

# METEOR

SKILL LEVEL 1 – Recommended for Beginning Rocketeers.

**RECOMMENDED ENGINES:**

A8-3 (First Flight) B4-2 B4-4 B6-2 B6-4 B8-5 C6-3 C6-5 C6-7

## 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.



## KIT NO. 1370 PARTS LIST

A	1 Engine Mount Tube (type BT-20J)	.....30326
B	1 Engine Hook (type EH-2)	.....35025
C	1 Hook Retainer Ring (type HR-20)	.....30168
D	1 Split Centering Ring (type AR-2050S)	.....80425
E	1 Centering Ring (type AR-2050)	.....30164
F	1 Die-Cut Balsa Sheet (type BF-1370)	.....32376
G	1 Pattern Sheet (type SP-1370)	.....83362
H	1 Body Tube (type BT-50L)	.....30366
I	1 Launch Lug (type LL-2A)	.....38175
J	1 Shock Cord (type SC-1)	.....85730
K	1 Nose Cone (type PNC-50V)	.....71025
L	1 Streamer (type SM-1C)	.....38273
M	1 Tape Disc (type TD-1)	.....38401
N	1 Decal Sheet (type KD-1370)	.....37597
O	1 Shock Cord Mount (type SCM-50)	.....84444

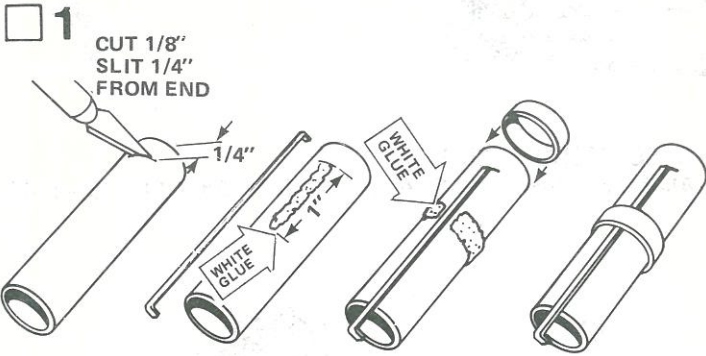
## TOOLS AND MATERIALS

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 a sharp blade, masking tape, gloss white and gloss red enamel spray paint.

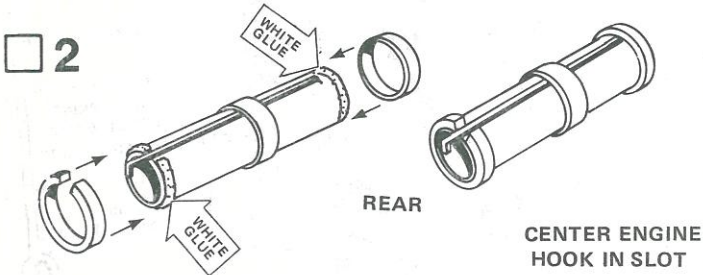
For easy and positive alignment of the fins on your model, we recommend the use of Estes' Fin Alignment Guide, Part. No. 2231.



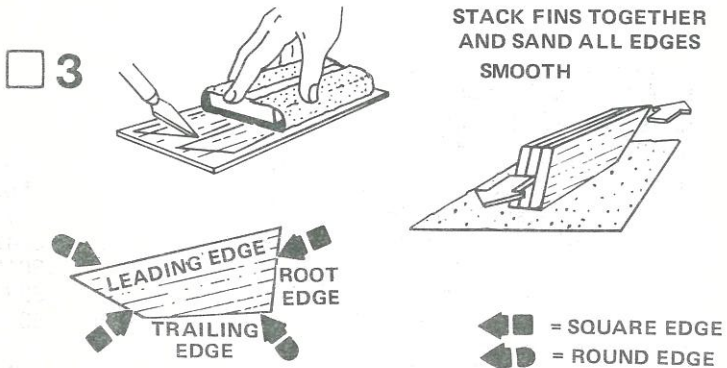
# ASSEMBLY INSTRUCTIONS



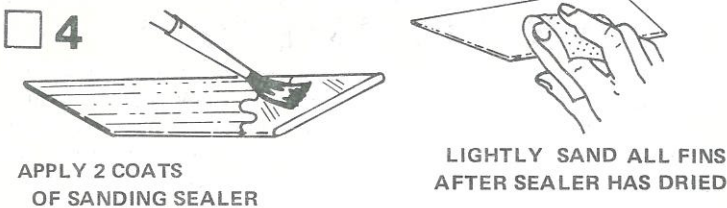
Cut a 1/8" slit in the engine mount tube (part A), 1/4" from one end as shown. Apply a 1" long line of glue to the tube. Push one end of the engine hook (part B) into the slit and press the main part of the hook into the glue. Apply a line of glue around the middle of the tube and slide the hook retainer ring (part C) over tube and hook, onto the glue.



