FLY WITH FSI

Viking 1

KIT NO. MRK. IX

FLIGHT SYSTEMS, INC.

~~1313 CANNON ST. BOX 145~~

~~LOUISVILLE, COLO. 80027~~

fly with f.s.i.

THE VIKING 1 IS AN ADVANCED DESIGN MODEL ROCKET. A NEW AND SUPERIOR TYPE OF AERODYNAMIC STABILITY IS USED WHICH PERMITS MAXIMUM STABILITY WITH MINIMUM DRAG. THIS LOWER DRAG RESULTS IN GREATER ALTITUDES THAN HAS BEEN POSSIBLE FROM FLAT FIN CONVENTIONAL DESIGNS. BE A WINNER WITH A VIKING 1.

RECOMMENDED F.S.I. ENGINES

A4-4 D4-6

B3-4 D6-6

C4-4 E5-6

D18-6

finished model

20" high

- EASY TO FOLLOW ASSEMBLY DIRECTIONS
- ALL PARTS COMPLETE (NO CUTTING OR FORMING)
- PARACHUTE RECOVERY
- AMAZING SINGLE ENGINE PERFORMANCE
- HIGH ALTITUDE FLIGHTS
- FINE DISPLAY MODEL
- EXPLORE THE SKY WITH THE VIKINGS

NATIONAL ASSOCIATION OF ROCKETRY APPROVED ENGINES

NAR

set a RECORD with f.s.i.

ASSEMBLY INSTRUCTIONS

FOLLOW THIS ORDER:

① BODY TUBE — THE BODY TUBE IS MADE UP OF 2 EQUAL LENGTHS JOINED BY A COUPLER. TAKE EITHER BODY TUBE AND SPREAD A 3/4" LONG LAYER OF ELMER'S GLUE ON INSIDE OF BODY TUBE. NOW QUICKLY INSERT 1/2 OF COUPLER. TAKE THE OTHER BODY TUBE AND SPREAD A LAYER OF GLUE INSIDE EITHER END. QUICKLY PRESS ONTO COUPLER UNTIL BODY TUBES ARE TOUCHING. NEXT (QUICKLY) LAY GLUED BODY TUBE ON FLAT SURFACE AND ROLL JOINED TUBES WITH PALM OF YOUR HAND. THIS WILL INSURE THAT BODY TUBES ARE STRAIGHT AND PARALLEL. LET LIE ON FLAT SURFACE UNTIL GLUE DRIES.

② THRUST RING — PLACE A HEAVY BAND OF ELMER'S GLUE ABOUT 2" INSIDE OF JOINED BODY TUBE ON EITHER END. INSERT THRUST RING BY USING A F.S.I. A, B, C, OR D ROCKET ENGINE. PUSH THRUST RING FORWARD UNTIL A, B, C, OR D ENGINE PROJECTS 1/4" OUTSIDE BODY TUBE; FOR F.S.I. "E" ENGINE PUSH FORWARD UNTIL 3/8" OF ENGINE PROJECTS OUTSIDE BODY TUBE. THE THRUST RING FORCES THE GLUE FORWARD AND PROVIDES FOR A STRONG BOND OF THRUST RING TO BODY TUBE. NOW EXTRACT ENGINE AND LET GLUE DRY. WIPE OFF WITH DAMP CLOTH ANY GLUE ADHERING TO INSIDE OR OUTSIDE OF ENGINE. DO NOT USE NOZZLE END OF ENGINE.

③ SHOCK CORD — SPREAD A HEAVY LAYER OF ELMER'S GLUE ALL OVER THE SIDE OPPOSITE THE SHOCK CORD KNOT AFTER TAKING UP SLACK IN CORD. CURVE SHOCK CORD MOUNT AND INSERT INTO NOSE CONE END OF BODY TUBE AND FIRMLY PRESS IN PLACE, USING FINGER, UNTIL GLUE HOLDS FIRMLY. ASSEMBLY DETAIL SHEET SHOWS PROPER POSITION IN BODY TUBE. LET IT DRY.

④ STABILIZERS — READ DETAIL "E" CAREFULLY BEFORE PROCEEDING. SPREAD A THIN LAYER OF ELMER'S GLUE ALONG FULL LENGTH OF 1ST STABILIZER, STARTING WITH TIP END. NOW PRESS FIRMLY AGAINST JOINED BODY TUBE. HOLD UNTIL GLUE SETS. REPEAT ABOVE FOR 2ND STABILIZER USING STABILIZER SPACER AS SHOWN ON DETAIL "E" STEP 2. WHEN GLUE SETS ON 1ST AND 2ND STABILIZERS, TURN ROCKET OVER TO POSITION SHOWN ON STEP 3 AND GLUE ON 3RD STABILIZER (STEP 3), USING STABILIZER SPACER. HOLD UNTIL GLUE SETS. YOUR STABILIZER ASSEMBLY IS NOW COMPLETED.

⑤ FLAMEPROOF WADDING — BE SURE THAT FLAMEPROOF WADDING IS USED EACH TIME ROCKET IS FIRED. PUSH WADDING ALL THE WAY DOWN TO THRUST RING AND PACK IN FIRMLY WITH A 5/8" DOWEL OR SIMILAR TOOL. USE ENOUGH WADDING TO MAKE APPROXIMATELY A 5/8" LONG PLUG. SEE ASSEMBLY DETAIL SHEET.

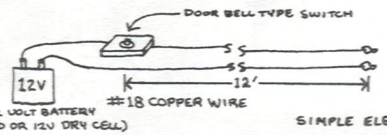
⑥ PARACHUTE — THE PARACHUTE IS MARKED IN INCHES. CUT WITH SCISSORS ALONG THE INCH LINES THAT GIVE YOU THE SIZE PARACHUTE YOU DESIRE (FOR VIKING 1 ROCKET — 14"). LAY PARACHUTE ON FLAT SURFACE AND ATTACH SHROUD LINES TO PARACHUTE USING STRIPPABLE TABS (SEE DETAIL C). CAUTION: LET NO PORTION OF TAB PROTECT BEYOND PARACHUTE AS GLUE ON TAB WILL STICK PARACHUTE TOGETHER AND INTERFERE WITH ITS OPENING. TRY NOT TO TOUCH THE GLUE SIDE OF TABS WITH FINGERS. PRESS TABS DOWN FIRMLY.

⑦ SHOCK CORD & PARACHUTE — COIL SHOCK CORD AROUND YOUR FINGER AND STUFF INTO BODY TUBE. NEXT FOLD PARACHUTE AS SHOWN ON ASSEMBLY DRAWING, GATHER THE PARACHUTE TOGETHER LIGHTLY, THEN WRAP SHROUD LINES GENTLY AROUND FOLDED PARACHUTE AS SHOWN ON DETAIL C. DIAMETER OF FOLDED PARACHUTE SHOULD BE SLIGHTLY SMALLER THAN INSIDE DIAMETER OF BODY TUBE. ALL DETAILS ARE SHOWN ON ASSEMBLY DETAIL SHEET. BE SURE NOSE CONE IS A GENTLE FIT INTO BODY TUBE. LIGHT SANDING MAY BE NEEDED.

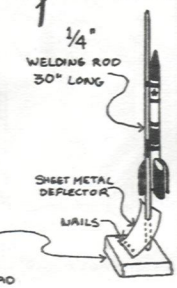
⑧ ROCKET ENGINE — WRAP A SMALL AMOUNT OF 1/2" WIDE MASKING TAPE AROUND THE ROCKET ENGINE AT THE POSITION SHOWN ON DETAIL SHEET. USE ENOUGH TAPE TO SECURE A SNUG FIT INTO THE BODY TUBE AS TO REQUIRE A FIRM PUSH ON ENGINE TO PLACE IN CONTACT WITH THRUST RING. IF ENGINE DOES NOT FIT SNUGLY, IT WILL BE EJECTED INSTEAD OF PARACHUTE AND YOUR ROCKET WILL FREE FALL. INCLUDED WITH ALL F.S.I. MODEL ROCKET ENGINES ARE DETAILS FOR LAUNCHING AND FIRING. ASK YOUR DEALER FOR THESE INSTRUCTIONS.

