

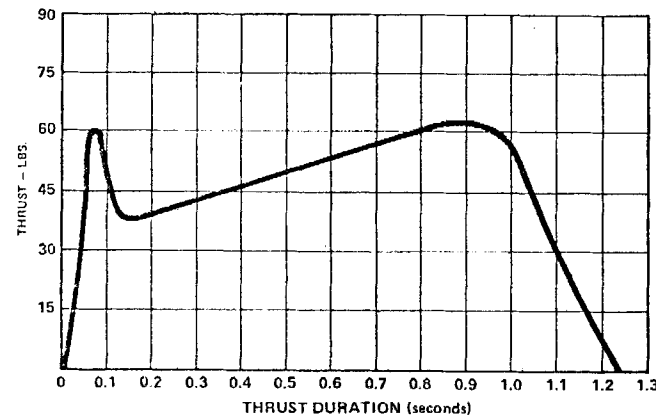
**enerjet**

# 2250 SOUNDING ROCKET

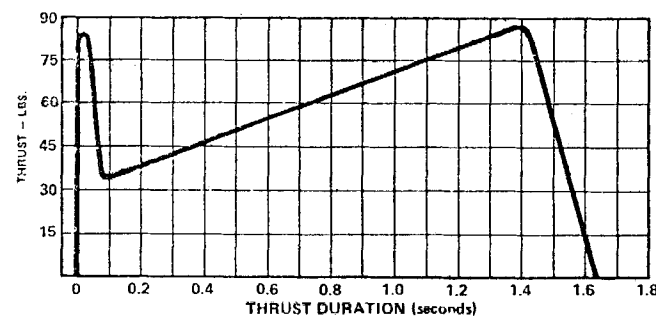
The system described and explained here is definitely NOT a model rocket, even though assembled with model rocket components. Notify the FAA before flying and obey all state and local laws pertinent to the flying of non-model rockets. Enerjet can assume no responsibility for damage to property, payloads flown, or injury resulting from the flying of this or any other rocket system. BE CAREFUL!

While larger motor and rocket systems are under study, we have developed an interim system based on the 18 and 30 pound-second motors, clustering three motors to produce total impulse levels of 54 lb/seconds and 90 lb/seconds respectively. Thrust-time curves for three-motor clusters are shown below.

CLUSTER OF 3 ENERJET 18 MOTORS



CLUSTER OF 3 ENERJET 30 MOTORS

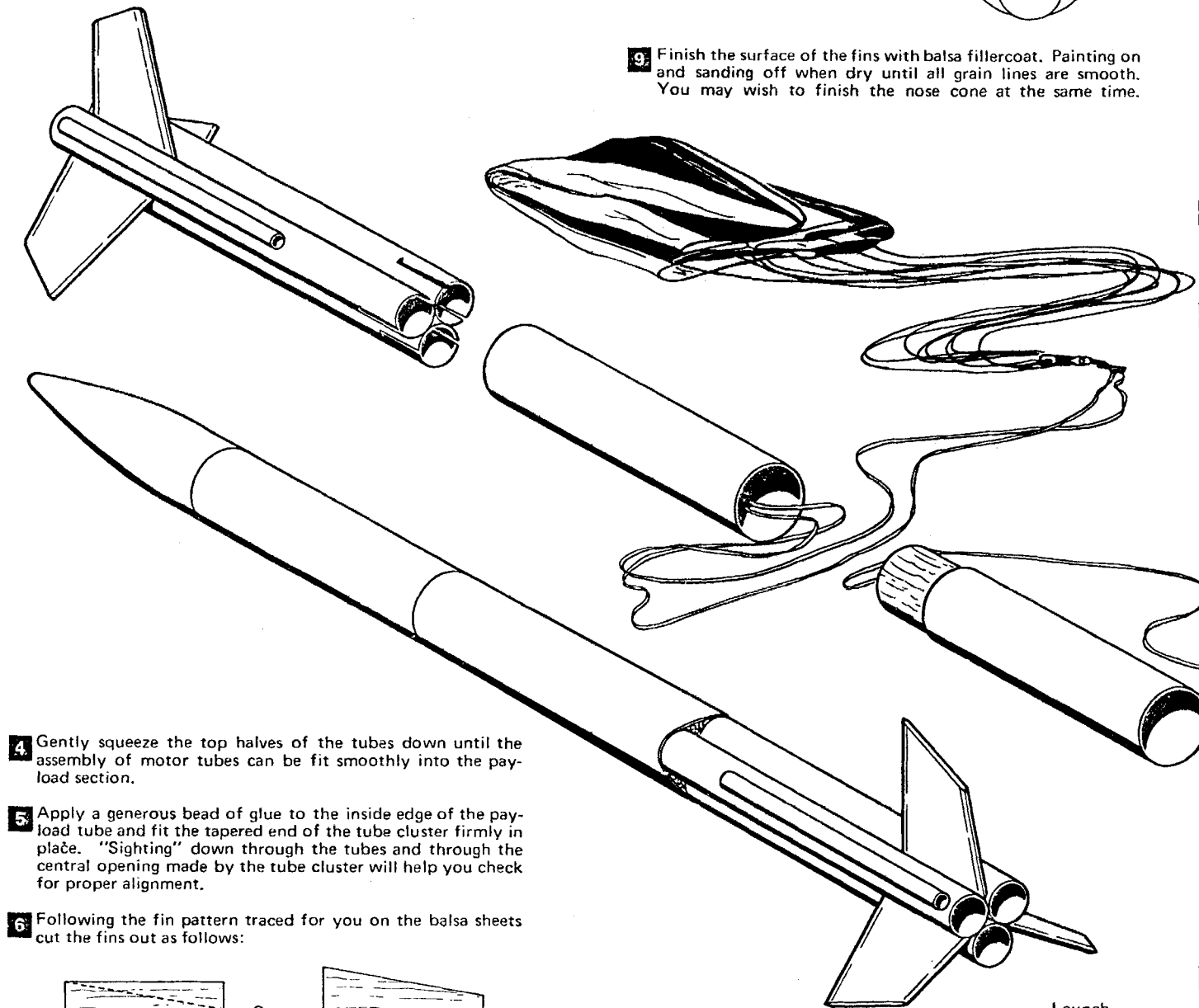
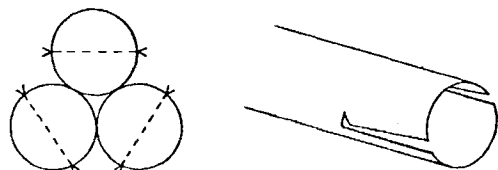


