

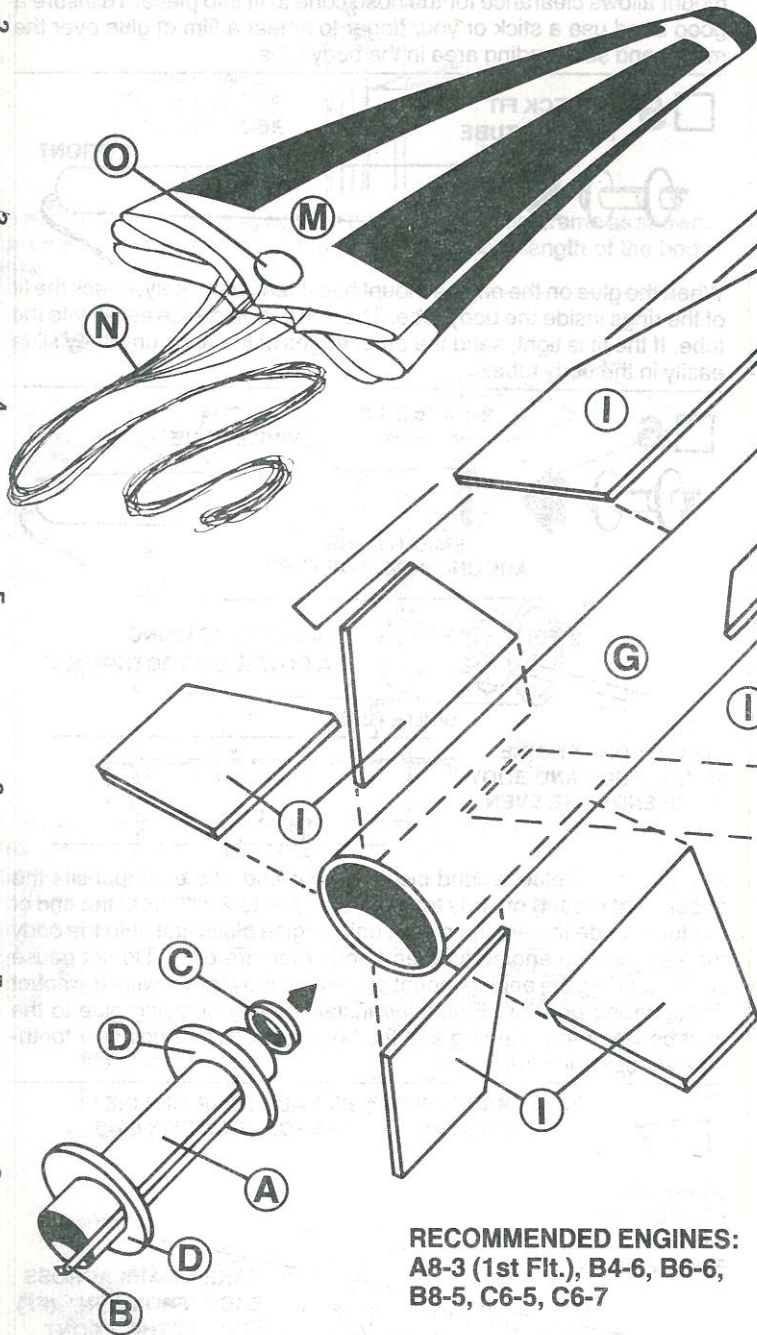
# EXOCET MM 38 *aerospatiale*

SKILL LEVEL 3 - Recommended for Craftsman Rocketeers.



