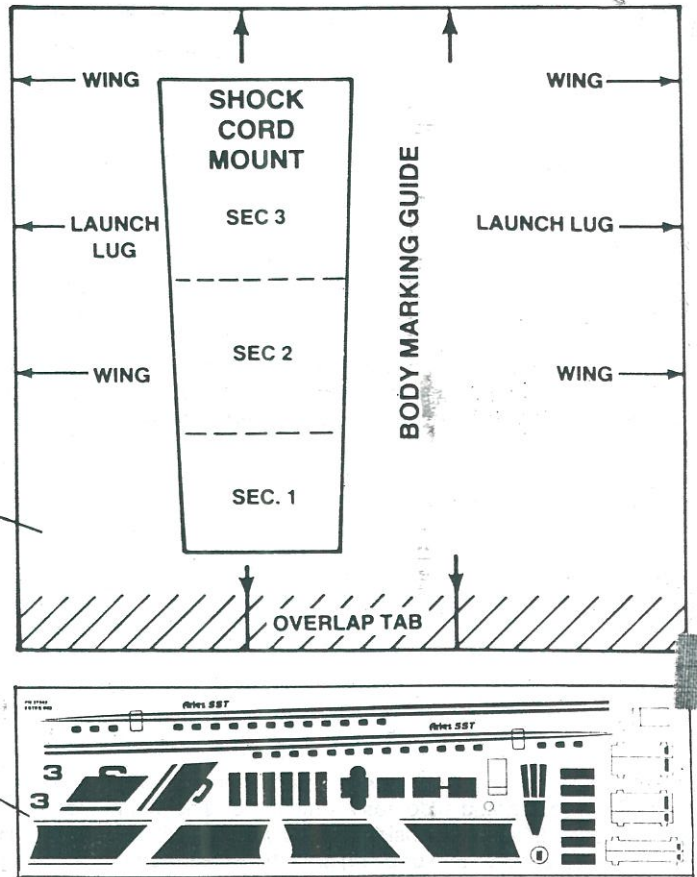
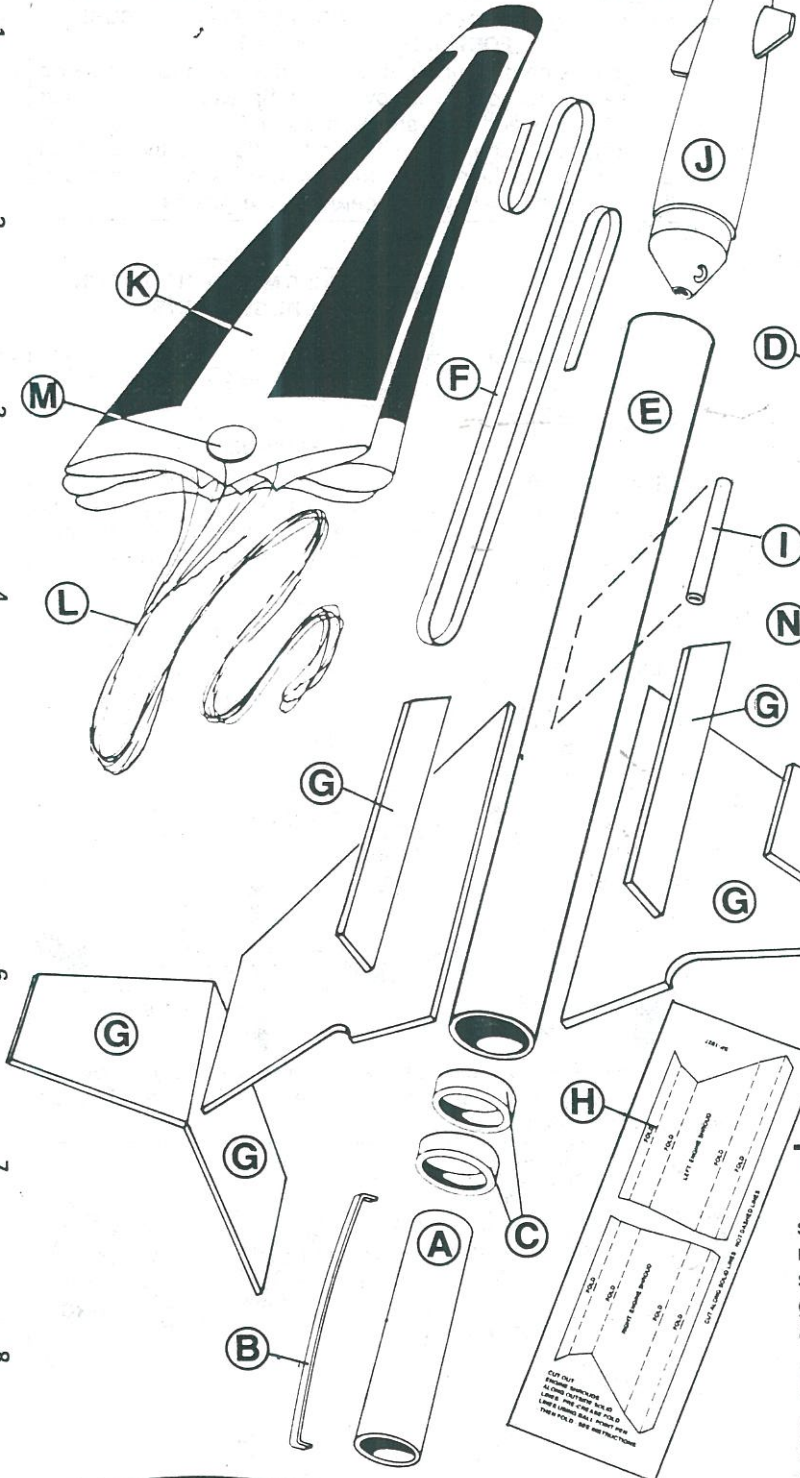


