GOLDWING RC

73in EXTRA330SC 120E & 30CC
Giant Scale Aerobatic Aircraft

Specifications

Wing Span: 73"(1860mm)
Length: 70"(1780mm)
Wing Area: 10287sq in(66.3sq dm)
Flying Weight: Gas Version is 9.7-10.5lbs(4400-4700g)
Electric Version is 9-10lbs(4100-4500g)
Glow: .91-1.20（2C） 1.10-1.40（4C）
Gas: 26CC-38CC Gas DLE30 DLE35
Electric Power: 1900-2200Watt electric motor
ESC: 80-100A
Radio: 4+ Channels
Servos: 4-5 servos required 95 oz to 160 oz (6-10kg/cm)

Version 2.0, June 2015

Dear Customer,

Thank you for purchasing the new Goldwing RC giant scale aerobatic aircraft. This manual covers the EXTRA330SC 120E and 30CC aircraft. Goldwing RC proudly presents **73in EXTRA 120E & 30CC**, Extreme Series, which is a premium product line of electric & gas RC airplanes designed for unlimited 3D performance. The new **73in EXTRA 120E & 30CC** adopts cutting edge aerodynamic features, such as streamlined canopy, aileron counterbalance, removable side force generators (SFGs) .The **73in EXTRA330SC** is also loaded with high-end accessories including genuine Oracover, CF landing gear, tail wheel assembly and control horns. KUZA brand CNC Aluminium Backplate Hollowed-out Spinner is included as bonus (limited quantities) for 120E version. And KUZA new fuel Tank Assembly is included for 30CC version.

A QUICK WORD ABOUT SAFETY AND RADIO CONTROL FLYING MODELS

With radio control aircraft, like any hobby or sport, there are certain risks. The operator of these models is responsible for these risks. If misused or abused, you may cause serious bodily injury and/or damage to property. With this in mind, you will want to be certain that you build your model carefully and correctly. If you are not an experienced flier, have your work checked and ask for help in learning to fly safely. **This model aircraft is not a toy** and must be operated and flown in a safe manner at all times. Always perform a pre-flight check of the model including all control surfaces, correct function of the radio gear, structure, radio range, and any other area relating to the safe operation of this aircraft.

Models are not insurable but operators are. You can obtain coverage through membership in the Academy of Model Aeronautics (AMA). For an AMA information package call 1-800-435-9262, ext. 292 or visit the AMA website at "www.modelaircraft.org". Or if you are in any other country please contact the appropriate body.

By the act of using the final assembled model, the purchaser/operator accepts all resulting liability.

Goldwing RC WARRANTY AND RETURN POLICY

GoldWing RC guarantees this product to be free from defects in both material and workmanship at the date of purchase. This does not cover any parts damaged by use, misuse or modification. In no case shall liability exceed the original cost of this kit. Because Goldwing RC has no control over the final assembly or equipment/components used in the final assembly, no liability shall be assumed for any damage resulting from the use of this model by the user. By the act of using the final assembled model, the user accepts all resulting liability. If you should find any missing or damaged parts, or have any questions about this product, please contact within 30 days of the purchase in order to be covered by our warranty. You may contact us at service@goldwingrc.com.

Included Features:

Improved axles (the material of the axle is stainless steel)
Flat nylon hinges for better flying strength
Aluminium hub rubber wheels
Pre-hinged control surfaces
Larger aileron and elevator design. Up to 60 degrees of throw on all control surfaces for excellent 3D aerobatic flying
Extra covering provided for small repairs and covered in genuine Ultracote / Oracover
Canopy extended into cowl

One servo for elevator. Pull-push style for rudder

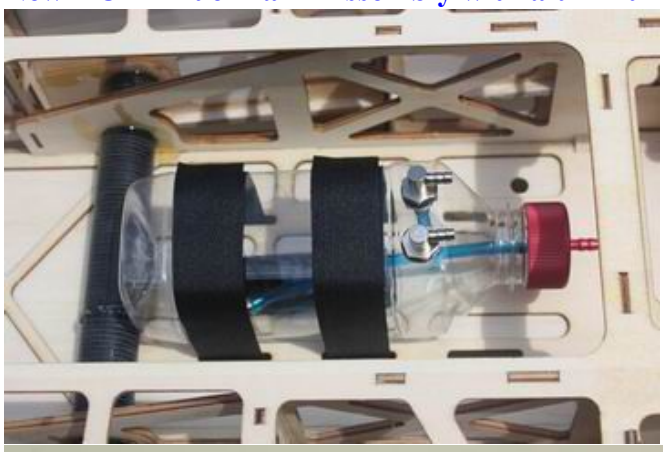
X-shade wood structure ensures high strength of rudder and elevator while keeping the weight down.


Removable stab & rudder






New KUZA Fuel Tank Assembly with aluminum tank cap for 30CC version




KUZA Aluminium Backplate Hollowed-out Electric Spinner included for 120E version **(Excellent cooling effect for brushless motor)**



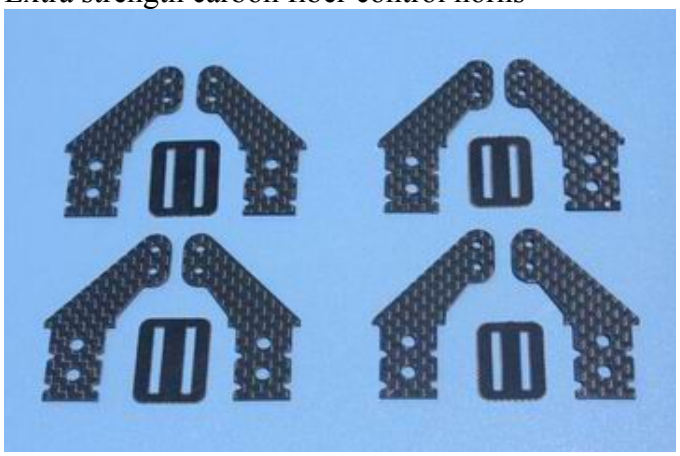
Behind the rudder tray an air exit opening has been created for electric set-ups


Side force generators

Two latch quick release canopy.

Carbon Fiber accessories version：

Extra strength carbon fiber control horns



One piece air foiled carbon fiber landing gear

Carbon fiber tail wheel assembly with CNC machined metal parts, including the aluminium tail wheel hub.

