

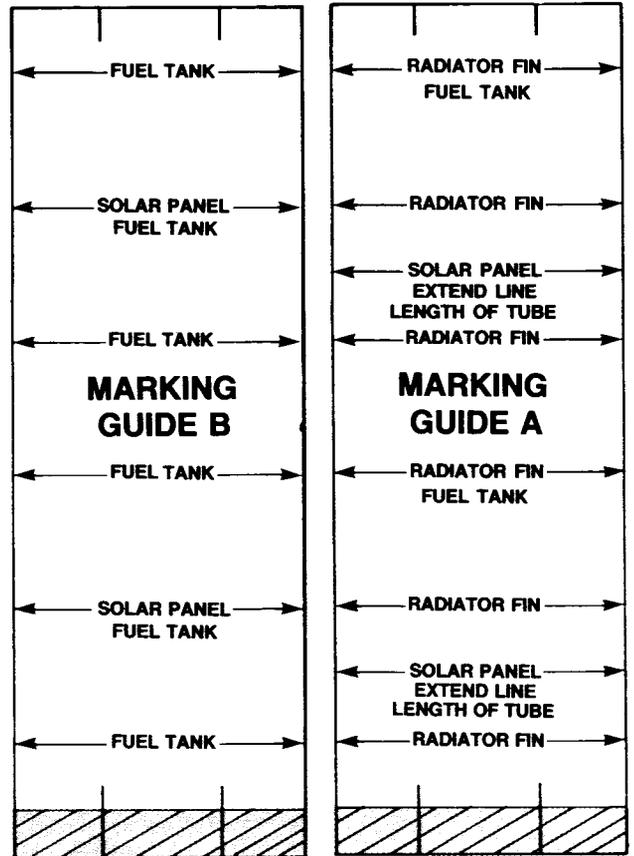
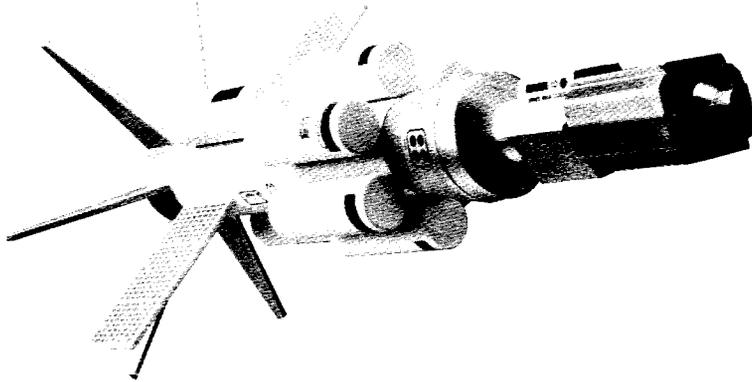




A DAMON COMPANY

ESTES INDUSTRIES
1295 H STREET
PENROSE, CO 81240 USA

SDI SATELLITETM FLYING MODEL ROCKET #2003

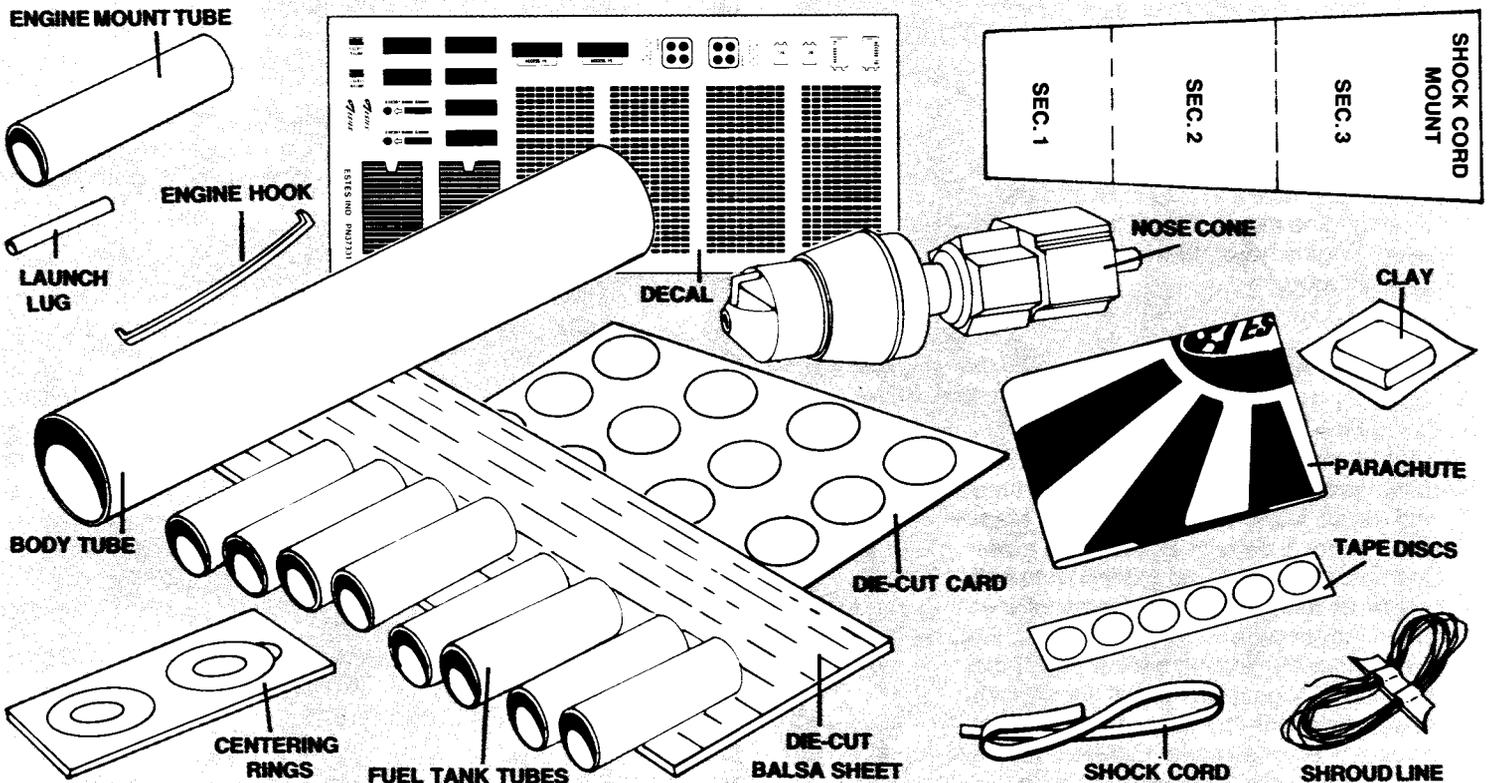
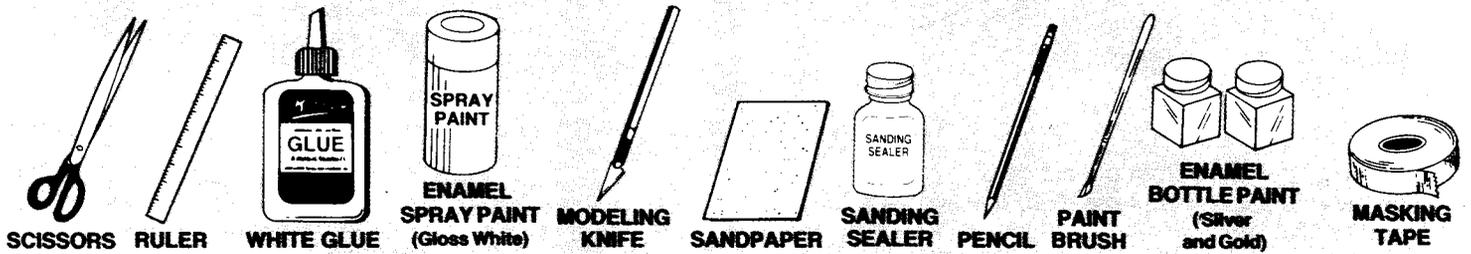


