



30cc Slick 540

Thank you for purchasing a Redwing RC aircraft. We have worked hard to provide you with a high quality and great flying aircraft. Please read through the manual before starting the assembly. If you have any questions about your aircraft you can E-mail us info@redwingrc.com or call us at 636-600-8735.

Thank you

Redwing RC

Redwing RC assumes no liability for any damage resulting from the user assembled product. By the act of using the assembled product, the user accepts all resulting liability. The purchaser or designated person flying this aircraft accepts all liability associated with the use of this product. This product is sold as is and the purchaser accepts any and all responsibility for structural or mechanical failures. Because of the stresses that are associated with aerobatic flight there is no warranty provided and Redwing RC cannot be held liable.

WARNING:

Radio Control Model aircraft are not toys. If improperly used, it can cause serious injury or death. Fly only in open areas, and at AMA (*Academy of Model Aeronautics*) approved flying sites. The AMA Safety Code must be followed. Follow all instructions included with your plane, radio, and engine. The purchaser accepts all liabilities.

SPECIFICATIONS:

Wingspan – 75”
Length - 72”
Wing area - 1100 sq. inches
Weight - 10.5-11 pounds
Engine - 30cc-36cc

Miscellaneous Needed:

Drill and Drill Bits
Rotary Tool & Sanding Drum
Various Hand tools
Thread locker
Hobby Knife
Crimping tool
30-Minute Epoxy

Additional Items Needed:

30cc to 36cc single cylinder engine
Factory Muffler or Canister Muffler
Propeller (Engine manufacturer recommended)
3 ½” Spinner and a appropriate sized spinner bolt

Radio 6 channel Minimum

1- 2.4 GHz receiver
2- Elevator servos 200 ounce of torque (minimum)
2- Aileron servos 200 ounce of torque (minimum)
1- Rudder servo 200 ounce of torque (minimum)
1- Throttle servo
1- Receiver battery pack (1600 mAH minimum)
1- Ignition battery 1100 to 1600 mAH
1 or 2 - Voltage Regulators (if needed)

Servo extensions required:

Ailerons: 2 x 6"-12"

Elevators: 2 x 24"

Rudder: Not required

Throttle: 12"

Switches: 1 for receiver, & 1 for ignition.

Unpacking:

Carefully remove the aircraft from the boxes and inspect for any damage. If you have any damage it must be reported to the freight company immediately. Redwing RC is not responsible for any shipping damage. You must contact the carrier. We will work with the purchaser and the freight company to resolve any issues. However a claim must be filed before we can begin the process.

Re-shrink the Covering:

Before doing any assembly or installation it is very important to re-shrink or re-tighten the already applied covering. Due to the shipping process, heat and humidity changes from different

climates, the covering may become loose and wrinkle in the sun. If you take the time to re-tighten the covering, you will be rewarded with a long lasting and beautiful airplane. Using your covering iron with a soft sock, gently apply pressure and rub in the covering. If any bubbles occur, your iron may be too hot. Reduce heat and work slowly. You should be able to just see the wood grain under the covering when proper adhesion has occurred. Go over any and all seams and color overlaps with your iron to assure good adhesion of the covering to the wood. Be careful; don't apply too much heat to one area for long periods of time. This may cause the trim colors to over shrink and pull away leaving gaps on the color lines. The trim stripes are especially vulnerable to over shrinking.

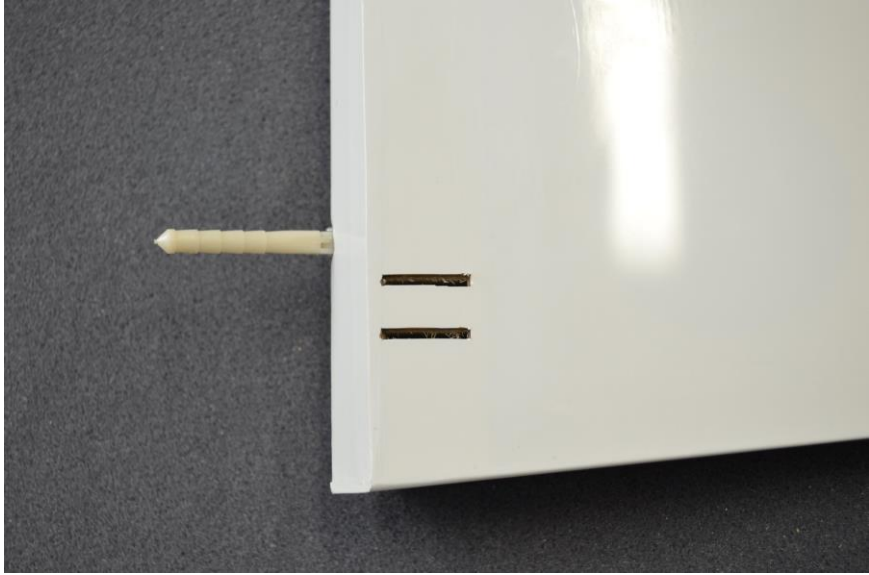
Getting Started:

Using a hobby knife or soldering iron, carefully remove the covering from the areas shown below.









Control Horn Installation:



(Elevator Hardware Bag)



(Rudder Hardware Bag)



(Wing Hardware Bag)

The control horns come pre-assembled and pre-painted. Use 30 minute epoxy to glue the control horns in place.

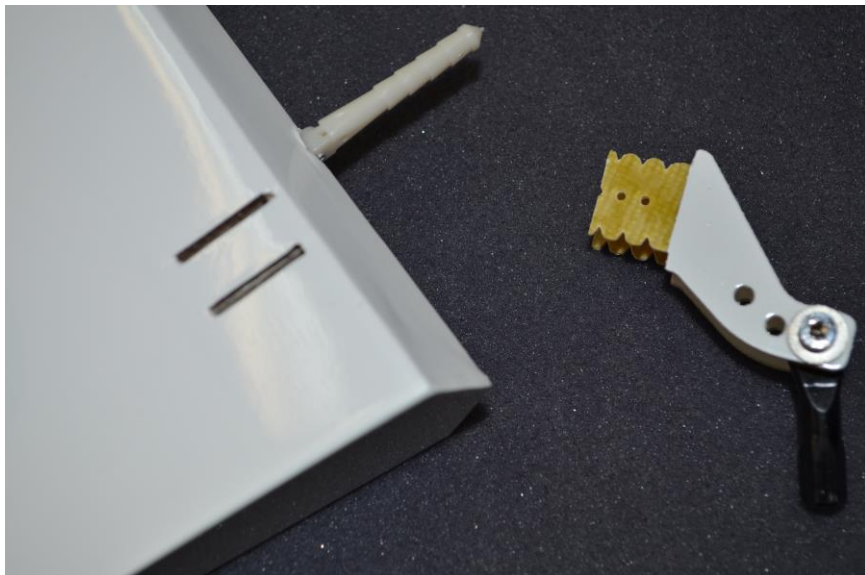


(Elevator Control Horn)



(Elevator Control Horn Installed)

The rudder control horns need 1/8" trimmed off of the bottom of each control horn so they don't hit inside the rudder.



(Rudder Control Horn Trimmed)

Landing Gear Installation:



(Landing Gear Hardware Pack)

Install the axles on the Carbon Fiber Landing gear as shown.



