



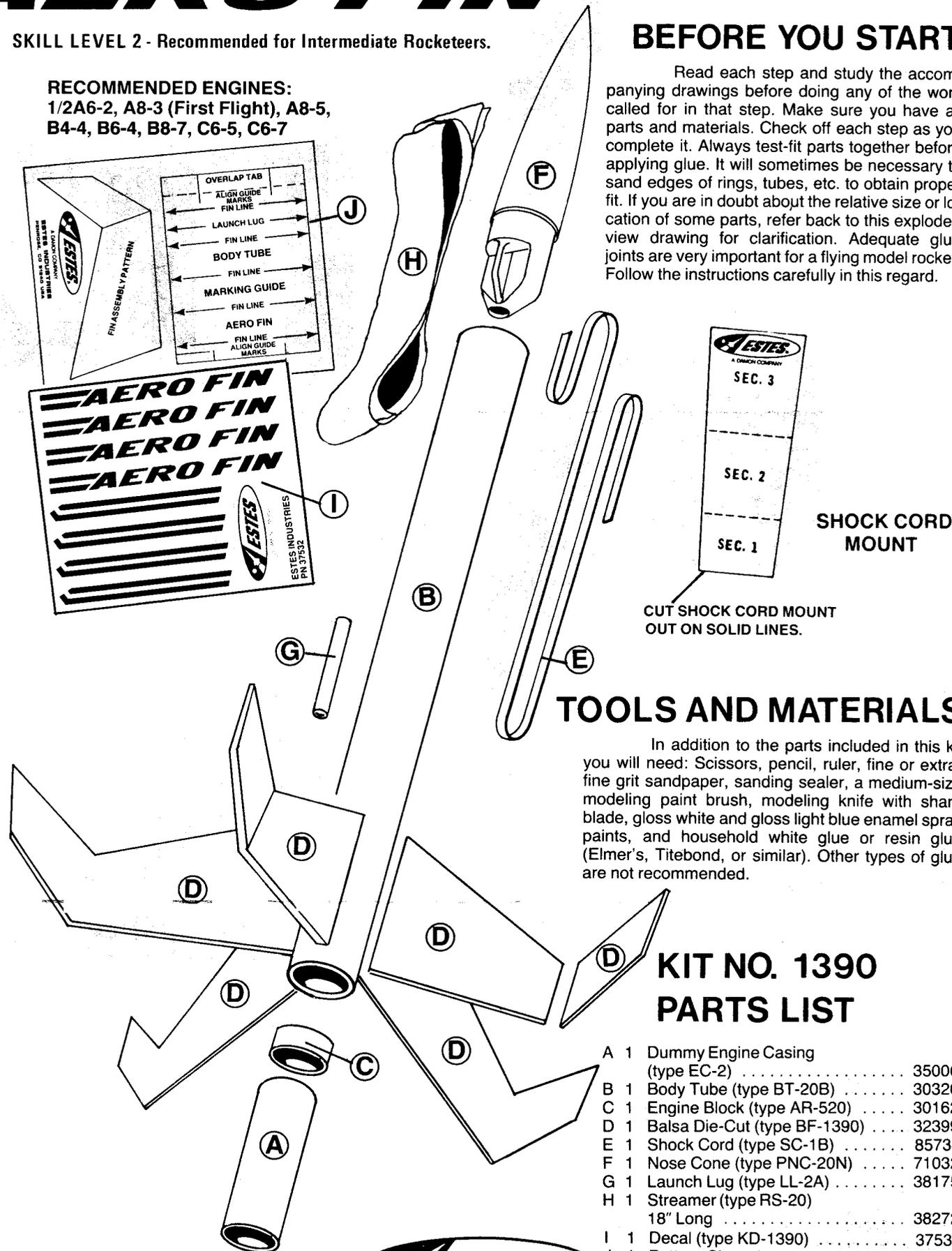
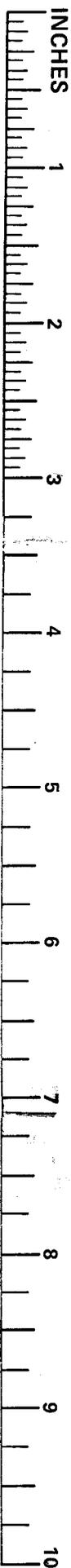
# AERO FIN

SKILL LEVEL 2 - Recommended for Intermediate Rocketeers.

