Shredder

The Shredder kit contains:
Fiberglass booster pre slotted 3” diameter 44” long
Fiberglass payload – 3” diameter 22” long
Coupler/Av bay with switch band total length 9”
Fiberglass motor mount 54 mm diameter, 15 inches long
Filament wound Aluminum tip 5.5 to 1
von Karman nose cone.
4 – 1/8" Fiberglass fins (upper and lower)
1 - Fiberglass bulk plate
3 - Fiberglass centering rings
3 - Welded ¼” eye bolts
1 – Kevlar Strap

TOOLS AND MATERIALS

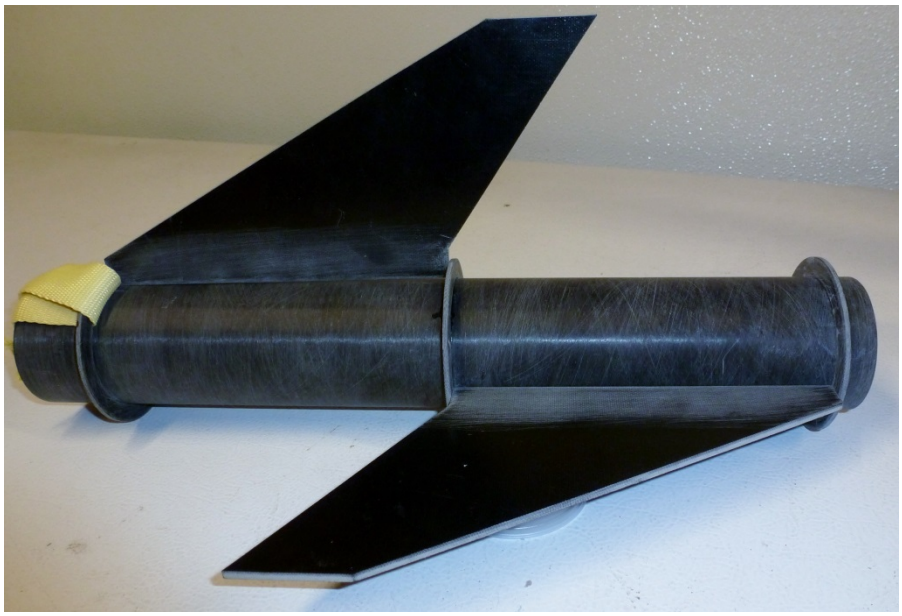
1/16, 1/8, 5/32 DRILL BITS AND DRILL
7/16 WRENCH OR SOCKET
80 GRIT, 160-220 GRIT SAND PAPER, EPOXY,
FILLERS, SMALL 10ml SYRINGES
CHOPPED CARBON FIBER,
1/4 INCH ALL-THREAD, NUTS AND WASHERS

Please read full instructions first!

1) Dry fit all parts, sand if needed. (motor mount, Cr's, bulkplates couplers and fins.)

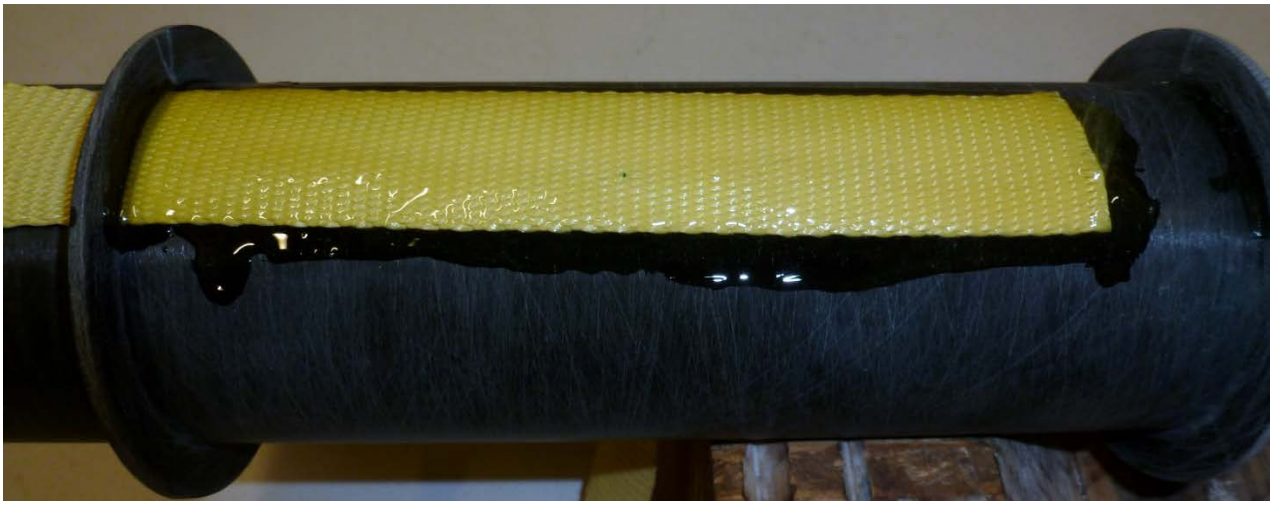
2) Sand entire body tube and fins with 200 grit sand paper. (Make sure to sand all the tube ends to remove sharp edges, this may stop a shock cord from getting cut during deployment or you during handling.)