Strengthened fuselage by carbon fiber rods

Increased diameter carbon fiber wing tube over previous versions

Scheme B White/blue/black

Scheme C White/blue/red

Scheme D White/blue/red

Items required to complete this model:

- 26-38 cc gas engine with stock or aftermarket exhaust system
- Appropriate propeller for your engine
- All the required engine and exhaust mounting hardware
- Ignition battery and switch
- One quality throttle servo and appropriate servo arm
- 3 high quality metal gear servos of 80 in-oz or better for the ailerons and elevators
- One high quality rudder servo of 160 in-oz or better
- Appropriate servo arms for the above
- Heavy duty servo wire extensions. Recommends three 18", two 12" extensions. Your installation though may vary.
- Switches with charging jacks for the Rx
- Rx batteries of significant capacity to power your choice of servos.
- Receiver of your choice

Required tools

- Covering Iron and heat gun
- Assortment normal hobby tools such as screwdrivers, hobby knife, drill and drill bits, pliers, etc.
- Thick and thin CA adhesives
- 30 minute epoxy
- Isopropyl alcohol
- Ruler or tape measure
- Blue thread-lock or equivalent

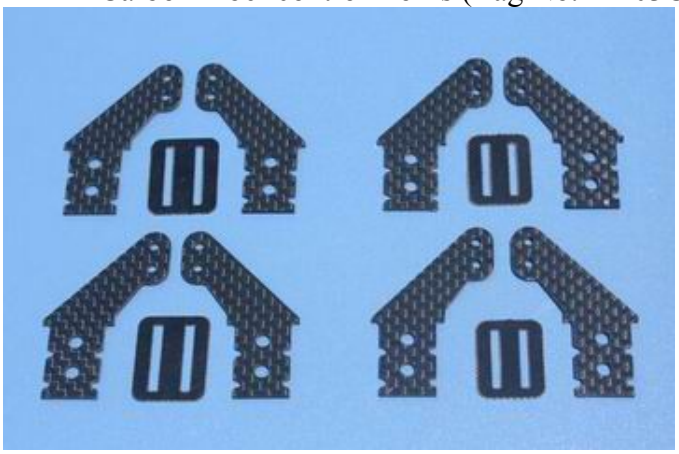
Note: As with all kits, it's a good idea to read all the instructions and study the parts before you begin construction. Handle the parts of this kit with care so you do not damage any of the structure or covering. Inspect all the parts for any shipping damage and report any issues to as soon as you can. Make sure you have a flat and sturdy workbench and follow all safety advice for the tools and adhesives you plan to use.

AIRCRAFT COVERING

1. With all ARFs, varying temperatures and storage delays can cause covering material to loosen over time and transportation. We recommend lightly going over all the covering with a covering iron set at medium temperatures. Be sure to use a soft cover over your iron so you do not scratch the covering surface. Be sure you go over all seams and edges of the covering to assure it is secure to the airframe and other covering. Be careful not to apply too much heat or you may cause bubbles or damage to the covering. A heat gun may also be used along with a soft cotton cloth to shrink and adhere the covering. Again, be extremely careful when using a heat gun.
2. Be sure to seal any exposed wood with a thin coating of epoxy to prevent engine oil from soaking in. This is especially important around the engine compartment and servo openings with exposed areas.
3. Some modelers prefer to seal the hinge gaps using strips of appropriate covering or clear trim tape. We have found this to be helpful with models intended for higher speed flight or models with unusually large hinge gaps. Our aircraft utilize a very tight double beveled hinge line and do not normally require this step. Sealing the hinge gaps is therefore left as an option for the modeler.

Please verify the accessories before assemble:

- Carbon Fiber control Horns (Bag No. KA03CA4) : 8 single horns for ailerons and elevator and rudder.

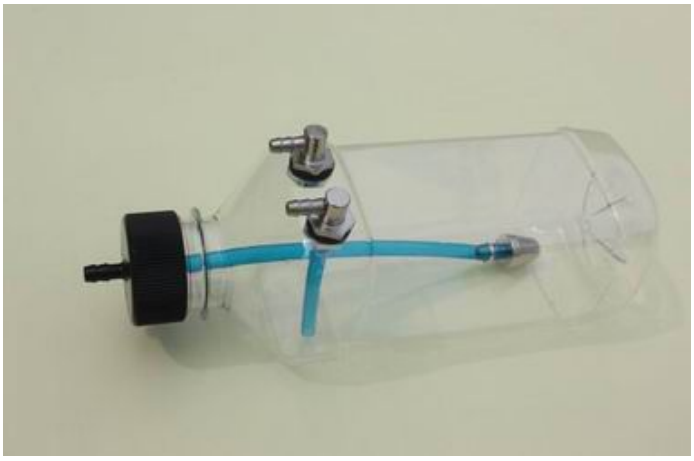


Sand the area of the horn that will be glued to help adhesion.

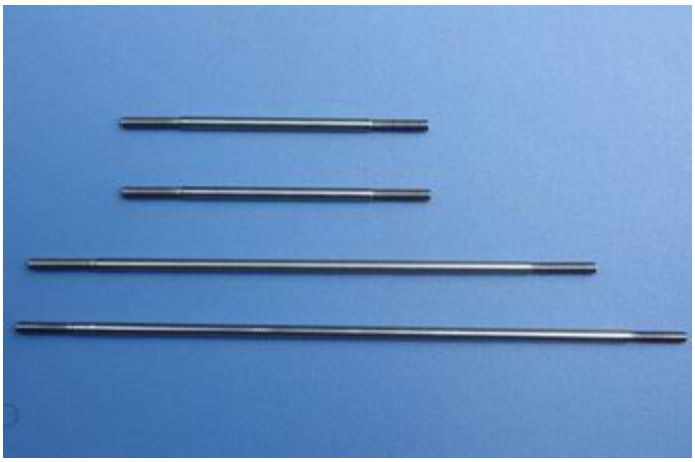
- KUZA 3” Aluminium Backplate Hollowed-out Electric Spinner for 120E version (Bag No. KAG0205)

Color： Scheme B is white, Scheme C & D is red


- KUZA new 360cc fuel Tank Assembly for 30CC version (including Aluminum fuel cap)



- Push rod kits: Two 2.5x60mm Pushrods for aileron. One 2.5x130mm Pushrod for elevator.One 2.5x110mm for rudder（Pull-push style）



- Ball link assembly (Bag No. KAG00122): 8 for ailerons & elevator & rudder.

- Alu long arm kits: 4 single arms for ailerons and elevator and rudder.

- Servo lead safety clips：5 pcs （Bag No. KAG0021)

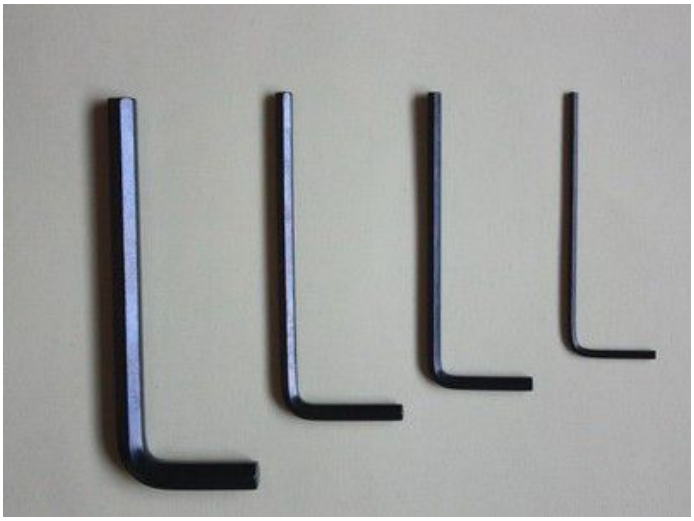
- Alu Main wheels：2pcs（Bag No. KAG0157）

- New axle kits （Bag No. KA03CH)