ASSEMBLY TIP

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 AND SUPPLIES

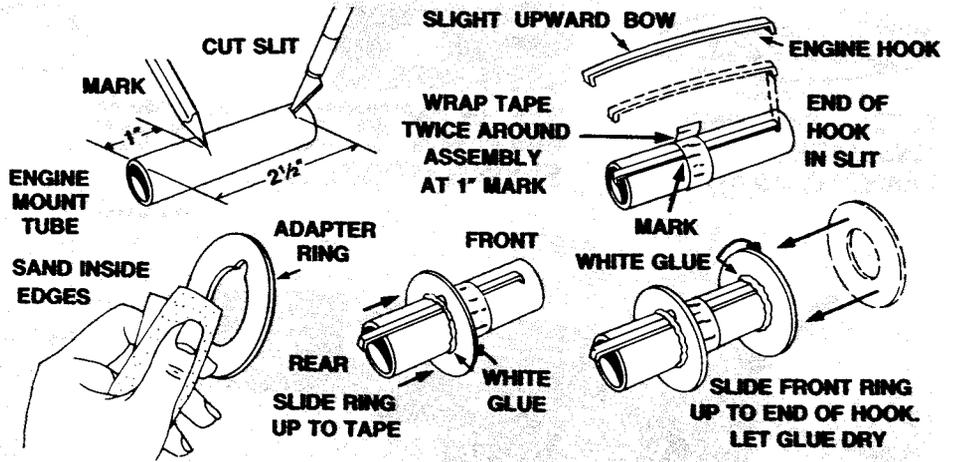
Locate the parts shown below and lay them out on the table in front of you. In addition to the parts included in the kit you will also need:



ROCKET ASSEMBLY

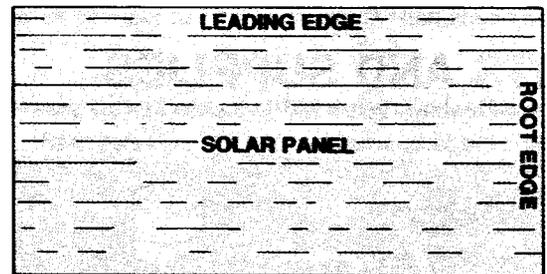
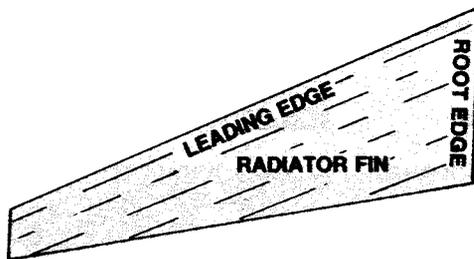
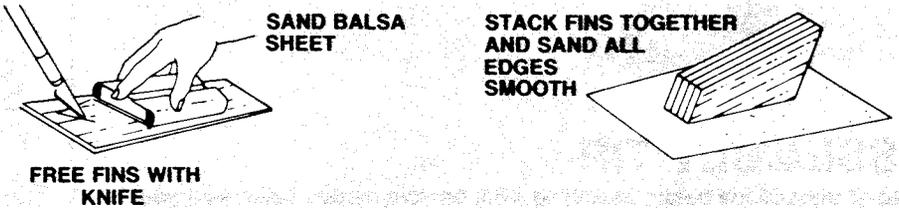
1

- Mark engine mount tube 1 inch and 2½ inches from one end.
- Cut 1/8 inch long slit at 2½ inch mark.
- Insert one end of engine hook into slit.
- Wrap masking tape around assembly twice at 1 inch mark.
- Slide slotted adapter ring onto rear of tube and up to masking tape. Slot fits over engine hook. Glue both sides of ring/tube joint.
- Slide remaining ring over front of tube and down to end of engine hook. Glue both sides of ring/tube joint.



