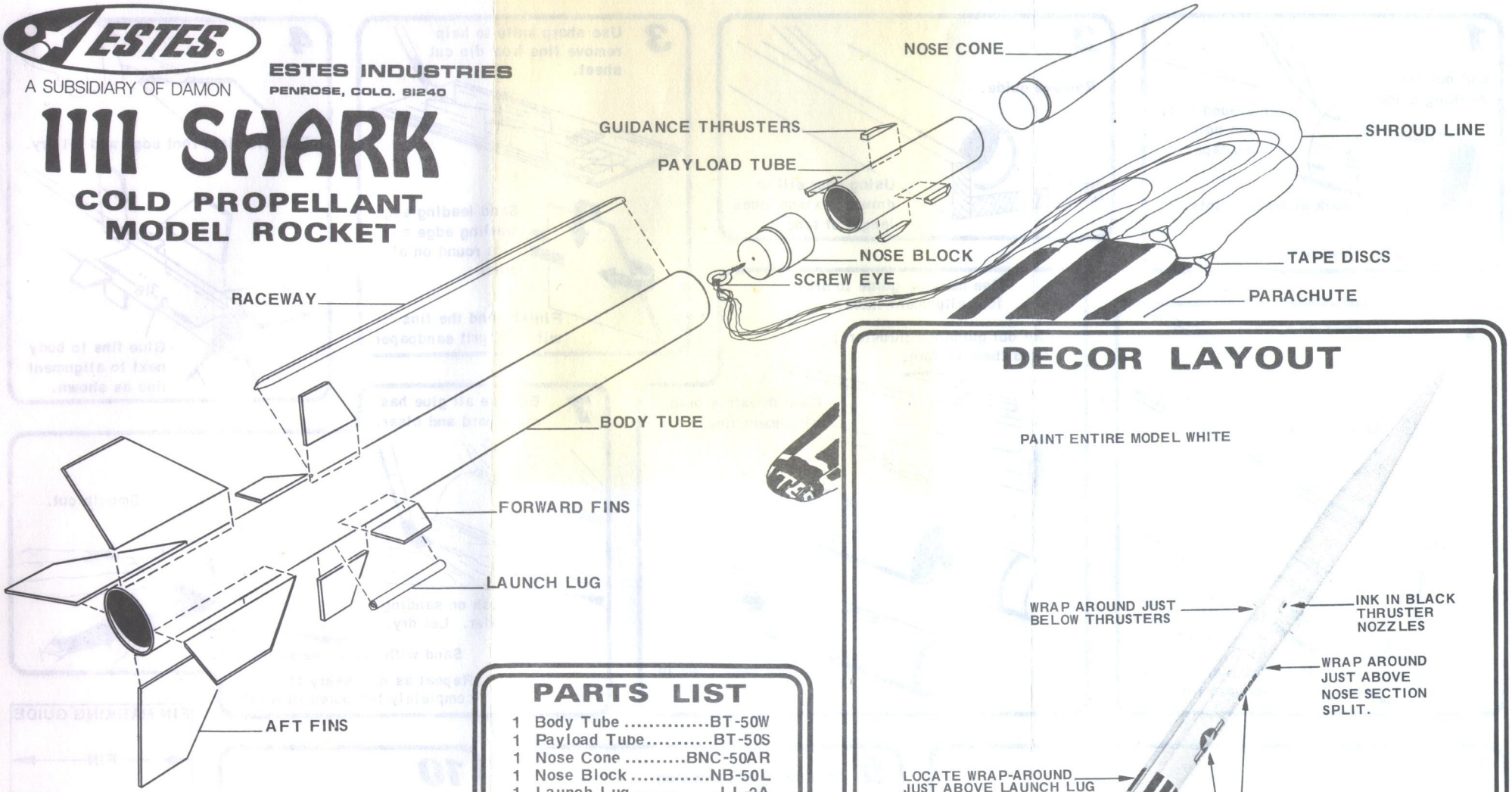
ESTES

A SUBSIDIARY OF DAMON

ESTES INDUSTRIES
PENROSE, COLO. 81240

1111 SHARK

COLD PROPELLANT MODEL ROCKET



PARTS LIST

1	Body Tube	BT-50W
1	Payload Tube	BT-50S
1	Nose Cone	BNC-50AR
1	Nose Block	NB-50L
1	Launch Lug	LL-2A
1	Fin Stock	BF-L6
1	Parachute	PK-12A
1	Shroud Line	SLT-72
1	Tape Strips/Discs	TK-3F
1	Screw Eye	SE-2
1	Decal	KD-L6