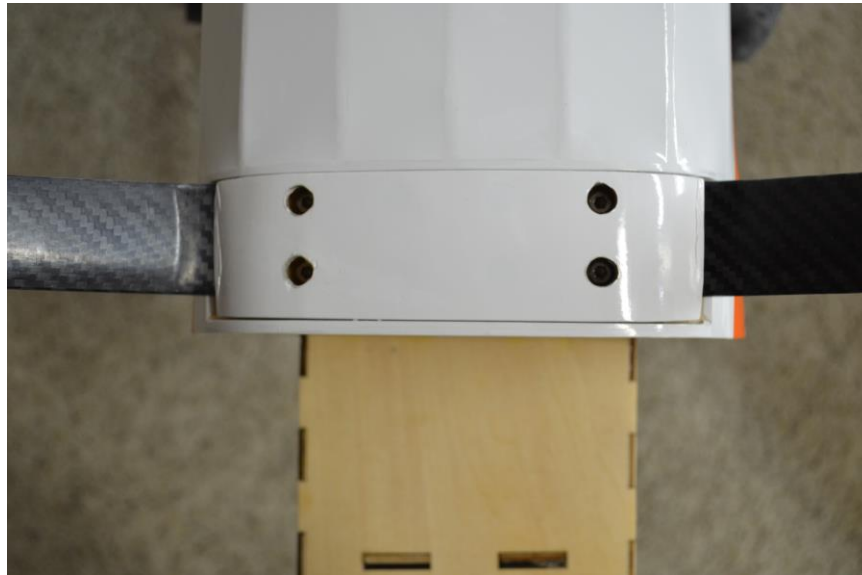


(Landing Gear Mounting Hardware)

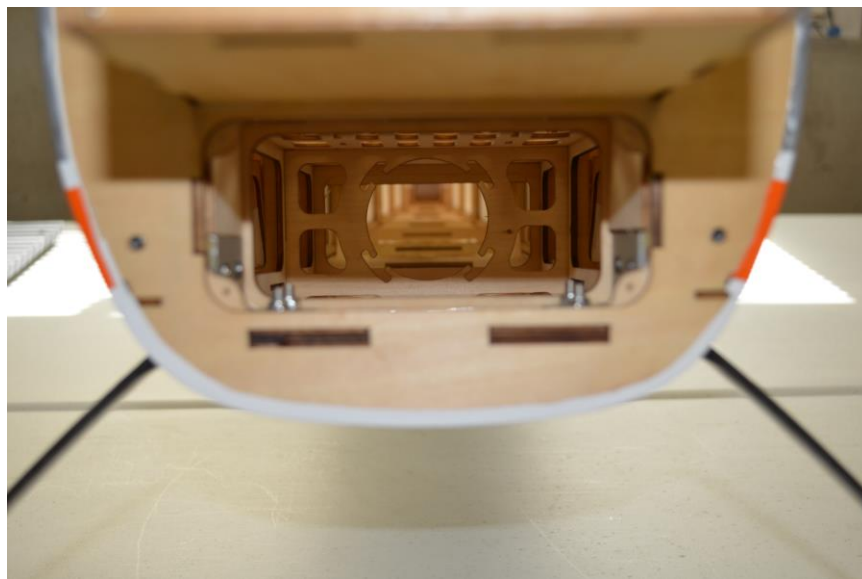


(Landing Gear Cover)

Place the flat washers on each of the four socket head cap screws. These screws go through the holes in the landing gear cover and then through the holes in the landing gear. The landing gear is then secured in place by installing the four locknuts in the fuselage.



(Landing Gear Installed)

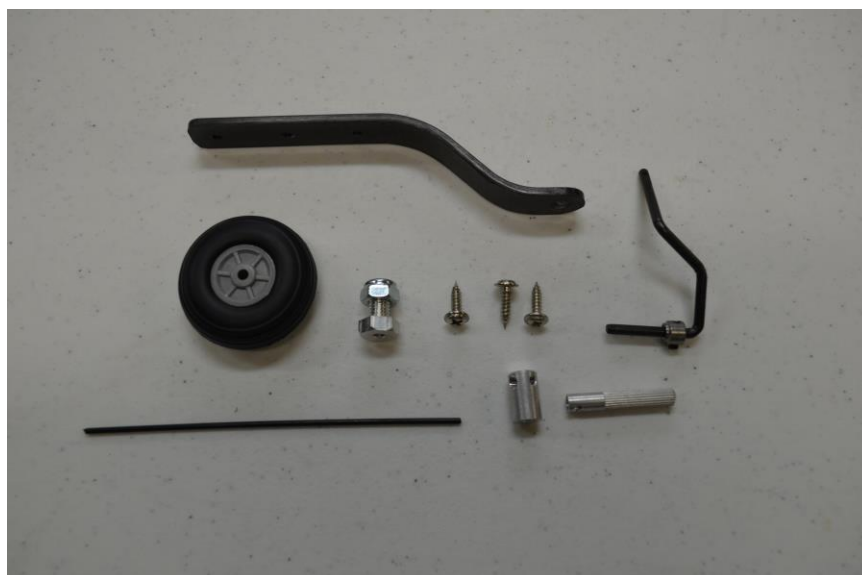


(Lock Nuts installed inside fuse)

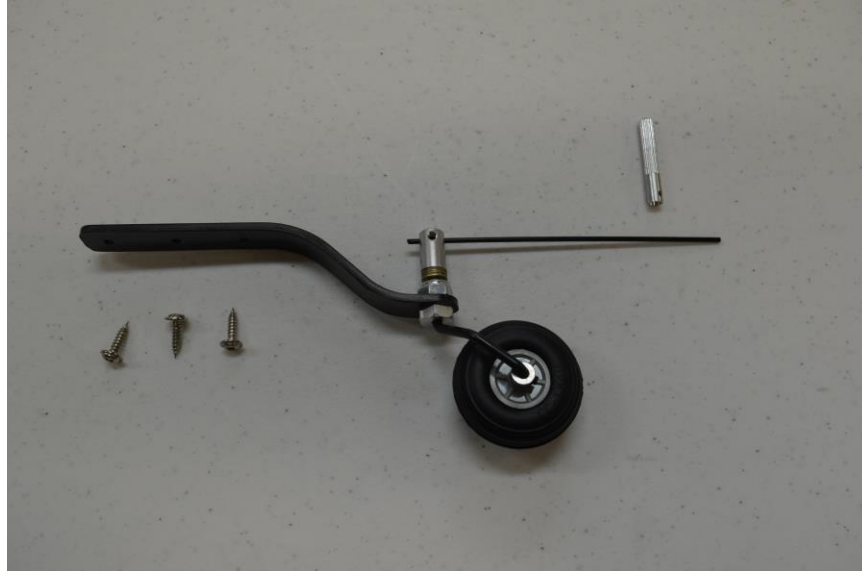
Tail wheel Bracket Installation:



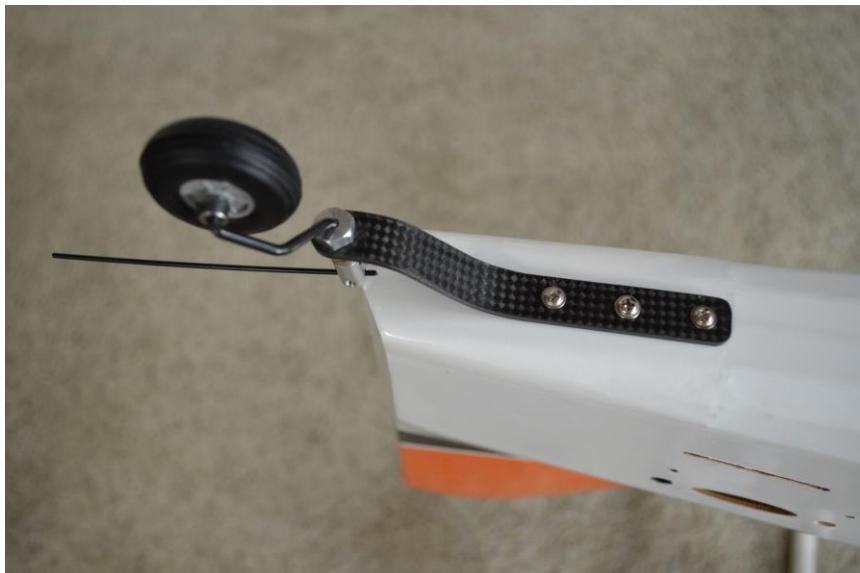
(Tail Wheel Assembly)



Assemble the tail wheel bracket as shown.

