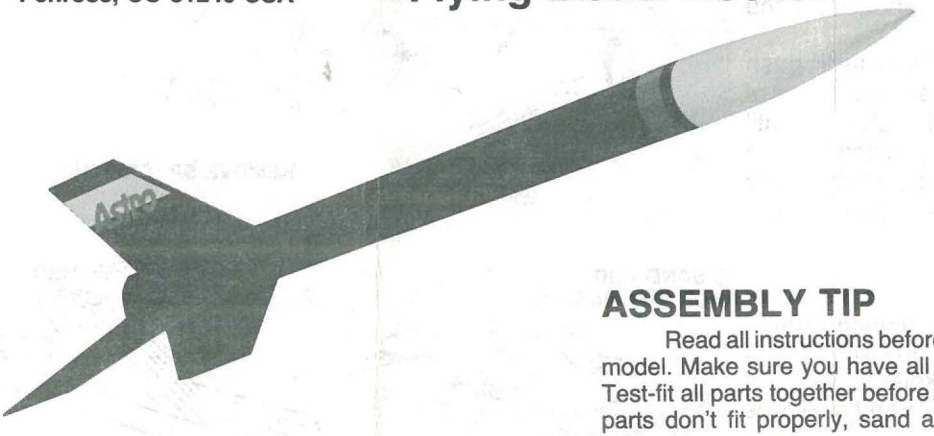
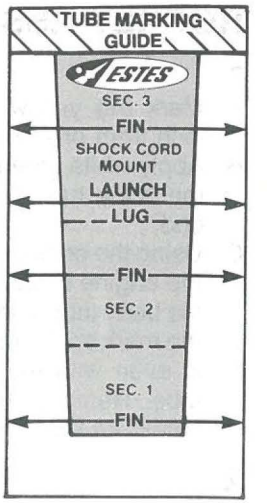
A DAMON COMPANY
ESTES INDUSTRIES
1295 H Street
Penrose, CO 81240 USA

Astro™ #1937
Flying Model Rocket



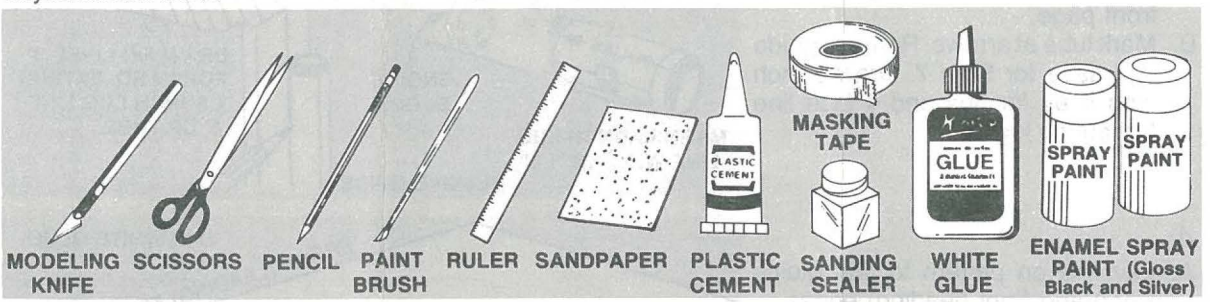


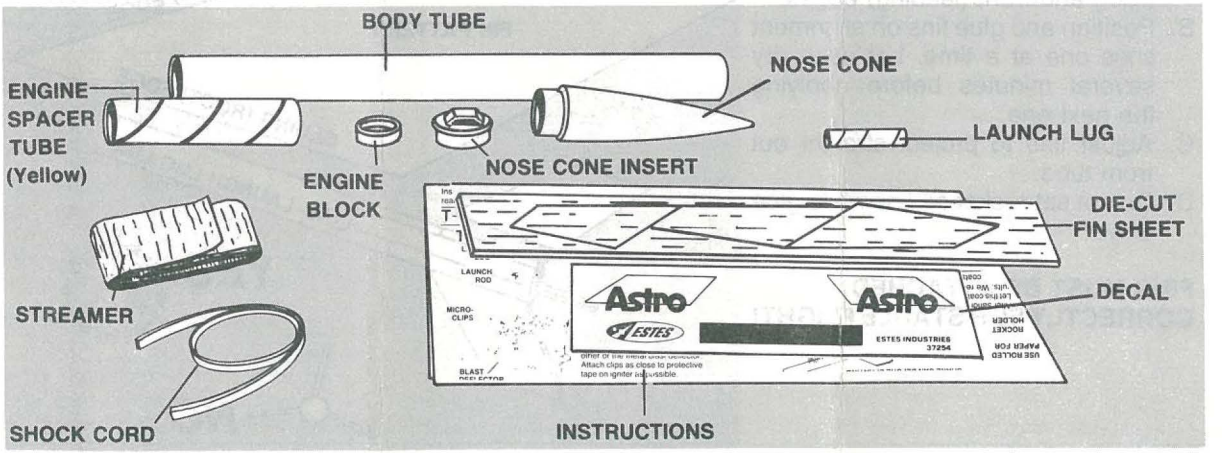
ASSEMBLY TIP

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:

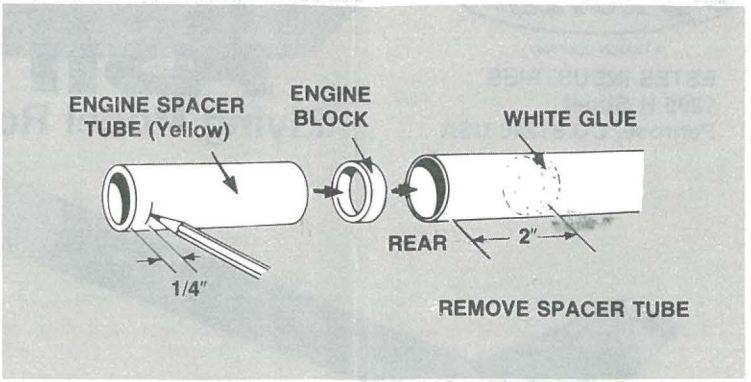




ROCKET ASSEMBLY

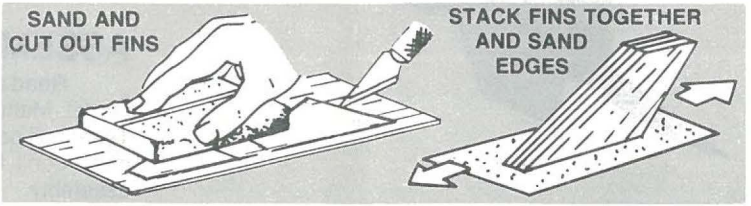
1

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



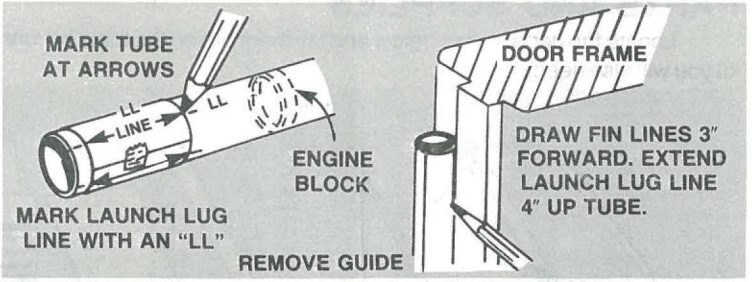
2

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



3

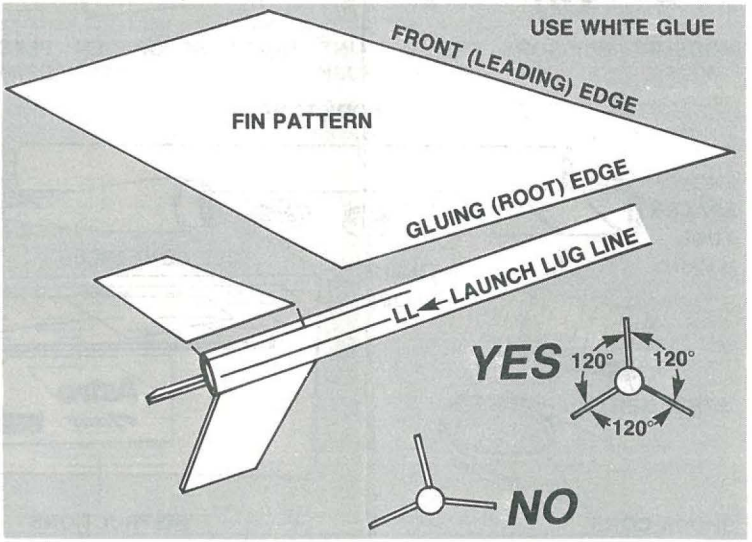
A. Cut out tube marking guide from front page.
B. Mark tube at arrows. Remove guide and save for Step 7. Draw 3 inch long lines for fins and 4 inch line for launch lug.



4

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

FINS MUST BE ATTACHED CORRECTLY FOR STABLE FLIGHT!



5

A. Glue launch lug straight on launch lug line with its rear edge 2½ inches from rear of tube.

6

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

7

A. Cut shock cord mount from tube marking guide.
B. 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.
C. Clamp unit together with fingers until glue sets.

8

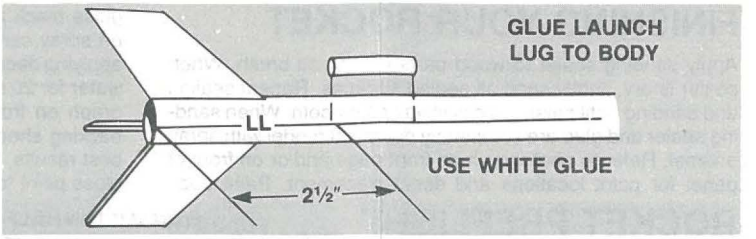
A. Apply glue to inside front of body tube to cover an area no less than 1 inch to 2 inches from end. The glued area should be same size as shock cord mount.
B. Press mount firmly into glue as shown.
C. Hold until glue sets.

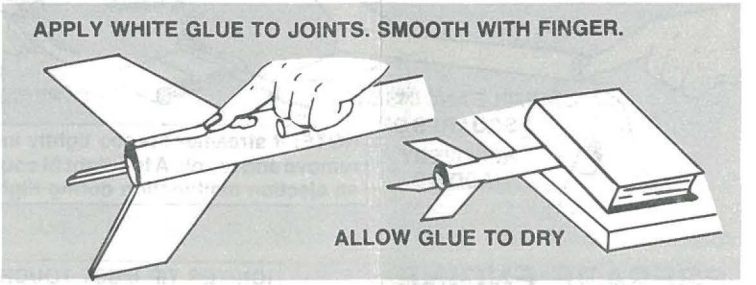
9

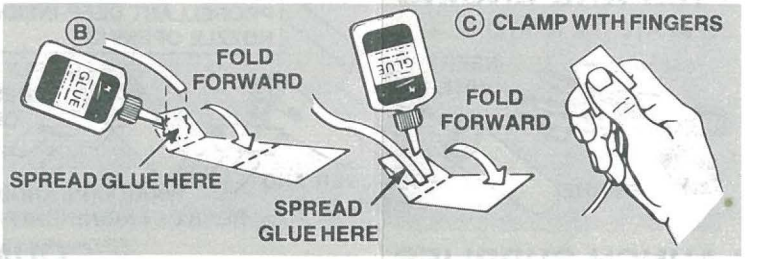
A. Assemble nose cone and nose cone insert with plastic cement.
B. When dry, tie free end of shock cord to nose loop with double knot.

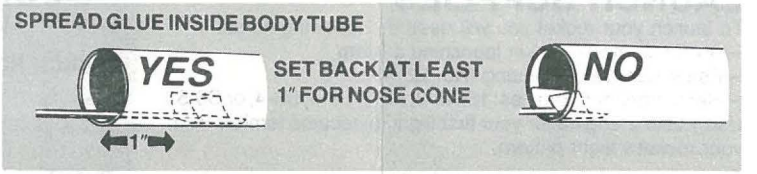
10

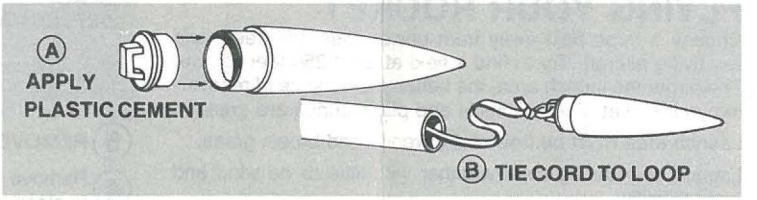
A. Cut a 1 inch long piece of 3/4 inch wide masking tape.
B. Lay end of shock cord over end of streamer material as shown, and tape shock cord and streamer together.
C. Press tape down firmly to assure a strong bond.

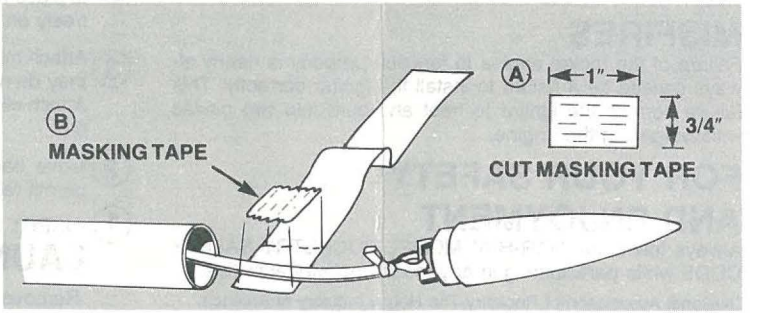






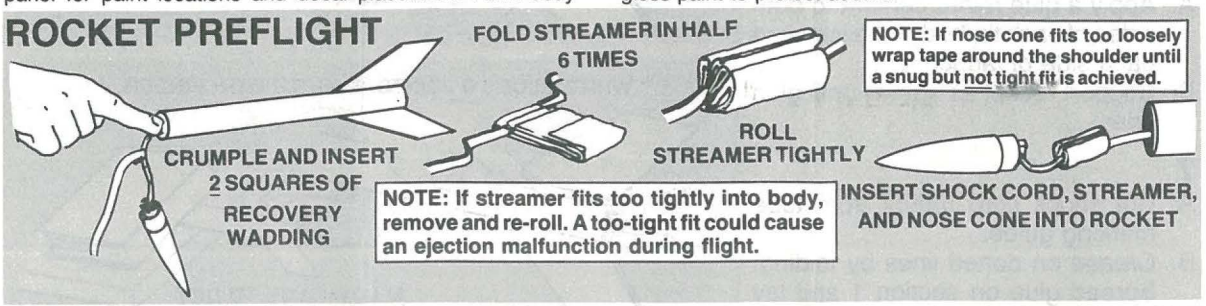


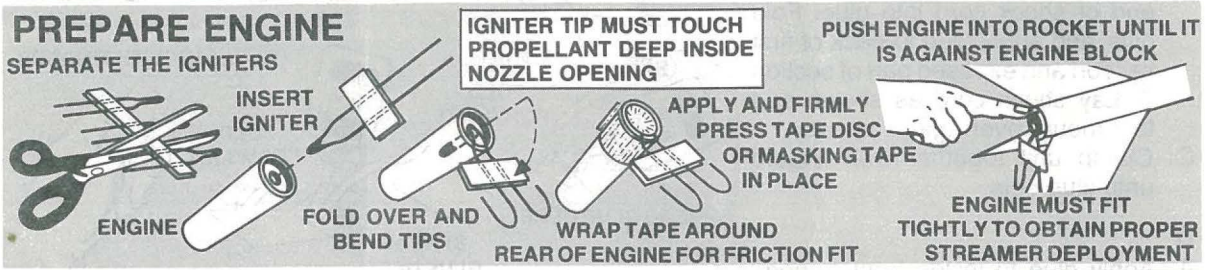




FINISHING YOUR ROCKET

Apply sanding sealer to wood parts with small brush. When sealer is dry, lightly sand all sealed surfaces. Repeat sealing and sanding until balsa grain is filled and smooth. When sanding sealer and glue are completely dry, paint model with spray enamel. Refer to photograph on front page and/or on front of panel for paint locations and decal placement. Paint body gloss black and nose cone bright silver. Follow instructions on spray can for best results. Let paint dry overnight before applying decals. To apply decals, cut each out, dip in lukewarm water for 20 seconds, and hold until it uncurls. Refer to photograph 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 gloss paint to protect decals.





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, or 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

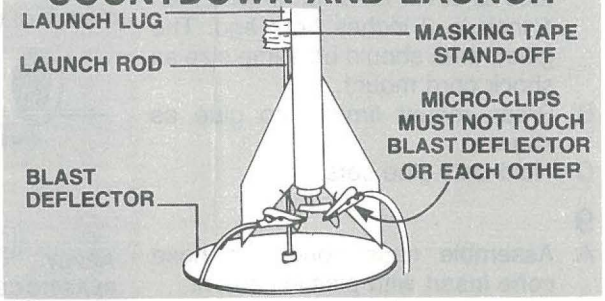
Failure of the rocket engine to function properly is nearly always caused by a failure to install the igniter correctly. This failure permits the igniter to heat and burn into two pieces without igniting the engine.

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.