- Carbon fibre tail wheel assembly with CNC machined metal parts, including the aluminium tail wheel hub. (Bag No. KAGC103)

- Extra covering provided for small repairs

- 4 allen key wrench (Bag No. KA03CE)

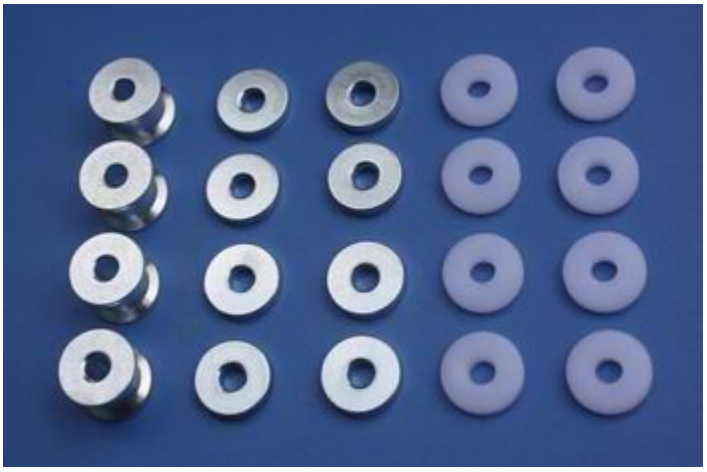


Side force generators (mounted with four M3X18 hand bolts and 2 balsa sheets)

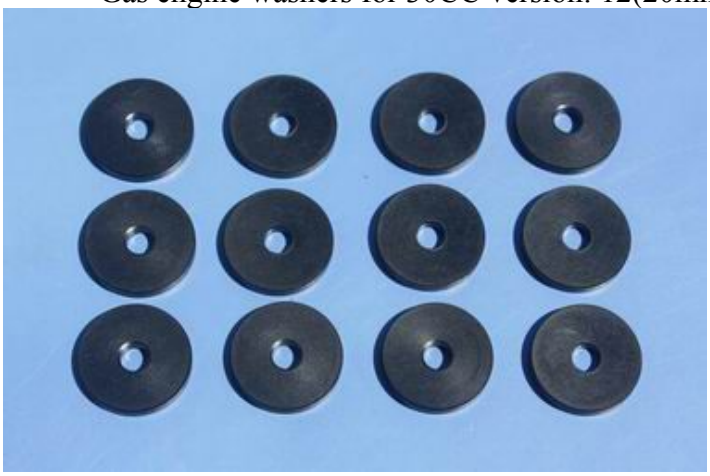
- Screews for landing gear: 4(4x20mm) hexagon bolts and 4 washers

- Bolts & washers for cowl: 4(3x14mm) Hexagon bolts and 2(10mm) PTFE washers and 2 wsahers

- 20 POM & ALU washers for 120E motor



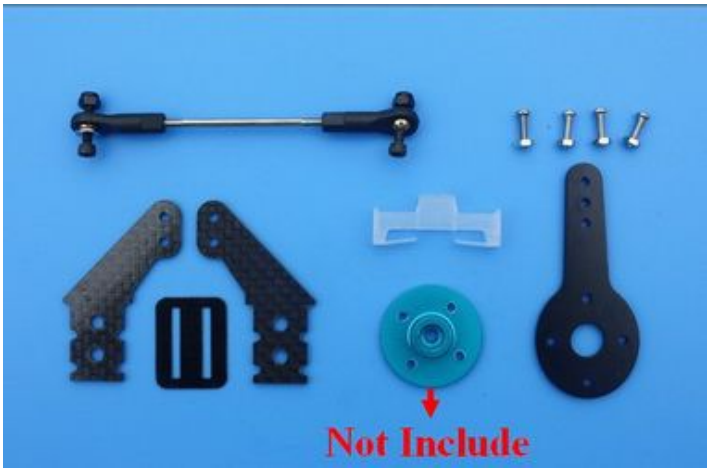
- Gas engine washers for 30CC version: 12(20mm) POM washers



- Spares bag(Two spare wing bolts & One spare tail wheel spring)

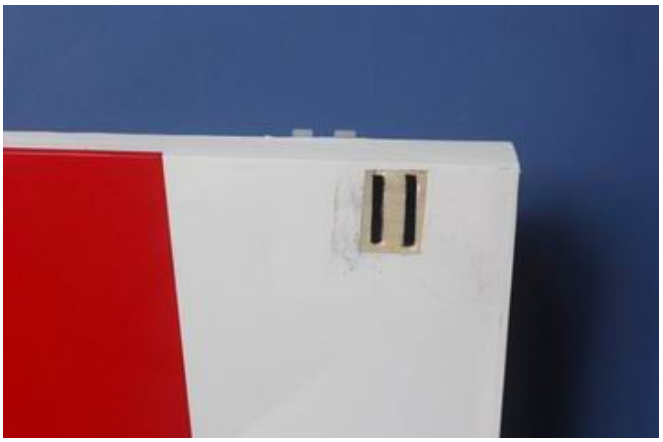
RUDDER ASSEMBLY

1. Rudder pushrod linkage set. NOTE: Rudder is Pull-push style.



2. Locate rudder, 2 control horns and base plate. Rudder is driven by pull-push rod, servo bay is on the right side of the fuselage.

3. Locate the slot for control horn on rudder, remove the covering over the slot with heated soldering iron or sharp hobby knife, and make sure you do it on the right side of the aileron. Insert control horn into base plate then into the slot, trace the edge of base plate with hobby knife then remove the underlying covering.

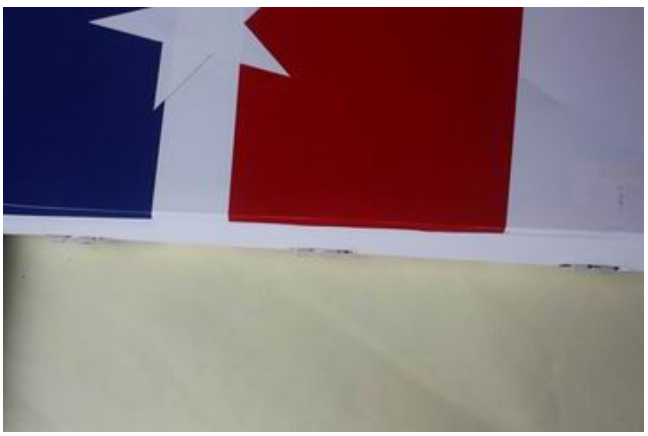


4. Use some fine sandpaper to roughen up the root of control horn where will be glued into the slot.

5. Fill the slot and coat the root of control horn and the bottom of base plate with 30 minute epoxy, insert the horn into the slot, press it down firmly. Wipe off excessive epoxy with alcohol wipes. Set aside until cured.

