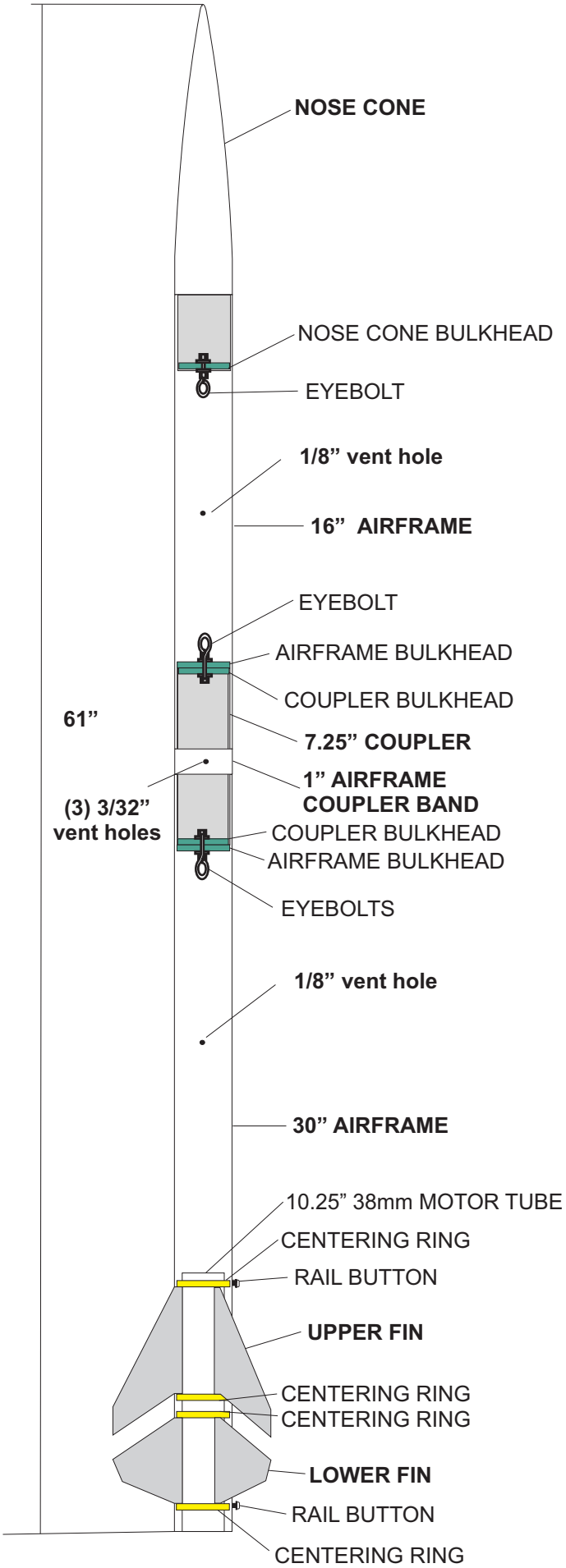
DARKSTAR

The DarkStar kit contains:
Fiberglass booster pre slotted 2.1 inch diameter 30 inches long
Fiberglass payload - 2.1 inch diameter 16 inches long
Fiberglass coupler/altimeter bay with switch band total length 7.25 inches
Fiberglass motor mount tube38 mm, 10.5 inches long
Fiberglass nose cone 5-1
3 - 3/32" Fiberglass fin sets(upper and lower)
5 - Fiberglass bulk plates(1-NC, 2-coupler and 2-airframe)
4 - Wood centering rings 2.1-1.5
3 - Welded 1/4 eye bolts
3 - 1/8 quick links, Sheer pins, Plastic rivets

TOOLS AND MATERIALS

1/16, 1/8, 5/32 DRILL BITS AND DRILL
7/16 WRENCH OR SOCKET
¼ FILE
80 GRIT, 160-220 GRIT SAND PAPER
EPOXY, FILLERS, PAINT, SMALL 10ml SYRINGES
PARACHUTES, SHOCK CORD
CHOPPED CARBON FIBER, RAIL BUTTONS
1/4 INCH ALL-THREAD, NUTS AND WASHERS
POPSICLE STICKS AND SMALL PLASTIC CLAMPS



Full Dual deployment mode
“H” thru “J” motors

Short mode
(motor eject only)
“G” thru “J” motors

DLB

Please read full instructions first!