Glue the split centering ring (part D) to the engine mount tube so the engine hook is centered within slot in ring and even with rear of tube. Avoid getting glue into the slot. Glue the other ring (part E) to the front of the engine tube against the end of the hook as shown.

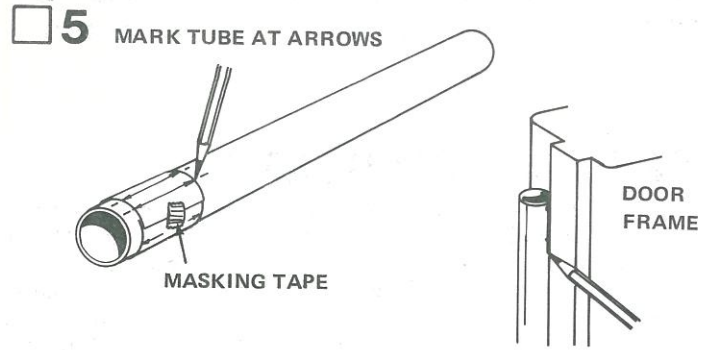


Fine-sand the balsa die-cut sheet (part F), then carefully remove the die-cut fins from the sheet. Free the edges with a sharp knife. Sand the leading and trailing edges of the fins round. Leave other edges square.

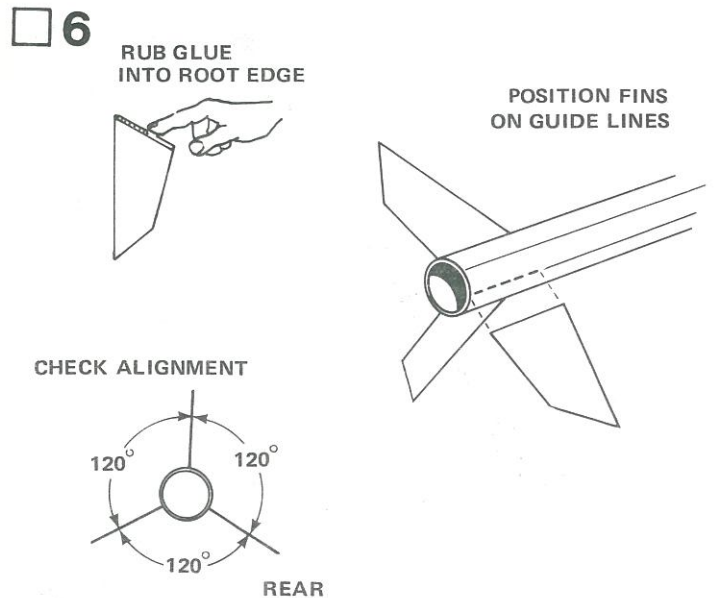


Apply a coat of sanding sealer to each fin. Apply sealer to all edges except the root edge. When sealer is dry, lightly sand all the sealed

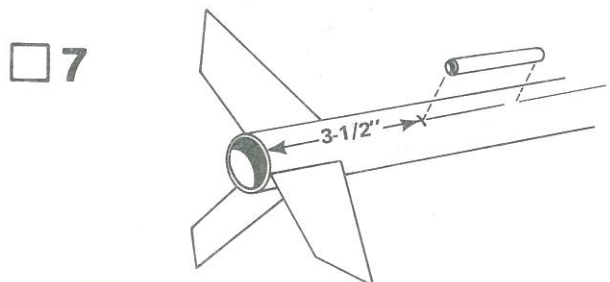
surfaces. Repeat sealing and sanding process until balsa grain no longer shows. Resand root edge, lightly, to remove any trace of sealer.



Cut out the tube marking guide from pattern sheet (part G) and wrap it around the body tube (part H). Mark the body tube at each of the arrow points. Draw straight lines connecting each mark. A door frame inside edge can be used as a guide as shown. Extend the lines about 6" up from the rear of the tube.