Pre-hinged control surfaces

6. The rudder control surface is Pre-hingeds.



7. Cut the covering from the rudder servo slots from corner to corner and iron down inside the openings. Connect servo wire extensions to your servos and secure the connections with the supplied clips. Feed the

servo wires into the fuselage. The screw holes for servo mounting are laser pre-drilled, it is advisable to apply some thin CA to strengthen them, Install the servos and screw firmly in place.

8. Use your radio to set the center of servo and then assemble and adjust the length of the control rod. The servo arm should be as close to perpendicular to the control rod as possible while the aileron is at neutral. Double check all screws, bolts and nuts to assure proper installation and operation without binding. Once satisfied, permanently attach the ball links to the servo arms and horns with the supplied screw and nut.

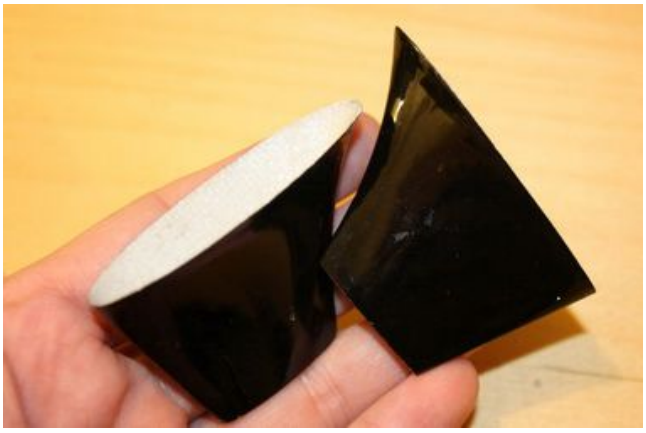
9. We recommend using KUZA 1.5” aluminium CNC servo arm (sold separately) for rudder control.

LANDING GEAR ASSEMBLY

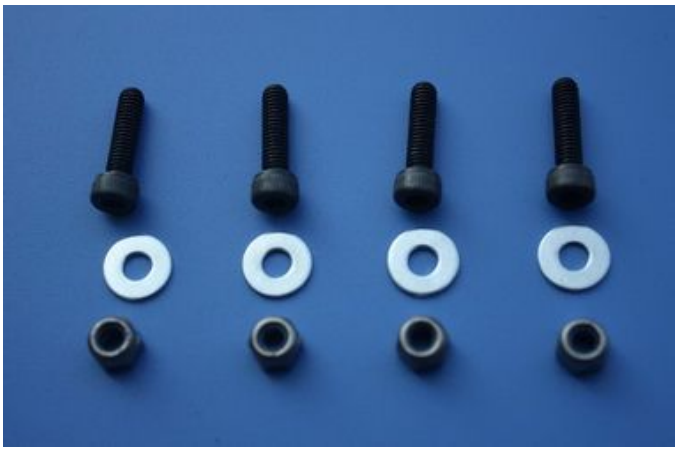
NOTE: There are pictures of different planes in this manual, however, this plane's landing gear is assembled the same way.

1. Locate the supplied main and tail wheel landing gear parts and sort them out on your workbench.


2. Locate the 2 fiberglass landing gear fairings and the black silicone tubing. Cut through one wall of the tubing along the length. Press the tubing onto the edges of the fairing as shown and secure glue.




3. Bolt the main gear to the bottom of the fuselage using the supplied screws and stainless steel Self-locking nuts. Place the bolts in through the can tunnel opening with appropriate size spanner. Remember the gear will rake forward.



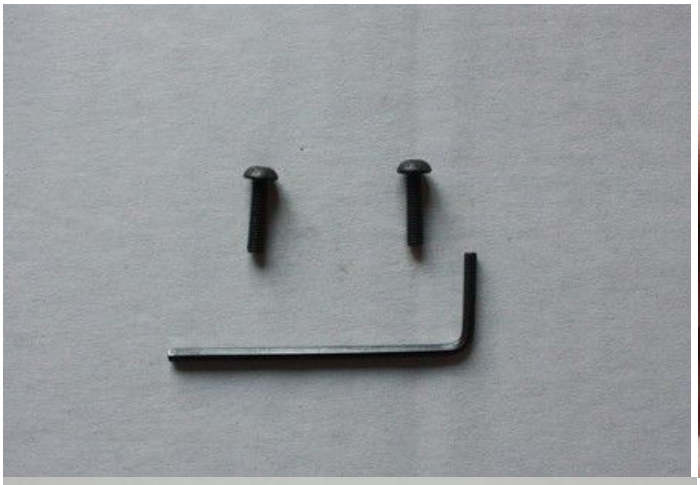
4. Adjust the position of the landing gear fairings, the secure with glue (shoe goo type).

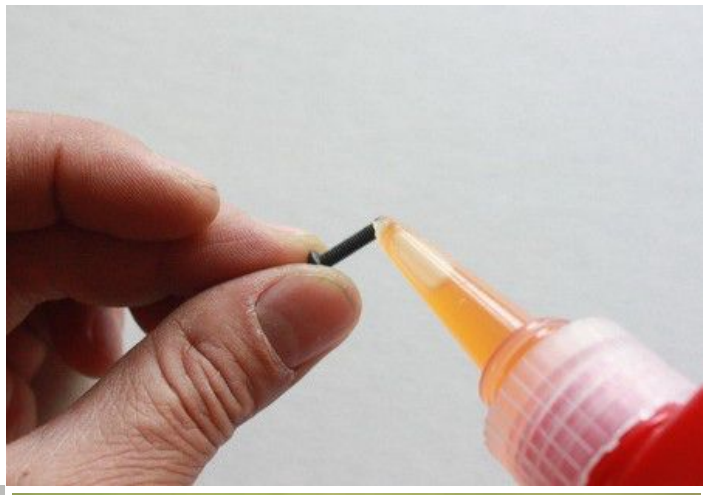
5.Loosen out the inner nut, then apply thread lock to the axle. Tighten the nut back in place, allow the thread locker to dry.

6. Install the main wheel axles to the composite landing gear and tighten the nylon-insert lock nut. Install one wheel collar onto the axle. Use a second wheel collar as a guide to leave a gap on the inboard of the axle. Use a small drop of thread-lock and tighten in place. Slide the wheel onto the axle and install a second wheel collar also using thread-lock on the set screw.




7. Fit the wheel pant in place and install using the two supplied bolts and washers. Use thread-lock to secure the bolts in place. Repeat the above steps for the other main gear.





8. The tail wheel installation is very simple, the factory has installed most of the accessories, see the below picture.

9. Line up the caron fiber assembly onto the body of the aircrtaft and use the holes as a drill guide. Use a 2mm drill bit as a pilot hole, then apply thin CA to harden the wood. Use the three self tapping screws and secure the assembly into place.

10. Drill another 2mm pilot hole at the end of the rudder and apply thin CA. It needs to be in a position where the spring is tensioned. Use a self tapping screw to secure in place.

