
37
STELLAR FORCES

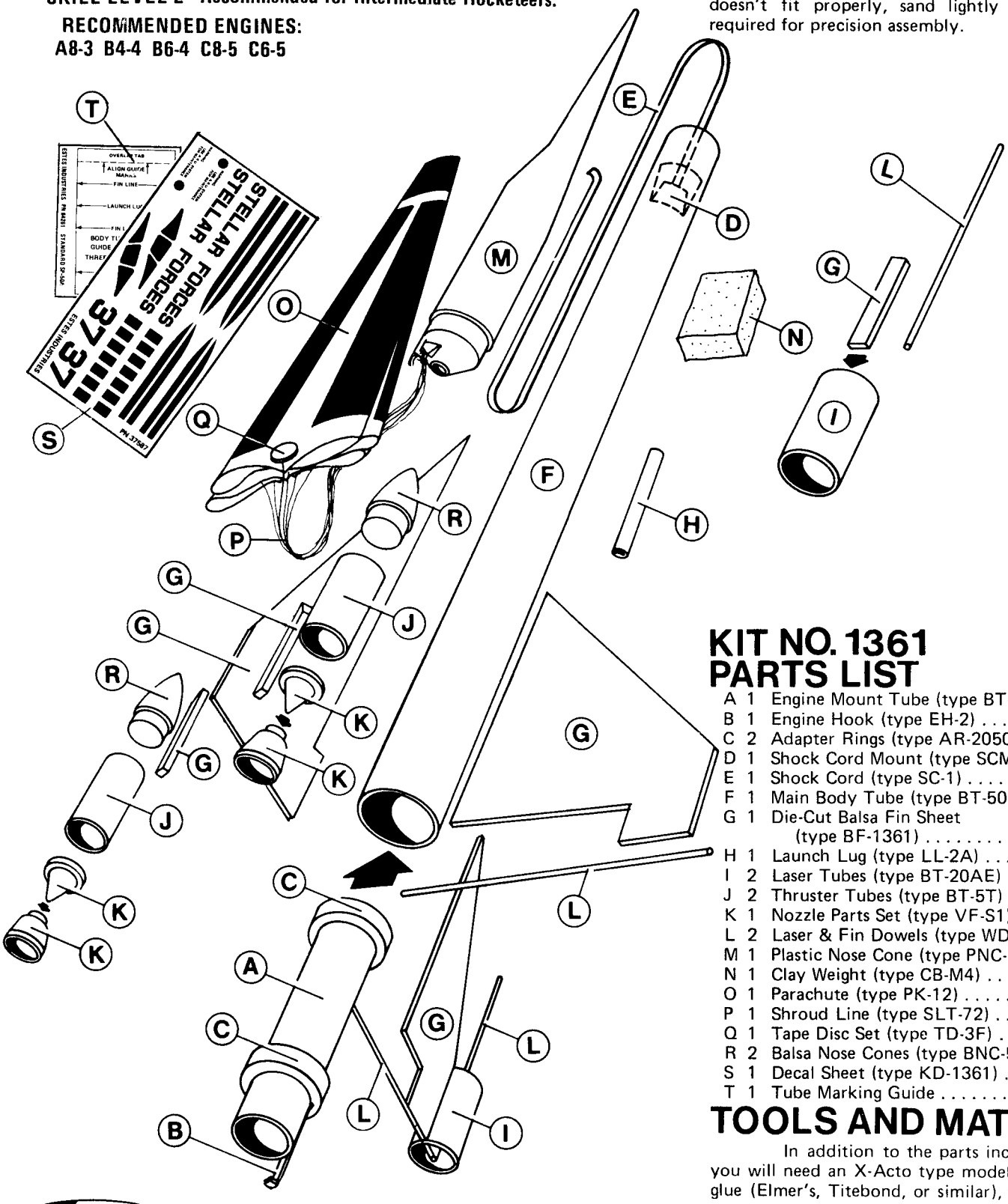
Skytracer

SKILL LEVEL 2 - Recommended for Intermediate Rocketeers.

RECOMMENDED ENGINES:
A8-3 B4-4 B6-4 C8-5 C6-5

BEFORE YOU START

Read all instructions before beginning work 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. 1361 PARTS LIST

A	1	Engine Mount Tube (type BT-20J)	30326
B	1	Engine Hook (type EH-2)	35025
C	2	Adapter Rings (type AR-2050)	30164
D	1	Shock Cord Mount (type SCM-50)	84444
E	1	Shock Cord (type SC-1)	85730
F	1	Main Body Tube (type BT-50H)	30360
G	1	Die-Cut Balsa Fin Sheet (type BF-1361)	32364
H	1	Launch Lug (type LL-2A)	38175
I	2	Laser Tubes (type BT-20AE)	30318
J	2	Thruster Tubes (type BT-5T)	30308
K	1	Nozzle Parts Set (type VF-S1)	34035
L	2	Laser & Fin Dowels (type WD-2C)	85912
M	1	Plastic Nose Cone (type PNC-50S)	71001
N	1	Clay Weight (type CB-M4)	85264
O	1	Parachute (type PK-12)	85564
P	1	Shroud Line (type SLT-72)	38237
Q	1	Tape Disc Set (type TD-3F)	38406
R	2	Balsa Nose Cones (type BNC-5V)	70216
S	1	Decal Sheet (type KD-1361)	37587
T	1	Tube Marking Guide	84261

TOOLS AND MATERIALS

In addition to the parts included in this kit you will need an X-Acto type modeling knife, white glue (Elmer's, Titebond, or similar), tube-type plastic cement, scissors, pencil, ruler, masking tape, fine and extra-fine grit sandpaper, sanding sealer and a medium size modeling paint brush. To paint your model we recommend gloss white spray paint and flat black bottle paint.