A DAMON COMPANY

ESTES INDUSTRIES  
PENROSE, CO 81240 USA

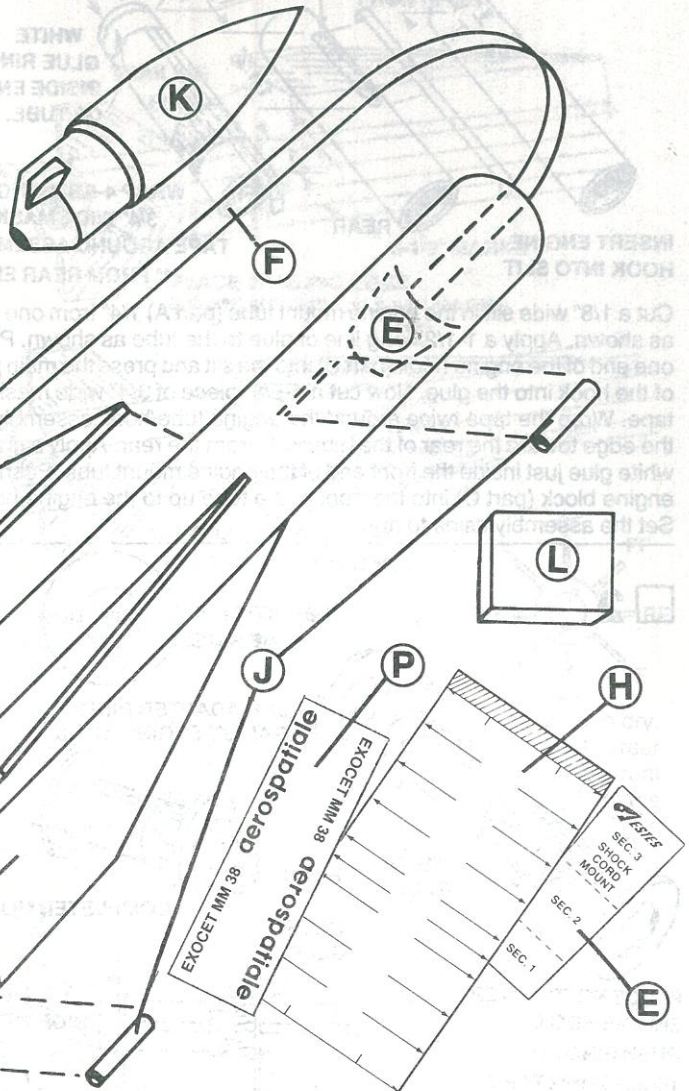


**RECOMMENDED ENGINES:**  
A8-3 (1st Flt.), B4-6, B6-6,  
B8-5, C6-5, C6-7

## TOOLS AND MATERIALS

In addition to the parts included in this kit you will need: Scissors, household white glue (Elmer's, Titebond, or similar), pencil, ruler, fine or extra-fine grit sandpaper, sanding sealer, a medium-size modeling paint brush, modeling knife with sharp blade. Gloss white, gloss black & insignia orange spray enamel, and Dull Cote spray.

For easy and positive alignment of the rear fins on your model, we recommend the use of Estes' Fin Alignment Guide, Part No. 2231.



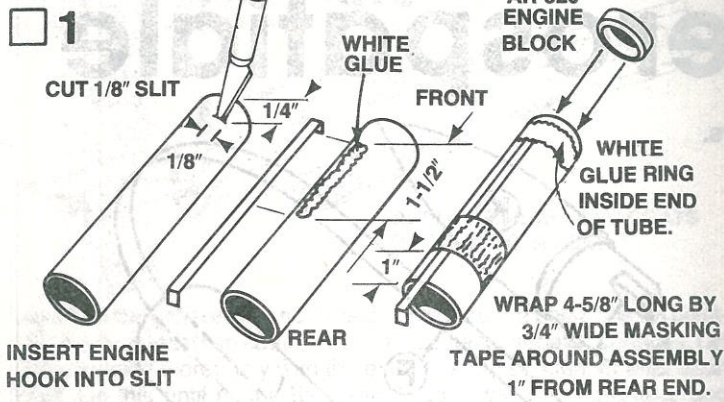
## BEFORE YOU START

Read all instructions before beginning construction on your model. Make sure you have all parts and materials. When you are thoroughly familiar with the assembly procedure, begin construction. Check off each step as you complete it. In each step, test-fit the parts together before applying any glue. If some part doesn't fit properly, sand lightly or build up as required for precision assembly.

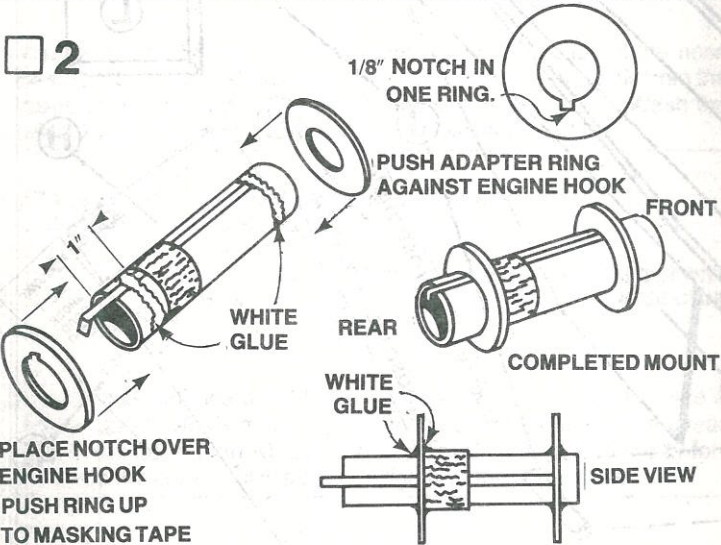
## PARTS LIST KIT NO. 1925

A	1 Engine Mount Tube (BT-20J)	30326
B	1 Engine Hook (EH-2)	35025
C	1 Engine Block (AR-520)	30162
D	1 Adapter Ring Set (TA-1327)	30090
E	1 Shock Cord Mount	on page 5 of inst.
F	1 Shock Cord (SC-1)	85730
G	1 Body Tube (BT-55)	30382
H	1 Body Tube Marking Guide	on page 5
I	1 Die-Cut Balsa Fin Sheet	32625
J	1 Launch Lug (LL-2A)	38175
K	1 Plastic Nose Cone (PNC-55 EX)	71031
L	1 Clay Balance Weight	85264
M	1 Parachute (PK-12A)	85564
N	1 Shroud Line (SLT-T2)	38237
O	1 Tape Discs Set (TD-3F)	38406
P	1 Decal (KD-1925)	37240

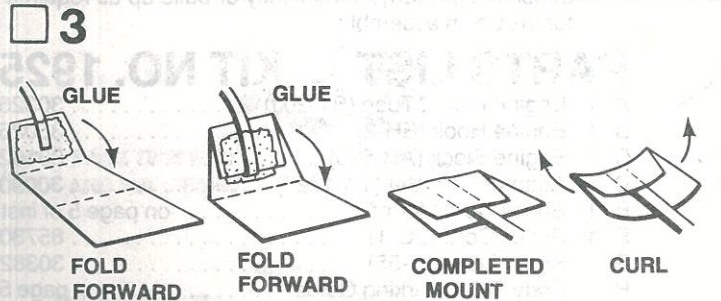




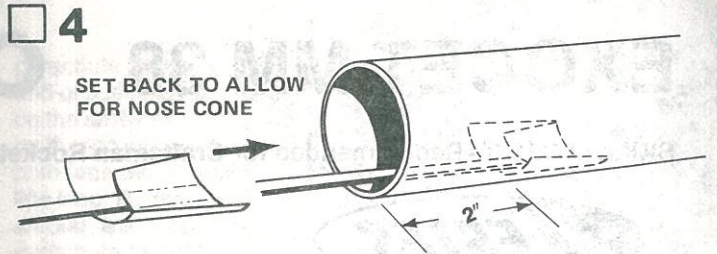
**1** CUT 1/8" SLIT 1/4" FROM ONE END AS SHOWN. APPLY A 1-1/2" LONG LINE OF GLUE TO THE TUBE AS SHOWN. PUSH ONE END OF THE ENGINE HOOK (PART B) INTO THE SLIT AND PRESS THE MAIN PART OF THE HOOK INTO THE GLUE. NOW CUT A 4-5/8" PIECE OF 3/4" WIDE MASKING TAPE. WRAP THE TAPE TWICE AROUND THE ENGINE TUBE/HOOK ASSEMBLY SO THE EDGE TOWARD THE REAR OF THE TUBE IS 1" FROM THE REAR. APPLY A RING OF WHITE GLUE JUST INSIDE THE FRONT END OF THE ENGINE MOUNT TUBE. PUSH THE ENGINE BLOCK (PART C) INTO THE FRONT OF THE TUBE UP TO THE ENGINE HOOK. SET THE ASSEMBLY ASIDE TO DRY.



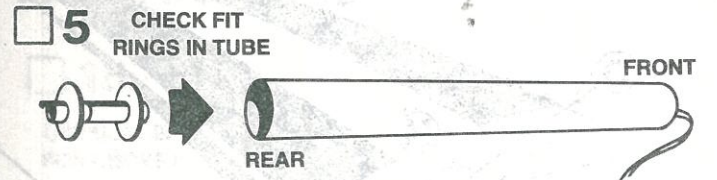
**2** CAREFULLY SEPARATE THE TWO ADAPTER RINGS (PART D) FROM THE DIE-CUT CARD SHEET. SLIDE THE NOTCHED ADAPTER RING OVER THE REAR OF THE ENGINE TUBE UP TO THE MASKING TAPE SO THAT THE NOTCH IS OVER THE ENGINE HOOK. SLIDE THE OTHER ADAPTER RING OVER THE FRONT OF THE ENGINE TUBE UP TO THE ENGINE HOOK AS SHOWN. GLUE THE RINGS IN PLACE BY APPLYING A LINE OF GLUE WHERE RING MEETS TUBE ALL AROUND BOTH SIDES OF EACH RING. SET THE ASSEMBLY ON ONE END WHILE THE GLUE DRIES.



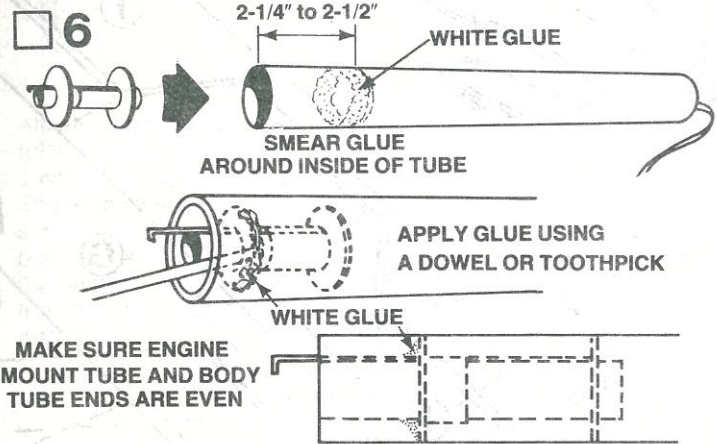
**3** CUT OUT THE SHOCK CORD MOUNT (PART E) FOUND ON PAGE 5 OF INSTRUCTION SHEET. FOLD ON DOTTED LINES, THEN UNFOLD AND APPLY GLUE TO SECTION 1. LAY THE END OF THE SHOCK CORD (PART F) INTO THE GLUE. FOLD OVER AND APPLY GLUE TO THE BACK OF SECTION 1 AND THE EXPOSED PORTION OF SECTION 2. FOLD AGAIN TO COMPLETE MOUNT. CURL THE EDGES OF THE MOUNT UP SO IT WILL MATCH THE CONTOUR OF THE BODY TUBE AND HOLD WITH YOUR FINGERS UNTIL THE GLUE SETS.