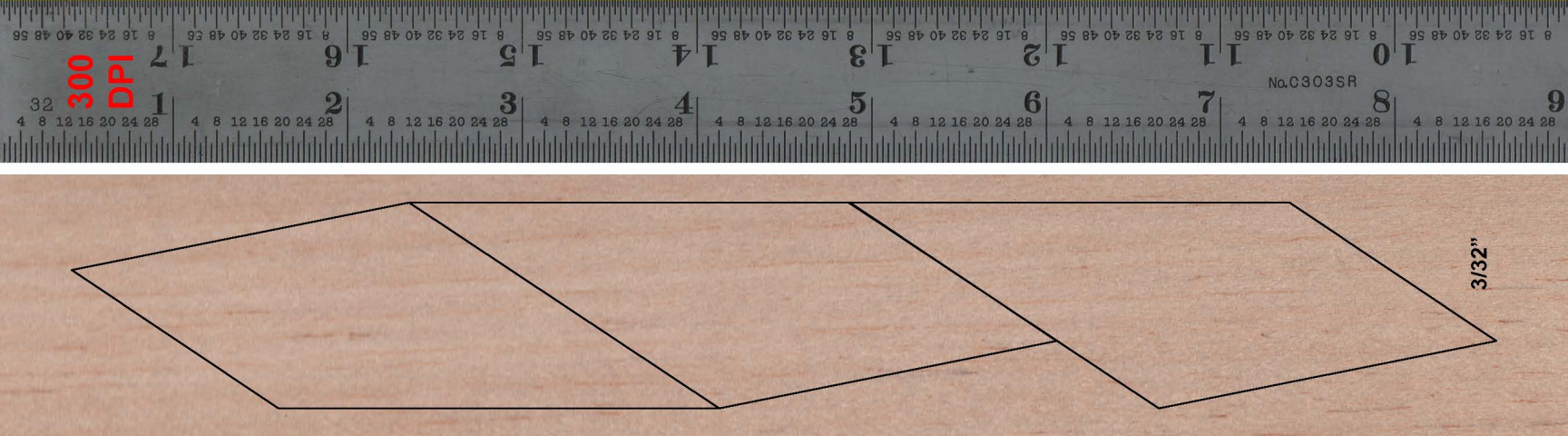
(3) Attach micro-clips to the igniter wires. Arrange the clips so they do not touch each other or the metal blast deflector. Attach clips as close to protective tape on igniter as possible.

(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.

LAUNCH!!! **PUSH AND HOLD LAUNCH BUTTON UNTIL ENGINE IGNITES**

Remove safety key—Replace cap on rod.


300 DPI
No.C303SR
3/32"

300 DPI

Astro

Astro

ESTES

ESTES INDUSTRIES
37254

PARTS LIST KIT N0. 1937 - Astro								
Quantity	Description	Type	Number	Details1	Details2	Details3	Details4	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	30320	8.65" long	0.710" ID	0.736" OD	0.013" wall	
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-30		3/32" thick	1.5" wide	9" long		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	PAPER STREAMER	RS-20	38278	1" wide	20" long		Red	Crepe Paper
1	DECAL		37254			Slvr/Org	Waterslide	Scan

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A DAMON COMPANY

Recommended for 10 to Adult. Adult Supervision Suggested For Those Under 12.
1 MODEL KIT
Paint and Glue not included.
1 MODELE REDUIT
Peinture et Colle non comprises.

Flying Model Rocket

Astro™ FLYING MODEL ROCKET

SKILL LEVEL 1
Suggested For Beginners

FLIGHTS UP TO 1,000 FEET!

Engine Types: 1 2A6-2 (First Flight), A8-3, B4-4, B6-4, C6-5
Length: 12.75 in. (32.4 cm)

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This is a hobby kit requiring assembly.

Engines, launch system, glue and finishing supplies are not included.

#1937

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Fly Estes Model Rockets

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"Be sure to follow the enclosed NAR/HIA SAFETY CODE."

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'	200'
B	800'	200'
C	1600'	400'

LAUNCH SITE MUST BE FREE OF OBSTRUCTIONS AND HIGHLY FLAMMABLE MATERIALS

FULL 1 YEAR WARRANTY & SAFETY CODE ENCLOSED.

Plastic bags can be dangerous. To avoid danger of suffocation, keep this bag away from babies and children.

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

ESTES IND., 1295 H ST., PENROSE, CO 81240
Made in USA

USE ONLY ESTES PRODUCTS TO

Astro™

FLYING MODEL ROCKET

SKILL LEVEL 1
Suggested For Beginners

FLIGHTS UP TO 1,000 FEET!

Engine Types: * A8-2
(First Flight) A8-3, B4-4
B6-4, C6-5
Length: 12.75" (32.4 cm)

ESTES
A HASBRO COMPANY

This is a hobby kit requiring assembly.

Engines, launch systems, glue and finishing supplies are not included.

#1937