The 2250 rocket can carry a 1/2 lb. payload to 5000 feet powered by 3 Enerjet 18 motors and will reach 8000 feet with a cluster of three Enerjet 30 motors. Thus the advantage of this vehicle over the 1340 system lies not in altitude but in payload capacity.

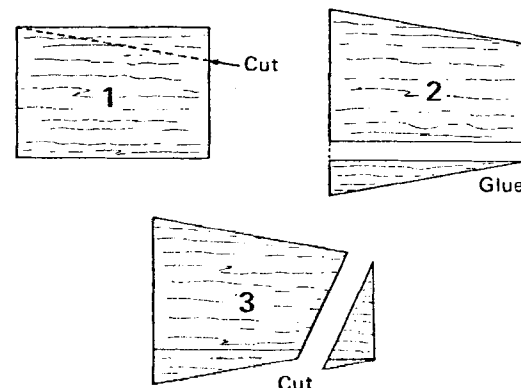
## 2250 ASSEMBLY

The 2250 rocket is available in kit form only. Despite its size and power the 2250 is not difficult to assemble.

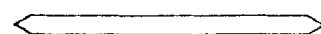
1. Glue two of the three motor tubes together on a flat surface. (Use white glue or epoxy for all gluing operations.)
2. When the two tubes are tightly bonded together, glue the third tube in place. This procedure will assure proper alignment of the motor tubes.
3. As you will notice the three tubes do not fit into the larger diameter payload tube. Make two long wedge shaped slits in the top of each motor tube as shown.



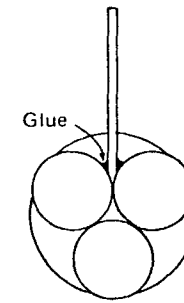
4. Gently squeeze the top halves of the tubes down until the assembly of motor tubes can be fit smoothly into the payload section.
5. Apply a generous bead of glue to the inside edge of the payload tube and fit the tapered end of the tube cluster firmly in place. "Sighting" down through the tubes and through the central opening made by the tube cluster will help you check for proper alignment.
6. Following the fin pattern traced for you on the balsa sheets cut the fins out as follows:



7. On a belt sander or with sandpaper, taper all edges to a 30° taper.



8. With liberal quantities of white glue or epoxy, glue your fins in place, one fin at a time, allowing each fin time to dry. (If you rotate too quickly, the fins glue will sag and joints will weaken.)

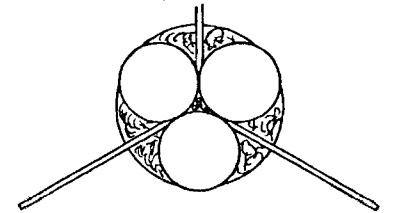


9. Finish the surface of the fins with balsa fillercoat. Painting on and sanding off when dry until all grain lines are smooth. You may wish to finish the nose cone at the same time.

14. Attach the long shock cord to the inside of the body tube with the shock chord fastener, following the instructions printed on the package.

15. Tie the other end of the shock cord to the shroud lines of the main parachute.

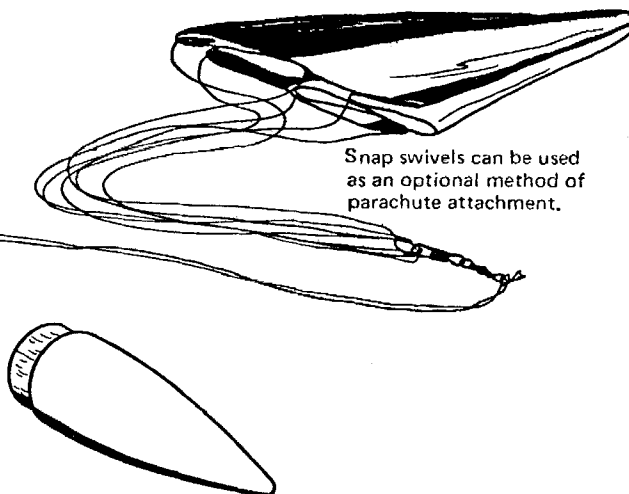
16. To seal the rocket from gas leaks, make four wads of kleenex soaked with white glue. Stuff these inside the three gaps where the motor tubes fit into the body tube and between the three motor tubes.



17. For best tracking, paint the entire bird a bright fluorescent yellow orange. When dry, spray with clear acrylic for a gloss finish.

## LAUNCHING THE 2250

18. You need a 1/2" smooth tube or rod 6 - 8 feet long to serve as a launch rail for your rocket. A jeweler's vise makes a good universal mount, secured to a wooden saw horse with the launch rod clamped into the vise and directed where you want the bird to go.



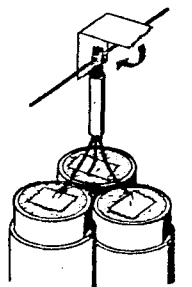
Snap swivels can be used as an optional method of parachute attachment.

## SECURING THE MOTORS

19. Wind a 9" length of 1/2" masking tape around the base of each motor. The motor will "stop" against this band of tape when slid into place. Then press a band of 1" masking tape over the end of the motor and the motor tube, overlapping both by 1/2". The motor will now stay put.

20. Prepare the igniter wicks as shown in the instructions accompanying the motors. Holding the rocket nose down insert the three igniters as far as they will go and then thread the exposed ends through the length of fine tube included with the motors. Wrap the nichrome wire several times around the three wicks and fold a piece of tape over the wire to hold it in place. Hold each wick in place with a band of masking tape.

21. As primitive as this system appears, it works beautifully provided the wicks are of equal length. If the tube through which the wicks pass is centered between the three motors and each wick is pulled tight (but not broken!), you should get a smooth liftoff. The micro clips from your launch system clip up to the nichrome wire.