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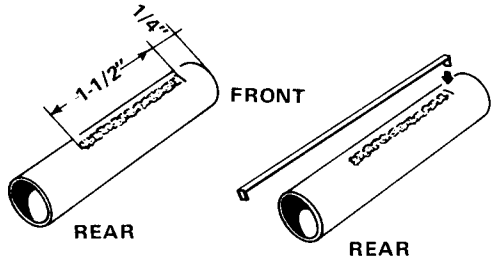
A DAMON COMPANY
ESTES INDUSTRIES
PENROSE, CO 81240 USA

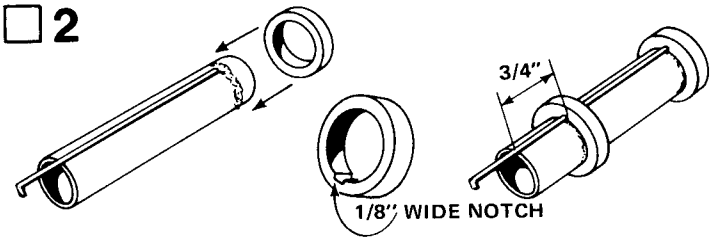
ASSEMBLY INSTRUCTIONS

☐1



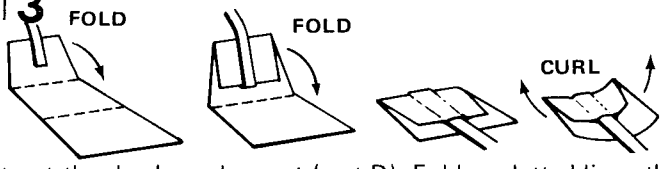
Cut a 1/8" wide slit in the engine mount tube (part A) 1/4" from one end as shown. Apply a 1-1/2" long line of glue to the tube as shown. Push one end of the engine hook (part B) into the slit and press the main part of the hook into the glue.

☐2



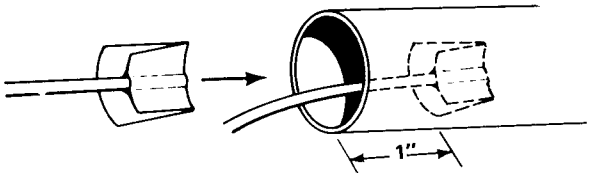
Glue one of the adapter rings (part C) to the front of the engine mount against the end of the engine hook as shown. Cut a notch 1/8" wide and 1/16" deep on the inside of the other adapter ring. Slide the ring over the rear of the tube so that the notch is over the engine hook, 3/4" from the rear end of the tube as shown. Apply glue along both sides where the ring touches the tube.

☐3



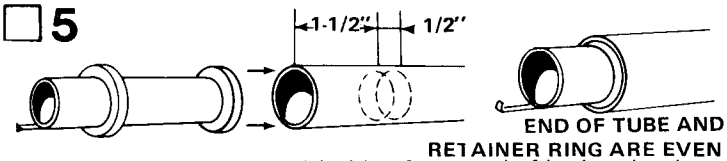
Cut out the shock cord mount (part D). Fold on dotted lines, then unfold and apply glue to Section 1. Lay the end of the shock cord (part E) into the glue. Fold over and apply glue to the back of Section 1 and the exposed portion of Section 2. Fold again to complete the mount. Curl the edges of the mount down so it will match the contour of the body tube and hold with your fingers until the glue sets.

☐4



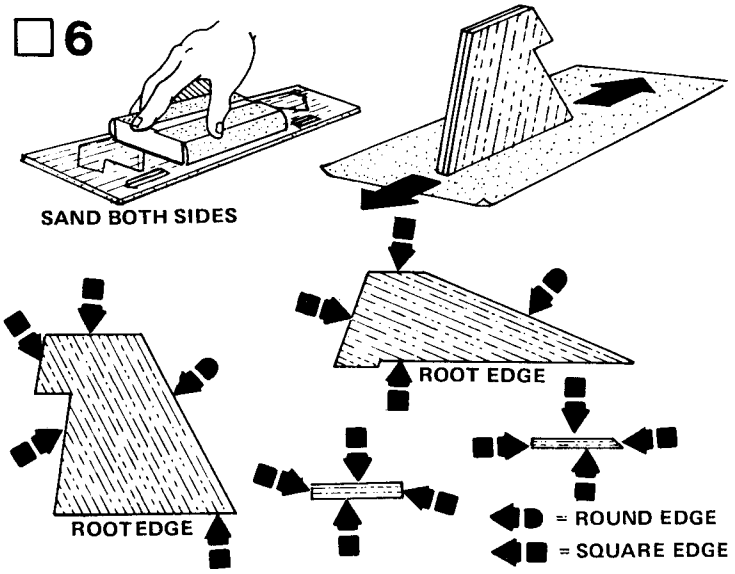
Smear glue over the entire back side of the shock cord mount. Hold the mount as shown and press it into place inside the end of the rocket body tube (part F). Make sure the front of the mount is at least 1" from the end of the tube. Hold the mount in place until the glue dries.

