ROCKET R&D
THE source for scale

308 E. Elm St. Urbana, IL 61801 phone 217/344-2449 fax 217/344-0327

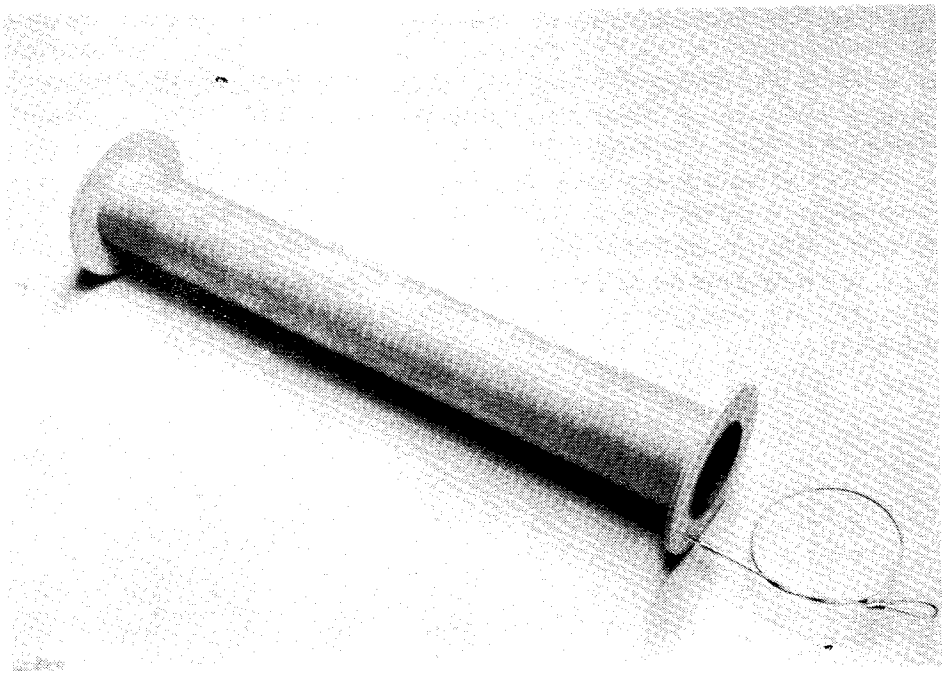
BASIC BUILDING INSTRUCTIONS

REMEMBER:

You **CAN'T** use too much epoxy and,
Unless otherwise noted, work is performed with the rocket in a horizontal position!
*Denotes where photographs are shown.

'PRE-BUILDING TASKS'

1) Sand/finish fins
2) Sand tubes where epoxy will be applied
3) Slot tube where marked
4) Cut launch lug in half at a 45 degree angle
5) For motor clips, install blind nuts onto aft centering ring, 180 degrees apart, with the flat heads to the inside of motor mount. Set in place with Insta-Cure, thread in screws to keep epoxy out of threads.



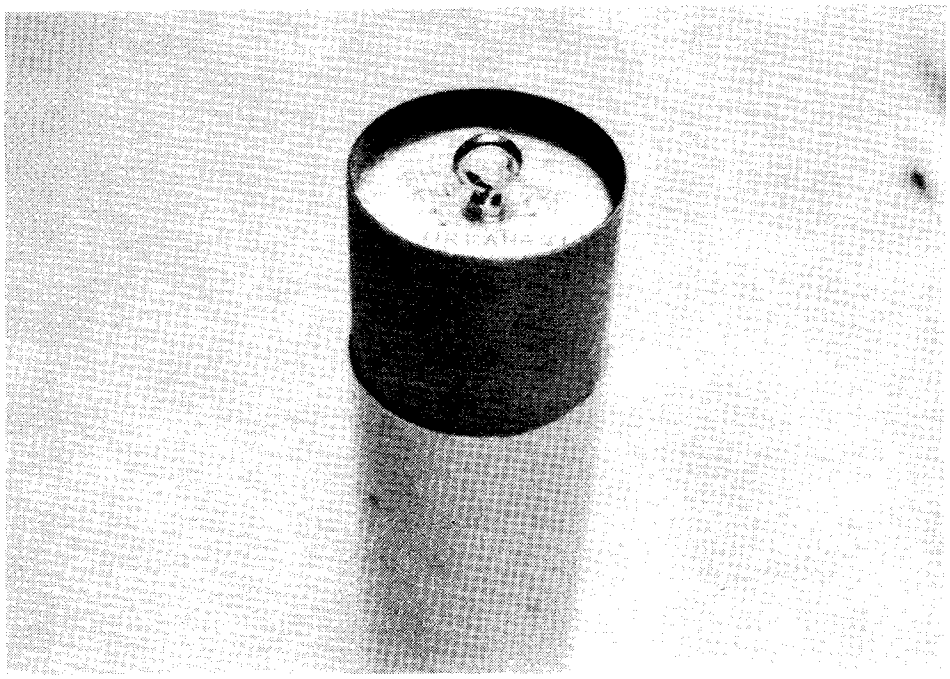
READY?

A) Assemble motor mount and shock cord anchor using lots of epoxy to reinforce the anchor area.

*1) Epoxy centering rings onto motor tube using Quick Cure
2) Fillet joints using Mid Cure.
3) Epoxy motor mount assembly into body tube using Mid Cure. Spread epoxy inside body tube approximately 1/2" below ring position before inserting motor mount - shock anchor in first. Let stand in a vertical position to set epoxy evenly.

B) Epoxy fin tab into body/motor tube one fin at a time. Again, use lots of Quick Cure epoxy in the fin slot and on the fin tabs - keeping fins aligned until epoxy hardens.

C) Epoxy launch lugs onto the body tube with the angle forward, using Quick Cure. Check the alignment BEFORE the epoxy hardens!



***D)** Assemble the payload section with bulkhead plate, again, using lots of epoxy on all hardware. Epoxy bulkhead plate into the payload tube using Quick Cure. Fillet joint with Mid Cure. With the tube in a vertical position, cover bottom bulkhead plate with Mid Cure.

***E)** Fillet fin joints two at a time, with the body horizontal and fins at a 45 degree angle. Put Mid Cure into full length of joint and smooth with finger dipped in alcohol. Let set, rotate 90 degrees, and repeat until all fin joints are complete. Do lug fillets in the same manner.

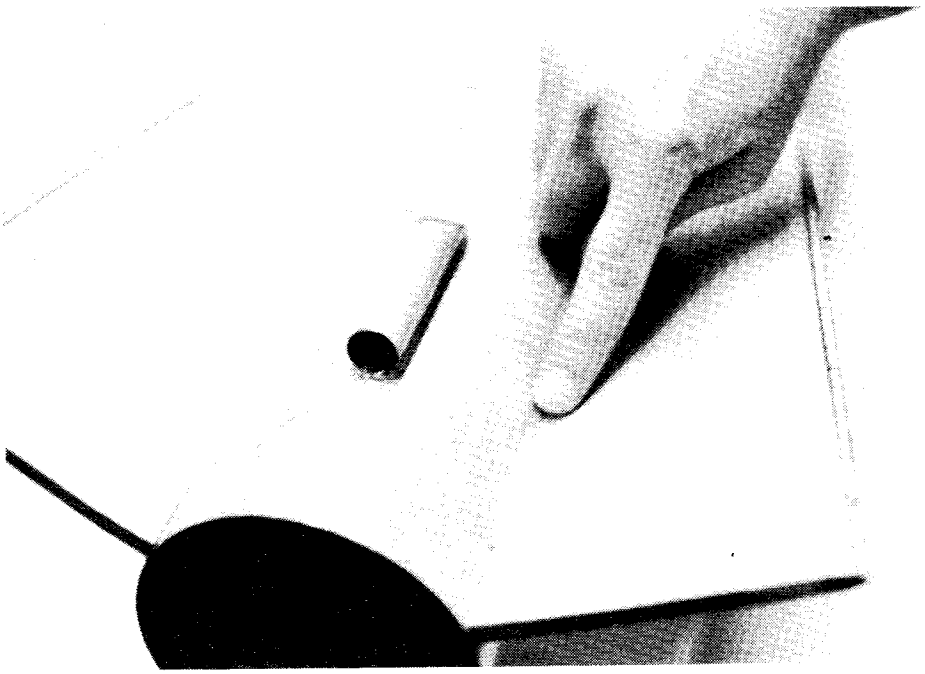
F) Coat inside edge (1-1/2" - 2") of the body tube, payload tube, and bottom of tube couplers with InstaCure CA to strengthen tube edges. Sand and check for proper fit into body tube. Fit should be snug but not tight.

