

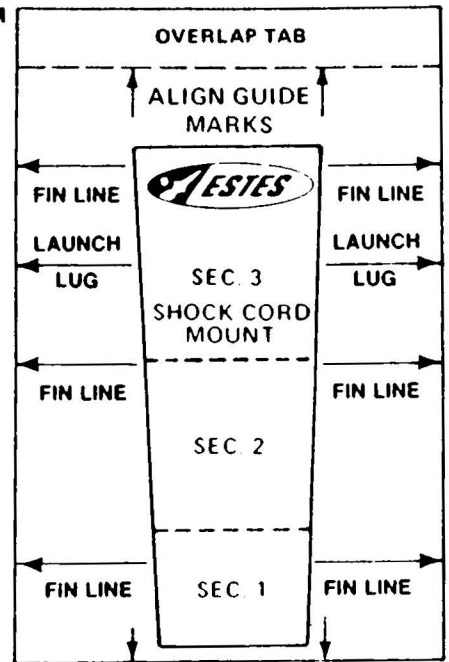
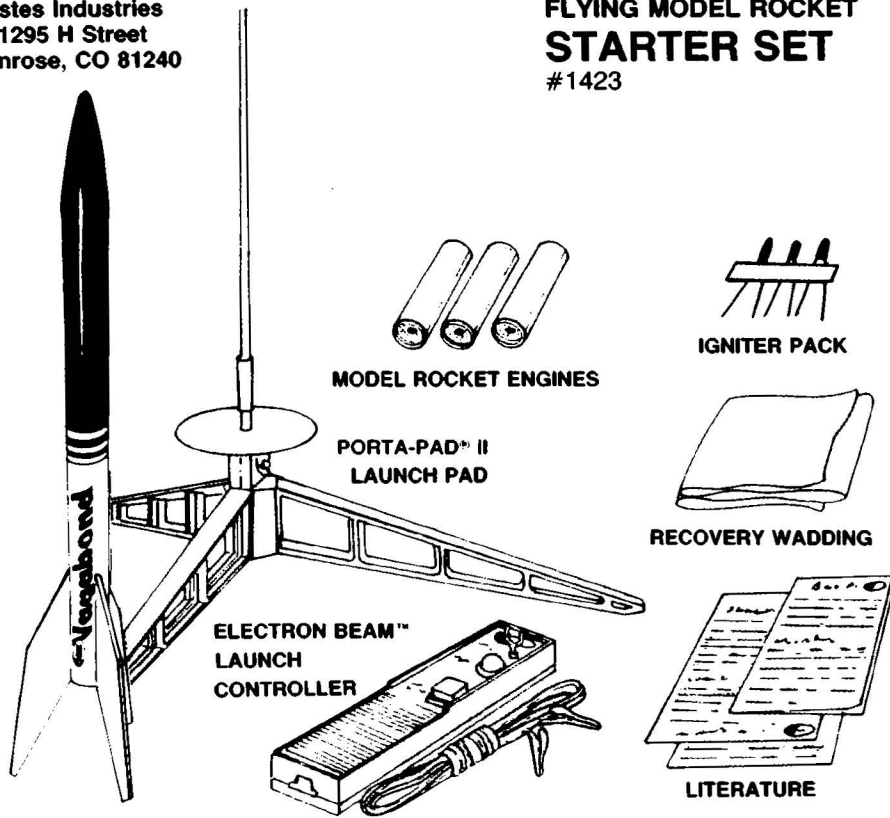




Vagabond™

Estes Industries
1295 H Street
Penrose, CO 81240

FLYING MODEL ROCKET STARTER SET #1423

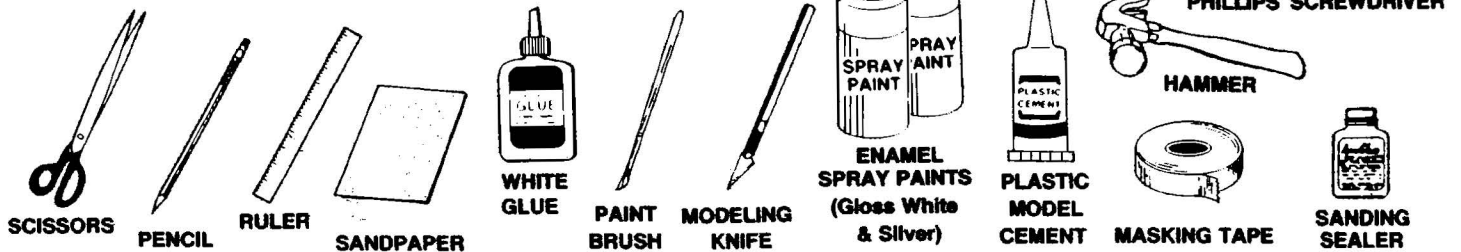


TUBE MARKING GUIDE

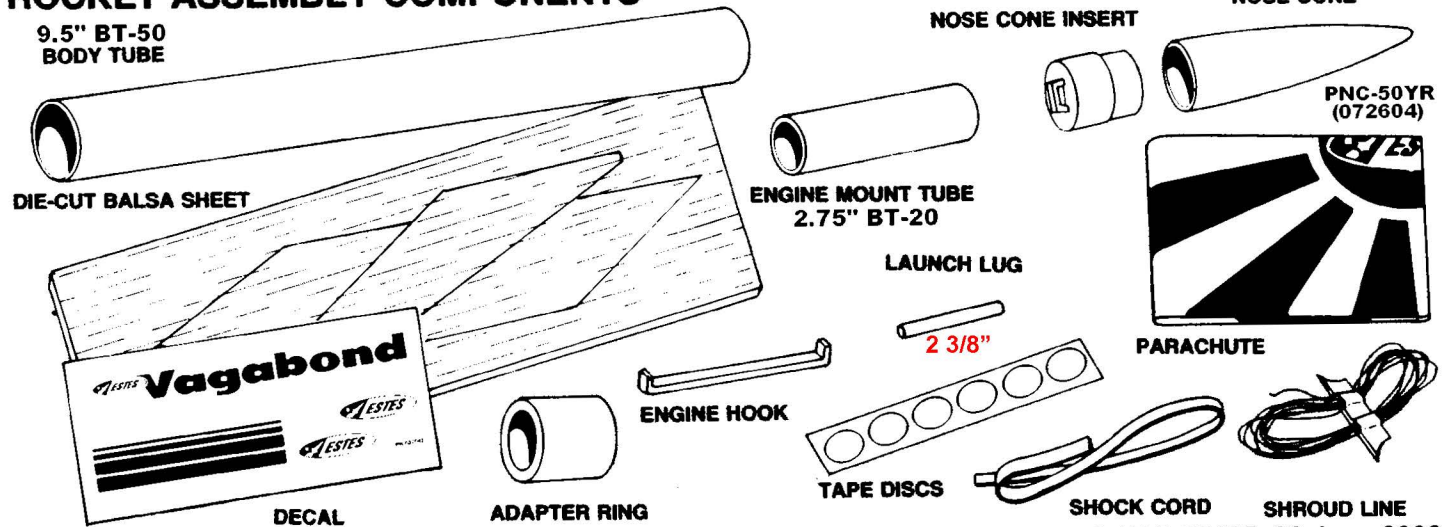
ASSEMBLY TIP

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.

You will need the following items to assemble this model rocketry starter set.



ROCKET ASSEMBLY COMPONENTS

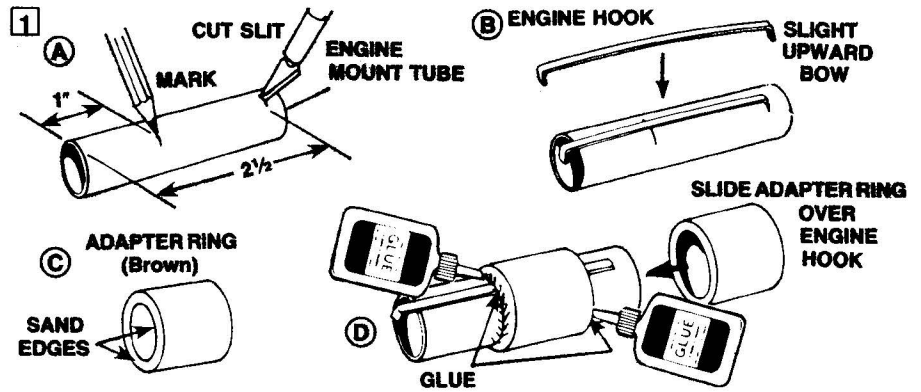


Sort and identify the parts shown above.

ROCKET ASSEMBLY

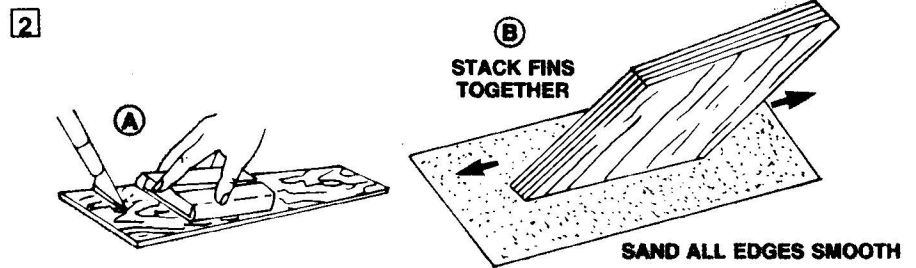
STEP 1.

- Mark engine mount tube 1 inch and 2½ inches from one end and then cut 1/8 inch long slit at 2½ inch mark.
- Insert one end of engine hook into slit.
- Sand inside edges of adapter ring.
- Slide adapter ring onto tube as shown to the 1 inch mark and then glue both ends of ring to tube.



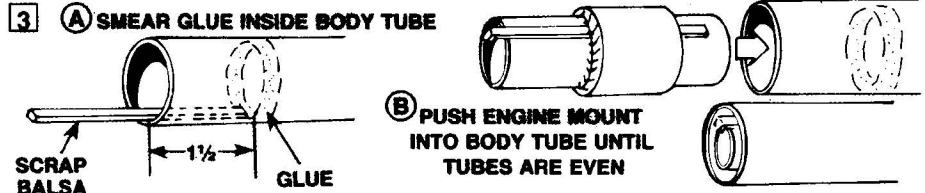
STEP 2.

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



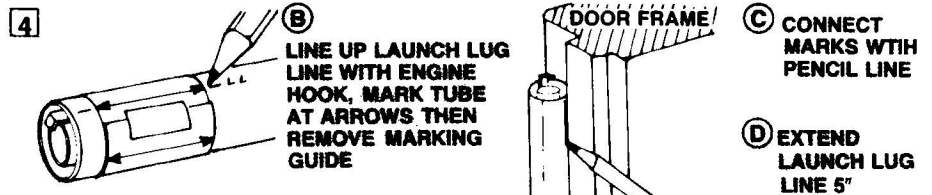
STEP 3.

- Using a piece of scrap balsa, smear glue inside body tube 1½ inches from one end.
- Push engine mount in until tube ends are even.



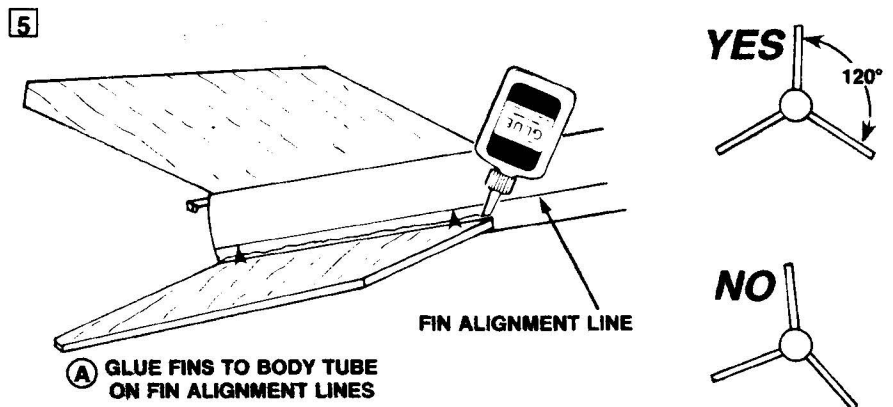
STEP 4.

- Cut out tube marking guide from front of instructions.
- Wrap guide around the tube and tape. Mark tube at arrows. Remove guide and save.
- Draw straight lines connecting each pair of marks.
- Extend launch lug line 5 inches from rear of tube.



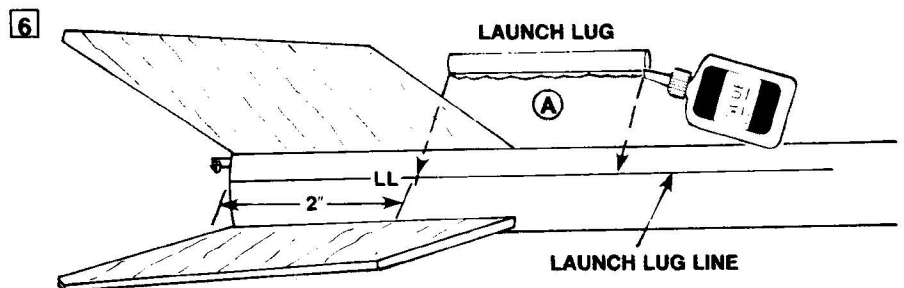
STEP 5.

- Glue fins on alignment lines, one at a time as shown. Let glue dry several minutes before applying the next fin.
- Looking at the rocket from the rear, the fins should be in the positions shown in illustration marked YES.



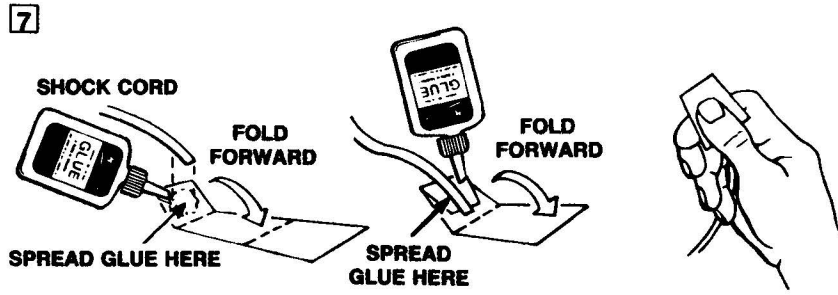
STEP 6.

- Glue launch lug on launch lug line 2 inches from end of body tube as shown.



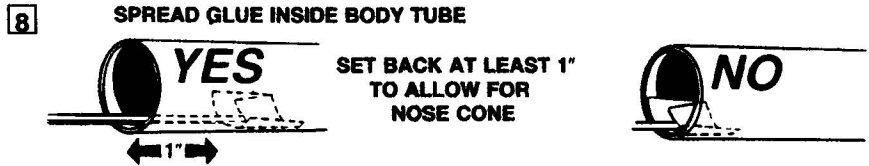
STEP 7.

- Cut shock cord mount from tube marking guide.
- 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.
- Clamp unit together with fingers until glue sets.



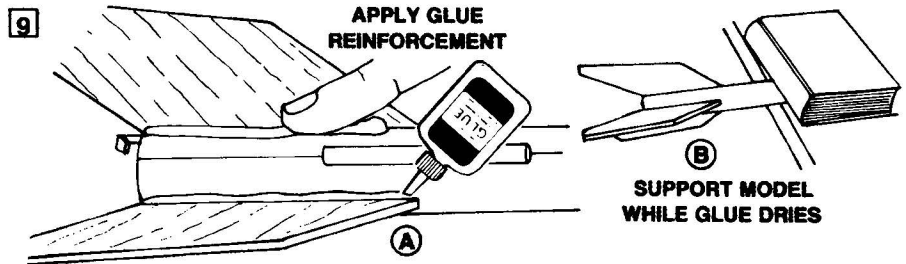
STEP 8.

- Apply glue 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.
- Press mount firmly into glue as shown.
- Hold until glue sets.



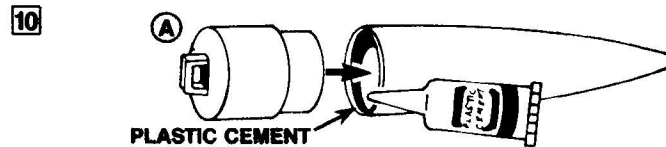
STEP 9.

- Apply glue reinforcement to each fin/body tube joint and each side of launch lug.
- Support rocket as shown until glue dries.



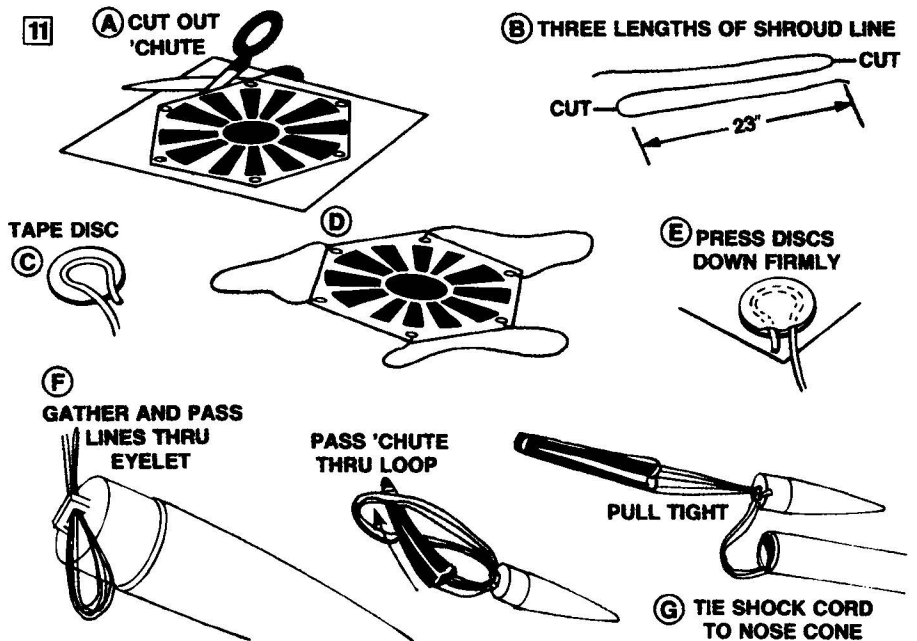
STEP 10.

- Apply plastic cement to inside edge of nose cone and then insert nose cone insert as shown.



STEP 11.

- Cut out parachute on edge lines.
- Cut three 23 inch lengths of shroud lines.
- Form small loops with shroud line ends and press onto sticky side of tape discs.
- Attach tape discs with line ends to top of parachute as shown.
- Firmly press tape discs into place until both tape discs and parachute material are molded around shroud line loops.
- Gather and pass shroud line loops through eyelet on nose cone. Pass parachute through loop ends and pull lines against the nose cone.
- Tie free end of shock cord to nose cone eyelet.



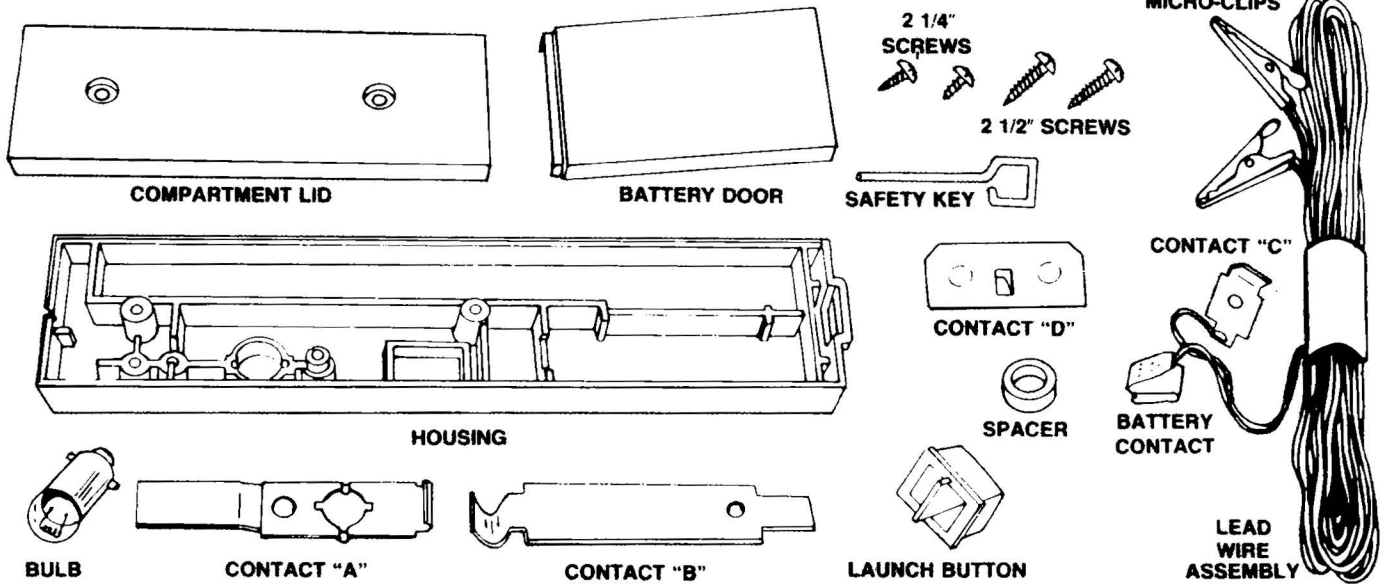
Estes Vagabond Starter Set Instructions
Scanned for JimZ's site by John Joseph
NAR 32435 30 June 2003