Aries SST

SKILL LEVEL 2 - Recommended for Intermediate Rocketeers.

INCHES
1
2
3
4
6
7
8
9
10



BEFORE YOU START

Read each step and study the accompanying drawings before doing any of the work called for in that step. Make sure you have all parts and materials. Check off each step as you complete it. Always test-fit parts together before applying glue. It will sometimes be necessary to sand edges of rings, tubes, etc. to obtain proper fit. If you are in doubt about the relative size or location of some parts, refer back to this exploded view drawing for clarification. Adequate glue joints are very important for a flying model rocket. Follow the instructions carefully in this regard.

TOOLS AND MATERIALS

In addition to the parts included in this kit you will need: Scissors, pencil, ruler, fine or extra-fine grit sandpaper, sanding sealer, a medium-size modeling paint brush, masking tape, modeling knife with sharp blade, gloss white enamel spray paint, and household white glue or resin glue (Elmer's, Titebond, or similar). Other types of glue are not recommended.

PARTS LIST

KIT #1927

A	1	Engine Mount Tube (type BT-20J)	30326
B	1	Engine Hook (type EH-2)	35025
C	2	Centering Ring (type AR-2050)	30164
D	1	Body Marking Guide (page 1 of Inst.)	83702
E	1	Body Tube (type BT-50H)	30360
F	1	Shock Cord (type SC-1)	85730
G	1	Die-Cut Balsa Sheet (type BF-1927)	32627
H	1	Printed Engine Shroud (type SP-1927)	83703
I	1	Launch Lug (type LL-2B)	38178
J	1	Nose Cone (type PNC-50S)	72045
K	1	Parachute (type PK-12A)	85564
L	1	Shroud Line (type SLT-72)	38237
M	1	Tape Disc Strip (type TD-3F)	38406
N	1	Decal Sheet (type KD-1927)	37242