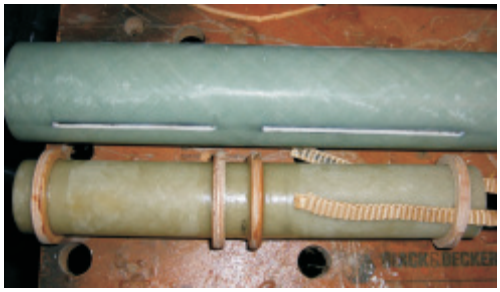
1) Dry fit all parts, sand if needed. (motor mount, Cr's, bulkplates coupler and fins)

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

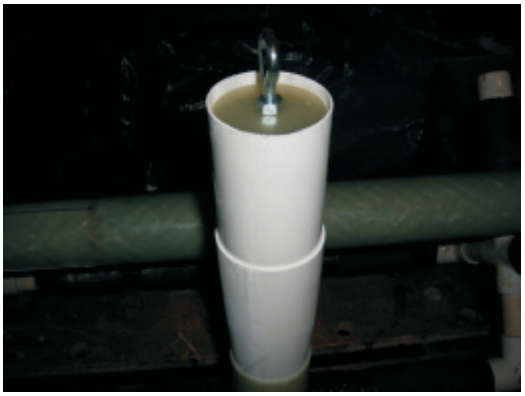
3) Sand all mounting areas with 80 sand paper. (CR mounts to motor tube to airframe and fin mount areas, inside and out)

4) Re-try fitting the fins, motor mount and centering rings, place the motor tube lined up even with the aft end of airframe and the Cr's exactly at end ends of each fins both top and bottom as shown above. Mark the ring on both side Of the Cr's. The fins should line perfectly with the airframe fin slots. Remove the fins and glue the (3) 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)

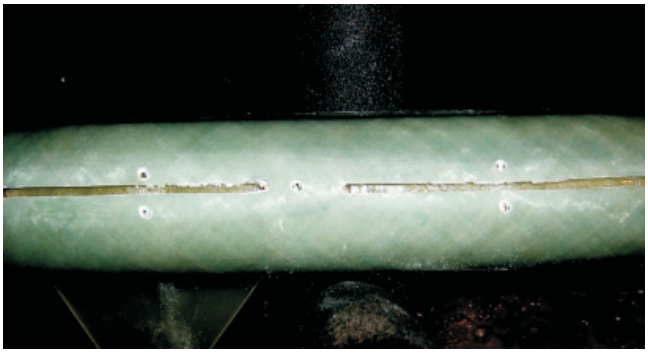
5) Notch the forward CR for attaching a shock cord using a 1/4 file, like above.



6) Glue the shock cord and forward CR into place on the motor tube. Let your motor assembly fully cure. After curing stuff the shock cord into the motor tube for safe keeping!

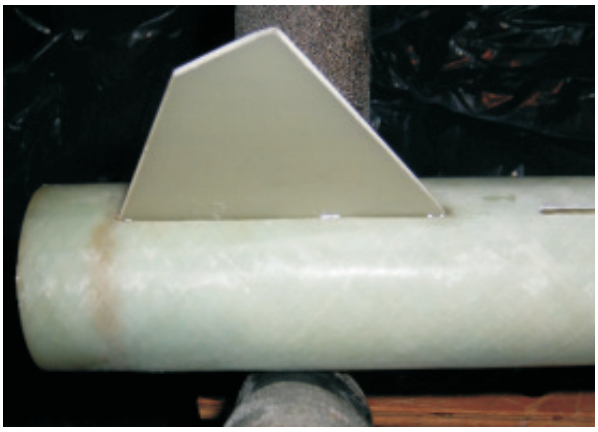


7) Sand or file the nosecone bulk plate to fit the nosecone (Don't sand the nosecone) Attach the Eyebolt to the bulk plate and then glue into place, and let cure (try setting the nosecone upright in the upper airframe to cure) If any gap are left using filler in the Epoxy to fill gaps.



