Aviat A-1C Christen Husky 80"
wingspan size 15-20cc

Code : SEA 180N

ASSEMBLY MANUAL

"Graphics and specifications may change without notice".

Specifications:

Wingspan------------------------ 80.0 in----------------- 203.0 cm
Wing Arena---------------------- 922.3 sq.in------------ 59.5 sq.dm
Flying Weight------------------- 11.5 lbs---------------- 5.2 kg
Lenght-------------------------- 50.0 in----------------- 127.0 cm
Recommended engine size-----15-20cc
Radio------------------------------ 6 channels with 7 servos

INTRODUCTION

Thank you for choosing the **Aviat A-1C Christen Husky 80" wingspan size 15-20cc** ARTF by **SG MODELS** . The **Aviat A-1C Christen Husky 80" wingspan size 15-20cc** was designed with the intermediate/advanced sport flyer in mind. It is a semi scale airplane which is easy to fly and quick to assemble. The airframe is conventionally built using balsa, plywood to make it stronger than the average ARTF, yet the design allows the aeroplane to be kept light. You will find that most of the work has been done for you already. The motor mount has been fitted and the hinges are pre-installed. Flying the **Aviat A-1C Christen Husky 80" wingspan size 15-20cc** is simply a joy.

This instruction manual is designed to help you build a great flying aeroplane. Please read this manual throughly before starting assembly of your **Aviat A-1C Christen Husky 80" wingspan size 15-20cc** Use the parts listing below to indentify all parts.

WARNING

Please be aware that this aeroplane is not a toy and if assembled or used incorrectly it is capable of causing injury to people or property. WHEN YOU FLY THIS AEROPLANE YOU ASSUME ALL RISK & REPONSIBILITY.

If you are inexperienced with basic R/C flight we strongly recommend you contact your R/C supplier and join your local R/C model Flying Club. R/C Model Flying Clubs offer a variety of training procedures designed to help the new pilot on his way to successful R/C flight. They will also be able to advise on any insurance and safety regulations that may apply.

KIT CONTENTS
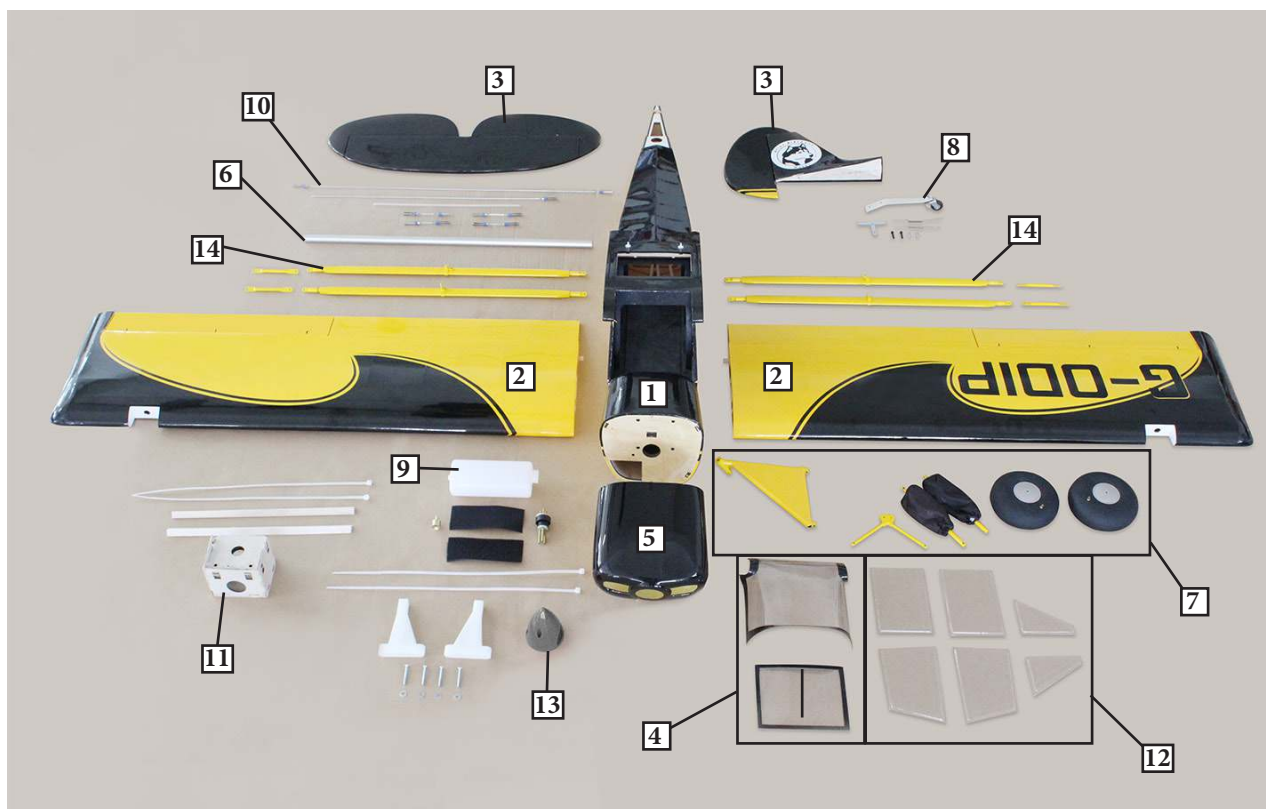
KIT CONTENTS

SEA180N   Aviat A-1C Christen Husky 80" wingspan size 15-20cc

1. Fuselage
2. Wing set (2)
3. Tail set (2)
4. Canopy (2)
5. Cowling
6. Wing tube
7. Landing gear
8. Tail wheel
9. Fuel tank
10. Pushrod set
11. Ep Motor box
12. Windows
13. Spinner
14. Wing strut (2)

ADDITIONAL ITEMS REQUIRED

☐   15-20cc gasoline engine.
☐   Computer radio 6 channel with 7 servos.
☐   Glow plug to suit engine.
☐   Propeller to suit engine.
☐   Protective foam rubber for radio system.

TOOLS & SUPPLIES NEEDED

☐   Thin cyanoacrylate glue.
☐   Medium cyanoacrylate glue.
☐   30 minute epoxy.
☐   5 minute epoxy.
☐   Hand or electric drill.
☐   Assorted drill bits.
☐   Modelling knife.
☐   Straight edge ruler.
☐   2mm ball driver.
☐   Phillips head screwdriver.
☐   220 grit sandpaper.
☐   90° square or builder's triangle.
☐   Wire cutters.
☐   Masking tape & T-pins.
☐   Thread-lock.
☐   Paper towels.

HINGING THE FLAP

1.

2.

2x10mm

3.

4.

5.

6.
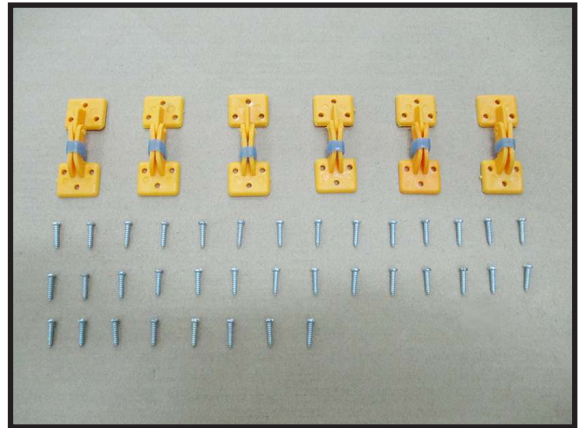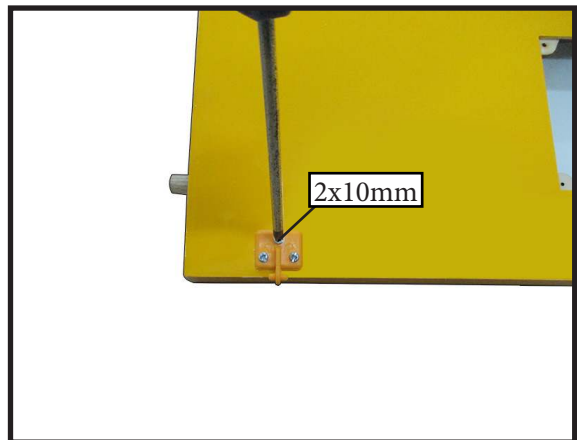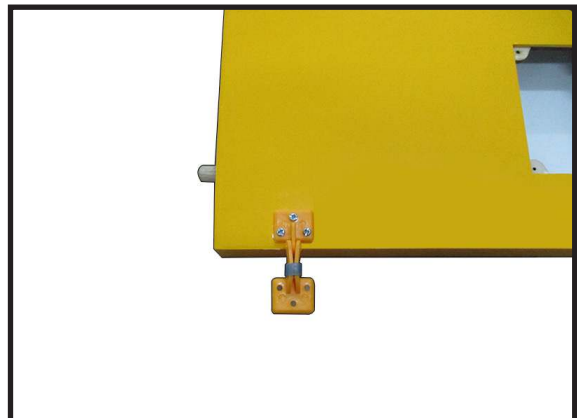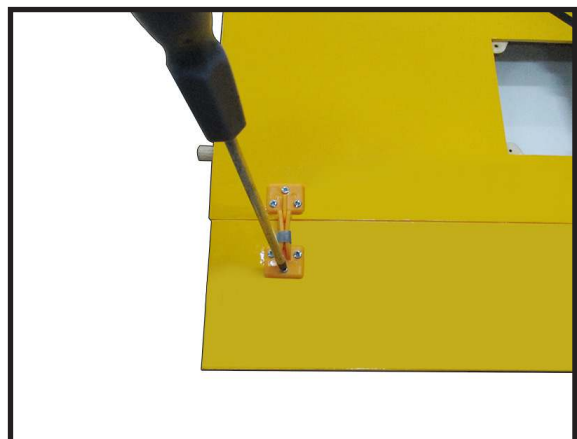
INSTALL THE AILERONS
CONTROL HORN

Locate the aileron and flap control horns. The taller control horn is used for the ailerons, and the shorter horn for the flaps.

1.

Ailerons control horn
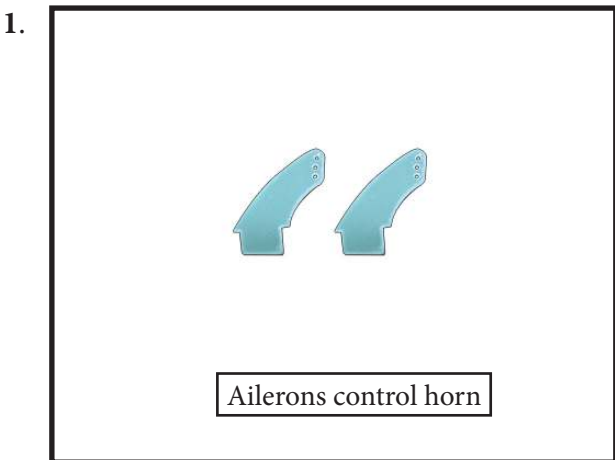
Use sandpaper to scuff the bottom of the aileron and flap control horns. Use a paper towel and isopropyl alcohol to remove any oils or debris from the control horns.
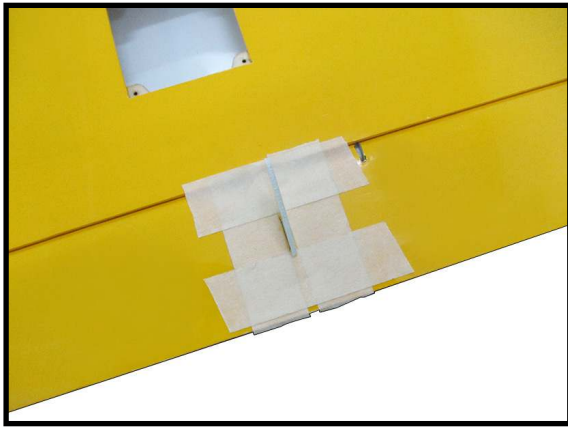
2.
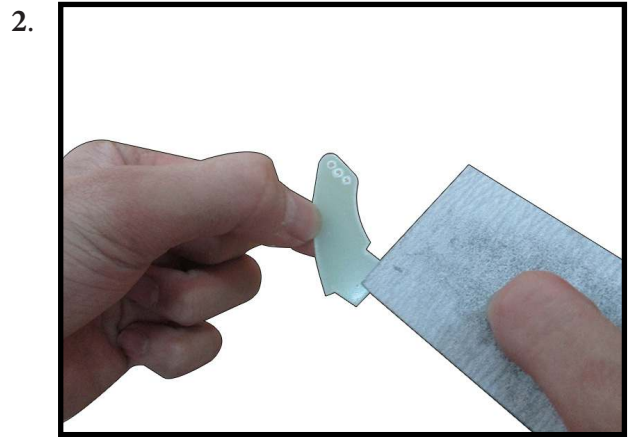
Check the fit of the control horns to the aileron and flap. They should rest flush against the control surface as shown.

3.

Place low-tack tape 1/32 inch (1mm) from the control horn slot. This will prevent epoxy from getting on the control surface when the control horns are glued in place.

4.

Remove the control horns from the control surfaces. Apply epoxy to the slot in the aileron and flap. Make sure the epoxy gets into the slot for a good bond between the surfaces and control horn.

5.
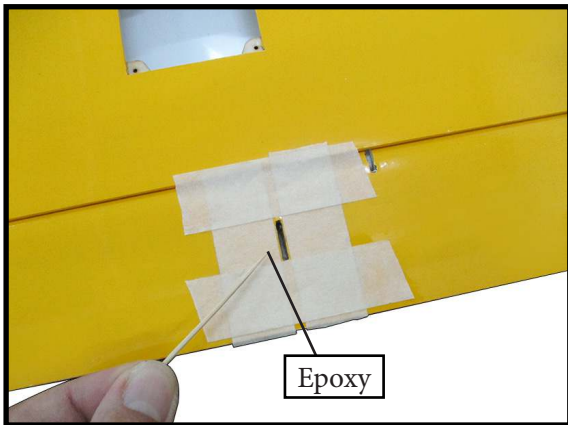
Epoxy

Apply epoxy to the area of the control horns that fist into the slots. Use enough epoxy so the control horns will be fully bonded to the fied surfaces.

6.
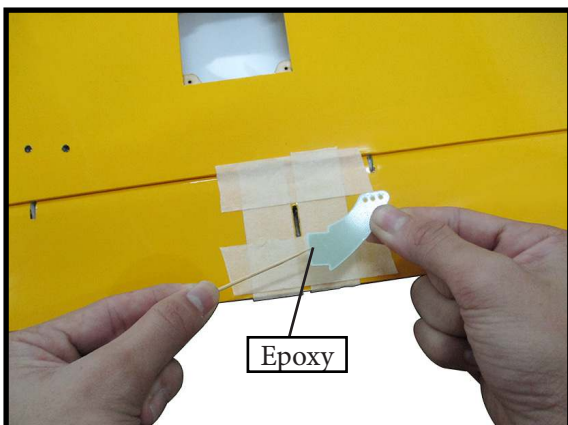
Epoxy

Before the epoxy fully cures, remove the tape from around the control horn. This will allow the epoxy to flow around the control horn, creating a small filet between the control horn and surface for a fiished look and secure bond.

7.
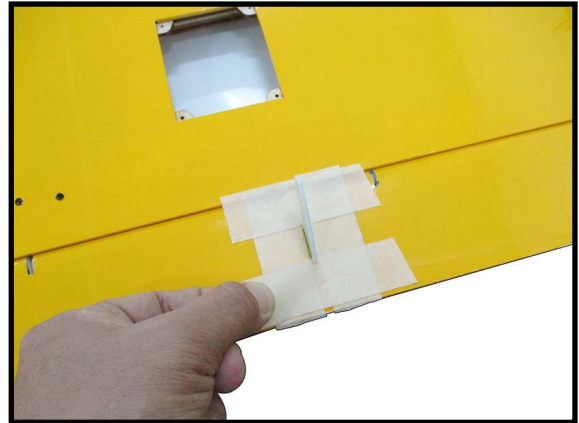
INSTALL FLAP CONTROL HORN

Install the flap control horn using the same method as same as the aileron control horns.

1.

Fiberglass control horn

2.

Epoxy

3.

Flap control horn

4.
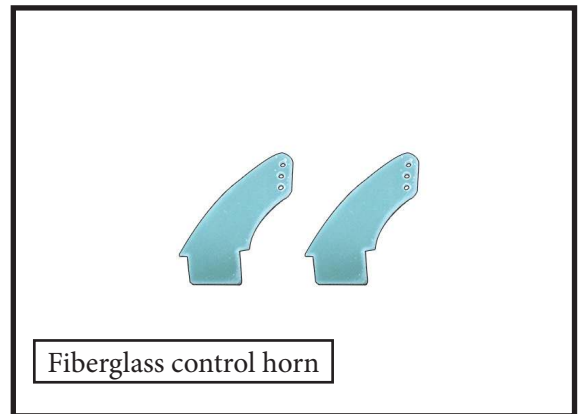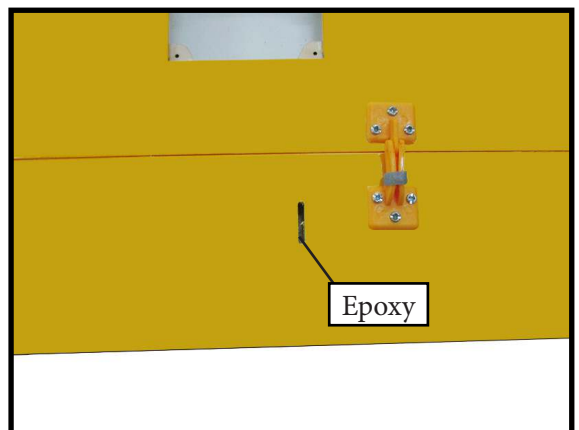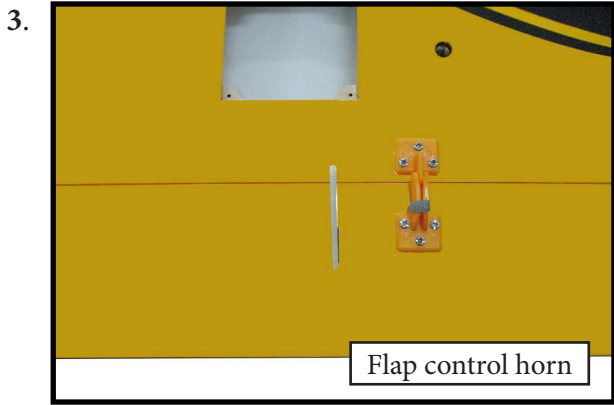
INSTALL LED LIGHT

Please study images below.

1.

Led Light Lipo 3S

5.

2.

6.

C/A glue

3.

C/A glue

7.
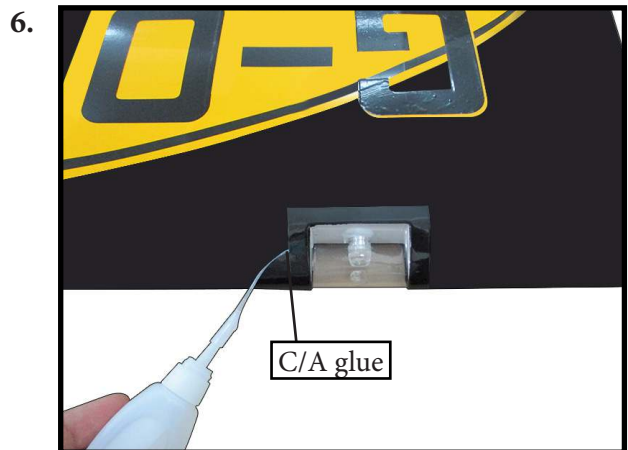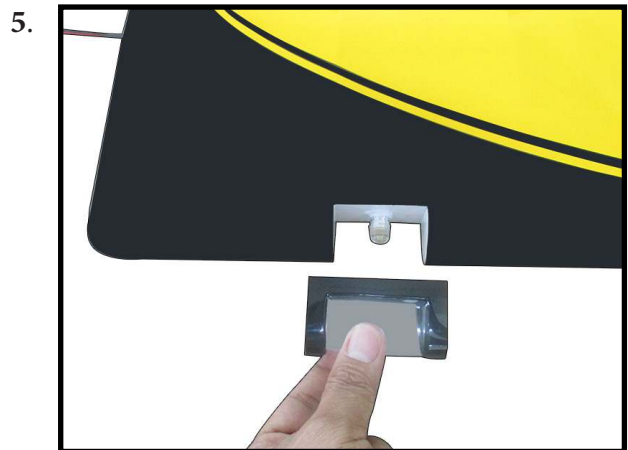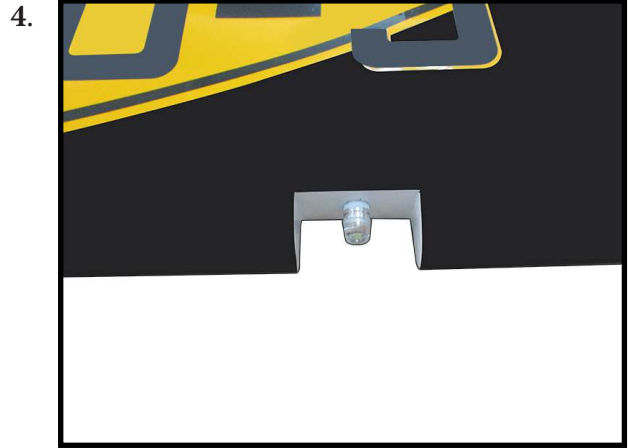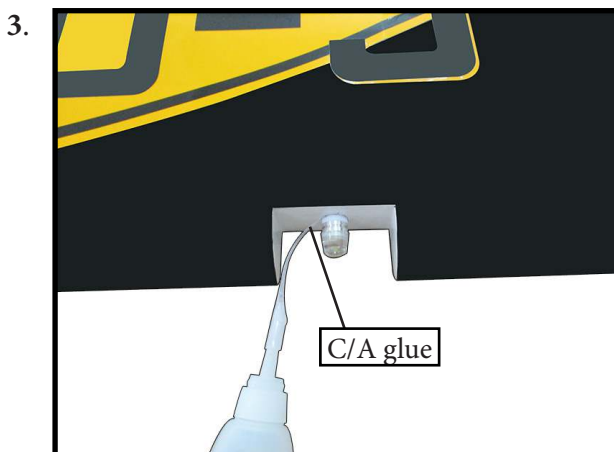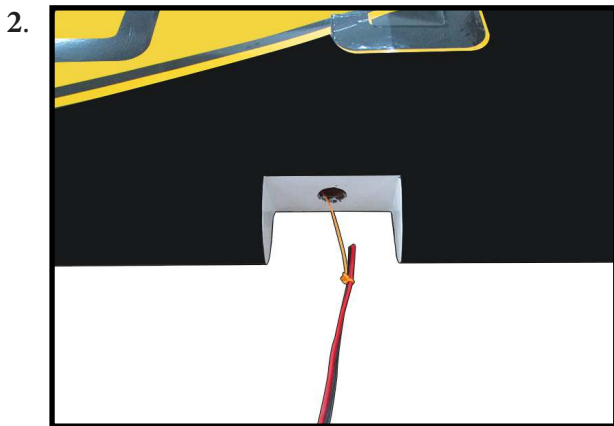
INSTALLING THE AILERON SERVOS

1.