☐5



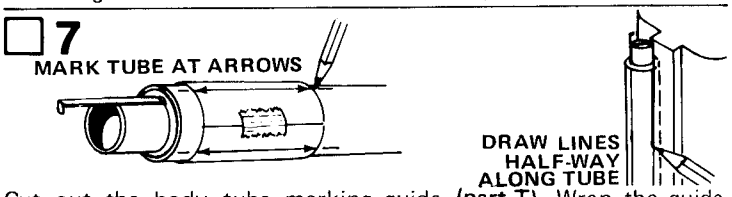
Apply a ring of glue around inside of rear end of body tube about 1-1/2" to 2" from the end of the tube. Push the engine mount unit in immediately, but be sure the mount is turned so the hook sticks out of the end of the tube. Push the engine mount in with one smooth motion until the end of the body tube and the rear retainer ring are even as shown.

☐6



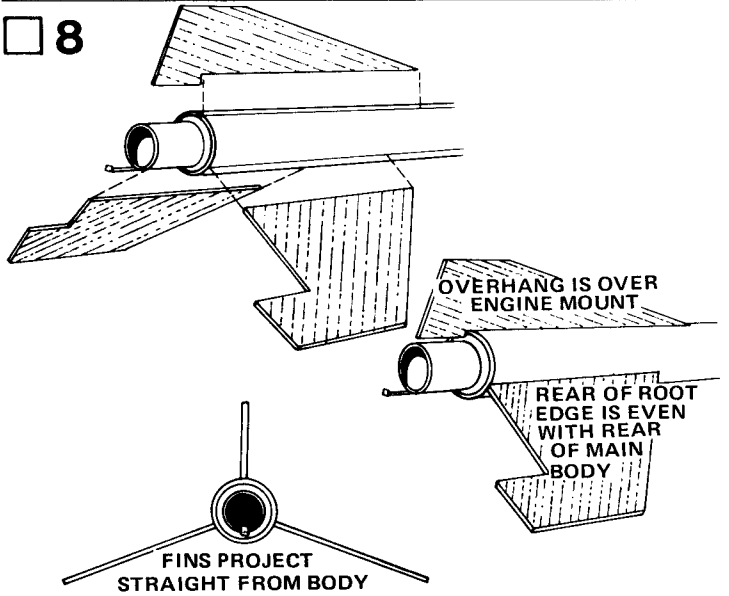
Fine-sand both sides of the balsa fin sheet (part G). Carefully remove the fins from the sheet using a sharp knife to cut free the corners and edges. Stack the large fins and the two pairs of small braces and sand as shown. Sand round only the leading edges of the three large fins. Both sets of braces remain square on all sides.

☐7



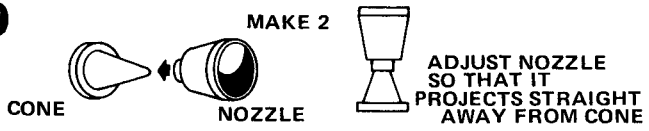
Cut out the body tube marking guide (part T). Wrap the guide around the rear of the main body tube. Match the printed guide marks and tape the guide ends together. Line up the launch lug line with the engine hook. Mark the body tube at each arrow mark. Remove the guide. Place the body tube against the inside edge of a door frame as shown. Draw a line through each set of marks halfway along the tube.

☐8



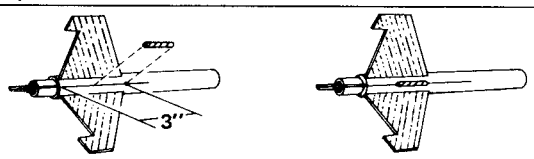
Rub a line of glue into the root edge of each large fin. Allow the glue to dry. Glue the stabilizer fin to the guide line opposite the engine hook so that the overhanging section is over the engine mount as shown. Adjust the fin so that it projects straight away from the body. Glue the other two fins to the guide marks on each side of the stabilizer so that the rear of the root edge is even with the rear of the main body as shown. Adjust these fins so that they project straight away from the body. Do not set the rocket on its fins while the glue is wet.

☐ 9



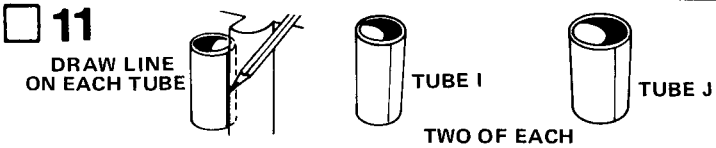
Separate two of each piece from the plastic parts set (part K). Using tube-type plastic cement, glue each nozzle to the top of each cone as shown. Once the glue has set, adjust the nozzle so that it projects straight away from the cone.

☐ 10



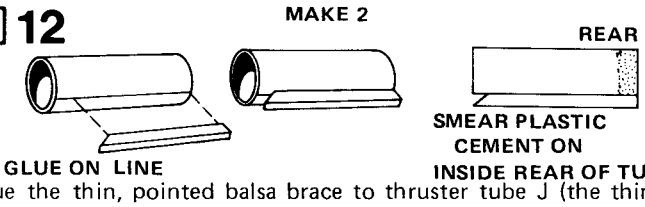
Measure 3" from the rear of the main body tube on the launch lug guide line. Glue the launch lug (part H) on the line so that the front of the launch lug is at the 3" mark. Align the launch lug straight along the body tube.

☐ 11



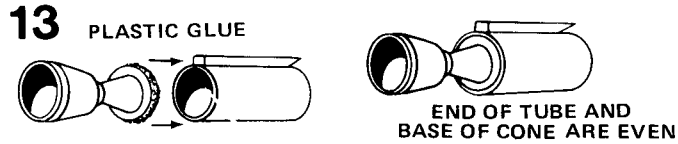
Draw a straight line along each of the laser tubes (part I) and the thruster tubes (part J) by placing each tube against the inside edge of a door frame as in Step 7.

☐ 12



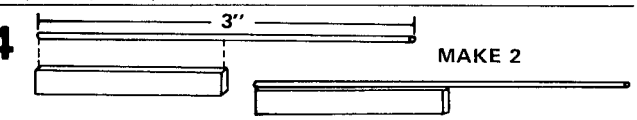
Glue the thin, pointed balsa brace to thruster tube J (the thinner tube) along the line drawn in the previous step so that the square end is even with one end of the tube as shown. To prepare the thruster tube for the nozzle, smear a small amount of tube-type plastic cement inside the rear of the thruster tube. Allow cement to dry. Repeat this process for the other thruster tube.

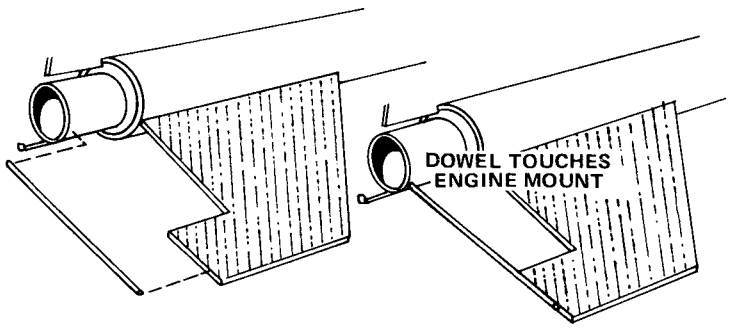
☐ 13



Rub a small layer of tube-type plastic cement around the base of each nozzle set. Insert the base into the rear of each thruster tube until the tube end and base of the cone are even. Set both units aside to dry completely.

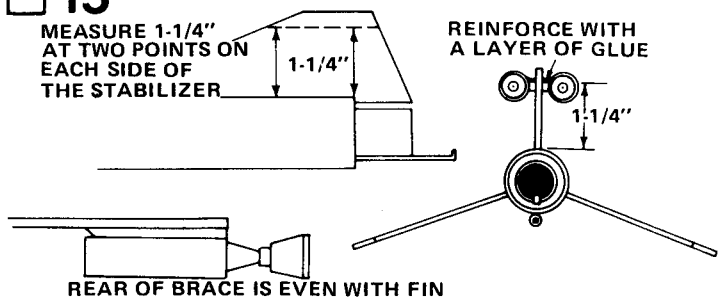
☐ 14





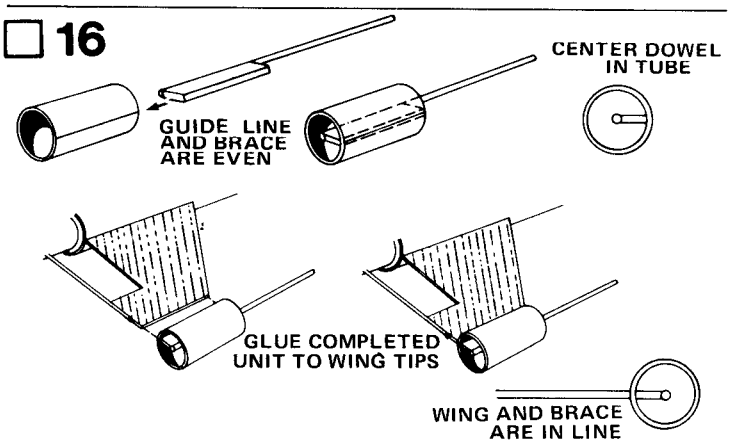
Cut the wooden dowels (part L) into four pieces, each 3" long. To make the laser, glue one dowel to each of the two balsa braces as shown so that the dowel ends and brace ends are even. Glue the other two dowels to the rear of the main fins so that the ends of the dowels touch the engine mount. Adjust the dowels so that they are in line with the fins. Apply a small amount of glue to the dowel where the dowel touches the engine mount.

☐ 15



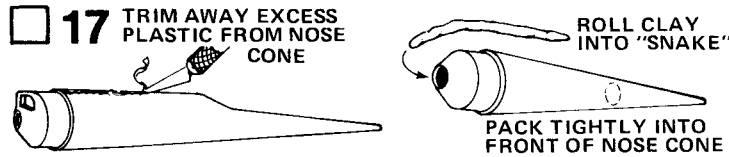
Measure 1-1/4" along the stabilizer from the body tube as shown. One measurement at the rear of the main body tube, another measurement as far forward as possible. Do this on both sides of the stabilizer. Draw a line between the two points. Glue the thrusters to the stabilizer along the line so that the rear of each brace is even with the rear of a stabilizer as shown. Once the glue is set, add a layer of glue to the brace connecting the stabilizer and the thruster.

☐ 16



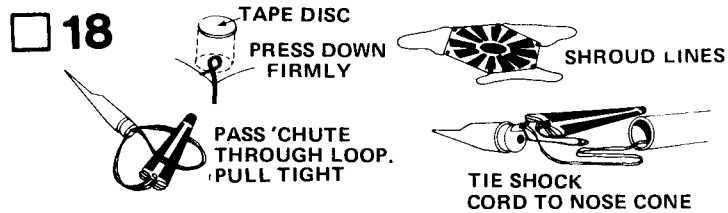
Using the guide line drawn in Step 11, glue the laser unit to the inside of the laser tube I so that each end is even with the guide line. Adjust the laser so that it is in the center of the tube. Glue the completed unit to the wing tip along the guide line. The balsa brace should look like a section of the wing as shown. Repeat for the other laser.

☐ 17



Trim or sand any excess plastic from around the sides of the nose cone (part M). Use a sharp knife to remove any excess plastic from the inside of the molded eyelet at the rear of the nose cone. Roll the clay balance weight (part N) between your hands to make a "snake" about 1/4" diameter. Poke the clay through the hole in the rear of the nose cone. Use a paint brush or dowel to push the clay forward in the cone until it is packed tightly in the front of the cone.

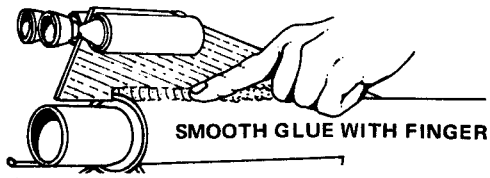
☐ 18



Cut out the parachute (part O) on its edge lines. Cut three 24" lengths of shroud line (part P). Attach line ends to the top of the

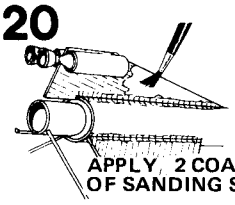
parachute with tape discs (part Q) as shown. Pass the shroud line loops through the ring on the nose cone. Pass the parachute through the loop ends and pull the lines tight against the ring. Set the knot with a drop of glue. Tie the free end of the shock cord to the nose cone.

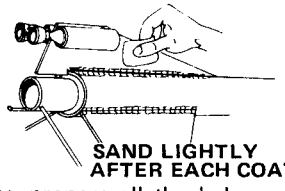
☐ 19



When the fin joints have dried, apply a glue reinforcement to each 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. Keep the model level until the glue dries.

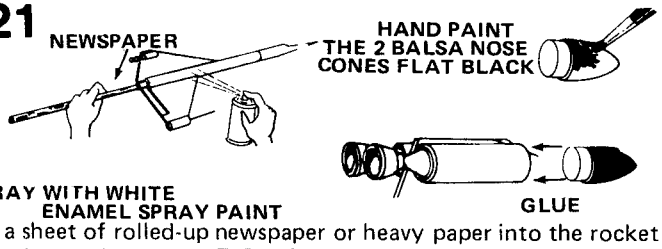
☐ 20





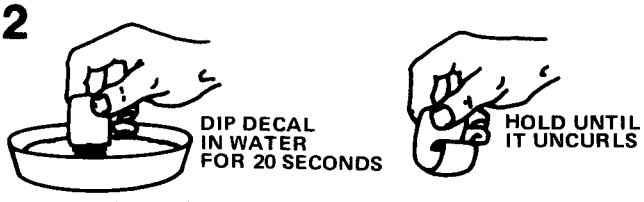
When all the glue on the model is dry, prepare all the balsa parts, including the balsa nose cones (part R) for painting. Apply at least two coats of sanding sealer to all balsa surfaces. Let dry and sand thoroughly with extra-fine grit sandpaper after each coat. Do this until all the tiny grain lines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

☐ 21



Insert a sheet of rolled-up newspaper or heavy paper into the rocket body tube as shown. THE PAPER MUST FIT TIGHTLY. Apply two or three light coats of gloss white spray enamel to the entire unit. Allow each coat to dry thoroughly before applying the next coat. Hand paint the two balsa nose cones flat black. DO NOT get paint on the shoulder of the cones. When all the paint is thoroughly dry, glue the black nose cones to the thrusters using white glue.

☐ 22



Apply the decals (part S) in the positions shown on package panel. To apply decals, cut out a decal section and dip it in lukewarm water for 20 seconds. Hold decal until it starts to uncurl or slides easily on the backing sheet. Use a small brush to wet the model surface where decal will be applied. Slide decal off the backing sheet and onto model. Blot excess water away with a damp cloth. Allow decaled model to dry overnight. Apply a final light coat of gloss clear spray enamel over decaled areas to protect the decals.

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, B4-4, B6-4, B8-5, and C6-5. 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.

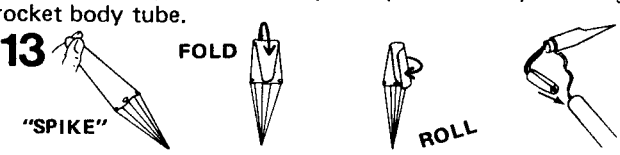
*HIAA -- Hobby Industry Association of America
NAR -- National Association of Rocketry

COUNTDOWN CHECKLIST

T-14

Pack four or five squares of loosely crumpled recovery wadding into the rocket body tube.

T-13



Gather the parachute as shown, then fold into a triangular shape. Fold again, roll, and insert into rocket body.

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 Pack parachute, shroud lines, and shock cord neatly into rocket body. Slide nose cone into place.

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

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. Place masking tape around the rod to support the rocket rear 1" above blast deflector. 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!

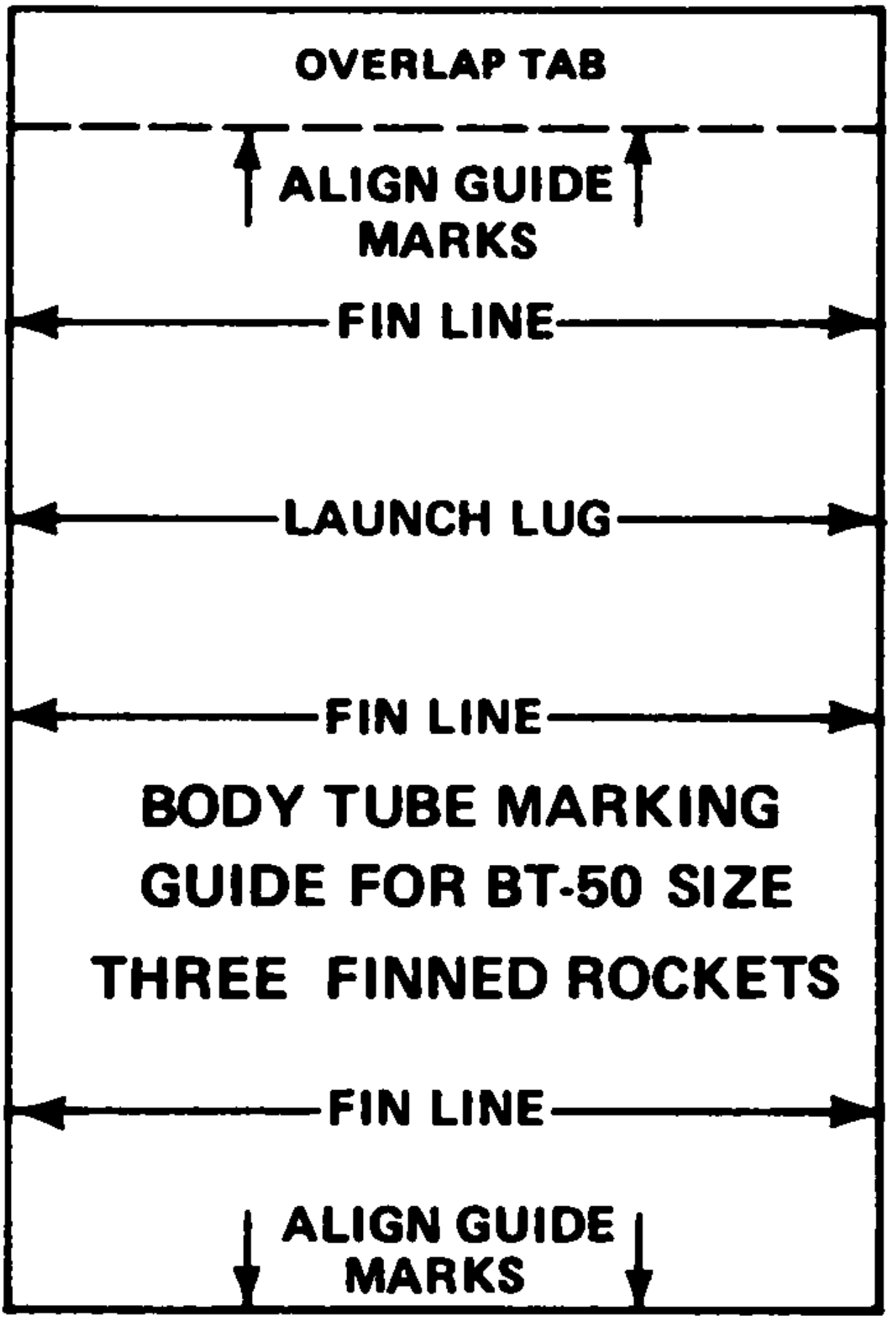
-5-4-3-2-1-LAUNCH!!

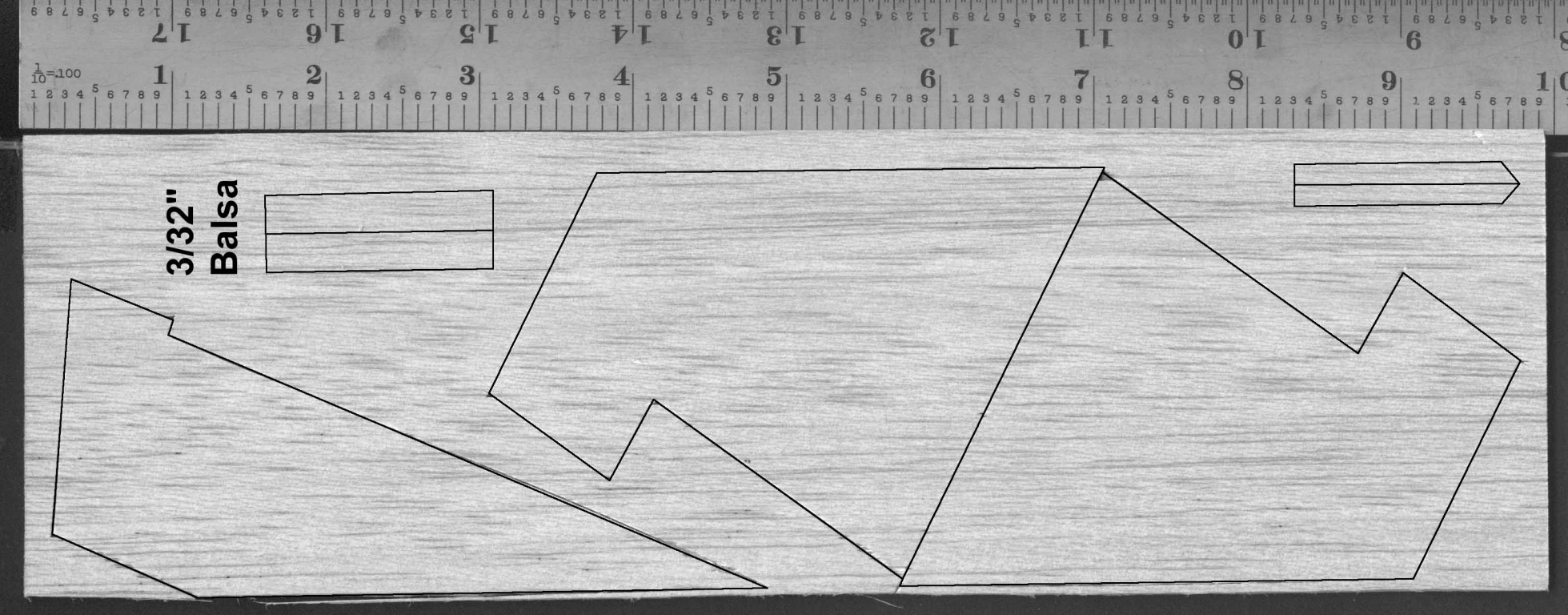
Repeat the Countdown Checklist for each flight.

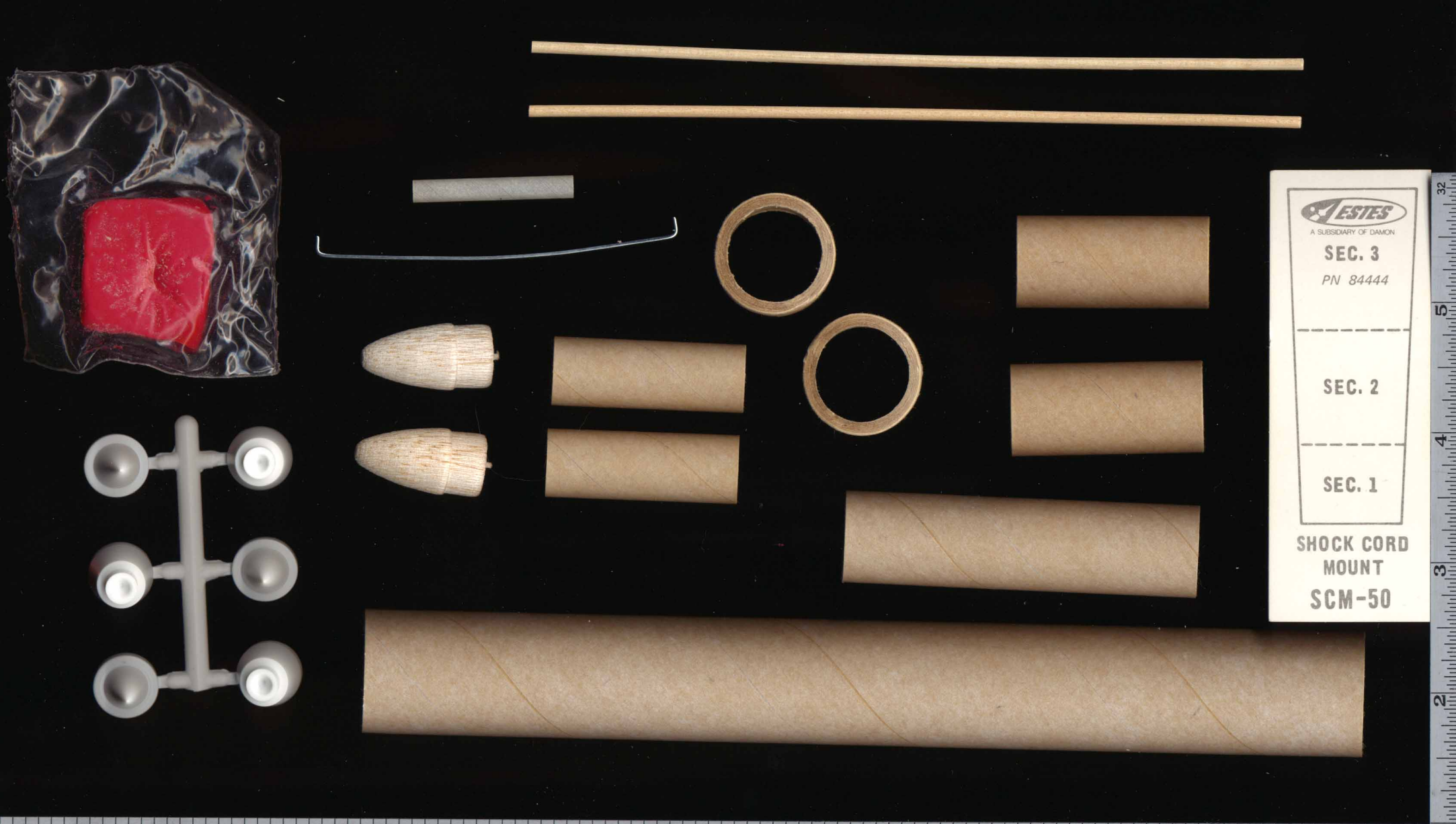
MISFIRE PROCEDURE

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 the launch panel, remove the model, clean the igniter residue from the engine nozzle, and install a new igniter. Repeat the Countdown Checklist.

ESTES INDUSTRIES PN 84261 STANDARD SP-50A




3/32"
Balsa


ESTES
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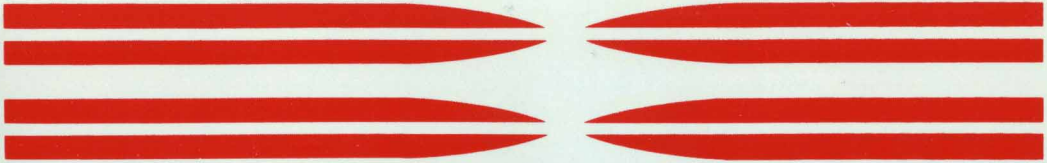
SEC. 3
PN 84444
SEC. 2
SEC. 1
SHOCK CORD
MOUNT
SCM-50



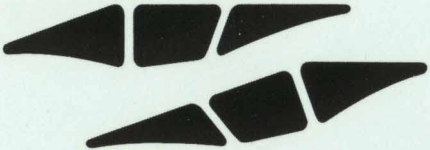
PN 37587

STELLAR FORCES

STELLAR FORCES

WARNING
USE A.R.U. SYSTEM
FOR MAINTENANCE

WARNING
USE A.R.U. SYSTEM
FOR MAINTENANCE



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ESTES INDUSTRIES

Skytracer

FLYING MODEL ROCKET

SKILL LEVEL 2

1-Beginner 2-Intermediate 3-Craftsman
4-Advanced 5-Expert

- Interplanetary Fighter Craft
- Wing Tip Laser Cannons
- Exotic Canopy Nose Cone
- Simulated Dual Thrusters
- 12" Parachute Recovery
- Die-Cut Balsa Fins
- Quick-Release Engine Mount
- Kit Decals

Length: 12" (33 cm)
Dia. .676" (24.8 mm)
Wt. 1.9 oz. (54 g)

ENGINES:
A8-3 (1st Flt.) B4-4
B6-4 B8-6 C5-3 C6-5

This is a hobby kit requiring assembly. Recommended for ages 10 to adult. Engines, launch system, glue and finishing supplies are not included. Adult supervision is suggested for those under 12 years of age when flying model rockets.

#1361

ESTES

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