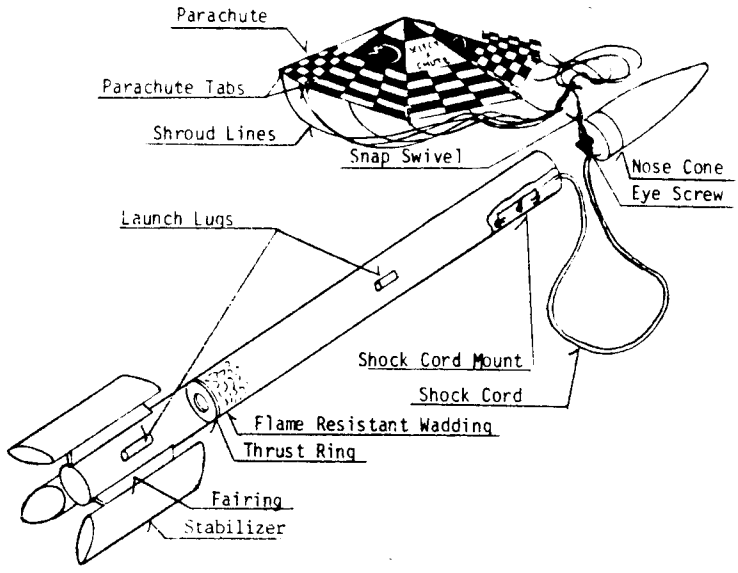
VIKING IV

The Viking IV features extreme stability and low drag due to the latest innovation in stabilizer design. Very high altitude flights are possible when using the powerful F.S.I. F series engines.

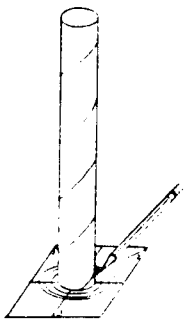


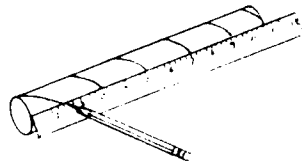
PARTS LIST:

1 18" X 1.13" Body Tube	1 Snap Swivel
1 Nose Cone (HNC-101)	8 Glue Tabs
3 Fairings	8 Shroud Lines
3 Stabilizer Tubes	1 Parachute Canopy
1 Thrust Ring (TR-2)	1 Wadding
1 Shock Cord (20")	2 1/8" Launch Lugs
1 Shock Cord Anchor	2 1/4" Launch Lugs
1 Eyescrew	1 Decal Sheet

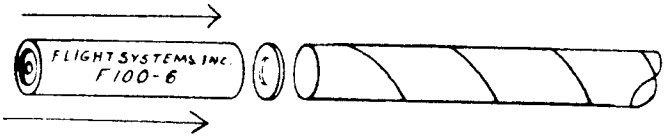
ASSEMBLY INSTRUCTIONS:

Important:
Read through entire instructions before starting assembly. Check to be sure all parts are present. Familiarize yourself with the parts. Test fit the parts together before applying any glue. If a part does not fit properly, sand or build up for a precision fit. Please read each step before starting that step. Check off each completed step.

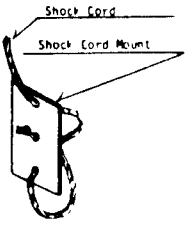


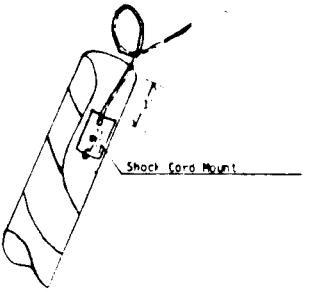


___ 1. Using fin alignment guide mark lines on the body tube for fin alignment as shown.

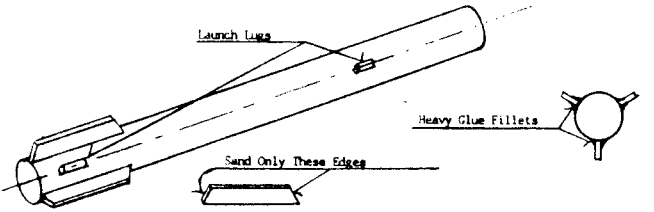


___ 2. Decide which F.S.I. engine you wish to use, 6" X27mm (F100 or F7) or 41/2 X 27mm (E60). Run a ring of glue inside end of body tube marked for fin alignment. Use F.S.I. engine to push thrust ring in until it protrudes out of tube 3/8". Remove engine. Allow thrust ring to dry in place.

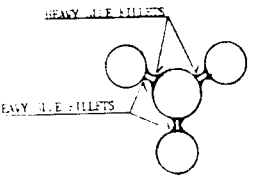




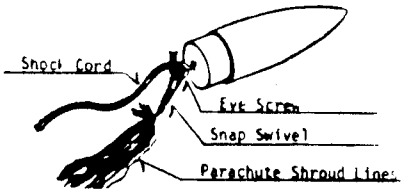
___ 3. Install shock cord in shock mount as shown. Spread a heavy layer of glue over the side opposite the shock cord knot. Curve shock cord mount and insert into the nose cone end of the body tube and firmly press in place. Drawing shows the proper position in the body tube.

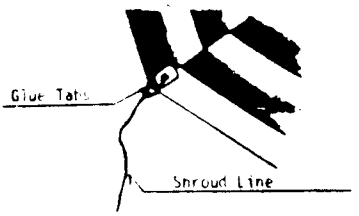


___ 4. Lightly sand and round 2 short edges of fairings. DO NOT sand root or tip edge of fairings. Attach the long edge of the fairings to the body tube. Be sure the fairing stick straight out from the body tube and carefully alligned with the lines marked on the body tube. Apply a line of glue to the launch lug and place it centered between 2 fairings and parallel with the body tube as shwon. Stand assembly on its forward end and allow to dry. When dry run 2 or 3 heavy glue fillets on both sides of the fairings for added strength. When dry extend a parallel line from the lower launch lug to a point 10" up the body tube. Attach upper launch lug at this point. Be sure it is carefully aligned with the lower launch lug.



___ 5. Apply a line of glue to the tip edge of the fairing and attach the stabilizer tube. Position as shown above. Stabilizer should be parallel to body tube. After dry apply glue fillets to attached points of stabilizers to fairings.



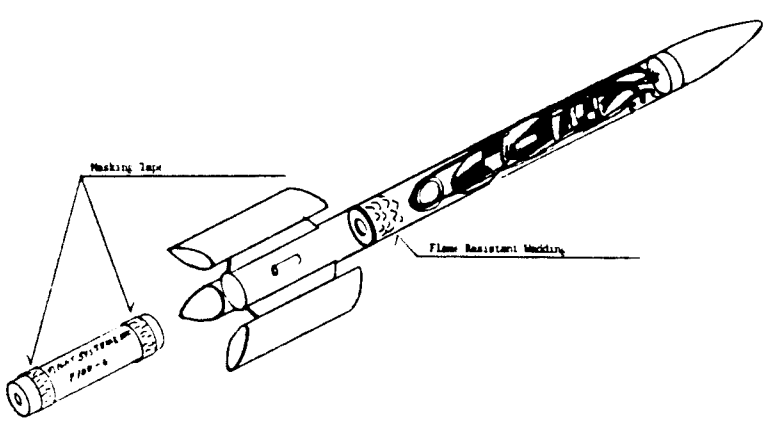


___ 6. Twist the eyescrews into the rear edge of nose cone. Tie the shock cord through the eyescrew. Cut the parachute to the desired size. Lay parachute on a flat surface and attach shroud lines as shown. Punch a hole through the glue tab and tie the shroud line to the parachute. Attach snap swivel.

___ 7. The rocket is now ready to paint and add decals. It is recommended that a light coat of paint be sprayed on and let dry. Add a couple more mist coats lightly sanding between them. Then apply a wet coat (gloss just appears) and set aside to dry. After model is completely dry apply decals. Cut one decal at a time from the sheet and submerge in lukewarm water until decal will slide off of the paper (usually about 20 seconds). Gently slide decal onto rocket and carefully smooth out any wrinkles.

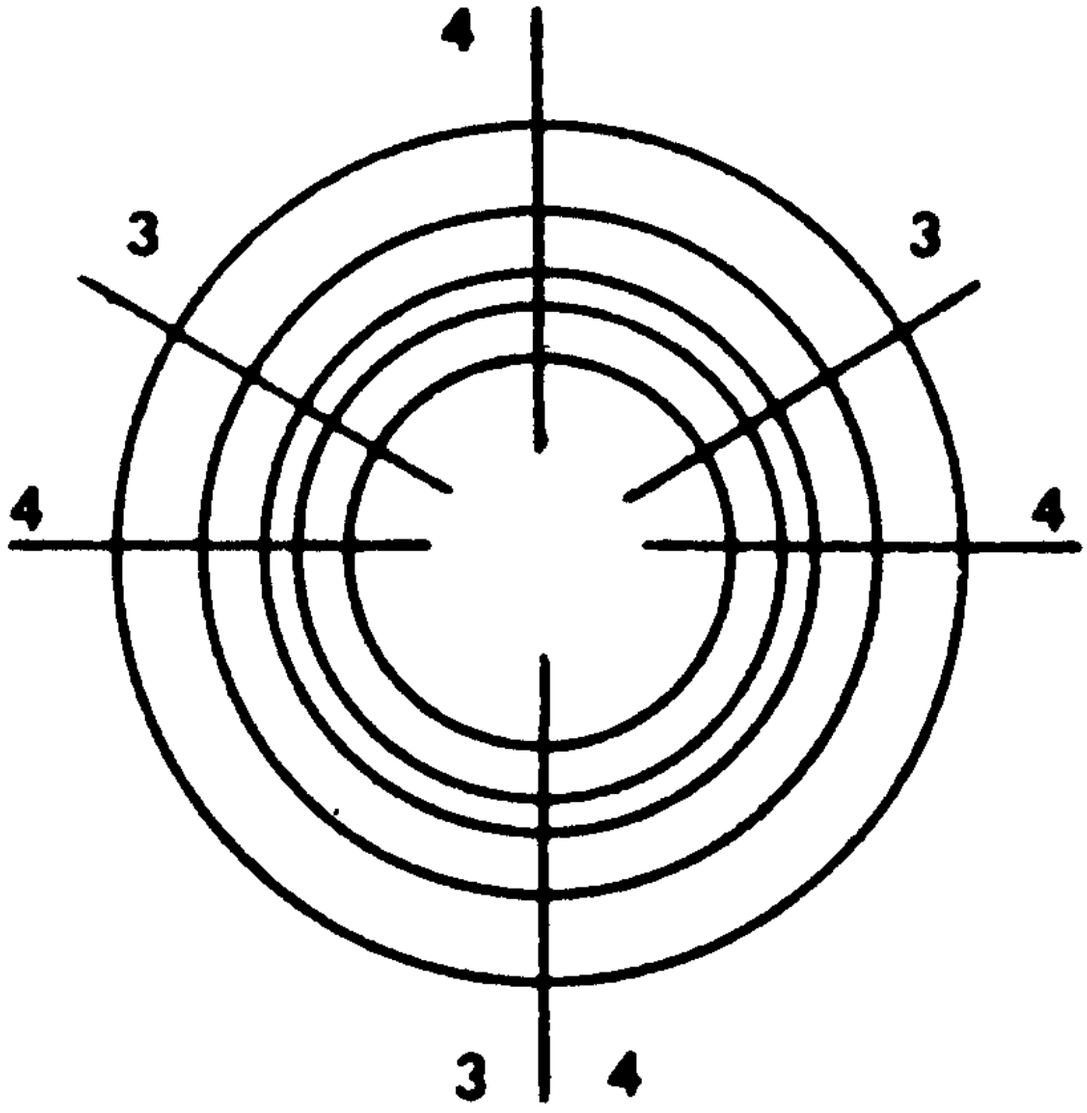
FLIGHT PREPARATION

___ 1. Install flameproof wadding as shown in cutaway view of rocket.
___ 2. Fold and install parachute. It is a good idea to dust parachute with ordinary talcum powder before each flight.
___ 3. Install engine using Friction Fit. Several wraps of masking tape are placed around the engine as shown to hold the engine in place.
___ 4. Insert F.S.I. engine until contact is made with the thrust ring. Be sure to use enough masking tape to assure a snug fit in the body tube. It should require a firm push. If the engine doesn't fit firmly it will be ejected instead of the parachute and the rocket will free fall.
___ 5. Place the rocket on the launcher insert the F.S.I. ignitor and attach the firing clips as shown.
___ 6. Go back to launch control and clear the area. Arm the launch control by inserting the phone jack attached to the firing line.
___ 7. Give count down, 5-4-3-2-1, ignition!!



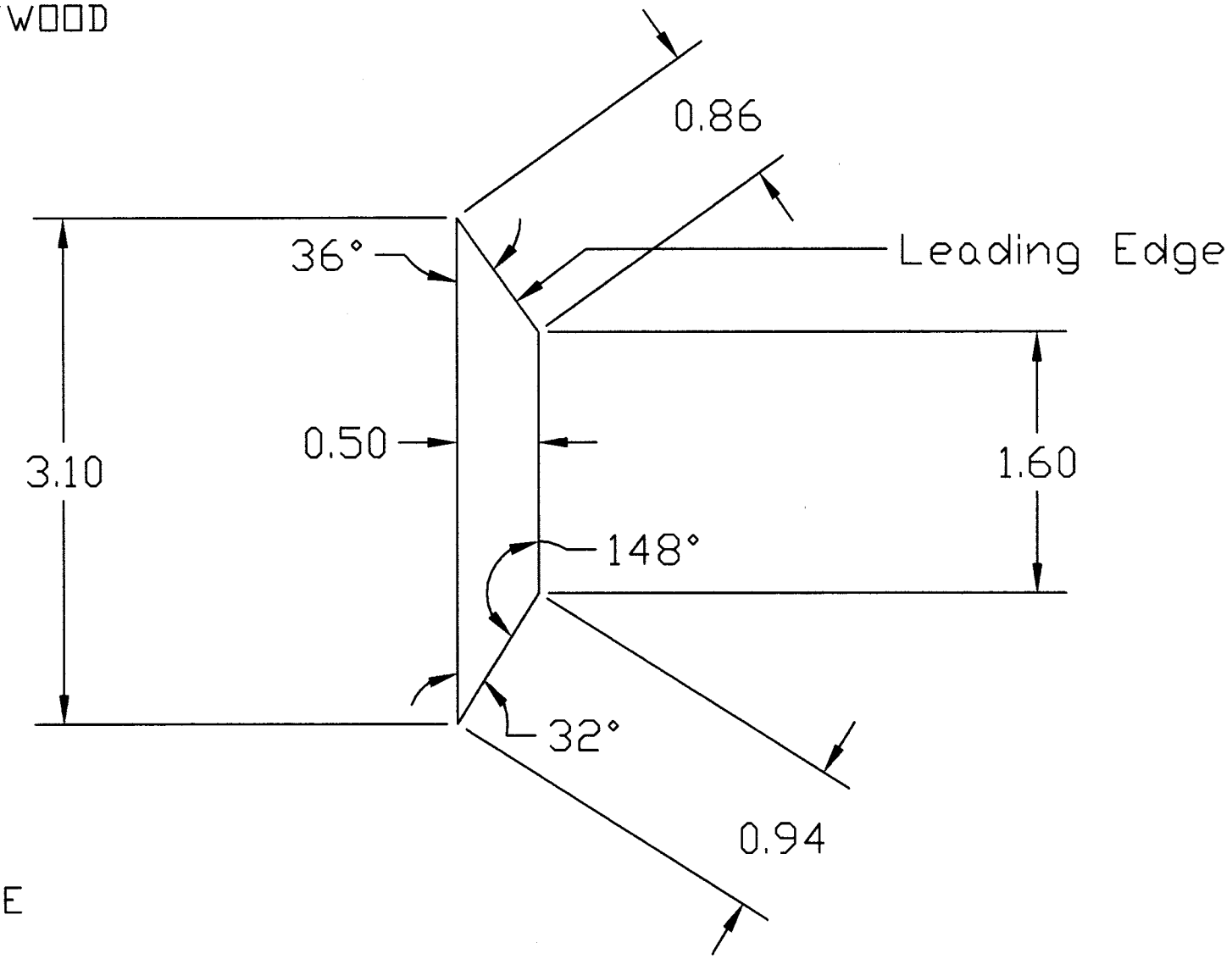
Be sure to follow the *HIA-NAR Model Rocket Safety Code when carrying out your model rocket activities.
*HIA- Hobby Industry of America
NAR- National Association of Rocketry

FIN PLACEMENT GUIDE



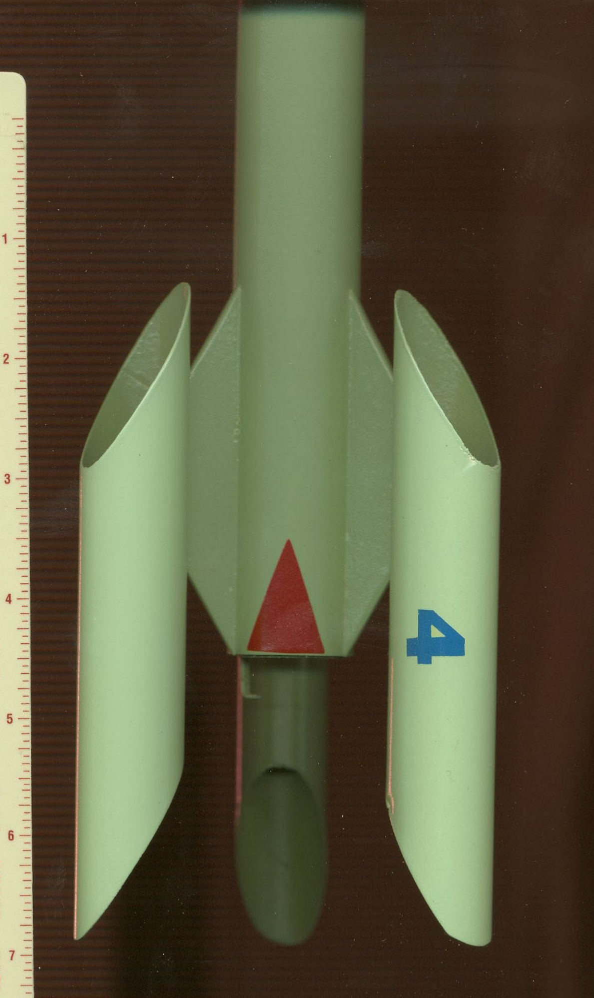
1. Center end of tube in the proper circle.
2. Mark (4) lines for four fin models and (3) lines for three fin models.

1/16" PLYWOOD



MAKE THREE

FSI	VIKING IV	FIN PATTERN


1
2
3
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4

Nose Cone: 3.5" (from shoulder to tip)
Fit BT55.
(From BalsaMachining.com Shape=9, Size=5, Q=1.325, L=3.5, M=.75, I=1.283, A=1.0)

Body Tube: 18" length. Use BT55.

Fin Material: 1/16" Plywood

Stabilizer Tubes: 5.5" length. Use .908 BT from Totally Tubular.

Engine Mount Tube: For 18mm, Use BT20, 3" long
For 24mm, Use BT50, 3" long

Thrust Ring: For BT20 or BT50

Centering Rings: Use CR20-55 or CR50-55

Shock Cord: At least 36" length

Parachute: 18"

Launch Lug: 1/8" X 1"