G) After 12 - 24 hours, sand everything with 100 grit sandpaper.

H) Coat with Finish Cure. This strengthens the tube and eliminates the need for multiple coats of sanding sealer.

I) After 12 hours, sand smooth. A second coat of Finish Cure is now optional.

J) Sand, primer, paint and trim.



*K) Assemble shock cord/parachute.

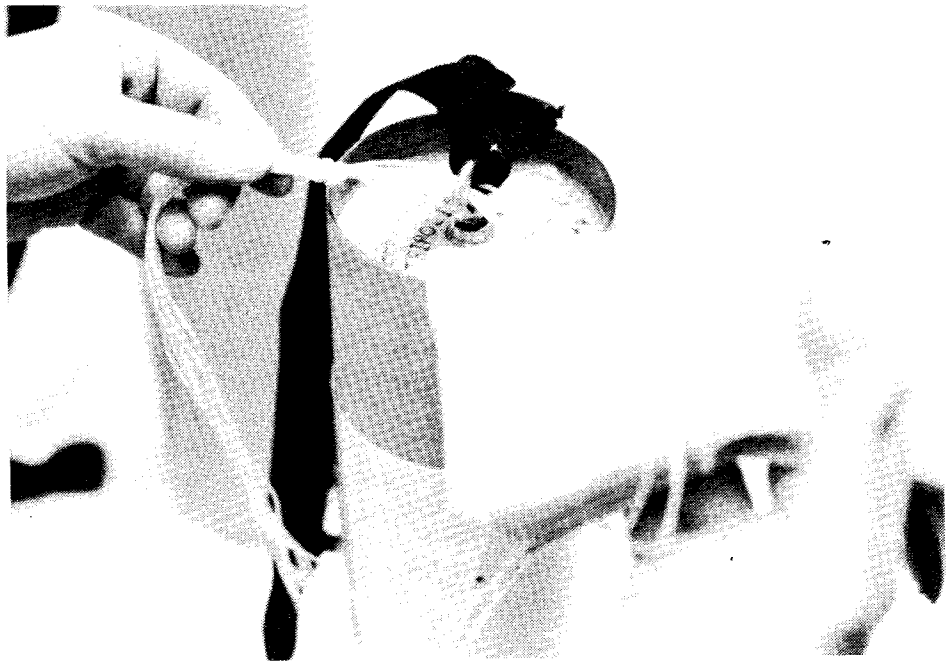
1) Knot shock cord to shock cord anchor, using 3 knots. A drop of Insta Cure will set the knot.

2) Knot the other end of the shock cord to payload coupler eyebolt assembly.

3) Attach chute lines to screw eye by passing chute back through loops in line. Optional attachment point for chute is to loop, tied in shock cord 2/3 distance to payload.

L) Check fit of nose cone and payload tube section. Sand or tape if necessary. Remember: snug but not tight.

M) Before flight, make (2) 1/16" holes opposite each other approximately 6" down on the payload and body tubes to help prevent premature separation.



***N)** Build up a "thrust ring" with several wraps of 1/2" or 3/4" masking tape around the nozzle end of the motor to prevent it from pushing through. Make 2 motor clips from a piece of 3/8" wide x 1/16" aluminum or brass (not included). Bend at a 90 degree angle 1/2" from the end. Drill 5/32" hole to align with blind nuts, measure distance to end of motor and bend another 90 degree angle over motor end and cut off any extra length in order to clear nozzle. These 2 clips installed with screws will prevent the motor from kicking out at ejection. If you use a motor adapter, new clips will have to be made longer. This method is far superior to using tape only for a friction fit.

O) After preparing motor for flight, use the same depth of wadding as the diameter of your rocket. For example, for a 2.6" kit, use about 3" of wadding. For a 4" bodied rocket, use a depth of 4"-5" of wadding, etc. Make sure to keep the shock cord and chute ON TOP of the wadding, and don't pack it tightly.

INSPECT YOUR ROCKET AFTER EVERY FLIGHT! If the shock cord or parachute show ANY signs of damage, replace them now!

PLASTIC NOSE CONE PREPARATION:

1) Sand with 100 grit sandpaper
2) Wipe with lacquer thinner
3) Paint with sandable primer
4) Paint desired color

Please keep in mind that these are BASIC building instructions. There are as many building techniques as there are builders!

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