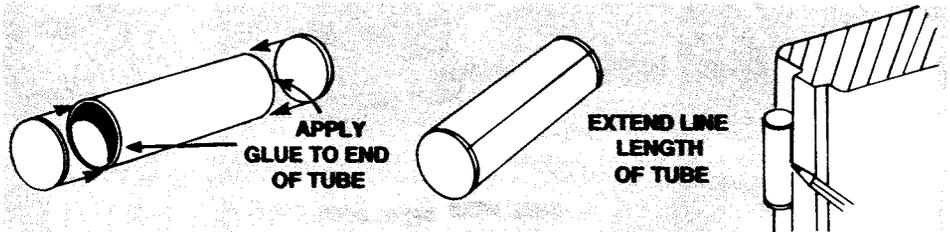
2

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



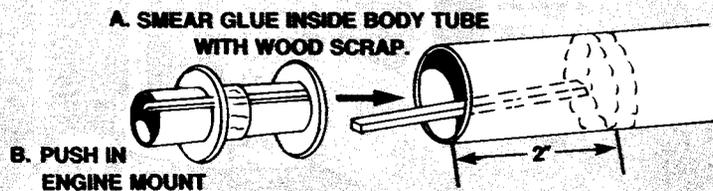
3

- Remove paper discs from die-cut card.
- Glue two discs to each of the eight fuel tank tubes as shown.
- When glue has dried on each tube draw a line down the length of each tube.



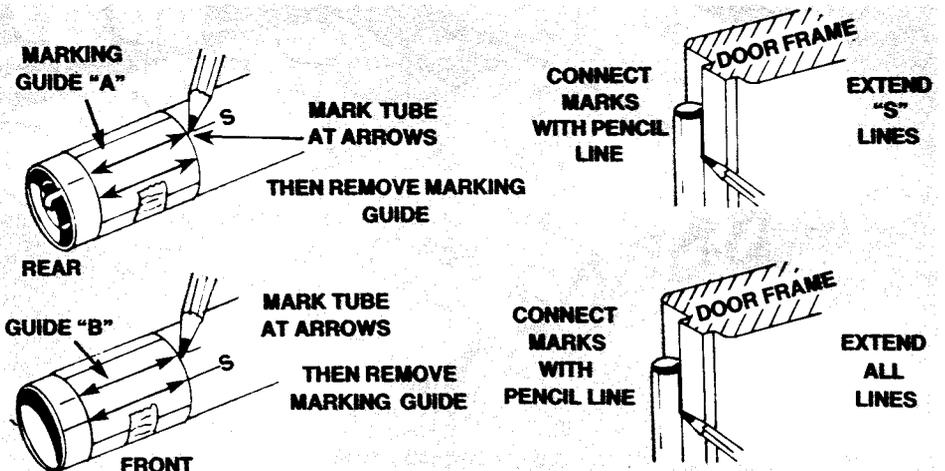
4

- Using a piece of scrap balsa, smear glue inside body tube 2 inches from one end.
- Push in engine mount until tube ends are even. Engine hook must extend from end of body tube.



5

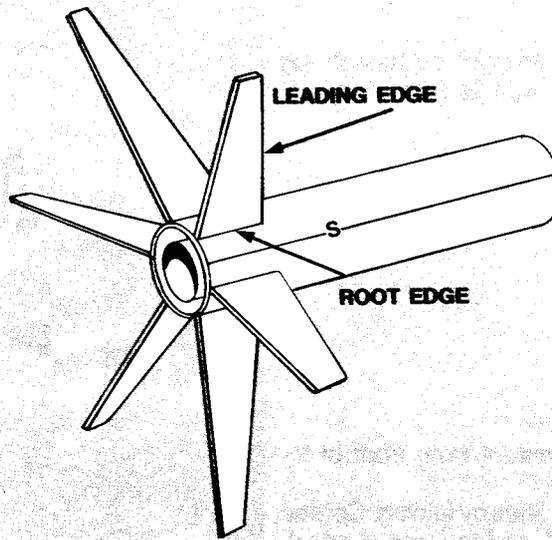
- Cut out the two tube marking guides from front of instructions.
- Wrap guide (A) around rear of body tube and tape. Mark tube at arrows. Mark solar panel lines with S. Remove guide and connect marks and extend lines half length of tube. Extend solar panel lines the length of tube.
- Wrap guide (B) around front of body tube and tape. Align solar panel arrow with solar panel line on tube. Mark tube at arrows. Remove guide. Connect marks and extend lines half length of tube.



6.

- Refer to Step 2 to determine gluing (root) and front (leading) edges of each fin.
- Position and glue six radiator fins on their alignment lines. Let each dry several minutes before applying the next one.
- Adjust fins to project straight out from tube.
- Do not set rocket on fins while glue is wet.

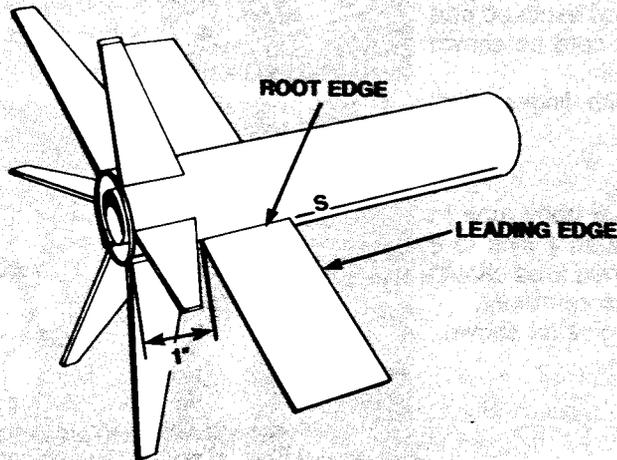
**FINS MUST BE ATTACHED
CORRECTLY FOR STABLE FLIGHT!**



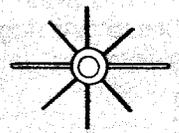
7

- Again refer to Step 2 to determine gluing (root) and front (leading) edges of each solar panel.
- Position and glue each solar panel 1 inch from rear of body tube on their alignment lines (lines marked with S).
- Adjust fins to project straight out from tube.
- Do not set rocket on fins while glue is wet.