**2.**

Ailerons servo   Flap servo
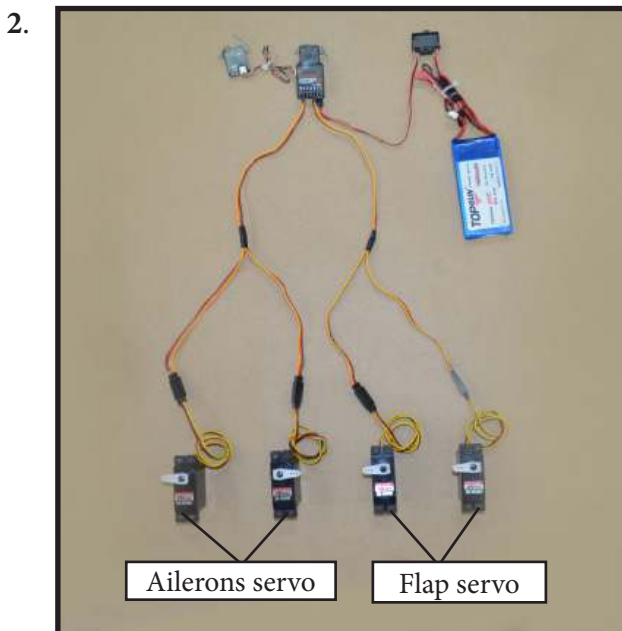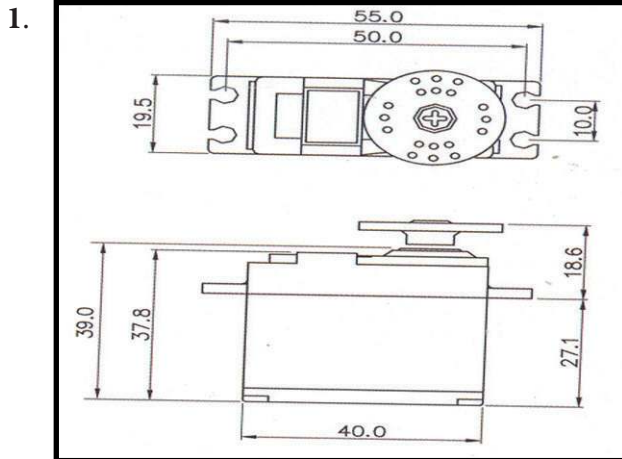
Minimum servo spec.
Torque : 80 oz-in (5.8 kg-cm) @ 4.8V;
100 oz-in (7.2 kg-cm) @ 6.0V

⚠ Because the size of servos differ, you may need to adjust the size of the precut opening in the mount. The notch in the sides of the mount allow the servo lead to pass through.

Place the servo between the mounting blocks and space it from the hatch. Use a pencil to mark the mounting hole locations on the blocks.

3.
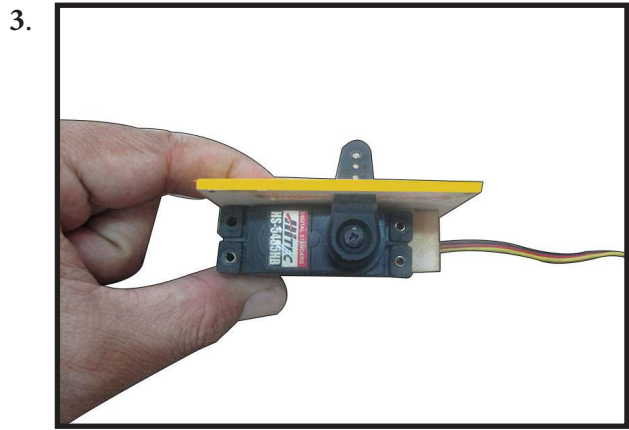
Use drill bit in a pin vise to drill the mouting holes in the blocks.

4.

1.5mm
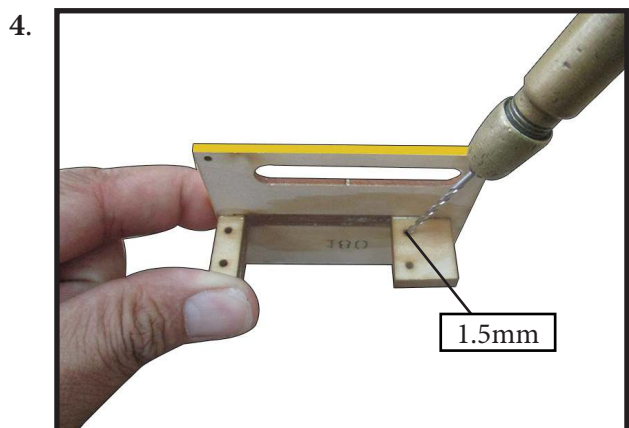
Apply 2-3 drops of thin C/A to each of the mounting holes. Allow the C/A to cure without using accelerator.

5.

C/A glue
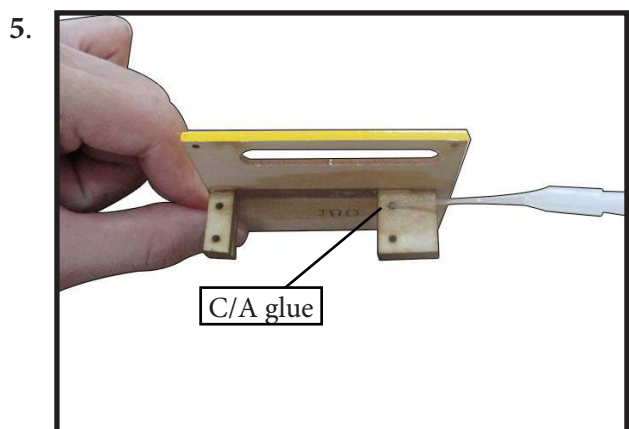
Use dental floss or heatshrunk tube to secure the connection so they cannot become unplugged.

6.
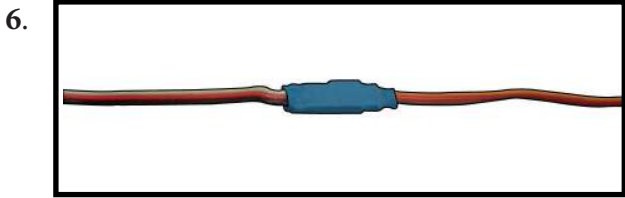
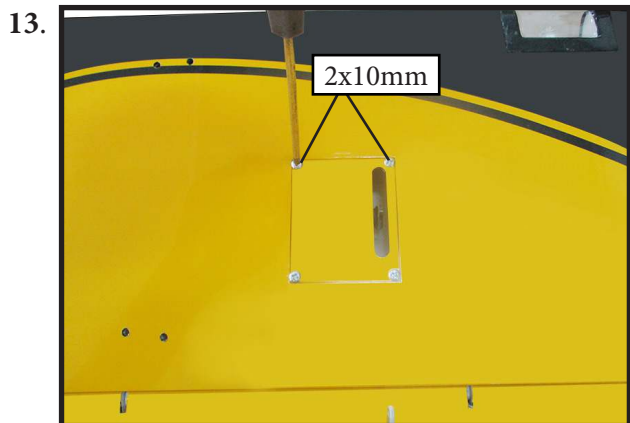Secure the servo to the aileron hatch using Phillips screwdriver and the screws provided with the servo.

7.
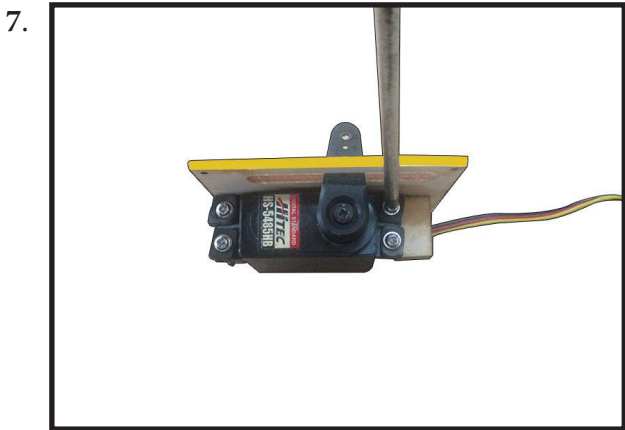
Apply 1-2 drops of thin C/A to each of the mounting tabs. Allow the C/A to cure without using accelerator.

8.

C/A glue
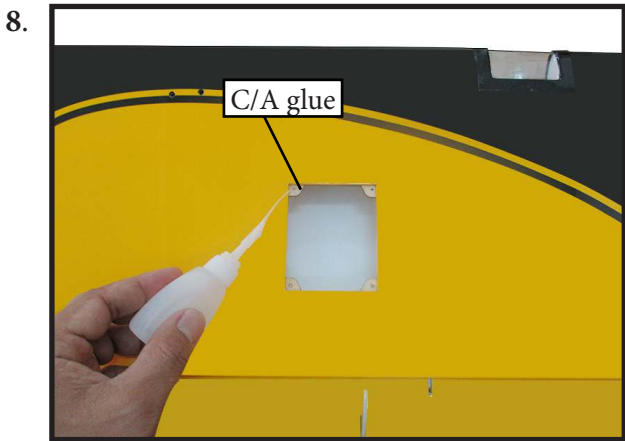
Remove the string from the wing at the servo location and use the tape to attach it to the servo extension lead. Pull the lead through the wing and remove the string.
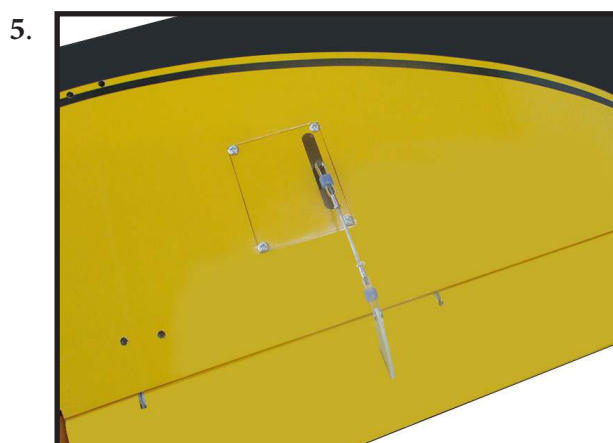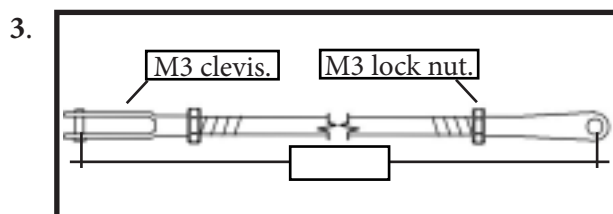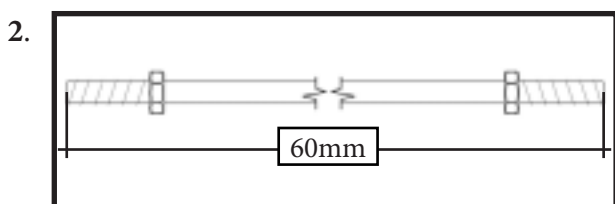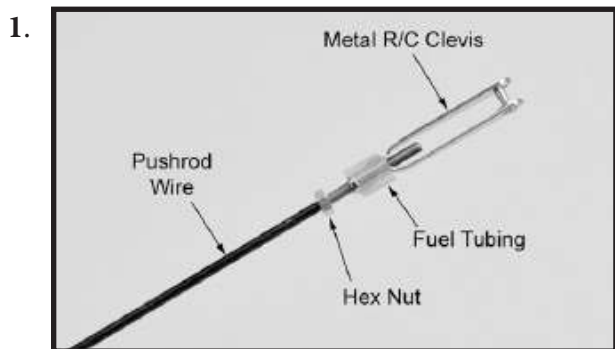
9.

10.

11.

12.
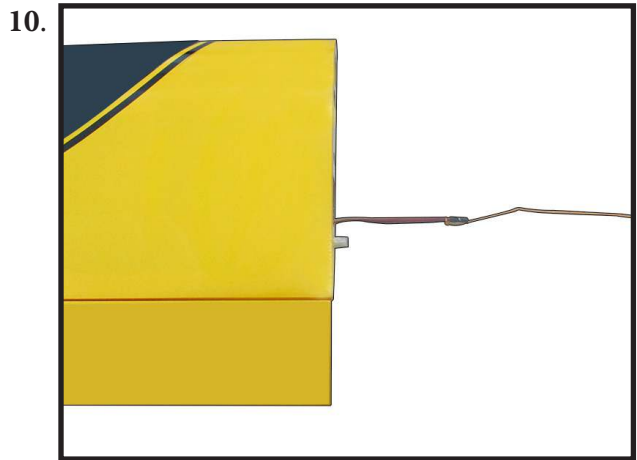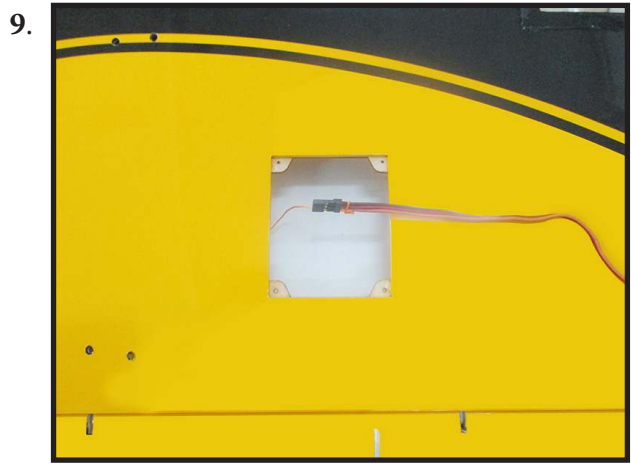
Set the aileron hatch in place and use a Phillips screw driver to install it with four wood screws.

13.

2x10mm

14.

AILERON PUSHROD INSTALLATION

Please see below pictures.

1.

Metal R/C Clevis

Pushrod Wire

Fuel Tubing

Hex Nut

2.

60mm

3.
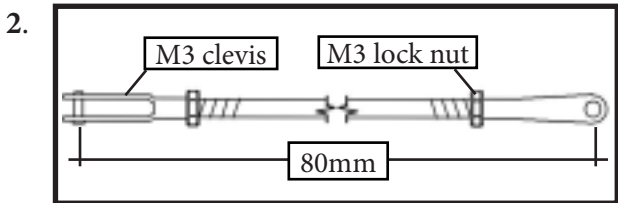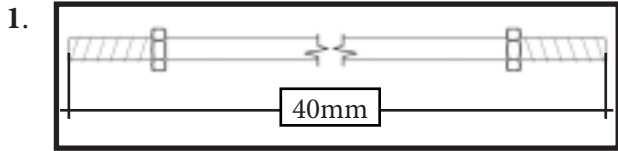

M3 clevis.   M3 lock nut.

4.

5.

INSTALLING THE FLAP SERVO

Repeat the procedure for the flap servo.

1.
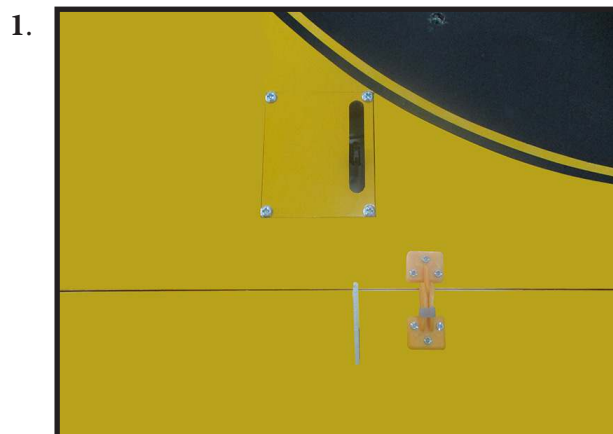
INSTALLING THE FLAP PUSHROD
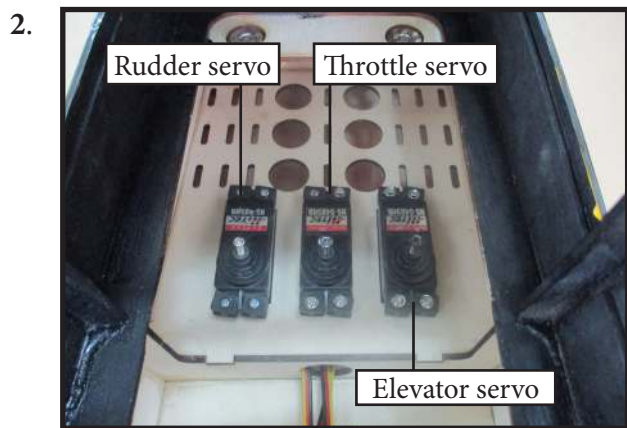
Repeat the procedure for the aileron pushrod.

1.

40mm

2.

M3 clevis   M3 lock nut

80mm

3.
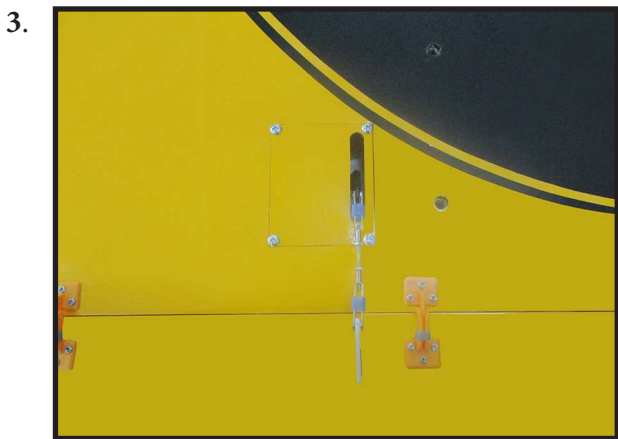
INSTALLING THE FUSELAGE SERVOS

Because the size of servos differ, you may need to adjust the size of the precut opening in the mount. The notch in the sides of the mount allow the servo lead to pass through.

Install the rubber grommets and brass collets into all servos. Test fit the servos into the fuselage servo mounts.

1.

Rudder servo
Tail wheel

Throttle servo   Elevator servo
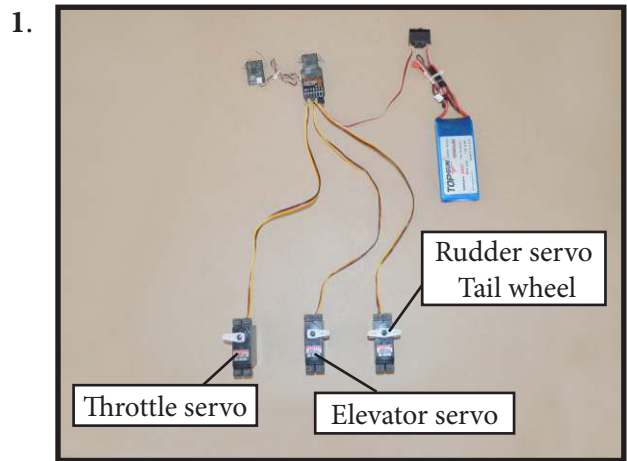
Secure the servos with the screws provided with your radio system.

2.

Rudder servo   Throttle servo

Elevator servo

THROTTLE SERVO ARM INSTALLATION

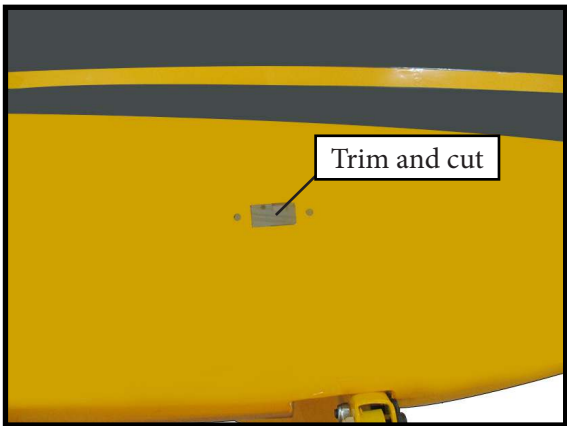Install adjustable servo connector in the servo arm as same as picture below:

1.

Loctite secure.

Adjustable servo connector.

Servo arm.

2.

Rudder servo arm | Throttle servo arm

Elevator servo arm
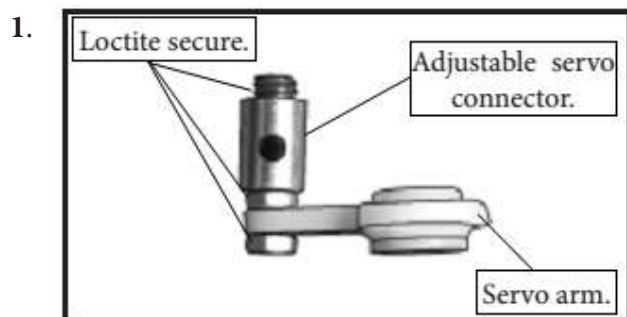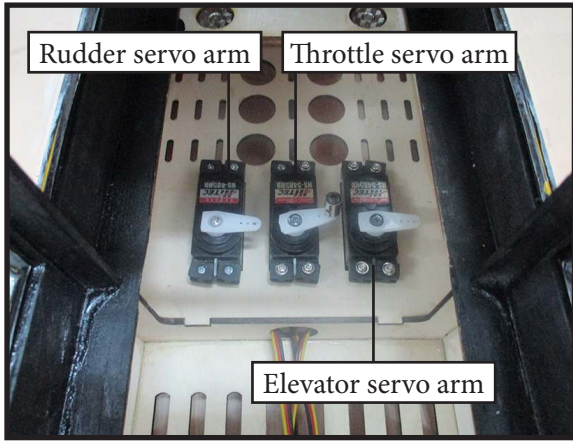
INSTALLING THE RECEIVER SWITCH

Install the switch into the precut hole in the side, in the fuselage.

1.

3/32" Hole

2.

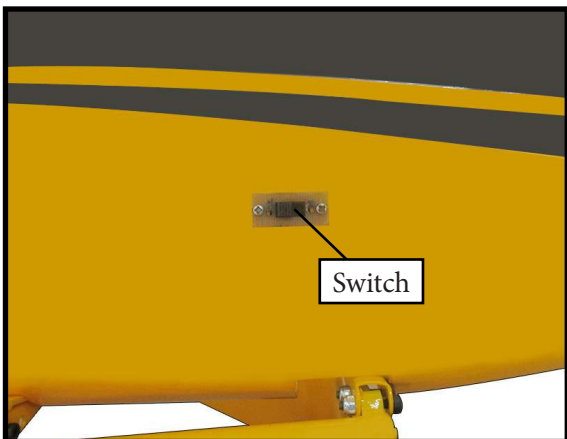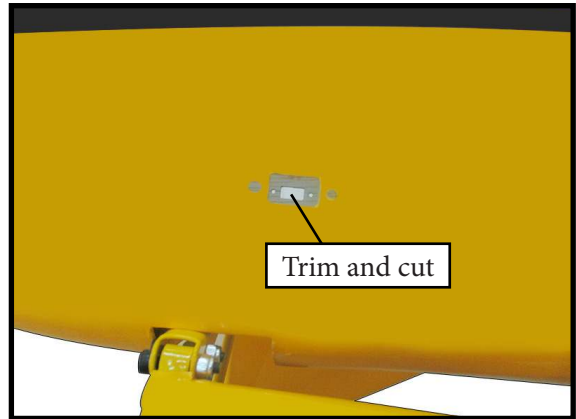

Trim and cut

3.
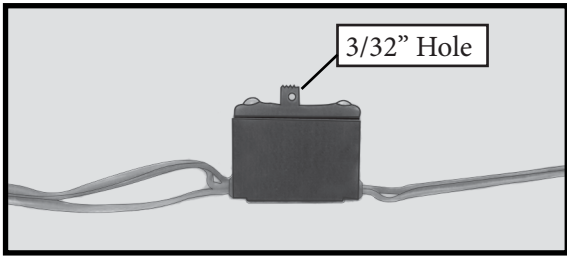
Switch

INSTALLING THE ENGINE SWITCH

4.