A DAMON COMPANY

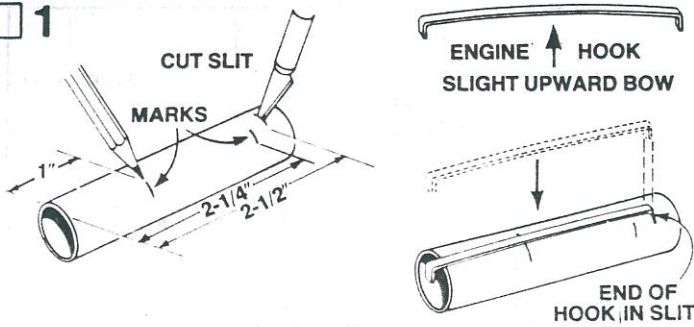
ESTES INDUSTRIES
PENROSE, CO 81240 USA

RECOMMENDED ENGINES:
A8-3 B4-4, B6-4, B8-5, C6-5
A8-3 (First Flight)

Be sure to follow the HIAA-NAR* Model Rocket Safety Code when carrying out your model rocket activities.
*HIAA—Hobby Industry of America
*NAR—National Association of Rocketry

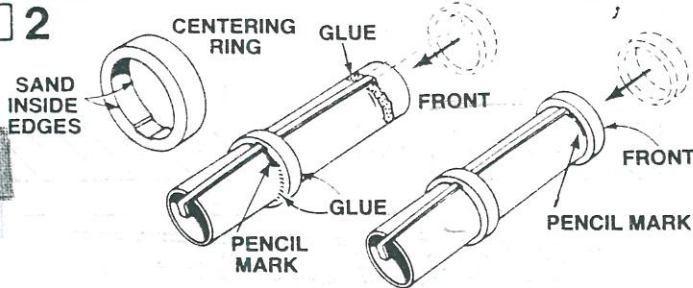
ASSEMBLY INSTRUCTIONS

1



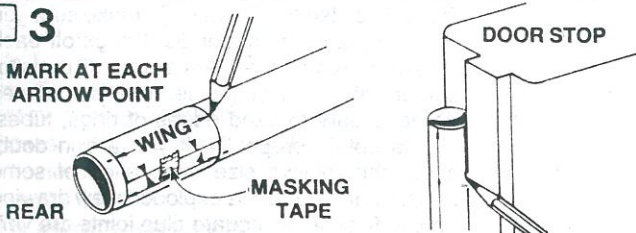
Mark the engine mount tube (part A) at 1", 2-1/4" and 2-1/2" from one end. Cut a 1/8" long slit at the 2-1/2" mark. Gently bend the engine hook (part B) so that it bows upward very slightly in the middle. (Study the drawing—Don't bend the wrong way.) Insert one end of the engine hook into the slit in the tube.

2



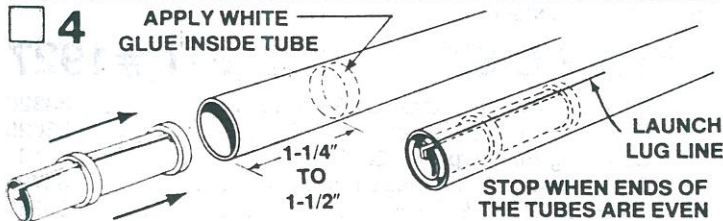
Sand the inside edges of the two centering rings (part C) to remove burrs. The rings should slide easily onto the engine mount tube. Cut a very shallow 1/8" wide slot inside the two centering rings so they will fit over the engine hook. Slip one ring onto the forward end of the engine mount tube and slide it down to the 1" mark. Make sure the engine hook runs straight down the tube, then apply glue to both sides of this ring. Apply glue around the tube at the 2-1/4" mark and slide the remaining centering ring into place down to the 2-1/4" mark.

3



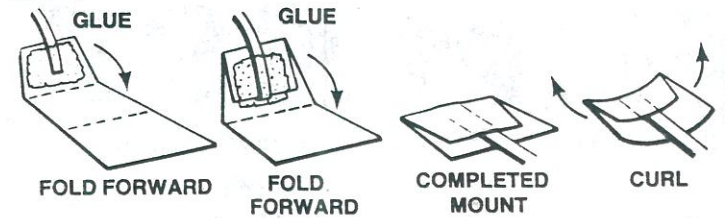
Cut out the body marking guide (part D) from page 1 of instructions. Wrap it around one end of the rocket body tube (part E). Match the printed guide marks and tape guide in place. Mark the tube at each arrow point. Remove the guide. Place the body tube against the inside edge of a door frame as shown. Draw a line about 4" long from the tube end through each pair of wing line marks. Draw a line the entire length of the body tube through the launch lug marks. Label this launch lug line. You may prefer to use a ruler to connect the tube marks and draw the alignment lines.

