

# Fat Man

## Kit Features:

- 5.5" diameter airframe
- Stands 27" tall
- Fiberglassed body tube
- Fiberglass nose cone
- Baltic Birch fins
- 54mm motor mount
- For G through K impulse

Great for fun flying and Level 1 and Level 2 certification, the Fat Man is easy to build and lots of fun to fly.

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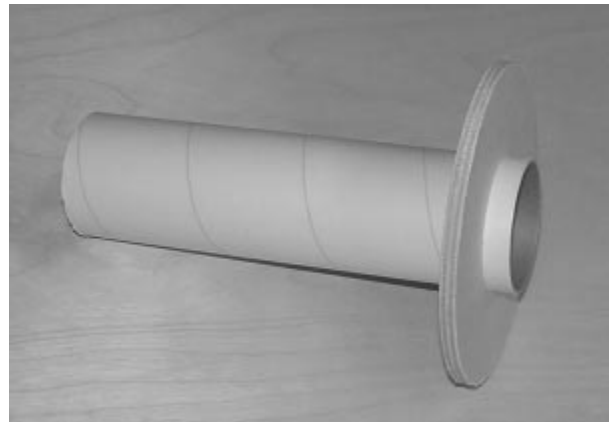
## List of Materials:

- (1) 5.5" Fiberglass nose cone
- (1) 5.5" Fiberglassed body tube
- (1) Nose cone bulkhead, 1/4" plywood, 4" diameter
- (1) Upper centering ring, 1/4" plywood, Drilled for U-Bolt
- (1) Lower centering ring, 1/4" plywood
- (3) Fins, 1/4" plywood
- (1) 54mm motor tube
- (2) U-Bolts with hardware
- (2) Rail guides with screws
- (1) Tubular Nylon shock cord
- (1) Instruction Manual

## Construction

*Please read and understand each step. The construction methods used in this kit differ from others in many ways. It is important to follow the instructions to ensure you get the most out of your kit.*

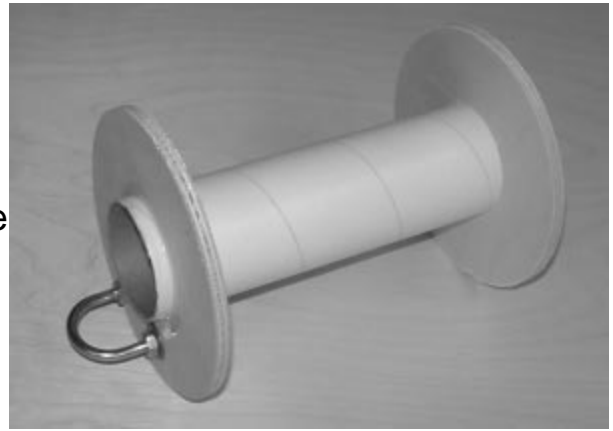
Slide the lower (undrilled) centering ring onto the motor. Epoxy the ring into place appx. 1/2" from the end of the tube. Ensure the ring is perpendicular to the motor tube. Allow to cure.



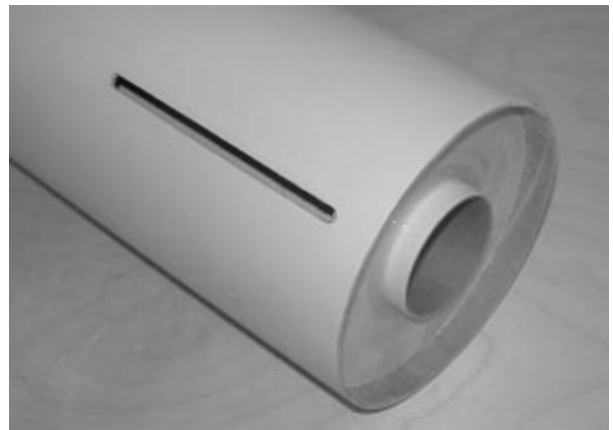
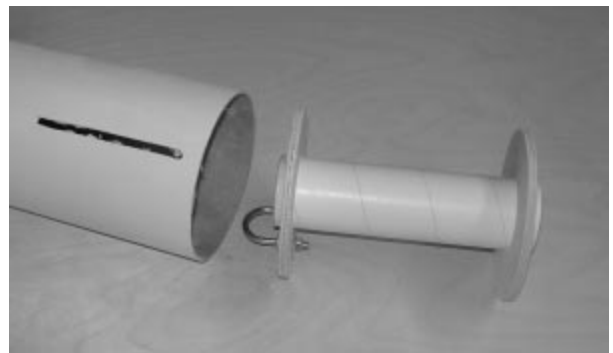
Install the U-Bolt in the upper centering ring as shown below. Use thread cement or epoxy on the threads to prevent them from loosening up over time.



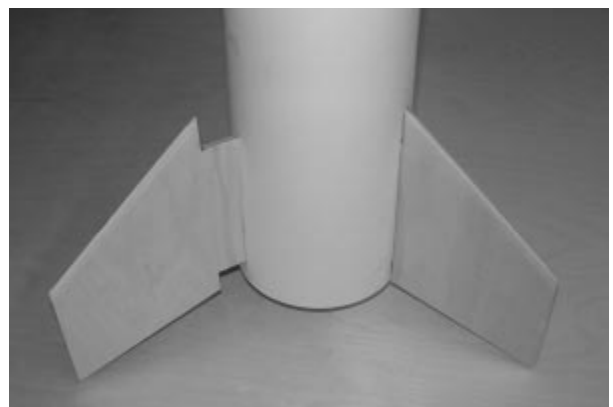
Epoxy the upper centering ring to the motor tube in the same manner as the lower centering ring. Ensure the upper centering ring is perpendicular to the motor tube. Allow to cure completely. The upper centering ring should also be positioned 1/2" in from the end of the tube.



Test fit the motor tube assembly into the body tube. Slide it in from the rear (the slotted end). Gently push the motor tube assembly into the body tube until the aft centering ring is just visible of the bottom of the slot. TAKE CARE NOT TO LINE UP THE U-BOLT HARDWARE WITH ANY OF THE FIN SLOTS. Remove the motor mount assembly and apply epoxy to the inside of the body tube where the centering rings will rest. Slide the motor mount assembly back into place and allow to cure.



Apply a bead of epoxy along the root edge, the front edge of the fin that makes contact with the upper centering ring, and where the fin will contact the body tube. Slide the fin into place and secure with masking tape. Wipe away excess epoxy from the fin root. Ensure the fin is perpendicular to the motor tube. Allow the fin to cure completely.

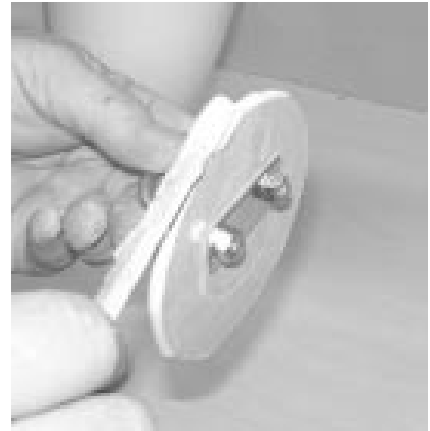


Repeat for the two remaining fins.

Prepare the nose cone bulkhead U-Bolt similar to the upper centering ring. Remember to secure the threads with thread cement or epoxy.



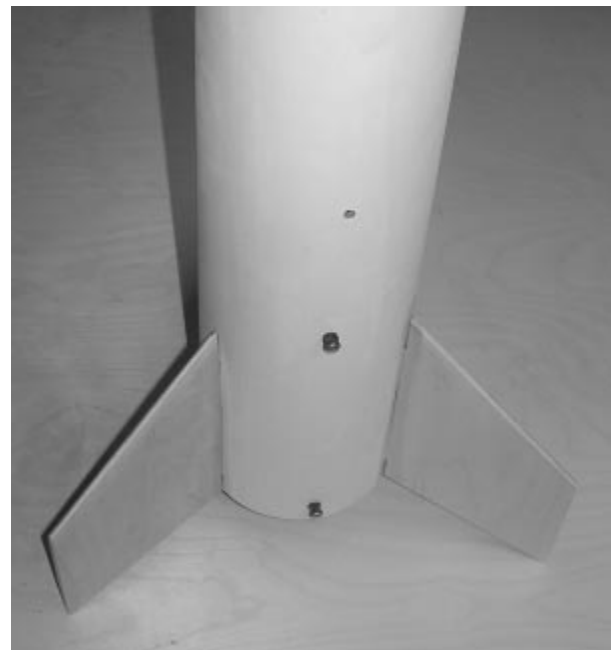
Mix a batch of epoxy thickened with micro balloons or silica. Apply this to the outer edge of the nose cone bulkhead. Use plenty of epoxy here. Place the bulkhead into the nose cone and make it lay level with the aft end of the nose cone. **DO NOT PUSH THE BULKHEAD HARD INTO THE NOSE CONE, THIS WILL DEFORM THE NOSE CONE.**



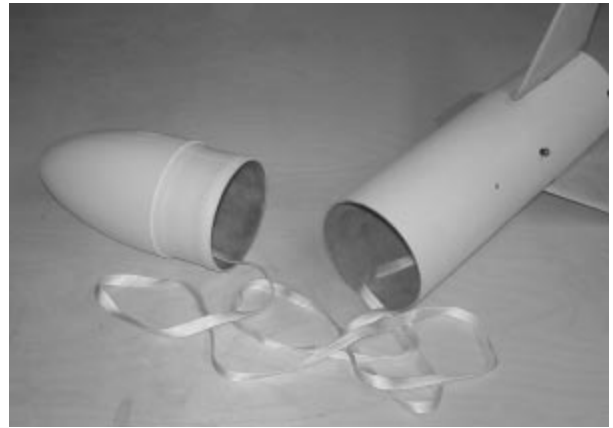
Apply a generous bead of epoxy to the outer edge of the nose cone bulkhead and seat it into the nose. Allow the epoxy to cure then fillet around the bulkhead with epoxy. If you have gaps, use a thickening agent in the epoxy (silica or crushed fiberglass). Stand the nose cone point down while the fillet cures.



Drill 1/8" holes for the rail guides centered between the fins and into each centering ring. You can get the position of the ring by measuring from the bottom and the top and adding 1/8". You want the rail guide screws to go into the centering rings. This makes them much stronger. You can screw the screws for the rail guides right into the holes, tapping is not necessary. Drill a 1/4" pressure hole in the body just above the upper centering ring.



Securely tie the shock cord ends to the U-Bolts. Secure the knots with CA or epoxy. The parachute will get attached to the shock cord 12" back from the nose cone.



Balance your Fat Man in a "flight ready" configuration (motor or balast to simulate a motor and recovery system in place). The balance point should be no further back than 16" from the nose. Add weight if necessary. NOTE: Flying any rocket that has not been balanced can result in unstable and dangerous flight.

We recommend a 36" to 50" parachute for your Fat Man.

We would appreciate hearing from you. Enjoy your Fat Man and keep the pointy end up!

*Happy Flying!*

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