Trim and cut
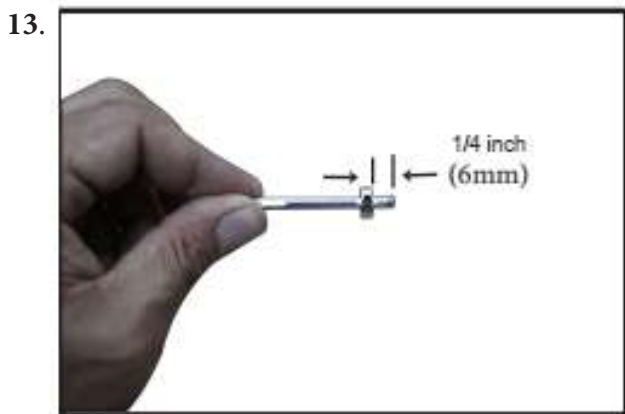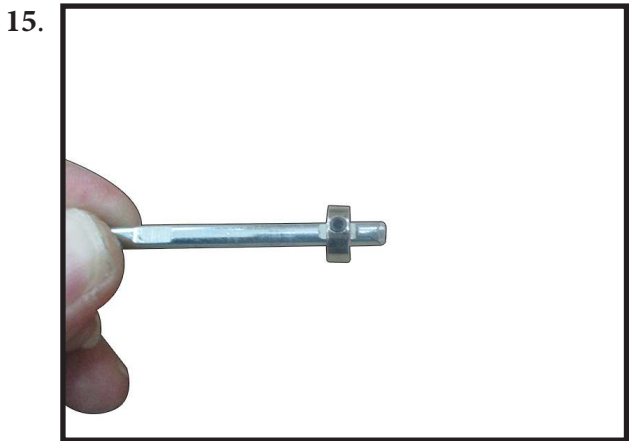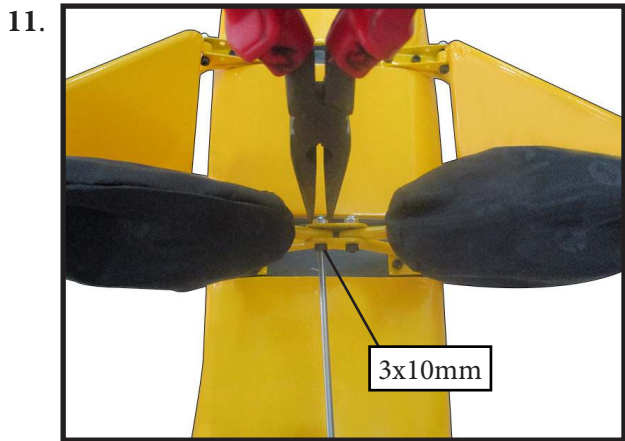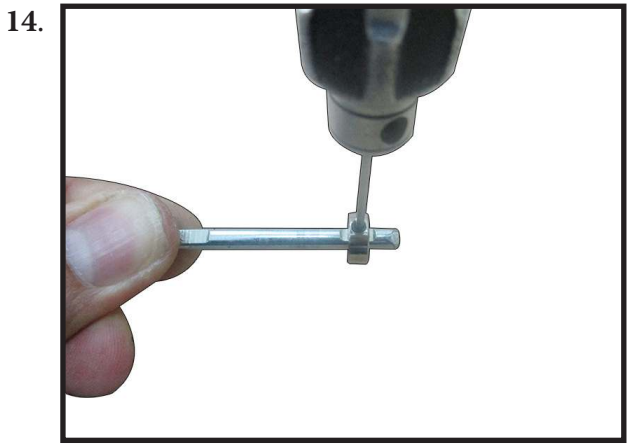
5.

Switch

LANDING GEAR INSTALLATION

Please study images below.

1.

2.

6.

3x15mm

3.

3x10mm

7.

4.

8.

5.

9.

3x15mm

10.

11.

3x10mm

12.

13.

1/4 inch
(6mm)

14.

15.

16.

17.

18.

19.

20.

21.

22.

23.

24.

25.
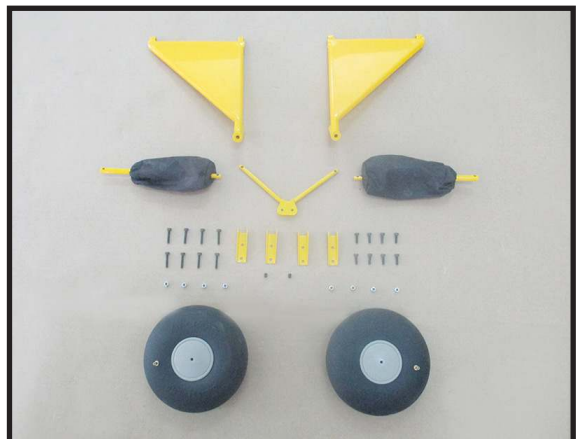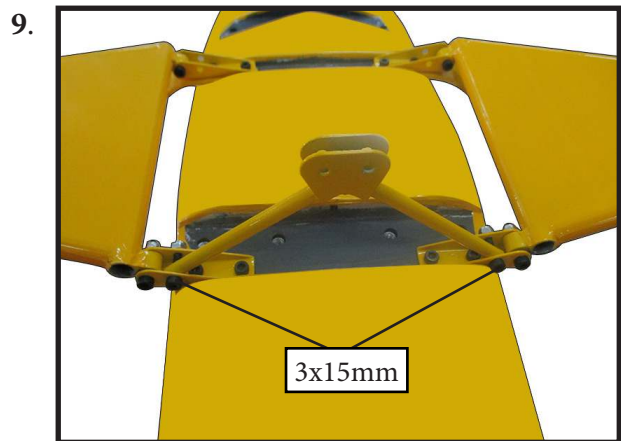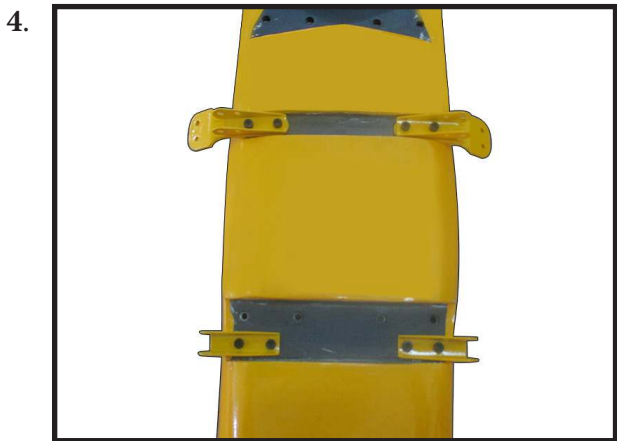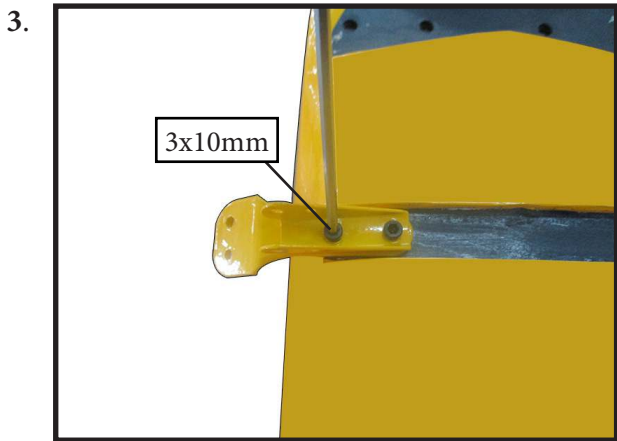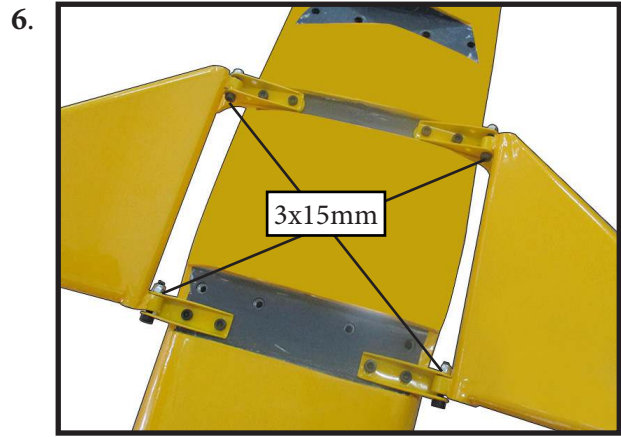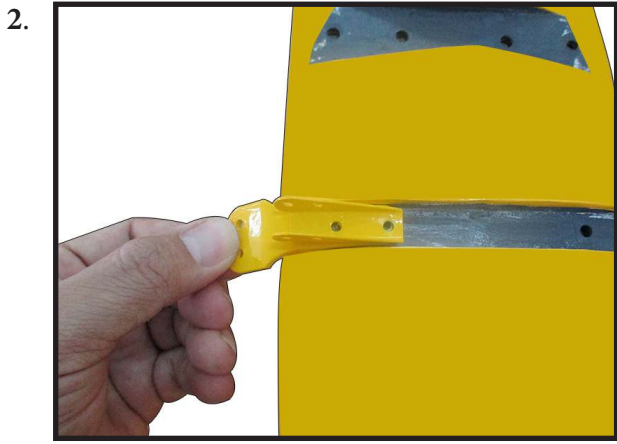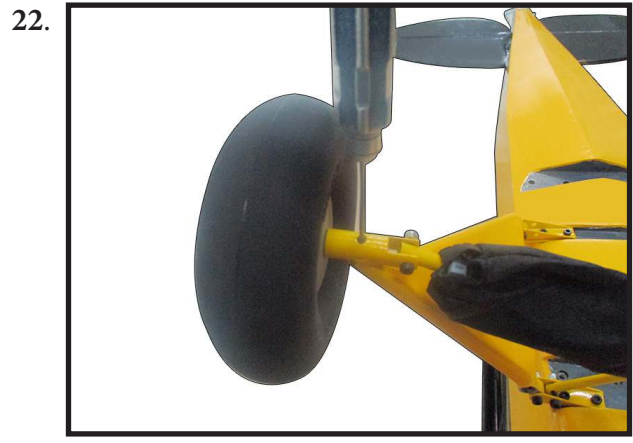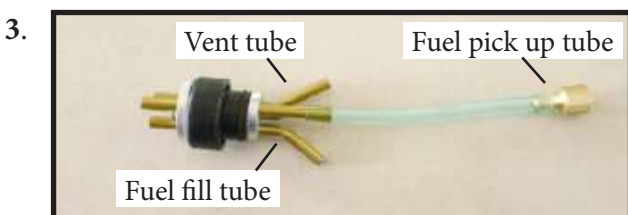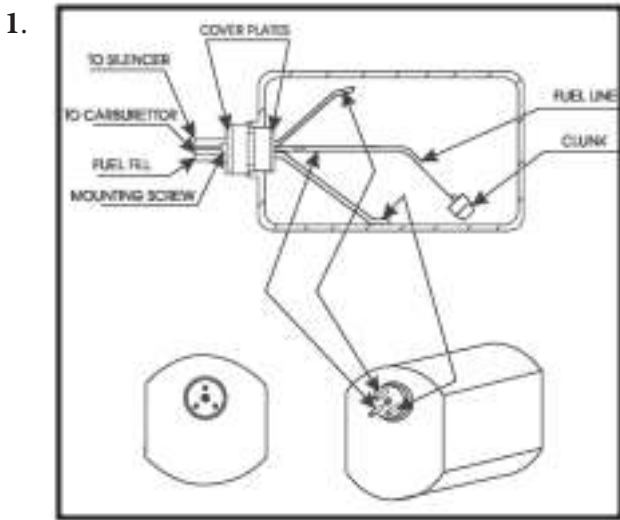
INSTALLING THE STOPPER ASSEMBLY

Using a modeling knife, carefully cut off the rear portion of one of the 3 nylon tubes leaving 1/2" protruding from the rear of the stopper. This will be the fuel pick up tube.

Using a modeling knife, cut one length of silicon fuel line. Connect one end of the line to the weighted fuel pick up and the other end to the nylon pick up tube.

1.

2.

3.

Vent tube

Fuel pick up tube

Fuel fill tube

Carefully bend the second nylon tube up at a 45º angle. This tube is the vent tube.

Test fit the stopper assembly into the tank. It may be necessary to remove some of the flashing around the tank opening using a modeling knife. If flashing is present, make sure none falls into the tank.

With the stopper assembly in place, the weighted pick-up should rest away from the rear of the tank and move freely inside the tank. The top of the vent tube should rest just below the top of the tank. It should not touch the top of the tank.

When satisfied with the alignment of the stopper assembly tighten the 3 x 20mm machine screw until the rubber stopper expands and seals the tank opening. Do not over-tighten the assembly as this could cause the tank to split.

FUEL TANK INSTALLATION

1.
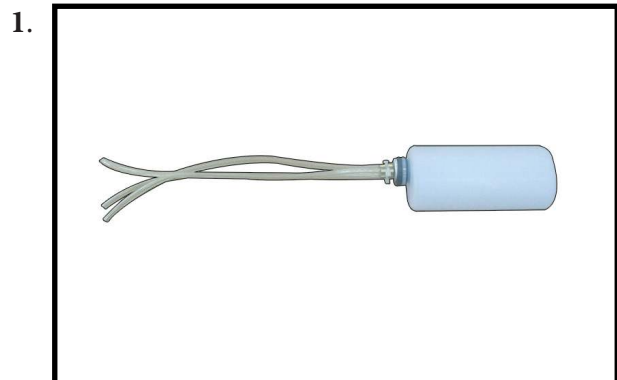
You should mark which tube is the vent and which is the fuel pickup when you attach fuel tubing to the tubes in the stopper. Once the tank is installed inside the fuselage, it may be difficult to determine which is which.

Slide the fuel tank into the fuselage. Guide the lines from the tank through the hole in the fiewall.

Use plywood template to hold in place the fuel tank with C/A glue to secure the fueltank inside the fuselage.

2.

3.

4.

5.

6.

Vent tube

Fuel pick up tube

Fuel fill tube
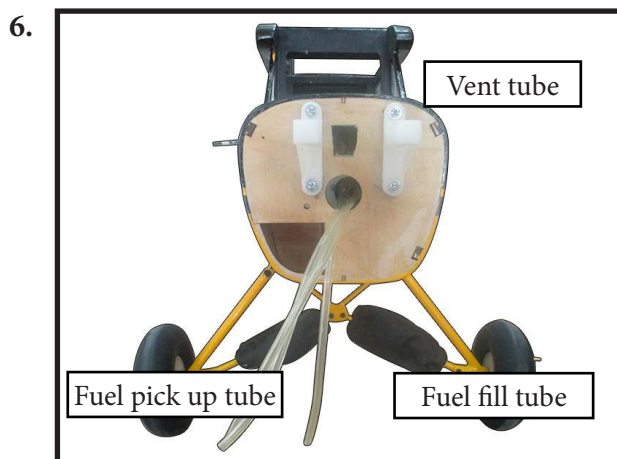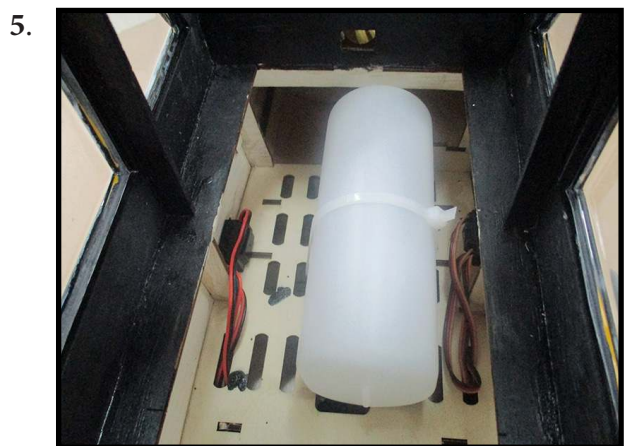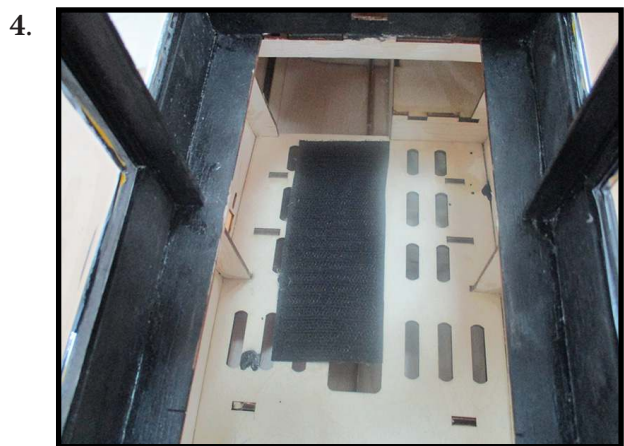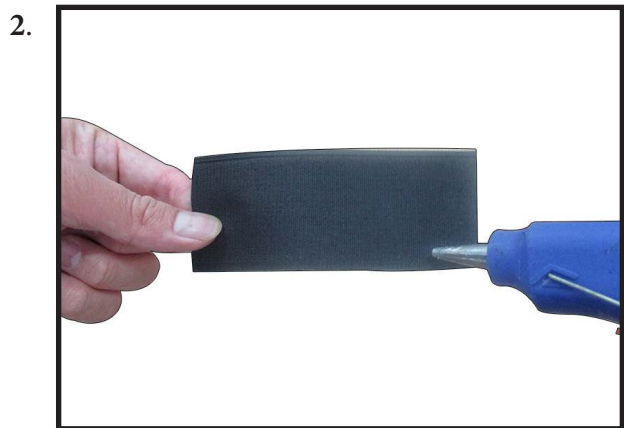
Connect the lines from the tank to the engine and muffler. The vent line will connect to the muffler and the line from the clunk tothe carburetor.
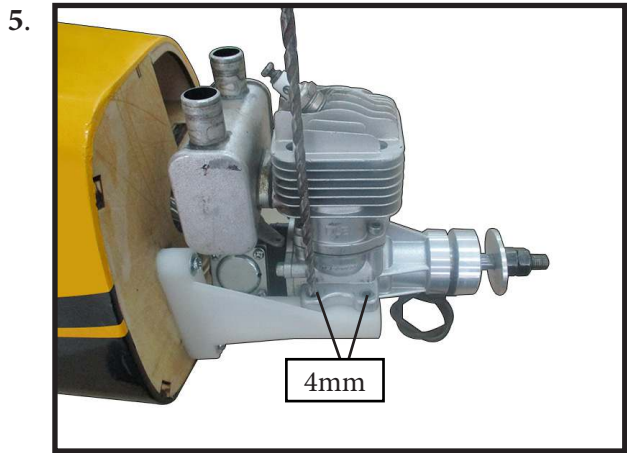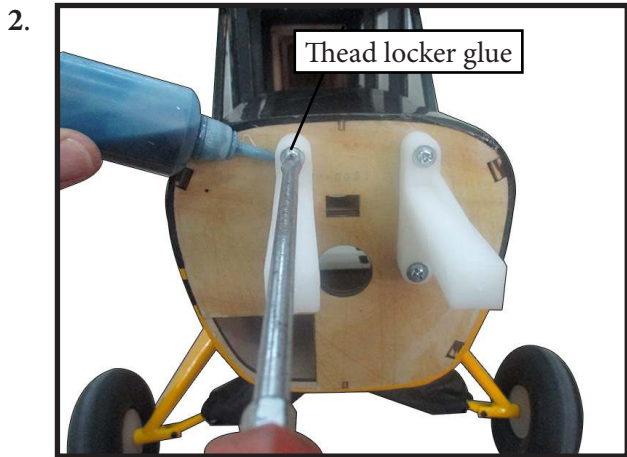
⚠ _Blow through one of the lines to ensure the fuel lines have not become kinked inside the fuel tank compartment. Air should flow through easily._
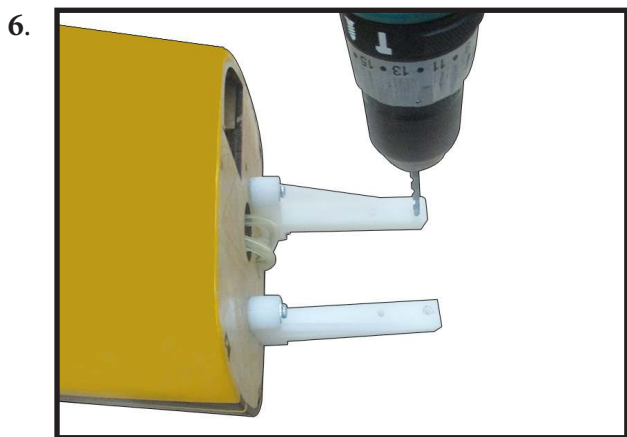
MOUNTING THE ENGINE

Locate the items necessary to install the engine mount included with your model.

1.
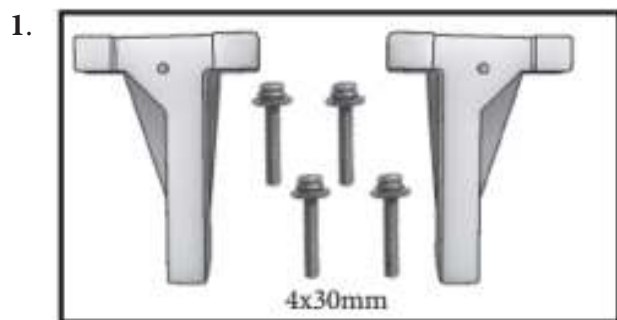
4x30mm

Use four 4x30mm head bolts and four 4mm washers to attach the engine mount rails to the firewall. Tighten the screws . Make sure to use threadlock on the screws to help prevent them from vibrating loose.
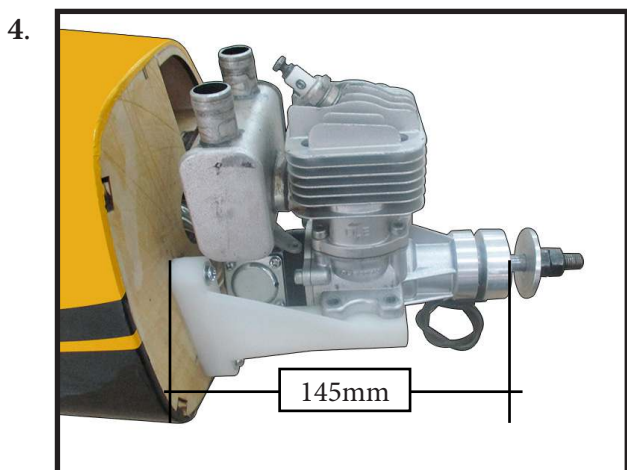
2.