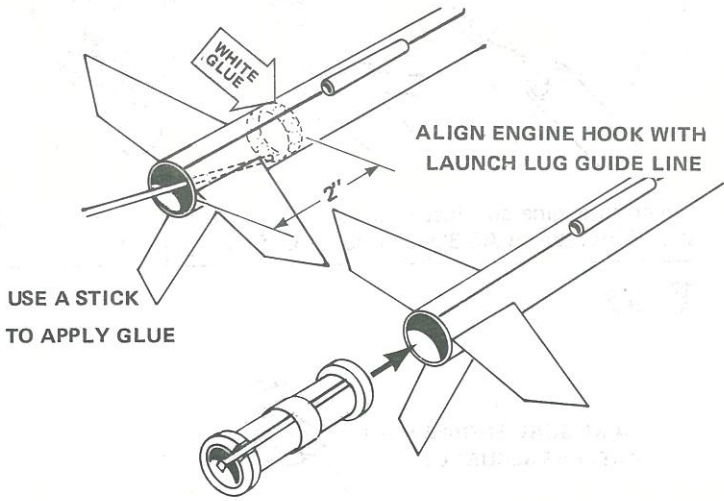


Rub a line of glue into the root edge of each fin and allow to dry. Apply glue to the fins and position fins on the alignment lines in their correct positions on the tube. Refer to the illustration to be sure of these positions. Adjust the fins so they project straight away from the body tube. Do not set the rocket on its fins while the glue is wet.



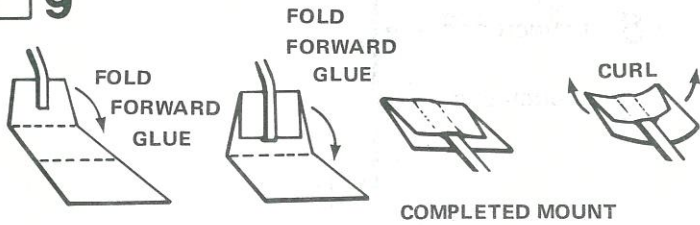
Glue launch lug (part I) to rocket body tube on the launch lug line. The rear of the launch lug should be 3-1/2" from the rear of the rocket body tube. Align the launch lug straight along the body.

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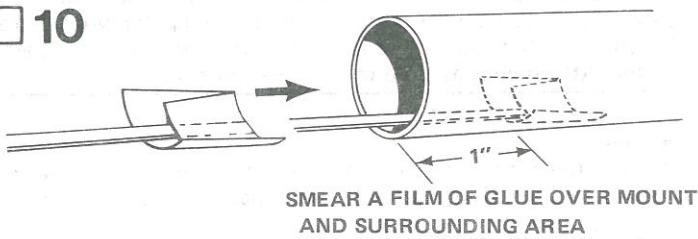
Apply a ring of glue around inside of rear end of body tube about 2" to 2-1/2" from the end of the tube. Use a stick or dowel as shown. Immediately insert the engine mount unit, being careful to position it so the engine hook will stick out of the end of the tube. Push engine mount in with one smooth motion until the split ring on the engine mount and the end of the body tubes are even.

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Cut out the shock cord mount (part O). Crease it on the dotted lines by folding. Spread glue on the first section (1) and lay the end of the shock cord (part J) 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.

10



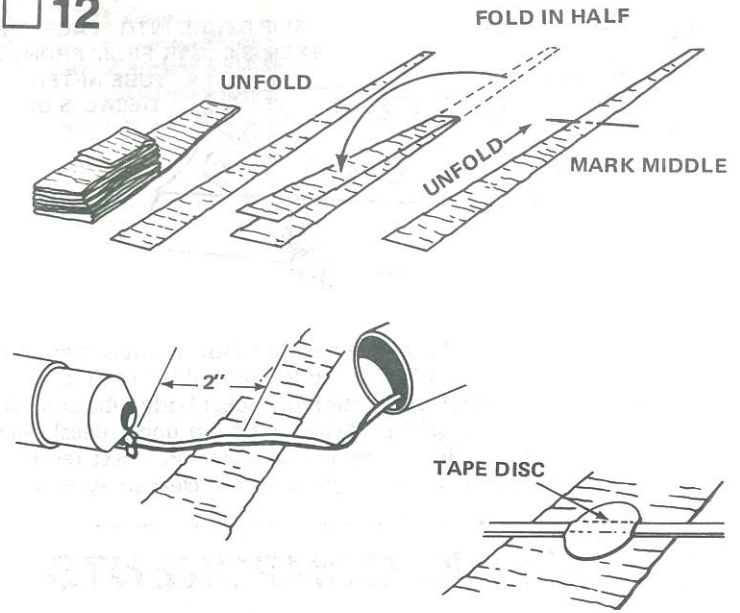
Use a stick or scrap dowel to apply a generous amount of glue inside the body tube 1" from the front of the tube for the nose cone to socket into place. Slide the shock cord mount into the tube and press it into the glue. To insure a good bond use a stick or your finger to smear a film of glue over the mount and surrounding area in the body tube.

