



MTH HOBBY PRODUCTS INDUSTRIAL CO., LTD.  
[www.mth.com.tw](http://www.mth.com.tw) [mthhobby@mth.com.tw](mailto:mthhobby@mth.com.tw)  
© MTH HOBBY 2013



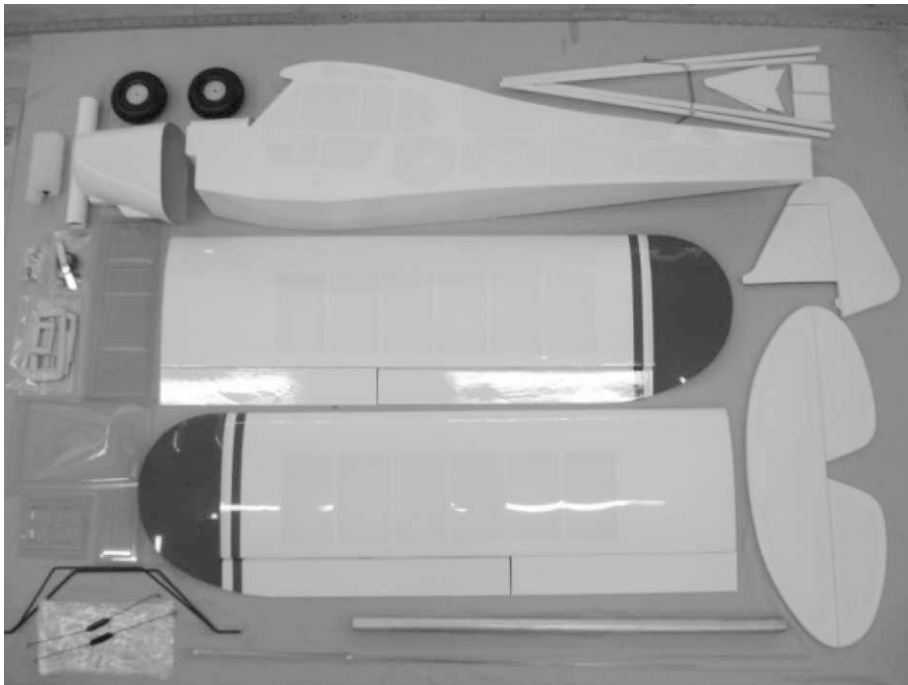
**NO.8709/8710/8712**



**Warning**

An RC aircraft is not a toy! If misused, it can cause serious bodily harm and damage to property. Fly only in open areas, following all instructions included with your radio.

Before beginning the assembly, remove each part from its bag for inspection. Closely inspect the fuselage, wing panels, rudder and stabilizer for damage. If you find any damaged or missing parts, contact the place of purchase.



Contents of the kit / Parts layout..

**Recommended radio and equipment (not included in kit):**

- |                                       |                       |
|---------------------------------------|-----------------------|
| 6 channels radio x 1 piece            | Y-harberss x 3 pieces |
| Receiver x 1 piece                    | Switch x 1 piece      |
| 45g servo x 6 pieces ( 8 if use flap) | Spinner x 1 piece     |
| 30cm extension x 2 pieces             |                       |
| 60cm extension x 4 pieces             |                       |
| Engine: 26cc - 30cc 2-stroke          |                       |

**Tools and suppliers needed (not included in kit):**

- Phillips screws driver #0/#1 / Curved scissors / Hex wrench 1.5/3.0mm  
 Hobby knife / Ruler / Pliers / Z-bender / Sanding paper  
 Epoxy 5-10 minutes / Marker / CA glue / UHU foam glue / Superglue  
 Cross wrench / Reamer / Solder Iron / Thread lock / Side Cutter  
 Driller 1.2mm/4mm / Transparent Tape

**Please note:**

For controlling the elevator, one end of the extension must connect with the receiver; the other end have to connect with AUZ hole of the mixer for adjusting the correct movement.