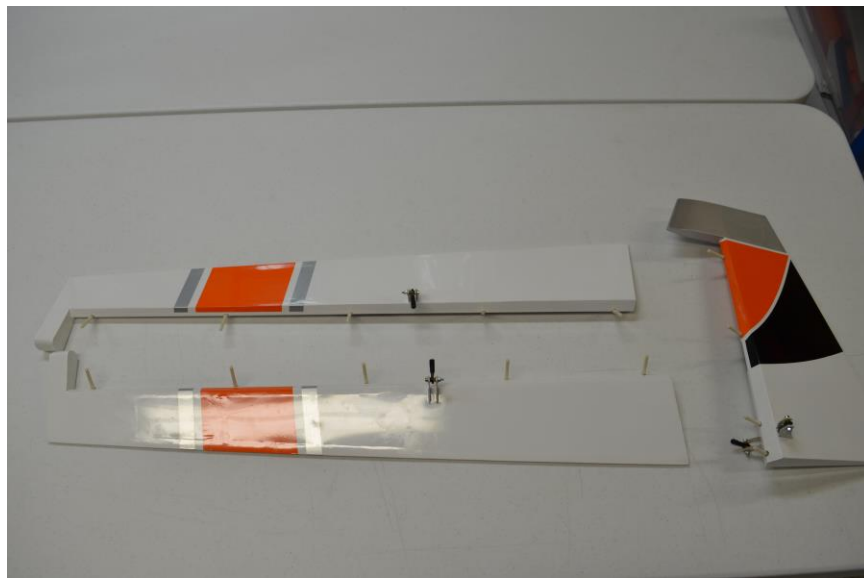


Install the tail wheel assembly on the fuselage. Make sure the bracket is centered on the bottom of the fuselage.



Hinging the Control Surfaces:

30 minute epoxy is used to glue the hinges in place in the control surfaces. Be careful to not get any epoxy in the hinge joint.



Once the epoxy has fully cured the control surfaces can be glued in place on the airframe. Masking tape is used to hold the control surface in place while the epoxy cures. Paper Towels and rubbing alcohol can be used to clean up any excess epoxy.



Before gluing the rudder in place on the fuselage install the tail wheel tiller arm mount in the rudder. Drill a 3/16" hole located 2 1/2" from the hinge line. The mount is centered on the rudder. Glue the mount in place with 5 minute epoxy.





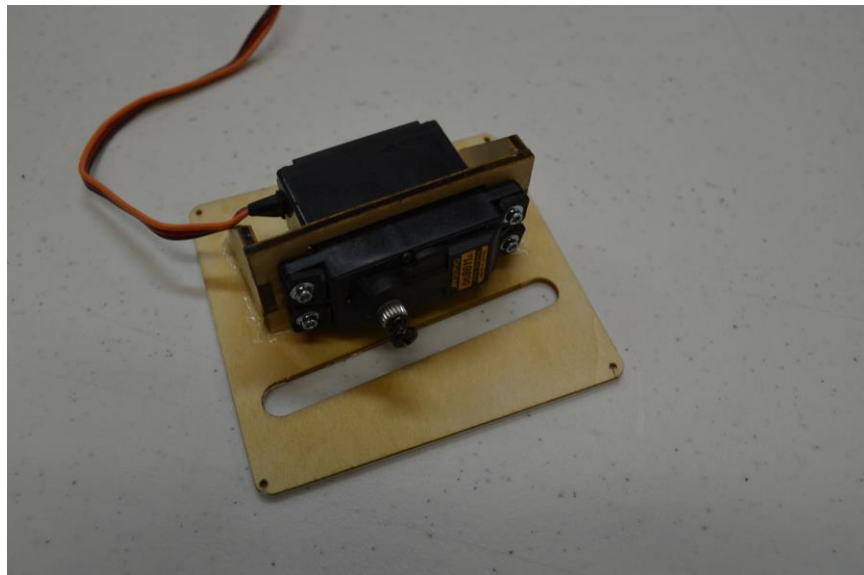
(Rudder Installed)

Aileron Servo Installation:





(Aileron Servo Mount)



Attach a 6"-12" servo extension to each aileron servo. Place a servo safety clip over the connectors. Use servo screws to mount the servo in the servo mount. Install your preferred servo arms on the aileron servo. Included with the aircraft are carbon fiber servo arms that bolt on to your existing servo arms. You may also

choose aluminum servo arms. Make sure to apply medium thread locker to the servo screw.



(Included Servo Arms)



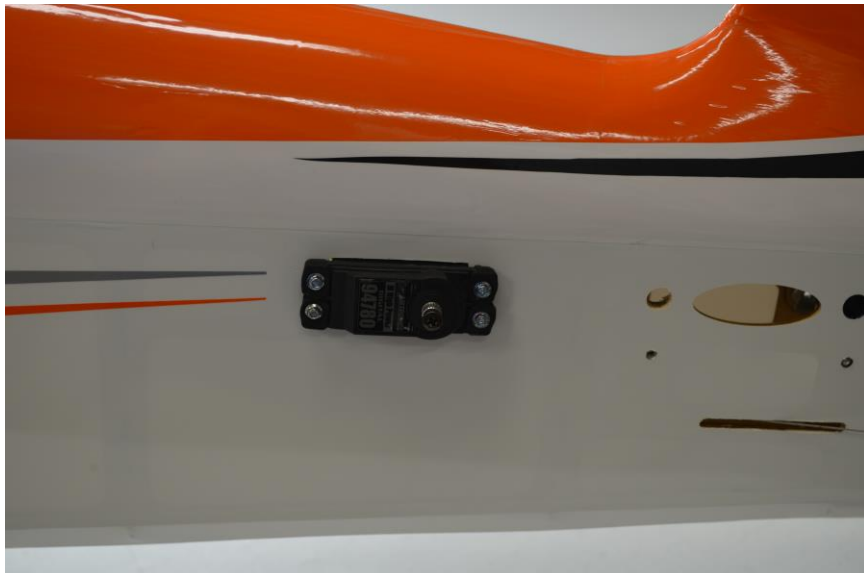
(Aileron Servo Installed)

Connect the pushrods as shown. The pushrods are right hand thread on one end and reverse threaded on the other. This allows for easy pushrod length adjustment.



Elevator Servo Installation:

Attach a 24" servo extension to each elevator servo. Place a servo safety clip over the connectors. Route the servo extension through the fuselage to the equipment tray. Use servo screws to mount the servo in the servo mount. The servos output shaft faces the rear of the aircraft. Install your preferred servo arms on the elevator servo. Make sure to apply medium thread locker to the servo screw.



Rudder Servo Installation:

Install the rudder servo in the fuselage. The servos output shaft faces toward the front of the aircraft. Use servo screws to secure the servo in the servo mount. Install a 3"-4" double servo arm on the rudder servo. Make sure to apply medium thread locker to the servo screw.



Rudder Pull-Pull Cable Installation:

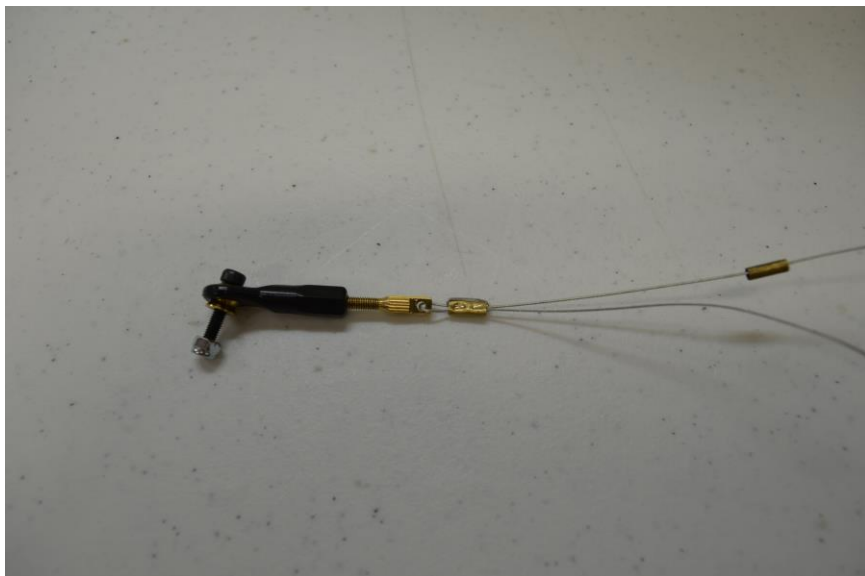
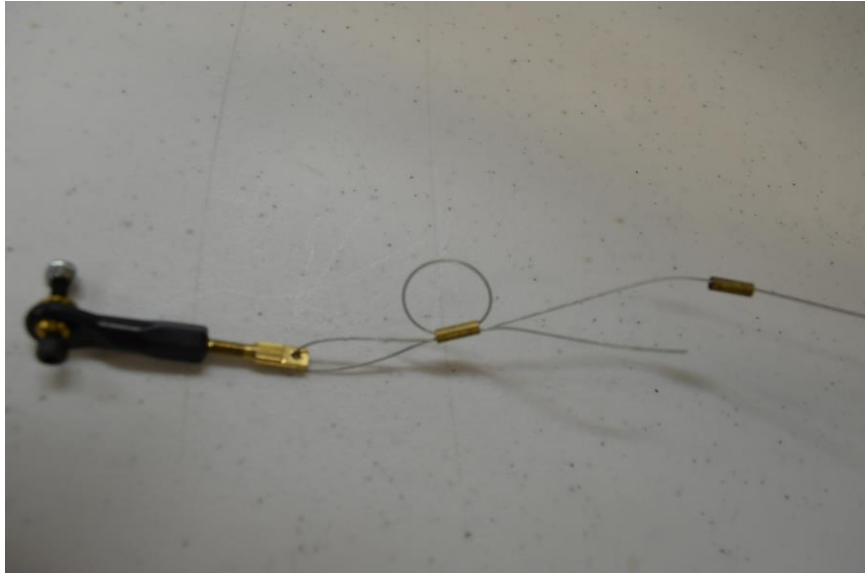
Run the pull-pull cables through the fuselage, the cables exit at the rear of the fuselage. The cables cross inside the fuselage.

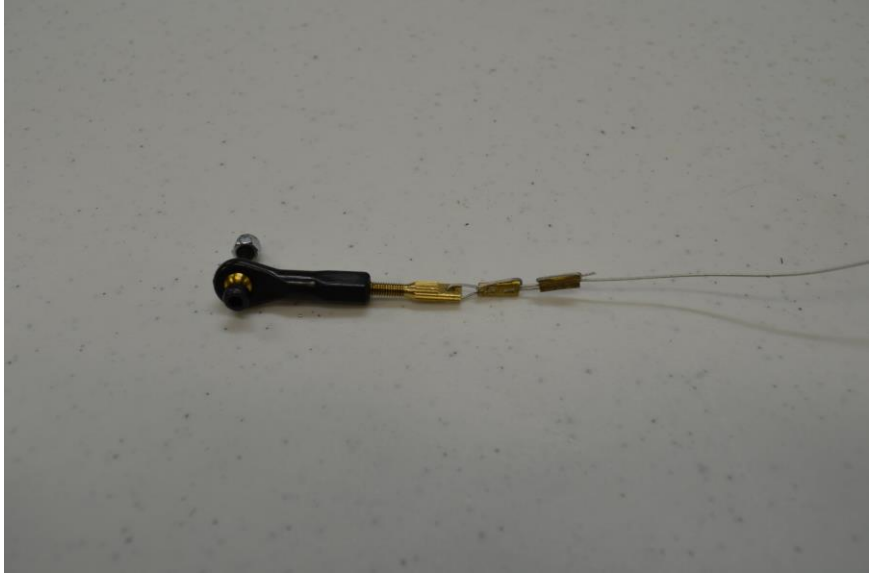


Rudder Pull-Pull Cable Assembly:



Assemble the pull-pull cables as shown. Use a crimping tool to secure the cables.







The cables should not have any slack in them. They should be tight, but not guitar string tight. Re-check the cables after the first few flights, they may stretch slightly and need adjusting.

Horizontal Stab Installation:

The horizontal stabilizers slide onto the carbon fiber tail tube, two socket head cap screws, rubber washers, and flat washers secure them in place. Apply medium thread locker to the screws.





Elevator Pushrod Installation:

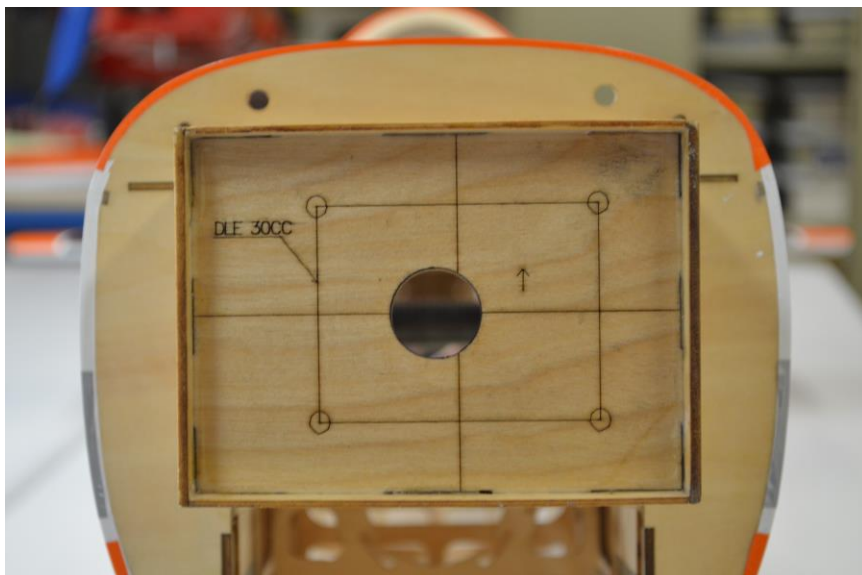
Connect the pushrods as shown. The pushrods are right hand thread on one end and reverse threaded on the other. This allows for easy pushrod length adjustment. Apply medium thread locker to the servo screw.





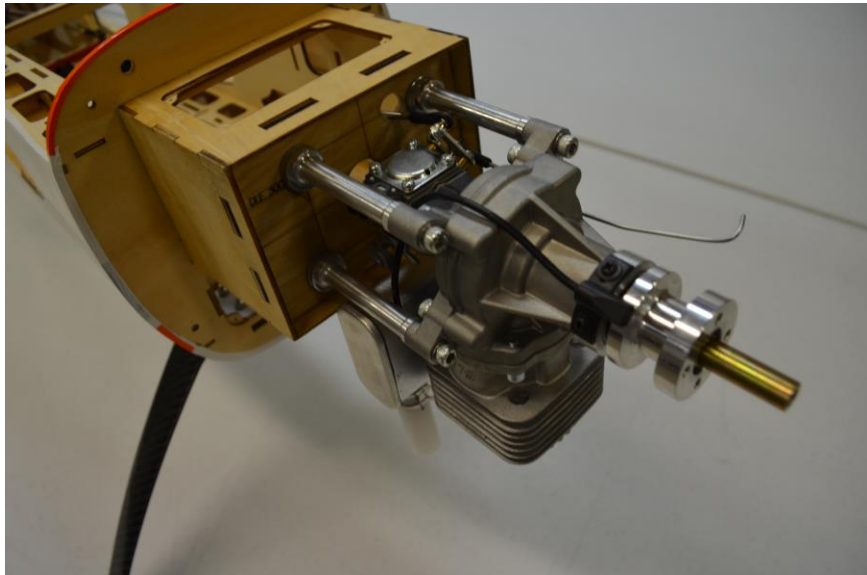
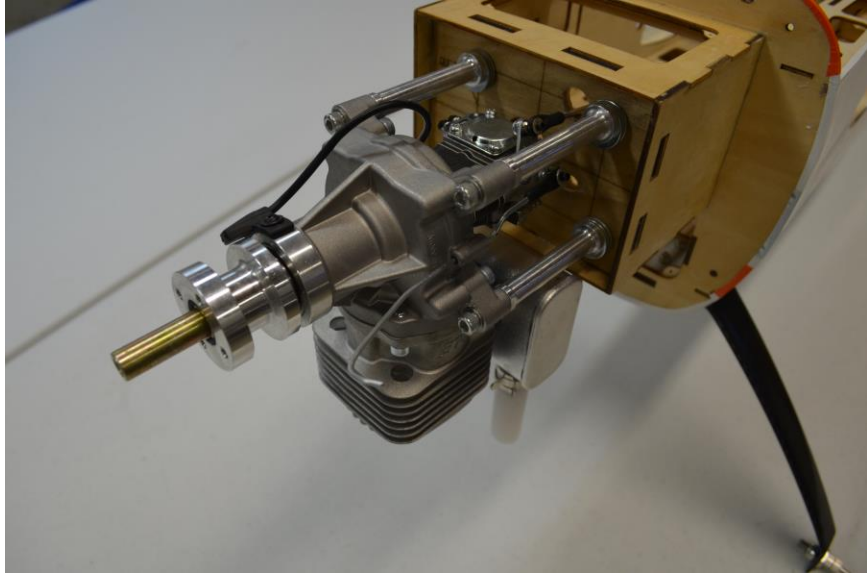
Engine Installation:

The firewall is pre-marked for a DLE-30. If using a different engine; tape or clamp the engine mounting template in place on the firewall and drill the four holes for your engine.

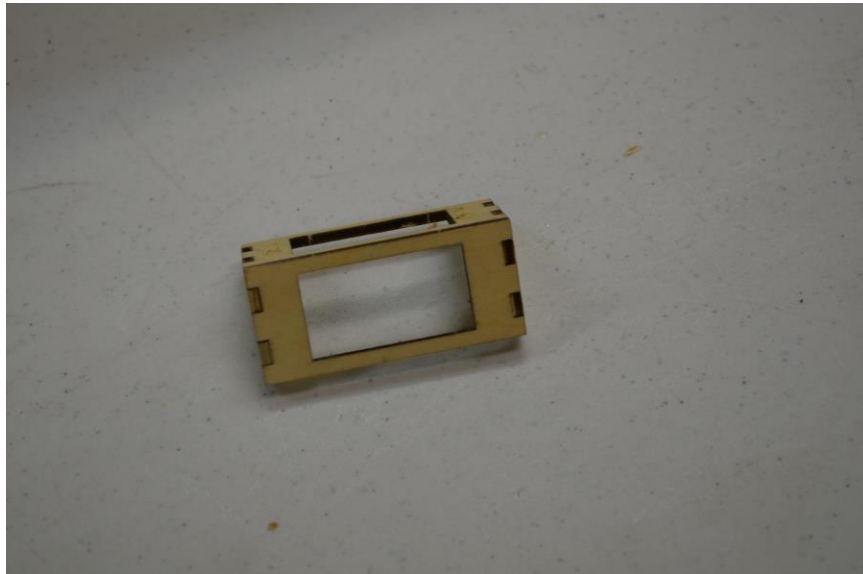


The spacing from the firewall to the front of the cowling is $6 \frac{3}{8}$ ". We spaced our engine out to $6 \frac{1}{2}$ " to provide for a nice cowling to spinner fit. Select standoffs that provide the necessary spacing for your engine. Flat washers can be used between the standoffs and firewall to make slight adjustments. Apply medium thread locker to the bolts.





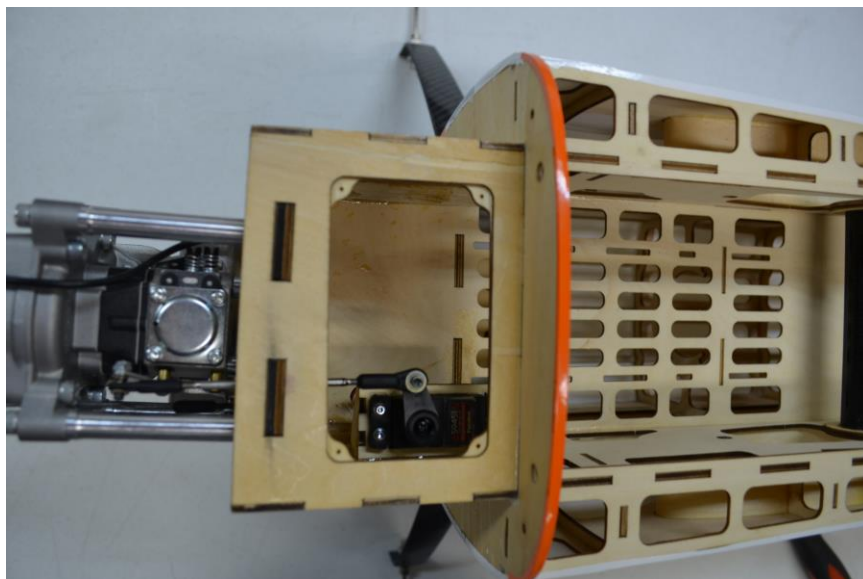
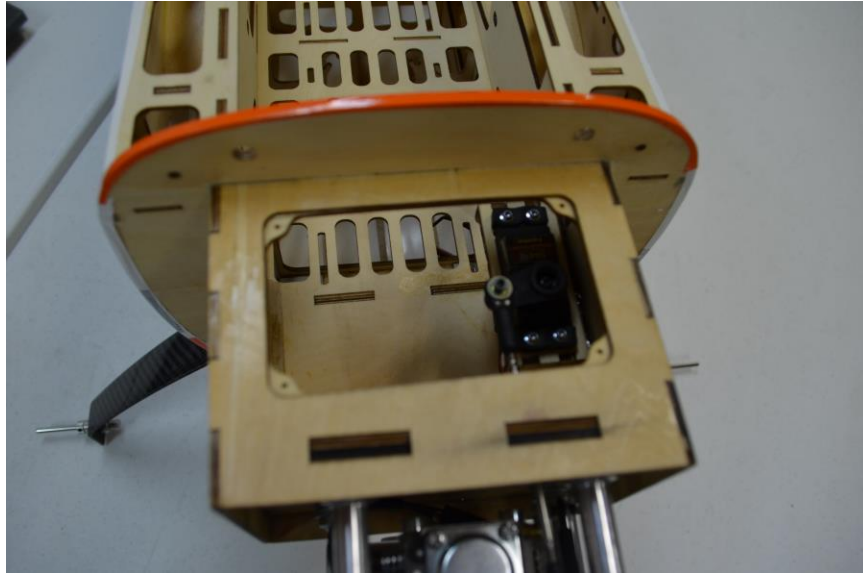
Throttle Servo Installation:



(Throttle Servo Mount)