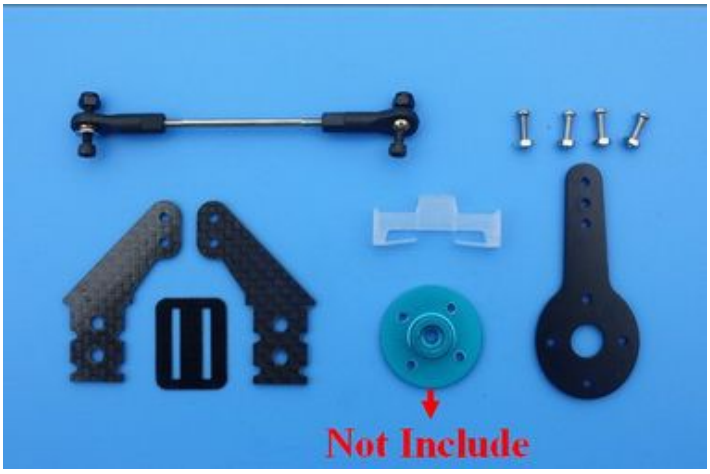
11. The below is a picture of correctly installed tail wheel assembly.

NOTE: One spare tail wheel spring is included in the spare hardware pack.

WINGS ASSEMBLY

NOTE: There are pictures of different planes in this manual, however, this plane's wings is assembled the same way.

1. Aileron push rod linkage set.



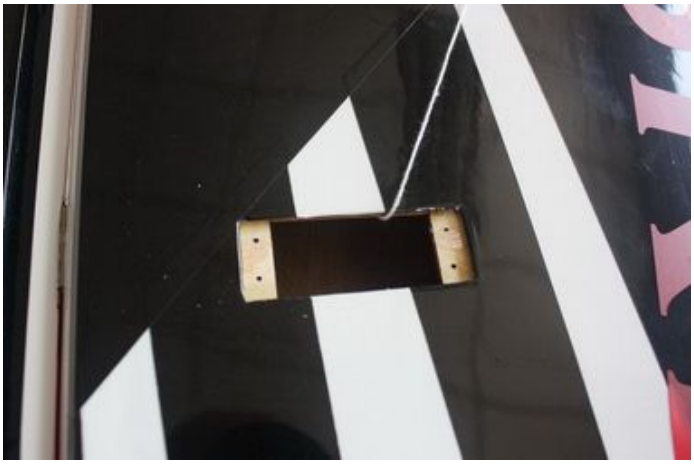
2. The aileron control surfaces is Pre-hingeds.

Locate the slots for the aileron control horn and remove the covering with a sharp knife. Place the horns into position and the cover over the top to work out the area needing to be removed.

3.Rough the area of the horn that will be glued in place.

4.Using 30 minute epoxy glue the horn and plate into the aileron.

5.Screw holes for servo mounting are pre-drilled by laser in factory, install servo with 4 self threading screws.Fit a metal servo arm centering with your radio.



6.Locate the included aluminum long servo arm, enlarge control holes with 2.5mm drill bit

7.Using the pushrods connect the servo arm to the horn. Remember that on the pushrod one end is reverse threaded.

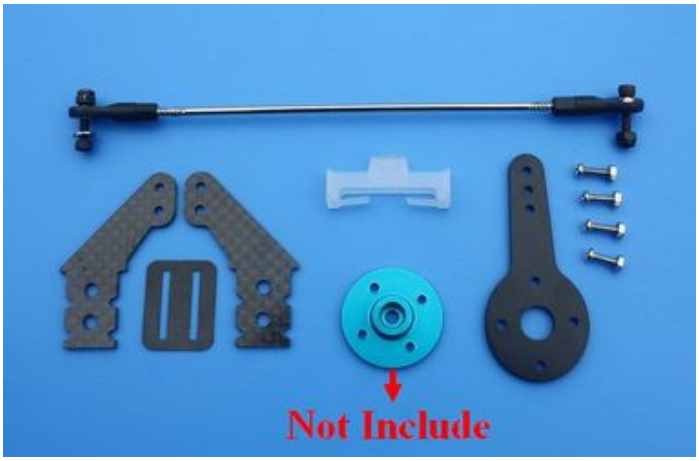
Use M2.5 screws and nuts to connect the pushrod. Set it so the aileron it level when the arm is at 90 degrees.

REPEAT FOR THE OTHER SIDE

8. We recommend using KUZA 1.5" aluminium CNC servo arm (sold separately) for wing control.

ELEVATOR ASSEMBLY

1. Push rod linkage set for elevator



2. Find the control horn slots on bottom side the elevators, use the method described in 1.2-1.4 to install control horns for elevators.

3. Elevator horn slot is located on the left side of elevator. Remove covering over the hole for horizontal stabilizer on fuselage. Removing covering on the central part of horizontal stabilizer is recommended for better glue bonding. Insert the horizontal stabilizer into fuselage, make sure it's centered. Apply thin and gap-filling medium CA to glue it in place.

4. The Elevator control surface is Pre-hingeds.

5. Locate the slots for elevator servo, remove covering. Connect wire extension to your servos before feeding the wire into fuselage. Install servo with screws supplied by servo manufacturer.

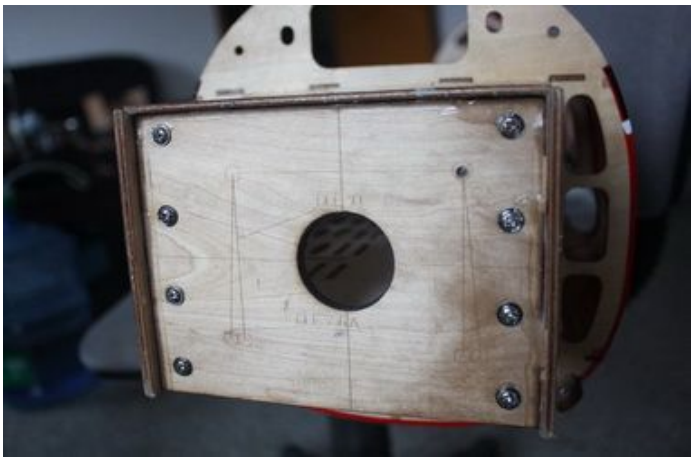
6. Use your radio to set the servo center position and install the large control horn onto the servo. Assemble the control rod and ball links and adjust the control linkage for proper geometry. When satisfied, screw the ball link to the servo arm and control horn. KUZA 1.5" aluminium CNC servo arm is recommended for elevator control, the servo arm should be as close to perpendicular to the control rod as possible while the elevator is at neutral. Double check all screws, bolts and nuts to assure proper installation and operation without binding.