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 is completely dry, paint model with white spray enamel. Follow instructions on spray can for best results. Let paint dry overnight before masking to paint second color. Mask off rocket 3 inches from tip of nose cone

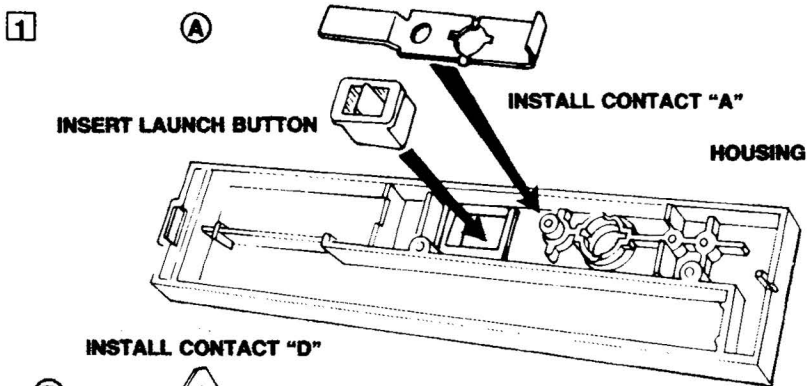
to paint front of rocket and nose cone silver. To apply decals, cut each out, dip in lukewarm water for 20 seconds, and hold until it uncurls. Refer to photograph on front page and/or on front of box for decal placement. Slip decal off backing sheet and onto model. Blot away excess water. For best results, let decals dry overnight and apply a coat of clear spray paint to protect decals.

LAUNCH CONTROLLER ASSEMBLY

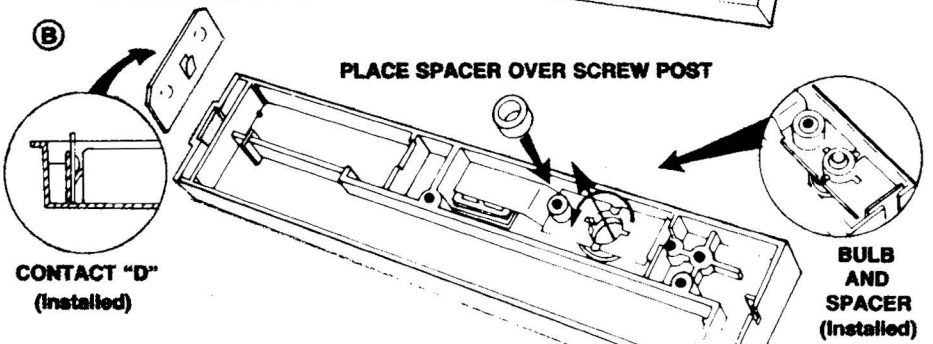


STEP 1.

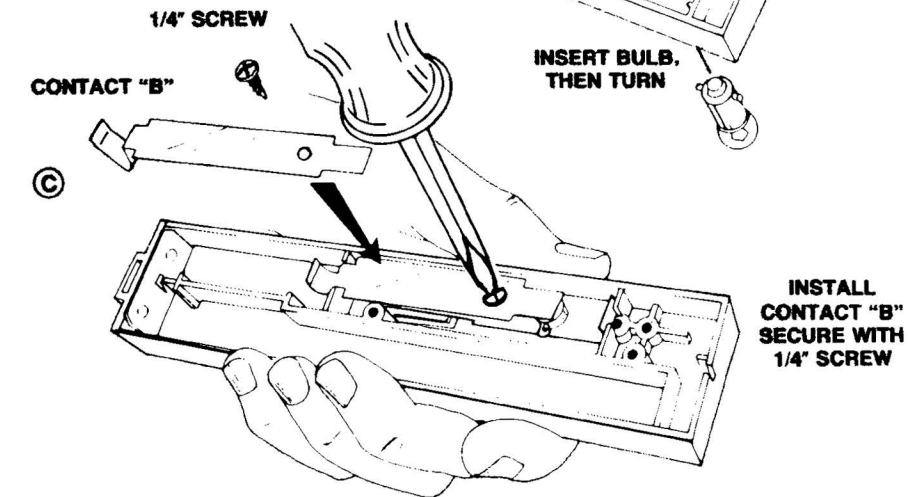
A. Insert launch button into hole in housing as shown. Place contact "A" in position with screw post extending up through hole in contact as shown.



B. Insert bulb into hole in housing and then turn bulb until pins on bulb rest in the depressions in Contact "A" as shown. Place spacer over screw post as shown and then insert Contact "D" into end of battery compartment as shown.

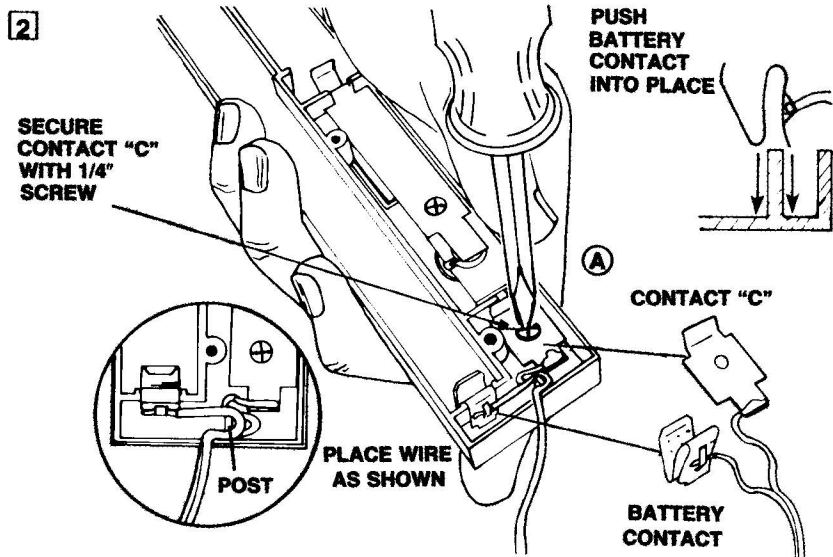


C. Position Contact "B" in place with hole in contact over screw post. Next, secure Contact "B" using 1/4 inch screw and screwdriver. Screw should be snug to surface of contact against spacer. After securing the screw, Contact "B" should have slight upward curve to it where it makes contact with bulb.



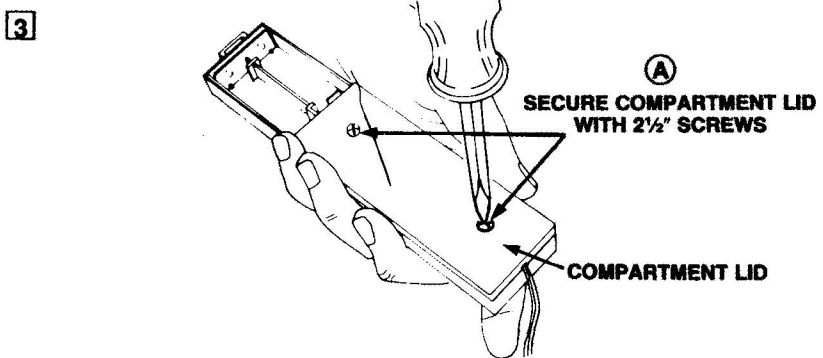
STEP 2.

- A. Contact "C" and the Battery Contact are attached to lead wire assembly. Push Battery Contact over wall at end of compartment as shown. Using small 1/4 inch screw and screwdriver, secure Contact "C" in place as shown. Make sure wires leaving contacts go around post and exit hole in body as shown.



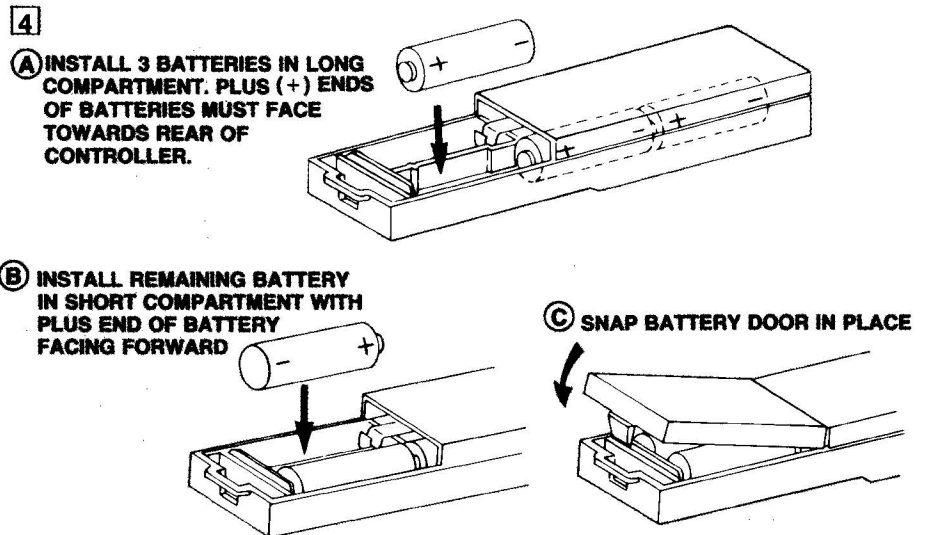
STEP 3.

- A. Secure compartment lid to housing using two 1/2 inch screws. Screws should be snug and tight, but do not over tighten.



STEP 4.

- A. Install 3 AA alkaline batteries in long compartment with positive (+) ends of batteries facing rear of controller as shown in diagram on compartment floor.
 B. Install remaining battery in short compartment with positive end facing forward.
 C. Position battery door and close with tab snapping into place as shown.



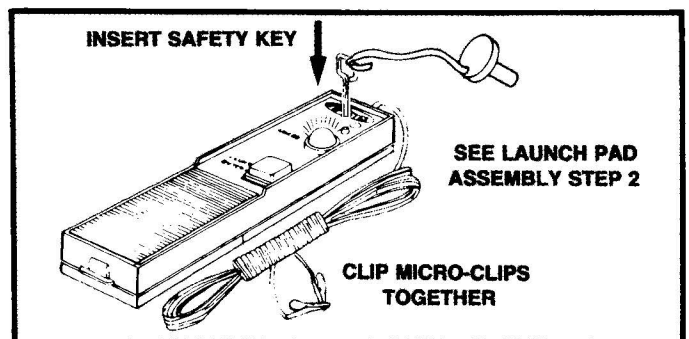
TEST CONTROLLER OPERATION

1. Clip micro-clips together.
2. Insert safety key. This should cause the bulb to light.
3. Press the launch button for only a moment. Bulb will go out while button is depressed.

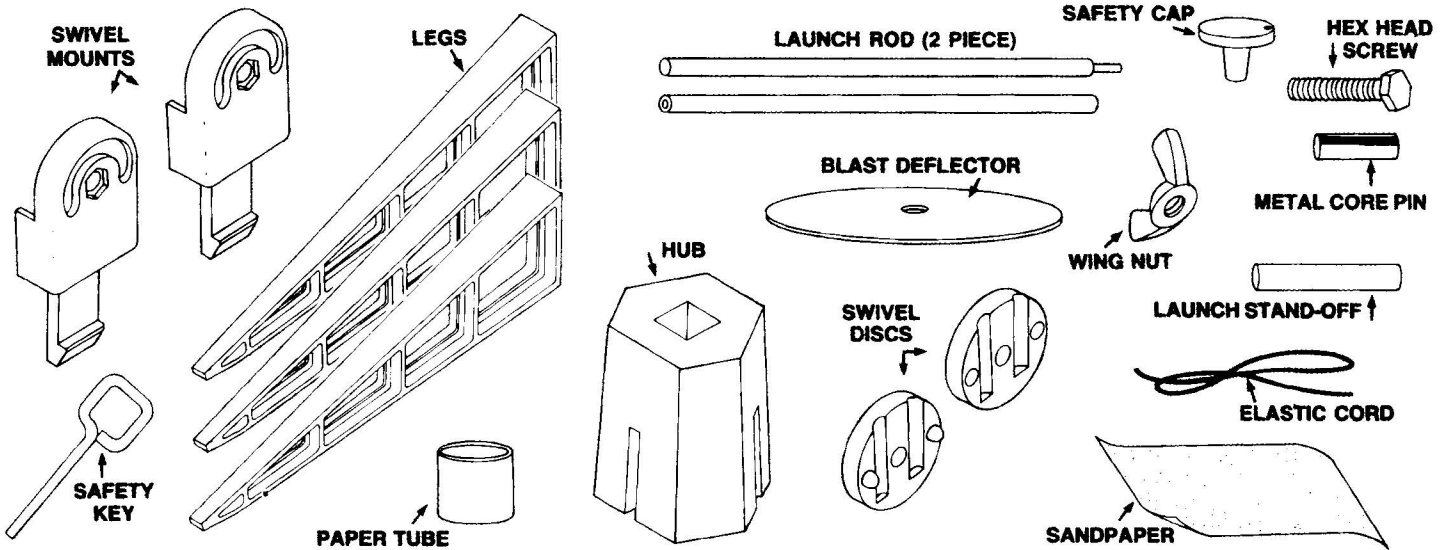
If controller does not behave as described, check the following:

- Make sure the micro-clips are firmly clipped together.
- Remove and re-insert safety key to insure it is making contact.
- Make sure batteries are correctly inserted as described above.

If you cannot get the controller to work. See enclosed Warranty.

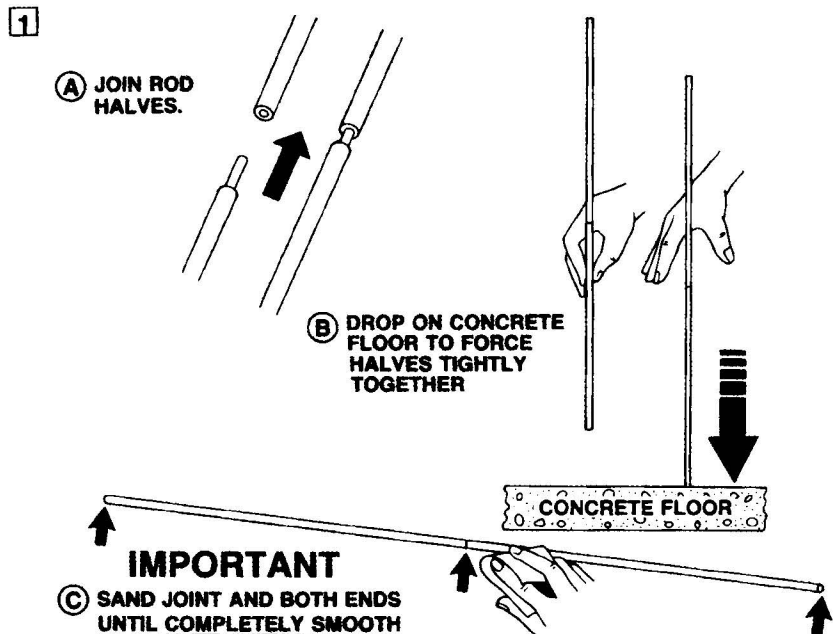


LAUNCH PAD ASSEMBLY



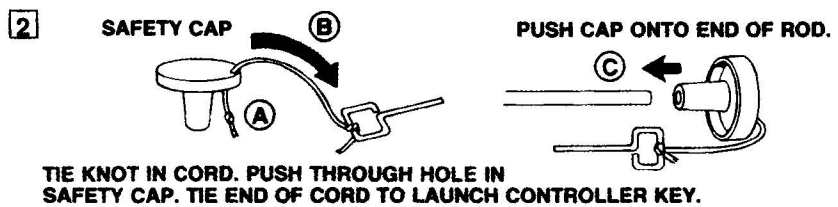
STEP 1.

- Join launch rod halves by inserting pin contained in one rod into hole contained in other rod. Do not attempt to push the pin in all the way.
- Hold the joined rods above a concrete floor and repeatedly drop on end until rod halves are tightly joined.
- Check the completed rod joint and ends for burrs. If any exist, remove them with the furnished sandpaper. It is important that the launch rod be smooth to avoid snagging a model rocket launch lug.



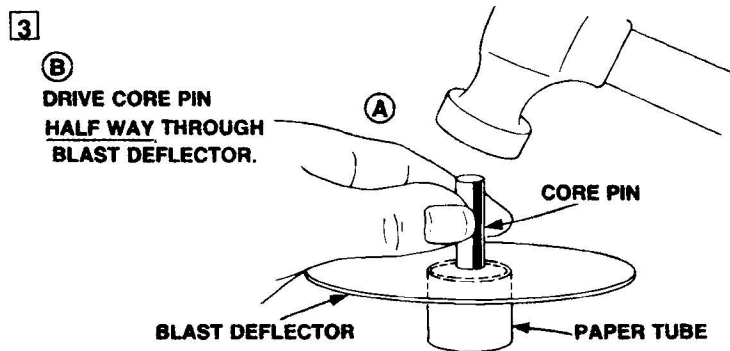
STEP 2.

- Tie a knot in one end of elastic cord.
- Pass the cord through the small hole in the safety cap and tie to the controller safety key.
- Place the safety cap on one end of the launch rod and set aside.



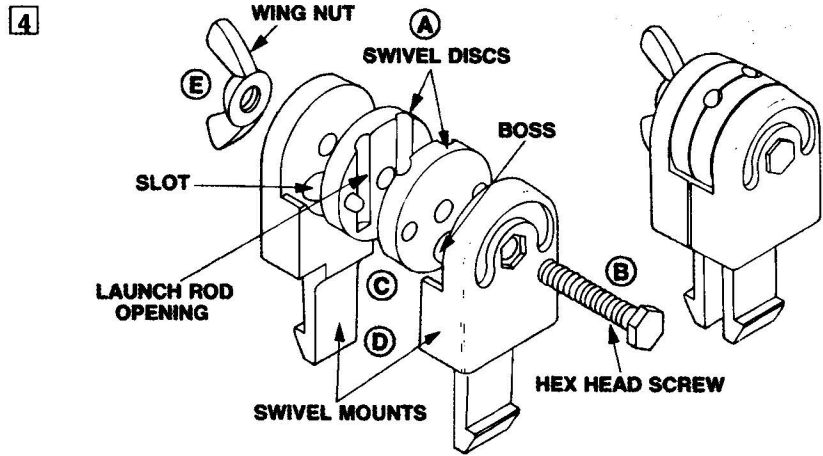
STEP 3.

- Center the blast deflector on top of the short heavy wall paper tube over a hard surface.
- Use a hammer to drive the metal core pin half way through the blast deflector.
- Discard the paper tube.



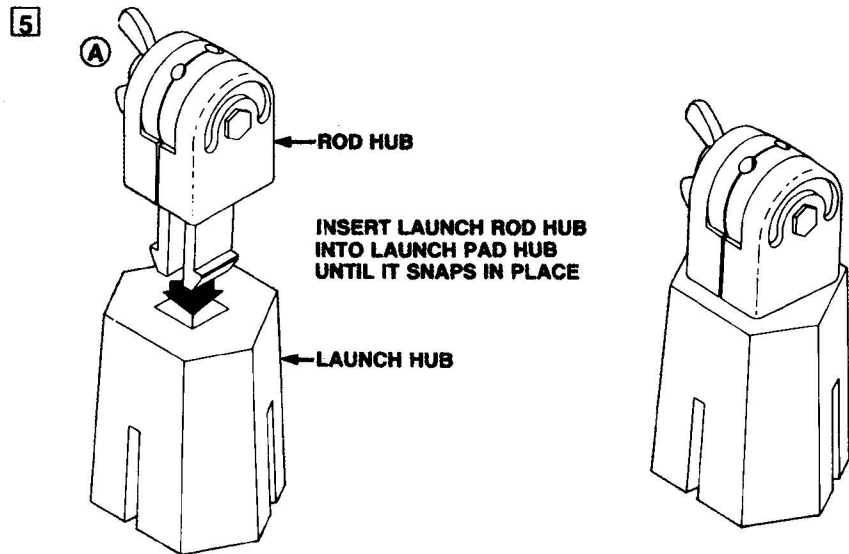
STEP 4.

- A. Join swivel discs so that launch rod openings match.
- B. Insert hex head machine screw through central hole in one swivel mount.
- C. Slide joined swivel discs onto hex head screw. Seat circular boss on swivel disc into slot in swivel mount.
- D. Slide remaining swivel mount onto hex head screw and seat slot over circular boss.
- E. Attach and lightly tighten wing nut.



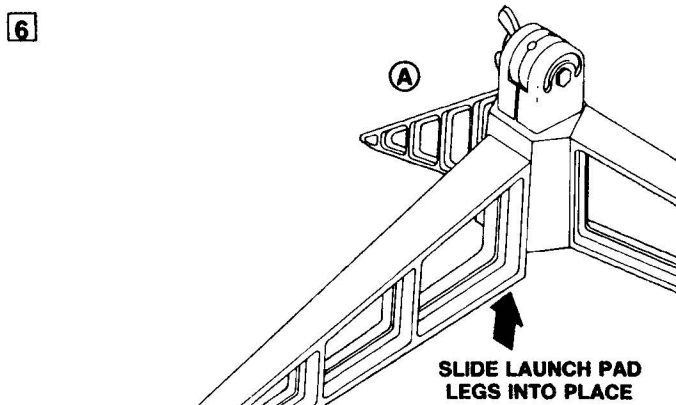
STEP 5.

- A. Push the completed launch rod hub assembly into the square opening in the top of the launch pad hub as far as it will go. It will snap in place.



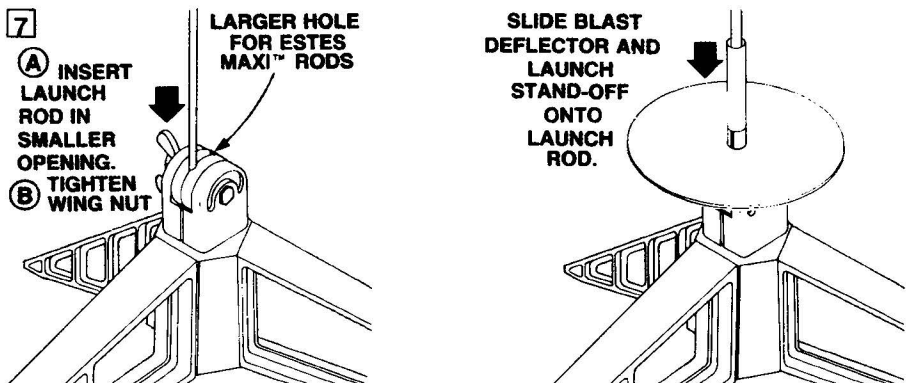
STEP 6.

- A. Attach the launch pad legs to the launch pad hub. Legs are seated properly when their tops are even with the top of the hub.

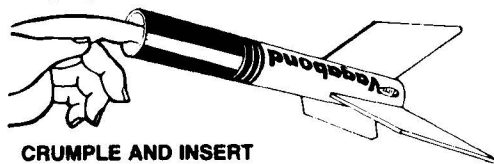


STEP 7.

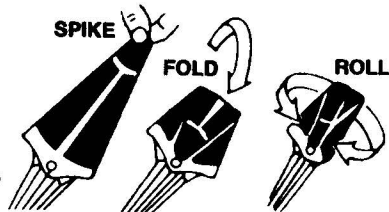
- A. Insert the launch rod into the smaller launch rod opening between the swivel discs until it stops. (The larger opening is designed for Estes Maxi™ Rod launch rods.)
- B. Tighten the wing nut securely.
- C. Remove the safety cap from the rod end and slide the blast deflector onto the rod.
- D. Slide the launch stand-off onto the rod.
- E. Replace the safety cap on the launch rod.



ROCKET PREFLIGHT

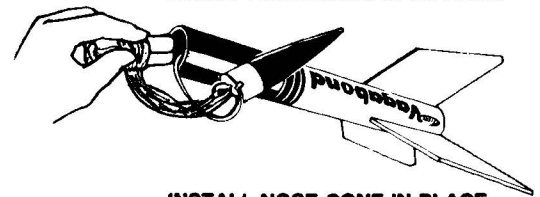


CRUMPLE AND INSERT
3 SQUARES OF
RECOVERY WADDING



FOLD PARACHUTE

WRAP LINES LOOSELY AROUND 'CHUTE.
INSERT PARACHUTE IN ROCKET.



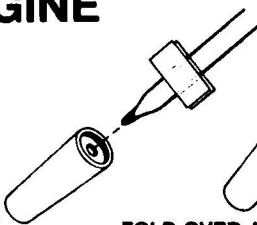
INSTALL NOSE CONE IN PLACE

PREPARE ENGINE

SEPARATE THE IGNITERS



ENGINE

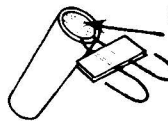


FOLD OVER AND BEND TIPS

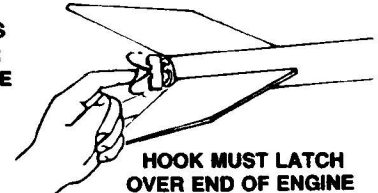
IGNITER TIP MUST TOUCH
PROPELLANT DEEP INSIDE
NOZZLE OPENING



APPLY AND
FIRMLY PRESS
TAPE DISC OR
MASKING TAPE
IN PLACE



INSTALL ENGINE IN ROCKET



HOOK MUST LATCH
OVER END OF ENGINE

LAUNCH SUPPLIES

Your model rocket will need the following items for each flight.

—Estes Recovery Wadding No. 2274

—Recommended Engines: A8-3, B4-4, B6-4, or C6-5

Use an A8-3 for first flight to become familiar with your rocket's flight pattern. Use only Estes products to launch this rocket.

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.

Don't leave parachute packed more than a minute or so before launch during cold weather [colder than 40° Fahrenheit (4° Celsius)]. Parachute may be dusted with talcum powder to avoid sticking.

MISFIRES

Failure of the model rocket engine to ignite is nearly always caused by incorrect igniter installation. An Estes igniter will function properly even if the coated tip is chipped. However, if the coated tip is not in direct contact with the engine propellant, it will only heat and not ignite the engine.

When an ignition failure occurs, remove the safety key from the launch control system and wait one minute before approaching the rocket. Remove the expended igniter from the engine and install a new one. Be certain the coated tip is in direct contact with the engine propellant, then tape the igniter leads firmly to base of engine as illustrated above. Repeat the countdown and launch procedure.

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

OTHER ESTES PRODUCTS:

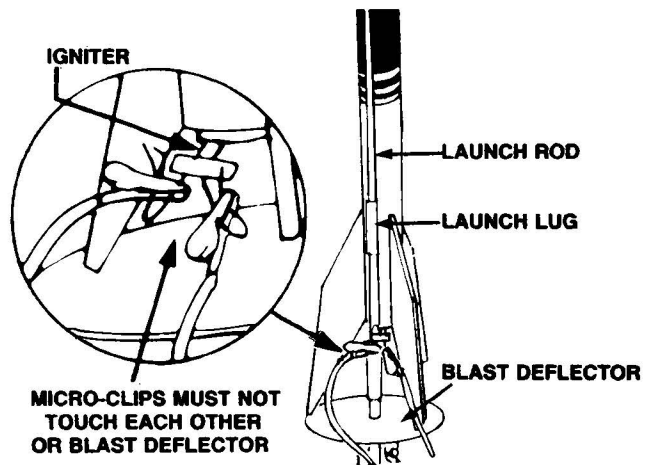
The brochures included with this set shows some of the other rockets that you may build and launch. The Skill Level for each rocket is indicated. It is recommended that you start with Skill Level One and Two rockets. A Skill Level Three rocket should not be attempted until you have gained more experience.

Estes Vagabond Starter Set Instructions

Scanned for JimZ's site by John Joseph

NAR 32435 30 June 2003

COUNTDOWN AND LAUNCH



MICRO-CLIPS MUST NOT
TOUCH EACH OTHER
OR BLAST DEFLECTOR

- ⑩ REMOVE SAFETY KEY to disarm the launch controller.
- ⑨ Remove safety cap and slide launch lug over launch rod to place rocket on launch pad. Make sure the rocket slides freely on the launch rod.
- ⑧ Attach micro-clips to the igniter wires. Arrange the clips so they do not touch each other or the metal blast deflector. Attach clips as close to protective tape on igniter as possible.
- ⑦ Move back from your rocket as far as launch wire will permit (at least 15 feet).
- ⑥ INSERT SAFETY KEY to arm the launch controller.

Give audible countdown 5...4...3...2...1

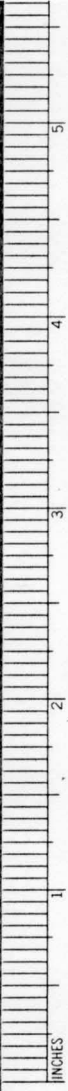
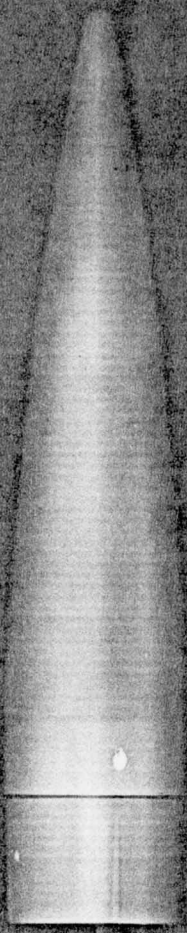
LAUNCH!! PUSH AND HOLD LAUNCH BUTTON
UNTIL ENGINE IGNITES

REMOVE SAFETY KEY FROM CONTROLLER
AND REPLACE SAFETY CAP ON LAUNCH
ROD IMMEDIATELY AFTER EACH FLIGHT.

The launch components in this outfit can be used to launch even very large "D" powered rockets. Some "D" engine rockets require the use of a larger (3/16") launch rod (purchased separately). The larger pair of grooves in the launch pad rod hub are designed to accept the 3/16" dia. Maxi™ launch rod (#2244). When using the larger rod, you will have to remove the core pin from the blast deflector.

The full line of Estes products is available from most toy and hobby shops and many chain stores. Or for more information write: Estes Industries, P.O. Box 227, Penrose, CO 81240.

Estes Vagabond Nose Cone . Exact Match for Reissue Orbital Interceptor Nose Cone
Parts identification given as PNC-50YR (072604) in those instructions.
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LEADING EDGE

GRAIN

ROOT

Estes Vagabond Fin Pattern
Scanned for JimZ's site by
John Joseph 30 June 2003

3/32" thick balsa

INCHES





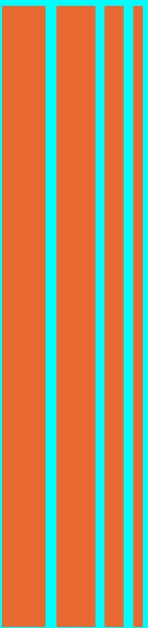
32
300
DPI

ESTES VAGABOND DECAL SHEET 300 dpi Scanned and cleaned up for JimZ's site by John Joseph MAR 32435 30 June 2003

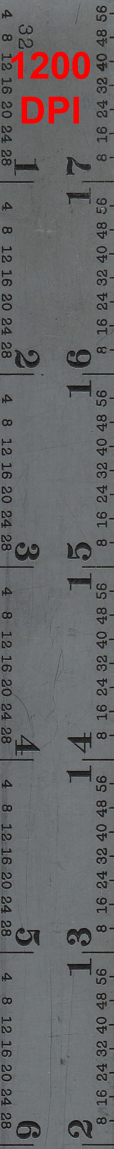
ONE INCH



Vagabond



PN 037042



1200
DPI

ESTES VAGABOND DECAL SHEET 1200 dpi Scanned and cleaned up for JimZ's site by John Joseph NAR 32435 30 June 2003

ONE INCH



Vagabond



PN 037042

VAGABOND™

FLYING MODEL ROCKETRY STARTER SET

MADE
IN U.S.A.

LEARN
TO ALTITUDE
OVER 1000 FEET!

SKILL LEVEL 1

Recommended for Beginning Users

FEATURES:

VAGABOND™
Precision-Fit Model Rocket

ELECTRONIC BECKET
Precision Electronic Launcher

POWER-PACK 2
Remote Launch Pad

High-Performance **MODEL ROCKET
ENGINE** and Supplies for 3 Sub-
Orbital Launches

1 MODEL ROCKET

Features an ultra-soft composite

This is a model of increasing accuracy. The
power adjustment, push, pull, and a lot of
more features - Not included.

Recommended for Ages 10 through Adult.
Adult supervision suggested for those under
14 years of age.

SEE US AT YOUR LOCAL HOBBIESTS!



ESTES INDUSTRIES