ADDITIONAL TOOLS AND MATERIALS REQUIRED

Sharp modeling knife
Ruler
Pencil
Brush
Sandpaper: coarse and extra fine
Sanding Sealer
Spray Paint
Masking Tape
White Glue

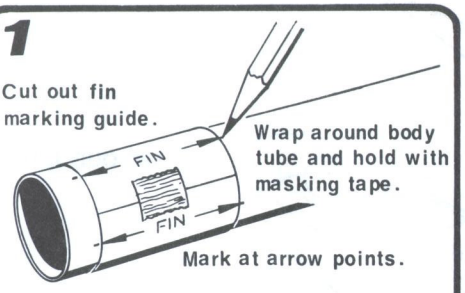
DECOR LAYOUT

PAINT ENTIRE MODEL WHITE

2458-72

1

Cut out fin marking guide.



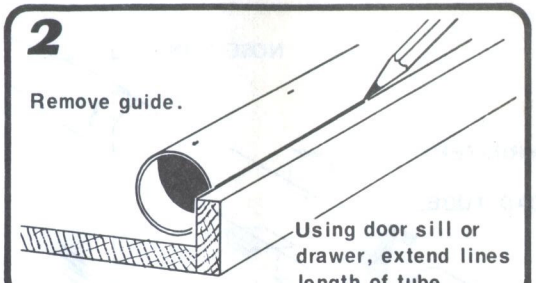
Wrap around body tube and hold with masking tape.

Mark at arrow points.

NOTE: Use pencil only.

2

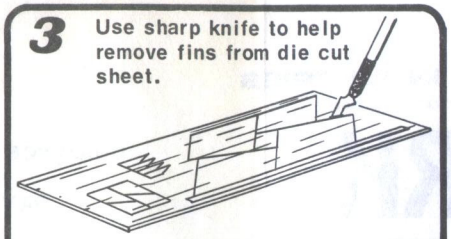
Remove guide.

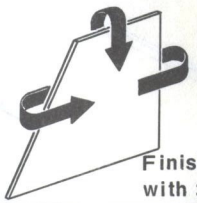


Using door sill or drawer, extend lines length of tube.

3

Use sharp knife to help remove fins from die cut sheet.





Sand leading edge, trailing edge and tips round on all fins.

Finish sand the fins with 320 grit sandpaper.

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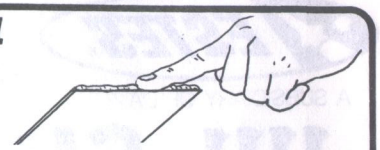
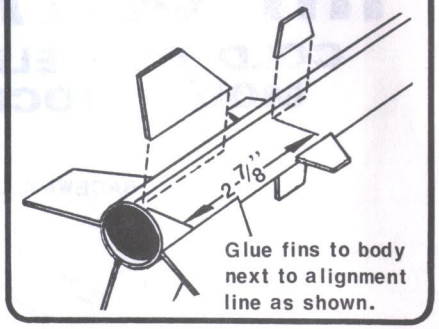


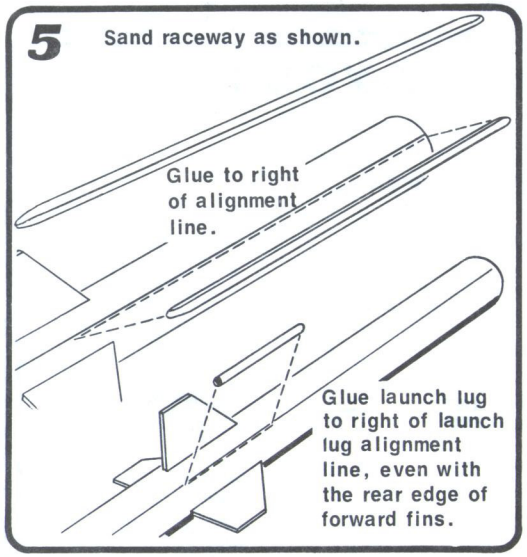
Rub glue into root edge and let dry.



Glue fins to body next to alignment line as shown.

5

Sand raceway as shown.



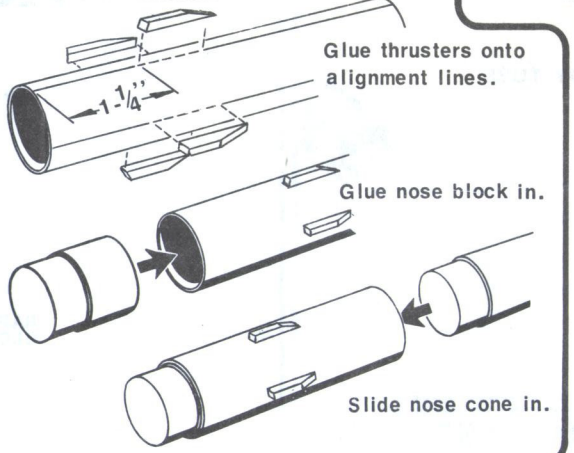
Glue to right of alignment line.

Glue launch lug to right of launch lug alignment line, even with the rear edge of forward fins.

6

Use marking guide to draw four alignment lines.

Cut out guidance thrusters; sand them smooth.



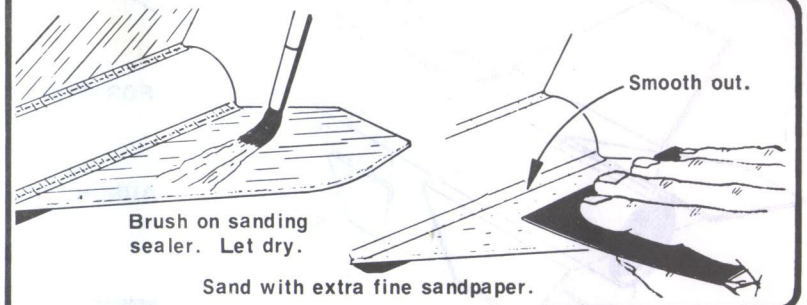
Glue thrusters onto alignment lines.

Glue nose block in.

Slide nose cone in.

7

Be sure all glue has dried hard and clear.



Brush on sanding sealer. Let dry.

Smooth out.

Sand with extra fine sandpaper.

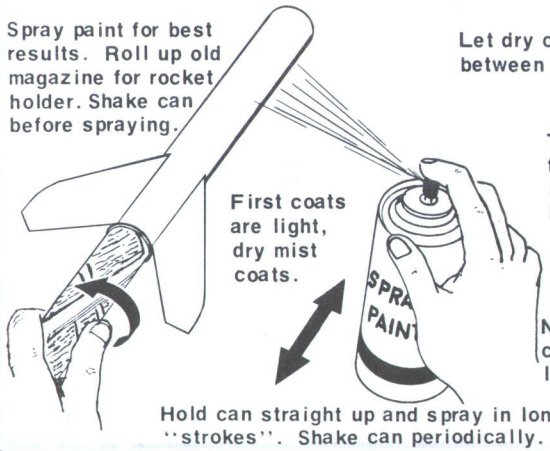
Repeat as necessary to completely fill pores in wood.

8

Spray paint for best results. Roll up old magazine for rocket holder. Shake can before spraying.

Let dry completely between each coat.

To obtain gloss, final coat should be slightly heavier.



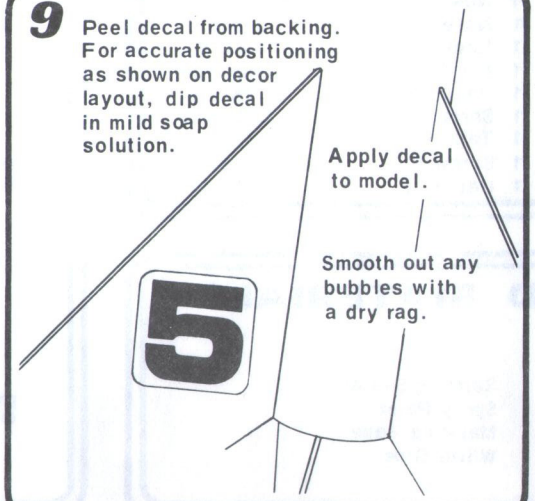
First coats are light, dry mist coats.

NOTE: Apply final coat with "wet" look.

Hold can straight up and spray in long smooth "strokes". Shake can periodically.

9

Peel decal from backing. For accurate positioning as shown on decor layout, dip decal in mild soap solution.

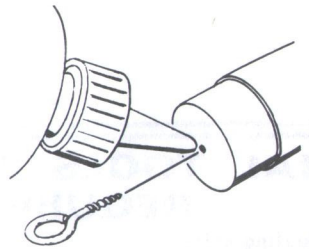


Apply decal to model.

Smooth out any bubbles with a dry rag.

10

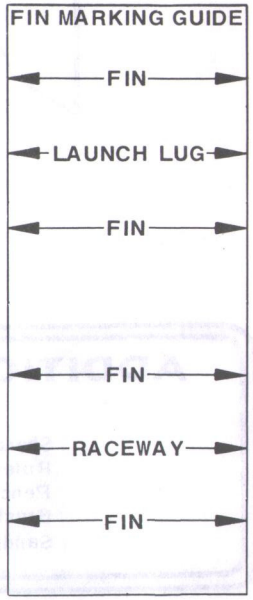
Insert screw eye, remove, squirt glue into hole, and replace.



Assemble parachute following instructions printed on parachute.

Connect parachute to screw eye.

FIN MARKING GUIDE



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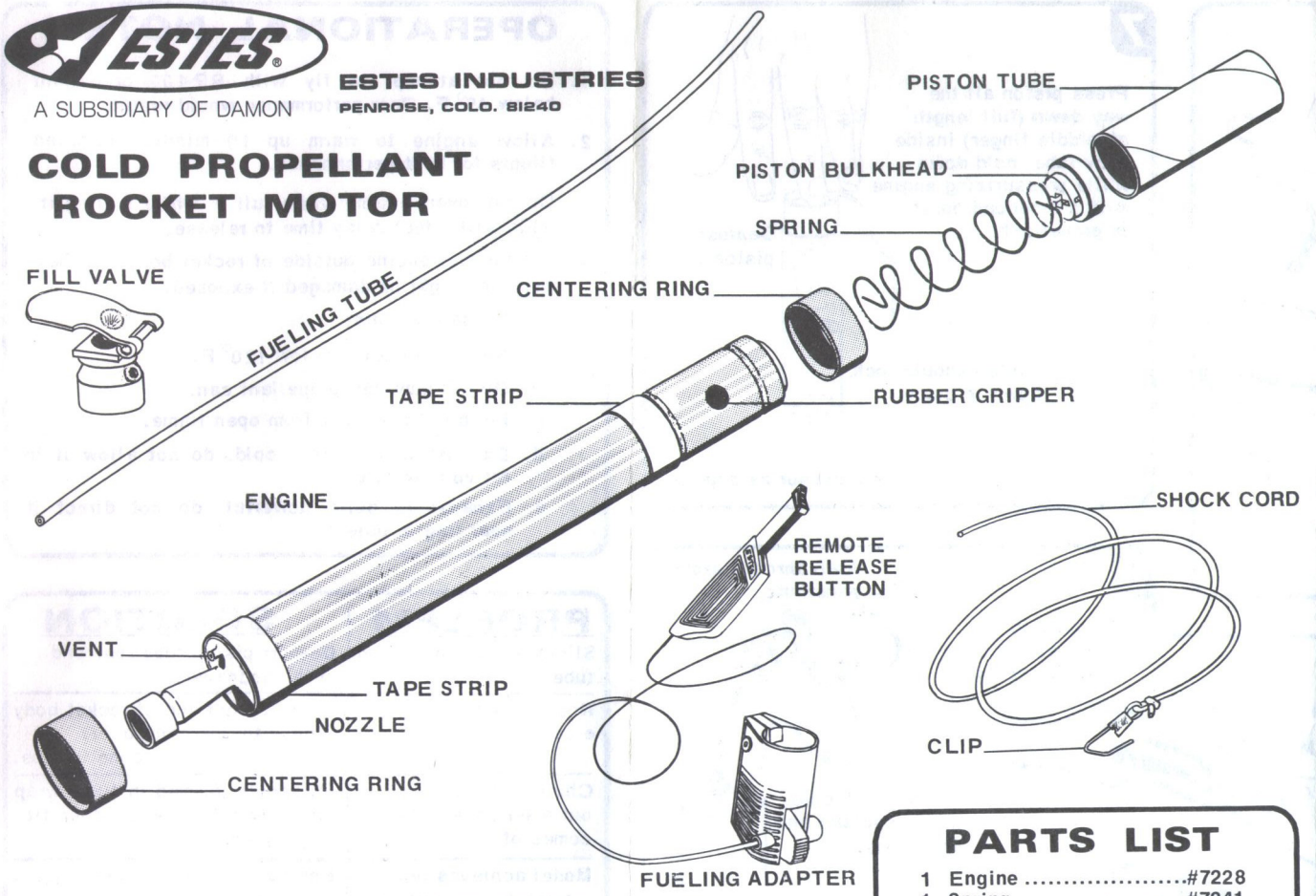
COLD PROPELLANT ROCKET MOTOR



DESCRIPTION

Your Estes cold propellant motor uses a non-flammable, odorless aerosol for propellant (RP-100, or Freon-12*), consequently it may be flown even in places which have strict fireworks codes. Be sure, however, to fly it in places with adequate open space for safe recovery.

The engine is loaded through the nozzle by means of a fueling adapter. A latch in the adapter holds the rocket, and releases it when the remote button is pressed. Pressure from the fuel expands rubber grippers which hold the piston tube and ejection spring compressed in place over the front of the engine. When the fuel is exhausted, the pressure slowly escapes, releasing the piston which ejects the parachute forward out of the rocket. A built-in timer provides about 2 seconds delay from "burnout" (end of thrust) to release of the parachute.

The entire engine unit (engine, ejection spring, and piston) slips in or out of your rocket. You may use one engine unit to power a variety of appropriately designed rockets, or convert your rockets eventually to solid propellant power with a conversion adapter available from Estes.

For display of your rocket, we recommend removing the piston and spring; the engine can be inserted or removed, as desired.

*DuPont trademark

PARTS LIST

1	Engine	#7228
1	Spring	#7241
1	Piston Bulkhead	#7246
1	Piston Tube	#BT-48BJ
2	Centering Rings	#JT-50B
2	Tape Strips	#TH-1
1	Shock Cord	#SC-4B
1	Fueling Adapter	#7250
1	Clip	#SV-2
1	Fill valve	#7027
1	Fueling tube	#72100

SPECIFICATIONS

Length-engine only:. 18.7 cm.. 7.275''
Diameter:..... 2.25 cm ..... 0.885''
Thrust:..... 3.1 Newton .....0.7 lb.
Total Impulse:.. 2.50 Newton-Sec.
0.560 lb./sec.
Delay:..... 2 seconds
Weight, complete:. 32.7 gm .. 1.16 oz.

ASSEMBLY INSTRUCTIONS

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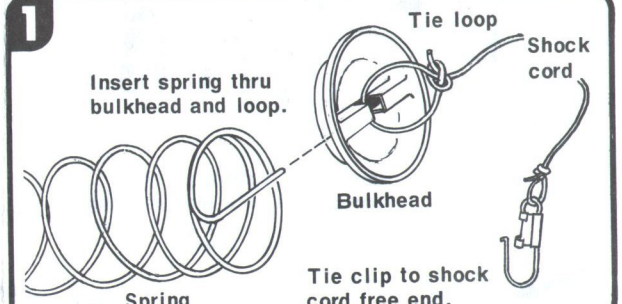

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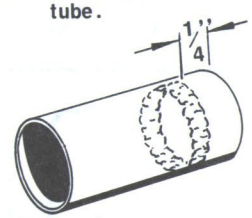
Measure 1/4'' inside piston tube.

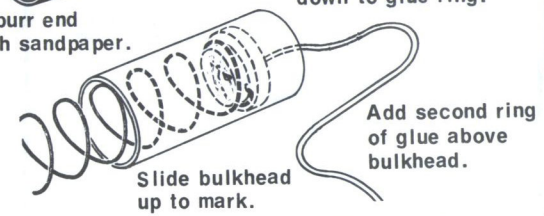
Piston tube slides easily inside rocket body tube.