For 30CC version,Engine, Exhaust, & Fuel System Installation

Engine Installation

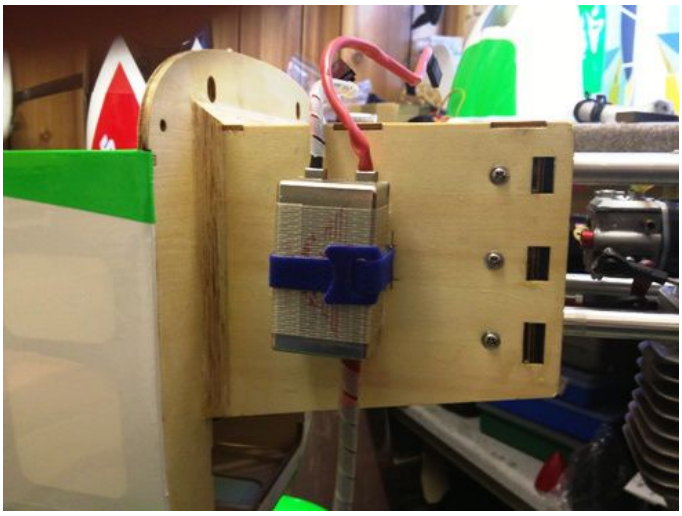
NOTE: There are pictures of different planes in this manual, however, this plane's engine is assembled the same way.

1. Select the correct guide for your engine and drill the holes and cut out the center as indicated. Notice that the engine center line is offset to the left to compensate for the right thrust built into the engine box.



2. Fit the Cowl and measure the distance from the engine bulkhead to the front of the cowl, add approx 2-3mm for the back plate and this is the length that your engine should be set. Using the correct length stand offs, mount your engine securely using bolts, washers, and locknuts. The use of thread-lock is also highly essential for the engine bolts.

3. Mount the ignition module according to the manufacturer's instructions. The best place to mount it is on the side of the engine box. Secure the pickup lead and ignition wires with zip ties so that they do not vibrate or touch any hot part of the engine or exhaust.

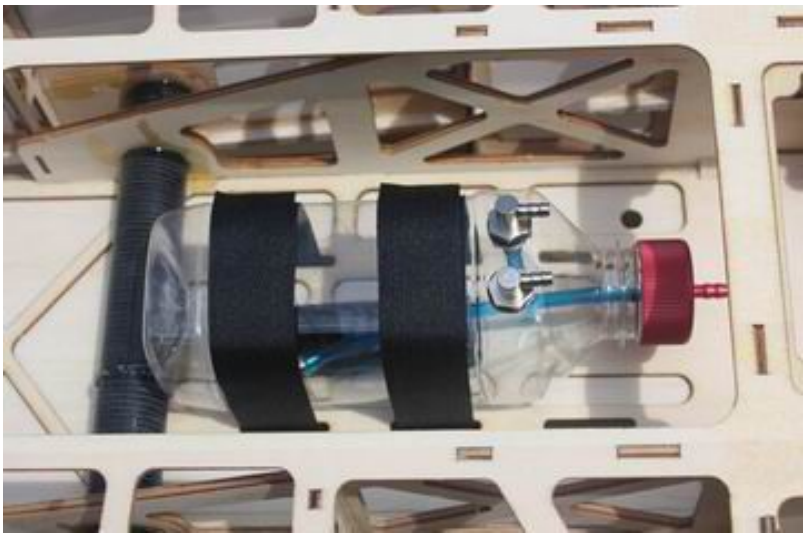


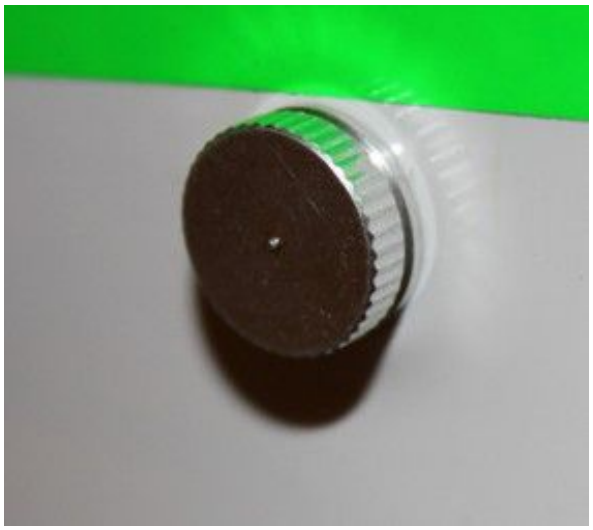
4. The following pictures show how to install a canister.

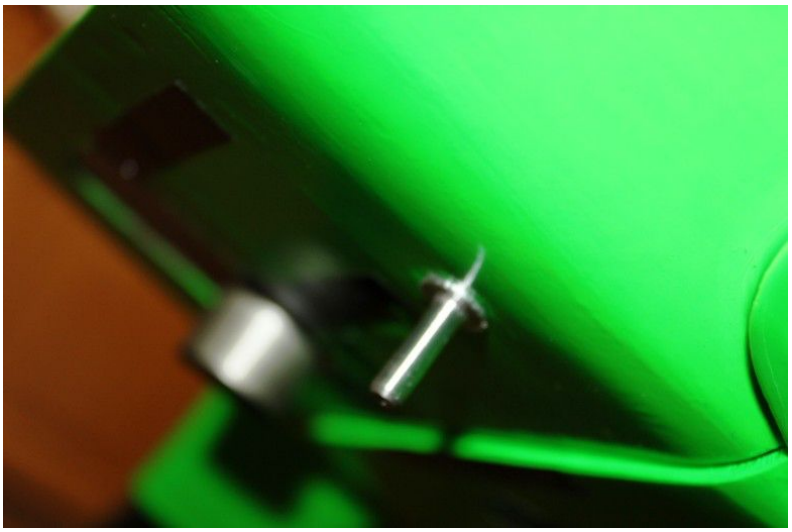
4. Assemble the throttle servo mount using the supplied laser cut parts or there is a servo cutout in the bottom of the engine box for 28cc-38cc engines. Mount your throttle servo and complete your linkage setup. A hole will need to be drilled on the firewall to allow the pushrod to connect to the throttle arm on the carb.

6. An extra servo can be fitted for choke or a mechanical linkage can be used.

7. The KUZA new 360cc fuel tank is preassembled. Complete the installation in the fuselage using zip ties or velcro straps to hold the tank in position. Connect a fuel line between the tank and carb, a fuel line between the tank vent and the bottom of the fuselage, and a fill line to a fueling port which can be mounted on the fuselage side opposite your ignition switch. Make sure your vent line does not come close to any hot exhaust part such as the muffler or canister. We recommend the use of small zip ties or fuel line clamps to secure the lines to the tank.







A barb on the bottom of the fuselage can be fitted for the vent.

Installation of KUZA Fuel Dot and Fuel Vent Line Plug （Not included）

1. From June 2015 and on, all Goldwing gas airplanes are made ready for KUZA fuel dot and vent line plug. Available in three colors: black, red and blue.