3) Sand all mounting areas with 80 grit sand paper. (CR mounts to motor tube to airframe and fin mount areas, inside and out)



4) Re-try fitting the fins, motor mount and centering rings, place the motor mount lined up even with the aft end of airframe and the Cr's exactly at each end of each fin slot both top and bottom. Mark on both sides of the Cr's. The fins should line perfectly with the airframe fin slots. Remove the fins and glue the (2) aft side CR's to the motor tube (NOT THE FORWARD CR). Let it fully cure! After Curing, If your using a motor retainer now would be the time to fit it too. (We recommend you do.)

5) Notch the forward CR for attaching a shock cord using a file.



6) Glue the shock cord and forward CR into place on the motor tube. Encapsulate the Kevlar strap in epoxy. After curing, stuff the shock cord into the motor tube for safe keeping!

7) Sand the nosecone bulk plate to fit the nosecone coupler. Attach the eyebolt to the bulk plate and then epoxy the bulk plate into place, let it fully cure. After it has cured, epoxy the coupler into the nose cone.

8) Drill 1/8” holes (OR SLIGHTLY LARGER DEPENDING ON YOUR SYRINGE TIP SIZE) along the edge of each fin slot, on both sides about 1/4” from the slots edge. (16 holes total), this is for injecting internal fillets.

9) Mix up a small bead of epoxy, using a long stick or rod, apply a ring of it inside the airframe just even with the forward edge of the upper fin slot. Slide the motor mount assembly into the booster, making sure the shock cord mounting is NOT under a fin slot. Insert until the Cr’s line up with the fin slots, dry fit the fins to make sure, stand on end and let cure.

10) Now install the Lower fins, (1) at a time, coat the root edge with epoxy and install into the fin slot, hold with tape if necessary in alignment, let cure. Then repeat with the other lower fin.

11) Install the upper fins, (1) at a time, coat the root edge with epoxy and install into the fin slot. hold with tape if necessary in alignment, Let cure and repeat on the remaining fin.

12) Mix epoxy and chopped carbon fiber. put 10ml into a syringe and inject into fin holes, using 10 ml per fin (5 ml per hole) per side, do 4 holes at a time, (1)upper and (1)lower fin. Tip the forward edge down and let the epoxy flow to the forward CR, then tip the aft down and let the epoxy flow to the aft CR’s, coating the internal fin/motor tube wall completely. Set level to cure with the center line between fin sides pointing up, repeat on other fin sides (total of 4).

