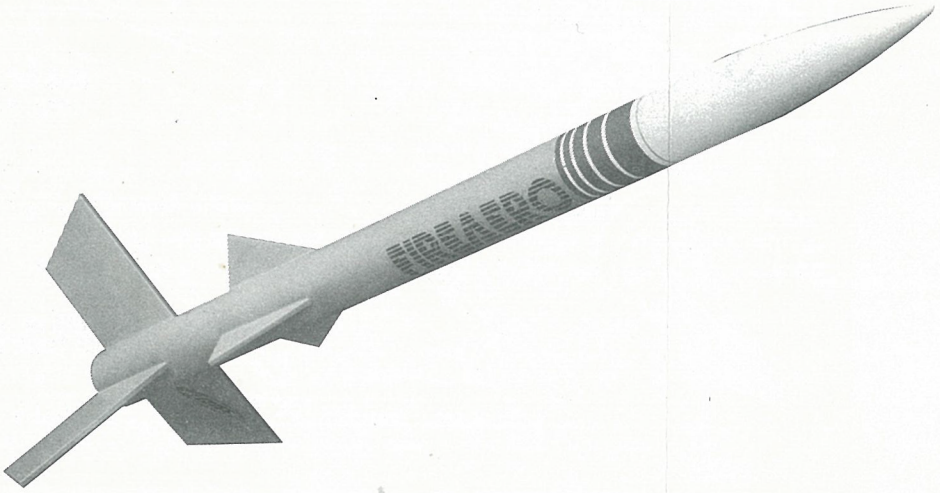
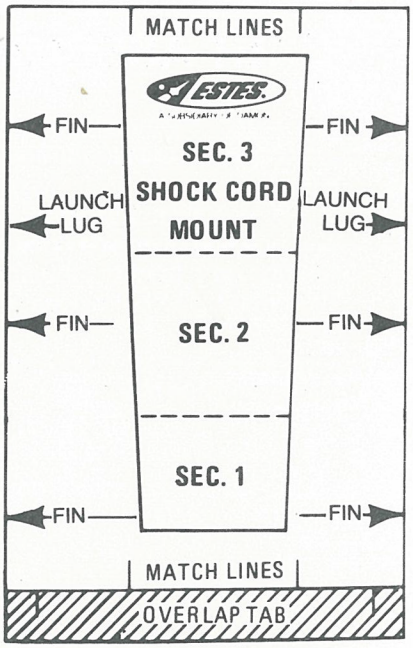

ESTES

ESTES
A DAMON COMPANY
ESTES INDUSTRIES
PENROSE, CO 81240 USA

FIREAERO

#1953

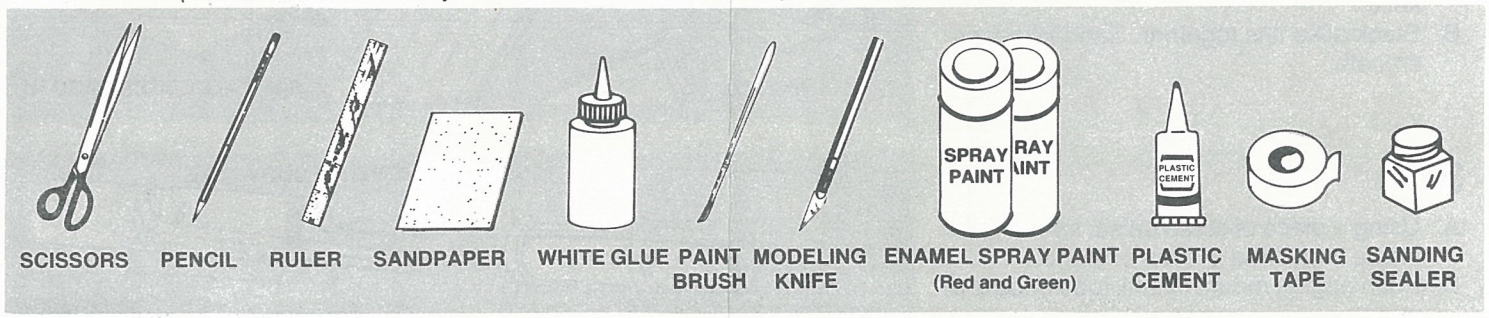




TUBE MARKING GUIDE

PARTS AND SUPPLIES

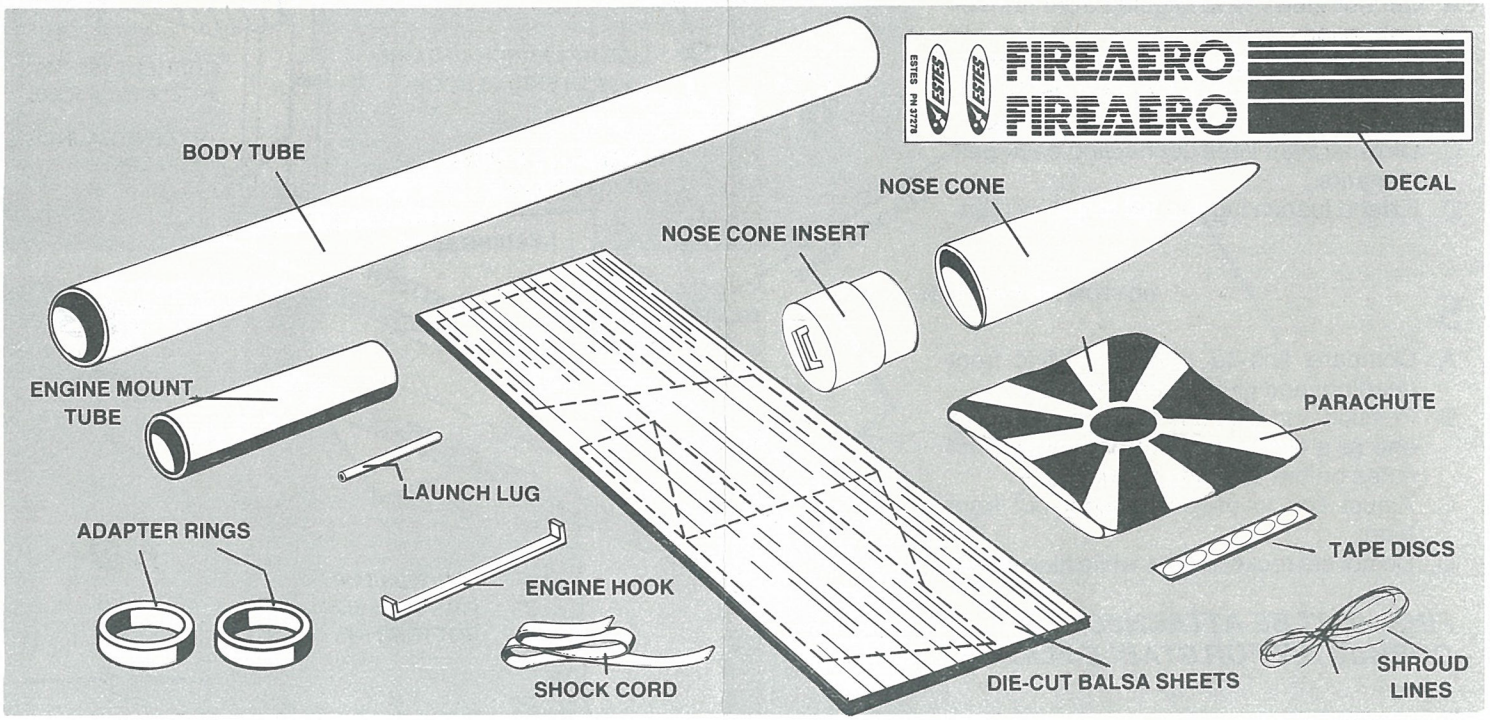
Locate the parts shown below and lay them out on the table in front of you. In addition to the parts included in the kit you will also need:



SCISSORS PENCIL RULER SANDPAPER WHITE GLUE PAINT BRUSH MODELING KNIFE ENAMEL SPRAY PAINT (Red and Green) PLASTIC CEMENT MASKING TAPE SANDING SEALER

ASSEMBLY TIP

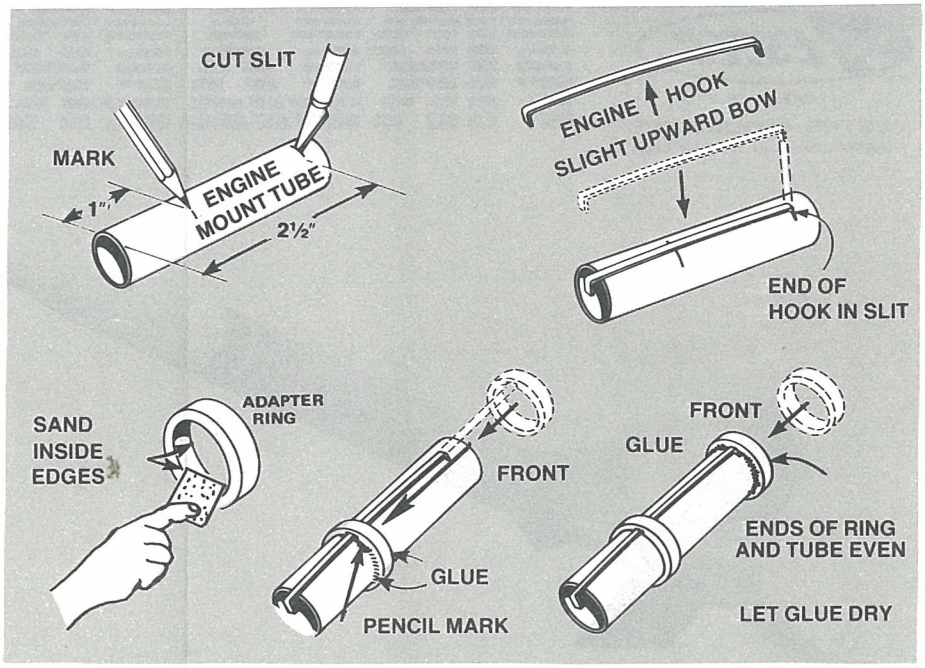
Read all instructions before beginning work on your model. Make sure you have all parts and supplies. Test-fit all parts together before applying any glue. If any parts don't fit properly, sand as required for precision assembly.



ROCKET ASSEMBLY

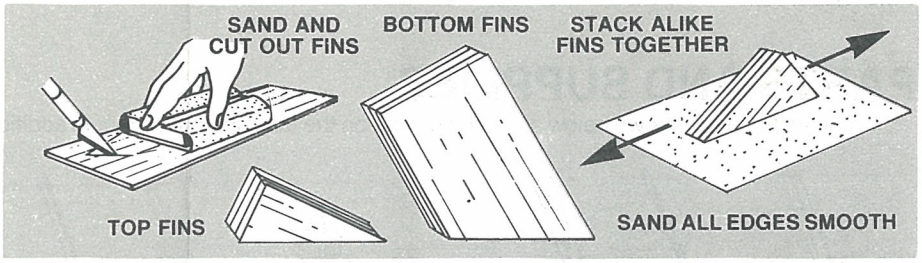
1

A. Mark engine mount tube 1″ and 2½″ from one end.
B. Cut 1/8″ long slit at 2½″ mark.
C. Insert one end of engine hook into slit.
D. Slide ring onto front of tube and down to 1″ mark and glue both sides of ring/tube joint.
E. Apply glue around front of tube. Slide remaining ring into place.



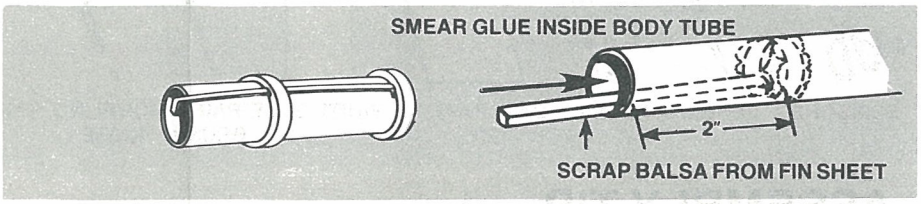
2

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



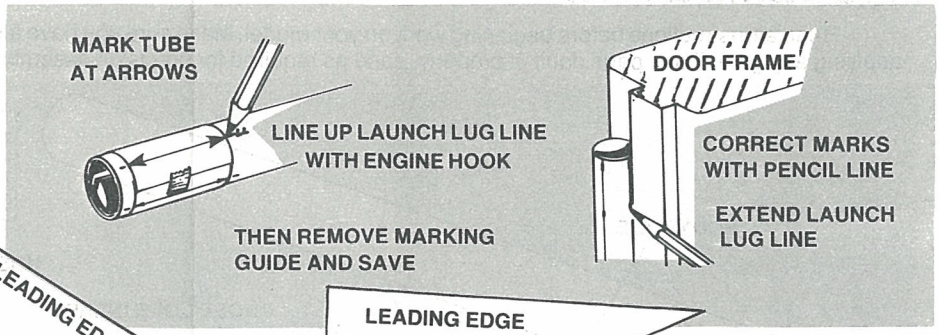
3

A. Using a piece of scrap balsa, smear glue inside body tube 2″ from one end.
B. Push engine mount in until tube ends are even.



4

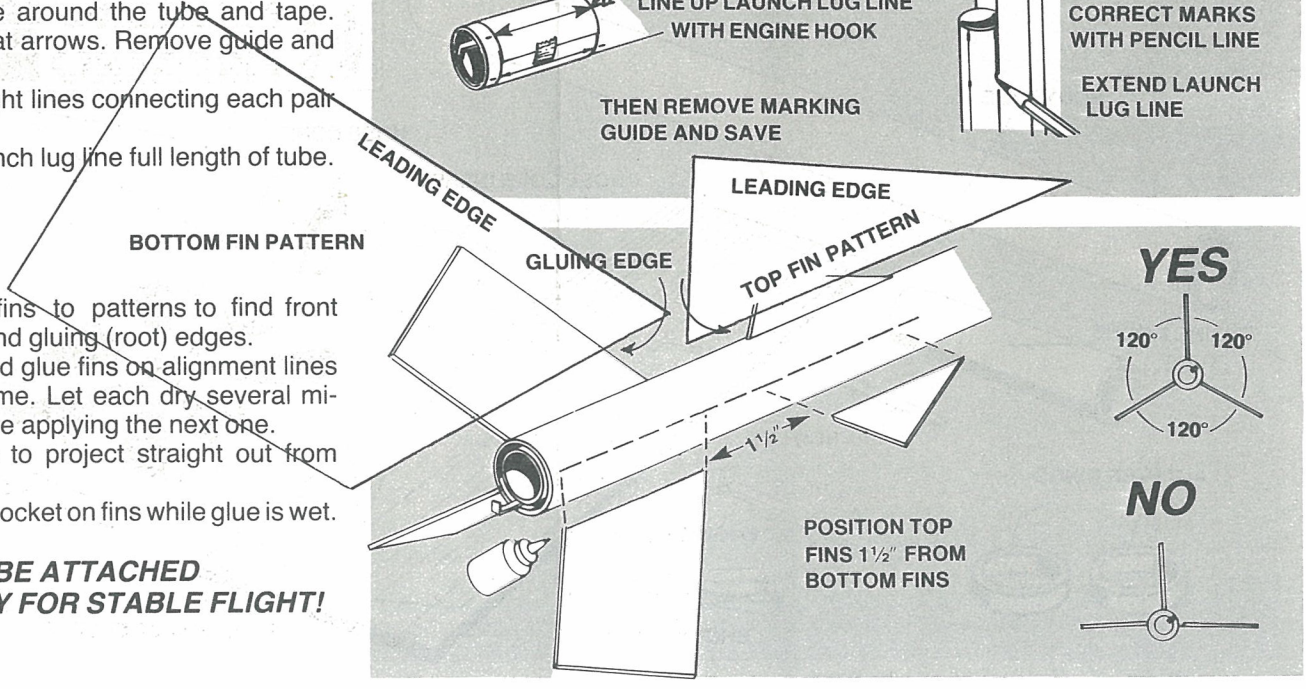
A. Cut out tube marking guide from front of instructions.
B. Wrap guide around the tube and tape. Mark tube at arrows. Remove guide and save.
C. Draw straight lines connecting each pair of marks.
D. Extend launch lug line full length of tube.



5

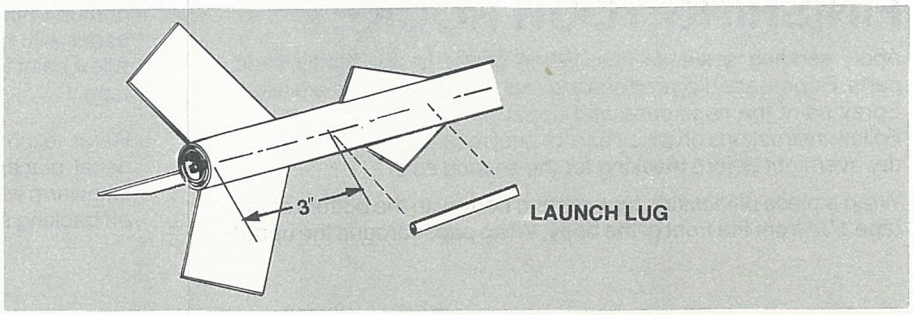
A. Compare fins to patterns to find front (leading) and gluing (root) edges.
B. Position and glue fins on alignment lines one at a time. Let each dry several minutes before applying the next one.
C. Adjust fins to project straight out from tube.
D. Do not set rocket on fins while glue is wet.

FINS MUST BE ATTACHED CORRECTLY FOR STABLE FLIGHT!



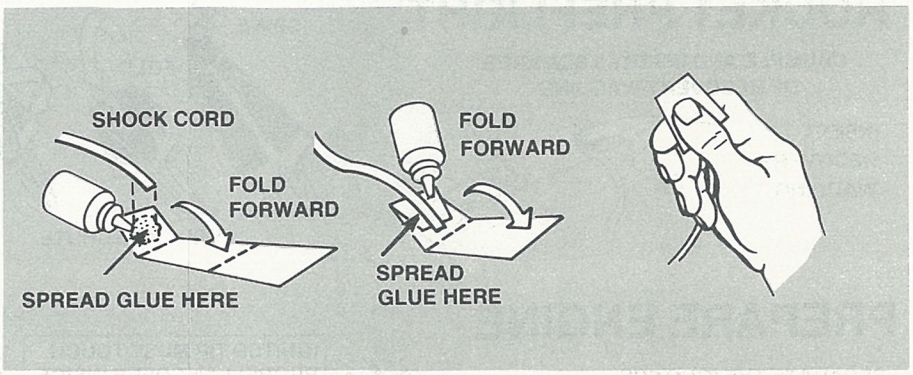
6

Glue launch lug straight on launch lug line with its rear edge 3 inches from rear of tube.



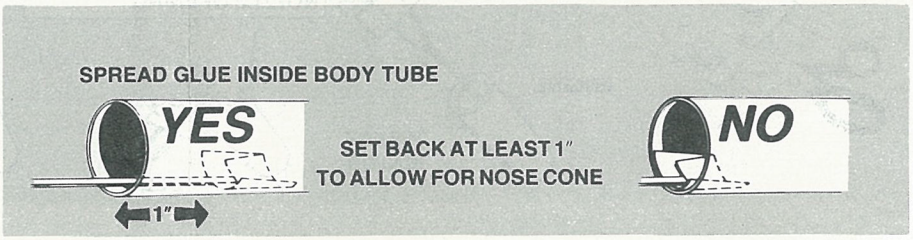
7

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.



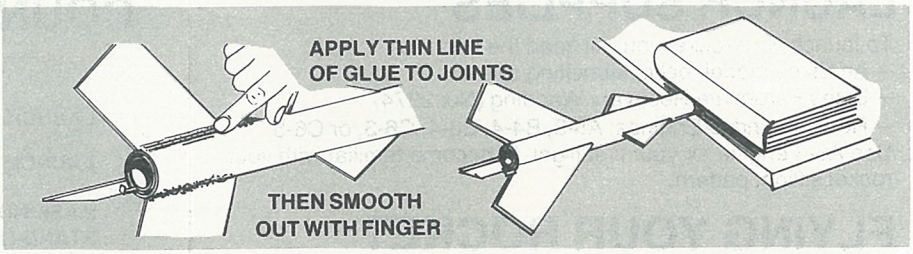
8

A. Apply glue to inside front of body tube to cover an area no less than 1″ to 2″ 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.



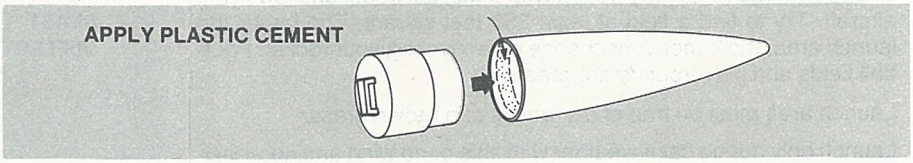
9

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



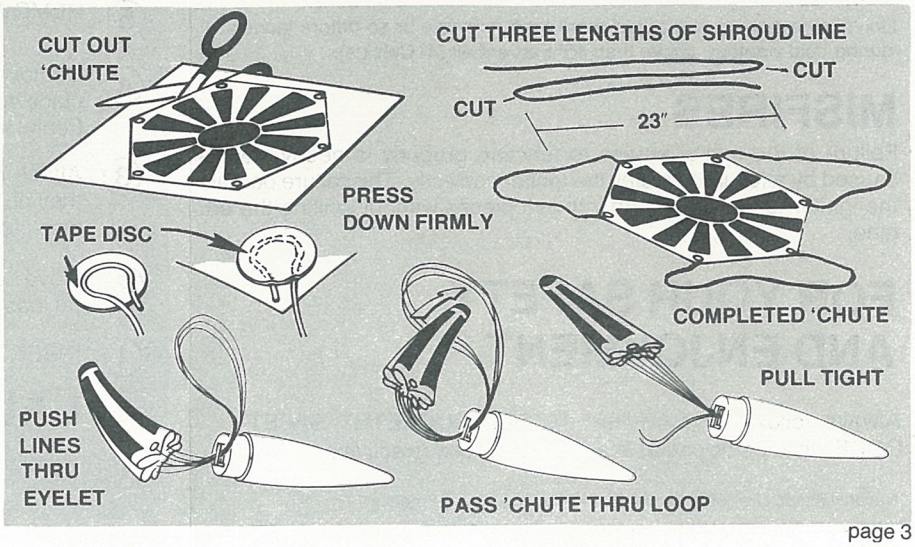
10

A. Cement nose cone and nose cone insert together with plastic model cement.
B. Push nose cone insert firmly into nose cone.



11

A. Cut out parachute on edge lines.
B. Cut three 23″ lengths of shroud line.
C. Form small loops with shroud line ends and press onto sticky side of tape discs.
D. Attach tape discs with line ends to top of parachute as shown.
E. Firmly press tape discs into place until both tape discs and parachute material are molded around shroud line loops.
F. Pass shroud line loops through loop on nose cone. Pass parachute through loop ends and pull lines against the nose cone.
G. Tie free end of shock cord to nose cone loop.



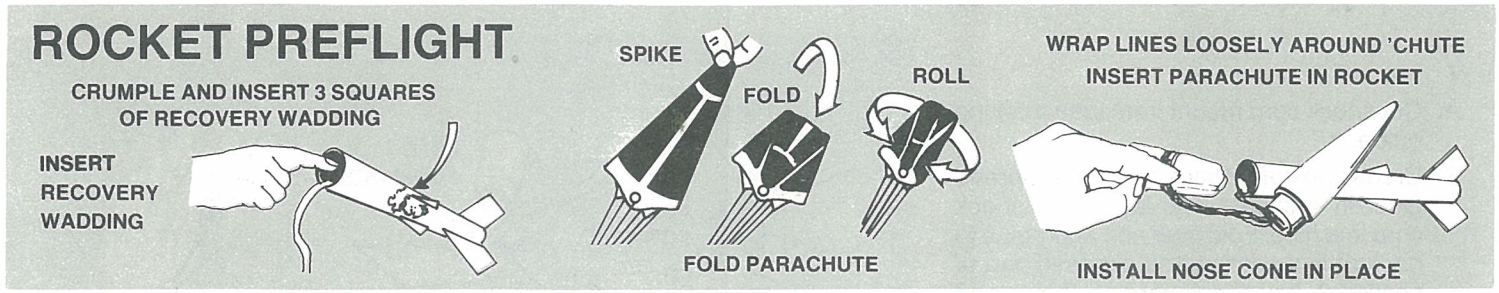
FINISHING YOUR ROCKET

Apply sanding sealer to fins. When sealer is dry, lightly sand parts. Repeat sanding and sealing until balsa grain lines are filled. Spray paint the nose cone and upper part of the rocket yellow. Follow instructions on spray can for best results. Allow the paint to dry overnight before masking for the second color.

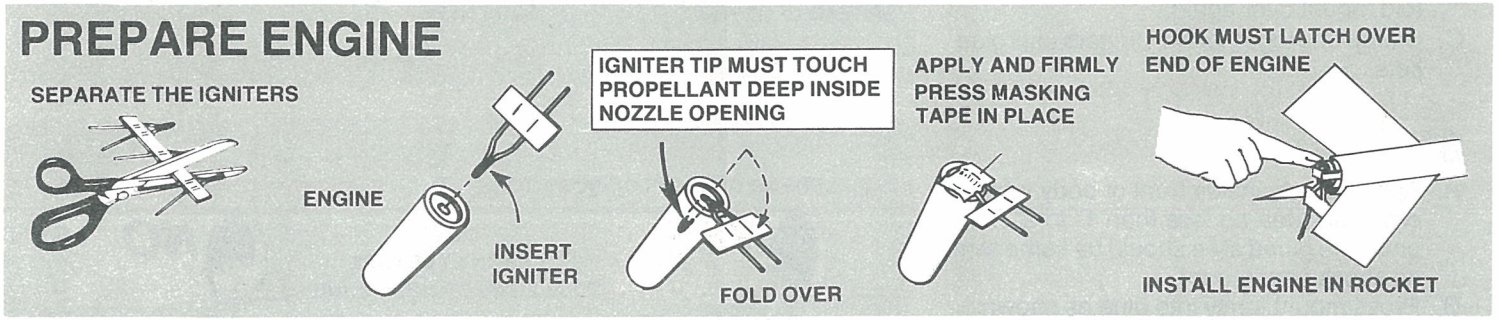
Wrap a piece of masking tape around body with the bottom of the tape 1½" from the front of the body. Wrap paper around the upper portion of the body and tape in place. Seal any openings in the paper with tape. Paint the lower portion of the rocket light green. Allow paint to dry for a couple of hours before removing paper and tape.

Refer to photo on front of instructions and photo on panel for decal placement. To apply decals, cut out each decal, dip in lukewarm water for 20 seconds and hold until it uncurls. Slip decal off backing sheet and onto model. Blot away excess water.

ROCKET PREFLIGHT



PREPARE ENGINE



LAUNCH SUPPLIES

To launch your rocket you will need the following items:
—An Estes model rocket launching system
—Estes Parachute Recovery Wadding (No. 2274)
—Recommended Engines: A8-3, B4-4, B6-4, C6-3, or C6-5
Use A8-3 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.

Don't leave parachute packed more than a minute or so before launch during cold weather, colder than 40° Fahrenheit (4° Celsius).

MISFIRES

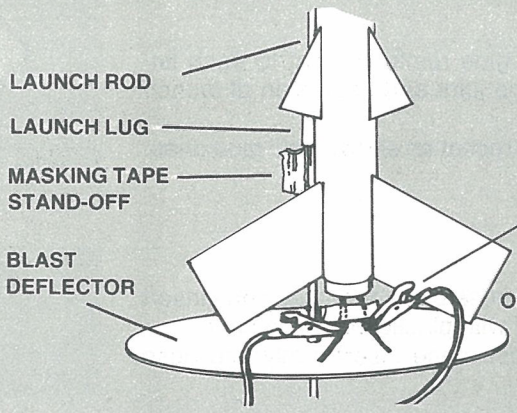
Failure of the rocket engine to function properly is nearly always caused by a failure to install the igniter correctly. This failure permits the igniter to heat and burn into two pieces without igniting the engine.

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.

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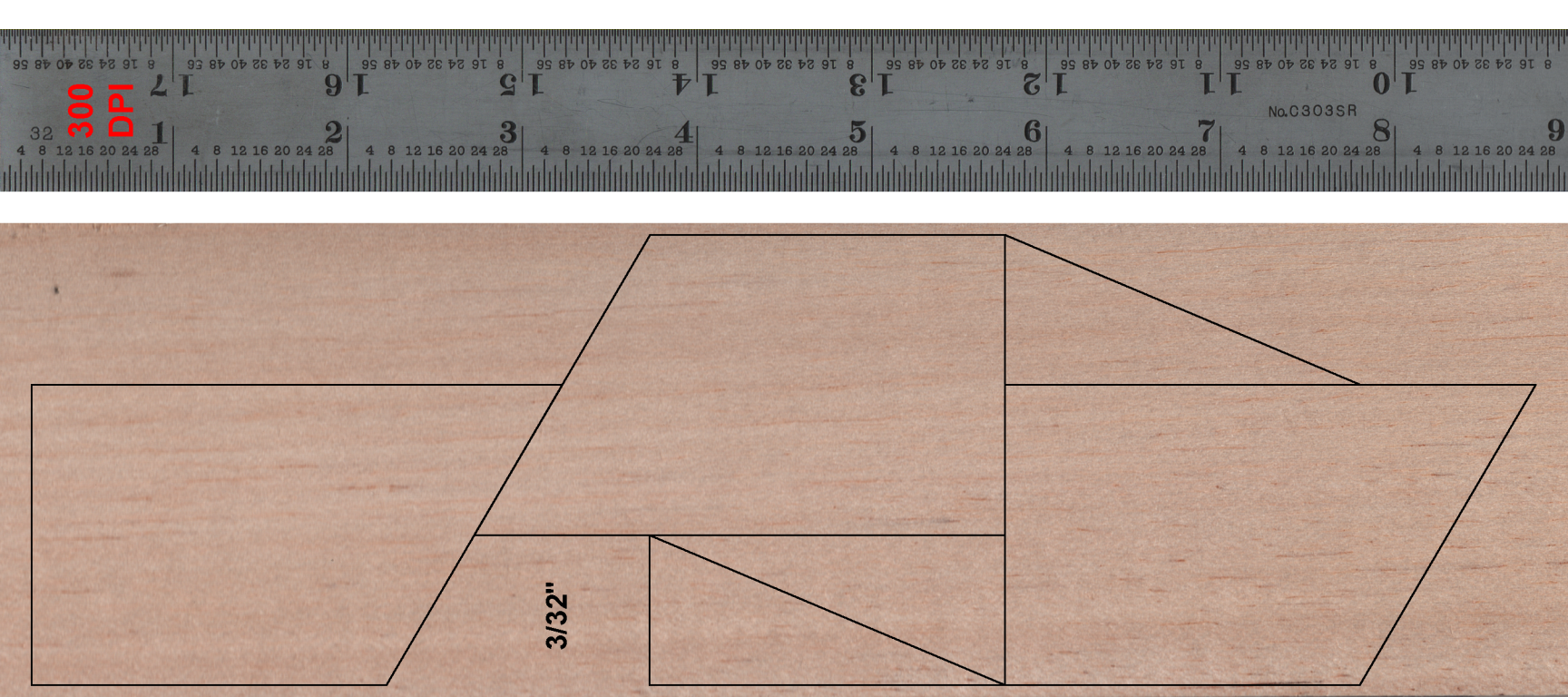
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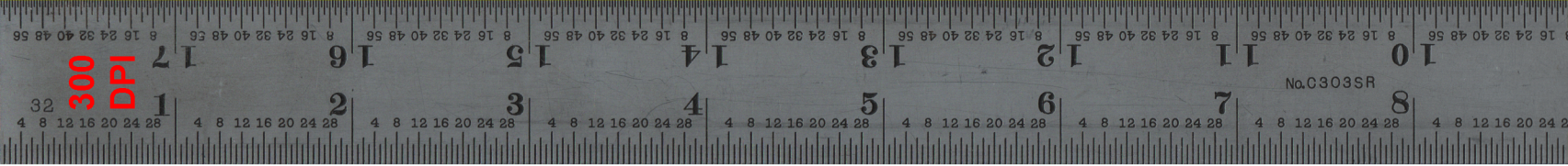
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ESTES PN 37278

PARTS LIST KIT N0. 1953 - Fireaero								
Quantity	Description	Type	Number	Details1	Details2	Details3	Details4	Comment
1	PAPER BODY TUBE	BT-50L	30366	12.7" long	0.950" ID	0.976" OD	0.013" wall	Glassine
1	PAPER BODY TUBE	BT-20J	30326	2.75" long	0.710" ID	0.736" OD	0.013" wall	Glassine
2	CENTERING RINGS	AR-2050	30164	0.25" long	0.737" ID	0.949" OD	0.106" wall	Green
1	LAUNCH LUG	LL-2B	38178	5/32" ID	1/8" rod	2-3/8" long		Mylar
1	ENGINE HOLDER	EH-2	35025	2.8" long	.100" wide	.025" thick		Reg. & D
1	PLASTIC NOSE CONE	PNC-50YR	72604	4.1" long	.974" dia.		BT-50 - Ogive	Pairs with PIN-50YR
1	NOSE CONE INSERT	PIN-50YR	72605	.65" long	.5" shoulder			.65" exposed. .5" insert in cone.
1	BALSA FIN STOCK	BFS-30	3168	3" wide	9" long	3/32" thick	Die-Cut	Scan
1	Shock Cord	SC-1	85730	18" long	1/8" wide			Rubber
1	Parachute	PK-12A	85564	12" hexago	1.25 mil thick	LDPE plastic	Org/Wht	
1	Shroud Line	SLT-72	38237	72"	.020" diamete	Twisted cotton		
6	Tape Disc	TD-3F	38406	1/2" dia.	Paper	Self-Stick		Set of 6
1	Decal	KD-1953	37278	2" wide	9" long	Red	Waterslide	Scan

Fly Estes Model Rockets
A Rewarding Hobby For Ages 10 to Adult
ESTES INDUSTRIES

FIREAERO
FLYING MODEL ROCKET
SKILL LEVEL 2

- Sport Model
- Kit Decal
- 12" Parachute
- Die-Cut Balsa Fins

FLIES OVER 1200 FEET

Length: 18 in. (45.7 cm)
Dia: .970 in. (24.6 mm)
Weight: 1.00 oz. (30.5 g)
Recommended Engines:
A8-3 (First Flight),
B6-4, B8-4,
C6-3, C6-5

This is a model kit requiring assembly. Glue and finishing supplies, launch system and engines for flight are not included.

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ESTES INDUSTRIES
PENROSE, CO 81240 USA
#1953

CUT OUT CAREFULLY ALO

ESTES
ESTES INDUSTRIES
FIREAERO
#1953

PARTS AND SUPPLIES

SCISSORS PENCIL RULER SANDPAPER WHITE GLUE PAINT BRUSH MODELING KNIFE ENAMEL SPRAY PAINT PLASTIC CEMENT MASKING TAPE SANDING SEALER

ASSEMBLY TIP

BODY TUBE
NOSE CONE
DECAL
NOSE CONE INSERT
ENGINE MOUNT TUBE
LAUNCH LUG
PARACHUTE
ADAPTER RINGS
ENGINE HOOK
SHOCK CORD
DIE-CUT BALSA SHEETS
SHROUD LINES

ESTES
ESTES
FIREAERO
FIREAERO

ESTES
A DAMON COMPANY

Flying Model Rocket

FIREZERO

FLYING MODEL ROCKET

SKILL LEVEL 2

- Sport Model
- Kit Decal
- 12" Parachute
- Die-Cut Balsa Fins

FLIES OVER 1200 FEET

Length: 18 in. (45.7 cm)
Dia: .975 in. (24.8 mm)
Weight: 1.06 oz. (30.5 g)
Recommended Engines:
A8-3 (First Flight),
B4-4, B6-4,
C6-3, C6-5

This is a model kit requiring assembly. Glue and finishing supplies, launch system and engines for flight are not included.

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A DAMON COMPANY
ESTES INDUSTRIES
PENROSE, CO 81240 USA

#1953

Fly Estes Model Rockets

ESTES
A DAMON COMPANY
ESTES INDUSTRIES
PENROSE, CO 81240 USA

MODEL ROCKET FLIGHT SEQUENCE

RECOMMENDED LAUNCH AREA:

MAKE SURE THE LAUNCH AREA IS FREE OF OBSTRUCTIONS, DRY GRASS, BROWN GRASS, OR HIGHLY FLAMMABLE MATERIALS.

MODEL ROCKETS ARE...

- ABLE TO FLY TO ALTITUDES APPROACHING 2,000 FEET (Depending on shape, size, weight and engine used.)
- MADE OF VERY LIGHT MATERIALS YET CAN FLY AT SPEEDS UP TO 400 MPH
- LAUNCHED BY MORE THAN 1,000,000 PEOPLE EACH YEAR
- FUN TO COLLECT, BUILD AND DISPLAY
- SAFE, SCIENTIFIC AND EDUCATIONAL

MODEL ROCKETS USE...

- SMALL, POWERFUL, SOLID-PROPELLANT ROCKET ENGINES
- REMOTELY CONTROLLED ELECTRONIC LAUNCH SYSTEMS
- REAL LAUNCH PADS TO INSURE CORRECT FLIGHT PATTERNS
- THE SAME PRINCIPLES CAPE CANAVERAL ROCKETS USE

SOME MODEL ROCKETS ARE...

- 4 INCHES TO 8 FEET TALL
- AERIAL CAMERAS
- GLIDERS
- SCI-FI SPACESHIPS OR SCALE MODELS
- MULTI-STAGED VEHICLES
- CARGO SHIPS WITH PAYLOAD BAYS
- EASY-TO-BUILD IN MINUTES
- CHALLENGING-TO-BUILD (Skill levels are indicated on each package.)

ALL MODEL ROCKETS ARE FUN!

FULL ONE YEAR WARRANTY AND SAFETY CODE ENCLOSED

FIREAERO

FLYING MODEL ROCKET

SKILL LEVEL 2
Recommended for the Experienced Modeler.

- Sport Model
- Kit Decal
- 12″ Parachute
- Die-Cut Balsa Fins

FLIES OVER 1200 FEET

Length: 18 in. (45.7 cm)
Dia: .976 in. (24.8 mm)
Weight: 1.08 oz. (30.5 g)
Recommended Engines:
A8-3 (First Flight),
B4-4, B6-4,
C6-3, C6-5

THE HOBBY INDUSTRY OF AMERICA PROMOTES ACHIEVEMENT

This is a model kit requiring assembly. Glue and finishing supplies, launch system and engines for flight are not included.

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PENROSE, CO 81240 USA

#1953

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