Using a sharp hobby knife carefully cut the covering away from each of the holes on the main wing. Use the solder iron to trim the covering around he holes.



Take 2 pieces of 7 x 18mm dowels out of the hardware bag. Sand the end of the dowels, spread some UHU glue on one half of the dowels and insert the dowels (with glue on) into each of the wing dowel holes.



There are pre-serving servo trays on the bottom of the main wing. Mark

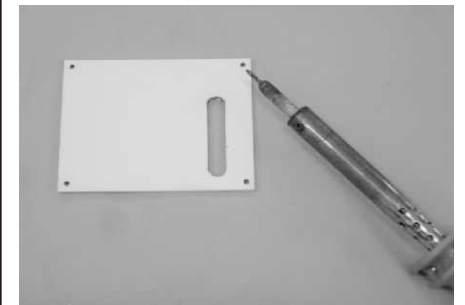
two diagonals of a square cross in the center of the hole. Use a hobby knife to cut the covering according to the marking lines.



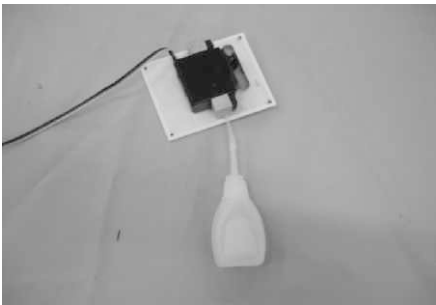
Use solder iron to trim the covering around the holes.



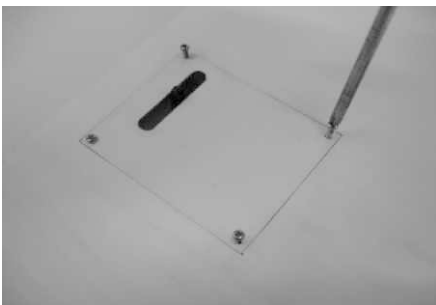
Use hobby knife to cut away the covering around the servo holes.



Take the servo tray plank out of the hardware bag and use driller to open holes on the 4 corners.



Connect the servo with the receiver and set the servo to the neutral position. Set the servo arm to the exit hole and place the blocks on two sides of the servo (if the blocks are too large, use sanding paper to trim the length). Drop some CA glue to secure the blocks in position. Secure the servo in position with the screws supplied with the servo.

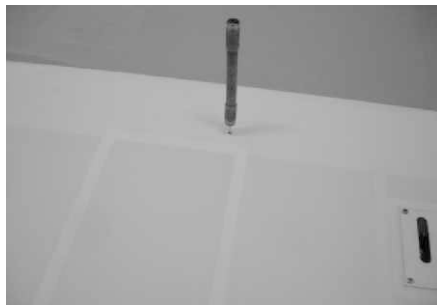


Place the servo tray in position and try to secure it with 4 pieces of 2.6x10mm tapping screws.



Loose the tapping screws (2.6x10mm)

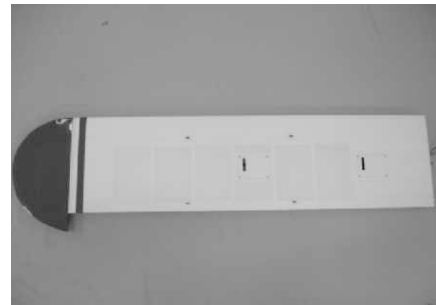
and remove the servo tray and drop some CA glue into the screw-holes for reinforcement. (Note: aileron servo must connect with 60cm extension. Flap aileron connects with 30cm extension. It is convenient to use the outer tube included in the hardware bag and a piece of tape to secure the plug on the tube and pull out the plug of the extension.)



Use 1.2mm driller to drill 4 holes on the pre-marking locations on the main wing.