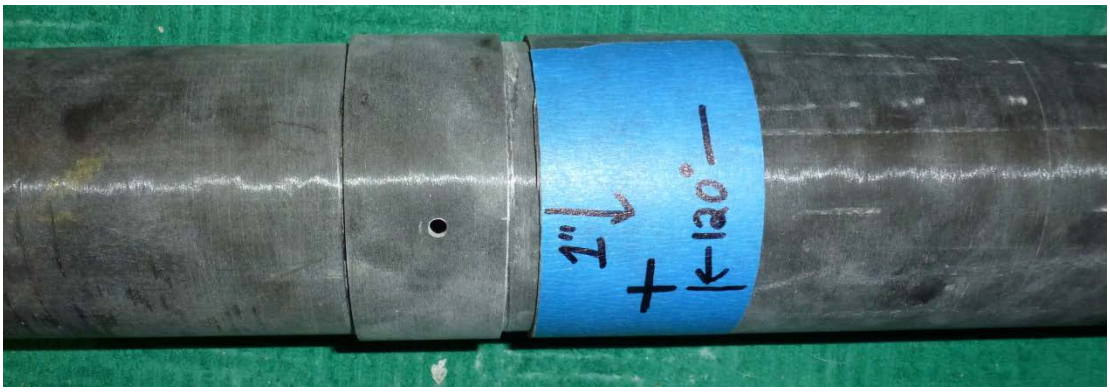
13) Mix epoxy and a good filler for making fillets, using anything from a popsicle stick to your finger to apply the epoxy (use long strokes and a bit of alcohol for nice fillets), Let cure. Rotate booster and repeat on each fin.

14) Sand all fillet edges smooth , drill a 1/8” vent hole, 10” down for the top edge of the booster

15) Stand booster aft end up mix some more epoxy and using the syringe, inject to cover the exposed CR, let cure.

16) Glue the 1” switch band in the center of coupler, make sure there is no glue on the edges and let cure. After curing, mark line ½” in from one side (pick one) all the way round the 1” band. Now mark (3) equally spaced holes around the switch band. Using a 5/32 drill bit, drill those cross mark all the way thru the band and coupler (these are for vent holes for the AV bay).

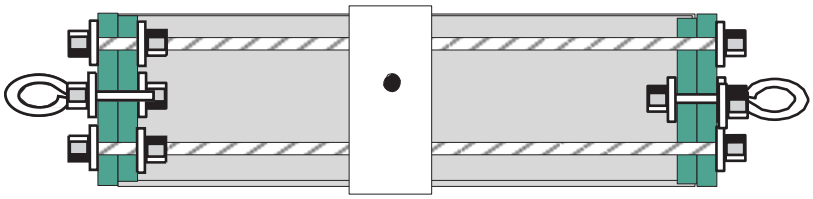
17) Mark the payload bay section with (3) holes, 120 degrees from each other and 1” for the top. Place the nosecone on payload and drill one 1/16th inch hole and then install a shear pin, repeat for the other 2 shear pins (great way to get perfect alignment). Also drill one 1/8” hole in the middle of the payload bay section for Venting.



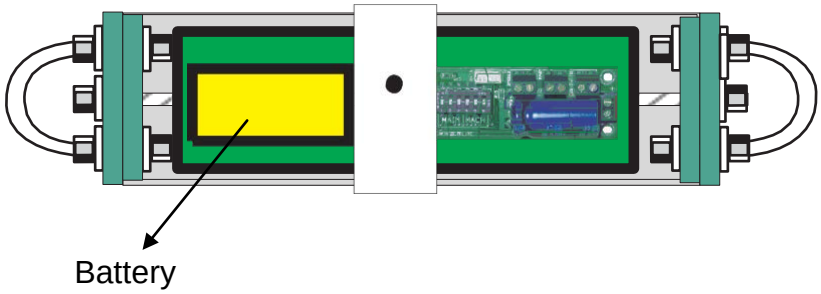
18) Mark the other side of payload section, again 120 degrees apart and 1” from the bottom install one end of AV bay and drill 5/32 holes for plastic rivets, again drill one hole first, install a rivet, then repeat for the other (2) rivets (used to hold the AV bay to payload section)

19) Draw a line down the booster in the center between any (2) fins. Drill a 1/8” hole just below the top CR and just above the bottom CR. Do not drill down into the motor tube, these are for the rail buttons (if used)

20) The altimeter bay: Here are (2) suggestions.



21) Using the provided welded Eyebolts and (2) 1/4-20 all-thread, (6) washer and nuts, plus sled parts



22) Use (2) U-bolts and (1) center 1/4-20 all-thread, (6) washer and nuts, plus sled parts

Notes: