



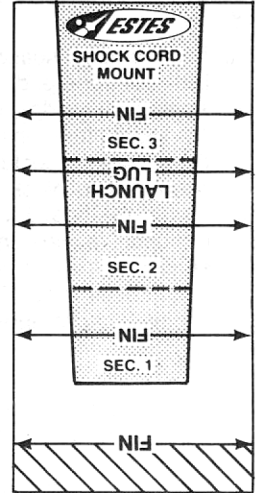
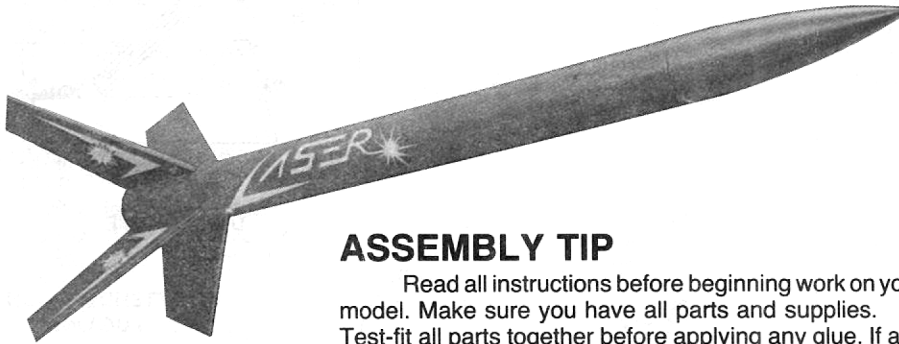


A DAMON COMPANY

ESTES INDUSTRIES  
1295 H Street  
Penrose, CO 81240 USA



Flying Model Rocket #1938



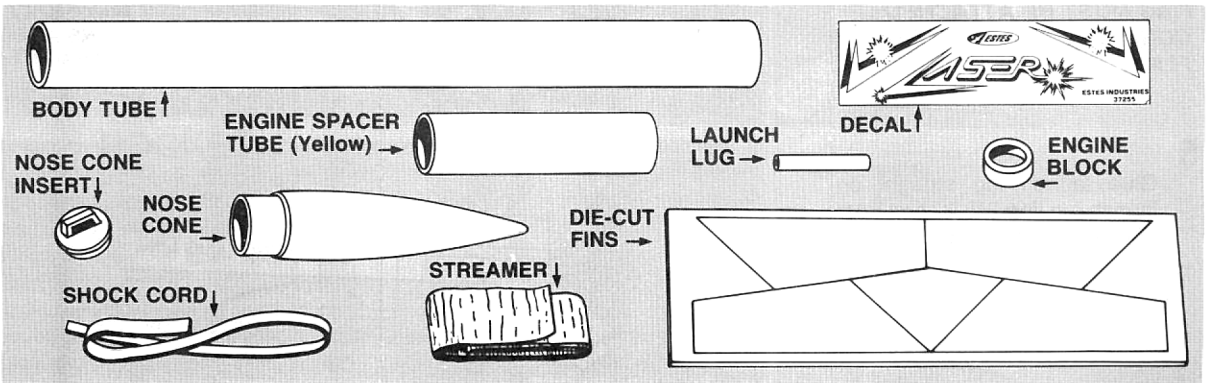
TUBE MARKING GUIDE

### ASSEMBLY TIP

Read all instructions before beginning work on your model. Make sure you have all parts and supplies. Test-fit all parts together before applying any glue. If any parts don't fit properly, sand as required for precision assembly.

### PARTS AND SUPPLIES

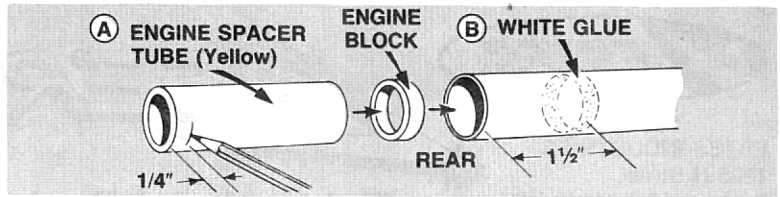
Locate the parts shown below and lay them out on the table in front of you. In addition to the parts included in the kit you will also need:



# ROCKET ASSEMBLY

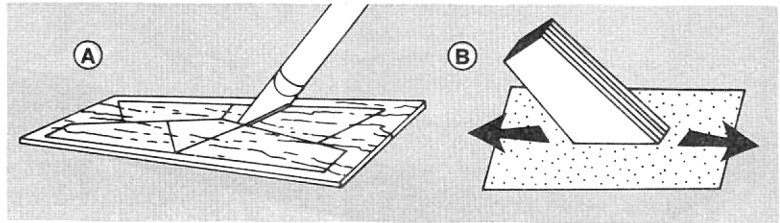
**1**

- Mark engine spacer tube 1/4 inch from one end.
- Apply glue inside the body tube 1 1/2 inches from one end. Using the engine spacer tube (yellow), push engine block up into the end of the body tube with glue in it until the mark on the engine spacer tube is even with the end of the body tube. Remove the engine spacer tube IMMEDIATELY.



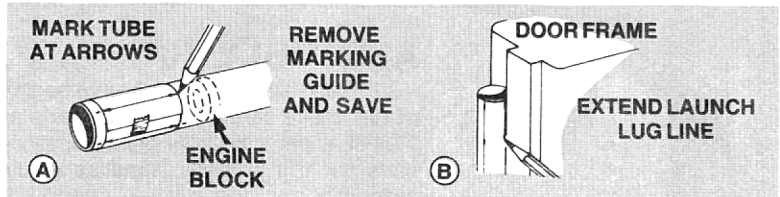
**2**

- Fine sand balsa pre-cut sheet. Carefully remove fins by freeing edges with sharp knife.
- Stack fins together. Sand all edges smooth.



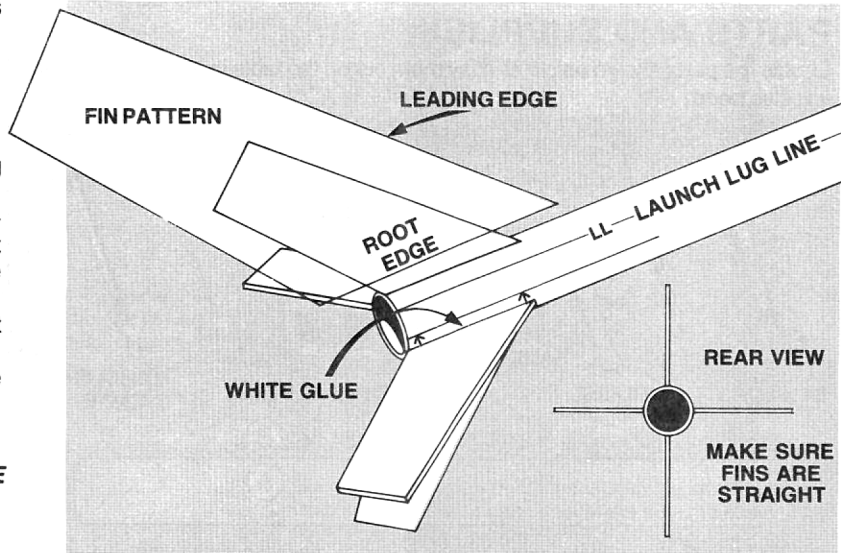
**3**

- Cut out tube marking guide from front of instructions and wrap guide around the tube. Secure it with tape. Mark tube at arrows and remove guide and save.



**4**

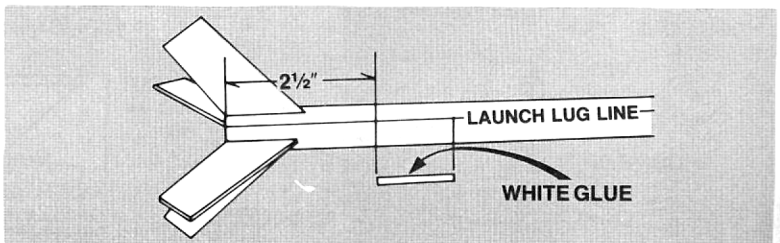
- Lay fins on pattern to find gluing (root) and front (leading) edges.
- Position and glue fins on alignment lines one at a time. Let each dry several minutes before applying the next one.
- Adjust fins to project straight out from tube.
- Do not set rocket on fins while glue is wet.



**FINS MUST BE ATTACHED CORRECTLY FOR STABLE FLIGHT!**

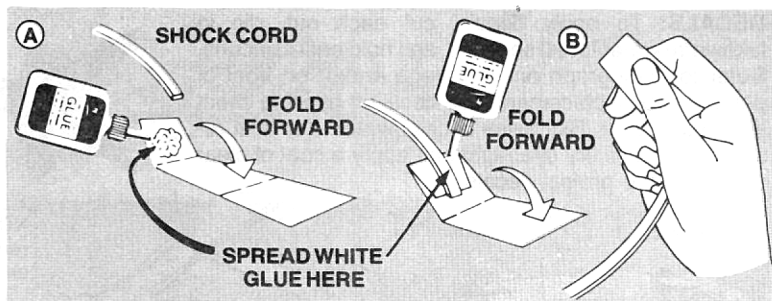
**5**

- Glue launch lug straight on launch lug line 2 1/2 inches from rear of tube as shown.



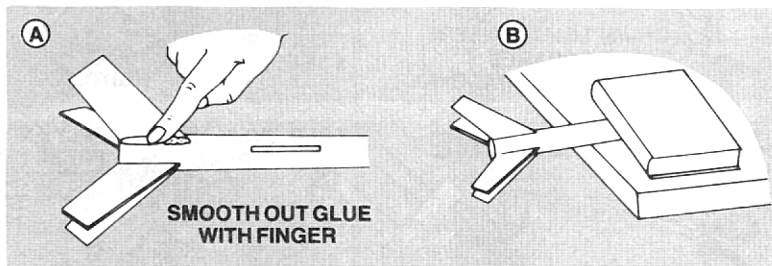
**6**

- A. Cut shock cord mount from tube marking guide. Crease on dotted lines by folding. Spread glue on section 1 and lay end of shock cord into glue. Fold over and apply glue to back of first section and exposed part of section 2. Lay shock cord as shown and fold mount over again.
- B. Clamp unit together with fingers until glue sets.



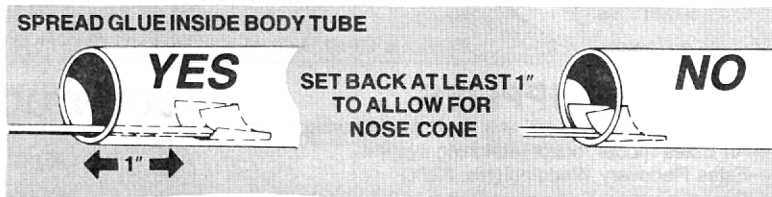
**7**

- A. Apply a glue reinforcement to each fin/body tube joint and each side of launch lug.
- B. Support rocket as shown until glue dries.



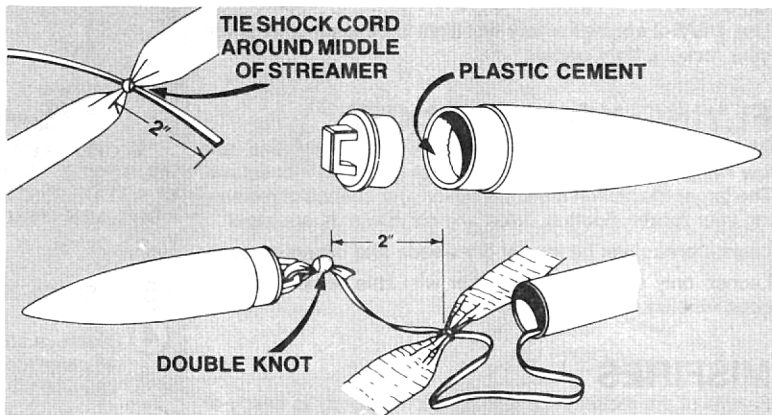
**8**

- A. Apply glue inside front of body tube to cover an area no less than 1 inch to 2 inches from end. The glued area should be same size as shock cord mount.
- B. Hold until glue sets.



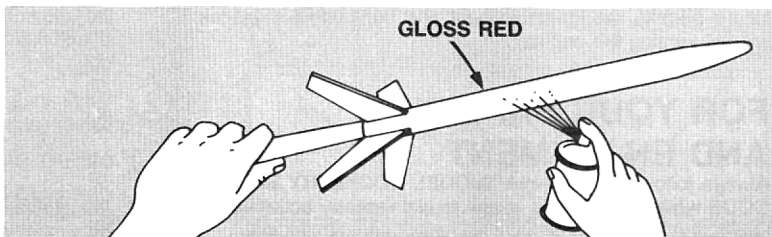
**9**

- A. Using a double knot, tie the free end of the shock cord around the middle of the streamer about 2 inches from end of shock cord.
- B. Apply plastic model cement (NOT white glue) around the inside of the nose cone. Push the nose cone insert into the nose cone. Let cement dry.
- C. Tie end of shock cord to nose cone loop.



## FINISHING YOUR ROCKET

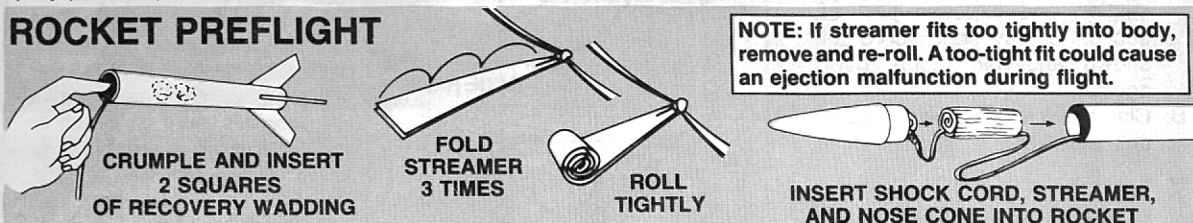
Apply sanding sealer to wood parts with small brush. When sealer is dry, lightly sand all sealed surfaces. When sealer is completely dry, paint entire model with gloss red spray enamel. Follow instructions on spray can for best results. Let paint dry overnight.



**DECALS:** To apply decals, cut each out, dip in lukewarm water for 20 seconds, and hold until it uncurls. Refer to photograph on front page and/or on front of panel for decal placement. Slip decal off backing sheet and onto model. Blot away excess water. For best results, let decals dry overnight and apply a coat of clear spray paint to protect decals.



## ROCKET PREFLIGHT



CRUMPLE AND INSERT  
2 SQUARES  
OF RECOVERY WADDING

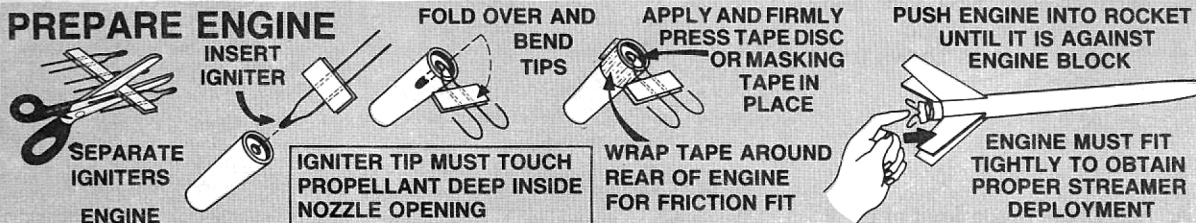
FOLD  
STREAMER  
3 TIMES

ROLL  
TIGHTLY

INSERT SHOCK CORD, STREAMER,  
AND NOSE CONE INTO ROCKET

**NOTE:** If streamer fits too tightly into body, remove and re-roll. A too-tight fit could cause an ejection malfunction during flight.

## PREPARE ENGINE



SEPARATE  
IGNITERS  
ENGINE

INSERT  
IGNITER

FOLD OVER AND  
BEND  
TIPS

APPLY AND FIRMLY  
PRESS TAPE DISC  
OR MASKING  
TAPE IN  
PLACE

PUSH ENGINE INTO ROCKET  
UNTIL IT IS AGAINST  
ENGINE BLOCK

IGNITER TIP MUST TOUCH  
PROPELLANT DEEP INSIDE  
NOZZLE OPENING

WRAP TAPE AROUND  
REAR OF ENGINE  
FOR FRICTION FIT

ENGINE MUST FIT  
TIGHTLY TO OBTAIN  
PROPER STREAMER  
DEPLOYMENT

## LAUNCH SUPPLIES

To launch your rocket you will need the following items:

- An Estes model rocket launching system
- Estes Recovery Wadding (No. 2274)
- Recommended Engines: 1/2A6-2, A8-3, B4-4, B6-4, and C6-5

Use 1/2A6-2 engine for your first flight to become familiar with your rocket's flight pattern.

## FLYING YOUR ROCKET

Choose a large field away from power lines, tall trees, and low flying aircraft. Try to find a field at least 250 feet square. The larger the launch area, the better your chance of recovering your rocket. Football fields and playgrounds are great.

Launch area must be free of dry weeds and brown grass.

Launch only during calm weather with little or no wind and good visibility.

## MISFIRES

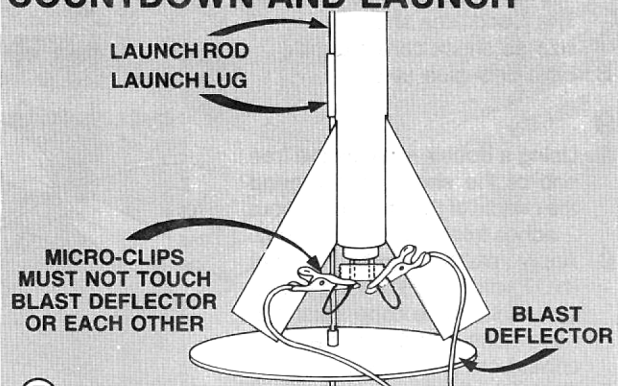
Failure of the rocket engine to function properly is nearly always caused by a failure to install the igniter correctly. This failure permits the igniter to heat and burn into two pieces without igniting the engine.

## FOR YOUR SAFETY AND ENJOYMENT

Always follow the NAR-HIA\* MODEL ROCKETRY SAFETY CODE while participating in any model rocketry activities.

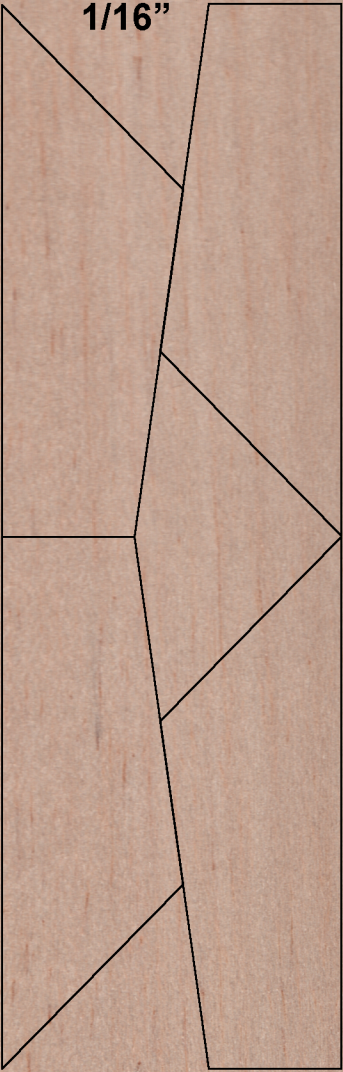
\*National Association of Rocketry-The Hobby Industry of America

## COUNTDOWN AND LAUNCH

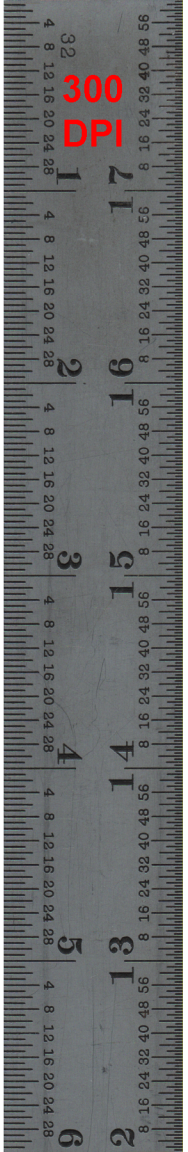


- 5 REMOVE SAFETY KEY to disarm the launch controller.
- 4 Remove safety cap and slide launch lug over launch rod to place rocket on launch pad. Make sure the rocket slides freely on the launch rod.
- 3 Attach micro-clips to the igniter wires. Arrange the clips so they do not touch each other or the metal blast deflector. Attach clips as close to protective tape on igniter as possible.
- 2 Move back from your rocket as far as launch wire will permit (at least 15 feet).
- 1 INSERT SAFETY KEY to arm the launch controller. **PUSH AND HOLD LAUNCH BUTTON UNTIL ENGINE IGNITES**  
Remove safety key—Replace cap on rod.

