EXTREME WILDMAN
Assembly Instructions

Thank you for purchasing the 4in. Wildman Extreme rocket kit, and welcome to the Wildman family. You are now an official Wildman or Wildwoman.

This all fiberglass kit features the latest in spiral wound airframe tube and fiberglass 5 to 1 Von Karmon nose cone yielding superior performance in a large span of parameters from sub to mach plus flights. This design utilizes the best features of an ogive and conical nose cone combined. If built according to theses instructions, it has a lifetime guarantee.

Open and inspect for damage and make sure all parts are enclosed.

..... Now for the rules .....

The WILDMAN 4 EXTREME comes with a lifetime warranty against defects and flight failure if built according to the instructions and flown on commercial made motors. The warranty does not cover recovery failures or lawn darts.

To qualify for the warranty, the following guidelines must be followed:

- Epoxy: West Systems, Pro Line, or Aero epoxy must be used for build . If another brand is used you must call first for approval.
- Launch lugs [conformal or tube] or rail buttons are ok.
- Chopped Carbon fiber or Kevlar pulp must be used. One or the other is mandatory.
- Hobby epoxy (10-15 minute etc) and CA (super glue) may be used for tacking purposes only.
- The nose cone may be modified internally only to allow the installation of a tracker or electronics. However if you modify it and it comes off, you are on your own!
- 3 alitimeter bay vents holes. 1/4 diameter, are recommended , however 1 vent hole 1/2” in diameter may be substituted.
- Warranted for use with commercially made motors only.

To complete the build, you will also need:

- A syringe for injecting epoxy. Available at Walmart pharmacy or most other drug stores. Purchase the type used for giving liquids to small children.
- Rail buttons or launch lugs.
- Epoxy, chopped carbon fibers or chopped kevlar pulp, and filler such as West 404 Colloidal Silica for thickening external fillets

- Drill and bits - 5/32” for rivets,1/4” for altimeter bay vents, 5/64” for shear pins and 1/8” for airframe vents.
- Parachute and optional altimeter.
- Foam if you desire to fill the nose cone or modify it for tracking devices.
- Motor retention - Aero-Pac, Slimline, T-nuts and mirror clips, etc can be used.
- Denatured alcohol for clean up.
- File (optional), sandpaper, 60-80 grit for roughing up before glue, 120- 400 for paint and finish.
- Primer and paint.
- 10 minute epoxy , WEST SYSTEMS or equivalent.
- Fin alignment guide.

One of the unique construction concepts to this kit will be injecting the interior fin fillets. This has been time tested and proven in countless high power flights up to N class motors with no failures to date. If built in this manner, your rocket will not require any type added reinforcement , such as tip to tip or internal fiberglass strips . No added nose weight is required for any commercial motor that will fit in your Wildman!! Your build will be light weight and flight worthy able to handle any commercial motor available, [up to 75 mm] that will fit!

MOST IMPORTANT

Sand all parts that will come into contact with epoxy with 60 or 80 grit sandpaper.

- Fin root and up each side of the fine to a height of 1 1/2”.
- Centering rings.
- Exterior of motor mount tube.
- Inside of airframe where CR's will contact.
- Bulkplates that will be glued together for altimeter bay.
- The inside of 2” airframe spacer and 2” of coupler that it will be glued to.
- Lightly sand the fin slots to remove burrs from cutting, and dry fit the fins.

All this will be made clear during build. So just read on.

For the sake of expedience the following abbreviations will be used during construction:

Centering Ring = CR	Motor mount tube = MM
Bulk Plate = BP	Nose cone = NC
Tubular nylon = TN	

……. READ THESE INSTRUCTIONS ALL THE WAY THROUGH FIRST ……. THEN COME BACK AND BEGIN YOUR BUILD!

Slide coupler into rear of slotted airframe. Mark 3 lines through all slots onto coupler. Remove, these will be for Av bay rivets
Slide NC into rear of slotted airframe. Mark 3 lines through slots as above. These will be for shear pins.

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Insert NC into payload bay, leave shoulder exposed enough to transfer 3 marks onto payload tube. Measure 1.5 inches from edge of tube for shear pin location, for all 3 holes.

Push NC into tube tight. Use a 5/64 bit and drill first hole, moving bit in and out several times to insure a clean hole. Insert 2-256 nylon shear pin [screw], move to second location and repeat, finally move to 3rd and finish. The holes will be a tight fit at first, but will loosen with use.
Do not try and drill all 3 holes at once, then insert the pins. They rarely if ever will align properly, if done this way. DO THEM ONE AT A TIME! Before removing them, scribe a line or key mark the NC to tube to aid in future alignment.

TIP: use a 1/8 bit and drill into center of the NC to tube joint leaving half hole in NC, half in tube. Just deep enough to be visible through several coats of paint. See TIP: and photo in Avionics bay [coupler] section for key marks.

Extend the 3 lines on coupler by using a straight edge or drawer.

Coupler is 12in. Mark 5in from end and 7in. This will center the 2in. Airframe band that goes in the middle.

Slide 2in section over coupler and center between the lines. A piece of tape will hold it in place if needed. Transfer the 3 lines from coupler. These will be used for positioning the vent holes for altimeter.

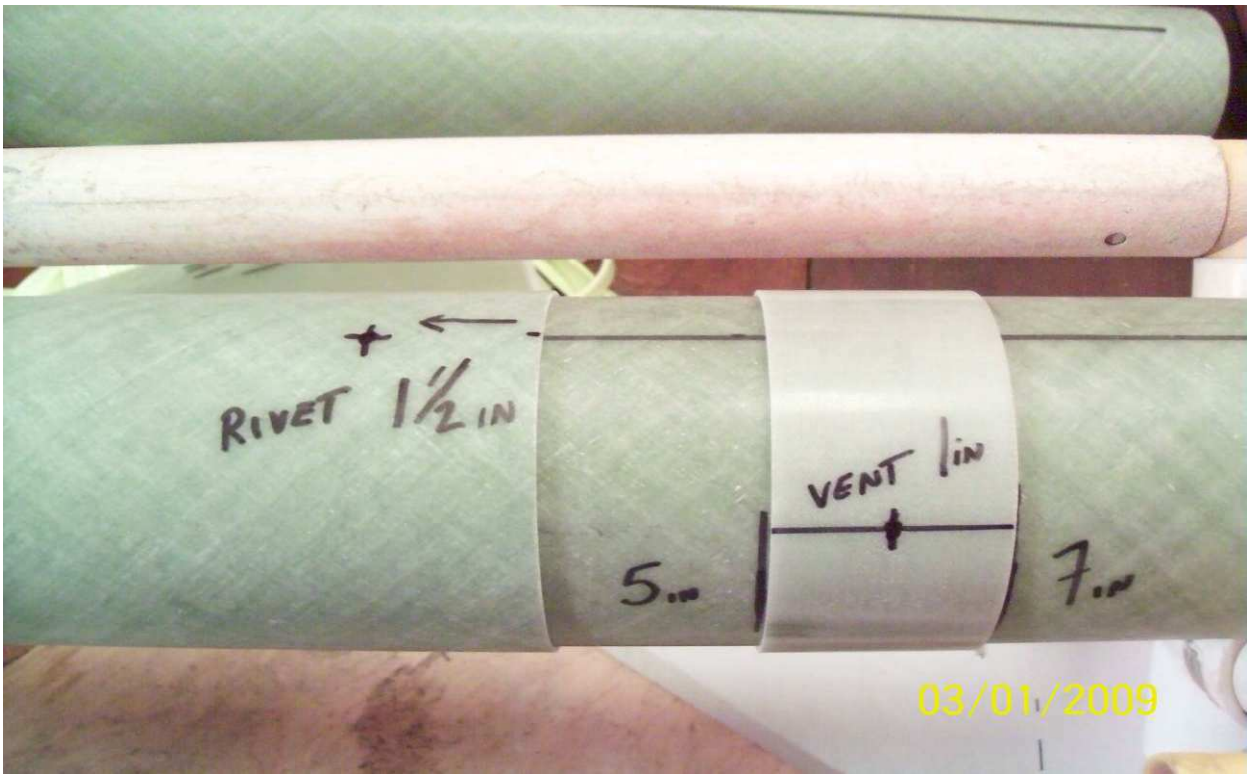
After completing the transfer of your 3 marks, rotate the 2in section so the marks on coupler are centered between the marks on the airframe section. In the photo below the band slid down, it should be in the center between both ends! I only have 2 hands! MAKE SURE YOU CENTER YOUR 2in. BAND ON THE COUPLER. After you are satisfied with your alignment, make key mark on coupler to 2in section, to aid in alignment when gluing.

TIP: This is done [rotating the band] to prevent the rivets from being directly in line with vent holes causing turbulence and incorrect altimeter readings.

Remove band, sand where inside of band and around coupler where glue will be, with 60-80 grit.
Spread epoxy on coupler between the centering lines [5in and 7in], where band will be located. Slide band on coupler, with a gentle twisting motion [to insure even epoxy distribution], move into place. Use alcohol dampened rag to remove any excess epoxy. Set aside to cure.

After epoxy is cured, mark center of band on coupler for vent holes, on the 3 lines previously drawn.[1 in. from edge of band] Drill the 3 vents using ¼ in bit.

Insert the coupler partially into the payload section and transfer the 3 lines onto tube for rivet location.



Push coupler into payload section all the way tight. A piece of tape will aid in holding it in place.

Mark 1.5 inches back from edge of tube on all 3 rivet location marks, this will be final location.

Drill first hole with 5/32 bit, insert rivet, move to 2nd hole location repeat move to 3rd location finish. DO NOT TRY DRILLING ALL 3 HOLES AT ONCE. Do them one at a time, hole rivet, hole rivet, hole rivet! This insures proper fit.

Before removing rivets make a key mark or scribe a line between the payload tube onto the vent band to aid in future alignment.

TIP: use a 1/8 bit and drill partially through both sections at once on the center of joint. Leaving half hole on each section. Only needs to be deep enough to be seen through several coats of paint.. In photo holes were outlined with black Sharpie to aid in seeing them.

Drill hole with 1/8 bit 12 inches from either end of payload section. This is to relieve internal airframe pressure.

Drill hole with 1/8 bit 16 in. down from top of fin can airframe. This is to relieve internal airframe pressure.

TIP: These airframe vents will prevent premature separation of NC from payload and payload from fin can due to internal air pressure becoming higher than external pressure. This being caused by rapid acceleration during flight, and pressure variance at different altitudes.

Higher internal pressure will want to force the separation of airframe sections in order to equalize with the outside.[Think ears popping when traveling up and down in the mountains.]

Sand each side of fin slots outward to a distance of 1/2in with 60-80 grit to aid in fillet adhesion later.

Measure 4in. from each end of fin slot for injection holes to do internal fillets. Do this on both sides of all 3 slots. Center of holes should be 1/4in from edge of slots. Use a 1/4in bit to drill 2 holes on each side of slot.

MAKE SURE HOLES ARE CLEAN. If need be reach inside of tube and sand any fuzzies or splinters off.

TIP: If they are left, when the epoxy/carbon fiber mix is injected, the fibers will collect on them and clog the holes. Making injection very difficult.

Motor mount sub assembly:
Sand outside of MM with 60-80 grit. Sand and fit 3 centering rings so they fit over the MM and inside the airframe. Sand inside the airframe where the CR's will be epoxied.

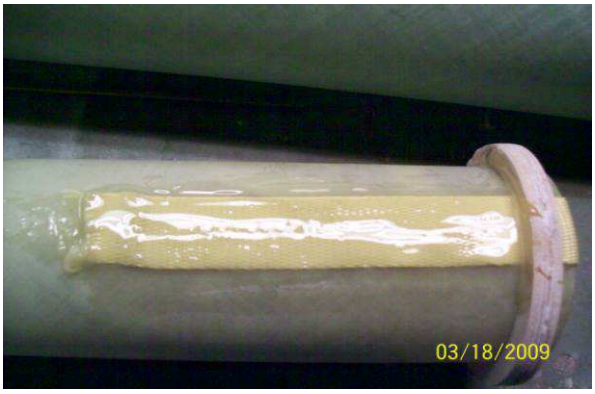
Lay Kevlar recovery harness across the middle of 1 CR and mark on both sides of strap. Transfer lines to inside of CR and sand or file shallow notches to slide over harness.

Stand MM on end and stuff the looped end of harness inside leaving the 2 tails sticking out 6-8in. Hang one over each side of MM.
Slide the notched CR down MM , sandwiching the Kevlar between the notches and MM tube. CR should be ¼ to 1/2in. from top of tube.

Stretch out the harness full length, making sure both sides are equal and there are no twists in strap. Adjust if needed.

Tack CR and strap in place with CA [super glue] Stuff harness back inside tube to prevent getting glue on it in next step.

Mix some epoxy and smear on tube under straps, push them onto epoxy and put more epoxy on top of strap. [Encapsulate it] Repeat for other strap.
Make a small fillet with epoxy around top of CR. SMALL fillet, just enough to seal any gap between the CR and tube. A larger poured fillet will be done later, once the MM assembly is placed inside the fin can.



BEFORE CONTINUING, TIME TO FIT YOUR MOTOR RETENTION ON REAR CR. IN THIS CASE AN AERO PAC ON AN EXTRA RING IS FITTED, MARKED AND REMOVED. CR IS TACKED ON MM TUBE ½ IN FROM END. TACKED ON WITH CA. DO NOT GLUE AT THIS POINT!!!!

……DANGER… WARNING ….. ACHTUNG ……BEFORE TACKING THE REAR CR……. MAKE SURE TO SLIDE THE MIDDLE CR ON TO TUBE AT THIS POINT, AFTER THE REAR CR IS TACKED, YOU WILL NOT BE ABLE TO GET THE MIDDLE CR ON. ……

THE TYPE OF RENTENTION YOU USE, WILL DETERMINE THE DISTANCE FROM REAR OF MM TUBE THE CR IS LOCATED.

NOW IS THE TIME TO DRY FIT AND ADJUST WHERE NEEDED.
IT IS ADVISABLE TO FIT A MOTOR IN PLACE JUST TO BE SURE ALL ALIGNMENT ISSUES HAVE BEEN ADDRESSED.

THERE IS NOTHING WORSE THAN COMPLETING A PROJECT, ONLY TO FIND YOUR MOTOR WON'T FIT DUE TO A SMALL OVERLOOKED ERROR. IN THIS CASE THE MOUNTING BOLT HEADS ON THE FLANGE, HAD TO BE GROUND A TAD, TO CLEAR THE SIDE OF AIRFRAME TUBE.

TIME TO EXPLAIN THE NEXT FEW STEPS. YOU WILL BE INJECTING THE INTERNAL FILLETS FOR FINS. THE FINS MUST FIT TIGHT TO THE MM TUBE, AND THE CR'S MUST FIT SNUG TO THE TOP AND BOTTOM OF FINS. YOU ARE CREATING A DAM SO THAT THE INJECTED EPOXY CAN NOT LEAK UNDER THE FIN OR AROUND THE JOINT BETWEEN THE TOP AND BOTTOM OF FIN AND THE CENTERING RINGS.

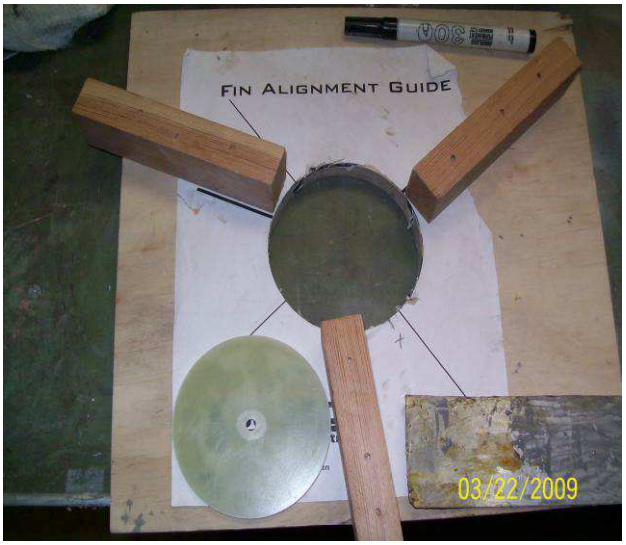
SLIDE THE MOTOR MOUNT TUBE AND CR'S INTO FINCAN AND POSITION SO YOU CAN TRACE THROUGH THE SLOTS ONTO MM TUBE. THIS WILL AID YOU IN LINING UP THE FINS OUTSIDE THE AIRFRAME. IT IS ADVISABLE TO NUMBER EACH SLOT AND FIN WHILE FITTING TO ASSURE EVERY THING GOES BACK TOGETHER SMOOTHLY WHEN GLUEING!

NOW REMOVE FROM FINCAN, STAND ON END, AND POSITION THE 3 FINS IN THEIR APPROPRIATE SPOTS. IF YOUR CR IS SNUG FITTING IT WILL HOLD THEM IN PLACE. IF NOT BORROW SOME EXTRA HANDS FROM A FRIEND TO HELP.ONCE YOU ARE SATISFIED WITH THE FIT TACK THE TOP CR IN PLACE. TACK ONLY, DO NOT GLUE AT THIS POINT! REMOVE THE FINS; INSERT THE MM IN AIRFRAME, AND PLACE FINS THROUGH SLOTS INTO POSITION, MAKING SURE ALL FITS WELL. MAKE ANY ADJUSTMENTS THAT ARE NEEDED. NOW REMOVE THE ASSEMBLY FROM AIRFRAME AND GLUE A FILLET ON TOP OF MIDDLE CR AND FILL ANY GAPS BETWEEN THE TUBE AND TOP OF BOTTOM CR.

YOU ONLY NEED ENOUGH EPOXY TO SEAL THE CR'S TO THE TUBE, TO PREVENT EPOXY FROM LEAKING WHEN INJECTED LATER!
…….... DO NOT USE TOO MUCH OR THE FINS WILL NOT FIT FLUSH DUE TO FILLET INTERFERENCE! DANGER, DO NOT USE TOO MUCH OR THE FINS WILL NOT FIT FLUSH DO TO THE FILLETS INTERFERRING……..

A WORD ABOUT INJECTED FILLETS: THIS METHOD HAS BEEN IN USE AND TESTED FOR MANY YEARS NOW. WHEN PROPERLY DONE, NO OTHER TYPE OF FIN REINFORCEMENT IS NEEDED. NO TIP TO TIP GLASSING, NO INTERNAL GLASS STRIPS OR ANY OTHER TYPE OF REINFORCEMENT. SIMPLY INJECT THE MIXTURE OF CHOPPED FIBERS [CARBON OR KEVLAR] WITH THE EPOXY AND THE BOND IS STRONG ENOUGH TO WITHSTAND ANY FORCES THAT ANY COMMERCIAL MOTOR CAN GENERATE DURING FLIGHT. PERIOD, ENOUGH SAID, IT WORKS! THIS CONFIGURATION HAS BEEN SUCCESSFUL ON ROCKETS AND FLIGHTS UP TO N IMPULSE CLASS MOTORS, AND IS GUARANTEED FOR THE LIFE OF THIS ROCKET!!!

ON TO FIN MOUNTING: FIRST SOME TYPE OF FIN GUIDE IS RECOMMENDED. WE USED A SIMPLE GUIDE DOWNLOADED OFF THE WEB AND MOUNTED ON A ½ THICK SECTION OF SCRAP PLYWOOD. THE 4IN HOLE WAS CUT WITH A JIG SAW AND 1 BY 2 PIECES OF WOOD WERE NAILED ALONG SIDE EACH FIN LINE. A C-CLAMP WILL HOLD THE FINS IN PLACE OR A SIMPLE WEIGHT WEDGING THE FIN TO THE GUIDE WORKS FINE ALSO. THERE ARE MANY WAYS AND TYPES OF JIGS AVAILABLE, A LITTLE RESEARCH WILL YIELD A FUNCTIONAL ONE, OR IF CONFIDENT ENOUGH, EYEBALL IT.



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TIME TO TACK THE FINS ON. SLIDE MM ASSEMBLY INTO AIRFRAME MAKING SURE TO LINE THE NUMBERED SLOTS TO NUMBERED FIN POSITIONS. MIX SOME THICKENED EPOXY, JUST ENOUGH TO "BUTTER" THE ROOT EDGE OF 3 FINS.

JUST ENOUGH IS SPREAD ON ROOT EDGE EVENLY TO TACK THE FIN ON AND INSURE NO LEAKAGE CAN HAPPEN WHEN INJECTING BEGINS.

EPOXY IS SCOOPED UP WITH ONE EDGE OF APPLICATOR AND SPREAD ON EDGE OF FIN, MUCH LIKE BUTTERING TOAST. TAKING CARE NOT TO GET IT ALL OVER SIDES OF FIN. A SMALL DOLLUP OF GLUE WHERE THE FIN WILL MAKE CONTACT WITH THE CENTERING RINGS WILL KEEP INJECTION LEAKAGE FROM HAPPENING HERE. JB WELD WAS USED ONLY FOR ITS DARK COLOR TO AID IN VIEWING PHOTO, ANY

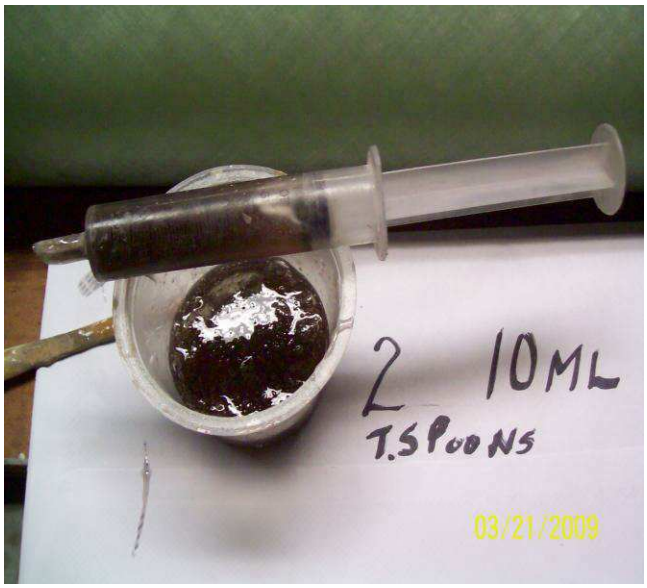
THICKENED EPOXY IS FINE. ONCE FIN EDGE IS ‘’BUTTERED” CAREFULLY PLACE IN PROPER SLOT AND PUSH IN TO SET IN PLACE. REPEAT PROCESS FOR REMAING 2 FINS AND CHECK YOUR ALIGNMENT, CLAMP TO JIG, LET DRY AND CURE.