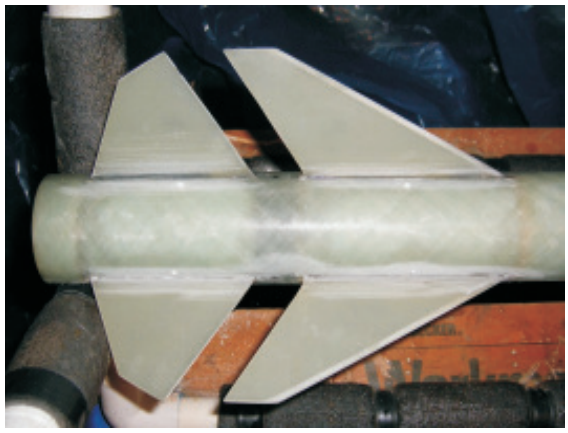
8) Drill 1/8" hole (OR SLIGHTLY LARGER DEPENDING ON YOUR SYRINGE TIP SIZE) in the center of each fin slot , on both sides about 1/4" from the slots edge. (12 holes total)(this is for injecting internal fillets)

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 till the Cr's line up with the fin slots, dry fit the fins to make sure, stand on end and let cure.

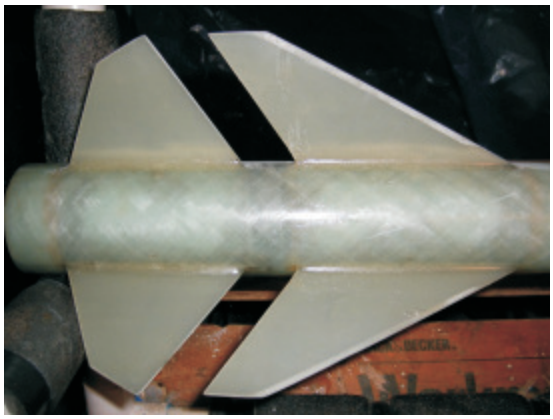


10) Now you'll install the Lower fins, (1) at a time, coat the root edge with epoxy and install into the fin slot, hold with tape if necessary in alignment, let cure. Then repeat with other (2) lower fins.

11) Sand your foils on the (3)forward fins. Install the upper fins, (1) at a time, coat the root edge with epoxy and install into the fin slot. You need to align the upper and lower fins with each other, use a popsicle or other flat stick and (2) small clamps to do this. Let cure and repeat on the remaining (2) fins.



12) Mix epoxy and chopped carbon fiber (mix well). put into a 10ml syringe and inject into fin holes, using about 1/3 of a syringe per fin per side, do all both holes in the upper and low fins. Tip the forward edge down and let the epoxy flow to the forward CR, you should be able to see the flowing inside the fiberglass tube , then Tip the aft down and let the epoxy flow to the aft CR's , coating the internal fin/motor tube wall Completely. Set aside with the center line between fin sides pointing up, repeat on other fin sides (total of 3).



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 , also 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) Sand or file exterior of nose cone smooth, removing all casting marks.

17) Glue a airframe bulkplate and coupler bulkplate together, using a eyebolt to line up and hold together. Repeat again for the second set and let cure.

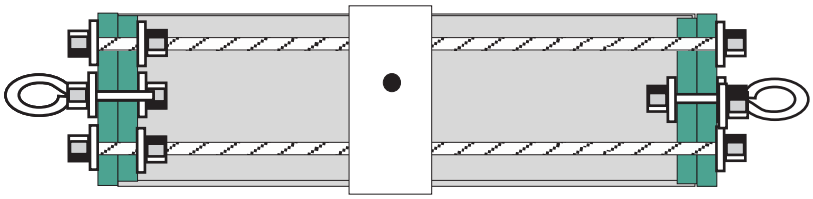
18) Glue the 1” switch band in the center of coupler, make sure there no glue on the edges and let cure. After curing, mark line ½” in for one side (pick one) all the way round the 1” band. Now mark (3) equally spaced cross mark on the switch band (using a fin guide will help). Using a 5/32 drill bit,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

19) Mark the payload bay section with (2) holes, 180 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, then drill the other (great way to get perfect alignment). Also drill just one 1/8” hole in the middle of the payload bay section for Venting.