model rocket firing & launching equipment

TO FLY YOUR FSI MODEL ROCKET PROPERLY YOU WILL NEED TO PROVIDE YOURSELF WITH A 12 VOLT FIRING CIRCUIT AND A SIMPLE ROCKET LAUNCH PAD. YOU CAN EASILY BUILD YOUR OWN OR PURCHASE FROM YOUR DEALER FSI SUPERIOR QUALITY LAUNCHERS AND ELECTRIC IGNITION PANEL. DETAILS FOR BUILDING YOUR OWN LAUNCHER AND ELECTRIC IGNITION CIRCUIT ARE AS FOLLOWS.



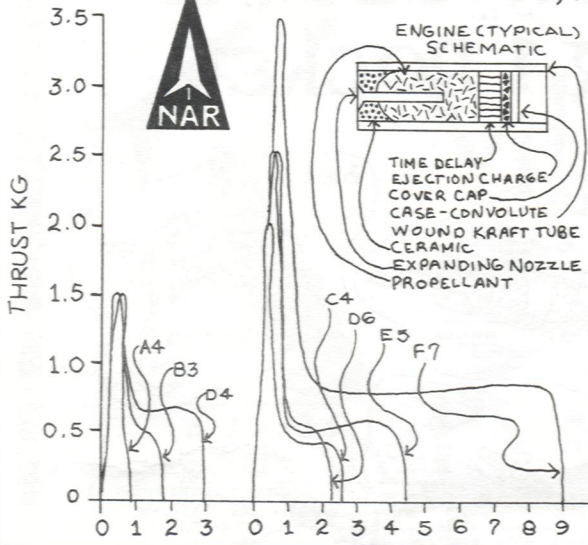
SIMPLE ELECTRIC FIRING CIRCUIT



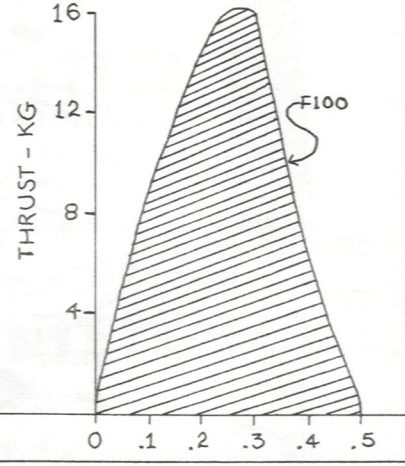
SIMPLE LAUNCH PAD

TYPICAL THRUST/TIME CURVES for MODEL ROCKET ENGINES

FLIGHT SYSTEMS, INC. ~~LOUISVILLE, COLORADO~~



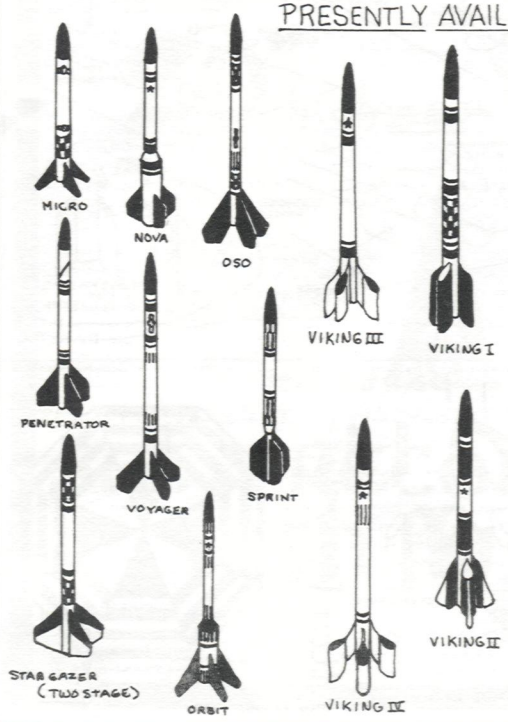
NAR CONTEST AND SAFETY CERTIFIED MODEL ROCKET ENGINES