11



Apply glue reinforcements to each fin/body tube joint. Holding the model level, apply a narrow line of glue to both sides of each fin joint. Smooth out the glue with your finger. Apply glue reinforcement on both sides of launch lug. **IMPORTANT** -- Keep the model level until the glue dries.

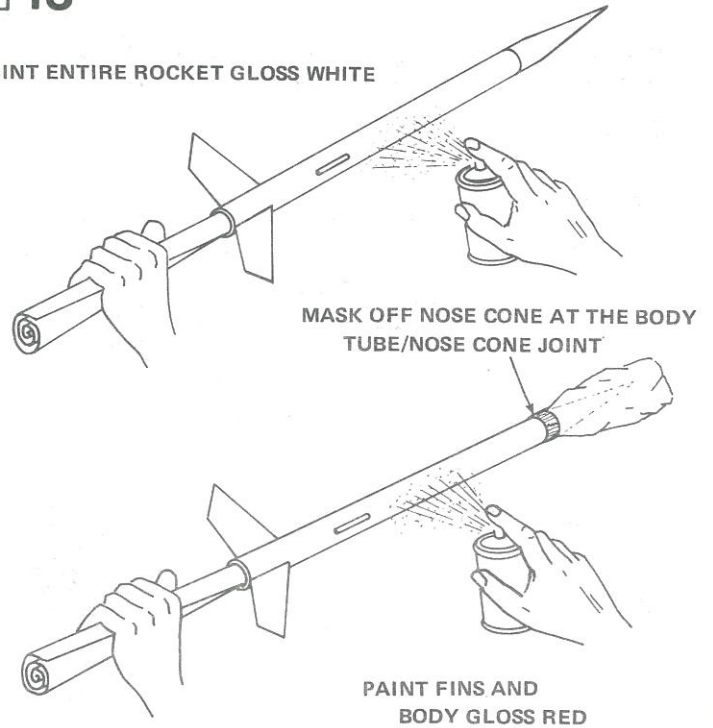
12



Tie the free end of the shock cord to the nose cone (part K). Unfold the streamer (part L) and fold lengthwise to find its center. The streamer should be secured to the shock cord about 2" from the nose cone, as shown. Lay the shock cord across the center of the streamer and secure with the tape disc (part M). Fold the streamer twice lengthwise and roll until it fits into the body tube while completing the Meteor.

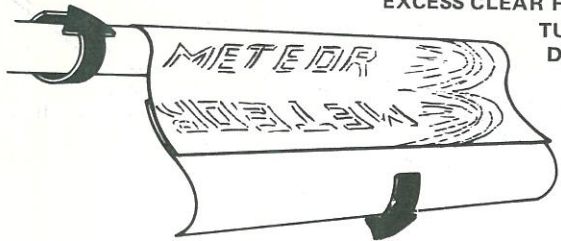
13

PAINT ENTIRE ROCKET GLOSS WHITE



When all glue on the outside of the body is dry, insert a sheet of rolled-up newspaper or heavy paper into rear of rocket body as shown. **THE PAPER MUST FIT TIGHTLY.** Apply two or three light coats of gloss white spray enamel to the entire model. Allow each coat of paint to dry completely. When paint is dry, mask off the nose cone of the rocket as shown and apply at least two coats of gloss red spray paint to the entire rocket, allowing each coat to dry completely. Remove masking tape after painting.