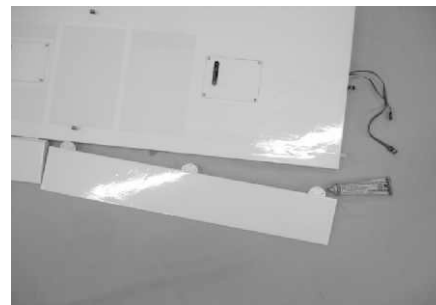
Take 10 pieces of eye-screws and rubber eyelets out of the hardware bag. Stuff the eyelets into the eye-screws.



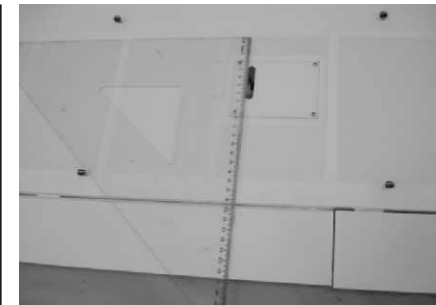
Screw the eye-screws into the 4 holes.



Place the aileron and flap on the working table. Spread some superglue on one half of the hinges and insert into the hinge holes on the aileron and flap.



Spread superglue on another half of the hinges and slide into main wing. Apply transparent tape on the conjunction until the glue dry enough.



Use a ruler aligned the edge of the servo hole making a mark on the edge of the aileron.



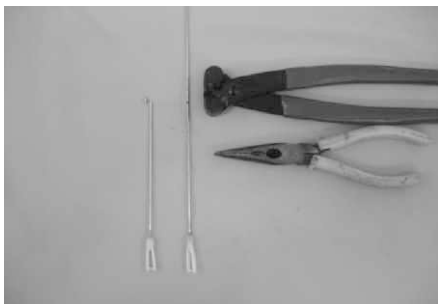
Remove the control horn and plate from the plastic parts and take out the M2 x 25mm screws from the hardware bag.



Place the control horn on the marking position and use 2mm driller to drill the hole. Secure the control horn and plate in position with M2 x 25mm screw.



Thread the metal clip onto the rod. Connect the clip with the control horn. Use marker to mark the position where rod contact with servo arm.



Use Z-bender to make a Z bend on the marked position and cut off the extra rod. Slide in one piece of 5mm silicone tube.



Connect the Z end with servo arm and move the silicone tube on the clip for avoiding losing off during flying.



Take the main wing strut on the working table. Use a hobby knife to cut off the covering over the slot.



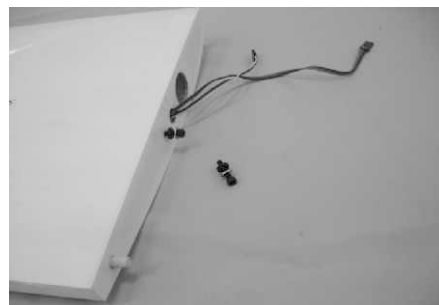
Connect the end of wing strut with eye screw on the main wing and secure with R pin.



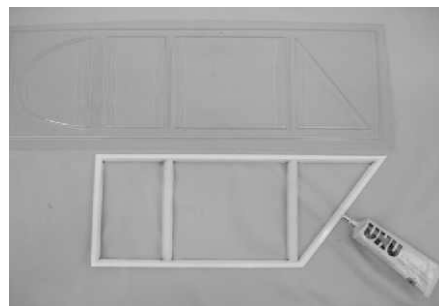
.Connect the ends of the wires with eye-screws.



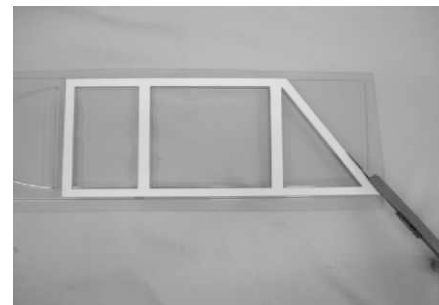
Take the rubber ring (3x10mm) out of the hardware bag. Insert the rod into the rubber ring and use hobby knife to cut the ring into two halves.



Take 4x20mm hex screws and washers out of the hardware bag. Slide the washer into the screw and insert the screw into the rubber ring. Screw the whole rubber ring combination into the main wing.