Smear ring of glue below mark.

Put spring through tube, slide bulkhead down to glue ring.

Deburr end with sandpaper.



Add second ring of glue above bulkhead.

Slide bulkhead up to mark.

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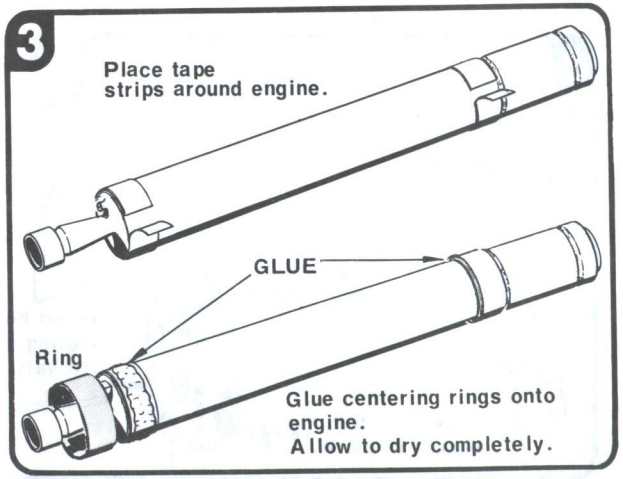

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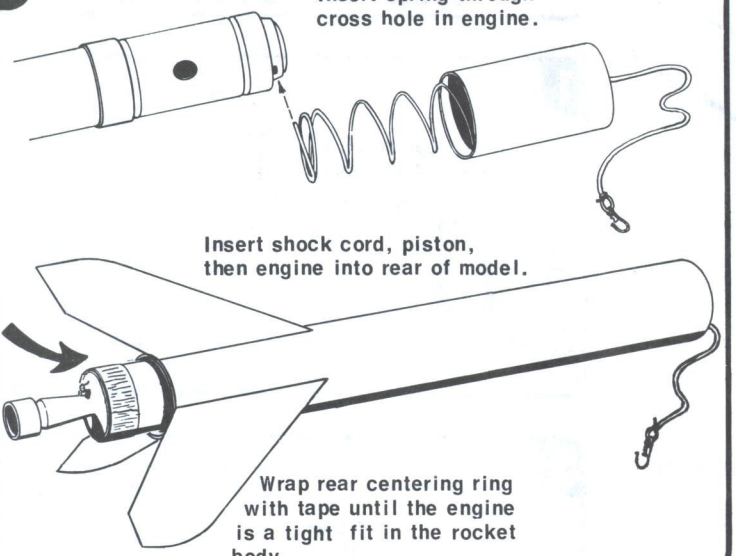

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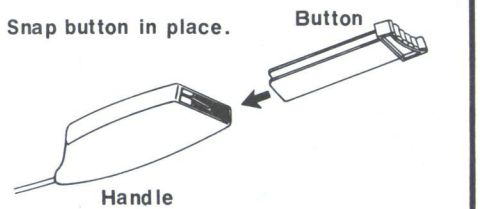

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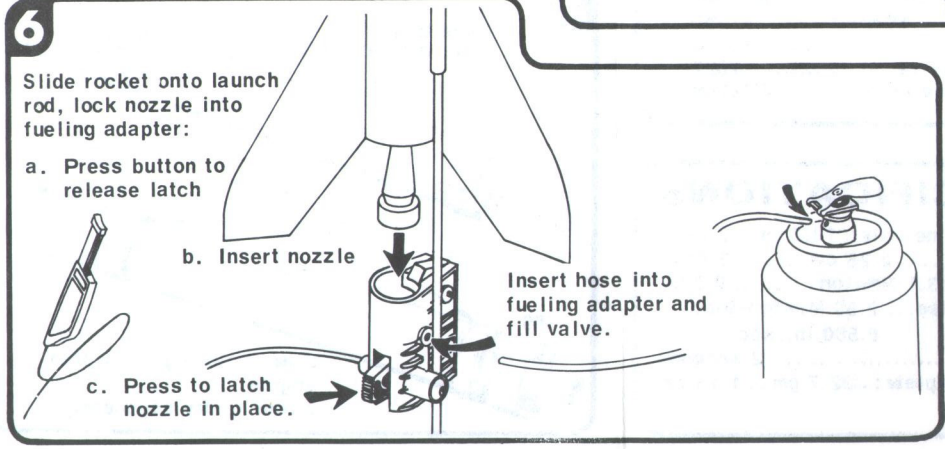