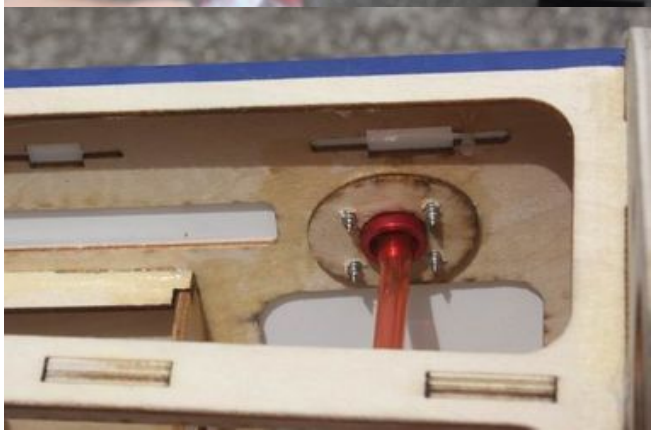
2. Installation of KUZA CNC Aluminum Fuel Dot

Sites for KUZA fuel dot installation are pre-cut on both sides of the fuselage, you may install it on either side. Use shape knife to remove the covering.



Secure the housing of fuel dot with supplied 2.5 mm self-tapping screws, then plug and install the fuel line to complete the setup of fuel dot.

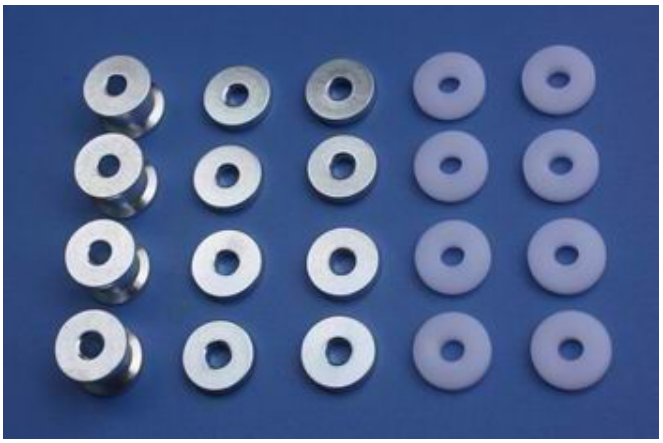


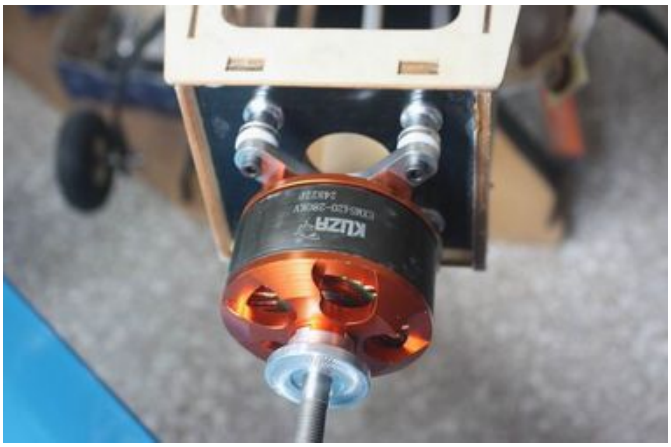
3. Installation of KUZA CNC Aluminum Fuel Vent Line Plug
Similarly, two sites for vent line plug installation are available at the bottom of the fuselage. Secure KUZA vent line plug with four 2.5 mm self-tapping screws as shown below.

120E Electric version Motor Installation

1. Find the washers for motor installation in the 120E version hardware package.There are 8 POM washers,and 16 ALU washers.



2.Blind nuts are pre-installed behind the firewall. Since the position of cowl is fixed and length of motors varies, you may need to use provided washers to position you motor properly.

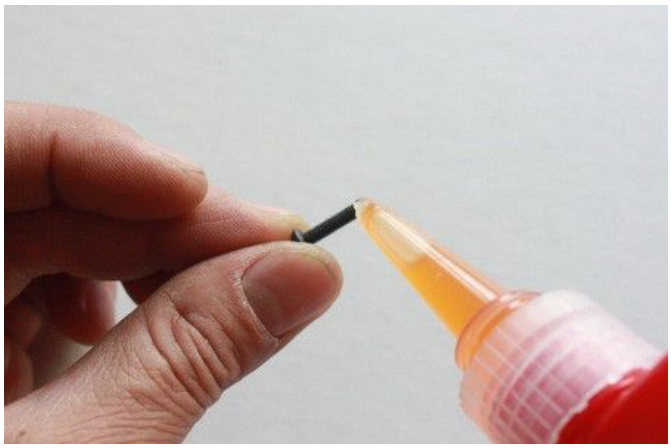


3. Fix the battery with both Velcro and straps.

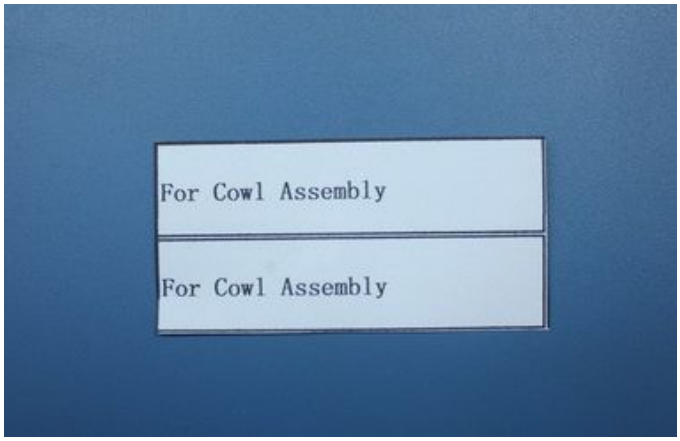
COWLING INSTALLATION

NOTE: There are pictures of different planes in this manual, however, this plane's cowling is assembled the same way.

1. The cowl is secured with four 3 X 14mm bolts and washers.Apply nutlock onto the bolts as the vibration from the gas engine will shake them come loose.



2. Labels are provided for aligning the drill holes for the cowl. Stick then on without the cowl, mark the hole. Fit the cowl then press back down. The hole will then show the area to drill. Sere below.



FINAL RADIO SYSTEM INSTALLATION

Whether you use 72 MHz systems or the newer 2.4 GHz systems, correct radio installation and care is vital to the safe and reliable operation of your aircraft. Follow the manufacturer's instruction for installation guidance of receivers and batteries paying attention to factors such as vibration isolation, adequate cooling, and clearances.

1. Mount your receiver(s) securely in a location which provides a clean and maintenance free solution to your setup. All servo wires should be neatly routed and secured in place so they will not come loose or flop around during flight.
2. The fuselage ply sides provide space to mount your switches just below the canopy. Mount your switches according to the manufacturer's instructions and route your wires safely and securely as above.
3. Your receiver battery(s) can be mounted in a variety of locations depending on your balance needs. Regardless of where you mount your batteries it is vital that they are very secure with no possibility of

coming loose. Use double sided Velcro to hold the batteries from sliding around and then use zip ties or Velcro straps to secure them tightly in place.

4. Servo and battery leads are the life blood of your aircraft. Make sure all wires are top quality and connectors are tight and display no loose pins or frayed wires. Servo clips are provided in the kit for your convenience. These servo clips can even be glued to the wood structure using CA if desired.
5. Check all radio programming and control surface operations thoroughly before your initial flight. Check your radio range according to the radio manufacturer's instructions both with the engine off and running.