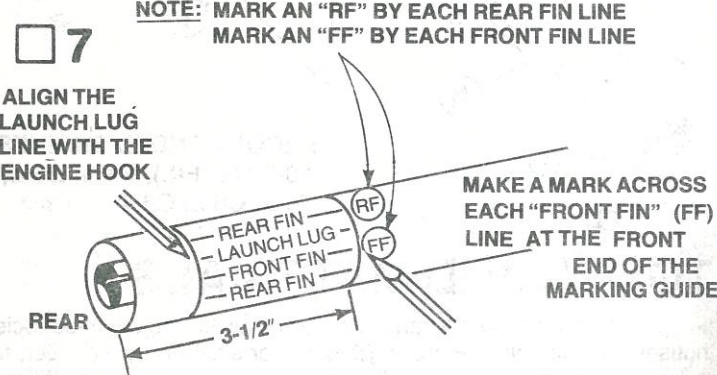
**4** USE A FINGER OR STICK TO APPLY GLUE TO THE INSIDE OF THE FRONT OF THE BODY TUBE (PART G) 2" FROM THE FRONT OF THE TUBE. PRESS THE SHOCK CORD MOUNT FIRMLY INTO POSITION IN THE GLUE. BE SURE THE FRONT EDGE OF THE SHOCK CORD MOUNT ALLOWS CLEARANCE FOR THE NOSE CONE TO FIT INTO PLACE. TO INSURE A GOOD BOND USE A STICK OR YOUR FINGER TO SMEAR A FILM OF GLUE OVER THE MOUNT AND SURROUNDING AREA IN THE BODY TUBE.



**5** CHECK FIT RINGS IN TUBE. WHEN THE GLUE ON THE ENGINE MOUNT HAS DRIED COMPLETELY, CHECK THE FIT OF THE RINGS INSIDE THE BODY TUBE. THE RINGS SHOULD SLIDE EASILY INTO THE TUBE. IF THE FIT IS TIGHT, SAND THE OUTER EDGES OF THE RINGS UNTIL THEY SLIDE EASILY IN THE BODY TUBE.



**6** APPLY A RING OF GLUE AROUND INSIDE OF REAR END (THE END OPPOSITE THE SHOCK CORD MOUNT) OF BODY TUBE ABOUT 2-1/4" TO 2-1/2" FROM THE END OF THE TUBE. SLIDE THE ENGINE MOUNT UNIT, ENGINE BLOCK FIRST, INTO THE BODY TUBE SO THAT THE ENGINE TUBE AND BODY TUBE ARE EVEN. DO NOT PAUSE WHILE INSERTING THE ENGINE MOUNT OR THE GLUE MAY "GRAB" WITH THE MOUNT IN THE WRONG POSITION. FINISH THE INSTALLATION BY APPLYING GLUE TO THE JOINT BETWEEN THE REAR RING AND THE BODY TUBE. (USE A DOWEL OR TOOTH-PICK TO APPLY THE GLUE.)

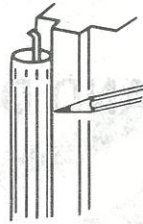


**7** CUT OUT THE BODY TUBE MARKING GUIDE (PART H), FOUND ON PAGE 5 OF THE INSTRUCTION SHEET. MAKE A MARK 3-1/2" FROM THE REAR OF THE BODY TUBE.

Tape the body tube marking guide tightly around the body tube so that the front end of the guide is even with the 3-1/2" mark. Also be sure that the launch lug line on the guide is lined up with the engine hook. Mark marks at all arrow locations for the fin & launch lug lines. Be sure to mark an "RF" by each "Rear Fin" line, and an "FF" by each "Front Fin" line. Make a mark across each "Front Fin" line at the front end of the marking guide. These marks will show you where the trailing edges of the front fins will be located.

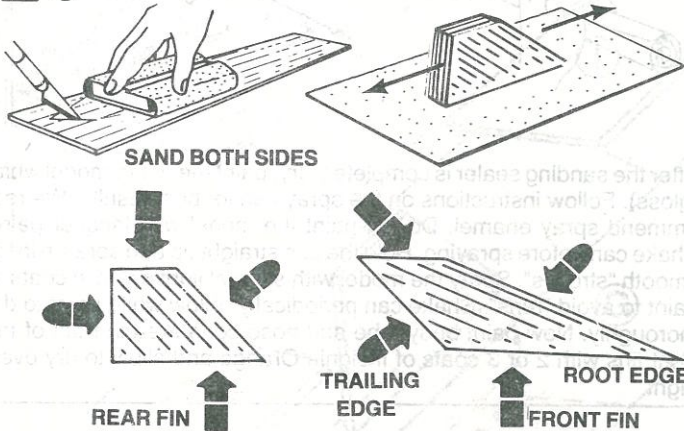
8

EXTEND LINES THE LENGTH OF THE BODY TUBE



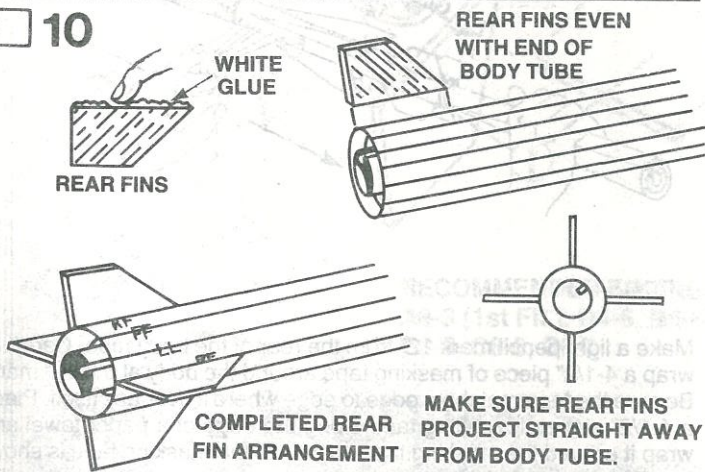
Press the body tube firmly against the inside of a door frame as shown. Draw a line through each pair of marks the entire length of the body tube.

9



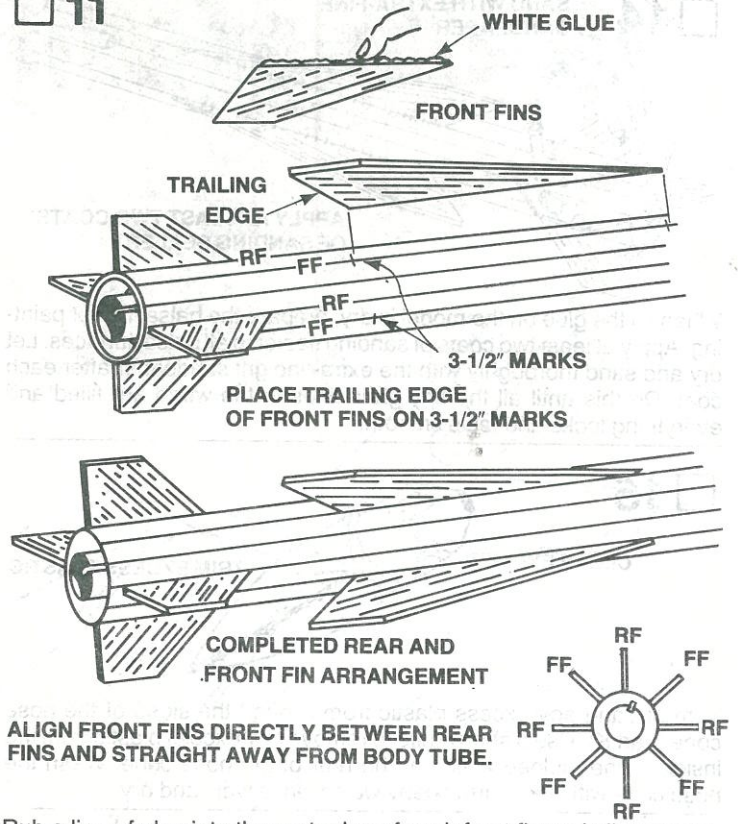
Fine sand both sides of the balsa fin sheet (part I). Carefully remove the fins from the sheet using a sharp knife to cut free the corners and edges. Stack the rear (smaller) fins and sand as shown. Repeat sanding with the stack of front (larger) fins. Round the leading and trailing edges of both sets of fins.

10



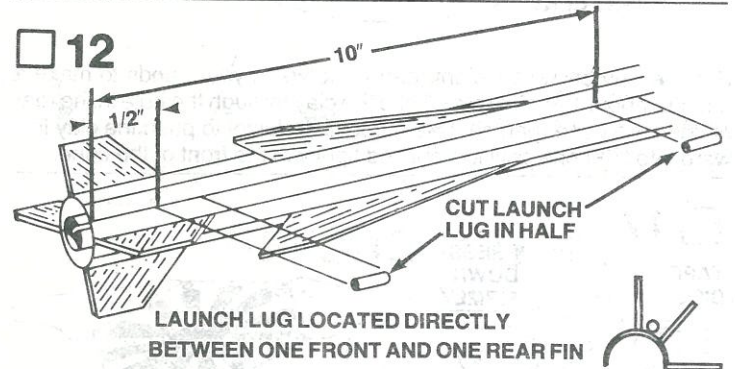
Rub a line of glue into the root edge of each rear fin and allow to dry. Glue the fins to the main body on the alignment lines, with the rear of each fin even with the rear of the body tube. Adjust the fins so they stick straight out from the body. Do not set the rocket on its fins while the glue is wet.

11



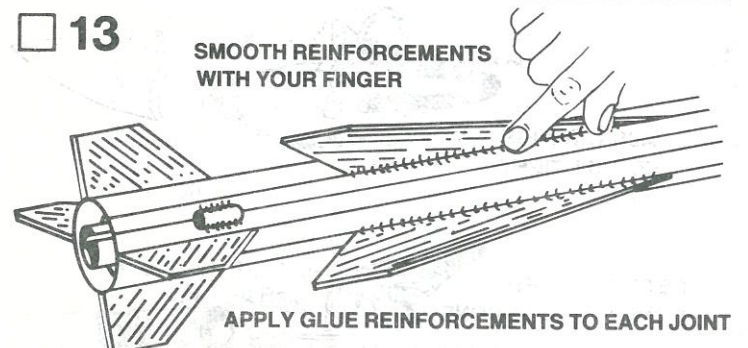
Rub a line of glue into the root edge of each front fin and allow to dry. Glue the front fins to the body tube on the alignment lines, with the rear of each fin even with the 3-1/2" marks made in step 7. Adjust the front fins so they are exactly between the rear fins (when viewed from the rear), and straight away from the body tube. Do not set the rocket on its fins while the glue is wet.

12



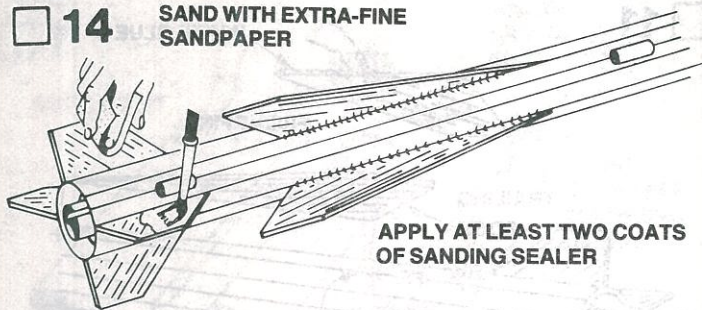
Cut the launch lug (part J) in half. Make marks on the launch lug line 1/2" and 10" from the rear of the body tube. Glue the launch lugs to the body tube as indicated in the diagram.

13



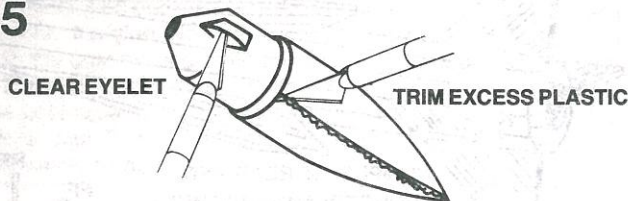
When the glue on the fin joints has dried, apply a glue reinforcement to each fin/body tube joint. Holding the model level, apply a line of glue to both sides of each fin joint and on both sides of the launch lugs. Smooth out the glue with your finger. IMPORTANT—Keep the model level until the glue dries.

**14 SAND WITH EXTRA-FINE SANDPAPER**



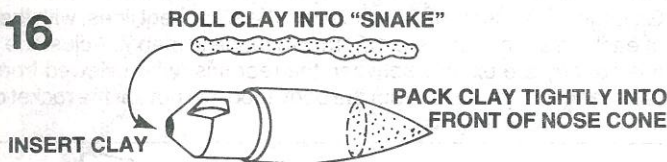
When all the glue on the model is dry, prepare the balsa fins for painting. Apply at least two coats of sanding sealer to all balsa surfaces. Let dry and sand thoroughly with the extra-fine grit sandpaper after each coat. Do this until all the tiny grain lines in the wood are filled and everything looks and feels smooth.

**15**



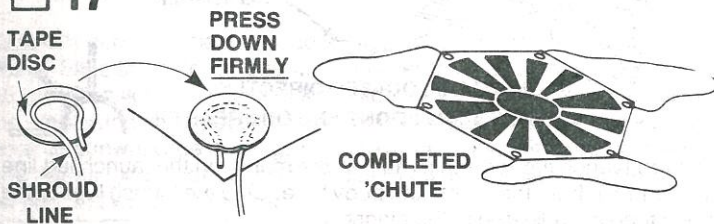
Trim or sand any excess plastic from around the sides of the nose cone (part K). Use a sharp knife to remove any excess plastic from the inside of the molded eyelet at the rear of the nose cone. Wash the nose cone with lukewarm soapy water, rinse well, and dry.

**16**



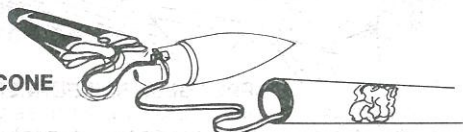
Roll the clay balance weight (part L) between your hands to make a "snake" about 1/8" diameter. Poke the clay through the hole in the rear of the nose cone (part K). Use a pencil or dowel to push the clay forward into the cone until it is packed tightly in the front of the cone.

**17**



PASS THROUGH AND PULL TIGHT

TIE SHOCK CORD FIRMLY TO NOSE CONE



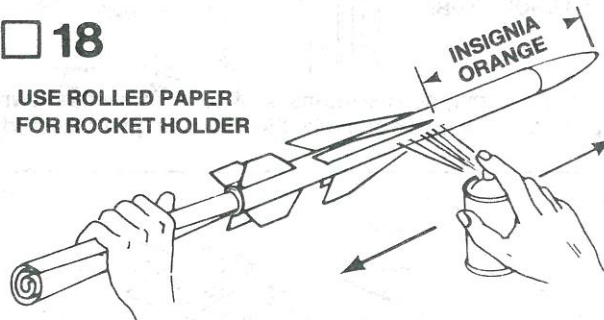
Cut out the parachute (part M) on its edge lines. Cut three equal lengths of shroud line (part N). Attach line ends to the top of the

parachute with tape discs (part O) 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 on the top of the parachute. Firmly press the tape disc into 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.

**PAINTING AND DETAILING**

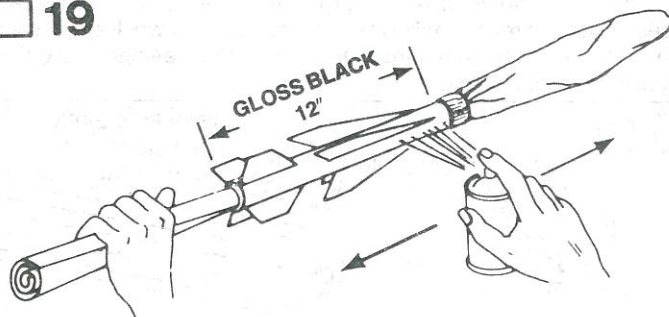
**18**

USE ROLLED PAPER FOR ROCKET HOLDER



After the sanding sealer is completely dry, paint the entire model white (gloss). 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: Allow white paint to dry thoroughly. Now paint body tube and nose cone area in front of the front fins with 2 or 3 coats of Insignia Orange and allow to dry overnight.

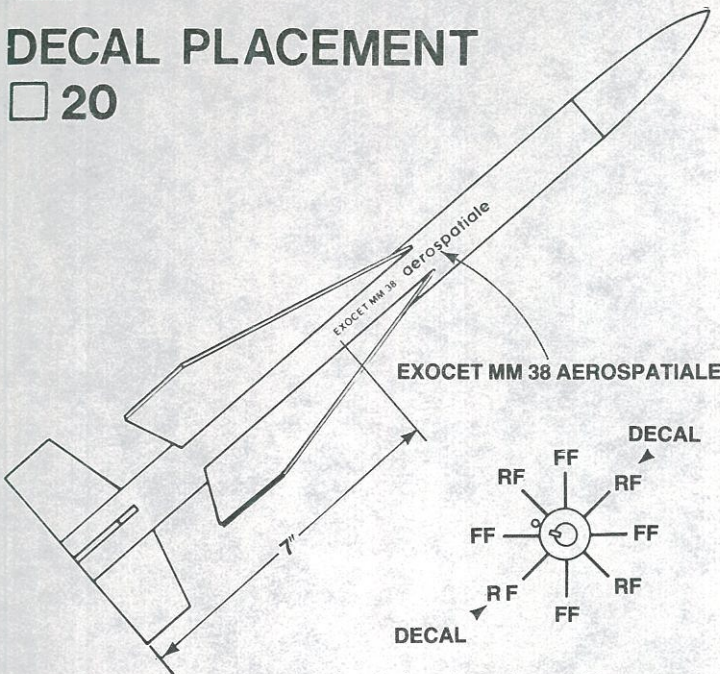
**19**



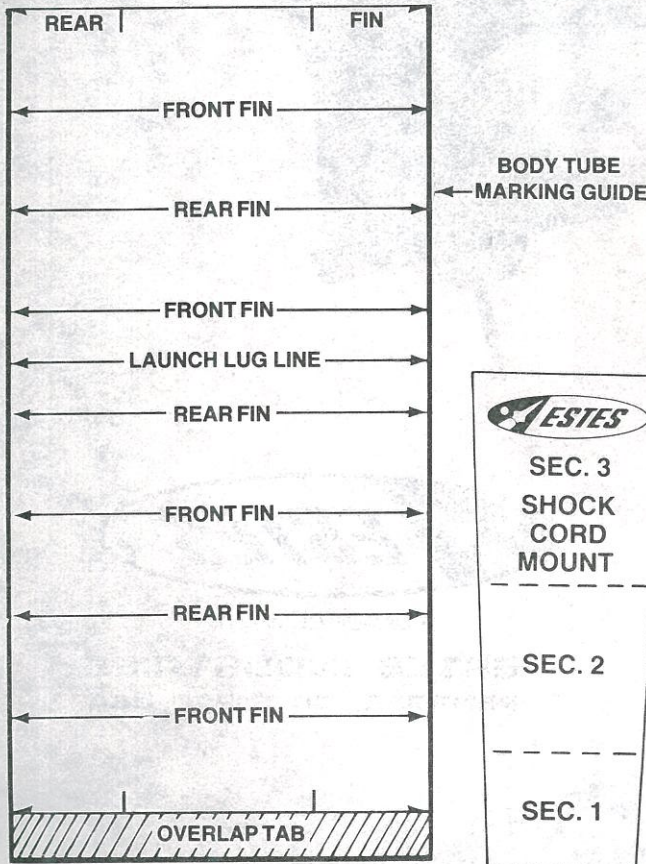
Make a light pencil mark 12" from the rear of the body tube. Carefully wrap a 4-1/2" piece of masking tape around the body at the 12" mark. Be sure the tape matches, edge to edge where it overlaps itself. Place a 4-1/2" piece of masking tape along the edge of a paper towel and wrap it around the masking tape so 1/4" of the masking tape is showing. Tape the end of the paper towel closed so no paint can get on the upper body. Now paint the fins and lower body gloss black. Remove the paper towel and masking tape and allow the model to dry overnight.

# DECAL PLACEMENT

□ 20



When all paint is dry, apply the decals (part P) in the positions shown. Locate the decals directly between two front fins and 7" from the rear of the body tube. They should be on opposite sides of the body tube from each other as indicated in the above diagrams. (1) Cut only one decal at a time from sheet. (2) Submerge decal in lukewarm water until decal slides on backing paper (usually 15 to 30 seconds). (3) Gently slide decal from backing paper onto model. (4) Move decal into exact position and carefully blot away excess water with a soft cloth. (5) 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. (6) Smooth out all wrinkles and air bubbles before the decal dries. We recommend that the completed model be sprayed with Testor's "Dull-Cote". This is a clear flat spray paint that kills the decal shine and protects the model's finish. Allow decals to dry overnight before applying "Dull Cote".



# 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) B4-6, B6-6, B8-5, C6-5, or C6-7 model rocket engines. Use an A8-3 engine for your 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

# COUNTDOWN CHECKLIST

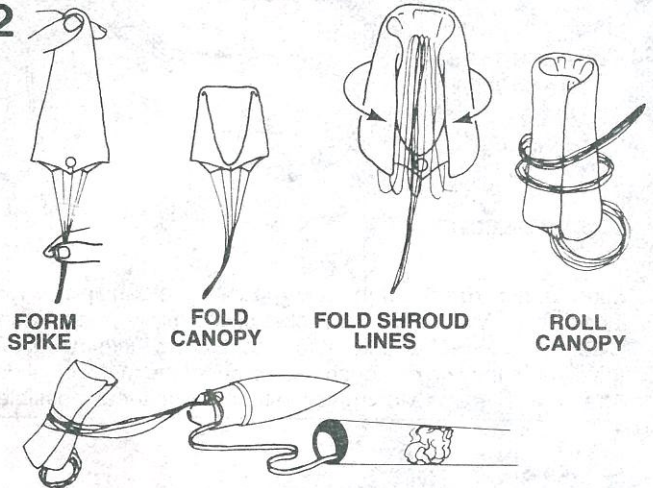
## T-13



Pack 5 or 6 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.

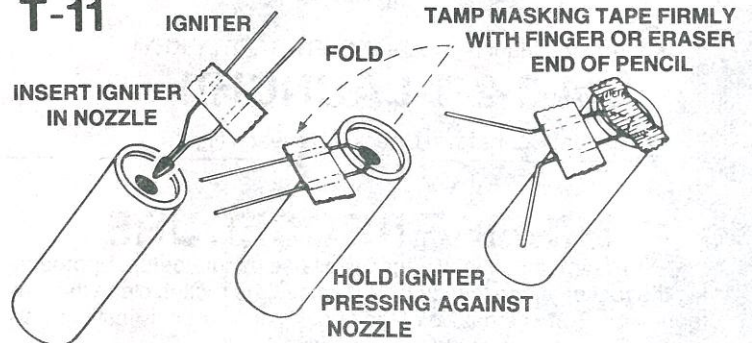
NOTE: DO NOT pack parachute until you are actually ready to launch. For maximum parachute reliability, lightly dust the 'chute with ordinary talcum powder before each flight, especially in cold weather.

## T-12



Gather the parachute as shown then fold into a triangular shape. Fold again and insert into rocket body. Slide nose cone into place.

## T-11

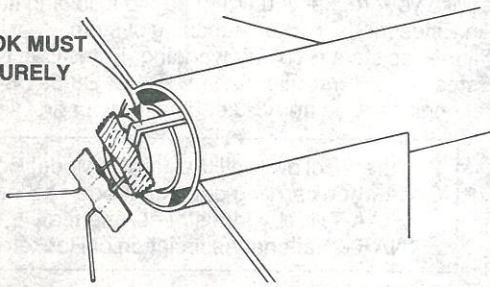


Select an engine and install an igniter as directed in the engine instructions. The engines recommended for use with this rocket are the A8-3, B4-6, B6-6, B8-5, C6-5, and C6-7 made by Estes.

Use an A8-3 engine for your first flight.

# T-10

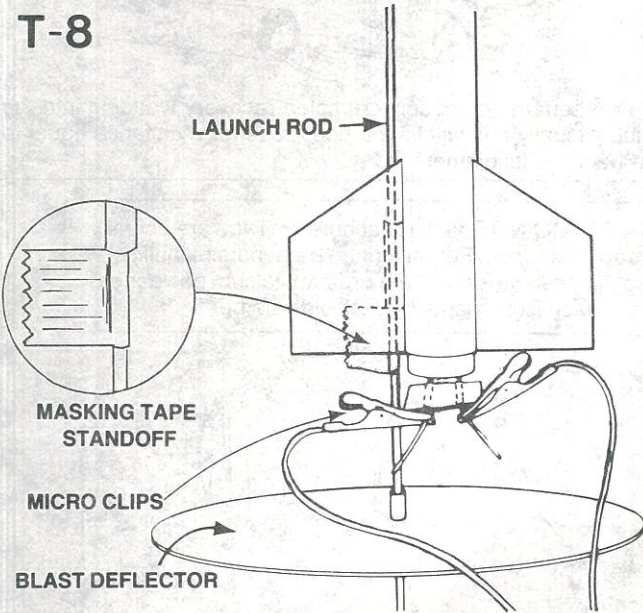
**ENGINE HOOK MUST LATCH SECURELY**



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 lugs 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.



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