4



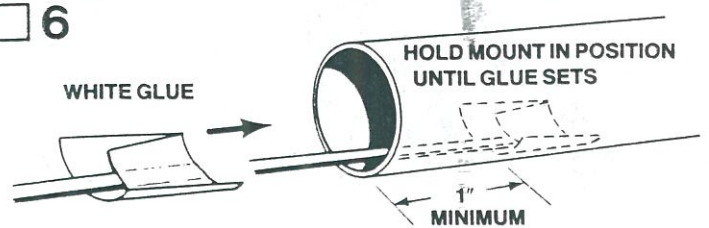
Smear a line of glue around the inside of the rear end of the body tube. The glue line should be about 1-1/4" to 1-1/2" from the end of the tube. Push the engine mount unit in right away—but be sure the mount is turned so the hook will stick out of the end of the tube. Position the engine mount so that the engine hook is centered with the launch lug line. Push the engine mount in with one smooth motion until the ends of the tubes are even.

5



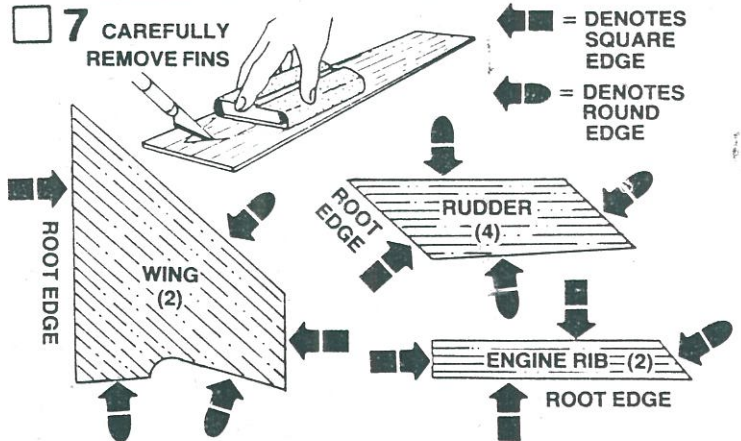
Cut out the shock cord mount from the middle of the tube marking guide. Crease it on the dotted lines by folding. Spread glue on the first section (1) and lay the end of the shock cord (part F) into the glue. Fold over and apply glue to the back of the first section and the exposed part of Section (2). Lay the shock cord as shown and fold over again. Clamp the unit together with your fingers until the glue sets.

6



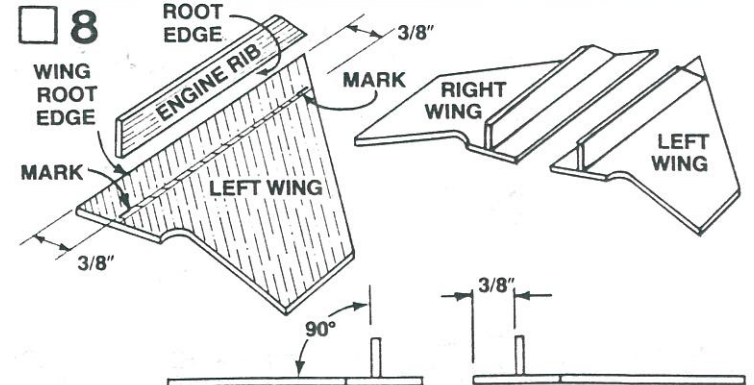
Smear glue over the back side of the shock cord mount as shown. Hold the mount so its narrow end enters the tube first, and press it into place in the front of the body tube. Make sure the front of the mount is at least 1" from the tube end to allow for the nose cone. Hold the mount in place until the glue sets.

7



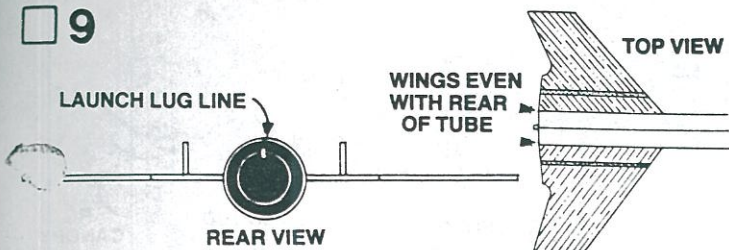
Fine-sand both sides of the balsa sheet (part G). Carefully remove the fins from the sheet using a sharp knife. Sand all fin edges. The root edge of each fin must be square.

8



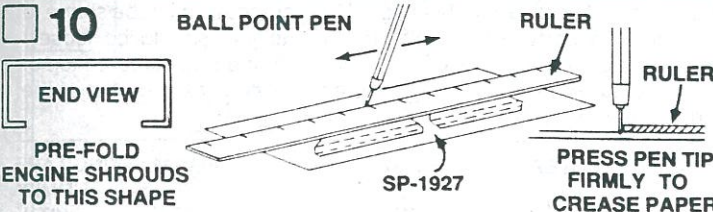
Using the illustration as a guide, lay out the parts to create two wings—one left and one right. Mark both wings 3/8" in from the root edge at both leading and trailing edges. Then use a ruler to draw a line connecting the marks. Rub a line of glue into the root edges of both Engine Ribs and allow to dry. Glue the Engine Ribs to the wings next to the lines as shown. Check to be sure the Ribs stand straight up before the glue dries.

9



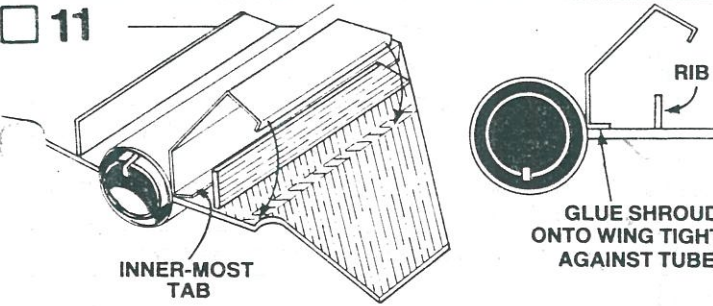
Rub a line of glue into the root edge of both wings and allow to dry. Glue the wings to the body tube on the alignment lines as shown. The rear of each wing should be even with the rear of the body tube as shown. Adjust the wings so that they project straight out from the body tube. Do not set the rocket on its wings while the glue is drying.

10



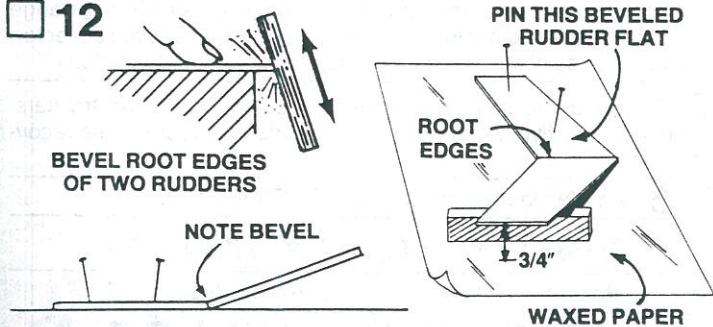
Lay the printed Engine Shroud sheet (part H) on a flat surface. Lay a ruler straight along the sheet so that one set of dashed lines of both Engine Shrouds line up. Run a ball-point pen back and forth the length of the sheet while applying moderate pressure to the pen. This will precrease the paper on the dashed lines. Repeat this procedure with each set of remaining dashed lines. Now cut out the shrouds along the solid lines and pre-fold these to the shape shown with the printed side to the inside.