Balancing and Pre-Flight Checks

Most state of the art aerobatic aircraft allow for a wide margin for balancing depending on what level of precision or freestyle flying the pilot prefers. To perform properly without being too pitch sensitive, you must not go too aft on the CG. **GoldWing RC recommends an initial CG setting of 108-126mm(4.25-5 inches) behind the leading edge of the wing at the root.** More experienced pilots may want to set the CG further aft for more 3D capability. Varying weights of engines and radio gear will dictate how you should install each. The batteries can easily be located pretty much anywhere in the fuselage. For those using a heavy engine, servo cutouts are provided in the rear of the fuselage for the rudder servos. These options should allow you to balance the model without adding any weight.

Note: The best way to check your balance is to trim for level flight at about 1/2 to 3/4 throttle and then roll inverted. The aircraft should maintain level flight with very little to no down elevator input. If the aircraft climbs when inverted then you've probably got your CG too far aft. If the nose drops more than slightly, then you are most likely nose heavy.

Recommended control surface deflections:

	Low Rate	High Rate
Elevator	15 degrees	45-50 degrees
Rudder	25 degrees	40 - 45 degrees
Ailerons	25 degrees	35-40 degrees

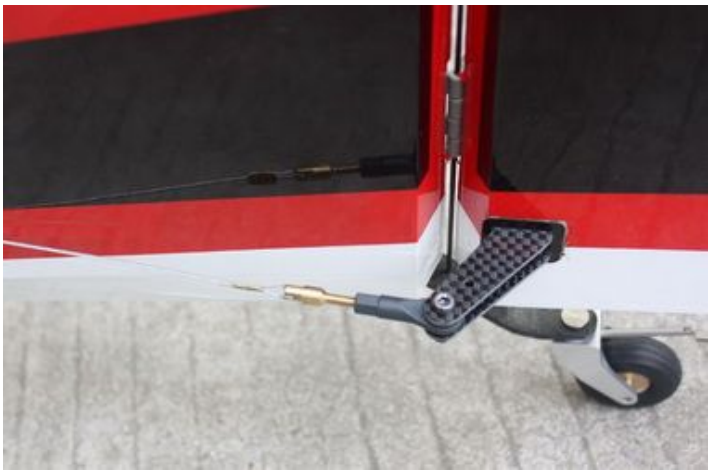
Final Assembly and Pre-Flight Inspections

1. Before arriving at your flying field, be sure all your batteries are properly charged and all radio systems are in working order.

2, Installation of the rudder

The rudder is removable for convenience in transportation, it is connected to fuselage by inserting a 1.2 mm steel rod through the hinge line.


Then install pull-pull ball links on control horns.

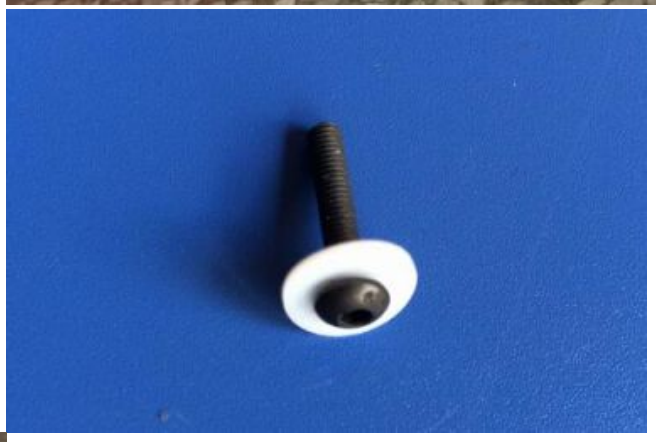



Hook up the tail wheel spring.

3．Installation of stab

Also the stab is removable for convenience in transportation,

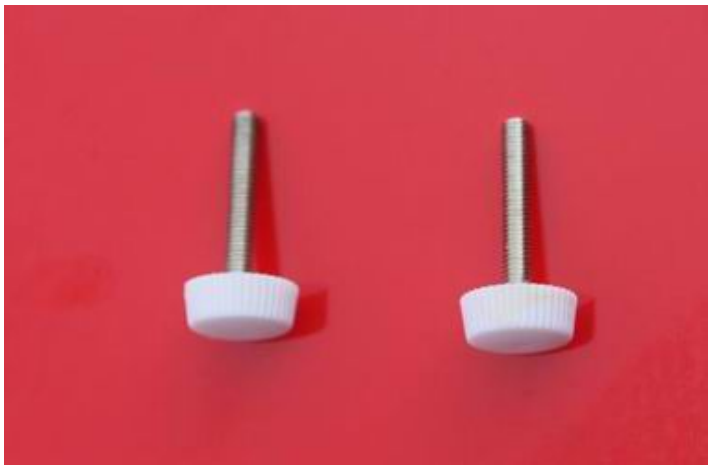
Attach elevators with 3x12mm Hex-head bolts and 10mm PTFE washers. Check these after every flight.



4. Install the wings onto the fuselage being careful to align the wing tube with the wings and not force it. The wing tube may be initially tight but will loosen after some with use. Guide your servo wires into the fuselage openings and connect to the correct aileron channels. Servo clips are recommended. Once you have the wings fully seated in the fuselage tighten the wing bolts inside the fuselage.

5.Side force generators Assembly.

Cut the wing film needed to be install the SFG. Fixed the SFG Use M3X18 hand bolts and balsa sheets. Installation of the SFG is optional.



6. Fill your fuel tank making sure your vent line is not plugged or capped. With the canopy off, this is a good time to check for any fuel leaks.

7. Check all control surfaces for secure hinges by performed a slight tug on the control surfaces and observing if there is any give in the hinges. Check all control rods, ball links, servo screws, etc. for correct operation and installation.

8. Check your batteries and perform a range check once again with the engine off and running. Be sure all surfaces are moving in the correct direction and the correct amount for your flying setup.

9. You are now ready for your maiden flight! Good luck and enjoy your new aircraft! If you have any comments or questions about this manual or the aircraft please email **service@goldwingrc.com**.

Recommend Accessories（Not included）：

*** KUZA Gas Fuel line** size: 6X3.5mm 3 color to choose: red , blue, yellow
No. KAG006131R or KAG0061U or KAG0061Y



*** KUZA CNC Aluminum Fuel Dot** 3 color to choose: black, blue, red No. KAG0231B or KAG0231U or KAG0231R

*** KUZA CNC Aluminum Fuel Vent Line Plug** 3 color to choose: black, blue, red
No. KAG0232B or KAG0232U or KAG0232R

*** KUZA Fuel line clips** 10PCS No. KAG02454

*** KUZA Heavy duty 7075 aluminum Servo Arm**

For Futaba servo（25T）：

39mm/1.5in Single No. KAG0S72F

For Hitec servo（24T）：
39mm/1.5in Single No. KAG0S72H

For JR servo（23T）：
39mm/1.5in Single No. KAG0S72J

*** KUZA new Wingbag for 73in EXTRA** Two color to choose: red/ black, blue / silver No. KAG0093

GOLDWING RC

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