**LAUNCH!!!**



1/16"



32

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6

300  
DPI



## PARTS LIST KIT NO. 1938 - Laser

Quantity	Description	Type	Number	Detail1	Detail2	Detail3	Detail4	Comment
1	PLASTIC NOSE CONE	PNC-20A	72602	2.81" long	.736" dia.	.5" shoulder	White	Injection Molded
1	NOSE CONE INSERT	PIN-20	72603	0.16" total length	0.67" dia.	0.1" shoulder	.06" lip	Injection Molded
1	PAPER BODY TUBE	BT-20B	30321	8.65" long	0.710" ID	0.736" OD	0.013" wall	White
1	ENGINE BLOCK	EB-20-2	30162-2	.69" OD	.542" ID	0.19" long	BT-5 in BT-20	Green
1	SPACER TUBE (A thru C)	N/A	35003	2.75" long	.708" OD	0.65" ID	0.01" wall	Yellow
1	BALSA FIN STOCK	BFS-20(2x6)	?	2" wide	6" long	1/16" thick	0.0625	Scan
1	LAUNCH LUG	LL-2A	38175	5/32" ID	1/8" rod	1-1/4" long		Mylar
1	Shock Cord	SC-1	38366	19" long	1/8" wide			Rubber
1	Plastic Streamer	N/A	38272	1.2" wide	18" long	Flo. Orange		
1	DECAL	N/A	37255	2" wide	5.5" long	Blu/Yel	Waterslide	Scan
Estes Viking #1949 is the same except for fins and decals.								



**ESTES**  
A DAWSON COMPANY

Recommended for 10 to Adult.  
Adult Supervision Suggested  
For Those Under 12.  
MODEL KIT

Flying  
Model Rocket

51  
FAY'S DRUGS  
JD \$ 3.99



Length: 12.25in. 31.1cm.  
Engine Types: 1/2A6-2  
(First Flight), A8-3, B4-4,  
B6-4, C6-5

#1938

This is a hobby kit  
requiring assembly.  
Engines, ejection  
system, glue and finishing  
supplies are not  
included.



4 7776 01938

Fly **Estes**  
Model Rockets



"Be sure to follow the  
enclosed NATIONAL  
SAFETY CODE."

LIFT-OFF

MODEL ROCKET

### FLIGHT SEQUENCE

"This kit has been designed  
specifically for use only with  
Estes model rocket engines."

MINIMUM RECOMMENDED LAUNCH SITE  
DIAMETER IN FEET

Engine	Max. Alt.	Site Dia.
1/2A	200'	50'
A	400'	50'
B	800'	50'
C	1600'	100'

LAUNCH SITE MUST BE FREE OF OBSTACLES,  
TREES AND HIGHLY FLAMMABLE MATERIALS.

1 YEAR WARRANTY & SAFETY  
CODE INCLUDED.

Launch pads can be dangerous. To avoid danger  
of explosion, keep this bag 100' from launch  
site.

Les kits de modèles peuvent être dangereux.  
Pour éviter le danger de suffocation, ne laissez  
ce sac à la portée des bébés ni des enfants.

ESTES INC., 1295 H ST., PENROSE, CO 81240  
Made in U.S.A. 25460

USE ONLY ESTES PRODUCTS TO  
LAUNCH THIS MODEL ROCKET



A DAVEN COMPANY



# VASER

## FLYING MODEL ROCKET

**SKILL LEVEL**  
Suggested For Beginners

**FLIGHTS  
UP TO  
1,000 FEET!**



Length: 12.25in. 31.1cm.  
Engine Types: 1/2A6-2  
(First Flight), A8-3, B4-4,  
B6-4, C6-5

**#1938**

This is a hobby kit requiring assembly. Engines, launch system, glue and finishing supplies are not included.