**14**



SLIP DECAL INTO PLACE, TRIM EXCESS CLEAR FROM FRONT OF TUBE AFTER DECAL IS DRY

Apply the decal (part N) in the position shown. Cut out decal, dip in lukewarm water for 10-20 seconds, and hold it until it starts to uncurl. Slip decal onto front portion of rocket body tube and rotate rocket while slipping backing paper out from under decal. Match up ends of decal and blot away excess water. For best results, let the model dry overnight and apply a coat of clear spray to protect the decal.

## LAUNCHING COMPONENTS

To launch your rocket you will need the following items:

- An Estes model rocket launch system
- Parachute recovery wadding (Estes Cat. No. 2274)
- Recommended engines: A8-3, B4-2, B4-4, B6-2, B6-4, B8-5, C6-3, C6-5, and C6-7. 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.

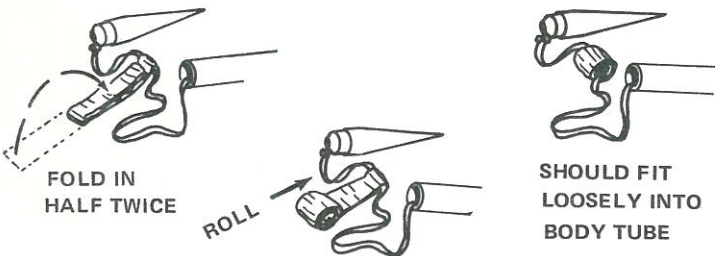
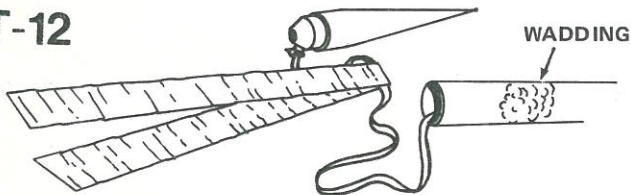
- \*HIAA -- Hobby Industry Association of America
- NAR -- National Association of Rocketry

## COUNTDOWN CHECKLIST

### T-13

Pack 3 or 4 squares of loosely crumpled recovery wadding into the rocket body.

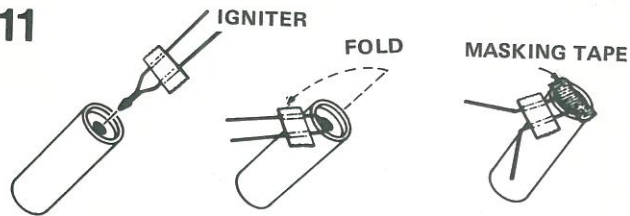
### T-12



Fold the streamer in half lengthwise. Fold again, then roll until the streamer and shock cord fit loosely into the rocket body. Slide the nose cone into place.

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.

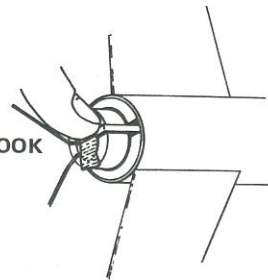
### T-11



Select an engine and install an igniter as directed in the engine instructions. Use an A8-3 engine for your first flight.

### T-10

MAKE SURE ENGINE HOOK LATCHES SECURELY

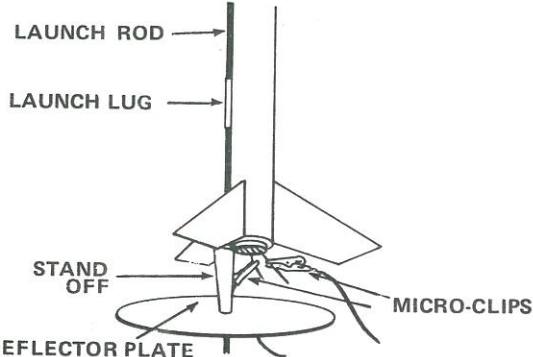


Insert engine into rocket engine mount. Engine hook must latch securely over end of the engine.

### T-9

Disarm the launch panel -- REMOVE SAFETY KEY!

### T-8



Slide launch rod through rocket launch 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 engine 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

Occasionally the igniter will heat and burn into two pieces without igniting the engine. This is almost always caused by a failure to install it correctly. REMOVE SAFETY KEY from launch panel, remove the model, clean the igniter residue from the engine nozzle, and install a new igniter. Repeat the Countdown Checklist.