Thead locker glue

3.

Position the engine with the drive washer (145mm) forward of the fiewall as shown.

4.

145mm

Use a pin drill and 4mm drill bit to drill a small indentation in the mount for the engine mounting screw.

5.

4mm

Use a drill to drill the four holes in the engine mount rails.

6.

On the fie wall has the location for the throttle pusshrod tube (pre-drill).

Slide the pushrod tube in the fiewall and guide it through the fuel tank mount. Use medium C/A to glue the tube to the fiewall and the fuel tank mount.

Connect the Z-bend in the 450mm throttle pushrod to the outer hole of the carburetor arm.

Slide the throttle pushrod wire into the tube. Position the engine between the mounts. Use four M4x30mm machine screws to secure the engine to the mount as shown.
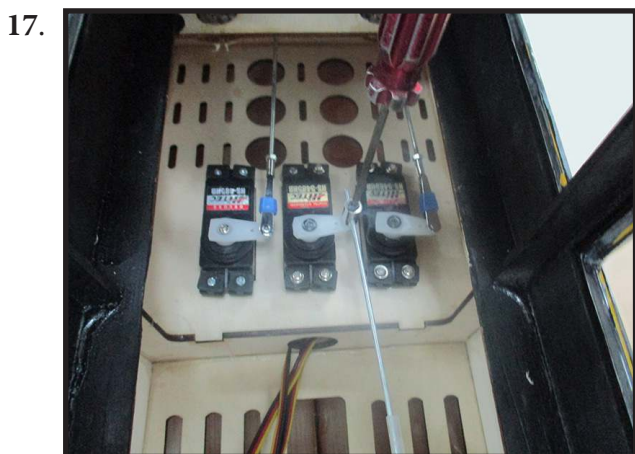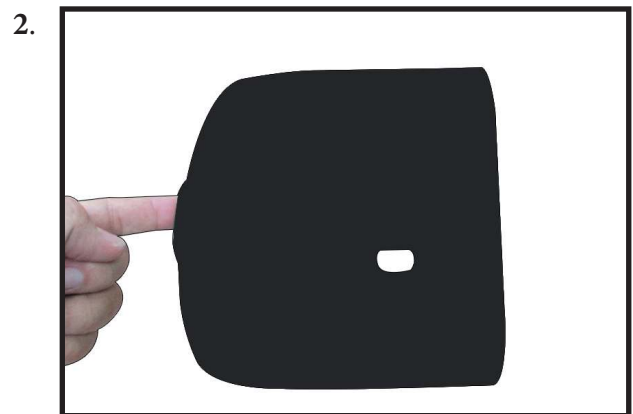
7.

11.

8.

Pushrod wire

4x25mm

12.

9.

M4 lock Nut

13.

Ignition Modude

10.

14.

15.

16.
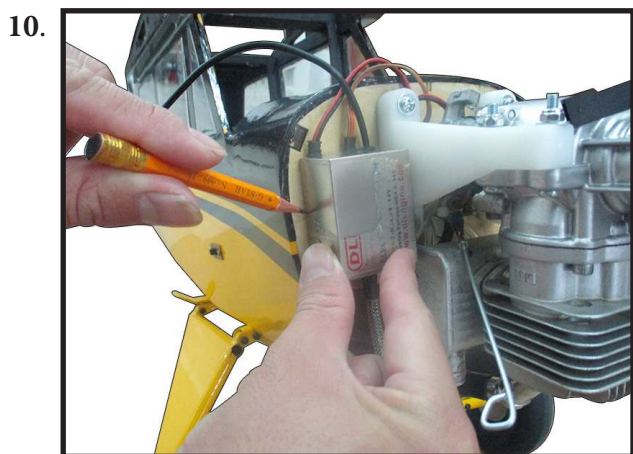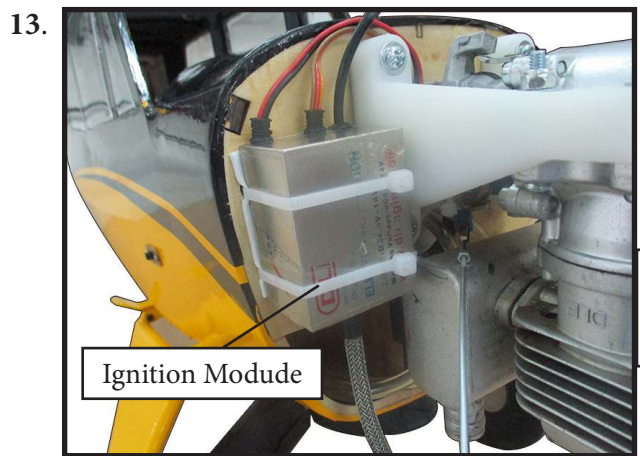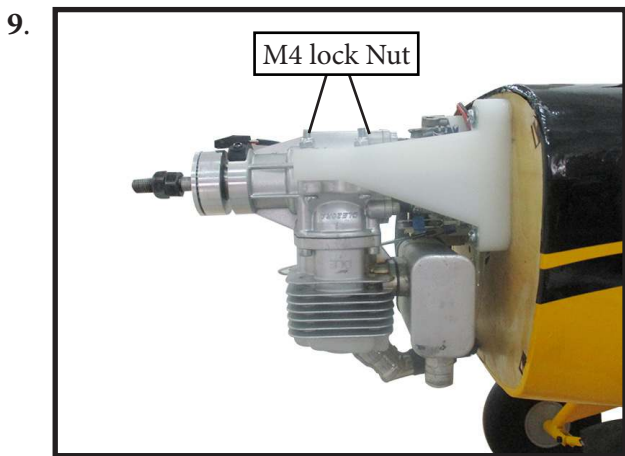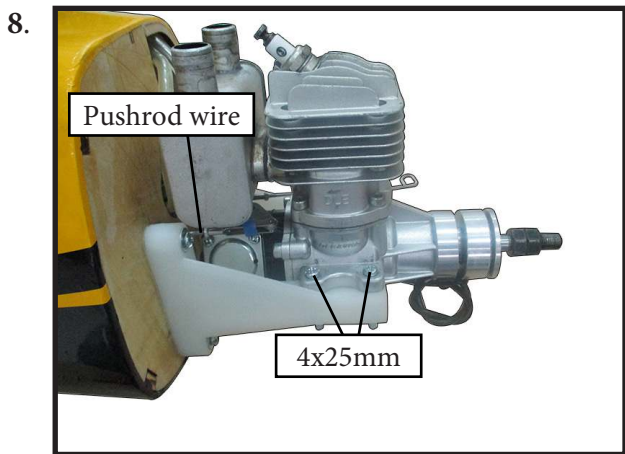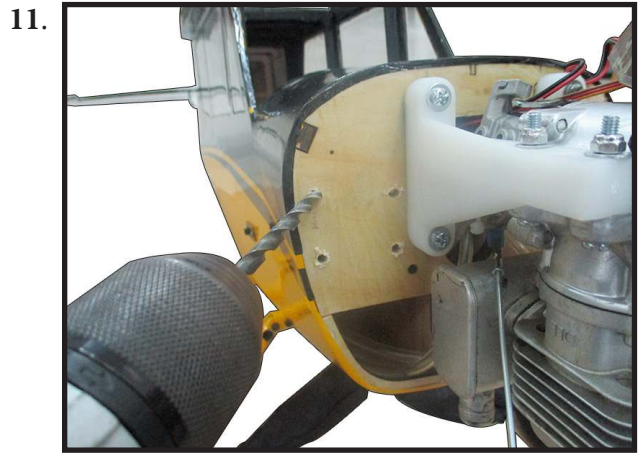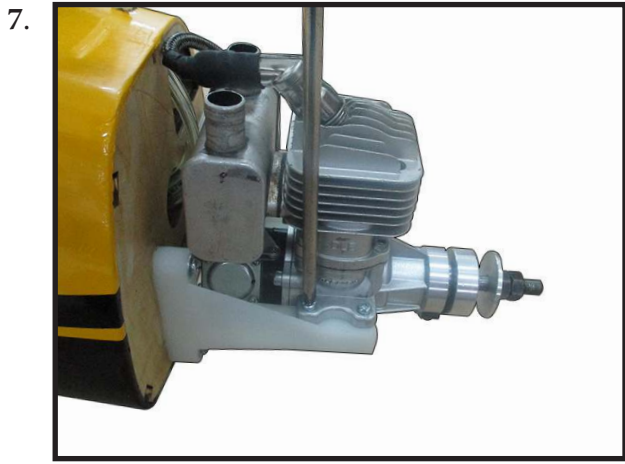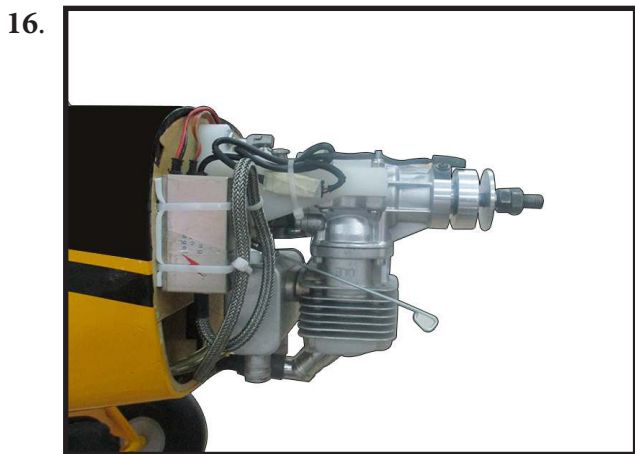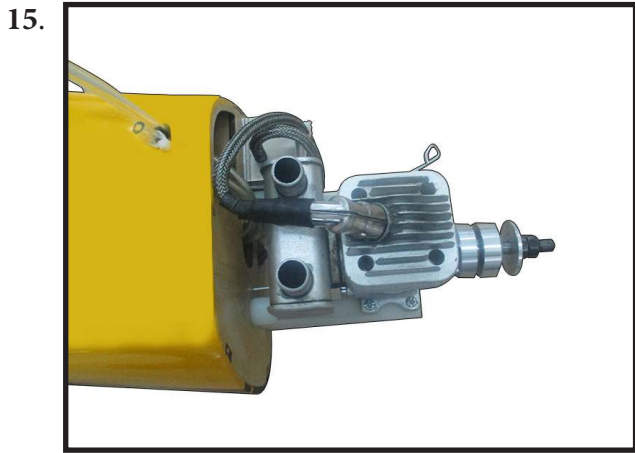
Reinstall the servo horn by sliding the connector over the pushrod wire. Center the throttle stick and trim and install the servo horn perpendicular to the servo center line.

17.

Move the throttle stick to the closed position and move the carburetor to closed. Use a 2.5mm hex wrench to tighten the screw that secures the throttle pushrod wire. Make sure to use threadlock on the screw so it does not vibrate loose.

18.

COWLING

1.

2.

3.

Tape the cowl to the fuselage using low-tack tape.

4.

Use a drill and drill bit to drill the holes for the cowl mounting screws. Make sure the cowl position is correct before drilling each hole.

5.


6.

7.

3x10mm
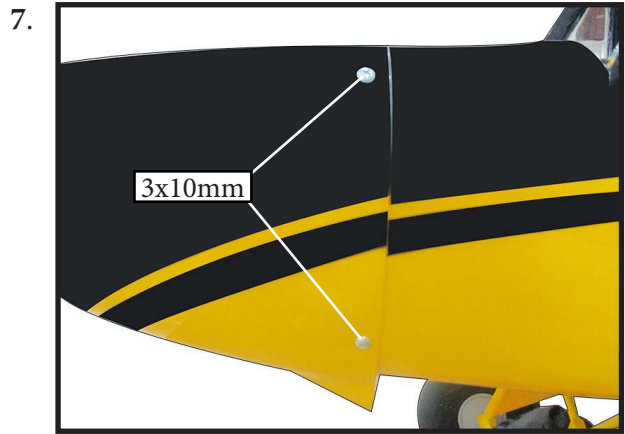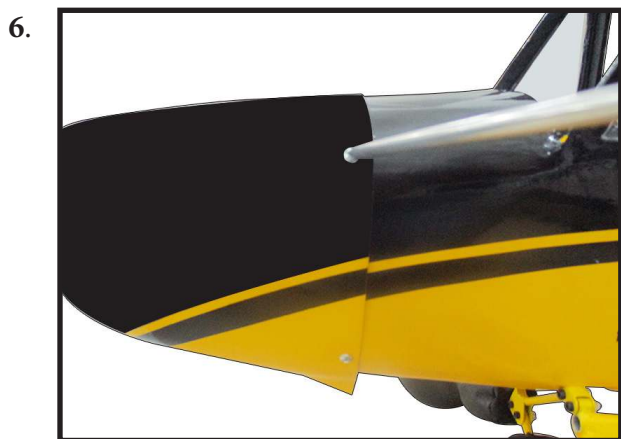
Because of the size of the cowl, it may be necessary to use a needle valve extension for the high speed needle valve. Make this out of sufficient length 1.5mm wire and install it into the end of the needle valve. Secure the wire in place by tightening the set screw in the side of the needle valve.

8.

9.


10.

ELECTRIC POWER CONVERSION

Locate the items neccessary to install the electric power conversion included with your model.

1.
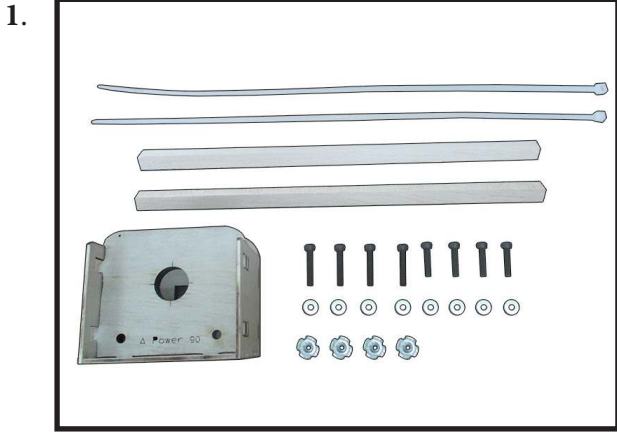
Recommend the items necessary to install the electric power conversion parts included with your model.

- **Motor: 90 - 1800 Watts**
- **Propeller: 16x8 ~ 18x8**
- **ESC: 85A**
- **6S- 8S Lipo**

Attach the electric motor box to the firewall suitable with the cross lines drawn on the electric motor box and firewall. Using epoxy and balsa stick to secure the motor box to the firewall. Please see pictures below.

2.

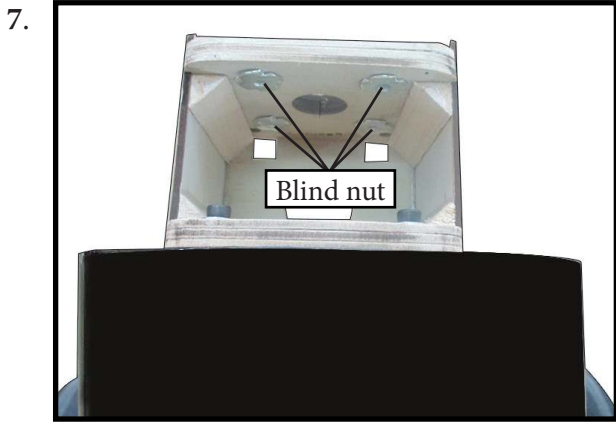**3**.

M4x20mm and washers
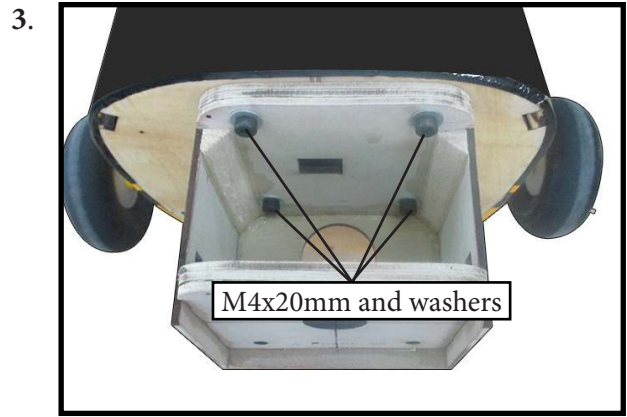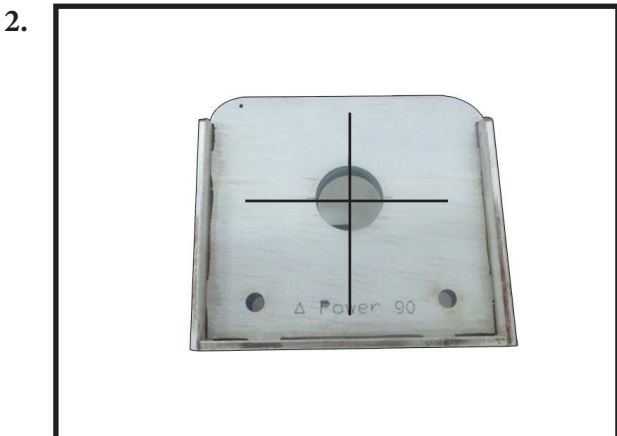
Attach the motor to the front of the electric motor box using four 4mm blind nut, four M4x20mm hex head bolts to secure the motor. Please see picture shown.

4.

5.

4 mm
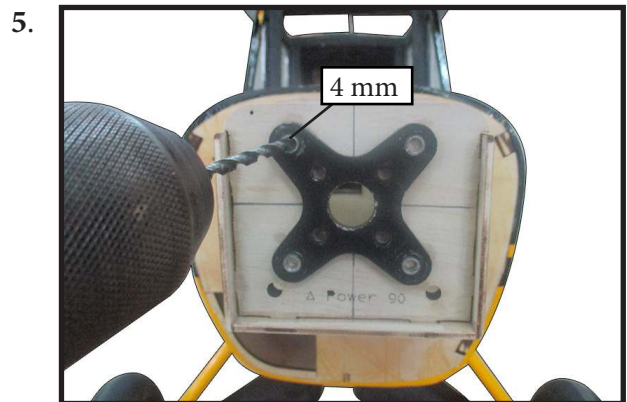
Then, use 5.5mm drill bit to enlarge the holes on the electric motor box.

6.

5.5mm

7.

Blind nut

8.

M4x20mm

9.

Epoxy

145mm

10.

Balsa stick

Epoxy
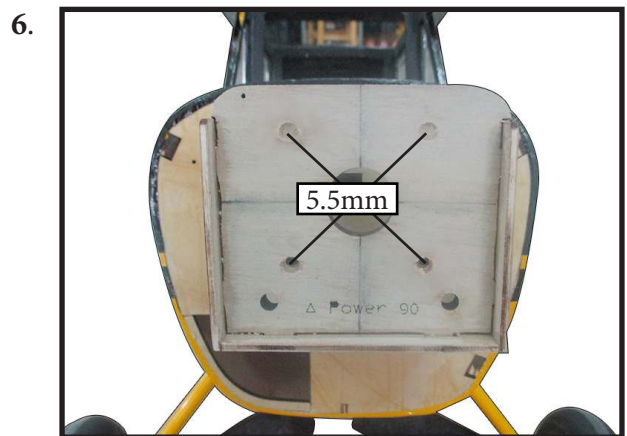
Attach the speed control to the side of the motor box using two-sided tape and tie wraps. Connect the appropriate leads from the speed control to the motor. Make sure the leads will not interfere with the operation of the motor.

11.

Speed control

12.

Battery

13.
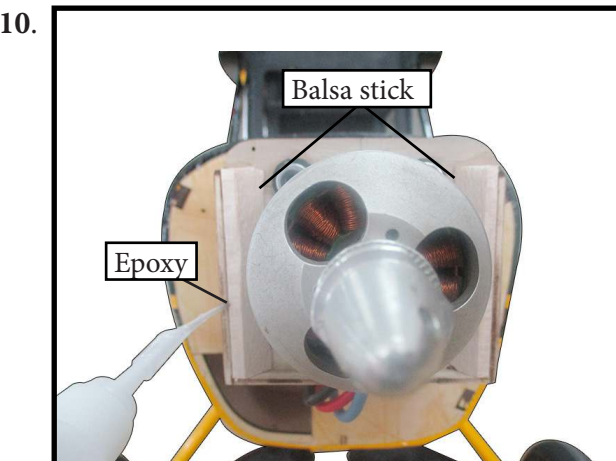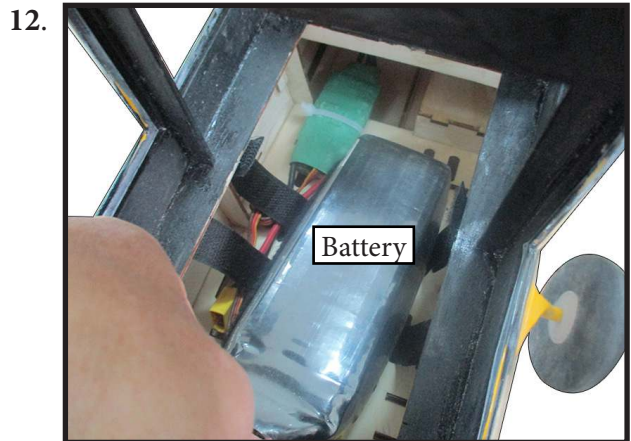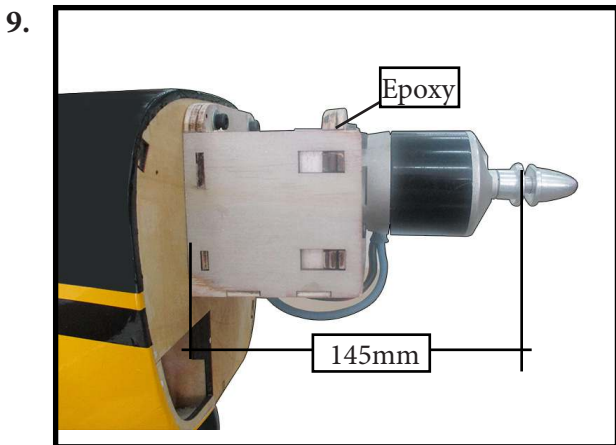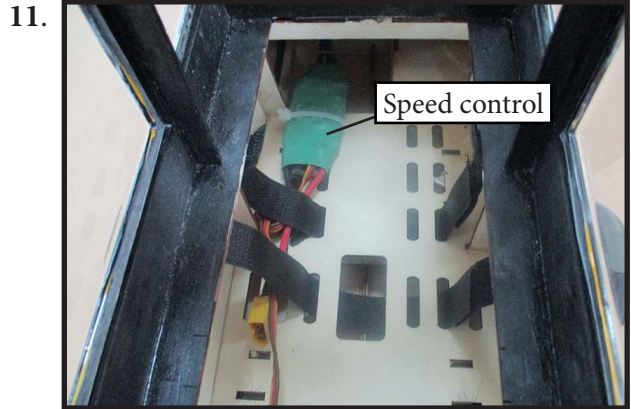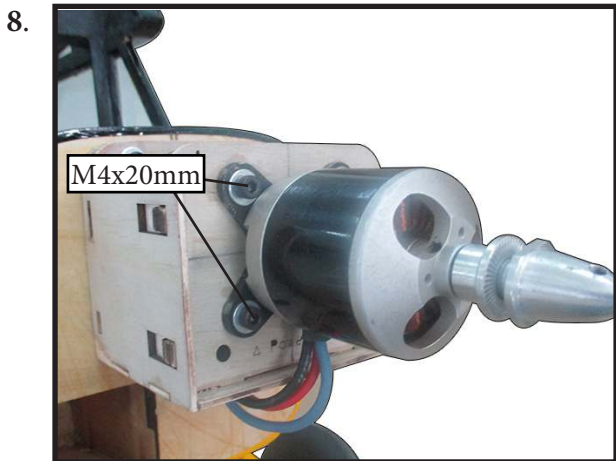
INSTALLING THE SPINNER

Install the spinner backplate, propeller and spinner cone.