AIRFRAME MUST NOW BE IN THE HORIZONTAL POSITION TO DO INTERNAL INJECTED FILLETS. USE A ROCKET RACK OR LET FINS HANG OVER EDGE OF COUNTER. CHECK TO MAKE SURE WORK AREA YOU ARE USING IS LEVEL FRONT TO BACK, AND SIDE TO SIDE, OR THE EPOXY WILL NOT FLOW OUT EVENLY. SHIM TO LEVEL IF NEEDED.

TIP:

EPOXY RATIOS FOR THIS BUILD: WEST SYSTEMS 105 RESIN AND 205 HARDENER WERE USED. 10ML SYRINGES FROM WALMARTS PHARMACY HAD THE PLATISTIC TIP CUT AT A 45 DEGREE ANGLE. 2 AND ½ PUMPS OF RESIN AND HARDNER WILL YIELD THE AMOUNT NEEDED FOR 2 FILLETS WITH JUST A TAD LEFT OVER.

EACH FILLET CONSISTS OF 2 and 1/2 SYRINGE FULLS. OR 25ML OF EPOXY… 1 - 10ML SYRINGE FULL, IN THE FRONT
HOLE, AND 1-10ML IN THE REAR. THE REMAININGG 5ML IN EITHER. AMOUNT OF CHOPPED FIBER NEEDED A PILE THE SIZE OF DIME. [SEE PHOTO]……..BE CAREFUL…….MAKE SURE THE HOLES ARE CLEAN, NO SPLINTERS OR FUZZIES THAT CAN CATCH THE FIBERS. DO NOT USE TOO MUCH FIBER OR THE SYRINGE WILL CLOG.



OK MIX ENOUGH EPOXY AND CHOPPED FIBER FOR 2 FILLETS, THIS WILL BE 2 ½ PUMPS IF USING WEST OR SIMILAR SYSTEM. YOU CAN SEE IT DOES NOT TAKE MUCH CHOPPED FIBER TO LOAD THE EPOXY WHEN FINALLY WETTED OUT.AFTER STIRRING,IT IS BEST TO FIRST MIX RESIN AND HARDNER, THEN ADD THE FIBERS AND CONTINUE TO MIX TILL EVEN CONSISTENCY, ABOUT ANOTHER 2 MINUTES.

INJECT 10ML [FULL SYRINGE] INTO EACH OF THE 4 HOLES [2 FOR ONE FIN AND 2 FOR THE OTHER] THERE SHOULD BE 1 MORE FULL SYRINGE OF EPOXY LEFT OVER. DIVIDE IT HALF FOR EACH FILLET.
A LITTLE MORE OR LESS WILL NOT MATTER ON THE LEFT OVER, NOR WETHER DID YOU PUT IT IN THE FRONT OR REAR HOLES.

TIP:

INJECT EPOXY SLOWLY; THERE IS ONLY ½ IN. CLEARANCE BETWEEN THE AIRFRAME AND MM. TUBE. WHEN STICKING THE SYRINGE THROUGH THE HOLE, IT IS EASY TO ALMOST HIT THE MM WITH THE TIP. INJECTING RAPIDLY WILL CAUSE A BIG BACKSPLASH OFF THE MM AND ALL OVER THE INSIDE OF AIRFRAME. TAKE YOUR TIME, YOUR SAVINGS TONS OF IT [TIME] ANYWAY, BY USING THIS METHOD.

NOW TIP THE AIRFRAME UP AT ABOUT A 45 DEGREE ANGLE TO HELP DISPERSE THE EPOXY EVENLY. THEN DOWN ABOUT THE SAME.

IF YOU PEEK INTO THE MOTOR MOUNT TUBE YOU WILL BE ABLE TO SEE IT FLOWING AND HELP GAUGE LENGTH OF TIME TILT IS NEEDED.

PHOTO SHOWS ONE SET OF FILLETS COMPLETED. INTERNAL VIEW.

AFTER YOU HAVE FINISHED INJECTING BOTH FILLETS, MAKE SURE AIRFRAME IS LEVEL TO AID IN GETTING EVEN FILLETS.

LET EPOXY CURE. REPEAT PROCEDURE ON REMAINING SETS OF FINS.

WHILE THE FIN FILLETS ARE DRYING, TIME TO FINISH THE AVIONICS BAY. PLACE THE LARGER BP ON EYE BOLT, MAKING SURE YOU HAVE SANDED SURFACES TO BE GLUED. SPREAD A FEW DROPS OF GLUE THEN ADD THE SMALLER BP. YOU CAN REPEAT ON THE OTHER EYBOLT, OR STACK OTHER LARGE BP, AND SOME GLUE, SMALLER BP AND CLAMP TIGHT WITH A NUT. IF YOU DO ALL 4 ON 1 EYEBOLT……DO NOT GLUE ALL 4 BPS TOGETHER!

LET DRY.

NOW READY TO MARK AND DRILL HOLES FOR TIE RODS. THEY WILL BE ½ IN FROM EDGE OF LARGER BP AND USE ¼ IN BIT.
YOU NEED TO STACK ALL TOGETHER TO GET HOLES TO LINE UP.
WHILE THEY ARE TOGETHER, DRILL 1/8 IN HOLES FOR YOUR EJECTION CHARGE LEADS.[1 OR 2 ON EACH END, DEPENDING ON WHETHER YOU USE 1-2 ALTIMETERS]
THIS SIZE [1/8] IS PERFECT FOR MOST E-MATCH LEADS. IF YOU ARE USING TERMINAL BLOCKS OR OTHER MEANS, SIZE YOUR HOLES ACCORDINGLY TO WIRE GAUGE.

PLACE 1 NUT ON EYEBOLT, FOLLOWED BY 1 WASHER, INSERT THROUGH BP'S ADD 1 WASHER AND NUT. TIGHTEN; YOU CAN PLACE A DROP OF CA ON NUT AND THREADS TO ASSURE THEY WILL NEVER LOOSEN. TAKE THREADED ROD, 1 WASHER AND 1 NUT PLACED ON END LEAVING APROX. ¼ -½ OF THREADS. INSERT THROUGH BP'S AND 1 WASHER AND 1 NUT TIGHTEN AND ADD A DROP OF CA IF DERSIRED. REPEAT FOR OTHER ROD.

TIP: WHEN MOUNTING THE TIE RODS…..IF YOU MOUNT ONE ROD ON THE BP, SO THAT IT IS OFF SET MORE THAN THE OTHER ONE, IT WILL MAKE IT EASIER TO PLACE THE BP ON, WHEN PREPPING ROCKET. THE ONE ROD WILL 'FIND' ONE OF THE HOLES FIRST, MAKING IT EASIER TO LINE UP THE SECOND, RATHER THAN TRYING TO GET BOTH THROUGH THE BP AT THE SAME TIME.

EXTERNAL FILLETS: TAPE OFF 3/8 OFF TUBE UP THE FIN…..AND 3/8 FROM FIN ONTO TUBE FOR FILLETS

YOU WILL NEED A FILLER TO THICKEN EPOXY FOR FILLETS. SEVERAL PRODUCTS WILL WORK, BUT ONE THAT SANDS EASILY WILL MAKE LIFE EASIER. HERE IS WHAT WE USED, WEST 105 RESIN, 205 HARDNER AND 406 FILLER. FIRST MIX RESIN AND HARDNER, THEN BEGIN ADDING FILLER, I ADDED THE AMOUNT SHOWN 6 TIMES, MIXING THOUROUGHLY BEFORE ADDING EACH ADDITIONAL AMOUNT. NO FORMALITY HERE JUST EYEBALL IT!


1 FULL PUMP OF RESIN AND HARDNER WILL DO 3 INDVIDUAL FILLETS, WITH A TAD LEFTOVER FOR GOOF UPS. IF YOUR MIX GETS WARM LIKE MINE STARTED TO…… TRANSFER TO A LARGER CONTAINER TO PREVENT IT FROM FIRING OFF EARLY. MAKE SURE TO GET ANY LUMPS MIXED SMOOTHLY, OR WHEN SANDING TIME COMES, YOU'LL HAVE VOIDS TO FILL BESIDES THE ONES IN YOUR HEAD.

CONSISTANCY SHOULD BE LIKE PEANUT BUTTER AS SHOWN, SO IT WILL STAY PUT WITHOUT SETTLING, SO YOU CAN DO MORE THAN ONE SET AT A TIME IF BRAVE OR CRAZY ENOUGH LIKE SOME OF US.

YOU'RE A WILDMAN NOW, START ACTING LIKE ONE!!!

YOU WILL NEED A DOWEL, PVC PIPE SCRAP, OR IF LIKE ME BORROW THE NEIGHBORS BROOM AND CUT A PIECE OFF THE HANDLE, TO PULL YOUR FILLETS SMOOTH. DON'T CUT OFF TO MUCH OR THEY MIGHT NOTICE AND WON'T LET YOU BORROW IT FOR YOUR NEXT BUILD! ANY DIAMETER BETWEEN ¾ AND 1 IN. WORKS FINE.

CAN'T BE TOO PICKY WHEN IT AIN'T YOURS.

NOW SPREAD SOME MIXTURE INTO FILLET AREA, DON'T OVERDUE IT, IT IS EASIER TO ADD MORE THAN TO REMOVE EXCESS.

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DIPPING YOUR TOOL IN ALCOHOL WILL MAKE IT WORK BETTER ,SMOOTHING THE FILLETS EASIER [YEAH I KNOW,PLEASE NO COMMENTS, JUST KEEPING WORKING] THE TRICK IS NOT TO DO IT IN ONE PULL, BUT EVEN IT OUT FIRST WITH LIGHT PULLS FROM EACH END. THEN ONE LAST PULL WITH SLOW EVEN PRESSURE, NO STOPPING FROM START TO FINISH.

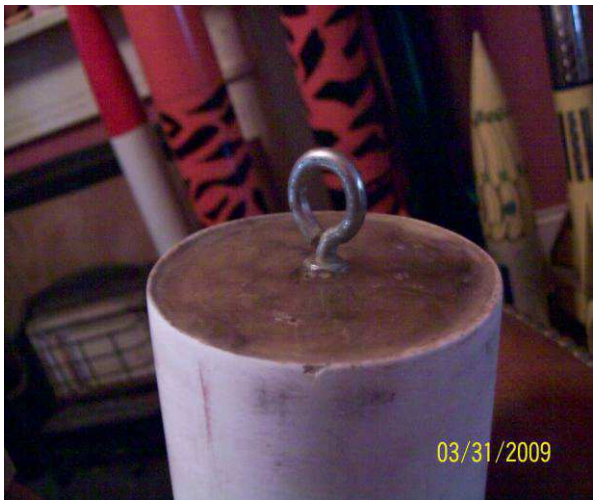
WIPE OFF EXCESS AND KEEP DIPPING THAT TOOL TO MAKE YOUR WORK GO SMOOOOOTHER!

A GOOD AREODYNAMIC FILLET SHOULD HAVE A RADIUS OF AROUND 4-6 % OF THE ROOT LENGTH OF THE FIN.
IF YOU FOLLOWED THE DIRECTIONS SO FAR, YOU SHOULD BE IN THE BALLPARK. REMOVE TAPE BEFORE FULL CURE.

AT LEAST THAT'S WHAT THEY SAID AT THE HOLIDAY INN LAST NIGHT WHEN I CALLED THE FRONT DESK TO ASK.

THE NOSE CONE: 2 WAYS TO INSTALL EYE BOLT AND BULK PLATE. 1. STANDARD 2. FOR USE WITH TRACKERS OR OTHER ELECTRONICS.

1. STANDARD. PLACE NUT THEN WASHER ON EYE BOLT, SLIP THROUGH HOLE IN BP, ADD WASHER AND NUT…..TIGHTEN. A DROP OF CA OR EPOXY MAY BE APPLIED TO INSURE IT WILL NOT LOOSEN.
FIT ASSEMBLY INTO THE NC SHOULDER, SOME SANDING MAY BE REQUIRED TO GET A GOOD FIT. BP SHOULD BE 1/8 BELOW SHOULDER EDGE. POUR SOME EPOXY AROUND EDGE TO SEAL. YOU MAY ADD SOME CARON OR KEVLAR PULP LIKE I DID IF YOU WANT. SET ASIDE TO CURE.



2. FOR TRACKER USE WHERE YOU WANT THE BP REMOVABLE, YOU WILL NEED….. ¼ ROD 22 ½ IN LONG, WITH A WASHER AND 2 NUTS, AND SOME 2 PART FOAM, AND SODA STRAWS OR THIN TUBING.

THESE ARE USER PROVIDED; THEY DO NOT COME WITH KIT.

THE WASHER AND NUTS TO HOLD IT ON ARE PLACED APPROXIMATELY 1-2 INCHES FROM ONE END OF ROD.
PLACED IN NC AND FOAM ADDED TO HOLD IN PLACE. THE WASHER KEEPS THE ROD FROM PULLING OUT DURING USE.
ON TO INSTALLING:
FIRST PREPARE THE ASSEMBLY BY PLACING WASHER AND NUTS ON 1 END OF ROD. THEN MEASURE YOUR TRACKER ANTENNA AND SLIDE A STRAW INTO ANOTHER TO END UP WITH A LENGTH OF TUBE LONG ENOUGH FOR ANTENNA.
TAPE JOINT.
TAPE TUBE TO THREADED ROD AS SHOWN IN PICTURES, KEEPING IT CLOSE TO NC WALL.

TAPE LOWER END OF TUBE SHUT TO PREVENT FOAM FROM ENTERING END OF TUBE, DURING POUR.

WHEN SATISFIED WITH FIT, YOU ARE READY FOR FOAM. DOING THIS IN 2 POURS IS RECOMMENDED TO AID IN JUDGING TOTAL AMOUNT NEEDED WITH OUT MAKING A MESS!.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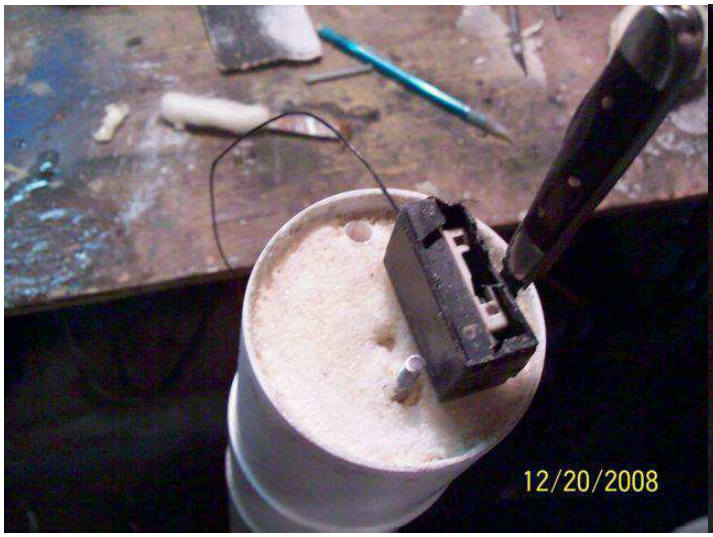
03/22/2009

DRILL ANOTHER ¼ INCH HOLE IN BP FOR THE EYEBOLT NEXT TO CENTER HOLE ALLOWING ENOUGH ROOM FOR WASHER NOT TO INTERFERE AND ATTACH EYEBOLT. PLACE NC INTO PAYLOAD SECTION TO HOLD UPRIGHT DURING FOAM POURS.
INSERT YOUR TRACKER ASSEMBLY INTO NC

MIX FOAM AND DO FIRST POUR. HOLD EVERYTHING IN POSITION, BY PLACING BP IN PLACE WHILE FOAM DRIES. CHECK WHEN DRY 15-20 MINUTES DEPENDING ON AMBIENT TEMPERATURE AND DO SECOND POUR.

WHEN DRY, PLACE TRACKER IN POSITION AND TRACE AROUND THE OUT SIDE. WITH RAZOR BLADE OR EXACTO CUT AND REMOVE FOAM TO ALLOW TRACKER TO FIT FLUSH WHEN BP IS IN PLACE. HOLD IN POSTION WITH WASHER AND NUT DURING FLIGHT.

I BELIEVE IN SHOWING THINGS IN REAL TIME. DURING THIS BUILD THE FOAM SHRUNK SLIGHTLY AWAY FROM SIDES OF NC. NO REAL PROBLEM JUSTS LOOKS BAD, STILL PERFECTLY FUNCTIONAL. SO INCLUDED BELOW ARE PHOTOS FROM WILDMAN 3 WHERE ALL WENT PERFECTLY AND COSMETICALLY LOOKS GREAT. BUT AS WE ALL KNOW WHEN BUILDING ROCKETS SOMETIMES THINGS DON'T GO ACCORDING TO PLAN!!



PLEASE NOTE: DUE TO SMALLER CONE SIZE THE ROD WAS OFFSET TO ALLOW TRACKER TO FIT. THIS CAN BE DONE ON THE 4IN IF YOU ARE USING GPS OR LARGE ELECTRONICS IN THE NC

AFTER EXTERNAL FILLETS CURE, SAND TO SHAPE AND READY FOR PAINT.
YOU MAY HAVE YOUR OWN METHOD OF INSTALLING RAIL BUTTONS, BUT FOR THOSE THAT DON'T, THIS IS A VERY SIMPLE WAY TO MEASURE AND MARK.

LINE UP EDGE OF PAPER BETWEEN TWO FINS. MARK THE CENTER OF SECOND FIN ON PAPER.

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FOLD IN HALF TO MARK. THERE IS YOUR CENTER FOR RAIL BUTTON. MARK ½ FROM REAR OF AIRFRAME OR CENTER ON CR RING. MARK CENTER POINT ON FRONT EDGE OF FINS.

USE SQUARE OR STRAGHT EDGE AND USING PREVIOUS MARKS DRAW A LINE DOWN CENTER OF TUBE UP TO THE ……..TOP CR…… ON MOTOR MOUNT.

THIS IS WHERE THE UPPER RAIL BUTTON WILL BE

. SHINING A LIGHT [OR FLASHLIGHT] THROUGH AIRFRAME WILL MAKE SEEING THE TOP CR VERY EASY. CENTER HOLE ON WOOD CENERTERING RING.

USE 1/8 IN BIT AND DRILL MOUNTING HOLES.
INTALL BUTTONS AND SCREWS.
THE FIT WILL BE TIGHT ENOUGH THAT NO ADHESIVE IS NEEDED. BUT ADD SOME IF YOU MUST BY REMOVING SCREW, ADD CA OR EPOXY IN HOLE AND REMOUNT BUTTONS

THE FINAL STEP IN MM IS TO ADD A POURED FILLET TO THE TOP CR.

TAPE A MIXING CUP TO A STICK OR DOWEL AT AN ANGLE AS SHOWN.

THIS WILL ALLOW YOU TO HOLD THE ROCKET AT THE SAME ANGLE, SLIDE A CUP FULL OF EPOXY INTO THE AIRFRAME AND SIMPLY TWIST THE DOWEL TO DUMP THE EPOXY WITH OUT SLOPPING IT ALL OVER THE INTERIOR.

TAKE YOUR TIME AND TAKE CARE NOT TO GET ANY INTO THE MM TUBE OR MOTOR WON'T FIT. IF YOU DO GOOF, A LITTLE SANDPAPER TAPED TO BROOM HANDLE WILL SAND OFF YOUR MISTAKE.

AN ALTERNATIVE METHOD IS TO DRILL A HOLE SLIGHTLY ABOVE THE CR AND INJECT THE EPOXY. CARE MUST BE TAKEN NOT TO INJECT OVER ZEALOUSLY OR YOU WILL SPLASH EPOXY INTO THE MM. THEN YOU MUST ALSO FILL THE HOLE.

CONGRATULATIONS! YOU'RE DONE! NOW GO AND JUST "FLY IT".

REMEMBER: …..NO ADDED NOSE WEIGHT IS NEEDED FOR ANY COMMERCIAL MOTOR AS BUILT!

AS THIS MANUAL WAS REVIEWED IT WAS NOTED THAT THE ALTIMETER BAY SLED WAS OVERLOOKED. THAT'S WHY IT'S HERE!

ONE CAN SIMPLY USE THE TUBES THAT IGNITERS COME IN WITH AERO-TECH RELOADS, FOR MOUNTING YOUR SLED TO THE TIE RODS, OR YOU CAN USE ARROW SHAFTS OR BRASS THIN WALL TUBING FROM HOBBY SHOPS IF YOU WANT TO GET FANCY.

SIMPLE WAY IS TO PLACE TUBES ON RODS, TACK SLED IN PLACE WITH CA. THEN REMOVE AND FILLET TUBES TO SLED WITH EPOXY.


04/03/2009


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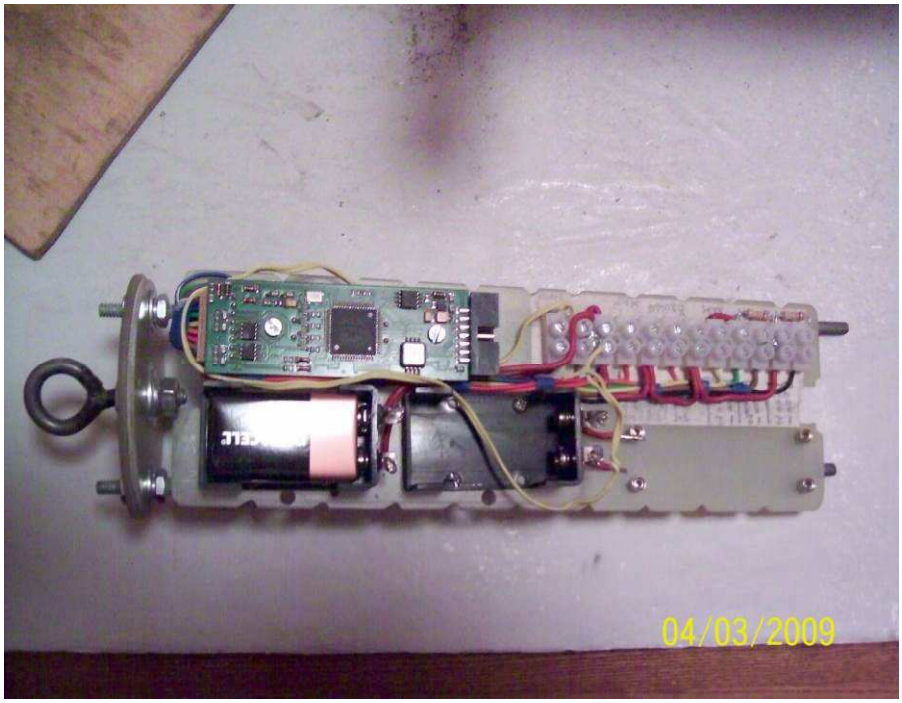
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THE WILDMAN OATH

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.