ALL OF THE ABOVE ROCKET ENGINES ARE AVAILABLE AT MOST OF THE BETTER HOBBY SHOPS THROUGHOUT THE UNITED STATES. IF YOUR FAVORITE HOBBY STORE DOES NOT STOCK THE F.S.I. LINE, HAVE HIM WRITE US FOR OUR LATEST CATALOG AND PRICES. IF YOU DESIRE YOUR OWN CATALOG, SEND 25¢ TO FLIGHT SYSTEMS, INC. ~~BOX 145, LOUISVILLE, COLO. 80027~~.

YOU HAVE JUST PURCHASED ONE OF FSI'S SUPERIOR QUALITY MODEL ROCKETS. OTHER FINE FSI KITS ARE ALSO AVAILABLE. THE FSI ROCKET FLEET IS CONSTANTLY BEING ADDED TO. SEE ALL OF THESE MODELS AT YOUR HOBBY DEALER.

PRESENTLY AVAILABLE FSI MODEL ROCKET KITS



RECOMMENDED FSI ENGINES

MICRO: A4-4, B3-4, C4-4, D4-6

PENETRATOR: A4-4, B3-4, C4-4, D4-6, D6-6, E5-6

STAR GAZER 1st stage: B3-0, C4-0, D6-0, E5-0
2nd stage: B3-6, C4-6, D6-8, D4-8, E5-6

NOVA: B3-4, C4-4, D4-6, D6-6, E5-6, F7-6

VOYAGER: D6-6, F7-6, F100-8

ORBIT: B3-4, C4-4, D4-6, D6-6, E5-6, F7-6

OSO: D6-6, F7-6, F100-8

SPRINT: C4-4, D4-6, D6-6

VIKING I: A4-4, B3-4, C4-4, D4-6, D6-6, E5-6

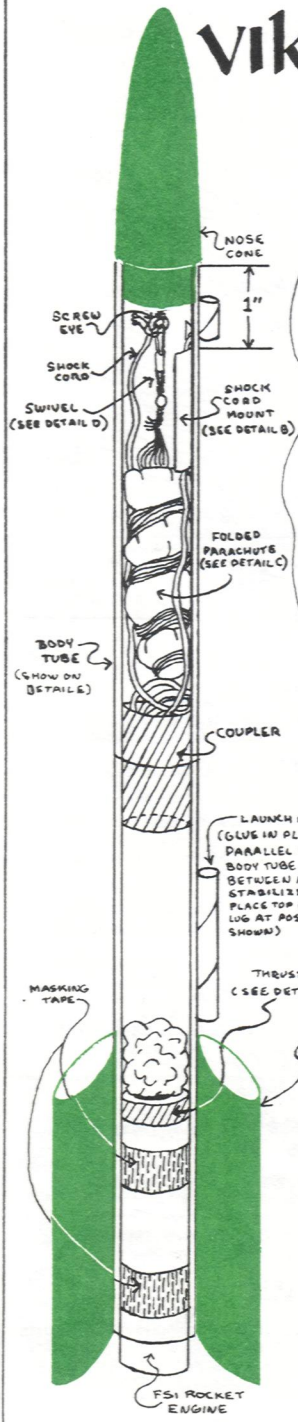
VIKING II: A4-4, B3-4, C4-4, D4-6, D6-6, E5-6

VIKING III: A4-4, B3-4, C4-4, D4-6, D6-6 E5-6

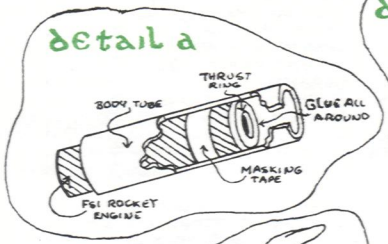
VIKING IV: F7-6, F100-8

A COMPLETE LINE OF QUALITY FIRING CIRCUITS, LAUNCH GEAR, MODEL ROCKET ACCESSORIES AND INSTRUMENTS ARE ALSO AVAILABLE FROM FSI. SEE YOUR DEALER FOR DETAILS.