1.

⚠ The propeller should not touch any part of the spinner cone. If it does, use a sharp modeling knife and carefully trim away the spinner cone where the propeller comes in contact with it.
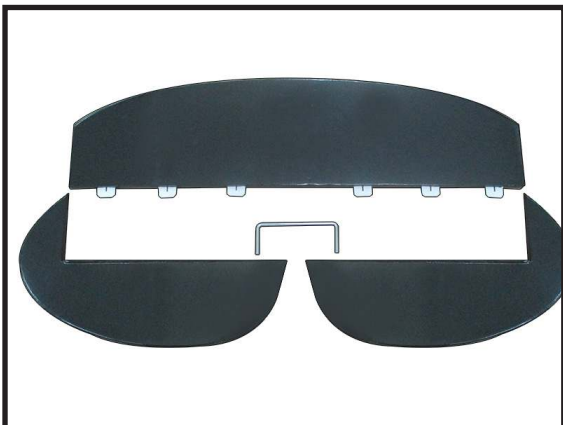
2.

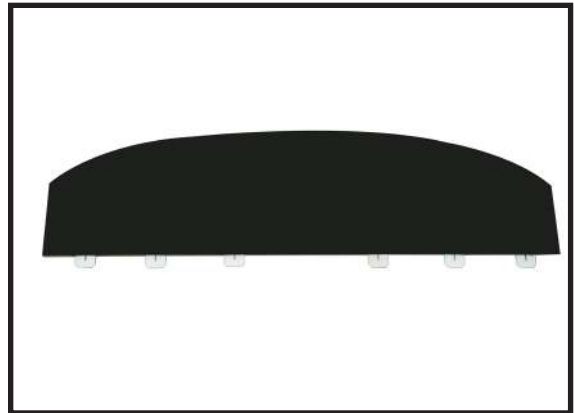## HINGING THE ELEVATORS

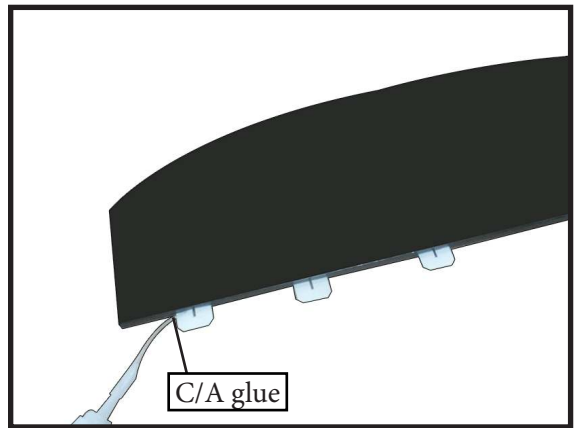Locate the items for this section of the manual.

1.

Carefully remove the elevator from one of the horizontal stabilizer panels. Note the position of the hinges. Used C/A glue to fix the hinges position.
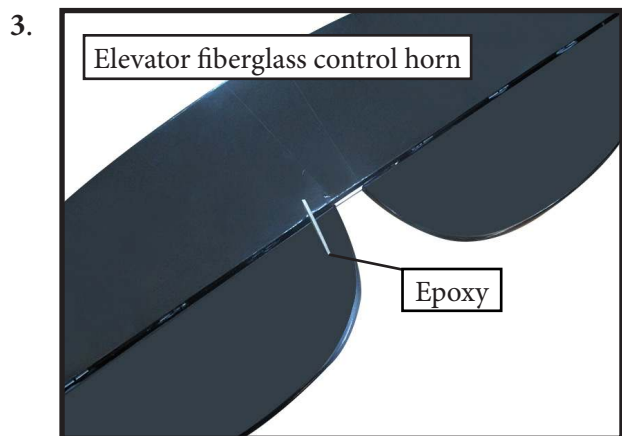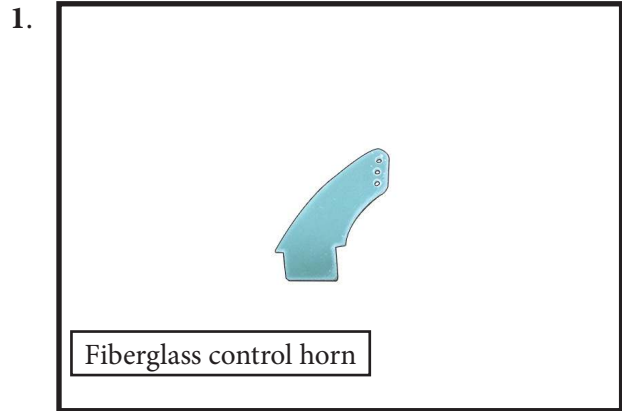
2.

3.

C/A glue

Remove each hinge from the horizontal stabilizer panel and elevator and place a Tpin in the center of each hunge. Slide each hinge into the elevator until the T-pin is snug against the elevator. This will help ensure an equal amount of hinge is on either side of the hinge line when the elevator is mounted to the horizontal stabilizer panel.

4.

Epoxy

5.

6.

7.

C/A glue

8.
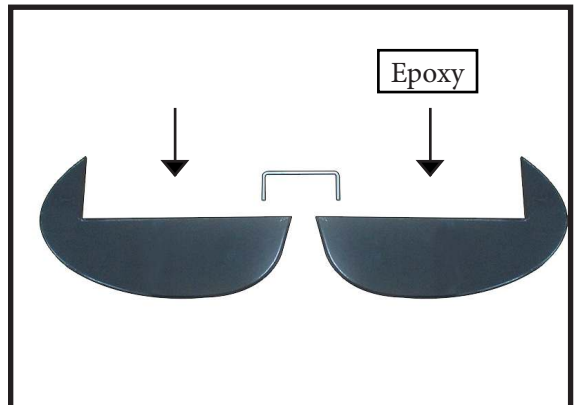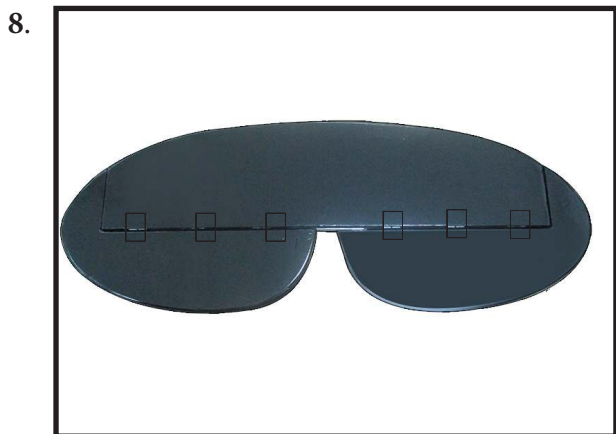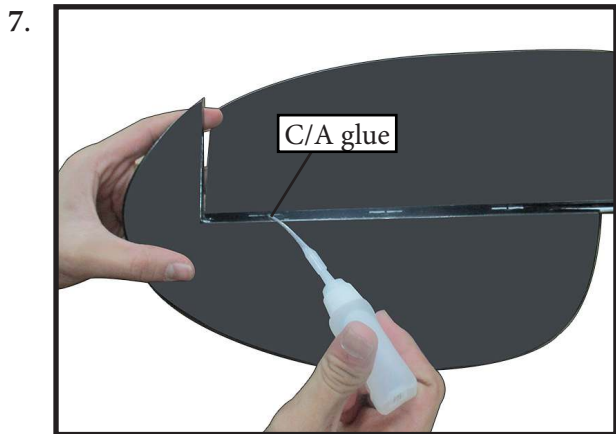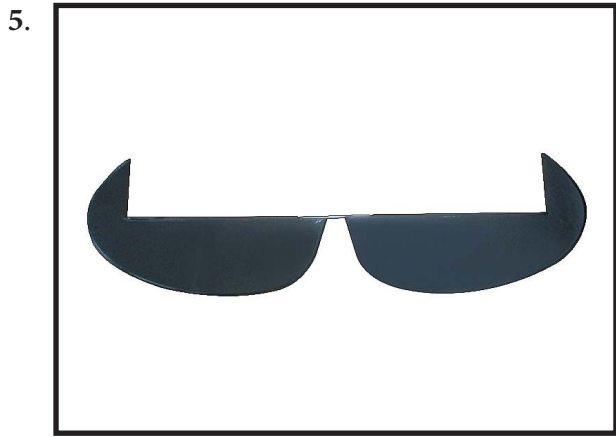
INSTALL ELEVATOR CONTROL HORN

1.

Fiberglass control horn

2.

3.

Elevator fiberglass control horn

Epoxy

INSTALLING THE HORIZONTAL STABILIZER

Using a ruler and a pen, locate the centerline of the horizontal stabilizer, at the trailing edge, and place a mark. Use a triangle and extend this mark, from back to front, across the top of the stabilizer. Also extend this mark down the back of the trailing edge of the stabilizer.

1.

Draw center line
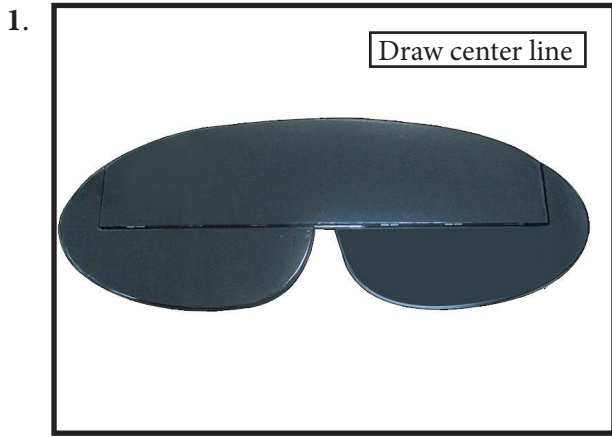
Using a modeling knife, carefully remove the covering at mounting slot of horizontal stabilizer (both side of fuselage).

2.

Cut
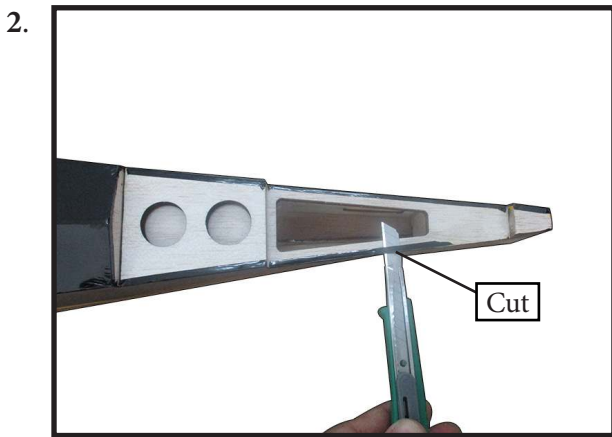
Slide the stabilizer into place in the precut slot in the rear of the fuselage. The stabilizer should be pushed firmly against the front of the slot.

3.
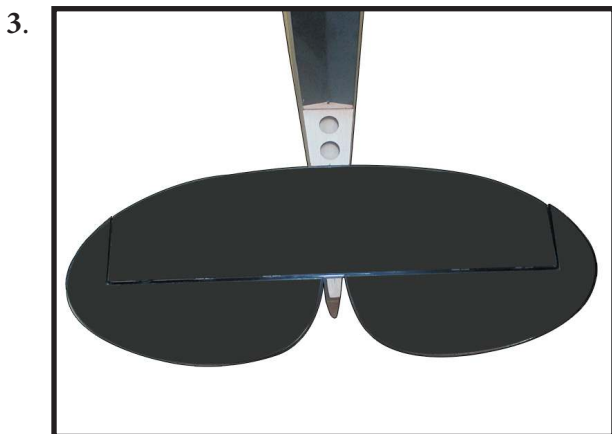
With the stabilizer held firmly in place, use a pen and draw lines onto the stabilizer where it and the fuselage sides meet. Do this on both the right and left sides and top and bottom of the stabilizer.

4.

Pen

Remove the stabilizer. Using the lines you just drew as a guide, carefully remove the covering from between them using a modeling knife.

5.

Trim and cut
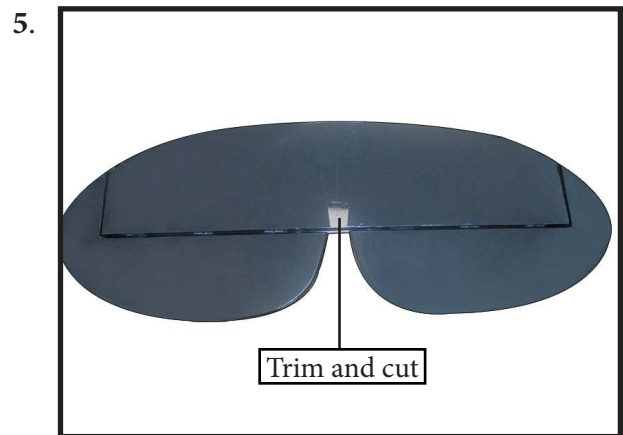
⚠ *When cutting through the covering to remove it, cut with only enough pressure to only cut through the covering itself. Cutting into the balsa structure may weaken it.*

Using a modeling knife, carefully remove the covering that overlaps the stabilizer mounting platform sides in the fuselage. Remove the covering from both the top and the bottom of the platform sides.

6.
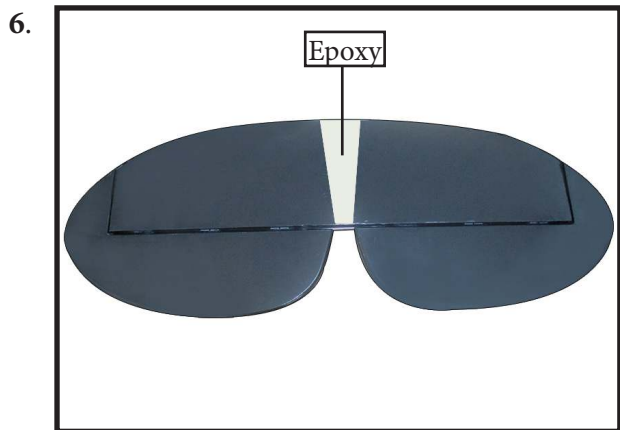
Epoxy

When you are sure that everything is aligned correctly, mix up a generous amount of 30 Minute Epoxy. Apply a thin layer to the top and bottom of the stabilizer mounting area and to the stabilizer mounting platform sides in the fuselage. Slide the stabilizer in place and realign. Double check all of your measurements once more before the epoxy cures. Hold the stabilizer in place with T-pins or masking tape and remove any excess epoxy using a paper towel and rubbing alcohol.

7.

Epoxy

8.
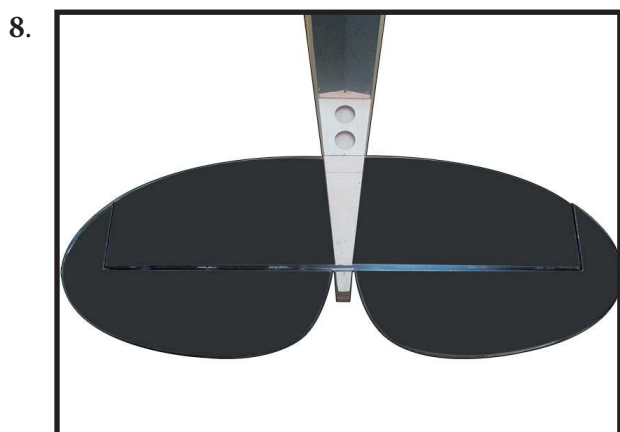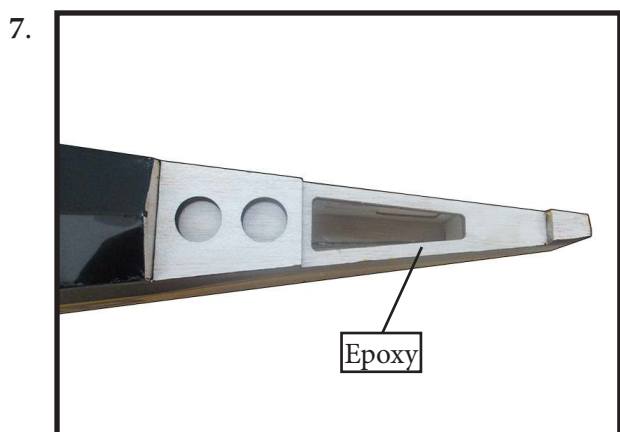
HINGING THE RUDDER

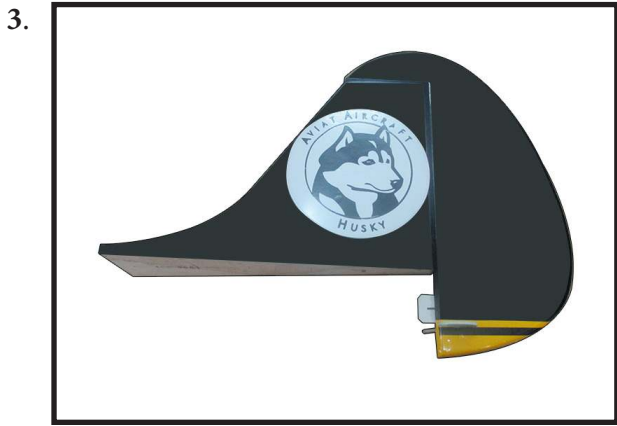Glue the top two rudder hinges in place using the same techniques used to hinge the ailerons.

The lower hinge will be glued when the fin/rudder assembly is attached to the fuselage.

1.
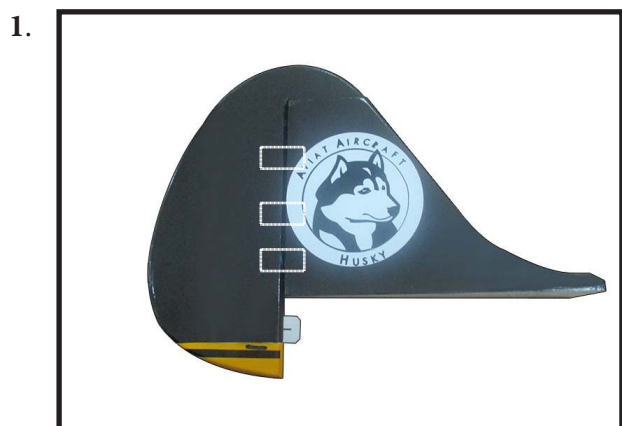
INSTALL RUDDER CONTROL HORN

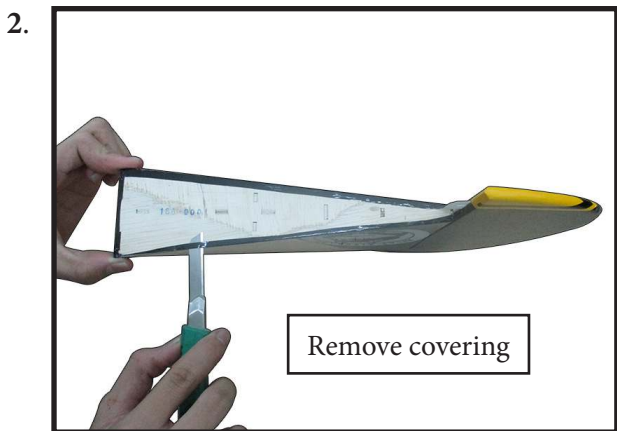Repeat steps to install the rudder control horn as same as steps done for ailerons.

1.

Fiberglass control horn

2.

3.
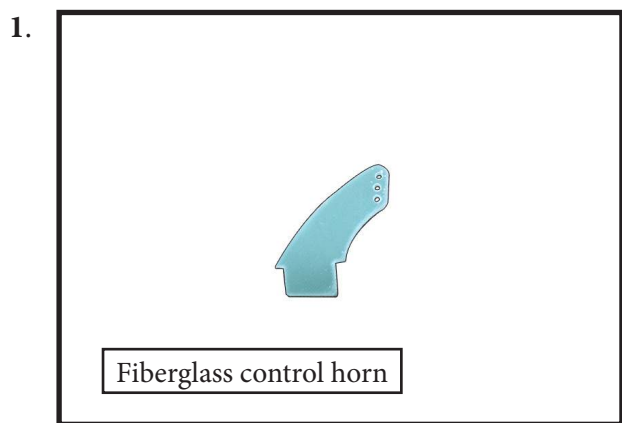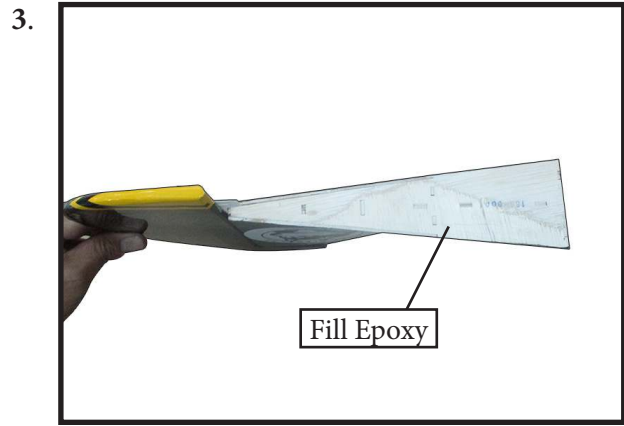
INSTALLING VERTICAL STABILIZER

1.

Using a modeling knife, remove the covering from over the precut hinge slot cut into the lower rear portion of the fuselage. This slot accepts the lower rudder hinge.

2.


Remove covering

3.

Fill Epoxy

Slide the vertical stabilizer into the slot in the top of the fuselage. The rear edge of the stabilizer should be flush with the rear edge of the fuselage and the lower rudder hinge should engage the precut hinge slot in the lower fuselage. The bottom edge of the stabilizer should also be firmly pushed against the top of the horizontal stabilizer.

4.

Hinge slot

While holding the vertical stabilizer firmly in place, use a pen and draw a line on eachside of the vertical stabilizer where it meets the top of the fuselage.

5.

Epoxy
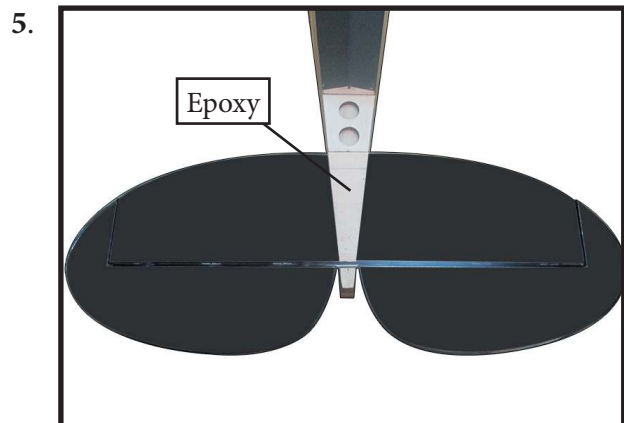
Slide the vertical stabilizer back inplace. Using a triangle, check to ensure that the vertical stabilizer is aligned 90º to the horizontal stabilizer.

6.

Horizontal Stabilizer.   90º   Vertical Stabilizer.

7.
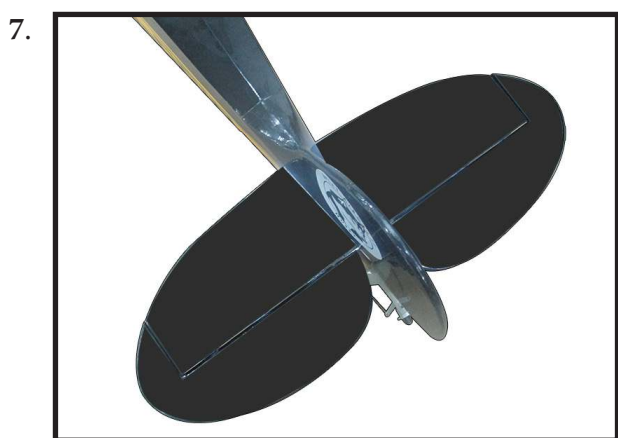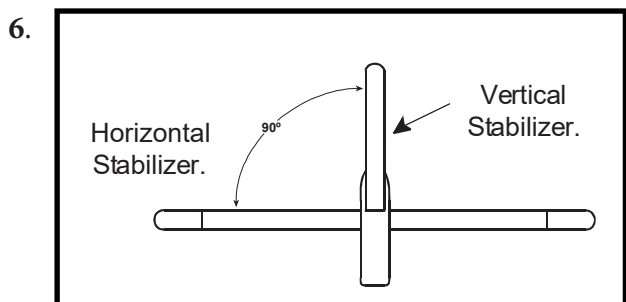
When you are sure that everything is aligned correctly, mix up a generous amount of Flash 30 Minute Epoxy. Apply a thin layer to the mounting slot and to bottom of the vertical stabilizer mounting area. Apply epoxy to the bottom and top edges of the filler block and to the lower hinge also. Set the stabilizer in place and realign. Double check all of your measurements once more before the epoxy cures. Hold the stabilizer in place with T-pins or masking tape and remove any excess epoxy using a paper towel and rubbing alcohol. Allow the epoxy to fully cure before proceeding.

ELEVATOR PUSHROD INSTALLATION

Install the elevator control horn using the same method as with the aileron control horns.

Position the elevator control horn on the both side of elevator.

1.

Elevator control horn.
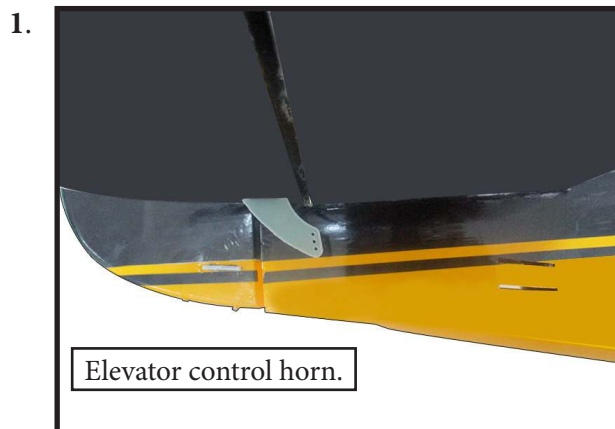
Thread one clevis and M2 lock nut on to each elevator control rod. Thread the horns on until they are flush with the ends of the control rods.

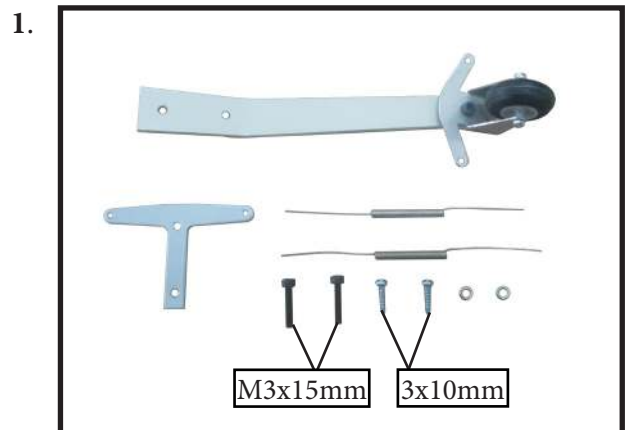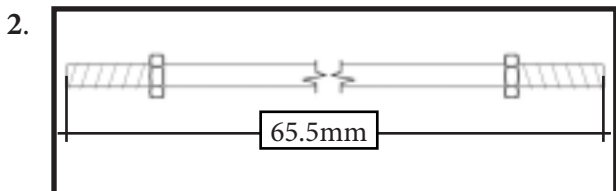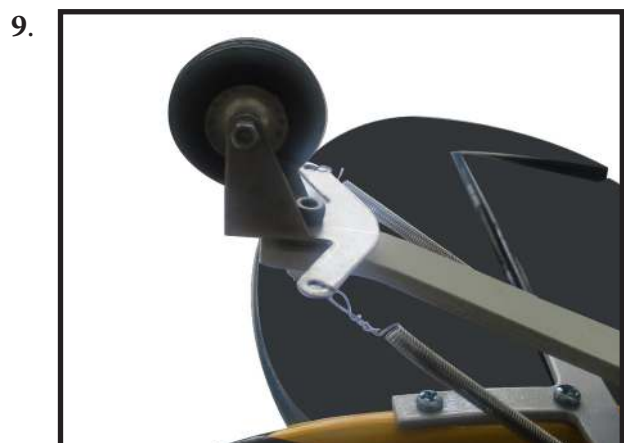Elevator and rudder pushrods assembly as pictures below.

2.

Metal R/C Clevis
Pushrod Wire
Fuel Tubing
Hex Nut

3.

630mm

4.

M2 clevis   M2 lock nut
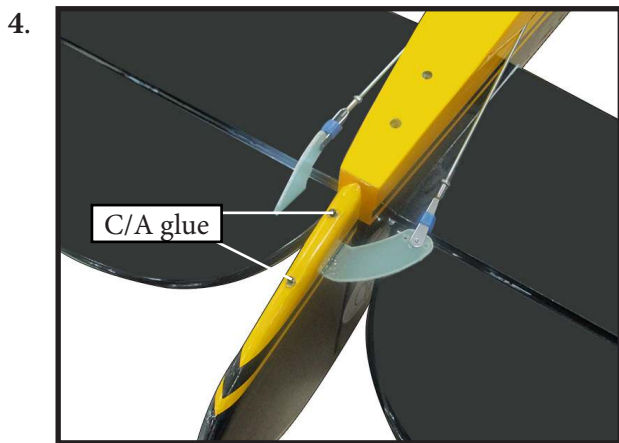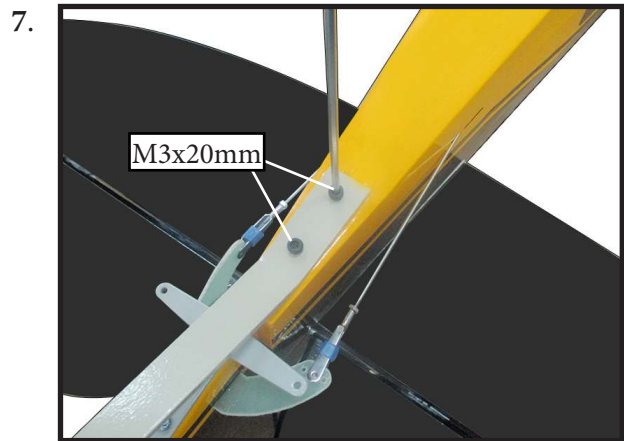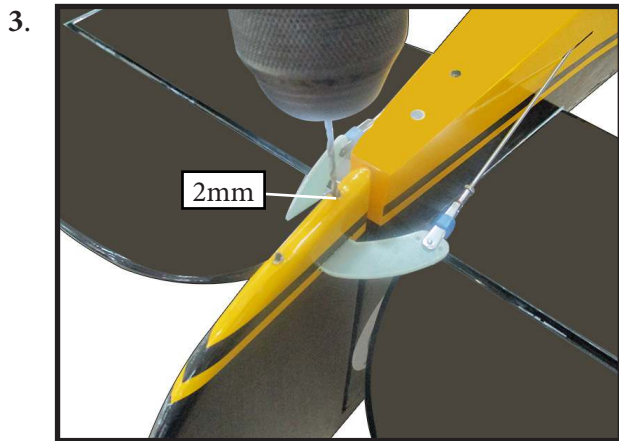
670mm

5.

6.
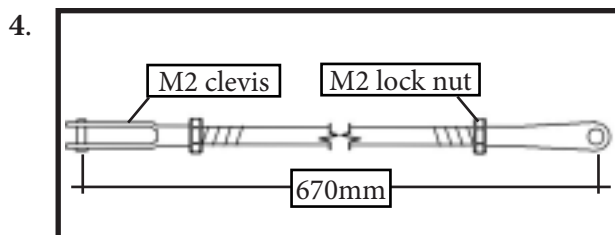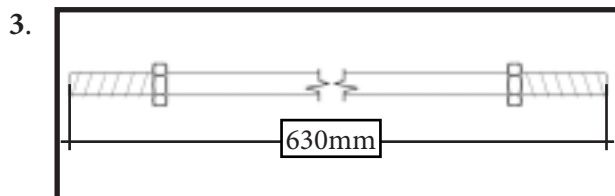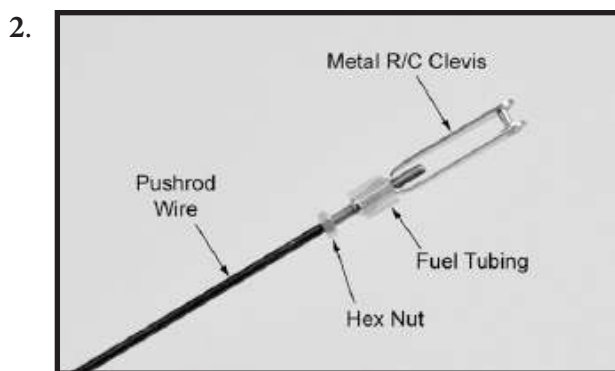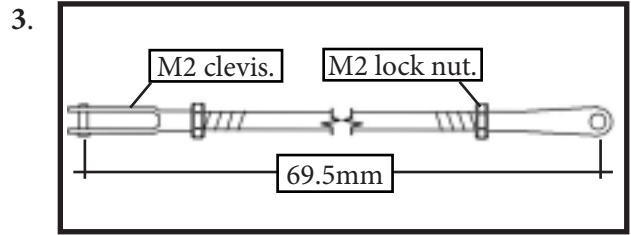
RUDDER PUSHROD INSTALLATION

Repeat steps as same as steps done for elevator.

1.
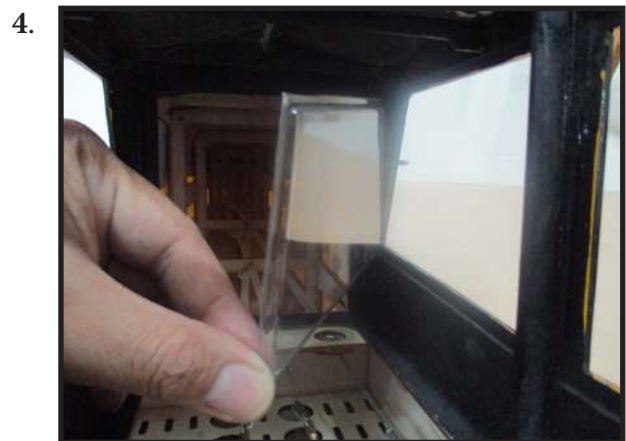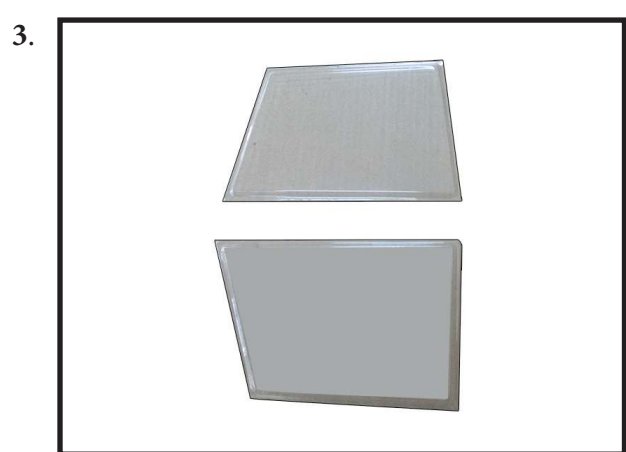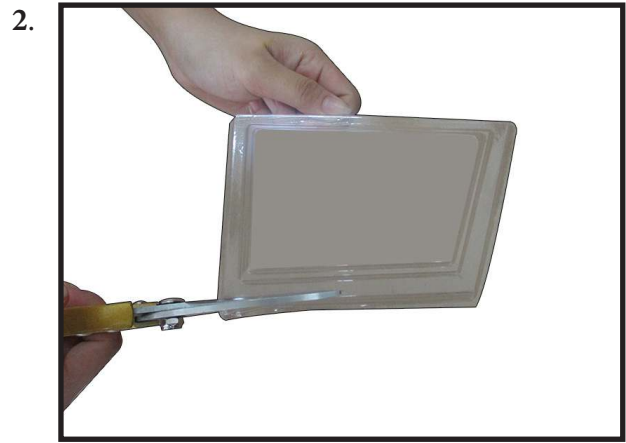

2.

65.5mm

3.

M2 clevis.   M2 lock nut.

69.5mm

4.

5.

MOUNTING THE TAIL WHEEL

Locate items necessary to install tail wheel.

1.

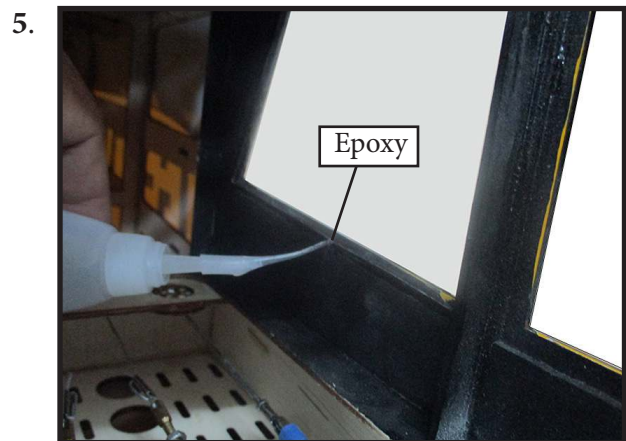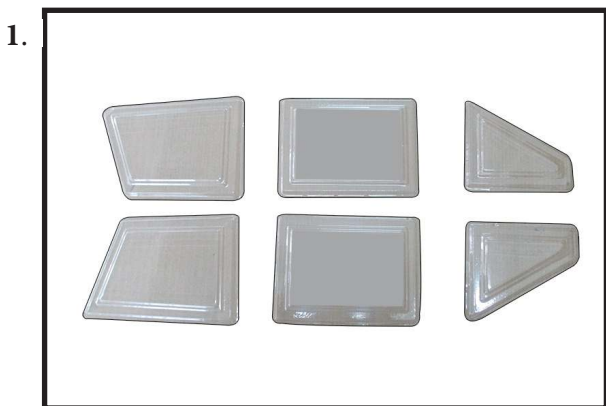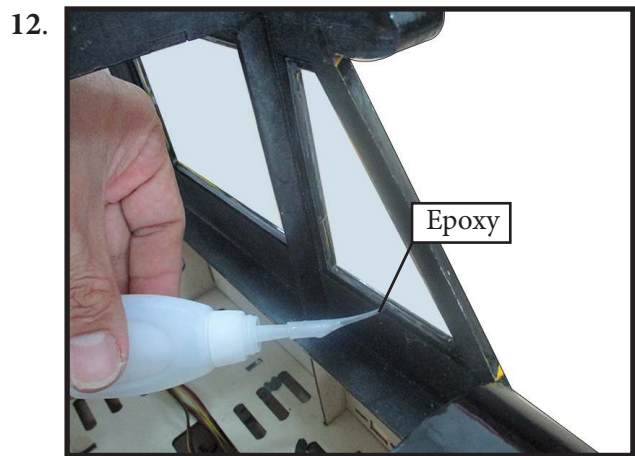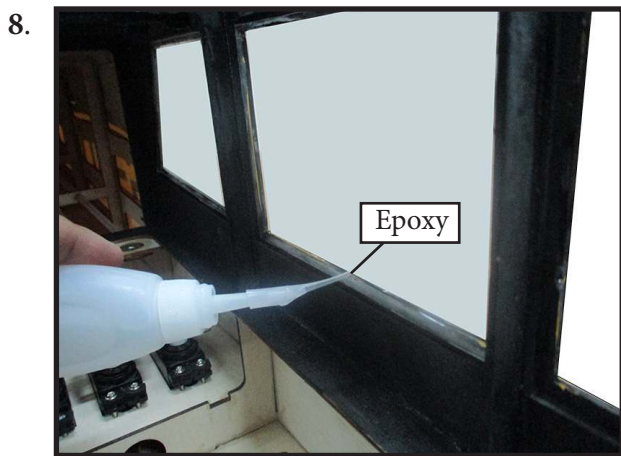M3x15mm   3x10mm

2.

3.

2mm

4.

C/A glue

5.

3x10mm

6.

7.

M3x20mm

8.

9.

10.

11.

12.
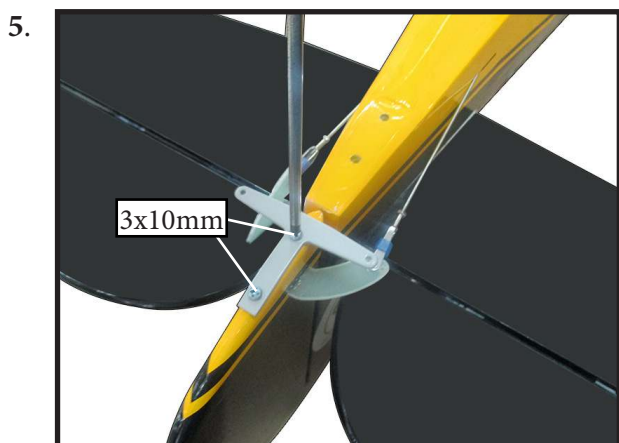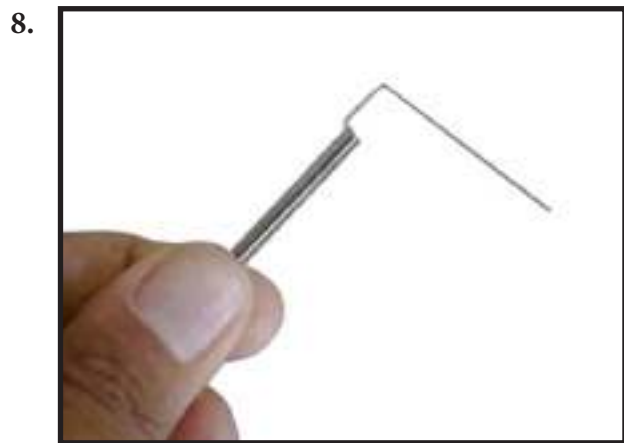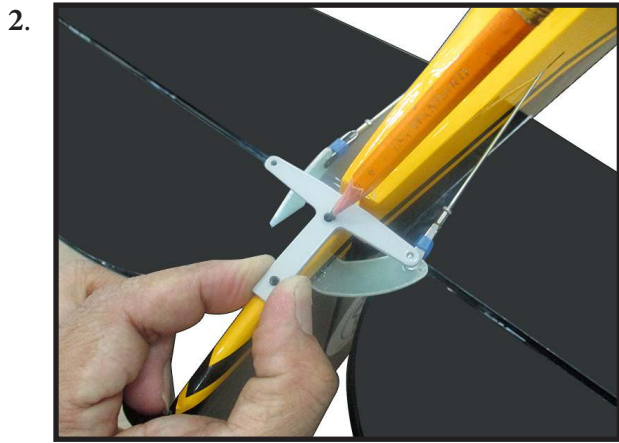
INSTALL THE WINDOW

Parts requirement.See pictures below.

1.

2.

3.

4.

5.

Epoxy

6.

10.

7.

11.
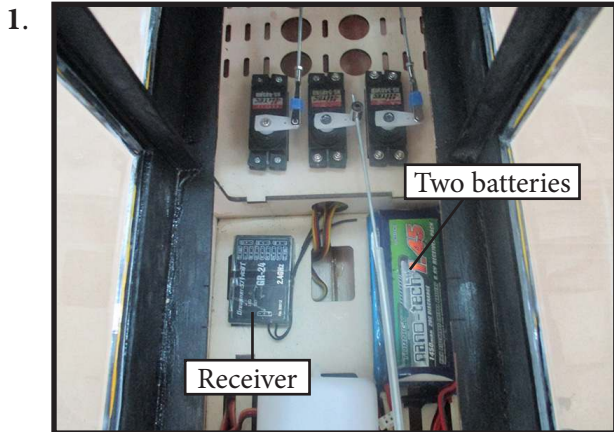
8.

Epoxy

12.

Epoxy

9.

13.
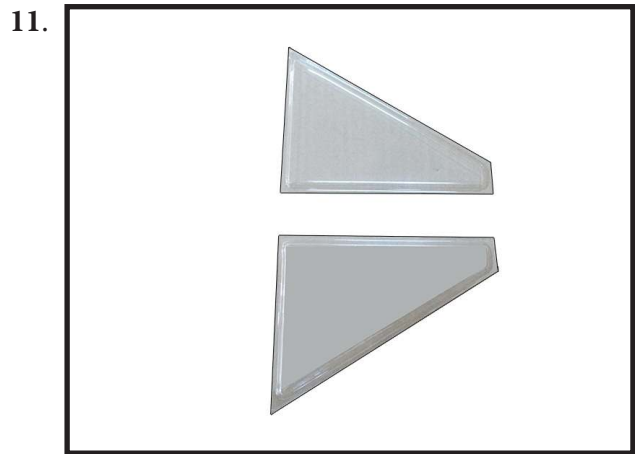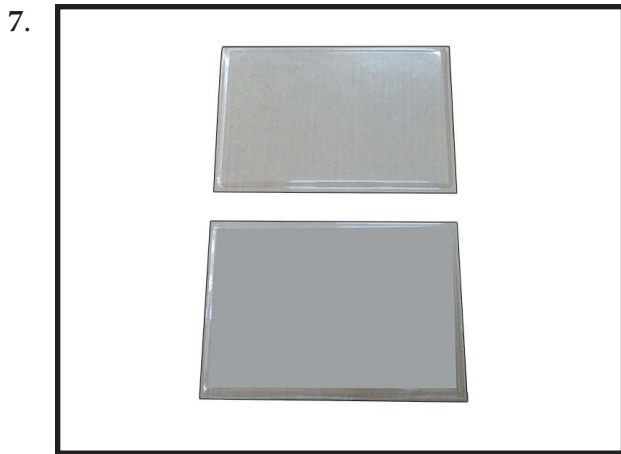
INSTALLING BATTERY - RECEIVER

Plug the servos leads and the switch lead into the receiver. Plug the battery pack lead into the switch also.

