

COURIER

FLYING MODEL ROCKET

SKILL LEVEL 1

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

- Flights To 1100 Feet
- Scale-Like Appearance
- Single Stage Performance
- Streamer Recovery
- Die-Cut Balsa Parts
- Balsa Nose Cone

Length: 12.13 in. (30.8 cm)

Dia.: .756 in. (19.7 mm)

Weight: .63 oz. (15 g)

Engine Types: 1-2 A6-2,
A6-3, (First Flight), B4-3,
B4-6, B6-4,
B6-6, B6-3,
C6-6, C6-7

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.



#1911

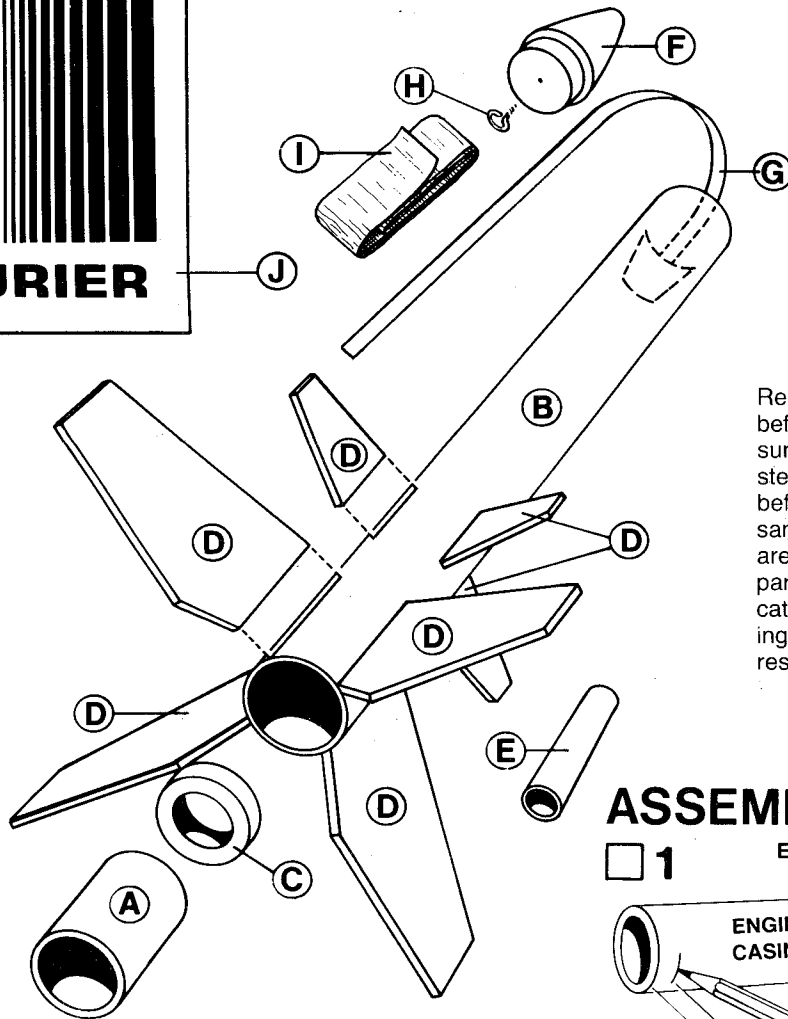
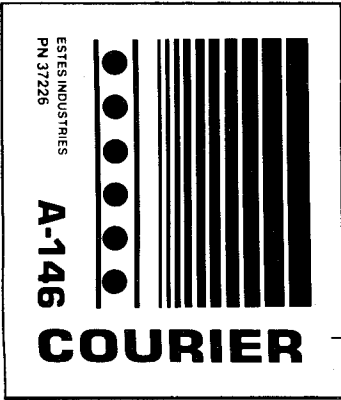


A DORR B COMPANY

ESTES INDUSTRIES
PENROSC, CO. R1240 USA

COURIER

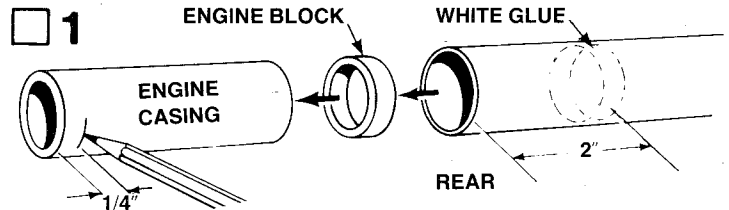
SKILL LEVEL 1 -
RECOMMENDED FOR BEGINNING ROCKETEERS



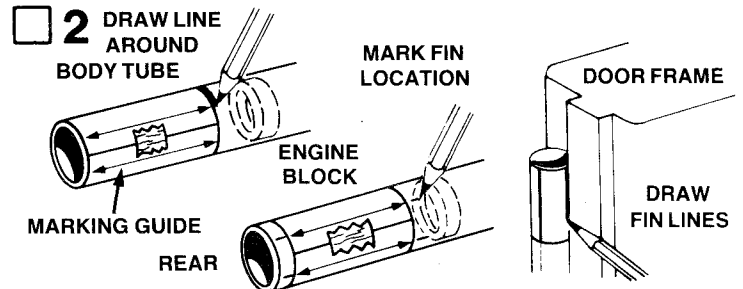
BEFORE YOU START

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 respect.

ASSEMBLY INSTRUCTIONS



Mark the dummy engine casing (part A) 1/4" from one end. Spread a 1/2" wide band of glue around the inside of the body tube (part B) about 2" in from one end. Insert the engine block (part C) into this end. Push the engine block into place with the dummy engine casing until the mark on the casing is even with the end of the body tube. CAUTION: Once you have started to push the block forward, DO NOT STOP until it is in place, and then remove casing immediately!



Cut the body tube marking guide from page 3 of these instructions. Wrap the guide around the same end of the body tube in which the engine block was installed. Tape the ends of the guide together. Make sure the end of the guide is even with the end of the tube, then draw a line around the tube at the other end of the guide. Slide the guide forward a short distance and mark the fin locations on the tube at each arrow point. Remove the guide. Draw lines connecting each pair of marks. The inside edge of a door frame may be used as a guide to draw these lines. Extend the lines about 4" from the rear of the tube.

RECOMMENDED ENGINES 1/2A6-2, A8-5, B4-4, B4-6, B6-4, B6-6, B8-5, C6-5, C6-7

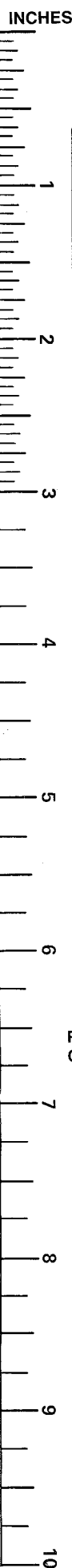
PARTS LIST KIT NO 1911

A	1 Dummy Engine Casing	35006
B	1 Body Tube (type BT-20N)	30336
C	1 Engine Block (type AR-520)	30162
D	1 Balsa Die-Cut (type BF-1911)	32611
E	1 Launch Lug (type LL-2A)	38175
F	1 Nose Cone (type BNC-20AM)	70226
G	1 Shock Cord (type SC-1B)	85734
H	1 Screw Eye (type SE-2A)	38252
I	1 Streamer (type RS-20)	38278
J	1 Decal (type KD-1911)	37226

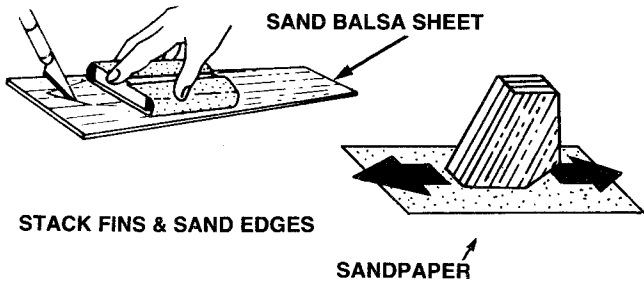
TOOLS AND MATERIALS

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, modeling knife with sharp blade, gloss orange enamel spray paint, small bottle of black enamel paint, and household white glue or resin glue (Elmer's, Titebond, or similar). Other types of glue are not recommended.

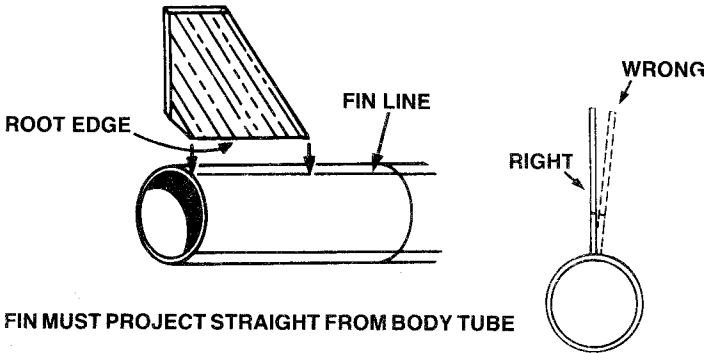
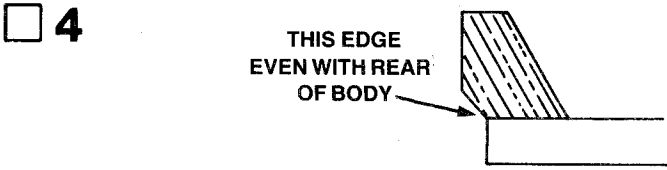
For easy and positive alignment of the fins on your model, we recommend the use of Estes' Fin Alignment Guide, Part No. 2231.



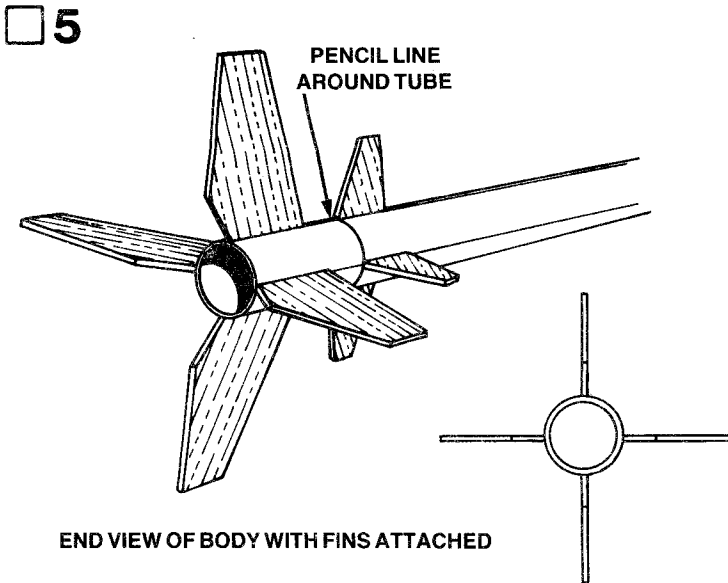
3 SANDPAPER WRAPPED AROUND WOOD BLOCK



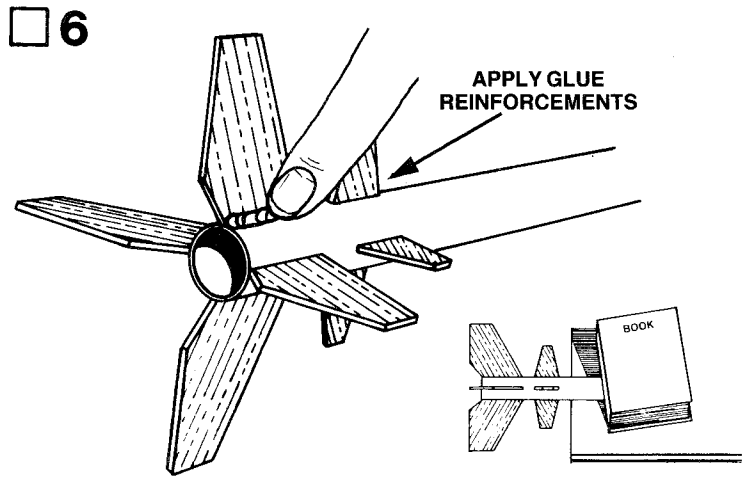
Lightly sand both sides of the balsa sheet (part D). Free the fins from the sheet by carefully running a knife along the die-cut lines. Stack the 4 large fins together and sand the edges. Hold the fins together firmly so none can move out of alignment during the sanding operation. Stack and sand the 4 small fins in the same manner.



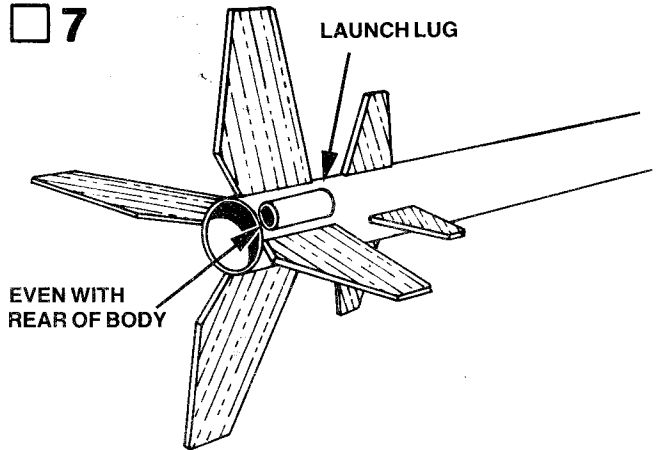
Apply a bead of glue to the root edge of one of the large fins. Hold the fin for a minute, then attach it to the body tube in the position shown. Make sure the fin projects straight from the body tube. Allow the glue to dry before proceeding.



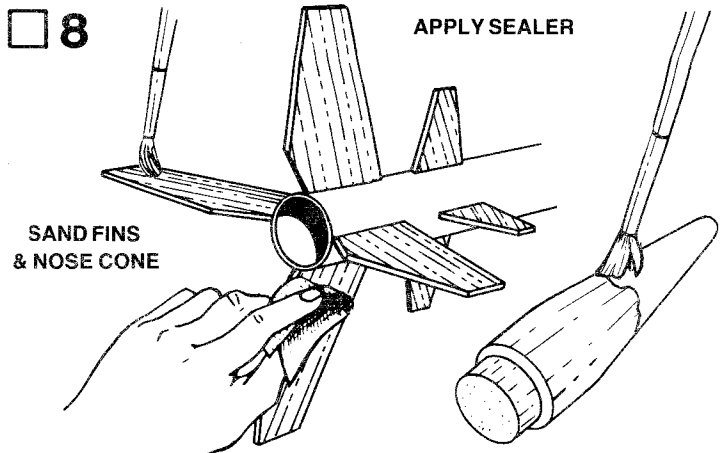
Attach the opposite fin in the same manner. After the glue has dried, attach the two remaining large fins. Make sure the fins project from the body as shown. Next, attach the 4 small fins directly above the large fins. The rear edges of these fins are placed on the line which was drawn around the body tube.



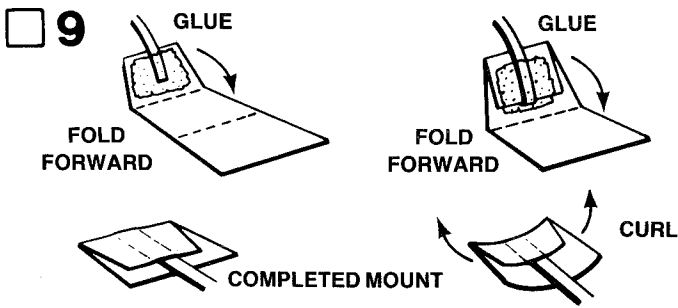
When the glue on all fins is completely dry, apply reinforcements. Apply a bead of glue to both sides of one fin-body tube joint. Pull your finger along the joints to smooth the glue and to remove any excess glue. Repeat with the seven remaining fins. Place the body on a table with the fins extending off the edge. Weight the body with a book (or similar object) and allow glue to dry.



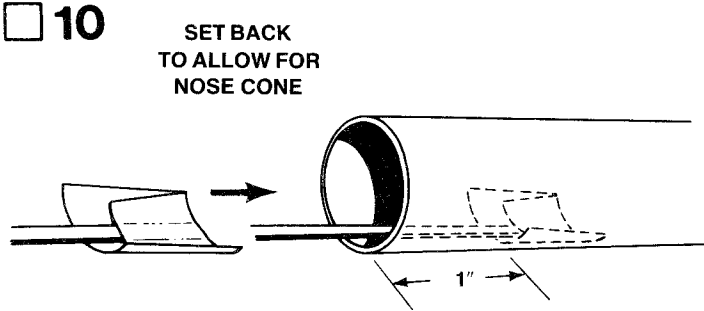
Apply a bead of glue to one side of the launch lug (part E) and attach it to the body, centered between two of the large fins, and with the rear of the launch lug even with the rear of the body tube. Make sure the launch lug is aligned straight with the body. Allow glue to dry. Using a toothpick, apply a small glue reinforcement to each side of the launch lug-body tube joint.



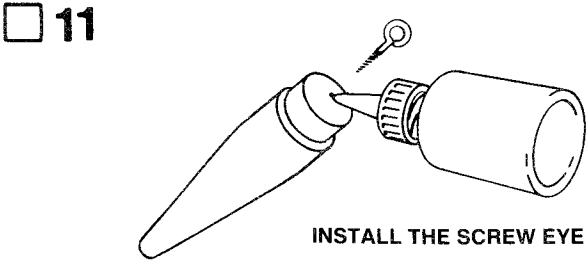
Sealing and sanding the balsa parts reduces drag (higher flights) and greatly improves the model's appearance. This step, however, is not essential to produce a safe model rocket.
Apply a coat of sanding sealer to each fin and to the nose cone (part F). When the sealer is dry, lightly sand the sealed surfaces. Repeat the sealing and sanding process until the balsa grain is filled and the parts look and feel smooth.



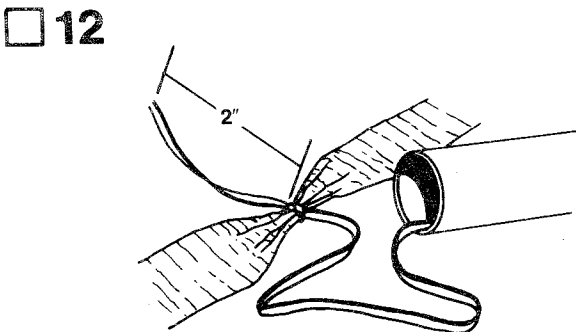
Cut out the shock cord mount from page 3. Fold on dotted lines, then unfold and apply glue to Section 1. Lay the end of the shock cord (part G) into the glue. Fold over and apply glue to the back of Section 1 and the exposed portion of Section 2. Fold again to complete mount. Curl the edges of the mount up so it will match the contour of the body tube and hold with your fingers until the glue sets.



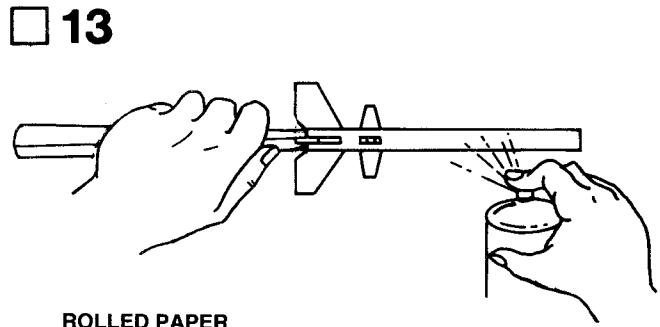
Use a stick to apply glue to the inside of the front of the body tube 1" to 2" from the front of the tube. Press the shock cord mount firmly into position in glue far enough from the front edge of the tube to allow clearance for the nose cone to fit into place. To insure a good bond use a stick to smear a film of glue over the mount and surrounding area in the body tube.



Twist the screw eye (part H) into the base of the nose cone, and remove it. Squirt a bit of glue into the hole and reinsert the screw eye. Wipe away excess glue. Make certain nose cone does not fit tightly in body tube. The nose cone should fit loosely enough to be easily removed from the body tube but not so loosely that the nose cone tends to fall out if the rocket is turned upside down and shaken with the nose cone in place. If fit is too tight, sand shoulder of nose cone to achieve proper fit. If fit is too loose, build up shoulder of nose cone with cellophane tape as needed.

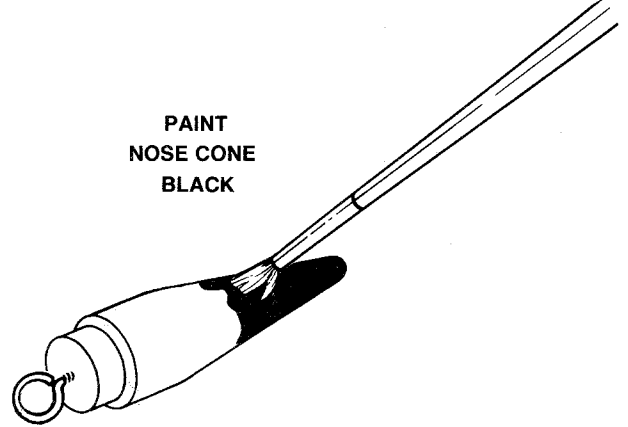


Using a double knot, tie the shock cord around the middle of the plastic streamer (part I) about 2" from the end of the shock cord.



ROLLED PAPER FOR ROCKET HOLDER

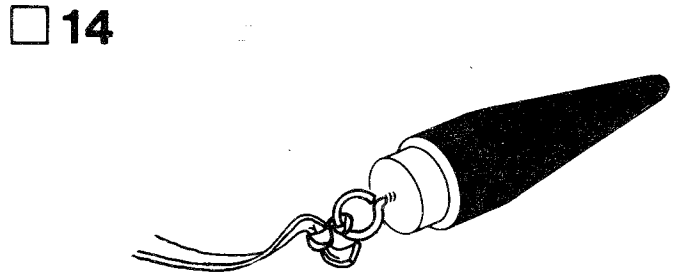
SPRAY ROCKET ORANGE



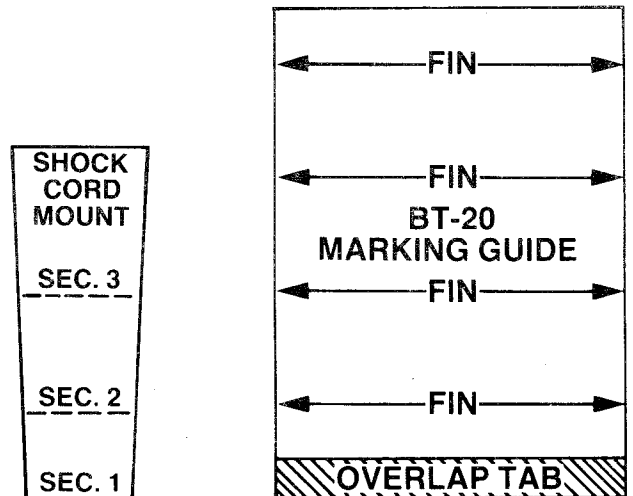
PAINT NOSE CONE BLACK

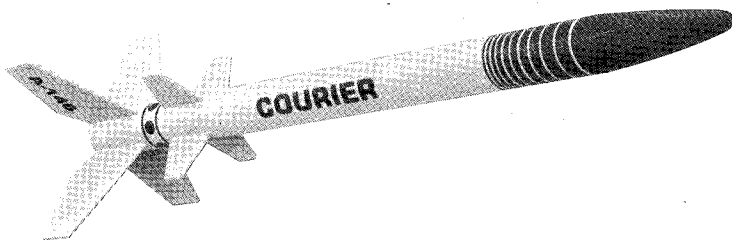
DO NOT PAINT NECK

Roll the streamer and push it and the shock cord down into the body. Roll up a paper and insert it into the rear of the rocket for a holder. Spray the body gloss orange. Follow the directions printed on the spray can. Brush paint the nose cone gloss black.



After the paint is completely dry, pull the streamer and shock cord from the end of the body. Tie the free end of the shock cord to the screw eye. Tie a firm double knot. Re-roll the streamer, insert it and the shock cord into the body and socket nose cone into place.





Apply the decals (part J) 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.

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 1/2A6-2, A8-5, B4-4, B4-6, B6-4, B6-6, B8-5, C6-5, C6-7 model rocket engines. Use an A8-5 engine for your first flight.

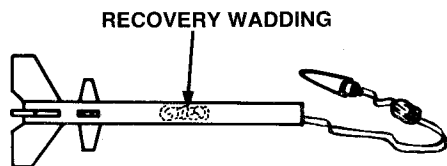
Be sure to follow the HIAA-NAR* Model Rocket Safety Code when carrying out your model rocket activities.

*HIAA—Hobby Industry of America

*NAR—National Association of Rocketry

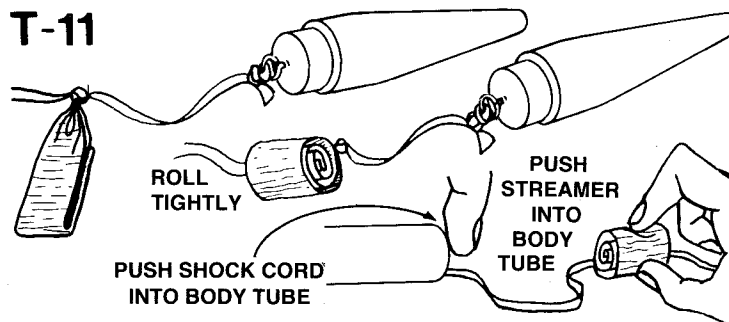
COUNTDOWN CHECKLIST

T-12



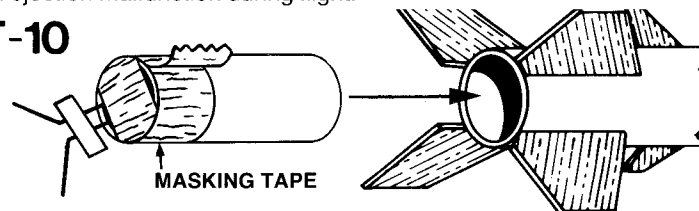
Pack 2 or 3 squares of loosely crumpled recovery wadding into the body tube. Usually this will fill the body tube for a distance equal to about 1-1/2 times its diameter.

T-11



Fold the streamer and roll tightly. Pack the shock cord and streamer into the body and socket nose cone in place. NOTE: If the streamer fits too tightly into the body, remove and re-roll. A too-tight fit could cause an ejection malfunction during flight.

T-10

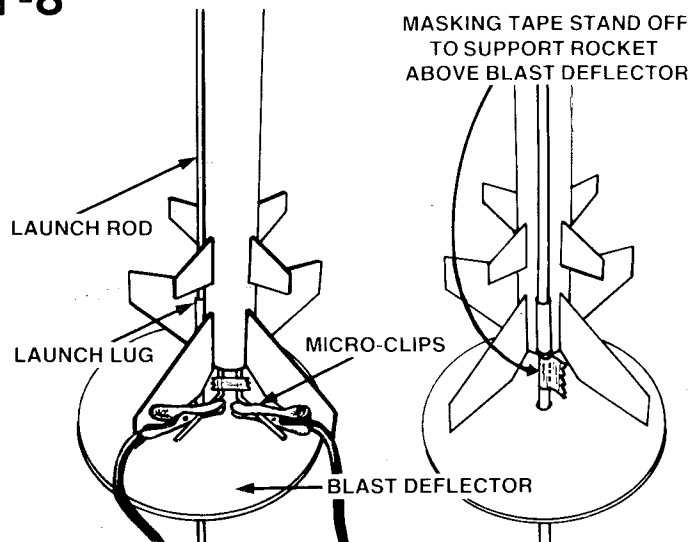


Wrap the rear of the engine with enough masking tape so that it makes a tight fit in the body tube. This fit must be tight to obtain proper streamer deployment. Insert the engine into the rocket so the rear of the engine projects 1/4" from the rear of the body tube.

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!!

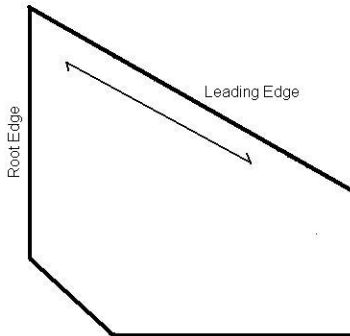
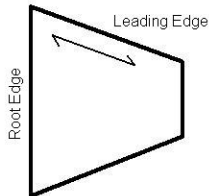
Repeat Countdown Checklist for each flight.

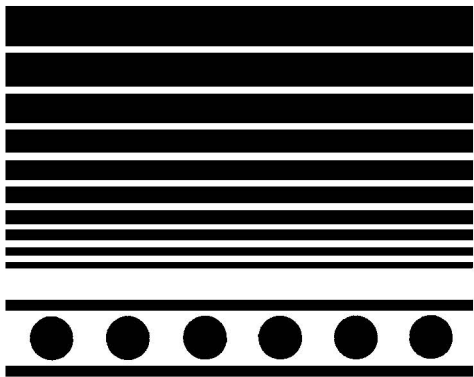
MISFIRE PROCEDURE

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.

Make four (4) of each fin
from 1/16" balsa fin stock.





COURIER

ESTES INDUSTRIES
PN 37226

A-146