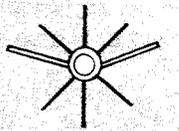
**FINS MUST BE ATTACHED
CORRECTLY FOR STABLE FLIGHT!**



YES

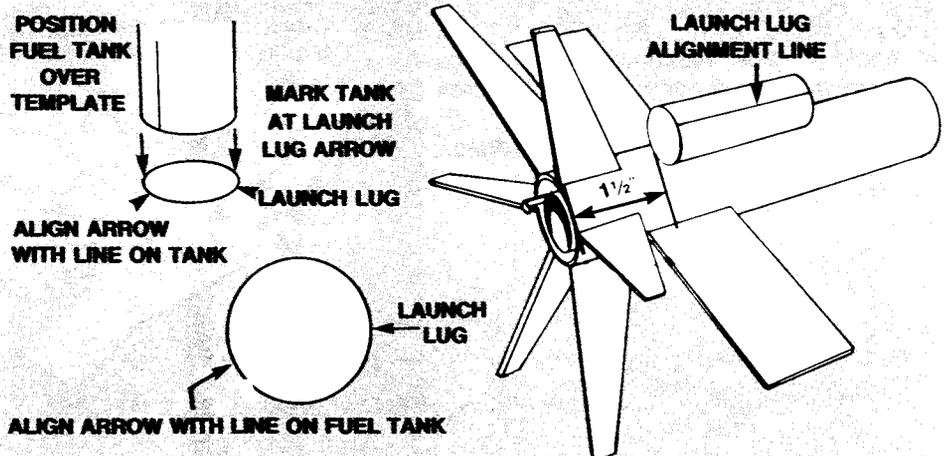


NO



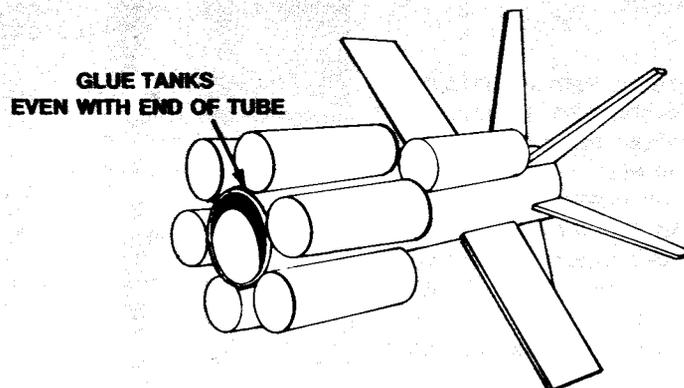
8

- Locate two of the fuel tank tubes. Position one tank over drawing and align arrow with line drawn in Step 3.
- Mark tank at second arrow. Draw a straight line the length of tube.
- Position and glue the two fuel tank tubes on the two opposing radiator fin lines shown, 1½ inches from rear of rocket.



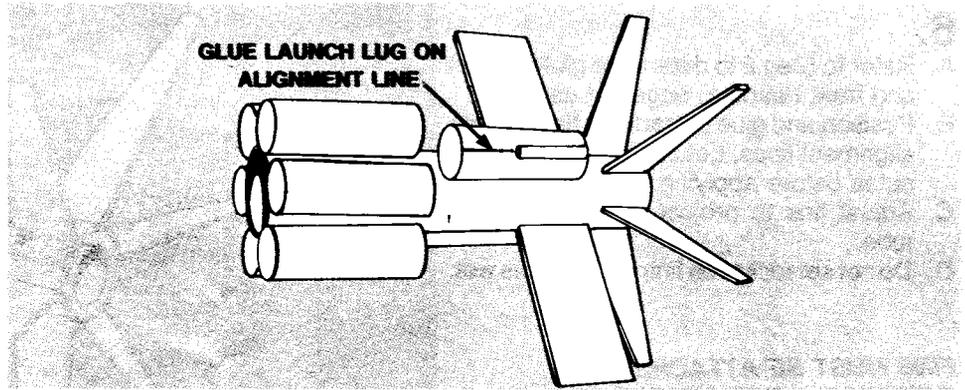
9

- Position and glue all remaining fuel tanks on alignment lines at front of rocket. Tanks should be even with end of body tube.



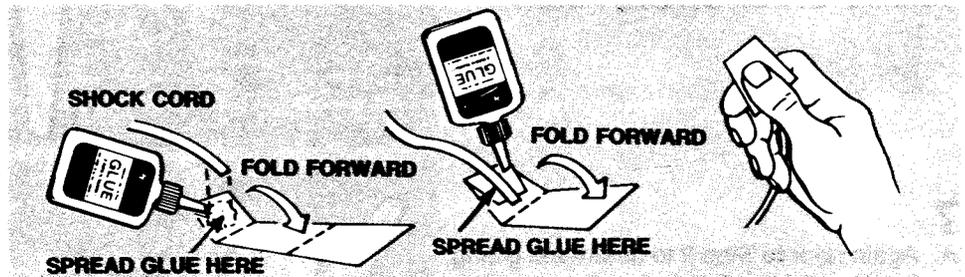
10

- A. Glue launch lug straight on launch lug line from Step 8, with its rear even with rear of fuel tank.



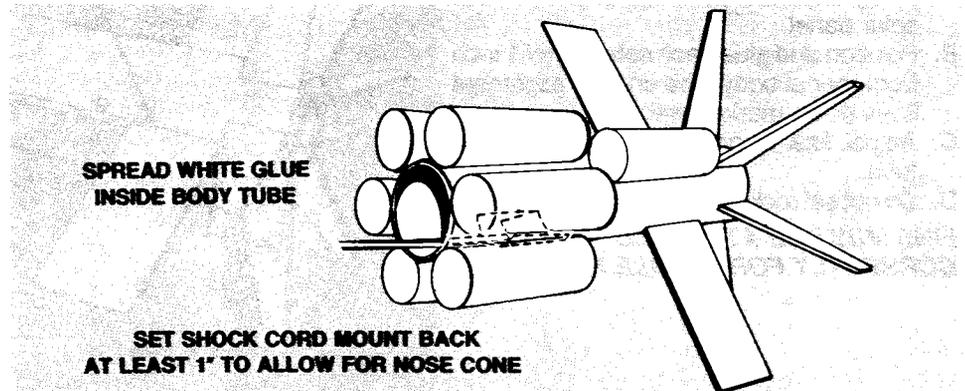
11

- A. Cut shock cord mount from front of instructions.
B. 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.
C. Clamp unit together with fingers until glue sets.



12

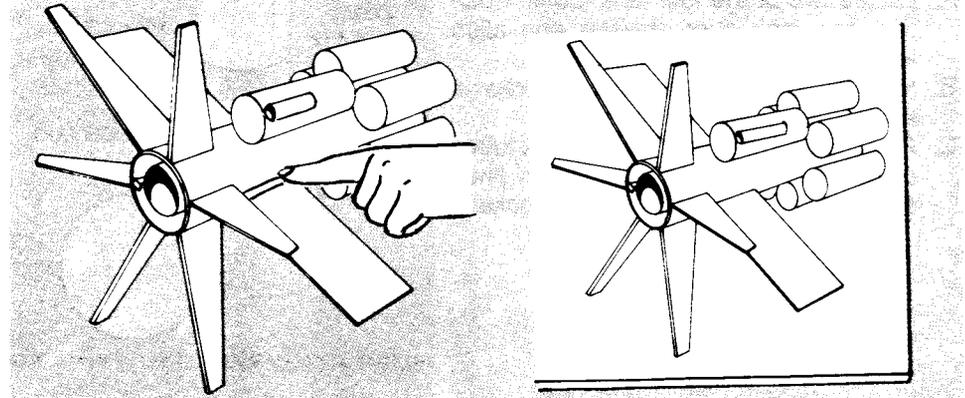
- A. Apply glue inside front of body tube to cover an area no less than 1 inch to 2 inches from end. The glued area should be same size as shock cord mount.
B. Press mount firmly into glue as shown.
C. Hold until glue sets.



13.

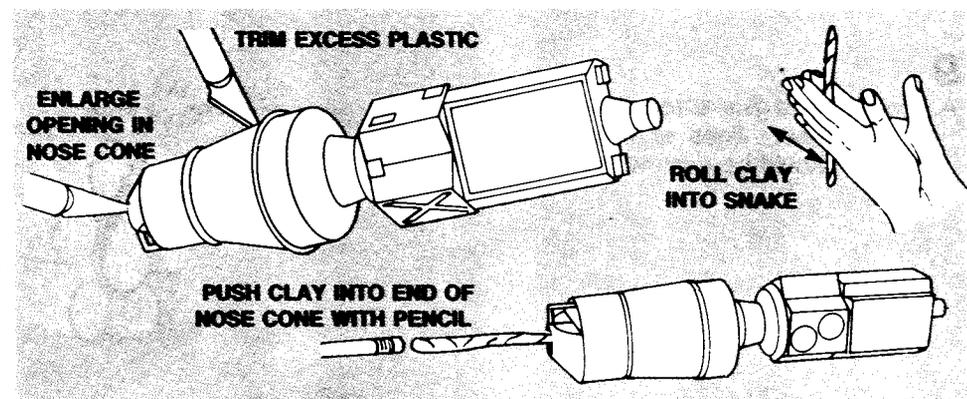
- A. Apply a glue reinforcement to each radiator fin, solar panel, and to each side of fuel tanks and launch lug.
B. Support rocket as shown until glue dries.

APPLY THIN LINE OF WHITE GLUE TO JOINTS THEN SMOOTH OUT WITH FINGER



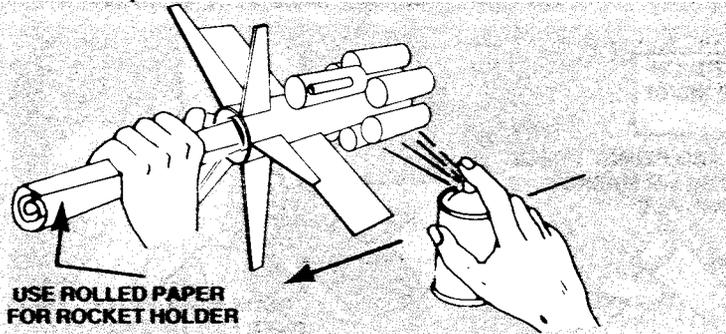
14

- A. Trim excess plastic from around sides of nose cone with sharp knife. Remove any excess plastic from inside molded eyelet. Enlarge hole in rear of nose cone.
B. Roll clay into a "snake" about 1/8 inch diameter. Poke clay through the hole in nose cone. Use pencil or dowel to push clay into end of nose cone. Pack clay tightly. Use all of the clay.
C. Wipe nose cone with damp cloth to remove oil and dirt.



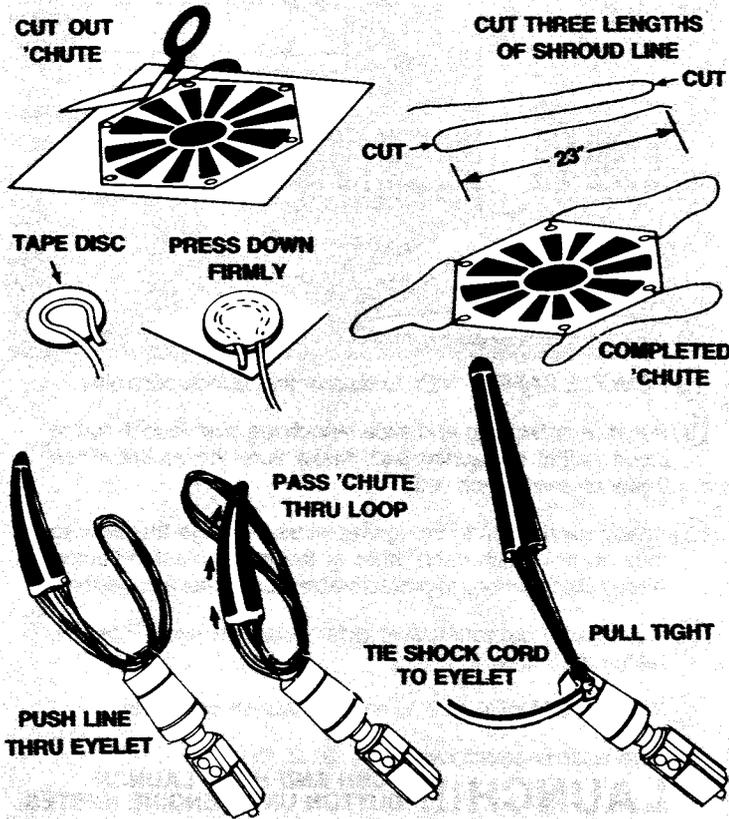
15.

- A. Apply sanding sealer to all wood parts with small brush.
- B. When sealer is dry, lightly sand all sealed surfaces.
- C. Repeat sealing and sanding until wood grain is filled and smooth.
- D. When sanding sealer and glue are completely dry, paint model with gloss white enamel.
- E. Follow instructions on spray can for best results.
- F. Let dry overnight. Paint radiator fins and bottom part of nose cone silver.
- G. Paint top part of nose cone gold. Refer to panel photo for help.



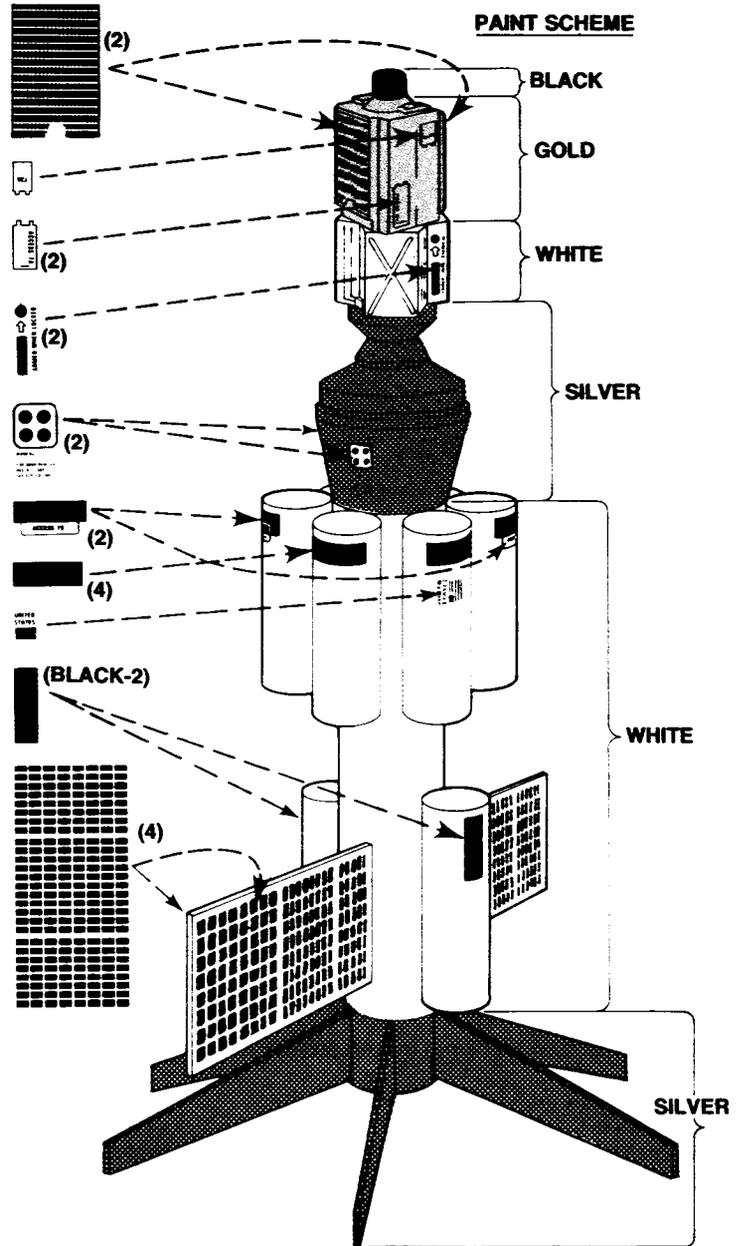
16.