Wrap the receiver and battery pack in the protective foam rubber to protect them from vibration.
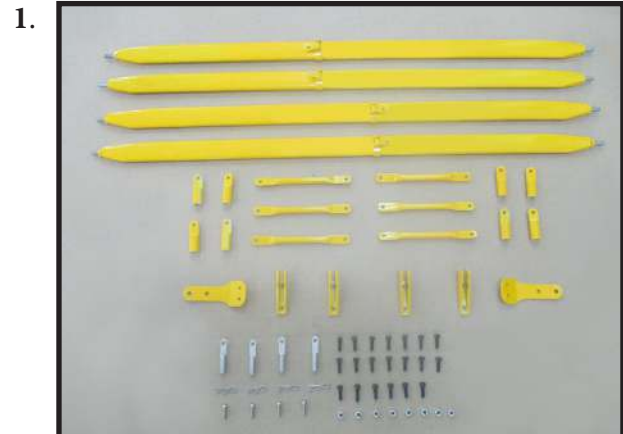
1.

Two batteries
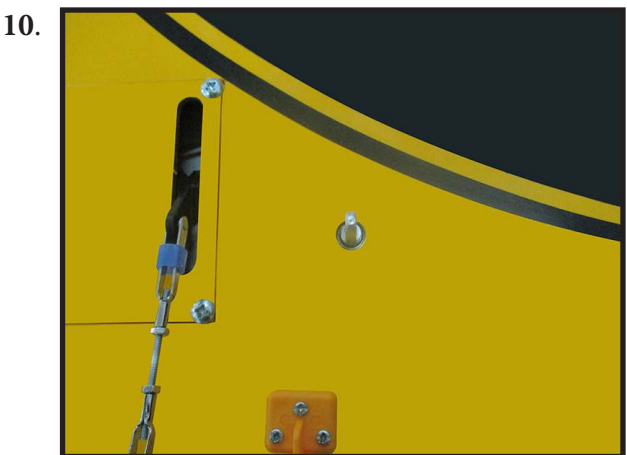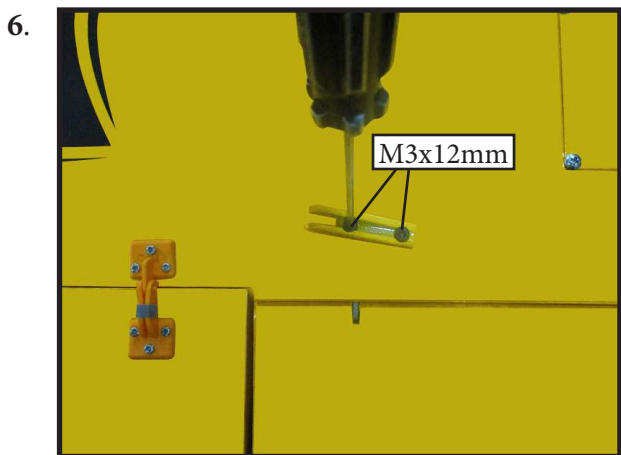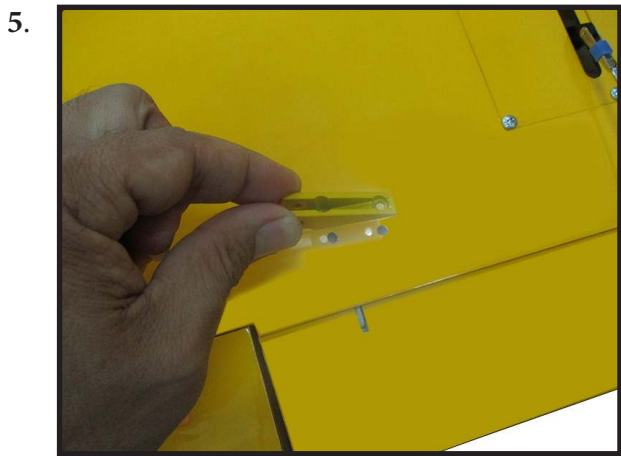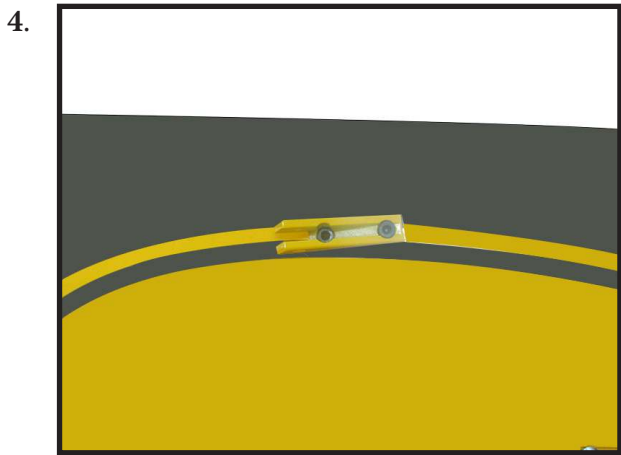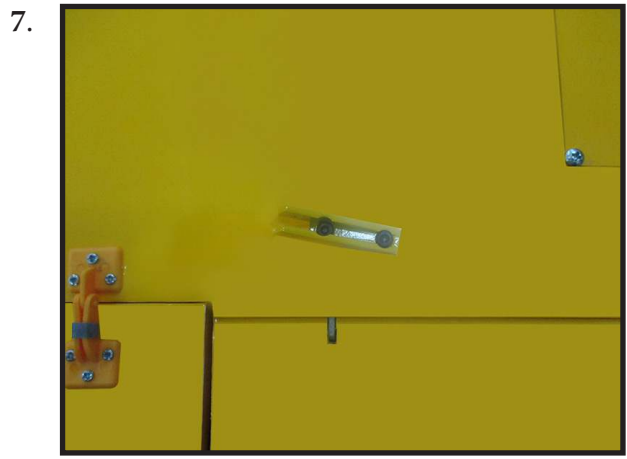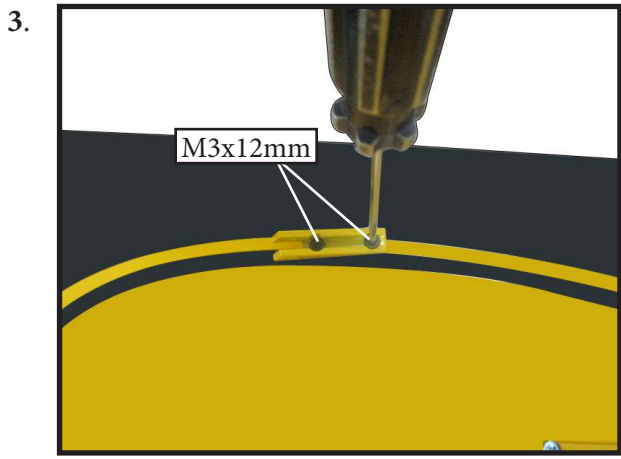
Receiver

INSTALLATION CANOPY

Locate items necessary to install canopy.

1.

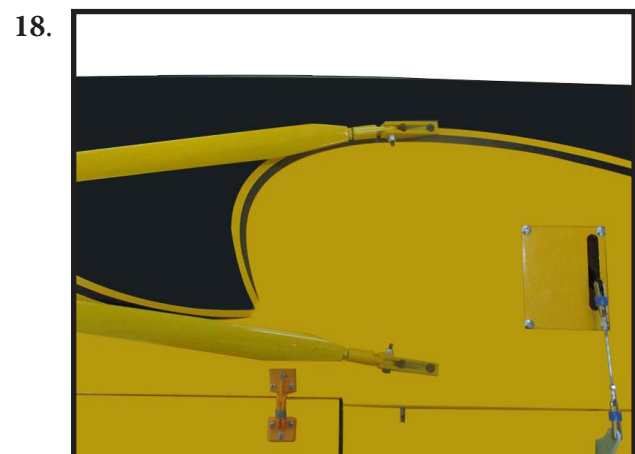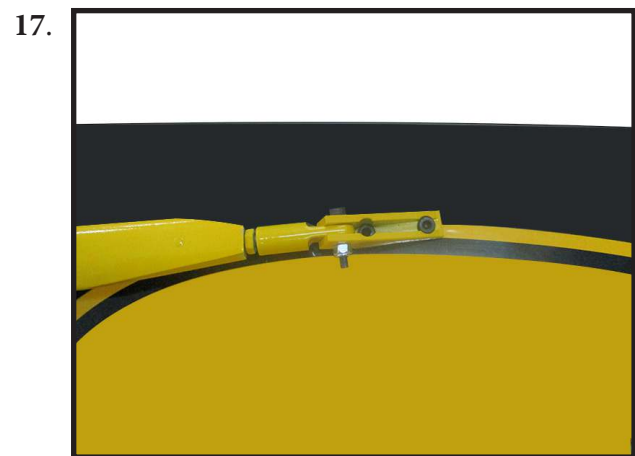**2.**

3.

Epoxy.

4.

INSTALLATION WING STRUTS

Loacte the items for this section of the manual.

1.

2.

3.

M3x12mm

4.

5.

6.

M3x12mm

7.

8.

9.

10.

11.

12.

13.

14.

15.

Diagonal brace

M3x15mm Socket Head Cap Screw

Nylon washer

Nylon washer

M3 locknut

Front

16.

17.

18.

35

19.

23.

M3x10mm

20.

24.

M3 locknut

21.

M3x10mm

25.

22.

M3 locknut

26.

M3x10mm

27.

M3 locknut

28.
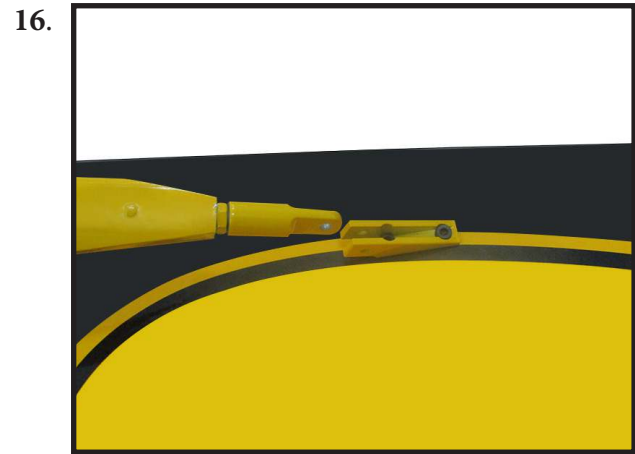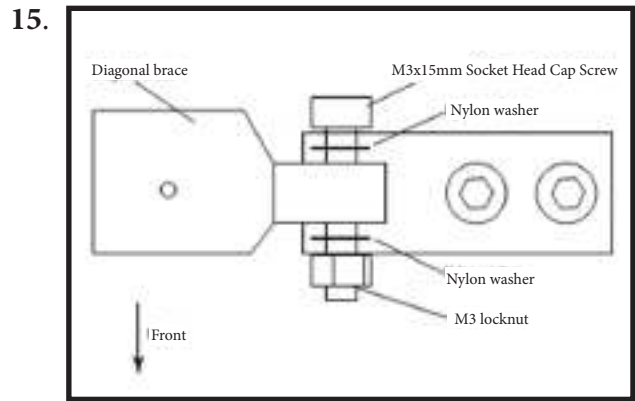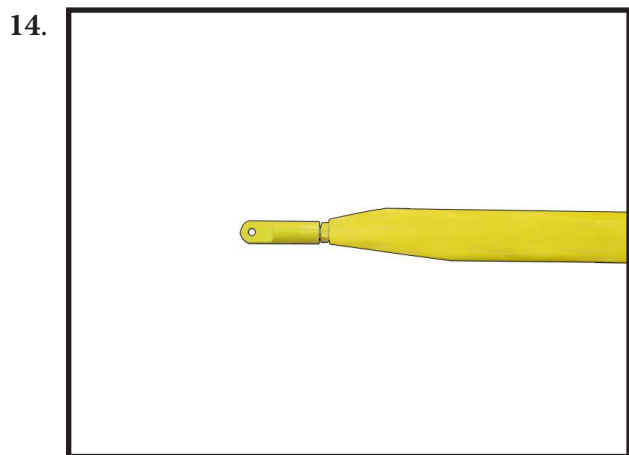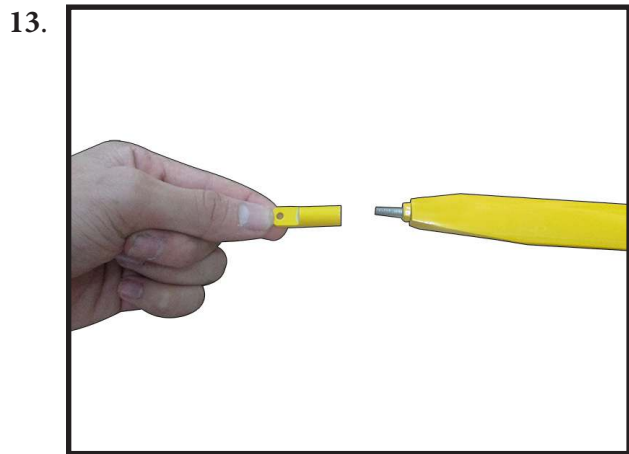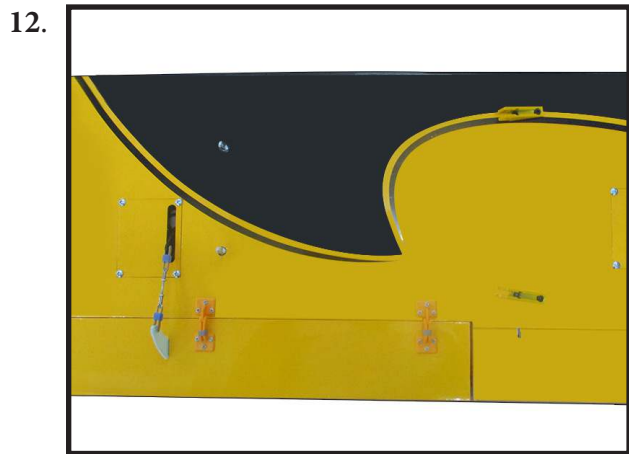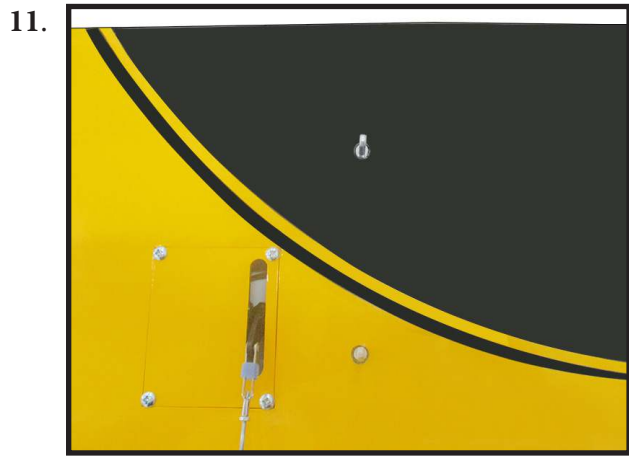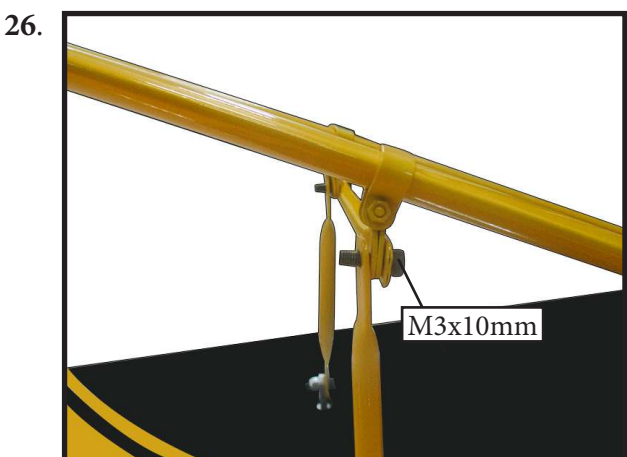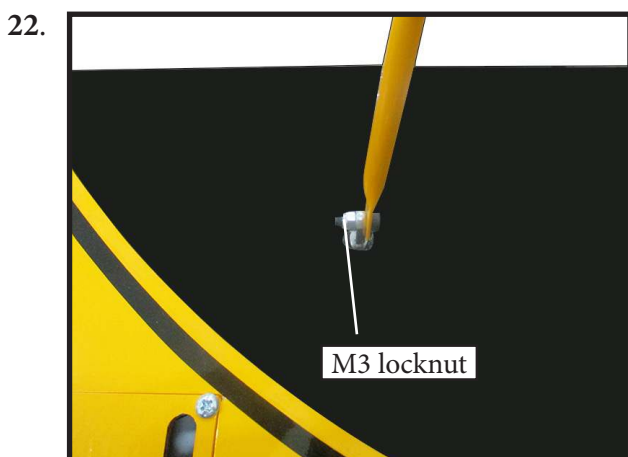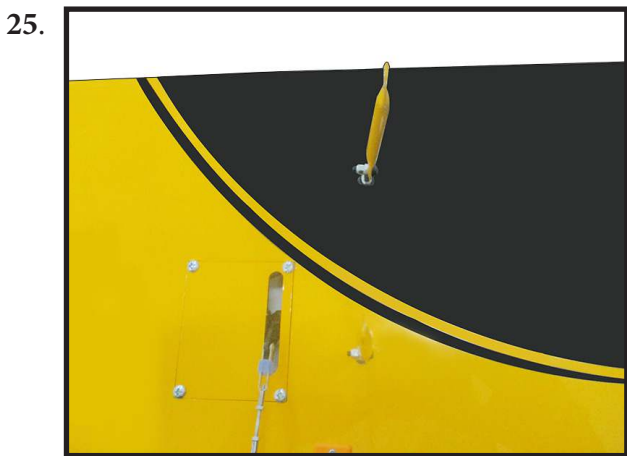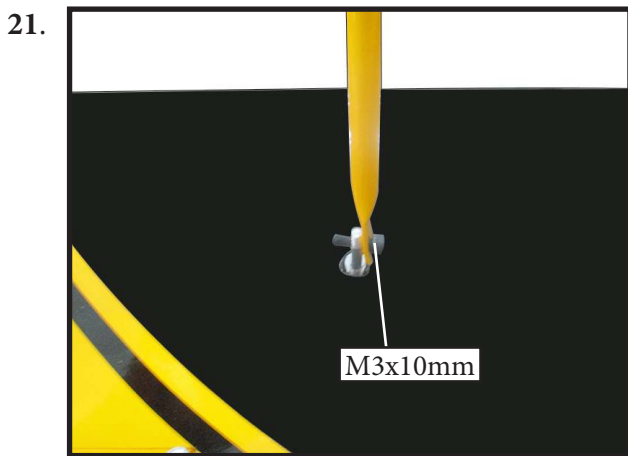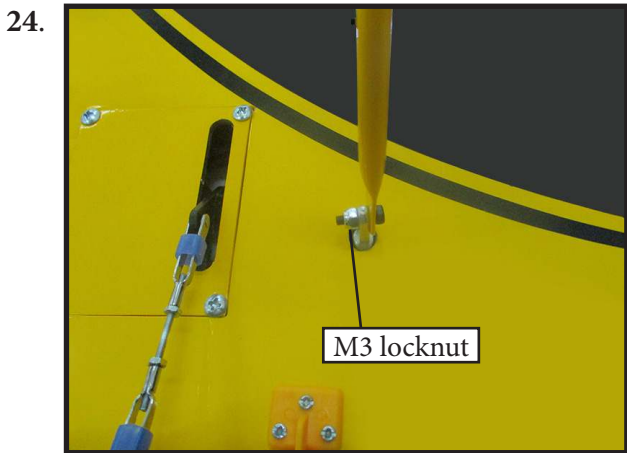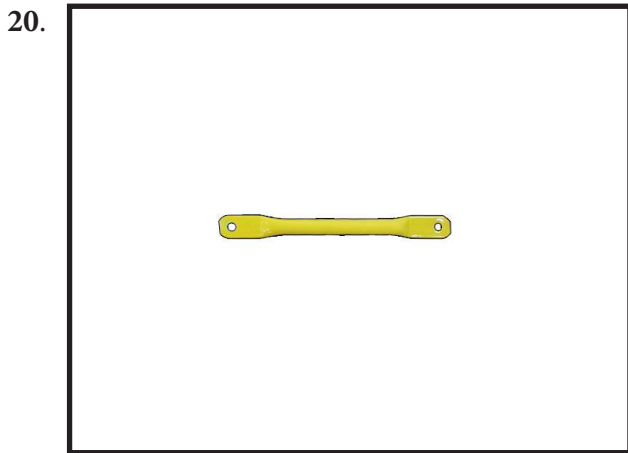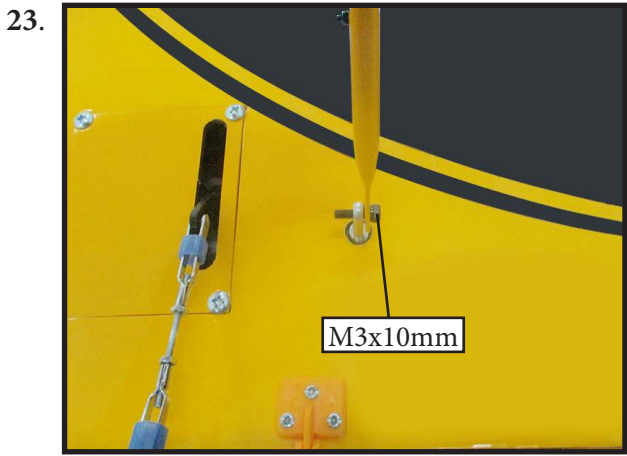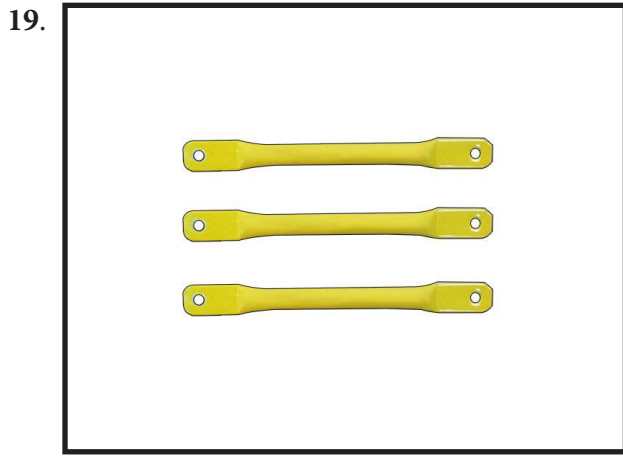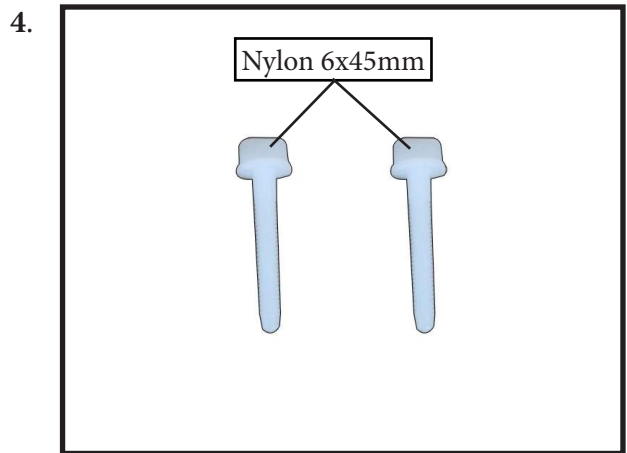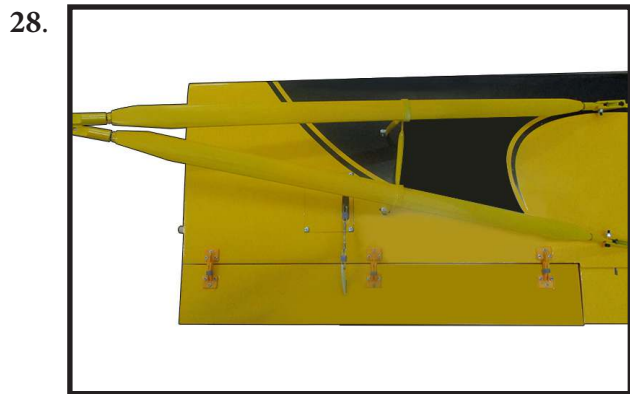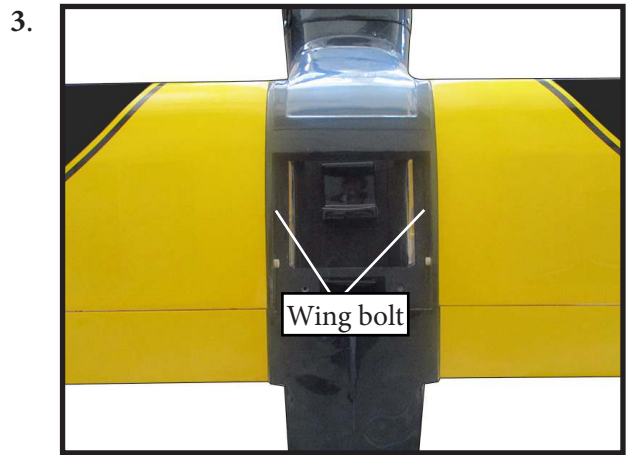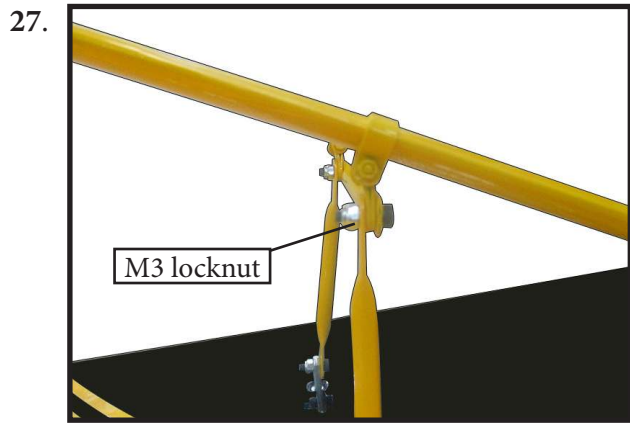
ATTACHMENT WING- FUSELAGE

Attach the aluminium tube into fuselage.