11



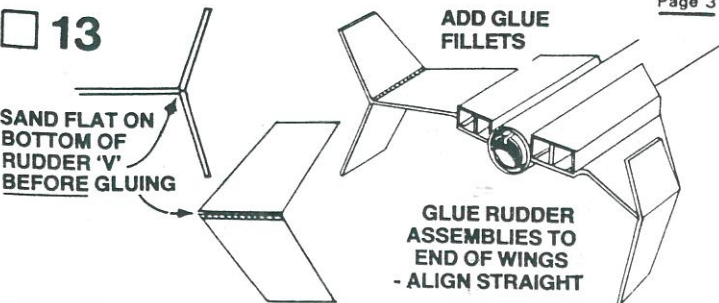
Glue the Engine Shrouds to the wings. To do this, gently unfold a shroud as shown and apply a thin layer of glue to what will be the inner-most glue tab. Press the tab onto the wing and tight against the body tube. Use a blunted pencil or dowel to rub the tab onto the wing and allow the glue to dry. Now swing the shroud down onto the wing rib and wing to understand what will be done next. Note the illustration showing the proper position of the outer-most tab. Apply a thin layer of glue to this tab and the top edge of the engine rib. Bring the shroud down into position and hold in place while the glue sets. Glue the other shroud to the other wing in the same fashion.

12



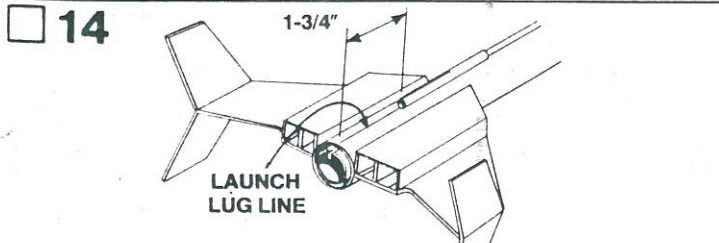
Give a bevel into the root edges of two rudders. Lay a piece of waxed paper on the work surface and pin down one of the beveled rudders. Do not damage the surface on which you are working. Rub glue into the root edge of one of the un-beveled rudders. Position the root edges of the two pieces tightly together. Raise the un-pinned rudder tip 3/4" as shown while the glue dries. Assemble the two remaining rudders in the same manner.

13



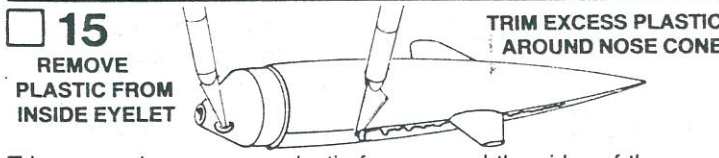
Sand flat a small area at the glue joint on both rudder assemblies as shown. This makes a better and stronger glue joint. rub a thin layer of glue onto these flat areas and allow to dry. Apply a line of glue to the end of a wing and press a rudder assembly into place. Check for straight alignment and allow the glue to dry. Repeat this with the other rudder assembly and wing. When all the glue is dry, add reinforcement fillets of glue as shown to all rudder-wing joints.

14



Glue the launch lug (part I) on the alignment line 1-3/4" from the rear of the body tube as shown. Sight along the rocket to be sure the lug is straight before the glue dries.

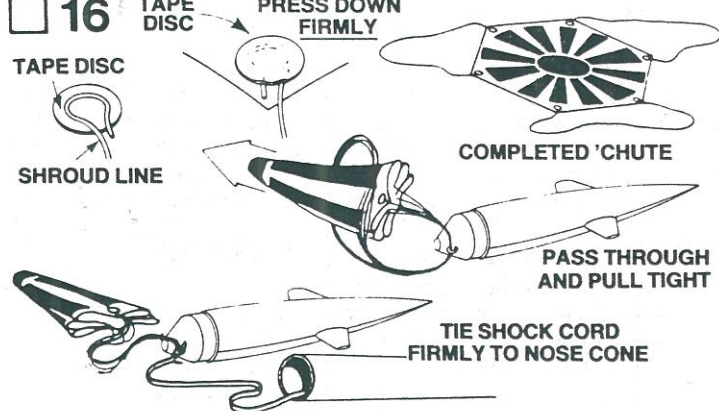
15



Trim or sand any excess plastic from around the sides of the nose cone (part J). Use a sharp knife to remove any excess plastic from the inside of the molded eyelet at the rear of the nose cone. Wash the nose cone with lukewarm water, rinse well, and dry.

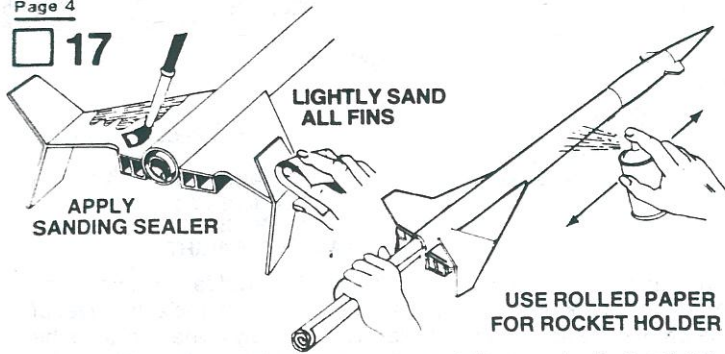
NOTE: Nose cone should separate easily from rocket body tube, but should not be extremely loose. If fit is too tight, sand inside of body tube and shoulder of nose cone with fine sandpaper. If fit is too loose, add a wrapping of transparent tape or masking tape to the shoulder of the nose cone.

16



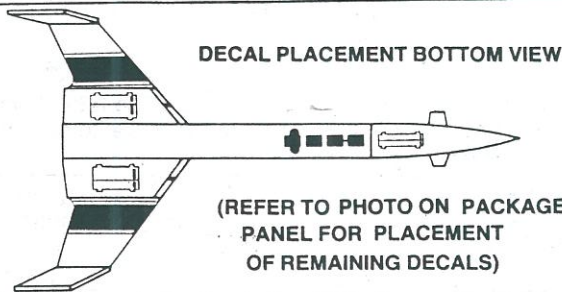
Cut out the parachute (part K) on its edge lines. Cut three equal lengths of shroud line (part L). Attach line ends to the top of the parachute with tape discs (part M) as shown. Form a small loop in the end of a shroud line. Holding loop, gently center loop inside tape disc on the sticky side. Then carefully press tape disc onto its proper place until both tape disc and parachute material are molded around the shroud line loop. Repeat for other shroud line ends and tape discs. Pass the shroud line loops through the loop on the nose cone. Pass the parachute through the loop ends and pull the lines tight against the nose cone. Tie the free end of the shock cord firmly to the nose cone loop. A square knot or strong double knot should be used.

17



Apply a coat of sanding sealer to each fin. When sealer is dry, lightly sand all the sealed surfaces. Repeat sealing and sanding process until balsa grain is filled and smooth. After the sanding sealer is completely dry, paint the entire model gloss white. Follow instructions on the spray can for best results. We recommend spray enamel. Do not paint the model with lacquer paint. Shake can before spraying. Hold the can straight up and spray in long, smooth "strokes". Spray the model with several light, dry mist coats of paint to avoid "runs". Shake can periodically. To obtain a gloss, final coat should be applied slightly heavier. Let this coat dry overnight.

18



When all paint is dry, apply the decals (part N) in the positions shown. (A) Cut only one decal at a time from sheet. (B) Submerge decal in lukewarm water until decal slides on backing paper (usually 15 to 30 seconds). (C) Gently slide decal from backing paper onto model. (D) Move decal into exact position and carefully blot away excess water with a soft cloth. (E) If the decal "sticks" before you have it in position, apply water over the decal with a brush. This will permit the decal to be moved. (F) Smooth out all wrinkles and air bubbles before the decal dries. We recommend that the completed model be sprayed with Testor's "Gloss Cote". This is a clear spray paint that protects the model's finish.

MASTER MODELERS NOTE:

To apply the long window decals, be sure the nose cone is mounted firmly in the body tube with the nose cone fins aligned straight with the wings. Apply the window decals as a continuous strip across the nose cone-body tube joint. After the decal is completely dry. Use a sharp knife to carefully cut through the decal at the nose cone joint.