Spread UHU glue on the window frame and glue the window frame on the vacuum formed plastic window.



When the glue is dried enough, use hobby knife to remove the extra plastic window. Use curved scissors to trim the rear window and keep 5mm extra plastic around the edge of the rear window when trimming.



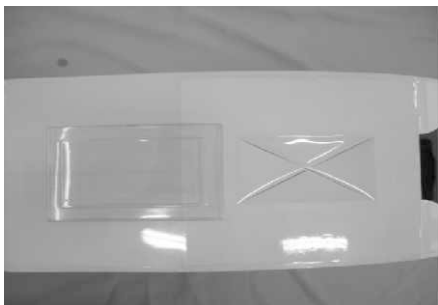
Use hobby knife to cut off the covering over the opening for the rear window and please keep 6mm extra covering around the edge of the opening when cutting.



Use sealing iron to trim the extra covering inside the fuselage.



Spread UHU glue on the edge of the plastic rear window and fit it onto the window hole inside the fuselage.



Use hobby knife to cut off the covering over the opening for the sunroof and please keep 2mm extra covering around the edge of the opening when cutting.



Use iron to trim the extra covering inside the fuselage.



Use curved scissors to trim the edge of the sunroof and please reserve 5mm extra plastic around the edge of the sunroof. Spread UHU glue on the edge of the sunroof. Fit the sunroof to its opening from inside fuselage.



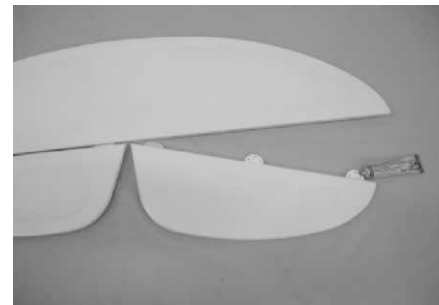
Repeat the same procedure on the left side window set.



Try to find the pre-serving holes over the top of the side window. Use hobby to remove the covering over the holes.



Place the vertical and rudder on the working table. Spread superglue on the hinges and slide into the rudder.



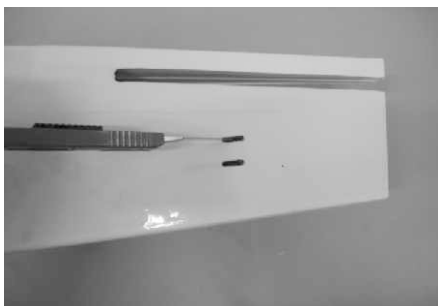
Place the horizontal and elevator on the working table. Spread superglue on the hinges and slide into the elevator.



Try to find the pre-serving slot on the tail of the fuselage for the vertical. Use hobby knife to remove the covering over the slot.



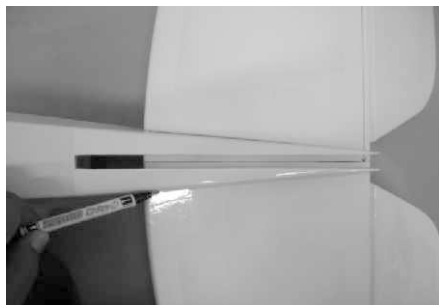
Use hobby knife to remove the covering over the slot for the elevator and the block on the tail.



Try to find two linkage openings on the tail of the left fuselage. Use hobby knife to remove the covering over the openings.



Try to find the top linkage opening on the tail of the right fuselage. Use hobby knife to remove the covering over the opening. (This is only for the top linkage hole.)



Use ruler to mark a center line on the horizontal. Try to fit the horizontal on the tail of the fuselage. The center line must be in the center position of the tail. When satisfy the location, use marker to mark the contacting area on the horizontal on both two sides.



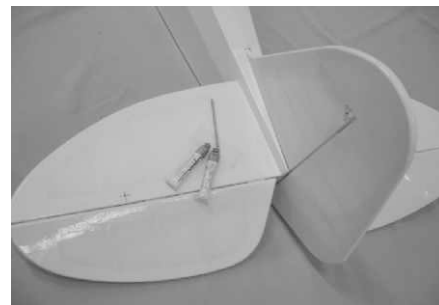
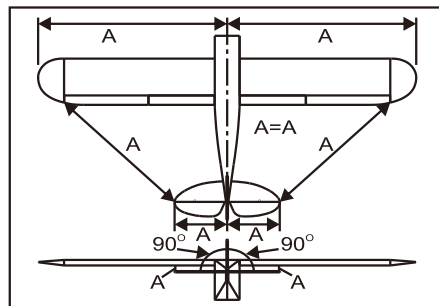
Try to install the vertical on the tail and use marker to mark the contacting area on the vertical.



Remove both vertical and horizontal. Use hobby knife to cut off the covering inside the marking area on the horizontal (two sides). Please don't cut into the wood.



Use hobby knife to cut off the covering inside the marking area on the vertical. Please don't cut into the wood.



Use epoxy to glue the vertical and horizontal in position.

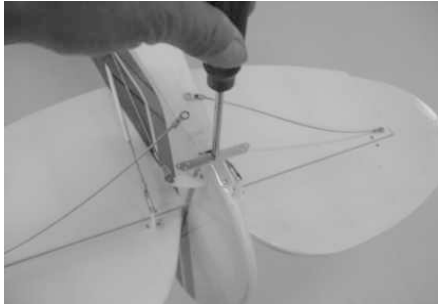


Take out the following accessories from the hardware bag:  
 Tail gear / T-stand / Wire  
 3mm Collar / Aluminum blot w/nut  
 Control Arm / Suspension (2 pieces)  
 3x16 Tapping screws (2 pieces)  
 2x12 Tapping screws (2 pieces)  
 Aluminum Collar / Tail wheel  
 3x4 Hex screws (2 pieces)

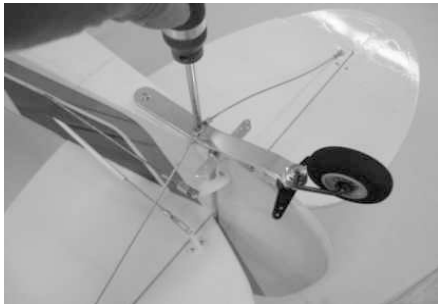


Assembling tail gear with stand and secure it with the screws. Insert the aluminum collar, tail wheel and 3mm

collar into the tail wire. Secure the assembly with 3x4mm hex screw. Fasten the tail wheel assembly on the tail gear w/aluminum blot and nut. Secure the control arm on the bolt with 3mm hex screw.



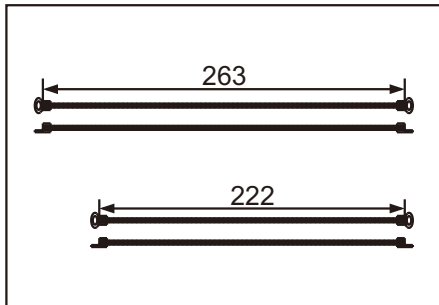
Try to locate the T-stand on the bottom of the rudder. Center its position and secure it with 2x12mm tapping screws.



Place the tail gear assembly on the bottom of tail gear. Please note the direction. The bend end is facing the T-stand. Secure the front end of tail gear assembly with one piece of 3x16mm tapping screw on the fuselage. Place the bottom wiring assemblies on the tail gear. Secure the both ends with tail gear on the end of fuselage with 3x16 mm screws.



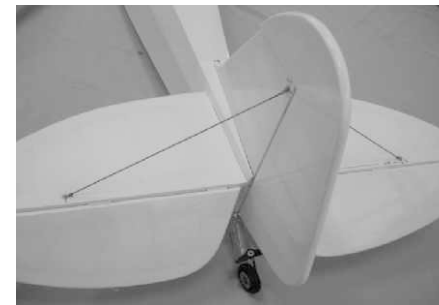
Take the springs out of the hardware bag. Use pliers to bend one end for installing on the T-stand. Pull another end to lock into control arm. Please note that the strength on both springs must be the same or the tail wheel and rudder will be affected. Cut off the extra length on the springs.



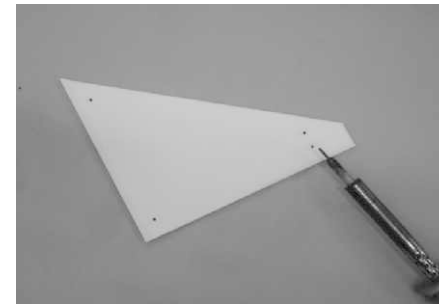
Use plier to cut the wire into two pieces. One is 263mm (for the top), another is 222mm (for the bottom). Connect the ends with connectors and press into flat. Drop some CA on the conjunction for reinforcement. The location for securing the wires on the horizontal and vertical.



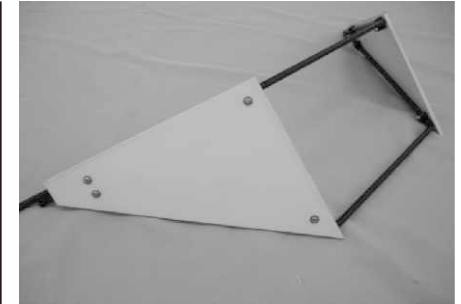
Use 2mm nut and washer to secure the screw through the bottom of the fuselage.



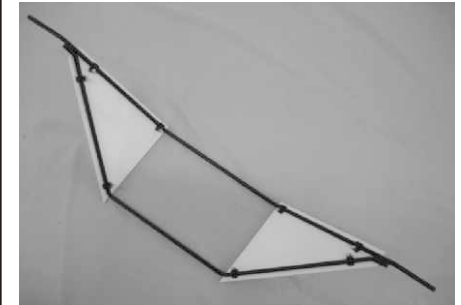
Use 2 x 15mm screw to secure the ends of the wire on the vertical and horizontal.



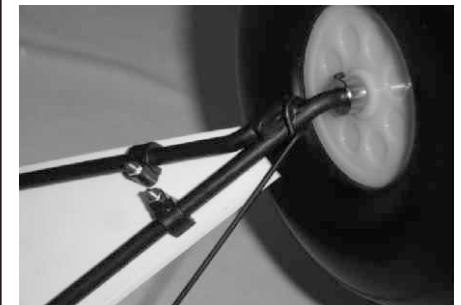
Try to find the pre-serving 4 holes on the main gear decoration planking. Use driller to drill off the covering over the holes.



Insert the M2x15mm screws and 2mm washers to the holes.



Take 8 pcs of plastic fixtures out of the hardware bag and secure the planking and the main gear with 2mm nuts.



Insert gear spring into the main gear. Add collar, wheel and secure with M3x4 hex screws.



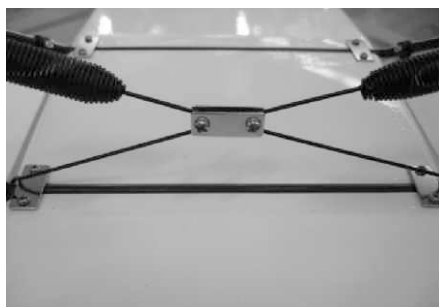
Use plier to open 5mm hook on the end of gear spring.



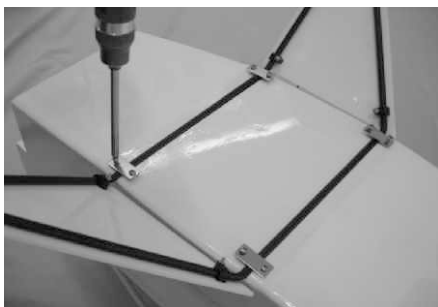
Use plier to adjust the hook on the gear spring for hooking on the main gear.



Use hobby knife to remove the covering over the main gear slot on the bottom of the fuselage.



Use M3x8mm screws and 3mm flange nuts to secure 2 pieces of metal plates on the crossing of two springs.



Take 4 pieces of metal plates out of the hardware bag. Secure the main gear in position with the metal plates and 2.6x10mm tapping screws.



Screw the eye-screws into the pre-serving hole on the top of the gear.



Use UHU glue to secure two pieces of 13.5 x 15 x 41mm blocks on the ends of throttle servo tray.



Connect the servo with 60cm extension. Secure the rod connector on servo arm with nut and hex screw. There are preserving servo holes on both side of tail fuselage. Please find the locations and use hobby knife to cut off the covering carefully. Try to locate the servo into the servo hole and place a fixing-planking on the rear edge. Secure the servo in place with washer and tapping screws.



Insert the rod of elevator into the rod connector. Set the servo at neutral position. Use 1.5mm hex wrench to secure the rod.



Find the wire hardware bag from the kit. Thread the nut into the rod. Thread the metal clevis into nut. Insert the wire through the copper tube, then through the hole on the rod and again through the copper tube. Use plier to grip the copper tube, squeeze the pliers and make the copper tube into flat for fixing the wire inside the copper tube. Connect the metal clevis on the servo arm and drop some instant glue on the copper tube.





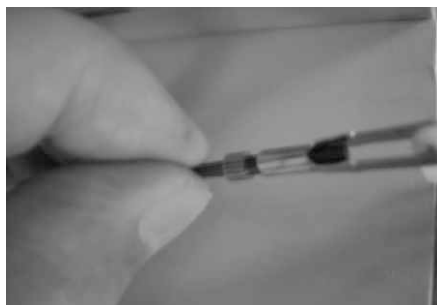
Try to find the exit for the rudder rod on the fuselage. Use hobby knife to remove the covering. Note: cross the steel cables inside the fuselage and through the exits. The left servo arm connects to right control horn; right servo arm connects to left control horn.



Take two pieces of control horn out the hardware bag. Align the exits; try to find the best location on both sides of the rudder for connecting wire. Use 2.0mm drill to drill the holes and secure the control horn in place with 2mm screws and nuts. Assemble the metal clevis assembly. Insert the wire through the copper, to the hole of the rod and back to copper again. Pull the wire tight. Use the plier to fixing the wire inside the copper and drop some instant glue on the copper tube.



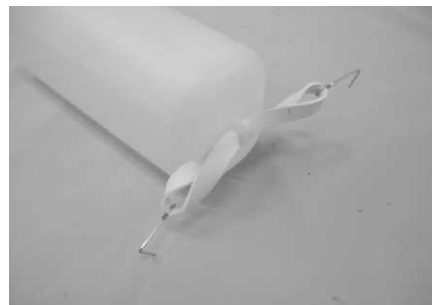
The linkage assembly after assembling.



In order to pull the wire tightly; you lose the nut, screw the rod tight and screw the nut back.



Use reamer to drill hole on the end of the tank.



Slide the rubber band through the drilled hole on the tank. Connect hooks on both ends of rubber band.



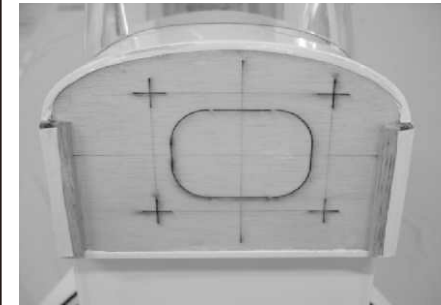
Connect the fueling tube (not included in the kit) with the tank. Use plier to adjust the hooks on the rubber band for hooking on the planking.



Install the throttle servo tray inside the fuselage. Secure the throttle servo on the servo tray with the screws supplied with the servo. Connect the rod with throttle.