assembly details for viking 1 rocket



detail a



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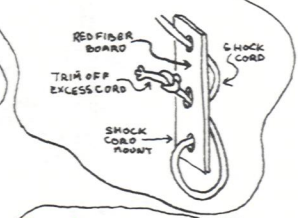
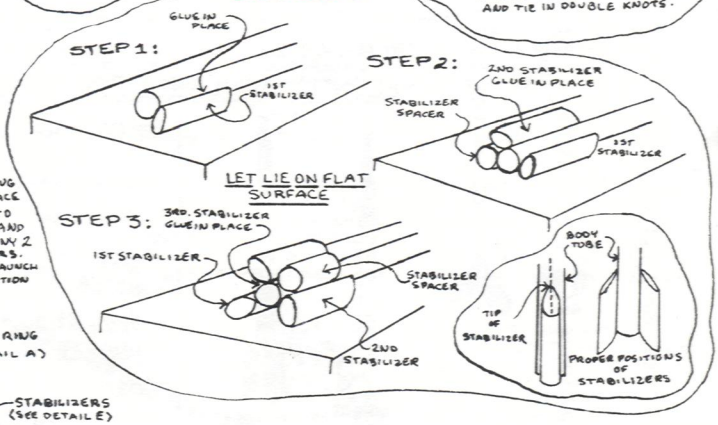


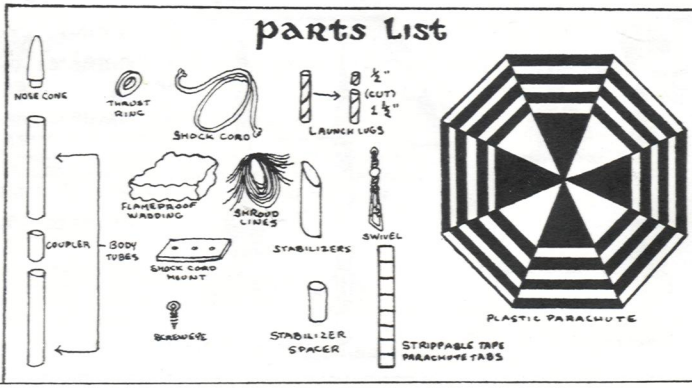
detail c

detail d

detail e



parts list



Flight Systems Viking 1: Kit MRK-9

Parts List

Item	QTY	Description	Size	Comments
1	2	Body Tube HRT-808 (?)	9" L	JT-50C coupler stock would be a close diameter match. Long lengths are available from BMS.
2	1	Coupler SC-8	1-1/2" L	
3	1	Nose Cone NC-100	2-3/4" L	Turned from pine. Blunt Ogive, shape similar to BNC-50K (Alpha). 3/4" shoulder.
4	1	Launch Lug	1/8"x1-1/2"L	
5	3	Fin Tubes	3" L	Cut from HRT-8 tubing. Ends are cut on a 30 degree angle. A utility for creating mitred tube ends can be found at http://www.42nd-dimension.com/Rocketry/templates.html. Don't forget to edit the angle and tube diameter parameters (with Notepad) before opening with Ghost View.
6	1	Thrust Ring TR-1	3/16" T	For 0.903" ID body tube.
7	1	Parachute P-12	16" to 10"	Select-A-Chute; 1 mil plastic.
8	1	Shroud Line Kit PC-12		8 shroud lines (20" L), 8 adhesive tape strip, swivel
9	1	Shock Cord SC-1	24" L	1/16" braided round elastic.
10	1	Shock Cord Mount SA-6	1-1/4" x 2-1/8"	Paper
11	1	Eye Screw ES-1		
12	1	Wadding FW-1		
13	1	Chrome Label CL-4		FSI Self Adhesive logo.
14	1	Stabilizer Spacer	2" L	Cut from HRT-8 tubing.