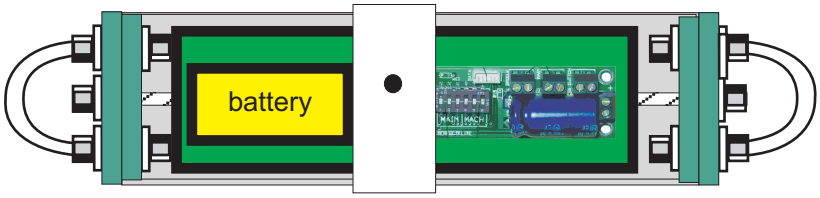
20) Mark the other side of payload section, again 180 degrees apart and 1” from the bottom install one end of AV bay and drill 5/32 holes for plastic rivets, again drill one Hole first, install a rivet, then drill the other (used to hold the AV bay to payload section)

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

22)The altimeter bay: There's alway a better way to build a mouse trap (altimeter bay)
Here's (2) suggestions.



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



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

Well after getting this far, have a sip of your favorite refreshment, "your done" with the build and painting is next, pick a color or use the scheme we show. Now just add shock cord, chutes, an altimeter (if used, remember you can go with motor ejection) or (you may also launch with no upper section or A/V bay at all, will call it Short Mode. Using motor ejection and using as little as a "G" motor, by just put the NC on the booster section)
Stuff a your Favorite motor in the tailpipe and Launch, Don't forget your now a WILDMAN!!!

ENJOY!
DLB

Notes:

THE WILDMAN OATH

UPON COMPLETION OF THIS ROCKET AT THE FIRST FULL MOON YOU MUST PLACE YOUR WILDMAN OUTSIDE IN THE MOON LIGHT AND CRISTEN IT WITH A BEER OR A SHOT (OR SODA POP IF YOUR UNDER AGE). THEN REPEAT THE FOLLOWING WORDS ALOUD WITH PRIDE AND DIGNITY WHILE WATCHING THE MOONBEAMS DANCE ON YOUR FINS:

1. THIS IS MY WILDMAN ROCKET, THERE IS NO OTHER LIKE IT, FOR I HAVE BUILT THIS ROCKET AND PART OF ME LEAVES THE EARTH EVERY TIME IT FLIES.
2. OTHERS MAY POSSES ONE, BUT NONE ARE LIKE THIS ONE; IT WILL FLY HIGHER AND FASTER THAN ANY OTHER.
3. I HAVE MET THIS CHALLENGE, BUILT THIS ROCKET; I AM NOW ONE OF THE ELITE FEW. I WILL WALK TO THE PADS WITH MY HEAD HELD HIGH, A NEW SPIRIT IN MY STEP, AND CONVICTION IN MY HEART.
4. I WILL ALWAYS STRIVE TO STUFF THE LARGEST MOTOR THAT I CAN, IN THE PIPE.
5. I WILL FLY WITH OUT FEAR AND NEVER REFUSE THE CHALLENGE.
6. I WILL DANCE WITH DELIGHT AT THE OPPORTUNITY TO DRAG RACE MULTIPLE WILDMAN BROTHERS AT ANY AND ALL EVENTS.
7. I AM FREE FROM THE FEARS OF SCRATCHED PAINT, DIRTY FINS, ROAD RASH ON AIRFRAMES, CATCHY PHRASES AND FUNNY NAMED ROCKETS
8. I SHALL NOT FRET OVER WHAT OTHERS MAY THINK FOR NOW I AM A WILDMAN (OR WILDWOMAN).
9. I HAVE MY WILDMAN ROCKET AND I WILL ……" JUST FLY IT". ALTIMETER OR CAVEMAN STYLE IT MATTERS NOT, I WILL …... "JUST FLY IT". NAKED OR PAINTED, I WILL ....."JUST FLY IT."
10. IF I SEE ANOTHER WILDMAN BROTHER, I WILL TREAT HIM WITH RESPECT BUT WILL BE COMPELLED TO GREET HIM WITH THOSE HOLY WORDS PASSED DOWN THROUGH TIME, TEMPERED FROM THE SPARKS AND FIRE OF COUNTLESS SKIDMARK MOTORS, UTTERED AT THE HOLIEST OF EVENTS BY OUR FEARLESS LEADER ……. THE WILDMAN HIMSELF:

"WANNA DRAG RACE IT?"

YOUR FLYING SPIRIT HAS NOW BEEN FREED .

:::::::: WARNING DISCLAIMER ::::::
Failure to comply with above after taking said oath shall result in immediate Removal of WILDMAN status and return to MILDMAN status.