**RECOMMENDED ENGINES:**  
 1/2A6-2, A8-3 (First Flight), A8-5,  
 B4-4, B6-4, B8-7, C6-5, C6-7

## 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.



**SHOCK CORD MOUNT**

CUT SHOCK CORD MOUNT OUT ON SOLID LINES.

## 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 white and gloss light blue enamel spray paints, and household white glue or resin glue (Elmer's, Titebond, or similar). Other types of glue are not recommended.

## KIT NO. 1390 PARTS LIST

A	1	Dummy Engine Casing (type EC-2)	35006
B	1	Body Tube (type BT-20B)	30320
C	1	Engine Block (type AR-520)	30162
D	1	Balsa Die-Cut (type BF-1390)	32399
E	1	Shock Cord (type SC-1B)	85734
F	1	Nose Cone (type PNC-20N)	71032
G	1	Launch Lug (type LL-2A)	38175
H	1	Streamer (type RS-20) 18" Long	38272
I	1	Decal (type KD-1390)	37532
J	1	Pattern Sheet (type panel)	83442



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**ESTES INDUSTRIES**  
 PENROSE, CO 81240 USA

# ASSEMBLY INSTRUCTIONS

1

MARK DUMMY ENGINE CASING

1/4"

APPLY GLUE 2" INSIDE BODY TUBE

PUSH ENGINE BLOCK INTO PLACE

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, then remove casing immediately!

2

SAND BALSAM SHEET

STACK FINS TOGETHER AND SAND ALL EDGES SMOOTH

5-FIN PARTS

5-FIN TIP PARTS

PATTERN SHEET

WAXED PAPER

Fine-sand the balsa die-cut sheet (part D). Free the fin edges with a sharp knife, then carefully remove the die-cut fins from the sheet. Sort and identify parts as shown. Stack same fins together and lightly sand edges of fins square. Cover pattern sheet (part J) on back of panel with waxed paper and assemble the fins as shown. Rub a line of glue into the mating edges of fins and allow the glue to set. Apply a second bead of glue to mating edges and press fin parts together over the fin pattern, wipe away excess glue. Repeat assembly of the other fin parts and set them aside to dry.

3

MARK TUBE AT ARROWS

DOOR FRAME

DRAW LINES 4" FORWARD

Cut out the tube marking guide from the pattern sheet on back of panel and wrap it around the body tube. Mark the body tube at each of the arrow points. Draw straight lines connecting each pair of marks. A door frame inside edge can be used as a guide as shown. Extend the lines about 4" forward from the rear of the tube.

4

APPLY 2 COATS OF SANDING SEALER

LIGHTLY SAND ALL FINS AFTER SEALER HAS DRIED

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 is filled and smooth. Resand root edge, lightly, to remove any trace of sealer.

5

GLUE

GLUE

FOLD FORWARD

FOLD FORWARD

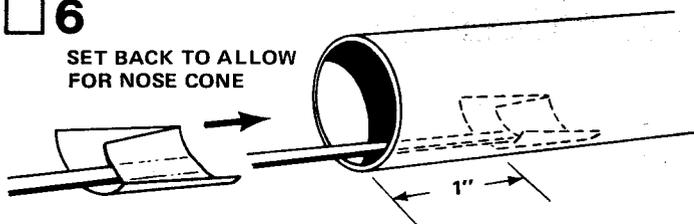
COMPLETED MOUNT

CURL

Cut out the shock cord mount from the front of the instructions. 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 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.

6

SET BACK TO ALLOW FOR NOSE CONE



Use a finger or 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 or your finger to smear a film of glue over the mount and surrounding area in the body tube.

7

GLUE

RUB GLUE INTO ROOT EDGE OF EACH FIN

MAKE SURE FINS ARE STRAIGHT

GLUE FINS CENTERED ON ALIGNMENT LINES

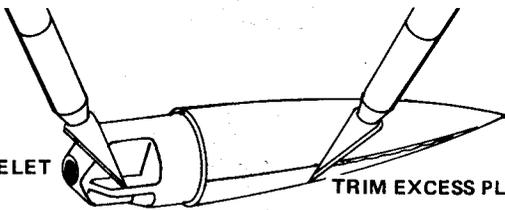
REAR VIEW

Rub glue into the root edge of each fin and allow to dry. Apply glue to the fins again and position fins on the alignment lines 1/4" forward from the rear of the rocket, in positions shown. 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.

□ 8

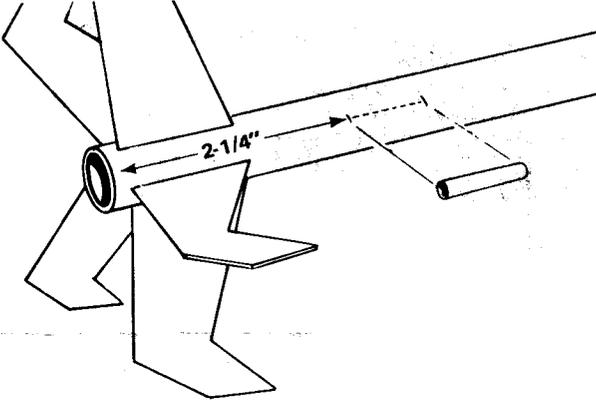
CLEAR EYELET

TRIM EXCESS PLASTIC



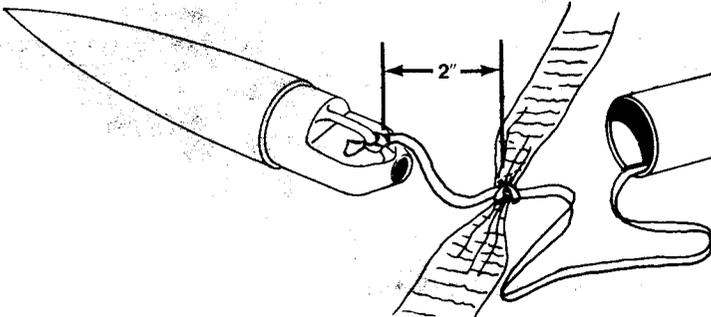
Trim or sand any excess plastic from around the sides of the nose cone (part F). Use a sharp knife to remove any excess plastic from the inside of the molded eyelet at the rear of the nose cone. Wash the nose cone with lukewarm soapy water, rinse well, and dry.

□ 9



Glue launch lug (part G) to rocket body tube on the launch lug line. The rear of the launch lug should be 2-1/4" from the rear of the rocket body tube. Align the launch lug straight along the body.

□ 10

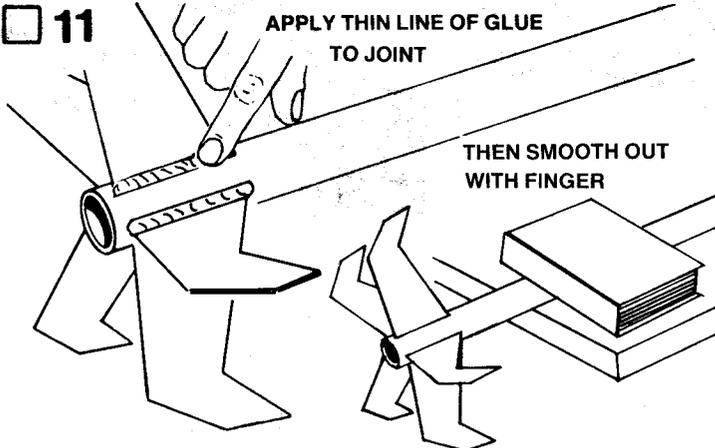


Using a double knot, tie the shock cord around the middle of the plastic streamer, (part H) about 2" from the end of the shock cord. Attach the free end of the shock cord to the nose cone with a firm knot. Fold the streamer and roll it up until it fits into the body tube. Place the remainder of the shock cord and the nose cone into the body tube while completing the model.

□ 11

APPLY THIN LINE OF GLUE TO JOINT

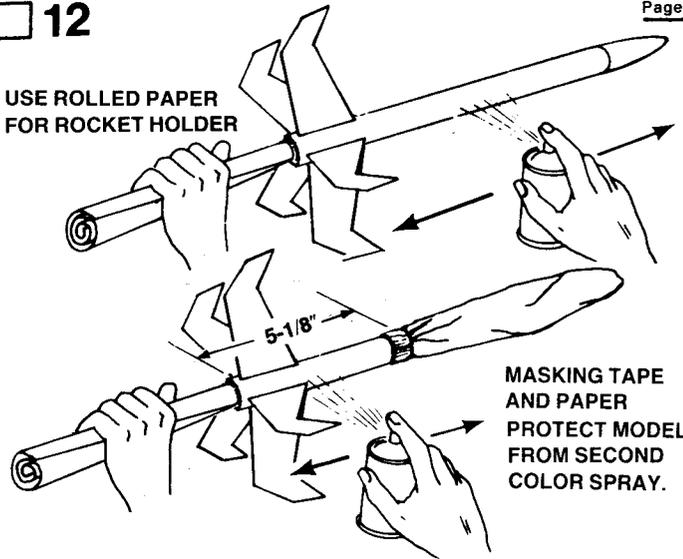
THEN SMOOTH OUT WITH FINGER



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 lug. Smooth out the glue with your finger. **IMPORTANT**—Support the rocket on the table edge as shown until the glue dries

□ 12

USE ROLLED PAPER FOR ROCKET HOLDER



MASKING TAPE AND PAPER PROTECT MODEL FROM SECOND COLOR SPRAY.

NOTE: APPLY FINAL COAT WITH "WET" LOOK.

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. Apply masking tape and paper to cover and protect the areas which will remain white (See the panel or Decor Layout illustration.) Paint the fins and the rear of the body tube light blue. Carefully remove the masking tape and paper as soon as the paint is dry.

□ 13

APPLY FIN DECAL TO FOUR FINNS ONLY, (NO DECAL ON FIN ADJACENT TO LAUNCH LUG) AND PARALLEL TO LEADING EDGE OF FIN.

THEN APPLY BODY DECAL WITH TIP OF FIN DECAL MATED WITH TIP OF BODY DECAL.

MAKE SURE DECAL IS STRAIGHT WITH TUBE.



DECAL INSTRUCTIONS

When all paint is dry, apply the decals (part I) 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 Tes-tor's "Dull-Cote" or "Gloss-Cote". This is a clear spray paint that protects the model's finish

# 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, A8-3, A8-5, B4-4, B6-4, B8-7, C6-5, or C6-7 model rocket engines. Use an A8-3 engine for your first flight.

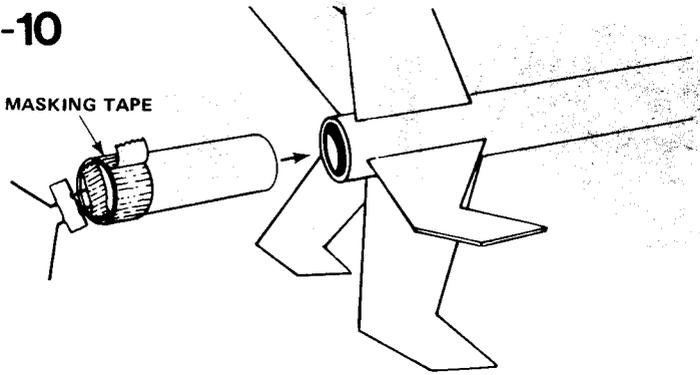
Be sure to follow the HIAA-NAR\* Model Rocket Safety Code when carrying out your model rocket activities.

\*HIAA—Hobby Industry of America

\*NAR—National Association of Rocketry

## T-10

MASKING TAPE

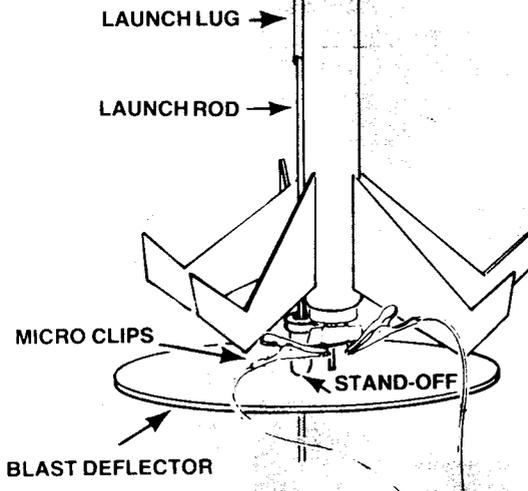


Wrap the rear of the engine with enough masking tape so that it makes a tight fit in the body tube. This fit must be tight to obtain proper streamer deployment. Insert the engine into the rocket so the rear of the engine projects 1/4" from the rear of the body tube.

## 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.

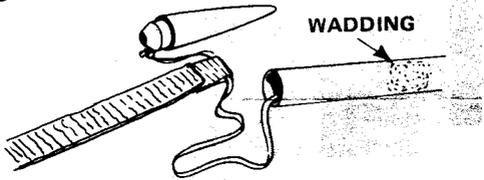
## MISFIRE PROCEDURE

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.

# COUNTDOWN CHECKLIST

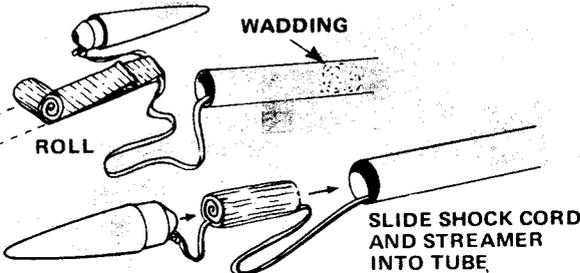
## T-13



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.

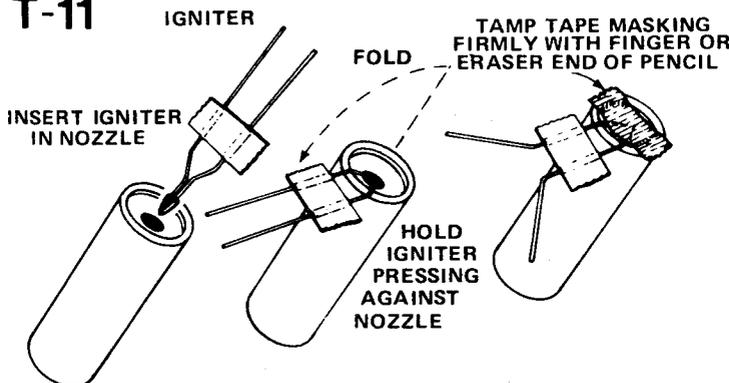
## T-12

FOLD STREAMER IN HALF TWICE



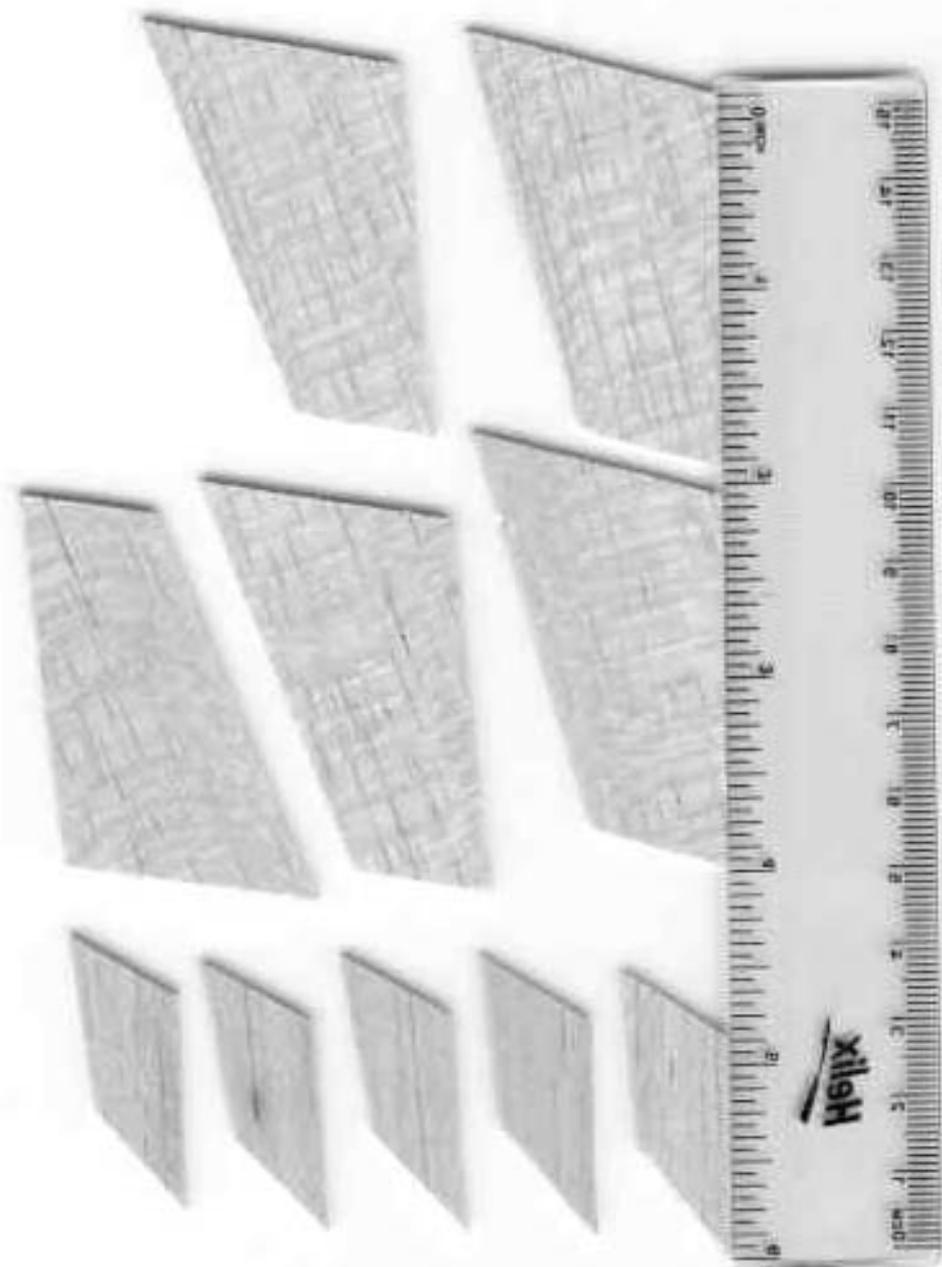
Fold the streamer in half lengthwise. Fold again, then roll streamer tightly until the streamer fits loosely into the rocket body. Pack the shock cord neatly into the rocket body. Slide nose cone into place.

## 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 1/2A6-2, A8-3, A8-5, B4-4, B6-4, B8-7, C6-5 and C6-7 made by Estes.

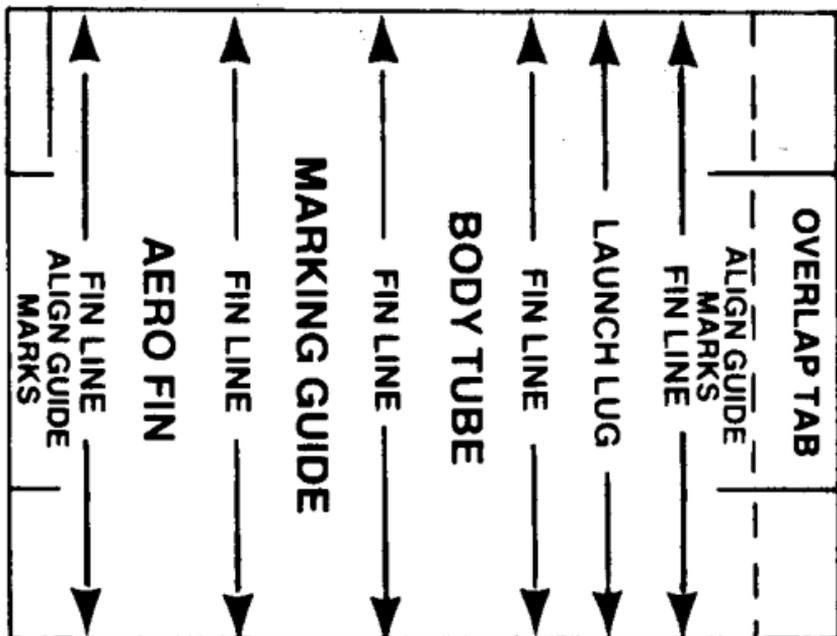
Use an A8-3 engine for your first flight



ESTES INDUSTRIES  
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FIN ASSEMBLY PATTERN



Estes PN 83442

**AERO FIN**  
**AERO FIN**  
**AERO FIN**  
**AERO FIN**



**ESTES INDUSTRIES**  
**PN 37532**

Aero Fin Estes #1390 Parts Measurements List

Quantity	Part Description	Length
1	Main Body Tube	8 3/4"
1	Engine Block	3/16"
1	Dummy Engine Block	2 3/4"
1	Rubber Shock Cord	14 1/4"
1	1 1/4" Wide Streamer	18"
1	1/8" Launch Lug	1 1/4"

\*Note: Balsa Thickness is 3/32"

# AERO FIN

## FLYING MODEL ROCKET

This is a hobby kit requiring assembly. Recommended for ages 13 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.

### SKILL LEVEL 2

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

- Spectacular Flights to 1200 Feet!
- Unique 5-Fin Design
- 18" Streamer Recovery
- Die-Cut Balsa Fins
- Plastic Nose Cone

Length: 11.8 in. (29.9 cm)

Dia.: 1.0 in. (25.7 mm)

Weight: 12.0 oz. (340 g)

Engine Types: 1/2 A6-E

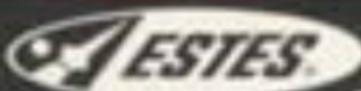
1/2 A7 (1st Flight) A6.5

1/2 A7.5 A6.4 (2nd Flight)

CS



#1390



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