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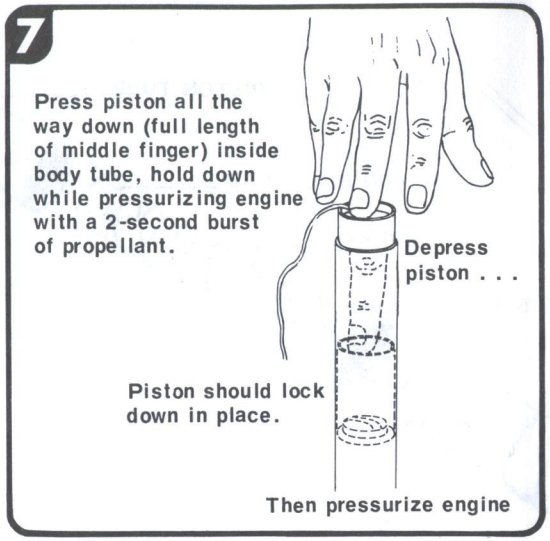

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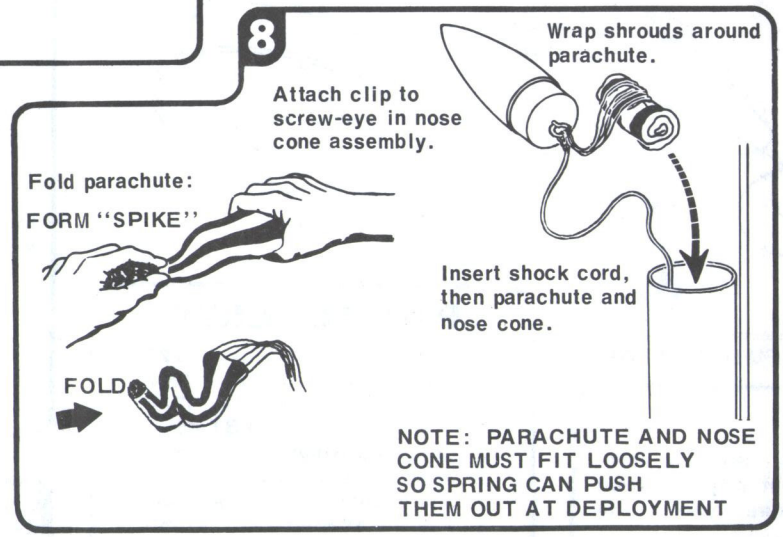

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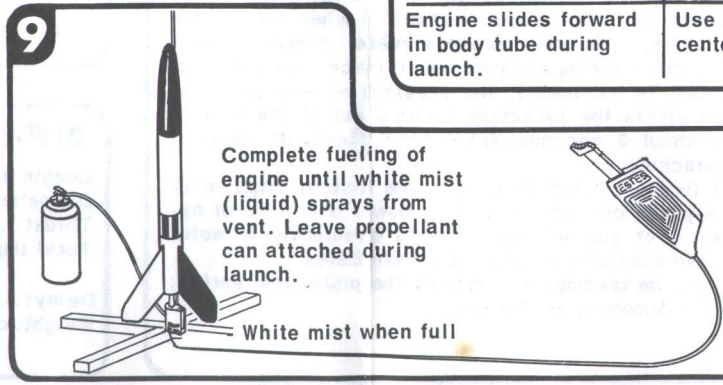

OPERATIONAL NOTES

1. Do not attempt to fly with RP-100 propellant below 45° F. Poor performance would result.
2. Allow engine to warm up 10 minutes between flights for best performance.
3. Do not invert engine while full or while fueling it. This will affect delay time to release.
4. Do not fuel engine outside of rocket body. Rubber grippers might be damaged if exposed.
5. RP-100 safety hints:
   a. Keep can cool – below 120° F.
   b. Do not puncture propellant can.
   c. Keep RP-100 away from open flame.
   d. Exhaust is extremely cold, do not allow it to hit you directly.
   e. Exhaust is quite powerful, do not direct it near fragile objects.