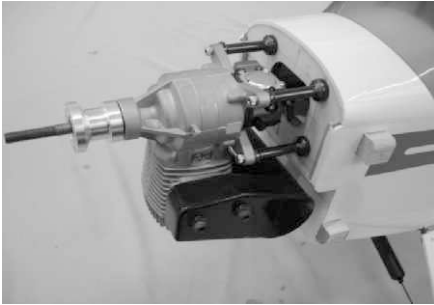
Use curved scissors to trim the canopy. Use 2x8mm tapping screws to secure the canopy in position.



The four cross- markings on the fire wall is for installing OS GT33 engine. If use different engine, the installing position will be different. Please use the four markings as reference.



Please remove the fuel tank before installing the engine. Use 5mm drill to drill holes for securing the engine. Use hobby knife to cut open the center opening on the fire wall. Place blind nuts from inside and secure the engine in position.



Try to fit the cowling onto the engine. Use curved scissors to trim the cowling. Take 4 pieces of small block out of the hardware bag. Try to place the blocks on the head of the fuselage. When satisfy the location, use marker to mark the outline of the blocks. Use hobby knife to remove the covering inside the marking area. Drop some CA on the blocks and glue them onto the fuselage.



Installing the cowling, assembling the propeller and spinner to the engine (not included in the kit). Use 2x8mm tapping screws to secure the cowling in position. Apply the decorative decal on the cowling.



Cut a small piece of adhesive Velcro tape and stick on the side window and the right wing. (Please refer to the picture) It will be easier to open the window and do some changes inside the fuselage.



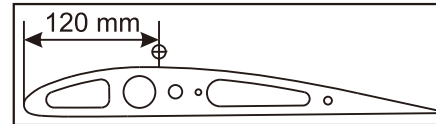
When assemble the main wing, please insert R- pin into the eye-screw to secure the strut in position.



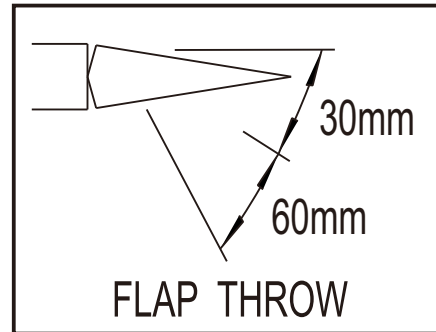
Picture of opening the window. Please add hinges on the front edge of the top window and the rear edge of the bottom window.



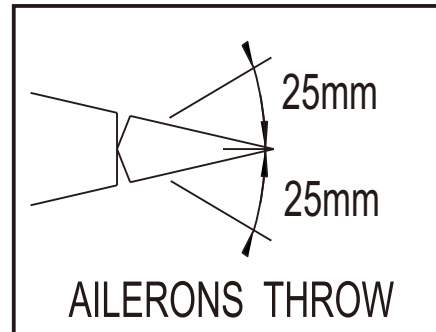
Use 3.0mm hex wrench to secure the main wing inside the fuselage.



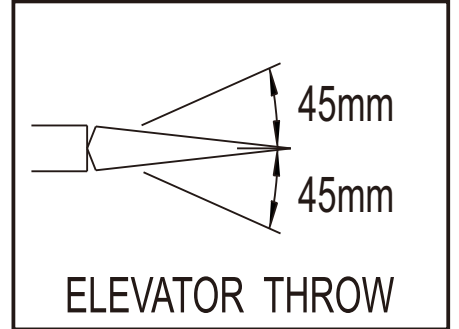
The recommended C.G. Location is 120mm back from the leading edge.



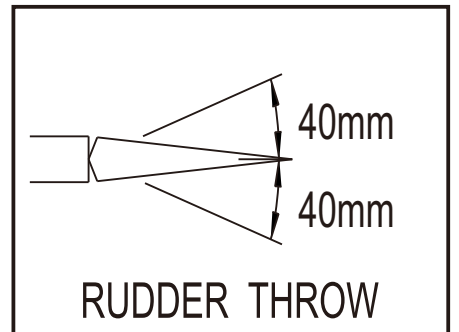
FLAP THROW



AILERONS THROW



ELEVATOR THROW



RUDDER THROW