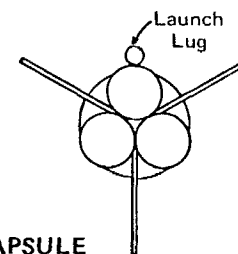


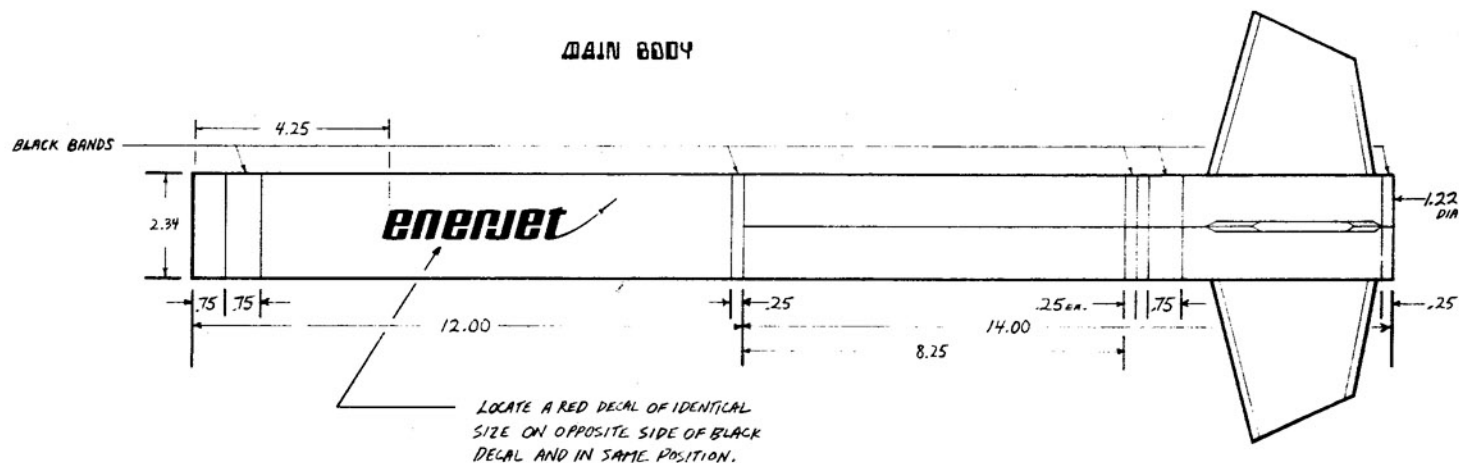
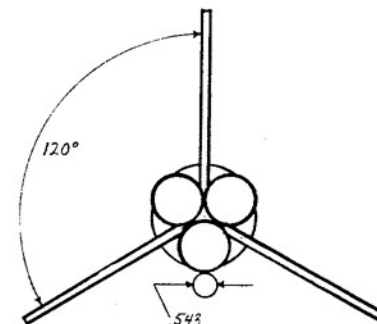
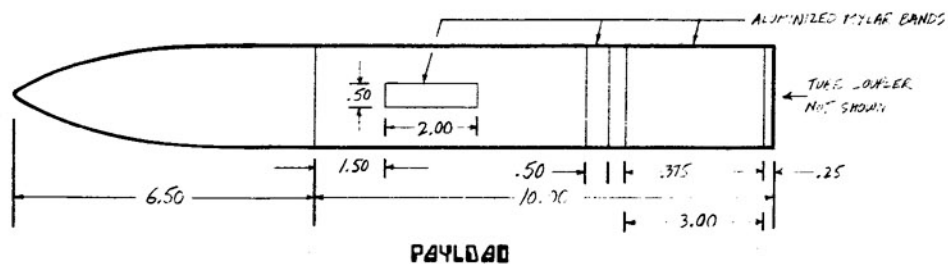
## PAYLOAD CAPSULE

11. Carefully glue the balsa tube coupler into one end of the payload capsule. 3/4 inch with a good glue joint is sufficient. Test fit the coupler into the body tube before the glue sets up to assure a good alignment.

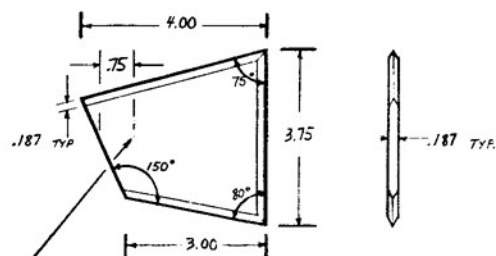
12. Thread the screw eye into place in the coupler, unscrew it, shoot glue into the hole and screw the eye back in. Now it's in to stay.

13. Tie the 12" chute into the screw eye with shock chord, threading the chord through the shroud loops.





### FIN



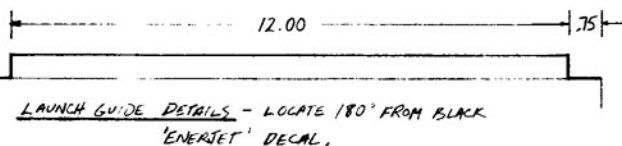
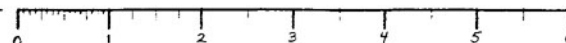
DECAL LOCATES HERE AT THIS POSITION ON ALL 3 FINS - USE SCALE AT RIGHT TO SCALE DECAL.

ROCKET POWERED BY

**enerjet**

BLACK RED

COLORS: MAIN BODY - GLOSS FLUORESCENT ORANGE  
PAYLOAD - GLOSS BLACK



### COMPOSITE DYNAMICS

SCALE: 1/2	APPROVED BY:	DRAWN BY: ACR
DATE: 5/20/73		REVIEWED: 5/11/75
2250 SOUNDING ROCKET NO. 02		
ALL DIMENSIONS IN INCHES	ALL RIGHTS RESERVED	DRAWING NUMBER 030