PROBLEM	SOLUTION
Sticky sliding of piston tube.	De-burr piston tube rear end with sandpaper.
Nose cone fails to eject.	De-burr front end of rocket body tube with fine sandpaper. Loosen fit of nose cone in tube.
Chute fails to come out after nose cone comes off.	Parachute jammed in tube; wrap chute more tightly for loose fit in body tube.
Model achieves only relatively low altitude.	Engine not full; fuel until liquid sprays out of vent. Engine too cold. Propellant too cold. Launch rod needs cleaning.
Model fails to release from fueling adapter.	There may be some dirt between the adapter and the nozzle; check operation of latch.
Engine slides forward in body tube during launch.	Use more tape around rear centering ring.

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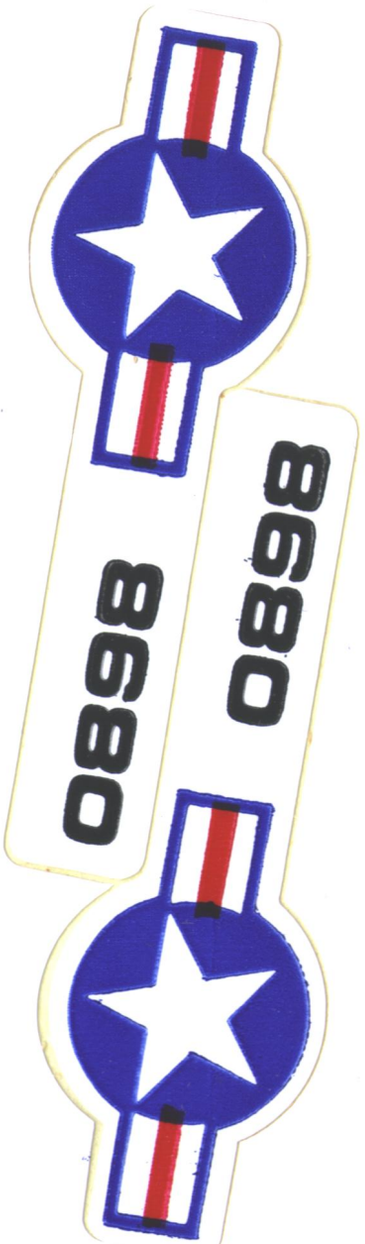
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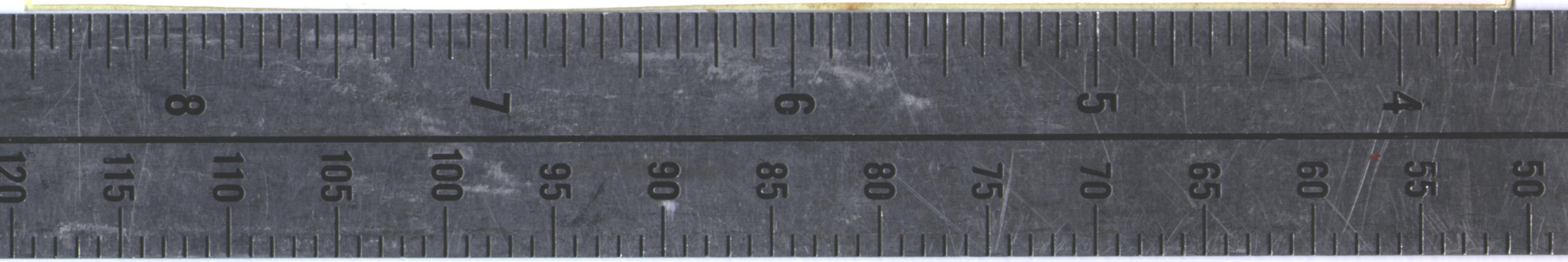
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ESTES
BF-L6 SHARK
GUIDANCE
THRUSTERS
AFT FINS
RACEWAY
FORWARD FINS

Estes Shark Coldpower Kit #1111 - Body Tube BT-50W 9,5", Payload Tube BT-50S 4", Nose Cone BNC-50AR