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

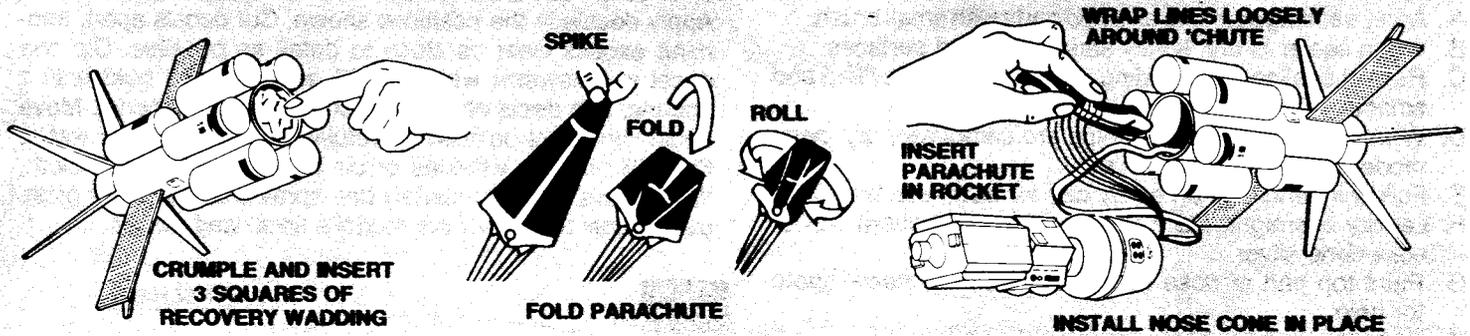


FINISHING YOUR ROCKET

Apply decals in the positions shown. Cut decals apart, trimming excess clear as close to detail as possible. Dip one decal in lukewarm water for 20 seconds and hold until it uncurls. Slip decal off backing sheet and onto model. Move decal into exact position. Carefully blot away excess water. Smooth out any wrinkles or air bubbles with a soft cloth. When decals are completely dry, spray a coat of clear gloss over model to protect the model's finish and decals.



ROCKET PREFLIGHT



PREPARE ENGINE



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: B4-2, B4-4, B6-2, B6-4, B8-5, C5-3, C6-3, and C6-5

Use a B4-2 engine for your 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.

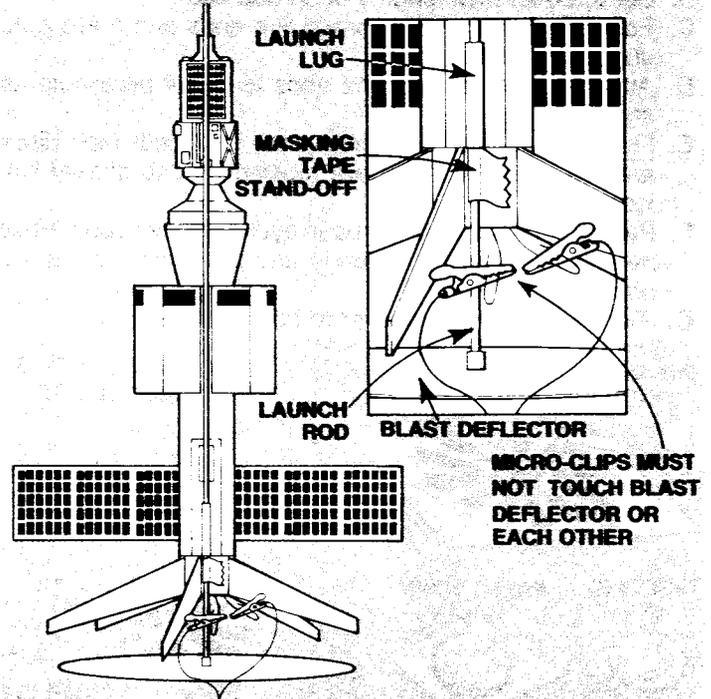
FOR YOUR SAFETY AND ENJOYMENT

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

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COUNTDOWN AND LAUNCH



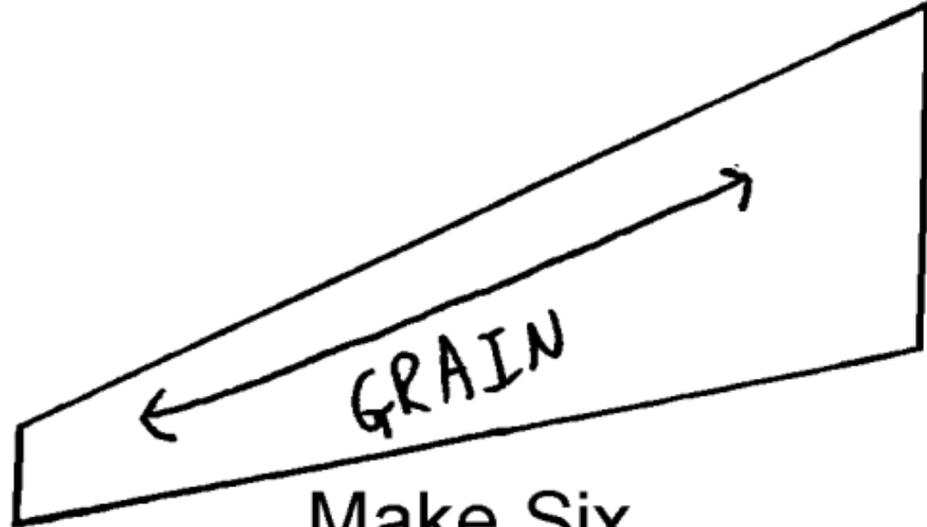
- 10 REMOVE SAFETY KEY to disarm the launch controller.
- 9 Remove safety cap and slide launch lug over launch rod to place rocket on launch pad. Make sure the rocket slides freely on the launch rod.
- 8 Attach micro-clips to the igniter wires. Arrange the clips so they do not touch each other or the 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...

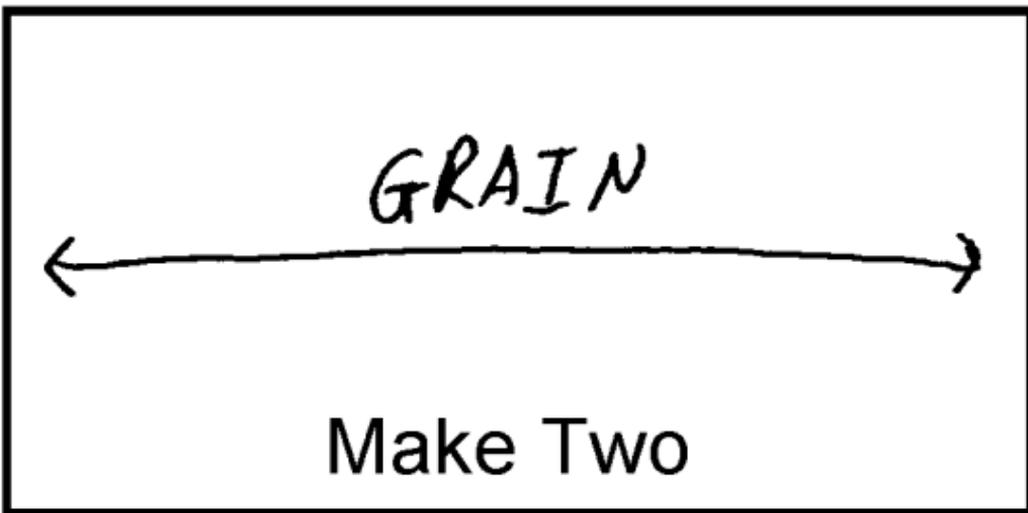
LAUNCH!!! PUSH AND HOLD LAUNCH BUTTON UNTIL ENGINE IGNITES

Remove safety key—Replace cap on rod.

83959



Make Six



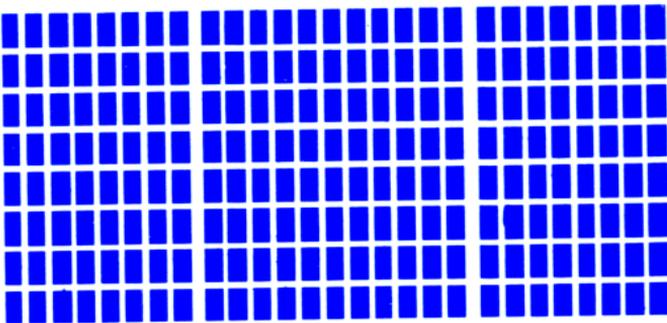
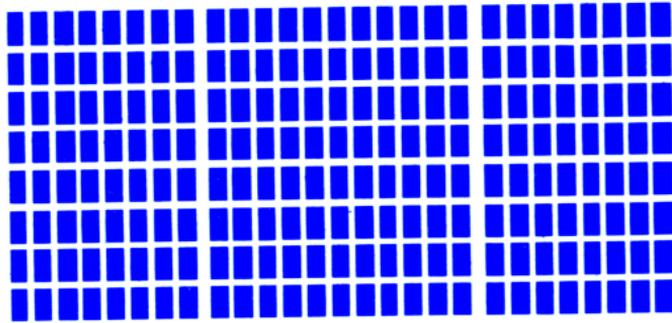
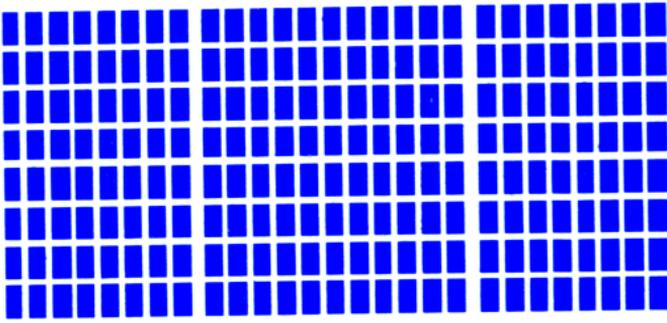
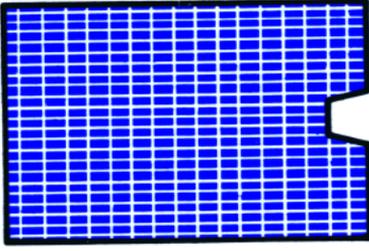
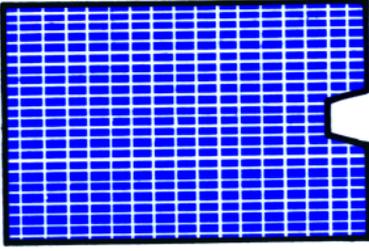
Make Two

est2003.txt

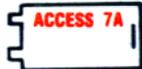
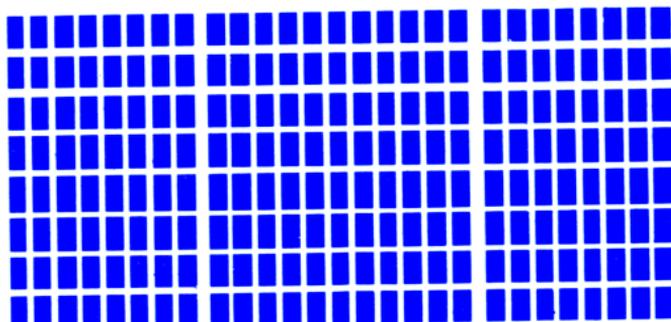
SDI Satellite

Fin stock is 3/32" thick balsa

Total Length:	13"
Diameter:	2 3/4"
Body tube (BT-55):	6 1/2"
Nose Cone:	6"
Fuel Tanks:	2 1/4"



WARNING FOR DOOR REMOVAL RESTRICTIONS SEE SOP VOLUME 1



WARNING FOR DOOR REMOVAL RESTRICTIONS SEE SOP VOLUME 1

SDM

SATELLITE

PROJECT 2

FLYING MODEL ROCKET

▶ Includes a model of a satellite
▶ Includes a model of a rocket
▶ Includes a model of a satellite

- ▶ 1/2" x 1/2" x 1/2" x 1/2"
- ▶ 1/2" x 1/2" x 1/2" x 1/2"
- ▶ 1/2" x 1/2" x 1/2" x 1/2"
- ▶ 1/2" x 1/2" x 1/2" x 1/2"

PROJECT 2
FLYING MODEL ROCKET
\$19.99



SDM, INC.

