

BVM *KingCat* ^{V2} COMPOSITE



Length: 94", Wing Span: 80"
Fuel Capacity: 4.8 Liters
For 120 to 180 N Turbine

ASSEMBLY AND OPERATING MANUAL

Version 2

April 2024

Vne 199 MPH

Equip with HV Servos and should not be operated below 7.2 volts

CCU Pressure should be 75 PSI MAX

BVM

3481 state Road 419 • Winter Springs, FL. 32708 USA
tel. 407-327-6333 • fax. 407-327-5020

KingCat-V2

Assembly & Operation Manual

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INTRODUCTION

Thank you for purchasing theKingCat V-2. This model represents the latest in manufacturing technology and completion for the R/C jet enthusiast. The factory has expertly crafted and thoroughly inspected all aspects of the model. Only a small amount of work is required to complete the assembly of your Bandit Evo.

This manual contains instructions for safety, operation and maintenance. It is essential to read and follow all of the instructions and warnings in the manual.

Please read the entire manual to become familiar with the processes and procedures before you begin to assemble your aircraft.

Disclaimer

Bob Violett Models Inc. assumes no liability for the operation and use of these products. The owner and operator of these products should have the necessary experience and exercise common sense. Said owner and operator must have a valid Academy of Model Aeronautics license and a "Turbine Waiver" for operation in the U.S.A.

This is a sophisticated jet model aircraft. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this product in a safe and responsible manner could result in injury or damage to the product or other property.

Notice: Do not use with incompatible components or alter this product in any way outside of the instructions provided by BVM, Inc. The BVM Ultra Bandit Evo has been designed and flight tested around 160-200N class engines. Damage to the aircraft may result from exceeding this thrust limitation.

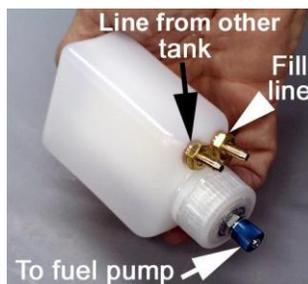
List of BVM supplied items

- Assembly and Operating Manual Package
- Flush Mount Vent Fitting (#PS-SP-0301)
- Central Controller Instructions

Recommended Accessories

You may have some of these products in your shop, but if not, refer to this list.

- 120 to 180N engine of your choice.
- BVMU.A.T. (BVM# 6044)
- BVM Over Flow Tank (BVM# 6037)
- 12 Channel Power Safe Receiver
- (2) 7.4v Batteries 3600 mAh RX
- Safety Wire (BVM# 3030)
- Bavarian Demon Aero Cortex Pro Gyro (#V-DA-BD-Cortex Pro)



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BVM Accessories Used in Demo Model

You may have some of these products in your shop, but if not, refer to this list.

- 120 Class Turbine
- BVM U.A.T. (BVM# 6044)
- BVM Over Flow Tank (BVM# 6037)
- Spektrum 12 Channel Power Safe Receiver
- (2) 7.4v Batteries Pulse 3600 mAh RX (V-PLURX15-36002)
- Bavarian Demon Aero Cortex Pro Gyro (#V-DA-BD-Cortex Pro)

Required Tools

A combination of Metric and SAE hex socket and drivers along with a small standard and Phillips head drivers will be necessary.

List of Adhesives/Lubricants needed Available at BVMJets.com

- Super O-Lube BVM #5779
- Axle Super Lube BVM #5784
- Dry Lube BVM #1947
- Pacer Z-42 # PT42

List of Adhesives/Lubricants not necessarily needed Available at BVMJets.com

- BVM AeroPOxy # 9566
- BVM Vpox # 9575
- BVM Qt Pox # 9580
- Zap-A-Goo # PT12
- BVM Thin Lube for "O" Rings #1945



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UNPACKING

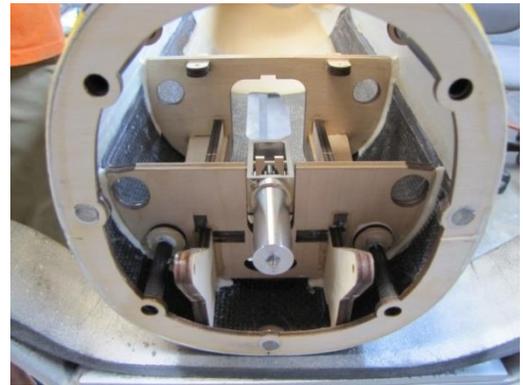
Carefully remove items from the box. Open each package and inspect for shipping damage. After reading this entire manual, get familiar with the major kit components.

Note: Damaged parts must be reported to BVM within 7 days of receiving your kit.

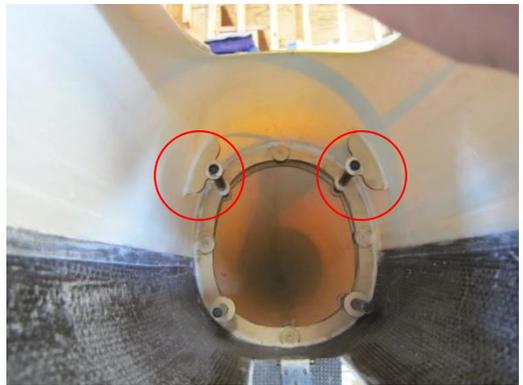
Become familiar with the work completed at the factory. It is important that you inspect and approve this work now.

FRONT FORMERS

- The front former along with the Nose cone formers have been factory installed. The Nose Gear Formers will need to be installed by to builder. (see section after Nose Door Cut Out)



- With the Nose Cone taped in place, Glue the two upper tube supports in place with Vpoxxy or Aeropoxxy.



MAIN GEAR CUT OUT

- Cut out the scribed line for the strut/wheel cavity. (NOTE: The scribed line has been marked with a sharpie for the photo). Repeat other side.



- Test fit the retract. May have to expand parts of the opening. Mark the center of the four screw points for the flexplate. Drill down about .6" with a 3/32 bit. Secure with four M3.5x16 screws per retract.



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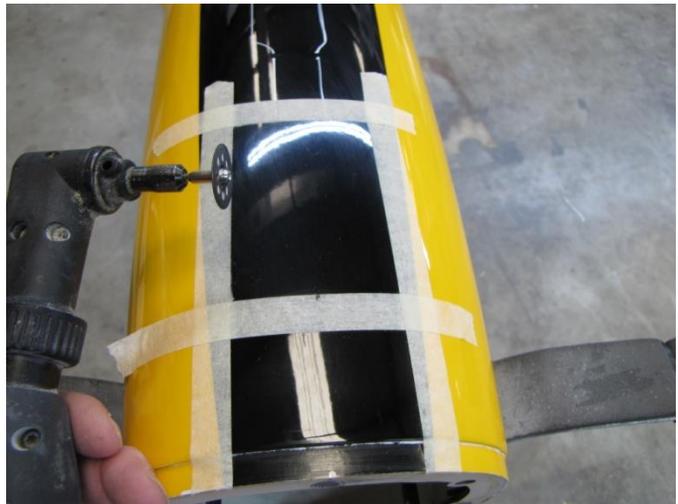
NOSE DOOR CUT OUT

The Nose Door area has been scribed by the factory. There is two parts for the Nose Gear Door. The forward square section that will act as a speed brake when the gear are in the down position, and the rear section which is open to allow the strut and wheel to recess.

- Using 80 grit sandpaper or a scuff board, sand the inside of the fuse where Nose Door and all the formers will be glued.



- Tape the outside edge of the forward speed brake section and carefully cut the lines using a diamond cutting wheel. **Do not discard this part** and make note of the forward end.
- Tape around the strut/wheel section and cut out using the diamond wheel and other Dremel bits that will allow you to make the curved cuts easier. **THIS PART IS NOT REUSED.**

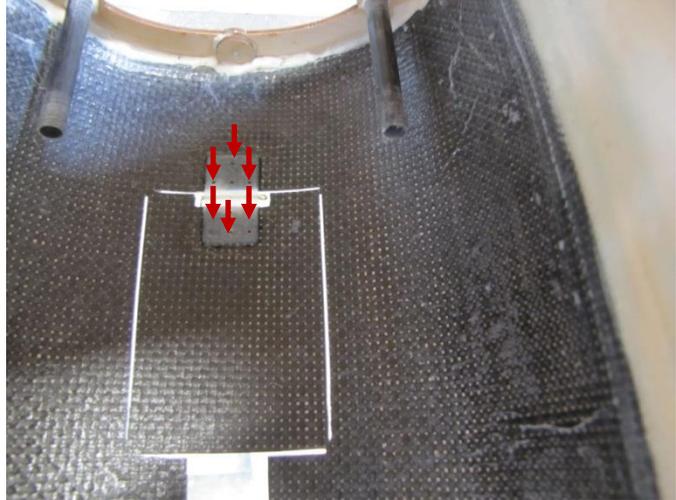


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INSTALL THE NOSE GEAR SPEED BRAKE

- Notch the forward end of the Nose Speed Brake for the Hinge joint. About .2"x.5".
- Tape the door evenly in place on the bottom of the fuse.
- Carefully glue the Hinge in place with medium CA.
- Using a 1/16 drill, drill through the hinge and fuse at the six holes of the hinge at the red arrow locations.



- Install the six #2x3/8 Button Head Screws through the holes to help secure the Speed Brake Hinge in place.

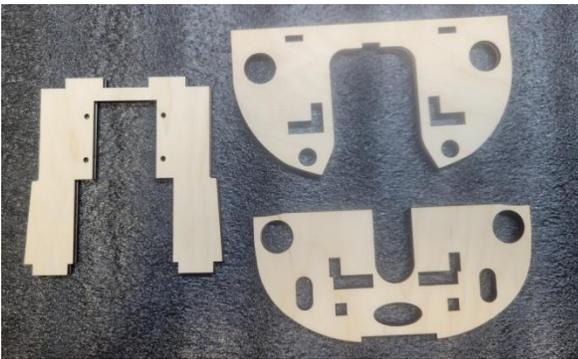
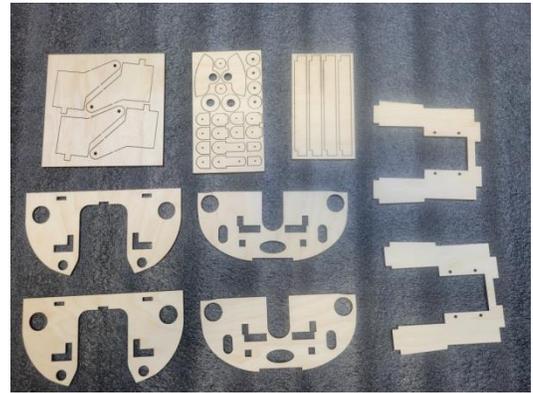


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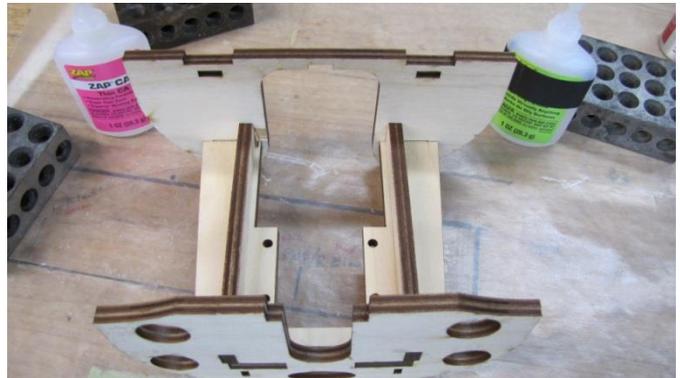
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BUILD THE NOSE GEAR FORMERS

- Using the parts pictured, you will need to build the Nose Gear formers.
(Note; the three Nose Cone formers have been factory installed.)



- Glue together each of the parts that make up the Nose Gear Formers. There are two sets of the straight pieces
- Glue the parts together making sure that the parts are square and snug to each other.
- Next glue together the two sets of tray mount brackets.



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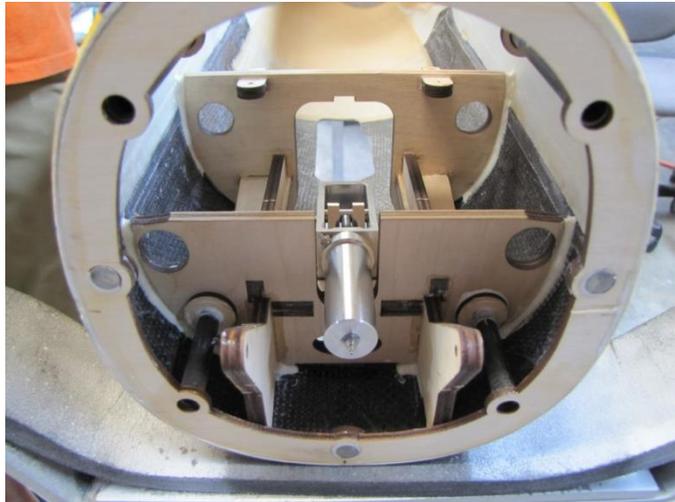
- Attach the tray mount brackets and the two sets of tray securing tabs to the NG Formers



INSTALLING THE NOSE GEAR FORMERS

Place the model in a stand and level the model by the wing tubes.

- Place the two plywood doughnuts on the carbon tubes of the Nose Cone Former. Do not glue yet.
- Install the retract onto the flexplate and formers. Place the formers into the model with the tray mounts securely to the nose former and the fuse bottom as shown.
- Check that the strut is straight down when extended and swings straight back into the pocket. The wheel should be inside the fuse. When satisfied, tack glue with some medium CA and then glue using Vpoxxy or Aeropoxxy as shown in the photo.



Note: It is a good idea to bevel the edges of the formers where they meet the fuse to allow for better glue adhesion Also finger wipe to create a fillet with the glue for a cleaner install..

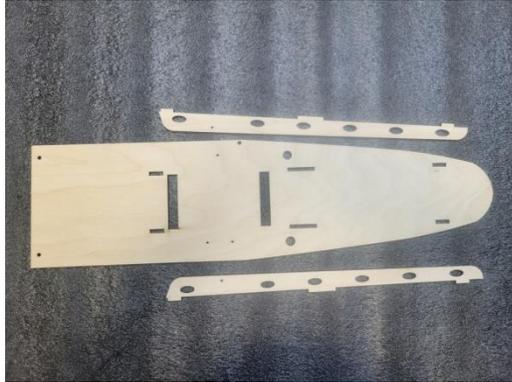
- Glue the two plywood doughnuts to the Carbon Tube and the forward Nose Gear Former as shown in the picture above.

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INSTALLING THE EQUIPMENT TRAYS

Separate each tray and build as shown in the photos below, Tack glue with medium CA, then a fillet of Vpoxxy.



Battery Tray

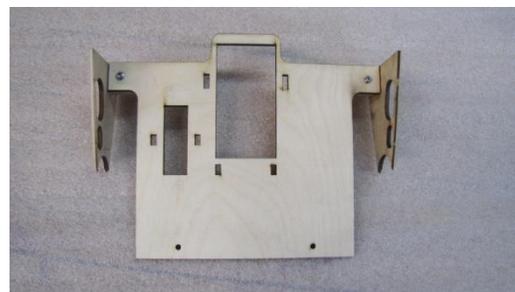


Equipment Tray



UAT Tray

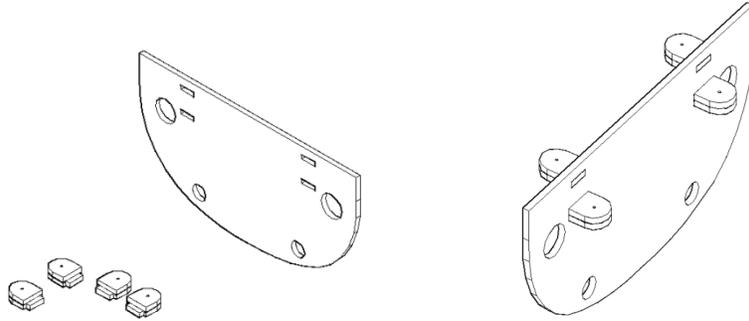
Glue the maple blocks to the side parts and screw them to the UAT tray as shown.



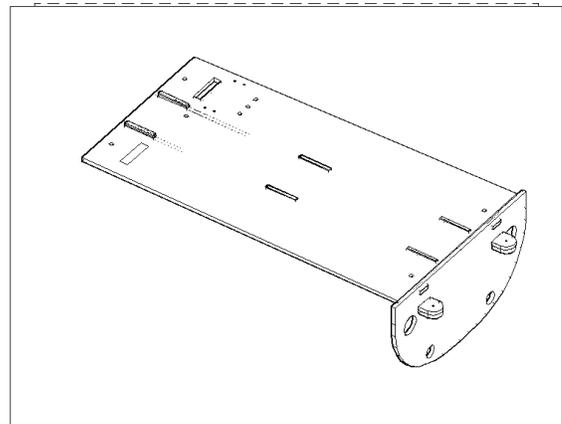
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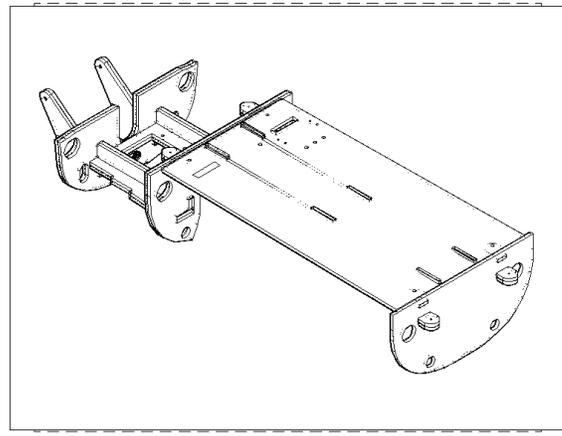
- Build the rear former F2 as shown.



- Screw the Equipment tray to former F2 on the upper two tabs.



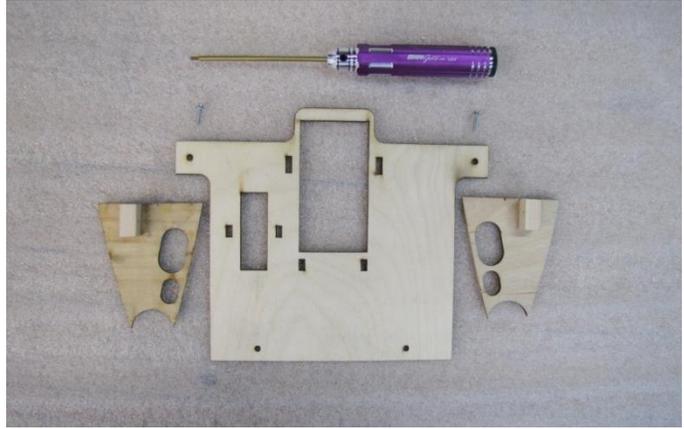
- Now screw the Tray to the Nose Gear Former. Square former F2 to the fuse. Tack glue with medium CA to the fuse. Remove the Equipment tray so you can glue the former on both sides using Vpoxxy or Aeropoxy.



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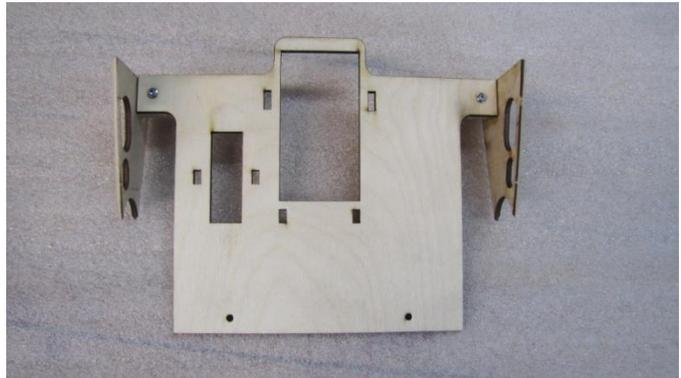
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- Glue the two 3/8x1/2x3/4 maple block tray supports to the bottom side of the tic marks as shown in the photo.
- Using the tray as a guide, drill the blocks using a 1/16 bit for the screws.



- Before glueing in the UAT tray. Bevel the outside edges about 45 deg of the two vertical pieces.

UAT Tray assembled



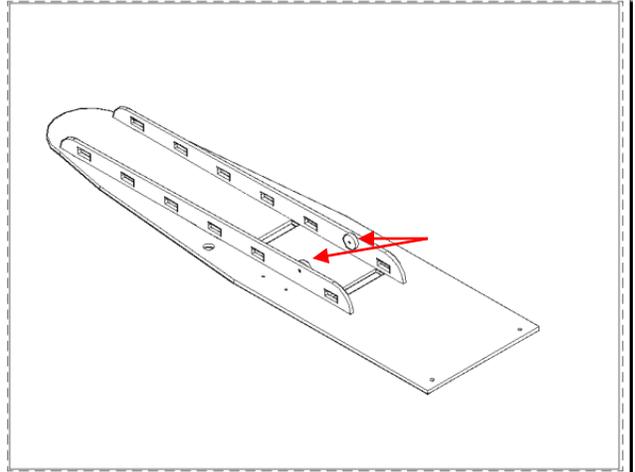
- Screw the UAT Tray to former F2 as a placement guide.
- Tack glue the two vertical pieces to the fuse.
- Remove the tray and glue finish gluing in the two pieces using Vpoxxy or Aeropoxxy.



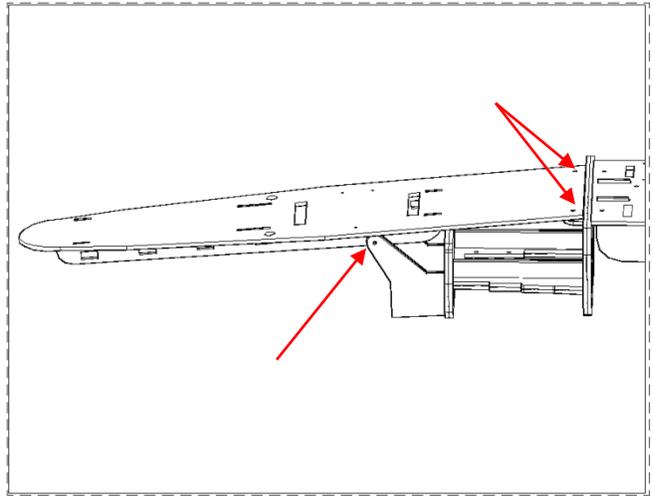
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- Build the Forward Battery tray as shown in the picture. Do not leave out the two small ply doughnuts.



- Install the Forward Battery Tray onto the Nose Gear Former with (4) #2x7/16 screws.



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CANOPY

NOTE: Do one canopy hook at a time, best to start with the forward canopy hook first.

- File the notch in the ply frame as necessary for a snug fit of the hook. Use this same Perma Grit file to scuff the hook flanges for glue adhesion.



- Cut the forward canopy hooks upper portion to look like the photo to allow better fit ,



- To ease the entry of a hook into it's slot, chamfer the leading edges with Perma Grit tools.



- Use the 1/64" x 1/2" x 8" plywood strip (supplied in kit) spanned across the bottom edge of the canopy to set the vertical position of the (4) hooks (Kingcat) or (2) hooks for the Bobcat.
- Tack glue (Zap-A-Gap) one hook at a time to the ply frame. Trial fit to the mating slot in the fuselage flange. Use a Perma Grit file to adjust this slot left, right, fore, and aft as necessary for a perfect canopy fit and easy aft sliding release.



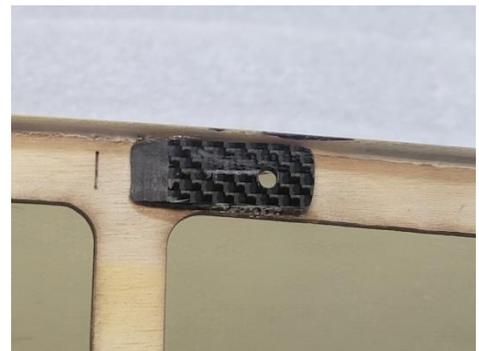
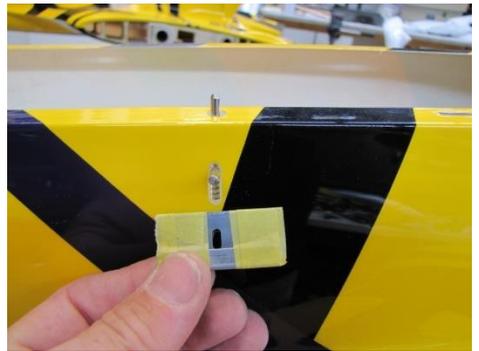
- After all canopy hooks are installed; apply Aero or Vpoxxy to each hook and the ply frame.

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CANOPY LATCH

- Carefully Dremel the marked slot, test fit the Hatch Latch to insure a good fit to the slot. Once satisfied scuff the side of the Hatch Latch that will come in contact with the fuse. Also scuff the fuse with some sandpaper.
- Glue the Hatch Latch using QTpoxy.
- After cure, put tape on both sides of a straight blade to protect the paint.
- Use the blade to trim the plastic back to the fuse.
- Place masking tape at the approximate location where the Hatch Latch pin will strike the canopy frame.
- Use a sharpie or something similar, mark on the tip the hatch pin, place the canopy in position, and let the hatch pin strike the tape a few time to mark the spot.
- Use a 3mm or #31 drill to make a hole at the marked spot.
- Test fit the canopy and Hatch Latch to insure the are working correctly.
- Taper the forward end of the carbon fiber receptacle and glue into place lining up the holes.



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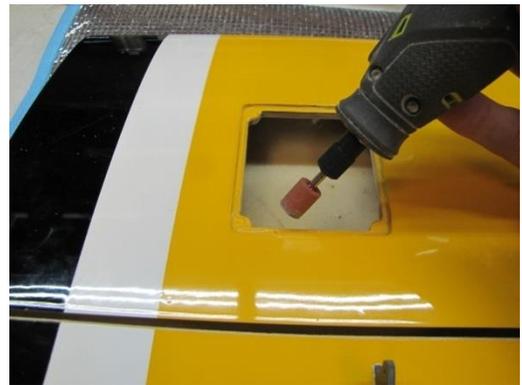
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STABS

- Install the servo in each of the servo plates with the arms neutral at 90 deg of the plate. Make note that the slots are to the inside and aft in the opening.



- Using a Dremel, carefully clean up the outline of the servo pocket.



- Using the servo plate, drill the four corner screw holes with a 1/16 bit, then reinforce the holes with a drop of thin CA.



- Scuff both bottom sides of the elevator control horns to aid in adhesion.

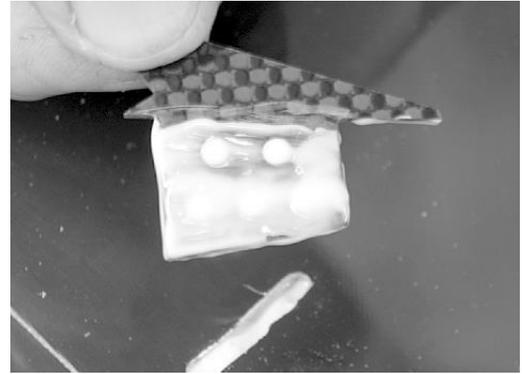
IMPORTANT: The clevis hole in all control horns should be drilled through with a sharp and accurate 1/16" drill bit before installing into surface. Test fit a clevis pin in each of the holes. It should be a snug fit.



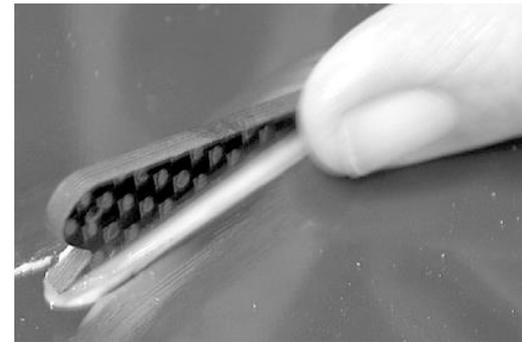
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- Apply Aeropoxy to slot and holes in horn.



- Insert horns and wipe any excess Aeropoxy from surface. Horns should be vertical to surface



- 1/4"x1/4" balsa triangle stock is glued along fwd side of live elevator hinge and stab T.E. spar for added rigidity to hinge line. Check balsa for length and proper fit. Glue may need grinding slightly at ends. Sand off a bit of the 90° edge of the balsa to achieve a better fit to stab T.E. spar. Flex elevators up and glue balsa in place with SLO-ZAP.



See stab cross section on plans to properly orient triangle stock. CAUTION: Do not over flex the elevator hinge, this could cause the top F/G skin to tear away from the foam laminate.

- Elevator linkage should be assembled next. Be sure to use the correct threaded rod size. Solder a threaded clevis to one end of each rod. Thread Sullivan clevis to other end of rod.
- Tape the elevator in the neutral position. Center the servo arm to neutral. Adjust the control linkage to this position.



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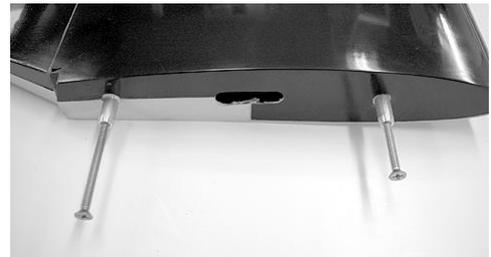
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STAB MOUNTING

- Scuff outside of 4 aluminum stab inserts with sanding board. Insert (4) 6-32x1-3/4" stab bolts into tapered ends of inserts, plug other ends with bits of modeling clay to prevent Aeropoxy from filling inserts when installed in stab.



- Proper depth of insert into stab leaves approx. 1/2" of insert exposed. Just covering 2nd row of knurling. Tapered end allows easy insertion into fin. Note opening for servo leads, match to that in fin.



- It is necessary to drill 1/16" vent holes in the fore and aft arrow shafts in the stab. Drill through one wall only of shafts. This allows air to escape when alum inserts are glued in. Sight through shaft, if open, one hole is sufficient, if plugged in the middle drill two holes, one each per servo pocket. Use a 6" long 1/16" bit. Protect stab skin while working



- Arrow shafts are built into stabs to receive inserts. **IMPORTANT** - Thoroughly scuff inside of arrow shafts to better accept glue.
- Insert Aeropoxy into arrow shaft ends. Apply Aeropoxy to aluminum insert then slide slowly into stab. Remove once to check for areas not covered with glue, then re-insert. Be sure to leave 1/2" of insert outside stab end.



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BOOMS

- Install main carbon tubes through the fuse body. Slide the 2" long carbon tubes onto the main tubes then position the booms onto the short carbon tubes.



- Make ink marks vertical and tangent to tubes as shown. Make 1/4" holes as shown to allow injection of Aeropoxy later. Reach through adjacent opening in boom sides and apply a bit of 5 min epoxy to short carbon tubes and boom sides.



- For the best fit of the stab to the fin, first sand down the mold parting line ridges, then use a piece of #80 grip paper (grit towards stab) to fine adjust the mating parts.
- When all fits properly, remove the stab and booms and inject Aeropoxy into 1/4" hole to secure the carbon tubes to the ply bulkheads inside booms. Apply glue also to carbon tube-to-boom side joints.



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- With booms fitted to fuse, install the alum bushings on outside of fins. Test fit with #6-32x1-3/4" phillips head bolts. Remove, then apply a drop of 5 min epoxy to bushings and insert them into the fin.



- Cut opening on **inside** of fin for servo leads as marked may have been done at BVM.

Wing Anti-Rotation Pins

Refer to plans.

- Use the holes in the booms to guide a sharp 1/4" diameter drill through F/G flange and rib of fuse wing root.
- The (2) 1/4" CF rods serve as anti-rotation pins at the rear of the wings. After the carbon tubes are installed, place the booms onto the fuse body and check that the 1/4" holes in the ribs 1 and 2 align. Adjust holes with a 1/4" drill if necessary. Chamfer the outboard ends of the pins, then glue them into the wing ribs.



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RUDDER SERVO & LINKAGE

- Install the servo in each of the servo plates with the arms neutral at 90 deg of the plate. Make one left and one right. Make the linkage as shown on the plans.

See photo below for orientation.



- Scuff sides of rudder control horns (marked "R"). Follow same procedure as described for elevators to install horns with Aeropoxy



- Tape rudder at neutral, attach clevis to outer hole on servo arm. Adjust pin-to-pin length per plan and attach linkage to rudder horn.

Repeat for opposite side.

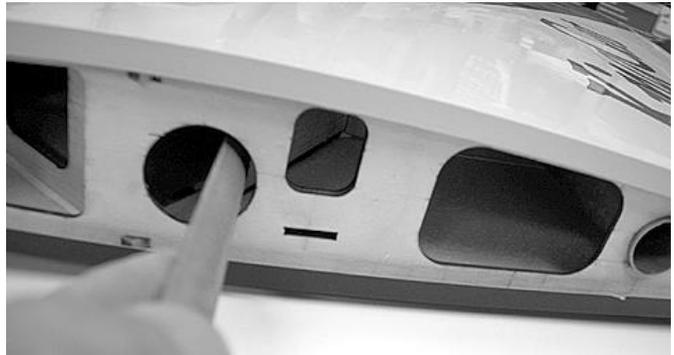


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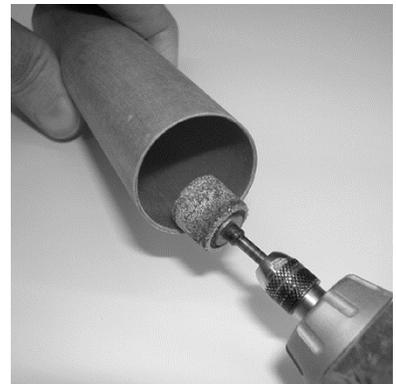
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WING MOUNTING

- Use a tool such as a Perma-Grit #R200 to bevel edge of the balsa spar between the 1st and 2nd ribs inside of wing to accept the 1.26" x 5.8" carbon tube. The tube should have a clearance fit through both ribs and the spar.



- Chamfer inside edge of 1.26" carbon tube with a drum sander to ease entry onto aluminum tube

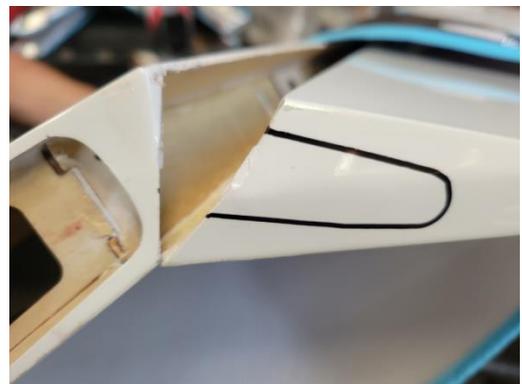


Aluminum tubes and booms should be installed on fuse for the next step

- Trial fit wing onto alum tubes while holding the fwd carbon 1.26" tube about 3/4" out from the end rib of the wing panel. Outboard end of the tube will still engage the 2nd rib. Push wing inboard towards boom, release fingers and fully seat wing panel. There should be perfect alignment of the wing stub and wing panel leading edges.



- The inboard end of the flaps will need to be trimmed to clear the boom. Cut out the u shaped scribed piece of the flap end and also remove the mold flashing.



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- Remove the panel and apply a small amount of 5 min epoxy to the carbon tube (held at 3/4" position) and junctions of #2 rib and balsa/ply spar through holes in #1 rib. A 2" long piece of 3/4" masking tape will assist here.



NOTE: The following step can use an extra set of hands to hold the fuse.

- Install wing panel onto the tubes, holding the carbon tube as long as possible. Pull tape when close to boom then slide carbon tube fully against boom and then smoothly push panel fully against boom.

- Allow the epoxy to cure, then pull the wing. The 1/16" ply spar doubler has a dot that identifies the top. Apply SLO-ZAP to the fwd side and insert through opening in the root rib and glue it to the aft side of the balsa spar.



- Open a hole in the balsa spar roughly close to the size of hole in 1/16" ply doubler. This allows access to glue the carbon tube to the 2nd rib. Start the hole with a long 1/4" drill, enlarge to match opening in ply doubler with Perma-Grit tool R202C.

- Apply Aeropoxy to the intersection of the carbon tube #1 rib, spar, and #2 rib, and 1/16" ply doubler.

- Drill (#43 - .089") and 4-40 tap a hole in the center of the (1/2" face) 3/8"x1/ 2"x1" maple block using the CF tongue as a guide. 4-40x1" SHCS retain tongue - at both ends. Countersink hole on bottom of block to aid bolt insertion.



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- ❑ Use the .089 drill to drill 2 holes 1/2" apart about center of the slot in root rib of wing panel.
- ❑ File notch in rib as necessary for easy entry of the CF tongue.
- ❑ Chamfer both ends of tongue to ease entry into wing, boom and fuse slots.



- ❑ Measure the distance from inboard edge of F/G flange at the wing root to the center of the bolt hole. Apply a piece of masking tape to wing bottom centered on the slot and drill a small pilot hole.



NOTE: The exact location of hole will vary slightly.

- ❑ Screw tongue to the maple block and practice inserting it through the rib openings and into slot in root rib (see plans). Apply 2 drops of SLO-ZAP to inboard face of maple block, insert it as above and hold till cure. Hopefully the CF tongue is free to move after glue set.



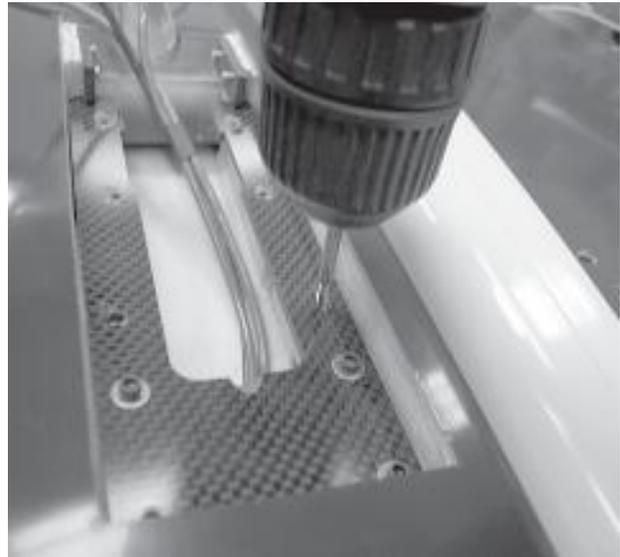
- ❑ Use a pin to find bolt head center and open the hole accordingly to be able to get a hex wrench to it and remove it.
- ❑ Remove the tongue and drill 1/16" holes through end rib and into maple block and install (2) #2x3/8" SMS.

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- ❑ Use a large Perma-Grit file to adjust the slot in the fuse end rib to easily accept the CF tongue. If rib doubler needs more work use a 3/32" carbide rotary cutter.
- ❑ Chamfer the ends of the (4) 4-40x1" bolts to ease alignment and starting of thread.
- ❑ Apply a 4-40 nut to bolt, spin end against a grinding wheel then remove nut to clear threads.
- ❑ Drill clearance hole (1/8") in ply above the flex plate to accept the 4-40 bolt.
- ❑ Install the tongue into wing panel, leave screw loose.
- ❑ Assemble wing onto fuse without the boom to test fit of CF tongue into the fuse rib. Adjust slot as necessary for an easy fit.

NOTE: A slight gap of 1/8" between wing panel and boom may occur. This gap can be minimized by applying pressure on wing panel against boom, while drilling the hole through flex plate and CF tongue. Have a helper hold wing, boom and fuse as tightly together as possible while drilling the #43 hole in the CF tongue.



- ❑ Remove wing, slide boom into position, then wing and hold tightly against boom. Block sand the inboard end of flaps as necessary for the wing to fit up against the boom. Trim flap per photo on pg.26 if necessary.
- ❑ Check also F/G flanges at wing root for interference. Drill through the hole in the flex plate and through the CF tongue with a #43 (.089") bit, then 4-40 tap the hole in tongue. Chamfer end of 4-40x1" SHCS and install. Tighten both bolts for flight. To remove wing panel, loosen the outboard bolt and remove the inner one.



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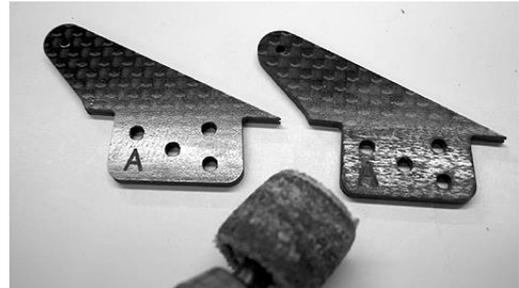
AILERON SERVO'S & LINKAGE

- Prepare the left and right Aileron servos with the servo arms at a 90 deg to the servo plate as shown.



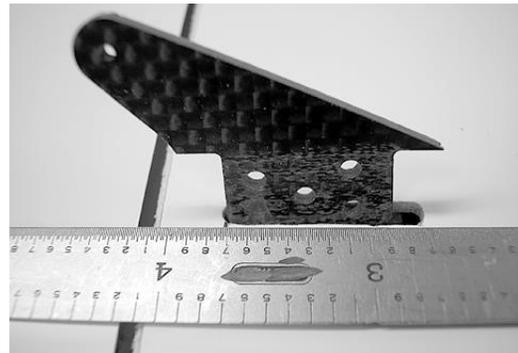
- Scuff glue area of CF aileron horns (marked "A"). Test fit in factory milled slots in ailerons.

IMPORTANT: The clevis hole in **all** control horns should be drilled through with a sharp and accurate 1/16" drill bit **before** installing into surface. Test fit a clevis pin in each of the holes. It should be a snug fit



Fwd end of slot is 3.7" from T.E. of aileron. See plans.

Slot should be 1" long for insertion of CF horn. Refer to photo for method of using a 6" ruler (1/10 grades) and tape to locate dimensions of slot. Tape ruler in place, use 3/32" carbide cutter in Dremel at low rpm to enlarge the factory milled slot to accept the horn (early kits). Use horn to set depth of carbide cutter to avoid damaging aileron top skin. Protect skin adjacent to slot with a few layers of masking tape.



NOTE: Check depth and fwd end of slot (3.7" from T.E. of aileron). See also dimension of plans. Proper and identical location of both aileron horns is important

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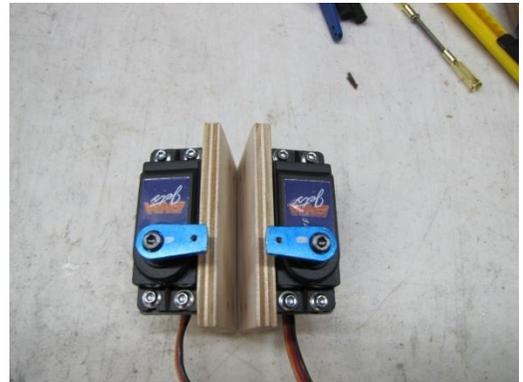
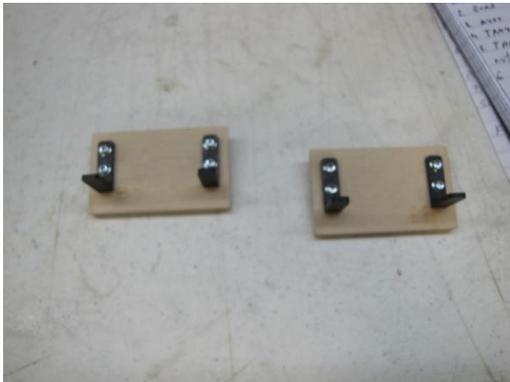
- Use Aeropoxy to glue horns into slots. Inject glue into holes in horns and insert horn to fully seated depth. Wipe excess glue from sides of horn.



- Tape aileron into neutral position and square servo arm to neutral.
- Assemble aileron linkage (same procedures as elevators and rudders). Adjust to length pin-to-pin and attach linkages to inside hole on aileron servo arms.



FLAP SERVOS AND LINKAGE



- Make a left and right assembly. Servo shaft is oriented toward the wing tip
- Assemble flap linkage per plans.
- Mount servos to angle brackets and then to 1/4" servo mount. Grind screw points flush with plywood surface

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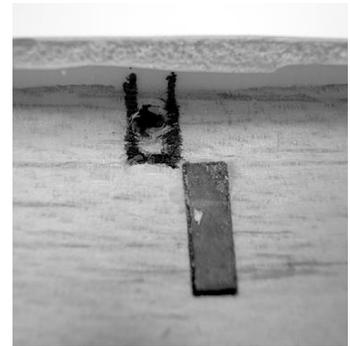
Assembly & Operation Manual

FLAP RIGGING

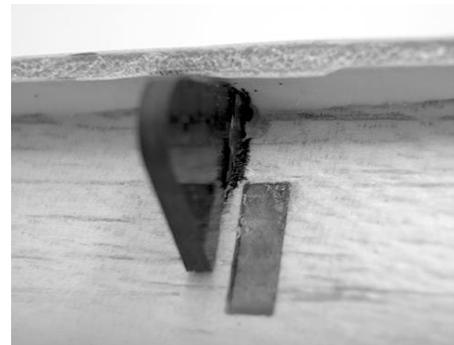
The control horn is mounted into a balsa block built into flap. Location of block is verified in factory by a hole drilled into flap L.E. In addition, outline of horn slot is marked.



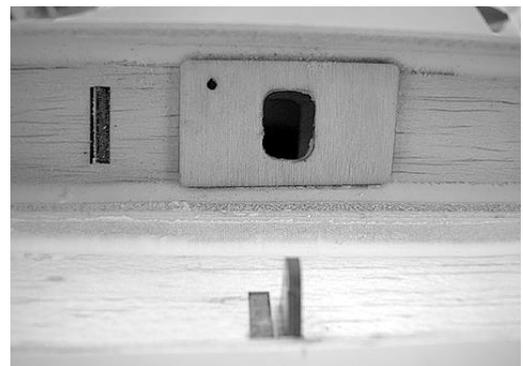
- Use a 3/32" carbide cutter to cut slot for horn as marked. Slot must be parallel to and align with top flap skin. Test fit horn into slot. It should be fully seated against flap L.E.



- Glue flap control horn in with Aeropoxy.



- Flap linkage passes through wing T.E. A 1/16" ply doubler is factory installed to strengthen the wing T.E. at flap linkage location. Enlarge hole in balsa T.E. to match plywood doubler.



- Attach clevis to flap horn through hole in T.E.

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FLAP SERVO (S) SETUP

It is necessary to have both flap servos move in the same direction while the servo shafts face outboard. Methods to achieve this are: use one reverse servo, use a radio that allows assignment of two channels for the flaps or use a "Match Box" device. Minor adjustments to flap travel will be done after servos are installed and linkage attached.



For flaps "up" servo arm is about 45° forward.

For flaps at "take-off" position servo arm is close

For flaps "landing" servo arm is about 45° aft.

See also KingCat Plans Sheet for servo arm and other details.

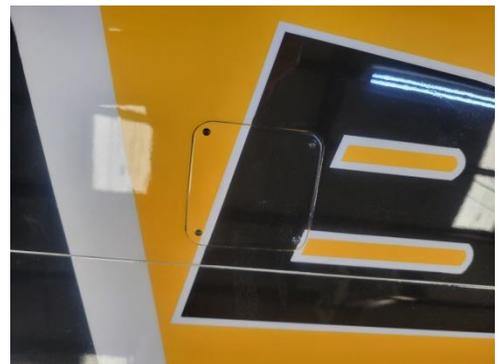
Before gluing the servo and its 1/4" ply mount into the wing pocket, first test fit and align servo drive axis with the slot in the wing T.E.. The fore/aft position is achieved with the servo linkage trial fitted to the flap control horn.

After the above procedures are complete, glue the assembly in place with Aeropoxy. A few drops of slow C.A. in the corners will hold for cure.

FLAP COVER PLATES

NOTE: The Flap cover plate is finished plywood and is 3"x3". They are attached with (4) #2x3/8" BHSMS. The flap servo pockets require plywood triangles to be glued inside corners of pockets (see elevator section). Flap covers require no linkage slots.

- Place the cover in the pocket and drill (4) 1/16" holes through covers into the recess lip and plywood receptors. Attach with (4) #2x3/8 BHSMS.



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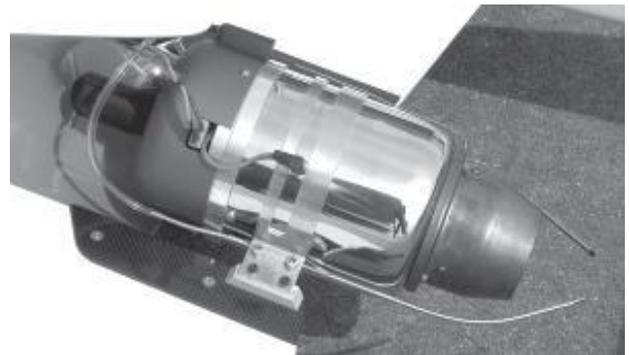
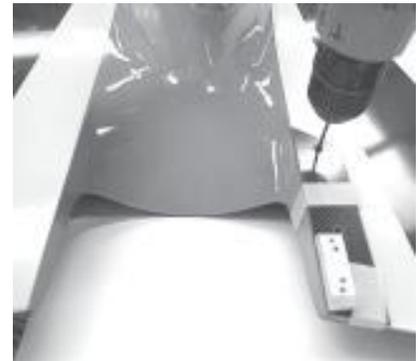
ENGINE MOUNT

- ❑ See plans for alum mount orientation per JetCat or other engines. The JetCat uses the stamped alum band type of mount that comes with the engine. Modify per plans and use upside down. The mounting ears may need to be bent slightly to conform to wing mounts.
- ❑ Use a razor saw to cut the tabs between the CF plates and block sand the edges.
- ❑ Apply a drop of Z-42 Thread Locker to the 4-40x3/8" flat head screws and screw the alum blocks to the top side of plates.



NOTE: Topside of plates have larger 6-32 screw countersinks and bevel on outside edge. Z-42 Thread Locker is for metal-to-metal threads only.

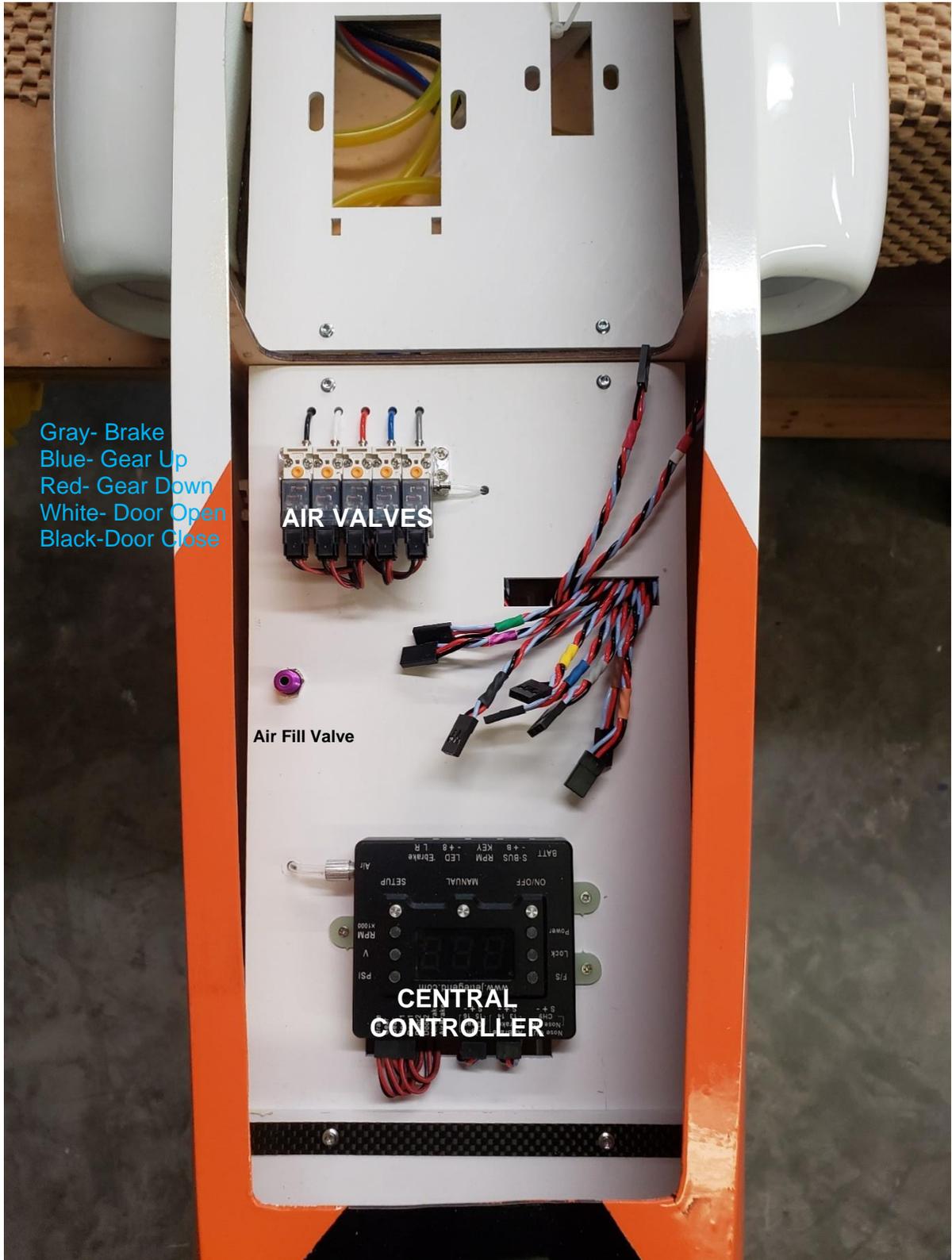
- ❑ Tape the CF plates to top of wing as shown, aligning at the T.E. and inboard edge of engine mount area of wing. Use a #33 (.113) drill to make holes about 1/2" deep and tap 6-32. Put a drop of thin ZAP into threads (hint - apply a drop of CA to an old #11 blade then apply to hole), allow to cure then tap again. The material you are drilling and tapping is resin and maple. Install the 6-32x1/2" phillips flat head screws.
- ❑ Make hole in aft fuse tail cone as marked to route engine fuel and electrical lines. Tie wrap the tubes and lines together such that none can be sucked into the engine inlet.



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EQUIPMENT BOARD LAYOUT



Gray- Brake
Blue- Gear Up
Red- Gear Down
White- Door Open
Black- Door Close

AIR VALVES

Air Fill Valve

CENTRAL CONTROLLER

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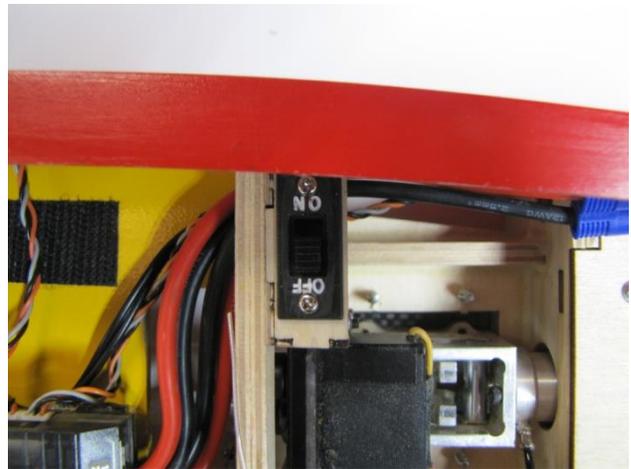
Mounting the RX

- Mount your receiver in the following location.

NOTE: Follow your radio manufacture recommendations for RX mounting.



You can install the Receivers ON/OFF switch in the provided mount and install it in a location easiest for you.



Mounting the Gyro

Use the space aft of the Receiver to mount the Gyro of your choice. Use the 2-sided adhesive tape provided by the Gyro manufacture to adhere the gyro in place. Follow the manufacture guidelines to connect to the receiver.



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Wiring The Model

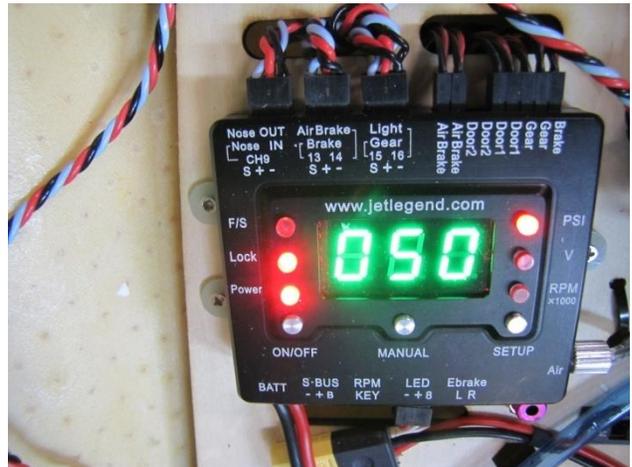
Servo Wire Color Codes		
Throttle		NA
Rudder	Left	Blue
Rudder	Right	Blue/White
Elevator	Left	Green
Elevator	Right	White
Aileron	Left	Orange
Aileron	Right	Yellow
Flap	Left	Brown
Flap	Right	Grey
Brake		Red
Steering		Black
Gear		Red/White



Central Control Unit

Follow the instruction in the Central Control Unit Manual that was provided along with this manual.

NOTE: This has been programmed to Failsafe at 35 PSI.



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FUEL SYSTEM

The fuel system is factory installed. Please read the “Go Fly Fuel System Check” article supplied with your manual package.

Both Main Tanks and Header tank are shown.



NOTE: We use Safety Wire inside the tanks to secure fittings and we use Spring Clamps on the outside.

- Your KinCat will have a factory installed UAT Mount that also holds the Pump.



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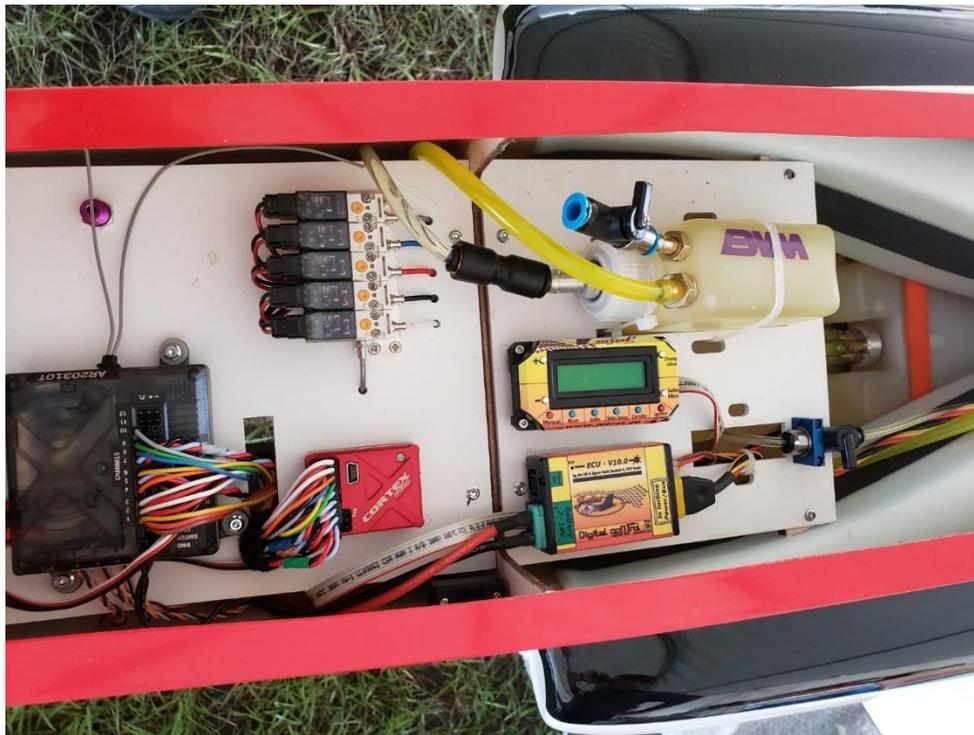
INSTALL ENGINE ASSESSORIES

- Mount the ECU and Fuel Pump on the Equipment Board just forward of the intakes. The ECU battery is mounted on the tray in the nose area.

NOTE: Here are a few examples.



KingTech Installation



JetCat Installation

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Mount RX and Turbine Batteries

- RX Batteries and ECU Battery shown mounted.

NOTE: Woods parts have a catalyzed sealer on them.

The BVM Demo Model balances with this configuration and 6 ounces of ballast.



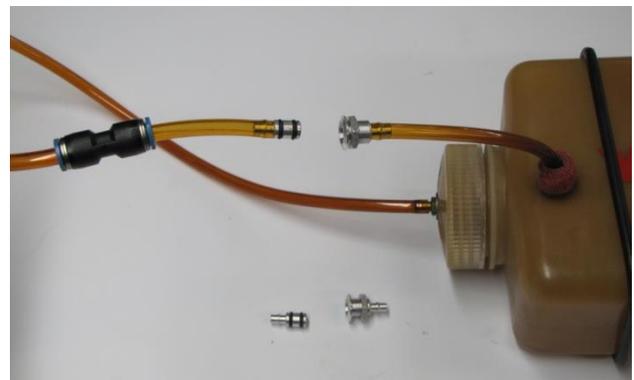
Flush Mount Vent and Overflow System

- A flush mounted vent system is used on the fuelsystem. A magnetic vent plug with red "Remove Before Flight" tag and BVM Overflow/Taxi tank conversion fittings are provided. (Tank not included)



- Install the fittings to your overflow/taxi tank. Use an overflow tank while fueling to prevent spillage and to ensure fuel tanks are full before flight.

Use BVM Overflow tank Part #BVM6037



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Center of Gravity

- Measure aft of the LE at the wing root of fuse 10.7", place a piece of 1/2" wide tape on the fuselage.

Control Surface Deflections

Control	High Rate Travels				
Stab (measured at the stab split.)	Up 2-3/8	Down 2-3/8"			
Aileron (measured at the tip)	Up 1-1/16	Down 7/8"			
Flaps (per flap gauge)	Take Off	Landing			
Rudder (measured at the top)	Inboard 1"	Outboard 1.5"			

Connecting RX wires

The wires are labeled from the factory. Follow the chart below to connect the servos.

DX18 Connection Chart						
RX Port	(1)Throttle	(2)Aileron	(3)Elevator	(4)Rudder	(5)Gear	(6)Aux1
Surface	Throttle	Right Ail	Right Elev	Rudder	Left Flap	Left Ail
RX Port	(7)Aux2	(8)Aux3	(9)Aux4	(10)Aux5	(11)Aux6	(12)Aux7
Surface	Right Flap	Gear	Left Elev	Brake	Nose Steering	Gyro

DX18 and DX18QQ Transmitter File

The BVM Demo models are setup on Spektrum DX18 transmitters.

Important!!! Check the directions of all flight controls before each flight.

Switch/Lever/Trimmer	Channel	Output
Switch A	(8)Aux 3 Gear	Landing Gear, Down is Down
Switch D (Flight Modes)	Flaps	Up is Normal flight Mid Take Off Down is Landing
Switch E	Brakes	Pos 0-off, Pos 1-pulse, Pos 2-stop
L. Trim	Steering Trim/(11)Aux 6	Down for Right Steering Trim Up for Left Steering Trim
Switch F	Aileron Rates	Up (0) is High
Switch G	Gyro	Pos 0- off, Pos 1- low, Pos 2- high
Switch A	Timer	

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First Flight Profile

Make the first flight with the gyro “off”. See also BVM article “Gyro Sense”.

Flight Time

The BVM demo model’s transmitter timer is set for 7 min. On the first flight, land a few minutes early to check fuel consumption. Adjust the flight timer accordingly.

Taxi Test/Engine Run Up

A taxi test should include a radio range check with the engine running at various power levels. Check that the wheel brakes are adequate and the stopping action is without skidding or pulling left or right. Be sure to shake the aircraft and push fore and aft with the engine at half power, this will remove any trapped air bubbles in the fuel system. Check the fuel line to the engine for “no bubbles”.

Takeoff

Begin the takeoff roll by slowly advancing the throttle. Maintain runway center while holding about 1/2 stick up elevator; the Bandit Evo will rotate when it is ready. If there is a cross wind, hold a small amount of aileron into the wind, be prepared with opposite rudder.

Trim

Once in the air, find a medium cruise speed to set the trims. The aircraft should fly straight and level “hands off”. When the landing gear come down, a few clicks of trim may be needed. This can be mixed in, or use flight modes to trim automatically.

Practice Approaches

Save a few minutes at the end of your first flight to practice approaches and go arounds. It is beneficial to become familiar with the low speed handling of the aircraft.

Landing

The landing is like most jets, “power on” during the approach. The KingCat does not stall easily, it is best to land nose high, touching on the main wheels first.

The majority of the first flight should be spent trimming and practicing for the first landing. Save the aerobatics and air show stuff for later flights.

BVM is synonymous with “Success Jets.” It is very important to us that you are successful with our products. This extensive manual reflects our sincerity. As always, your comments and suggestions on BVM products are appreciated.

BOB VIOLETT MODELS INC.
3481 State Road 419 • Winter Springs, Florida 32708 USA
tel 407-327-6333 • fax 407-327-5020 •
www.bvmjets.com