed sheet, using the same method as in step 15. Sand edges smooth. Arrange canard halves into matched sets. Apply plastic cement to two matched halves outside edges, align and press firmly together. Set assembly aside to dry. Repeat assembly process with remaining canard halves.



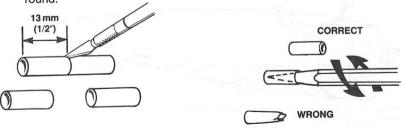
22. Locate the nose cone. Locate and cut out the flare tube nose cone from the vacuformed sheet. Trim lip as shown. Position flare tube nose cone as shown, apply liquid plastic cement and hold in position until cement sets.



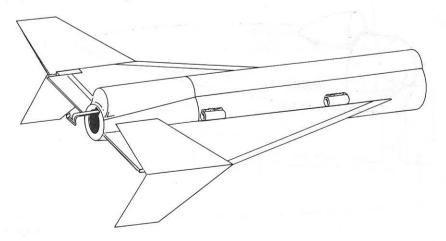
Cut out alignment guide from pattern sheet. Apply a line of glue to the outside edge of a wing. Using the seam in the rudder as a guide, glue rudder to the outside edge of wing. Be sure the leading edge bevel of the rudder is facing away from the model. Align the rudder carefully at 90° with alignment guide and allow to dry. Repeat step with other rudder.



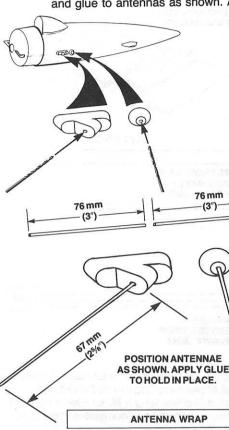
24. Locate the 25 mm (1") long launch lug. Mark lug 13 mm (1/2") from one end. Cut lug in half with a sharp modeling knife. If lug becomes crushed by the cutting, simply place launch lug on end of pencil and rotate back and forth until round.



25. Glue launch lugs into the body tube/wing joint as shown.



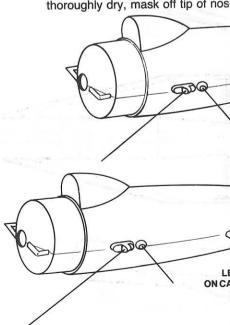
Clean all the flash from around the with a sharp knife. Carefully make a or a small drill bit of the appropria filament to the lengths shown. Ca holes if needed. Holes should be a and glue to antennas as shown.



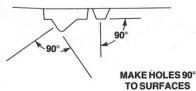
27. Apply sanding sealer to all wood dry, lightly sand all sealed surfact grain is filled and smooth.

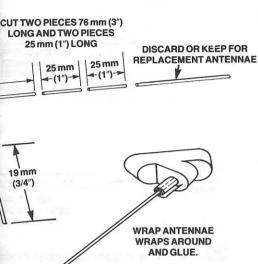
FINISHING

1. Wash plastic nose cone in soapy wa that might be left. This will keep the p nose and canard location tabs as nose cone gloss black. Recommen thoroughly dry, mask off tip of nos



e nose cone and open the shock cord loop pilot hole with a push pin or sewing needle te size at the angle shown. Cut the nylon refully insert antennae into holes, enlarge ight fit. Cut antenna wraps from instructions Allow to dry.

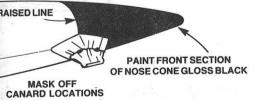


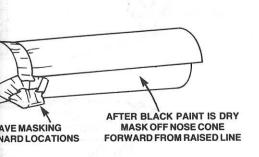


and paper parts with brush. When sealer is es. Repeat sealing and sanding until wood

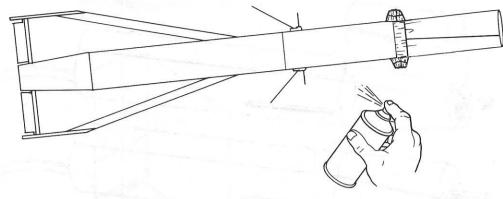
ANTENNA WRAP

m water to remove any mold release residue aint from peeling during masking. Mask off shown. Paint forward from the raised line on ded color: Krylon Gloss Black. After paint is a cone at the raised line as shown.

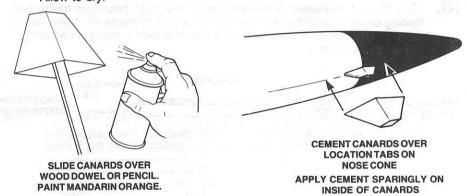




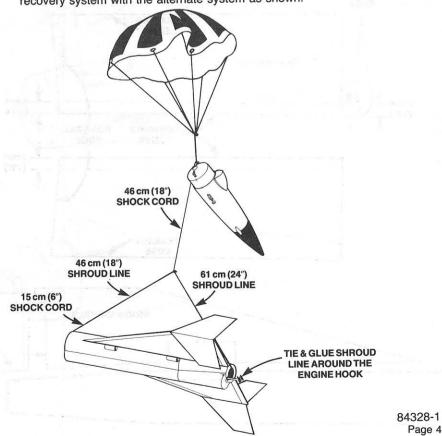
Place nose cone in front end of body tube and spray entire model white, or with white primer. After paint is dry, paint several light coats of orange over entire model and one final coat. Remove masking when paint is dry. Recommended color: Krylon Mandarin Orange.



3. The canards should be painted orange and done separately from the rest of the model. When paint is dry, apply plastic cement sparingly on inside of canard assemblies and slide assemblies over the canard location tabs on nose cone. Allow to dry.



4. Attach nylon parachute to nose cone and shock cord. You may wish to rig your recovery system with the alternate system as shown.



APPLYING DECALS

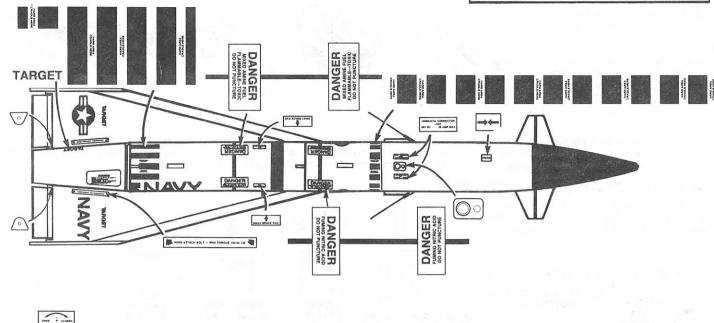
Apply the decals in the positions shown. Cut each decal from sheet and dip in warm water for approximately ten seconds. Hold decal by one end until it uncurls.

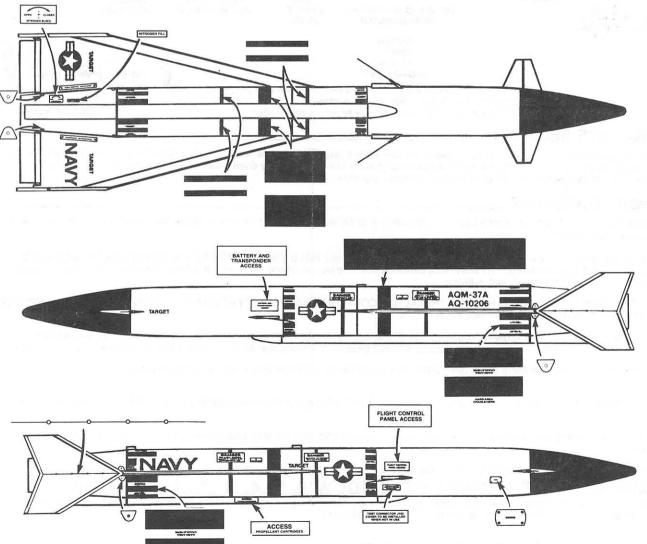
Wet the decal location and slide decal from paper into final position and blot dry with a tissue.

Apply largest decals first.

Optional: Spray entire model with a flat clear coat to protect the finish and give the rocket a more realistic appearance.







LAUNCH SUPPLIES

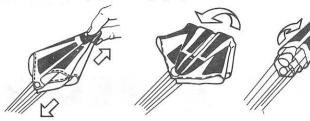
To launch your rocket you will need the following: Estes electrical launch controller and launch pad with 1/4" launch rod. Estes recovery wadding, NO. 2274

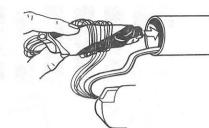
Recommended engines: D12-5 (first flight) and the new Estes (E15-4) Use only Estes products to launch this rocket.

PREPARE ROCKET FOR FLIGHT.

1. Hold the recovery system shock cord to one side of the inside of the body tube. Insert 6 to 10 squares of Estes™ recovery wadding into the rocket body. The wadding should remain loose. NEVER tamp the wadding tightly into the tube.

2. Fold the parachute and wrap the shroud lines around it as shown. The lines should be tight enough so that the parachute will slide easily inside the rocket body. Insert the parachute into the rocket onto the top of the recovery wadding. Then insert the shock cord into the rocket on top of the parachute.



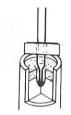


3. Install the nose cone into the forward end of the rocket body. Be certain the fit is neither too loose or too tight. If the nose cone falls out of the rocket body when the model is pointed downward, the fit is too loose. If while pointed downward, the nose cone can't be shaken out of the tube, the fit is too tight. If too loose, wrap tape around shoulder for snug fit. If too tight, lightly sand shoulder slightly for looser fit.

PREPARE ENGINE D12-5 OR E15-4

NOTE: Igniter plugs come with rocket engines. If your engines did not come with plugs, follow the instructions that came with the engines.









ALL THE WAY IN



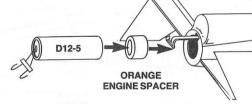
WIRES BACK

HOLD ENGINE UPRIGHT. **DROP IN IGNITER**

IGNITER MUST TOUCH

PROPELLANT

Flying your rocket with a D12-5 you will need to first slide the orange engine spacer into the engine tube, then the "D" engine. For the E15-4 engine flights, the orange spacer is not needed.



LAUNCH SITE SELECTION

Always fly model rockets from large open fields away from power lines, airports, buildings, and trees. The launch site chosen for launching Estes Pro Series™ model rockets should be a minimum of 1/4 mile long on each side. Remove any dried grass or weeds at the launch pad which may easily ignite. Always place the launch pad in the center of the field whenever possible.

LAUNCH PROCEDURE

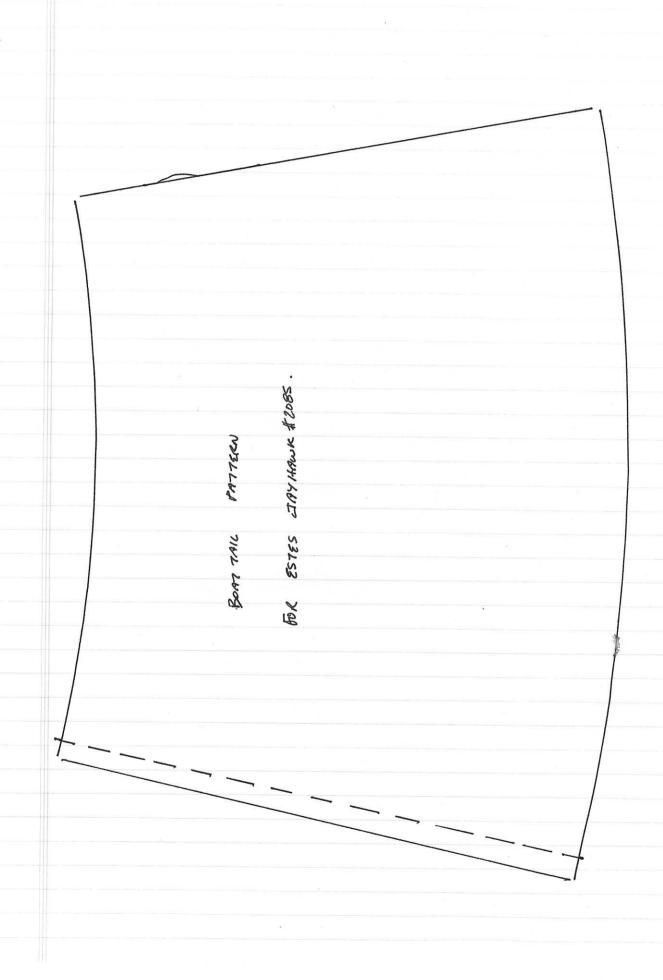
If the Estes Pro Series Command Control Launch Controller™ is to be used to launch your rocket, follow the instruction supplied with the Command Control Launch Controller™.

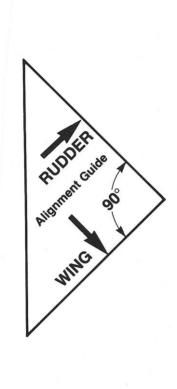
- 1. Remove the safety key and launch rod safety cap from the launch rod. HOLD THE SAFETY KEY AND SAFETY CAP IN ONE HAND. Carefully align the rocket launch lugs with the launch rod and slide the rocket down the launch rod and onto the blast deflector. Adjust the igniter leads as necessary so that they do not touch the metal blast deflector.
- 2. MAKE CERTAIN THAT NO ONE IS HOLDING THE LAUNCH CONTROLLER AND SAFETY KEY IS NOT INSERTED IN THE LAUNCH CONTROLLER. KEEP SAFETY KEY AND SAFETY CAP IN ONE HAND.
- 🕉. Attach the launch system micro clips to the igniter leads. (It is strongly recommended that the inside jaws of the micro clips be cleaned before each launch. This can be done quite easily by simply passing a folded piece of fine sandpaper back and forth between the closed jaws a few times.)
- $f 4_st$ Examine the connections carefully. Be certain that the micro clips do not touch one another or the metal blast deflector.
- 5. Check to be certain the launch controller is at its maximum distance from the launch pad. Move it as necessary so that the sun will be at your back at launch.
- 6. Give a verbal warning to others that you are ready to launch your rocket and that they need to move back a minimum of 30 feet (9 meters) from the launch pad.
- 7. Insert the safety key into the launch controller. The continuity light should now glow indicating the launch circuit is complete.

8. GIVE A SHORT AUDIBLE COUNTDOWN...5...4...3...2...1...LAUNCH!

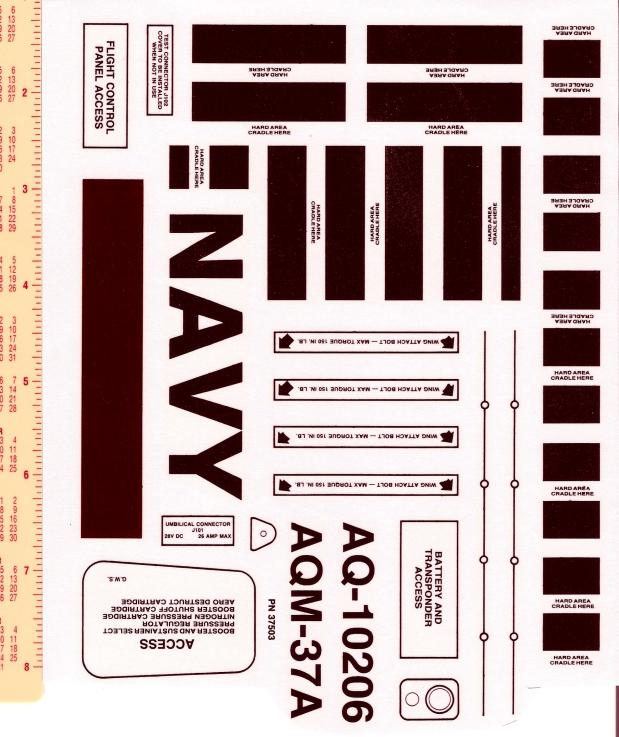
Press the launch button and hold it down until ignition occurs and the rocket lifts off. Release the launch button as the rocket leaves the launch pad. Remove the safety key from the controller as you follow the rocket skyward.

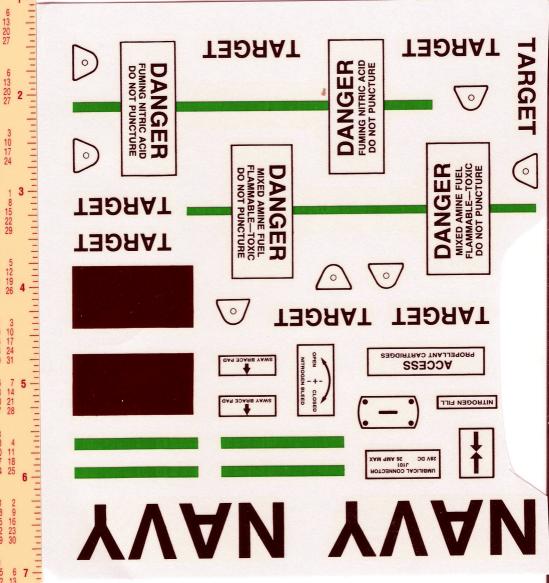
Return the safety cap to the end of the launch rod as soon as possible.

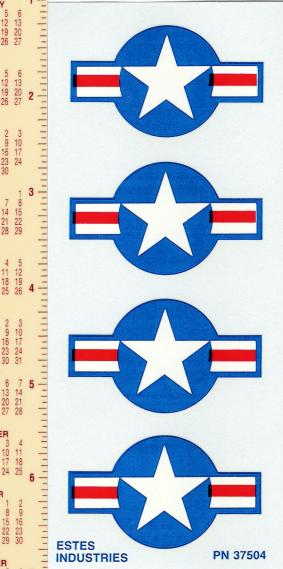












You'll need to make an adjustment to part of the decals color-wise though. Don Fent said that part of them are brown, but the brown scanned as black. Here are the parts that need to be brown according to him:

The long rectangle under NAVY in the first decal should be brown and the two rectangles in the second decal should be brown.

It is a chocolate brown, not as in dark chocolate, but in a dark milk chocolate, slightly olive green if you look at it too long.