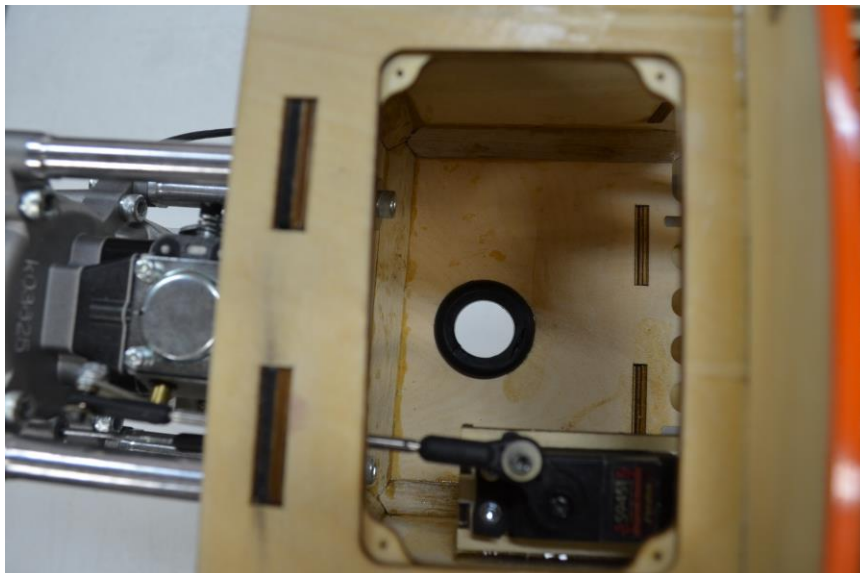
Use 30-minute epoxy to glue the servo mount in place. After the epoxy has fully cured; attach the throttle servo pushrod to the engines carburetor.

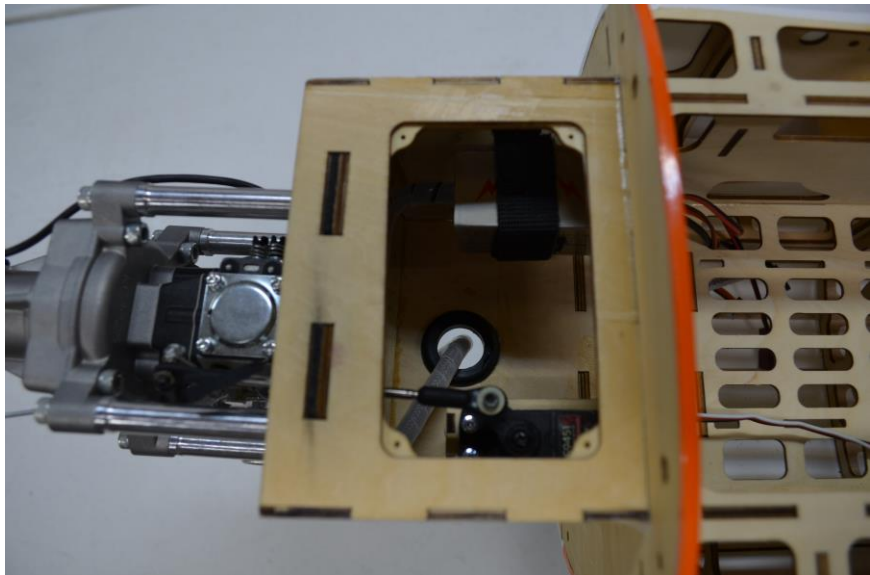
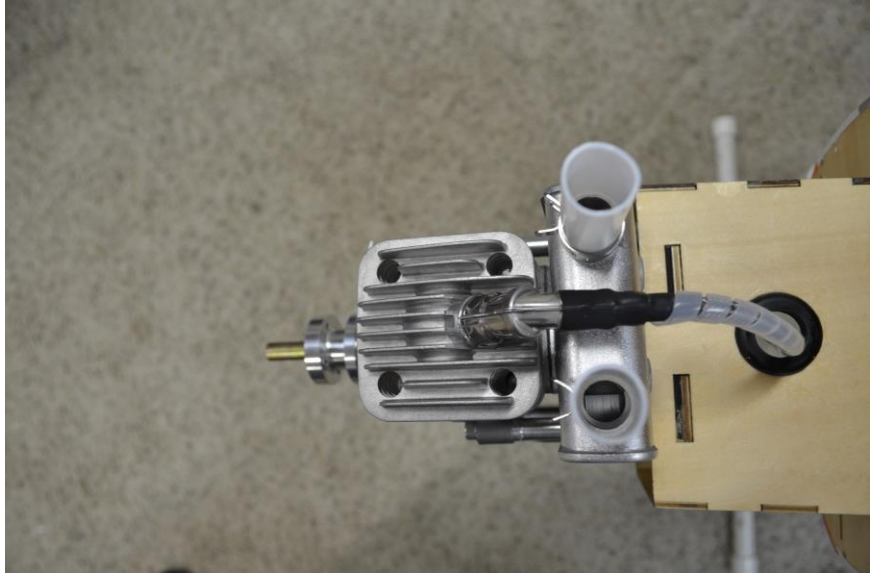


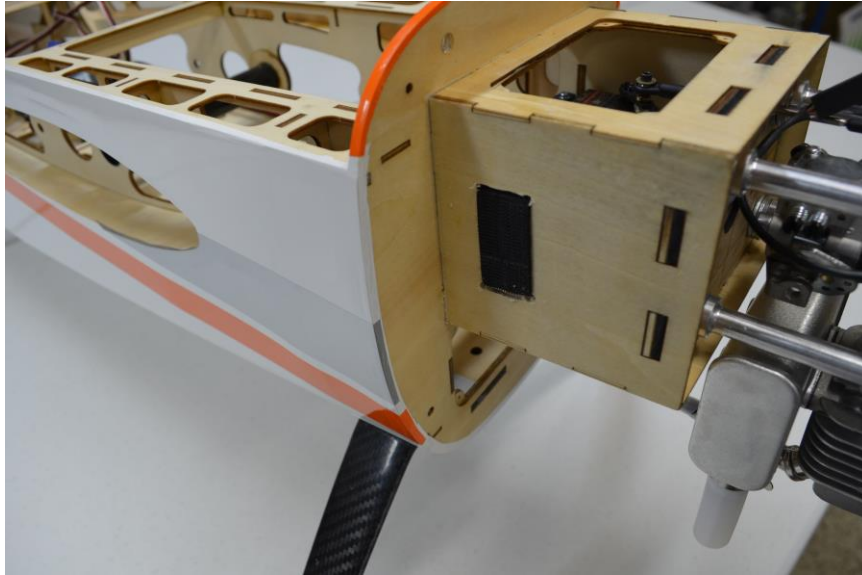
Attach a 12" servo extension to the throttle servo.

Ignition Unit Installation:

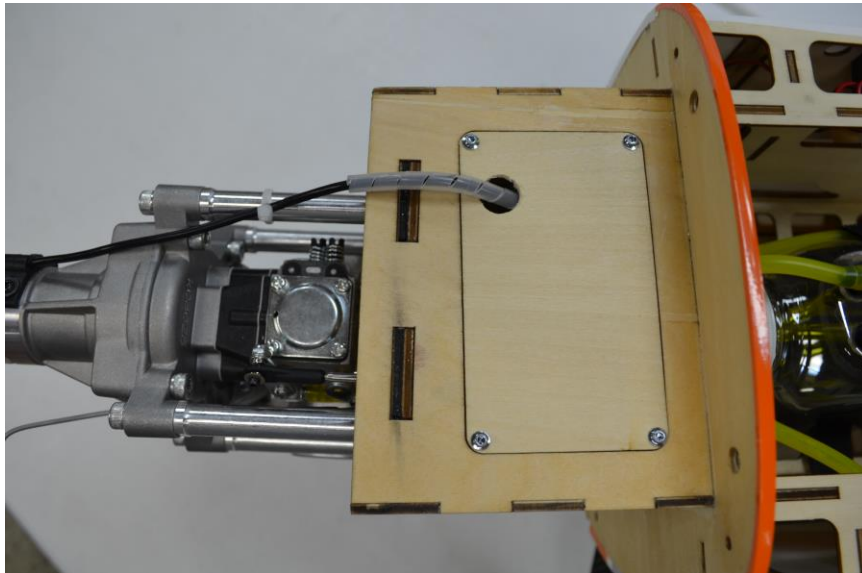
The ignition unit mounts in the motor box. Drill a hole in the bottom of the engine box to allow an exit for the spark plug wire. A rubber grommet can be used to protect the spark plug wire from chaffing. Place foam rubber under the ignition unit and secure with hook and loop material as soon below.





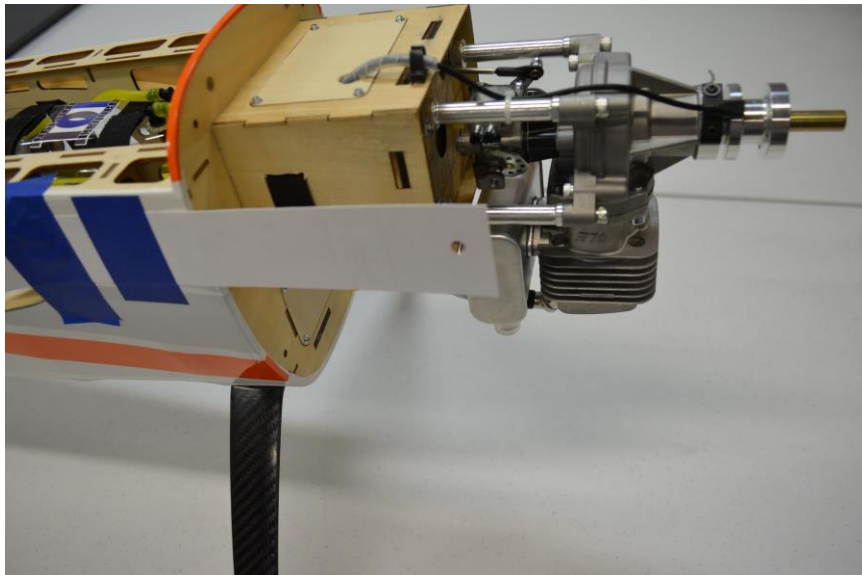


Install the motor box cover as shown.



Cowling Installation:

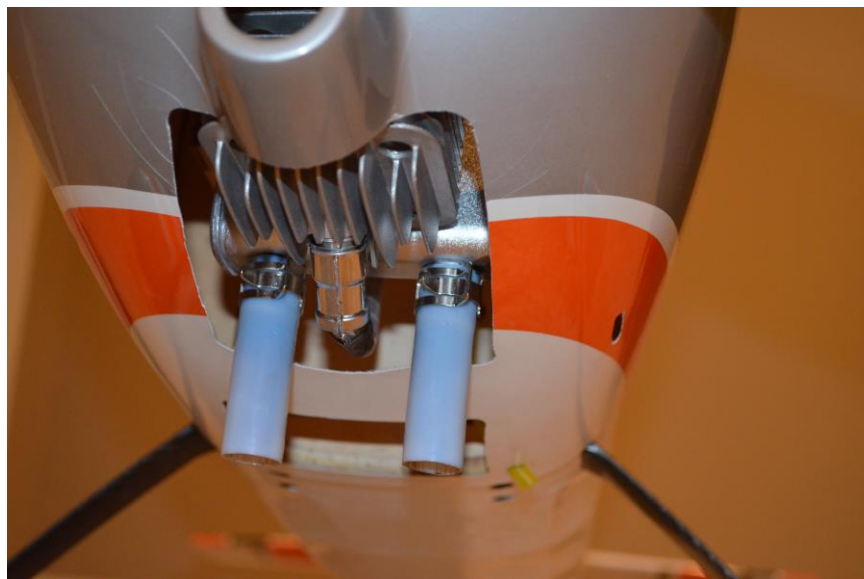
Use cardboard or card stock to make a template for the needle valve adjustment openings. Once the template is made; install the cowling, and then use the template to mark the opening on the cowl. Remove the cowl and use a drill to make the needle valve adjustment opening.





The cowling is large enough to allow the DLE-35RA muffler to fit inside the cowl with only the down pipes exiting the bottom of the cowling. Use cardboard or card stock to make a template for the muffler openings. Once the template is made; remove the mufflers from the engine, install the cowling, and then use the template to mark the openings on the cowl. Remove the cowl and use a rotary

tool with a sanding drum to make the openings for the muffler exits.



If a quieter exhaust system is needed: the Slick is equipped with an exhaust tunnel in the fuselage that will allow mounting of a canister muffler.

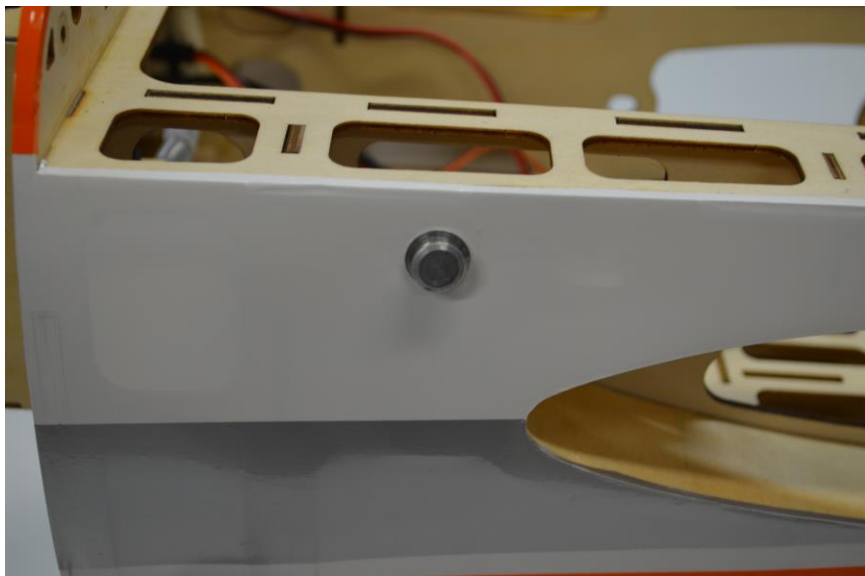


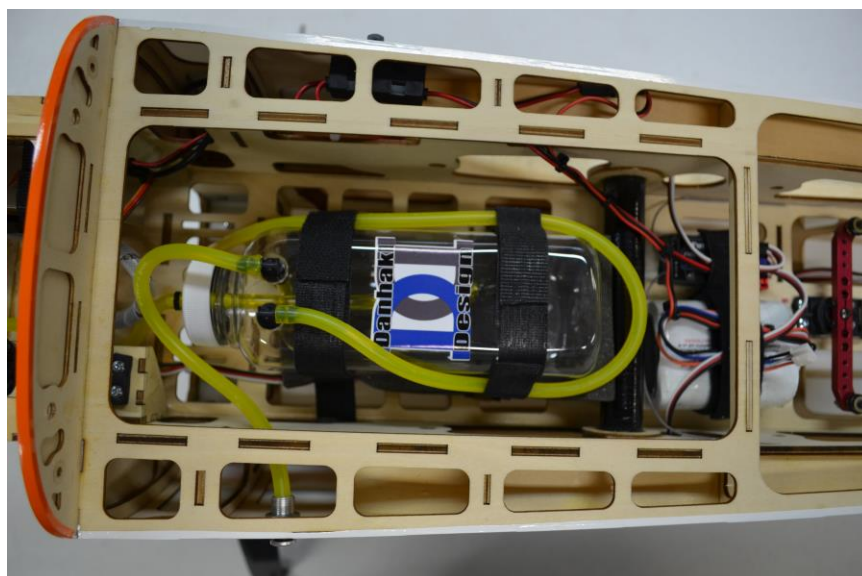
The cowling features a built in cowl ring. The cowling is secured to the fuselage by four screws: two screws inside the fuselage, and two screws from inside the cowling. Apply medium thread locker to these screws.

Fuel Tank and Fuel Dot Installation:

The fuselage has laser cut locations for a fuel dot located on each side of the fuselage. Select the location that best suits your

installation. Remove the covering over the fuel dot location and install the fuel dot as shown.

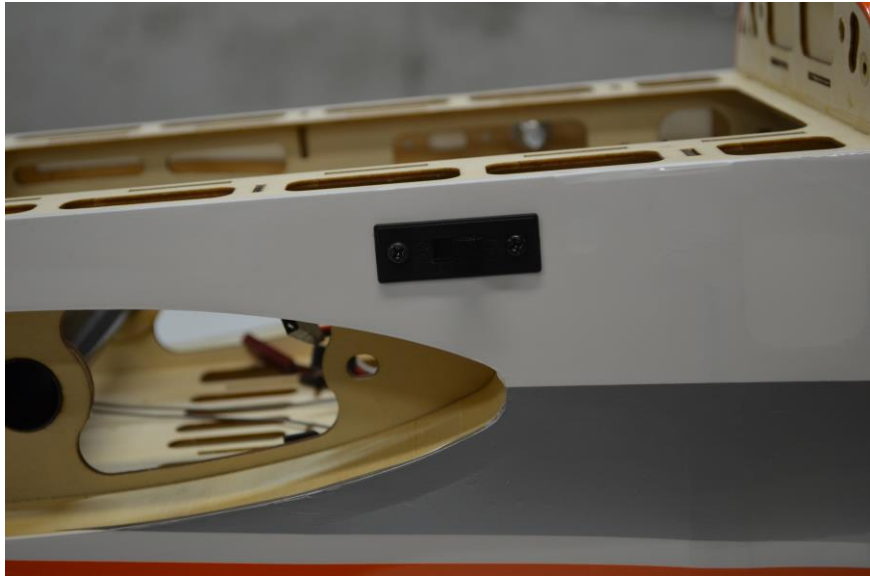
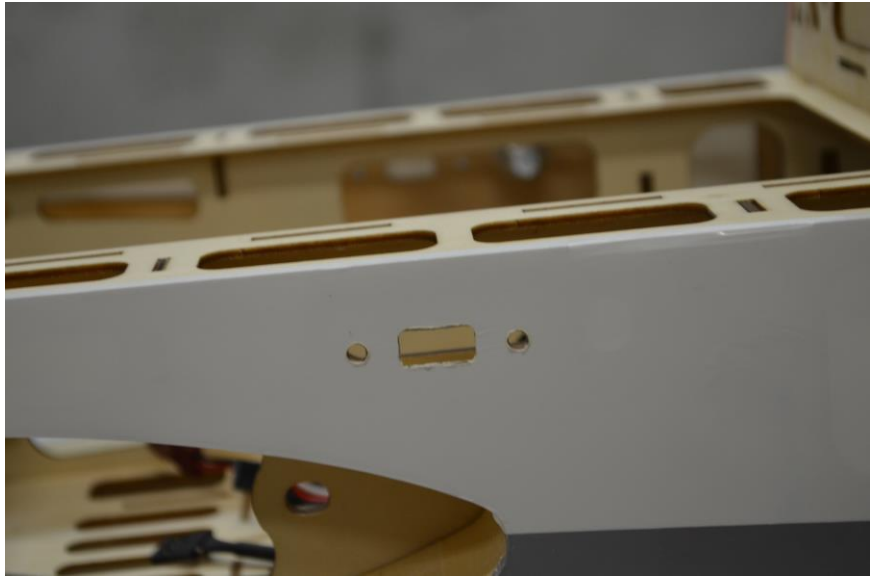


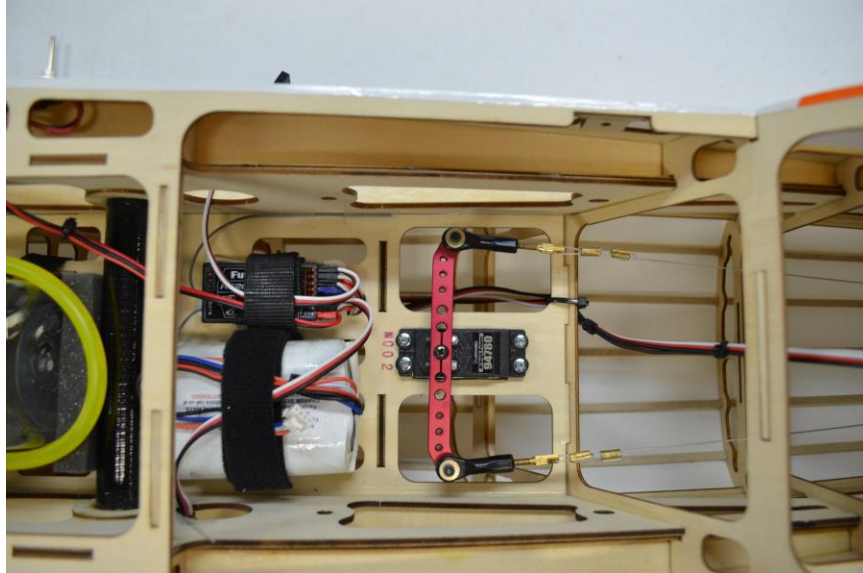


There is plenty of room in the Slick for up to a 16 ounce fuel tank. A fuel tank is included with the Slick. Redwing RC also has Fortitude RC fuel tanks available. Follow the fuel tank manufactures instructions for assembling the fuel tank.

Switch, Receiver, and Battery Installation:

The switch locations are laser cut on each side of the fuselage. Remove the covering over the switch location, and install the switch as shown.





Place foam rubber under the battery and receiver to protect them from shock and vibration. Use hook and loop material to secure the batteries and receiver.

Wheel and Wheel Pant Installation:

Install the wheels and wheel pants as shown, use medium thread locker on the wheel pant bolts.







Wing Attachment:

The wings slide onto the carbon fiber wing tube, a nylon wing bolt secures each wing panel in place.





Canopy Attachment:



The canopy comes ready to mount. Two socket head cap screws, rubber washers, and flat washers are used to secure the canopy assembly.

Balancing:

Assemble the airplane ready to fly (minus fuel.) For the initial flights balance the aircraft on the wing tube. Mark the locations at the wing tip and have a friend help you lift the aircraft by the wing tips at this location. The aircraft should balance level or slightly nose down. After initial flights the C.G. can be adjusted to accommodate your flying style.

Control Surface Throws:

Place the airplane on a flat table. Make sure all control surfaces are centered at neutral. Measure the control throws using a degree meter. Set the amount of Exponential (Expo) on all control surfaces for both low and high rates. Remember that Futaba radios use a negative number on Expo, and JR/Spektrum radios use a positive number. Adjust the amount of expo and control surface throws to your personal preference. These are the settings that we use.

ELEVATOR:

Low Rate: 20 degrees each direction – 20% Expo

High Rate: 45 degrees each direction – 40% Expo

AILERON:

Low Rate: 25 degrees each direction – 25% Expo

High Rate: 40 degrees each direction – 40% Expo

RUDDER:

Low: 30 degrees each direction – 20% Expo

High: 50 degrees each direction – 35% Expo

Pre-flight:

The engine should be properly adjusted and running smoothly. It should have a good throttle transition and a reliable idle. If the engine isn't running properly don't attempt to fly the aircraft.

Perform a range check with the engine running. Confirm that the range check meets or exceeds the radio manufactures recommendations.

Set the Fail Safe on the radio and the throttle cut per the radio manufactures instructions.

Make sure control surfaces are moving in the correct direction.

Check the batteries to make sure they are fully charged, and re-check the batteries after each flight.

Make sure that you have used thread locker on all nuts and bolts.

We recommend using low rates for the initial test flights.

Enjoy your Redwing RC aircraft, have fun, and fly safe.

Remember to always follow the Academy of Model Aeronautics (AMA) safety code.