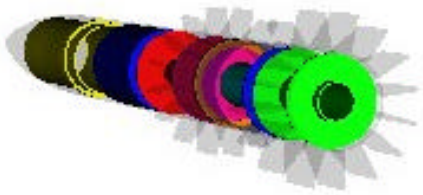
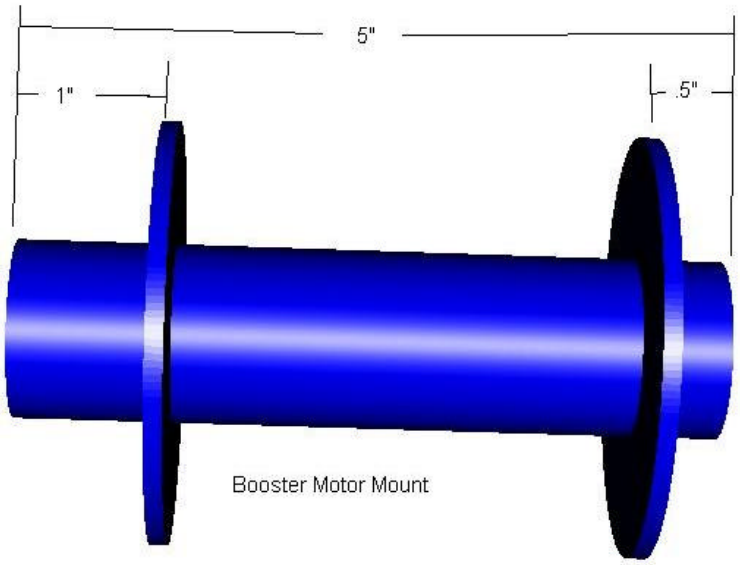
Shadow Phoenix Semi-Technical Notes

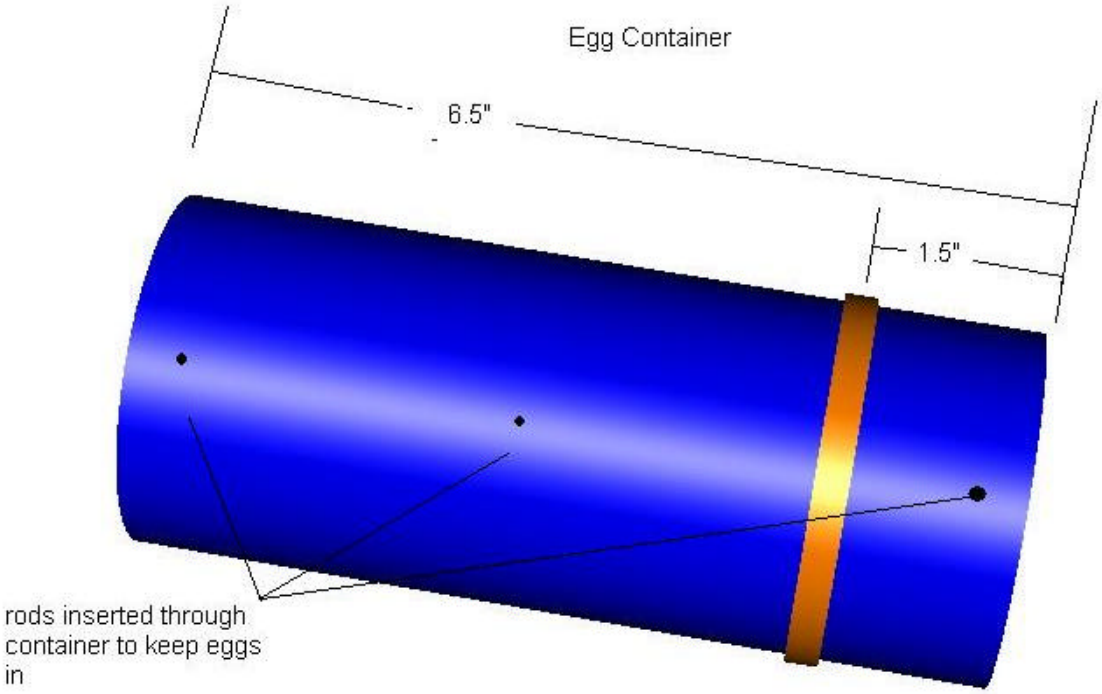
Yellow- Egg Cartridge
Blue- Couplers and Bulkheads
Red – Sustainer 24mm Motor Mount *Parachute not shown
Purple – Removable access door to Electronics
Orange – Removable door screws to here
Green – Booster 29mm Motor Mount *Parachute not shown



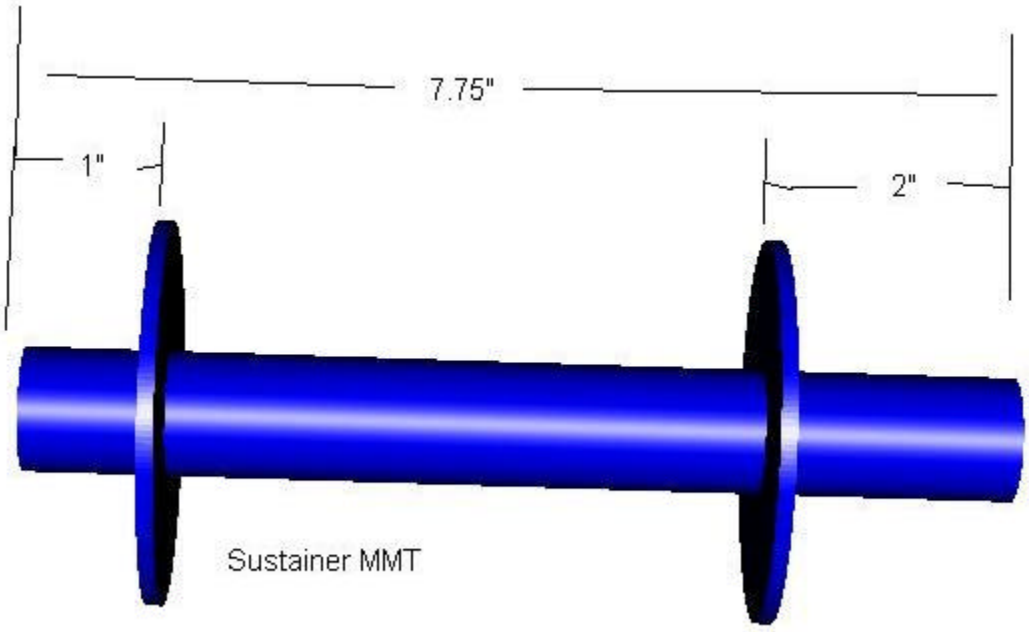
Parts List:
Public Missiles PT 3.0 11”, 11”, 10” (airframe)
Public Missiles PNC 3.0 (nosecone)
Public Missiles PT 2.5 6.5”, .25” (egg cartridge)
3 2.75 in rods (hold eggs in cartridge)
Public Missiles PT 1.14 5” (booster motor mount)
2 Public Missiles CT 2.9 tube couplers
BT 50 7.75” (sustainer motor mount) (bought from FlisKits!)
Enough 1/8 inch Aircraft plywood for 36 fins, and 8 bulkheads/centering rings
2 centering rings 3.002 OD X .976 ID (Sustainer MMT)
2 centering rings 3.002 OD X 1.269 ID (Booster MMT)
1 Ring 3.002 OD X 2.5 ID (Ring electronics bay door screws to)
3 Bulkheads 3.002 OD
6 servo screws *any small screw about 3/8 in long will do, I just had these lying around (fastening nosecone to body and attaching electronics bay door)
Enough patience to cut out and attach 32 fins.
Lots of Epoxy to hold everything together
Launch Lugs, at least for a ¼ inch 4 ft rod. Insert them wherever you want, I place them against the fins but some people think that between fins is best. Use your discretion.
Parachutes: 36 inch sustainer, 12 inch Booster

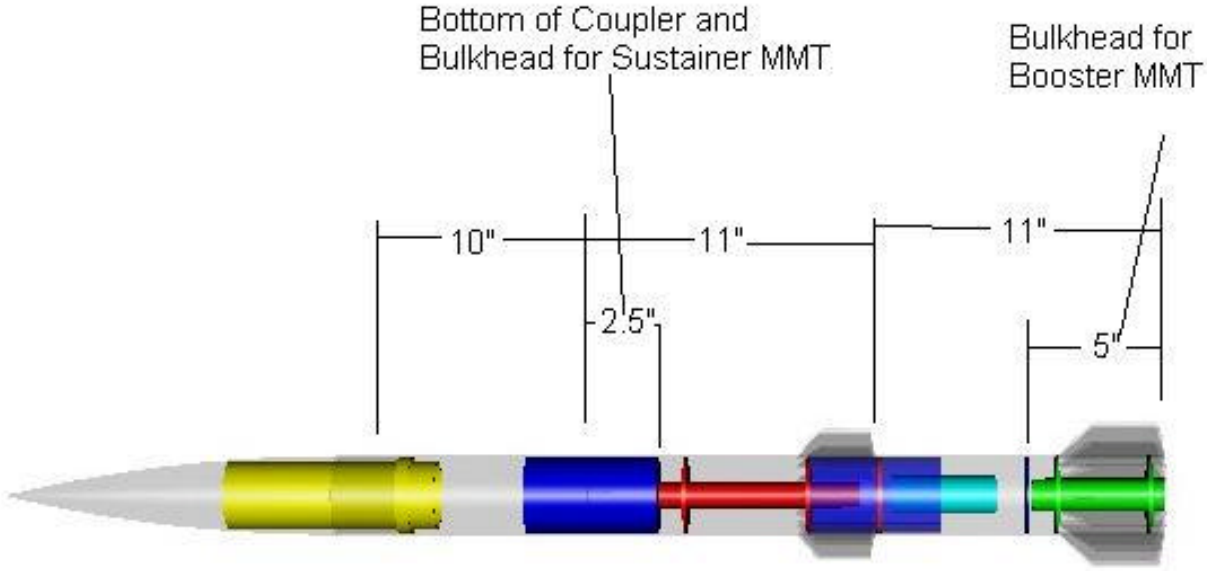


Egg Container

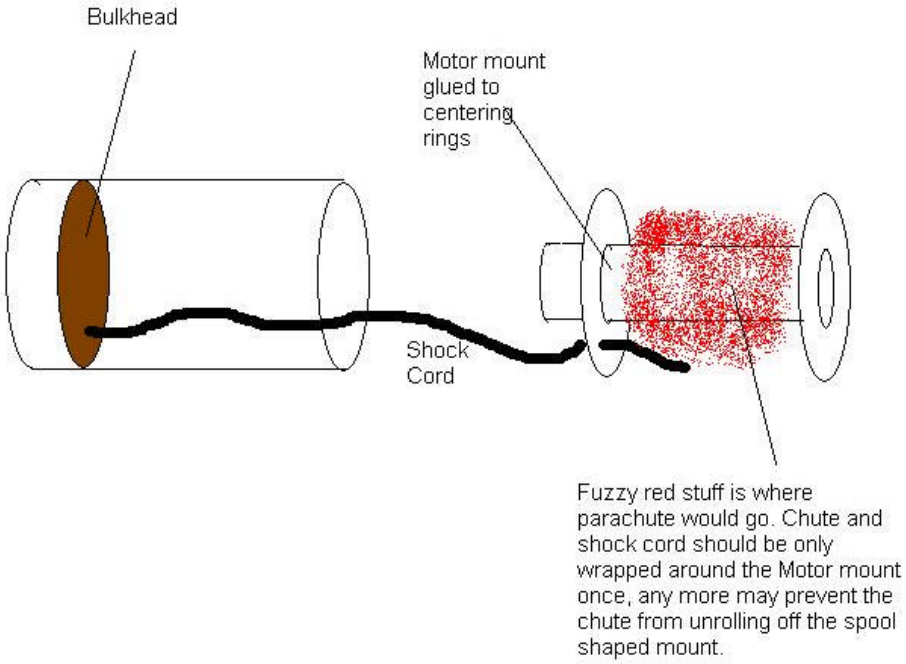


rods inserted through container to keep eggs in

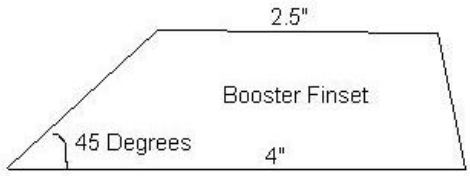


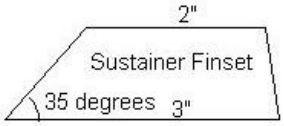


Note* Tube couplers are perfectly between tubes
For parachute attachment, see diagram below.



In case someone isn't familiar with rear ejection systems, I'll give a quick synopsis. Instead of the "norm" of having a parachute above the motor that gets blown out where the nosecone is, the parachute for a rear ejection system is located between the centering rings of the motor. Instead of gluing the outside of the centering rings to the motor mount and airframe tube, only glue them to the motor mount. Then, glue a bulkhead above where the motor mount would go in the airframe. Attach a thick shock cord from the bulkhead to the motor mount to the parachute. When the ejection charge fires, the motor mount will be pushed out the back of the rocket because it is now acting like a piston. Because the upper centering ring protects the chute from hot gasses, no wadding is ever needed.





*Drawings NOT to scale