LAUNCHING COMPONENTS

To launch your rocket you will need the following items:

- An Estes model rocket launching system
- Flame resistant recovery wadding (Estes Cat. No. 2274)
- Estes A8-3 (First Flight) B4-4, B6-4, or C6-5, model rocket engines. Use an A8-3 engine for your first flight.

COUNTDOWN CHECKLIST

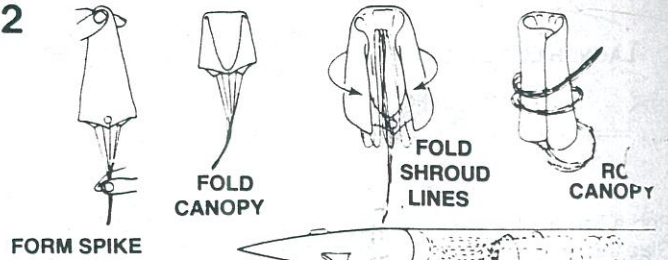
T-13



Pack 2 or 3 squares of loosely crumpled recovery wadding into the body tube. Usually this will fill the body tube for a distance equal to about 1-1/2 times its diameter.

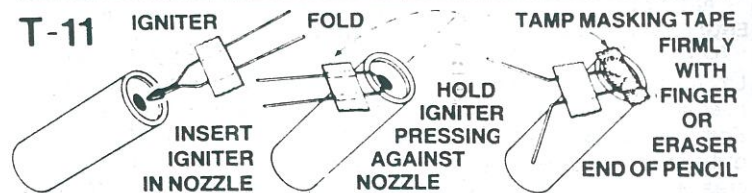
NOTE: DO NOT pack parachute until you are actually ready to launch. For maximum parachute reliability, lightly dust the 'chute with ordinary talcum powder before each flight, especially in cold weather.

T-12



Hold the parachute at its center and pass the other hand down it to form a "spike" shape. Fold this spike in half. Fold shroud lines back along parachute and then back down to lower edge of parachute to reduce length of shroud line "left over". Roll parachute into tube shape to fit easily into body. Any remaining shroud line should be loosely wrapped around parachute. Pack 'chute into the body tube on top of the wadding. Pack the shroud lines and shock cord in on top of the parachute and slip the nose cone into place.

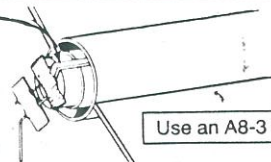
T-11



Select an engine and install an igniter as directed in the engine instructions. The engines recommended for use with this rocket are the A8-3, B4-4, B6-4, B8-5, and C6-5 made by Estes.

T-10

ENGINE HOOK MUST LATCH SECURELY

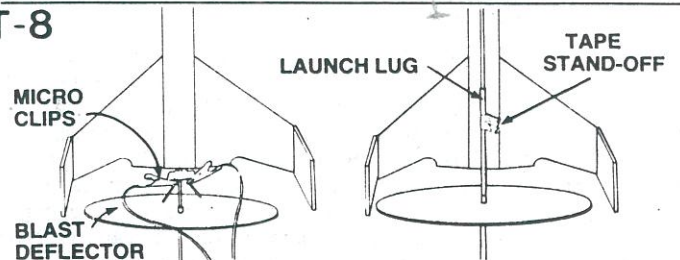


Use an A8-3 engine for your first flight.

Insert engine into rocket engine mount. Engine hook must latch securely over end of the engine.

T-9 Disarm the launch panel—REMOVE SAFETY KEY!

T-8



Slide launch rod through rocket launch lug and place rocket on launch pad. Make sure the rocket slides freely on the launch rod. Clean the micro-clips and attach them 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.

T-7 Clear the launch area. Alert recovery crew and trackers. Check for low flying aircraft and unauthorized persons in the recovery area.

T-6 Arm the launch panel—INSERT SAFETY KEY!

5-4-3-2-1-LAUNCH!!

Repeat Countdown Checklist for each flight.

MISFIRE PROCEDURE

Disarm the launch panel. Wait one minute before approaching the rocket on the launch pad. Remove the rocket, clean the igniter residue from the nozzle of the engine, and carefully install a new igniter. Repeat the Countdown Checklist.

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.