1.

Wing tube

2.

3.

Wing bolt

4.

Nylon 6x45mm

5.

Wing bolt

6.

7.

11.

8.

Epoxy

12.

Nylon 4x25mm

9.

13.

Nylon 4x25mm

10.

14.

Rubber washer

15.

16.
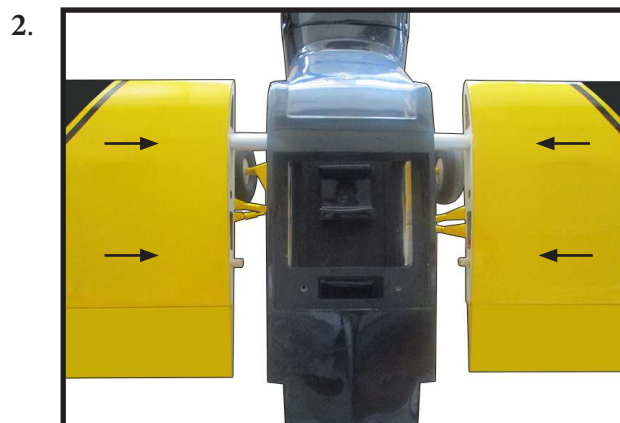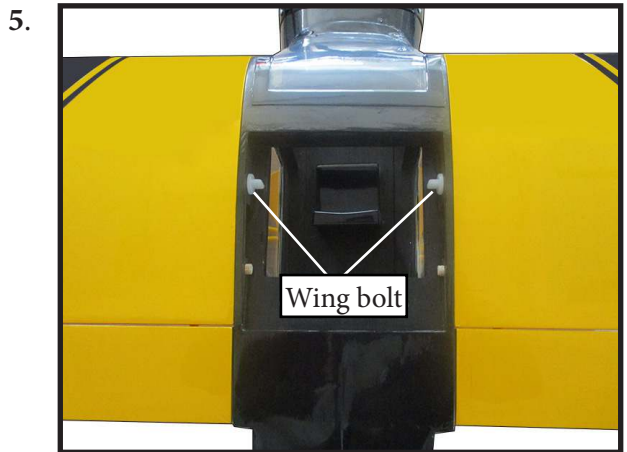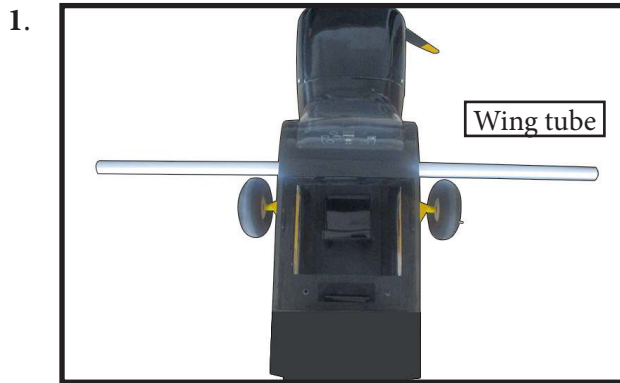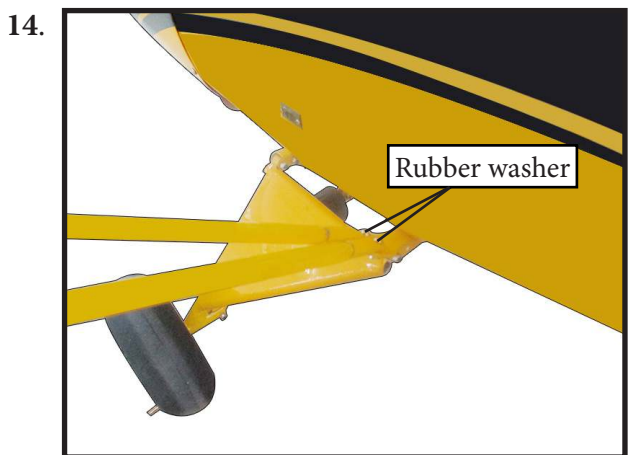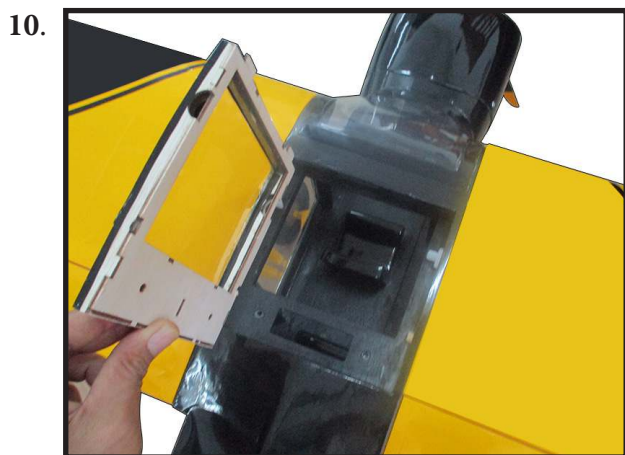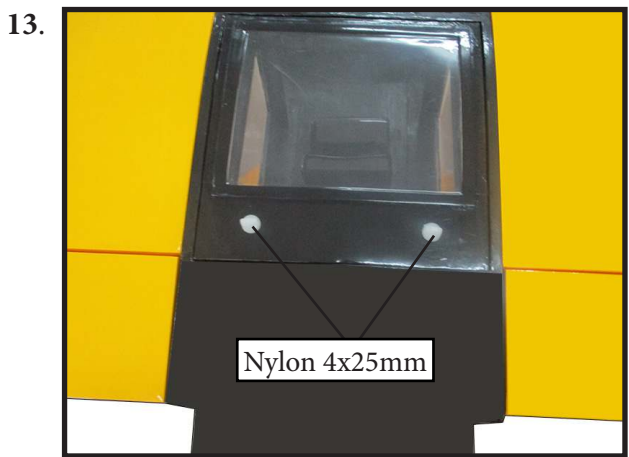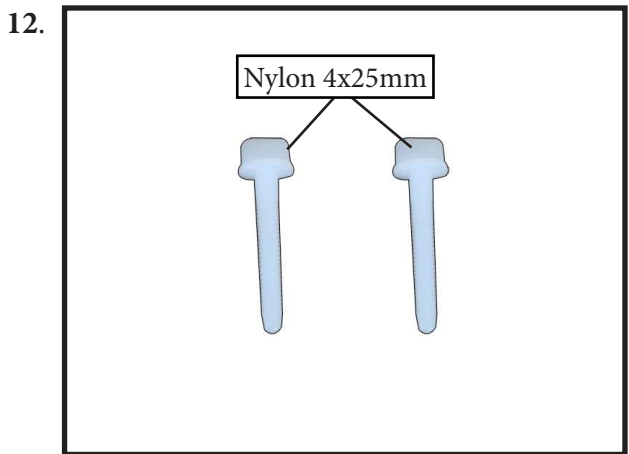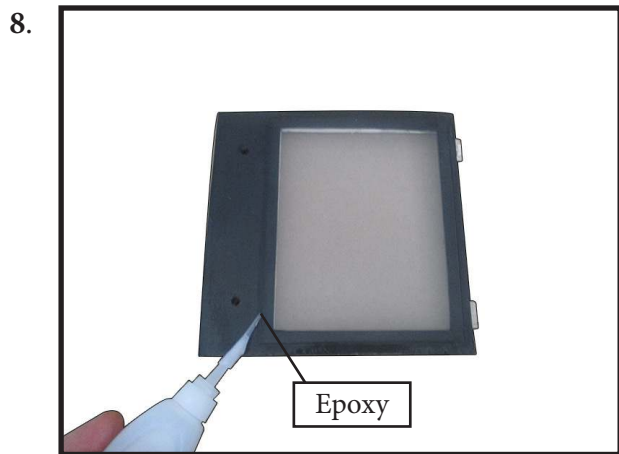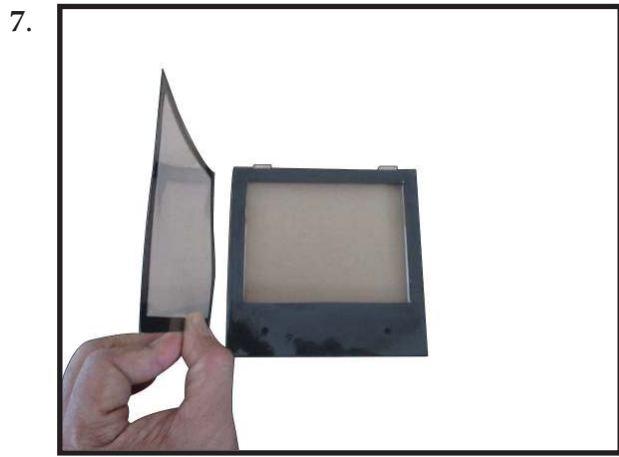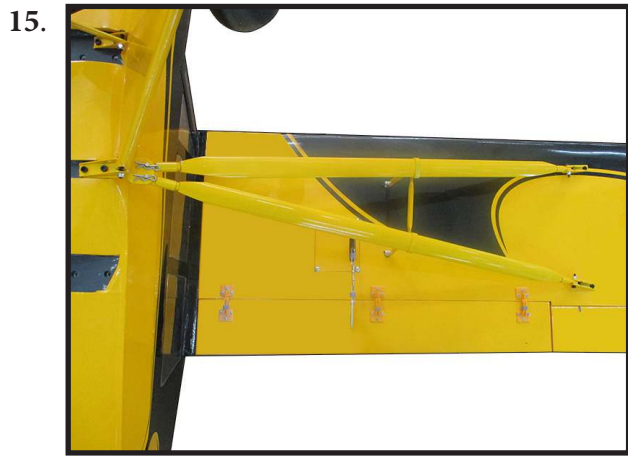
OPTIONAL FLOAT FOR HUSKY

Install Structs onto floats.

1.

2.

3.

4x20mm

4.

4x20mm

5.

Screw

6.

7.

3x10mm

8.

9.

10.

11.

12.

13.

14.

15.

16.

17.

18.
M2 devis. | M2 lock nut.
600mm.

19.

20.

21.
C/A glue

22.

23.

24.

4x20mm

25.

4x20mm

26.
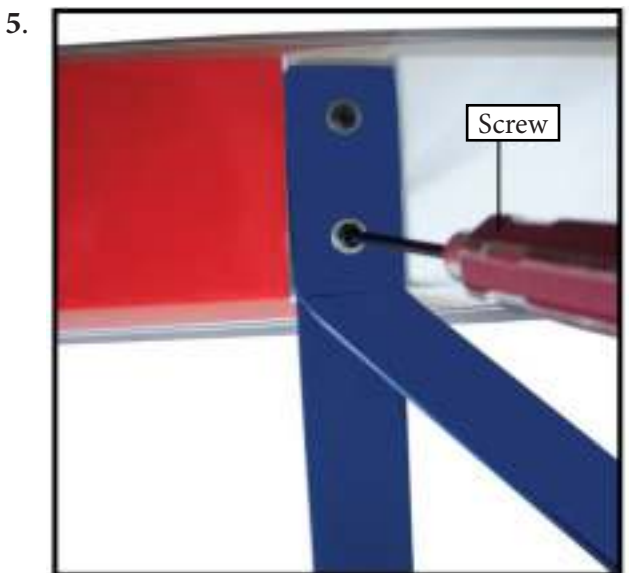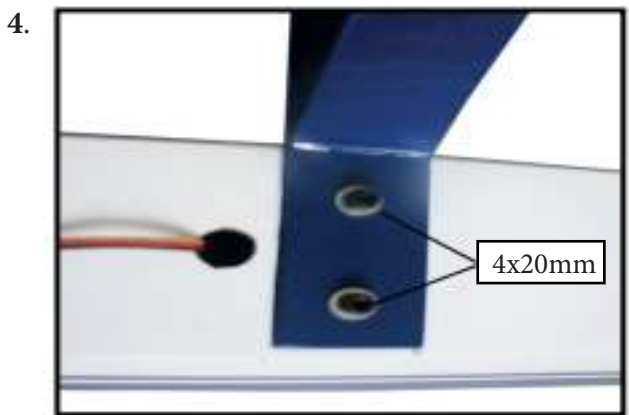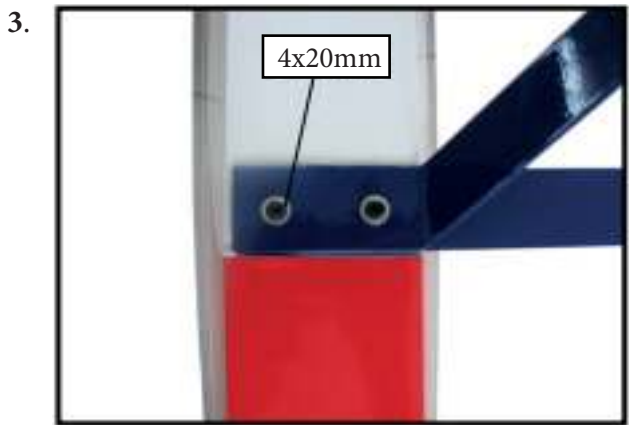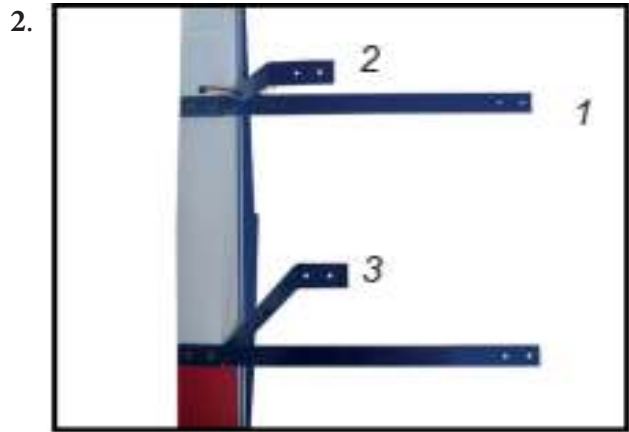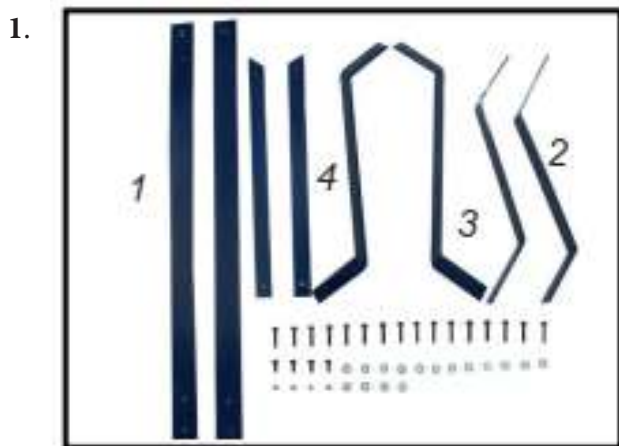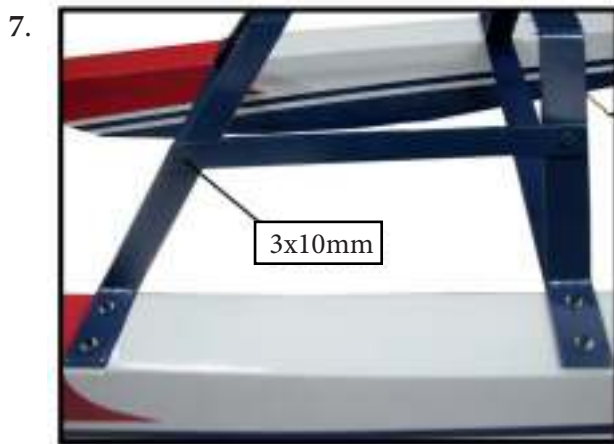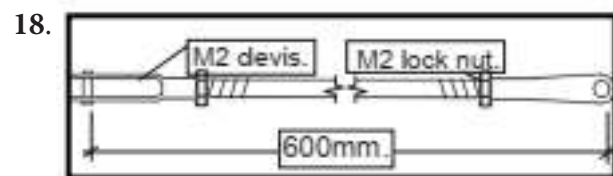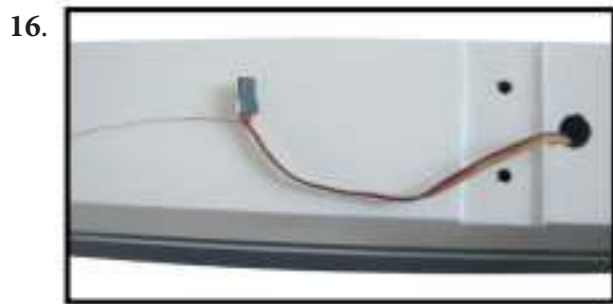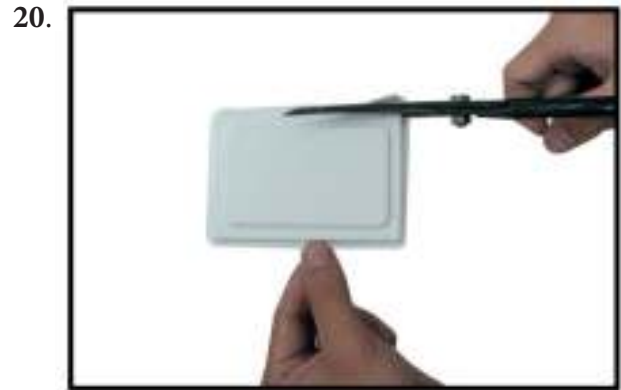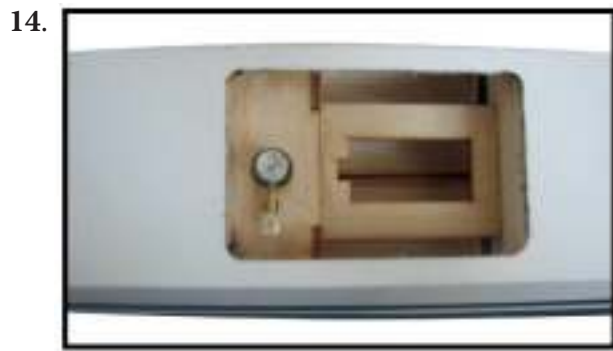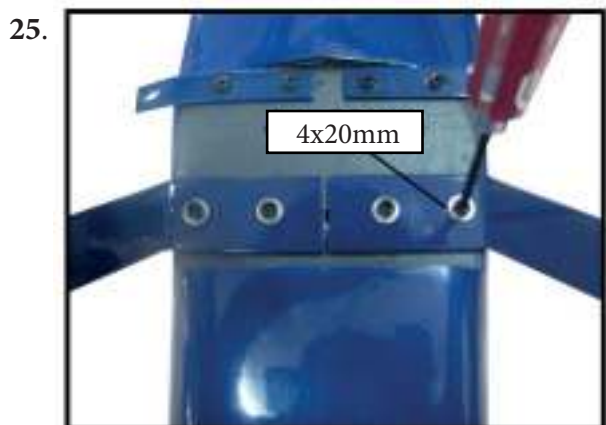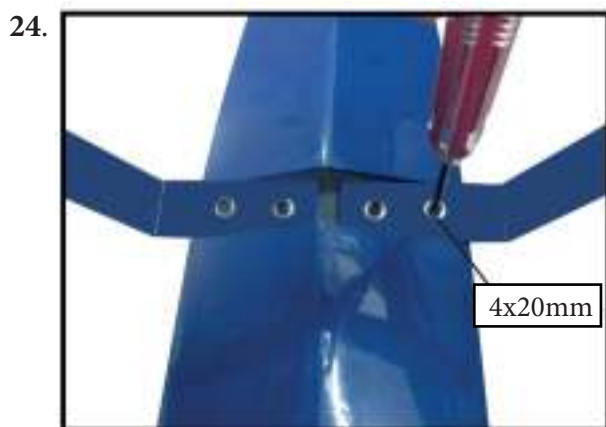
1) If all the decals are precut and ready to stick. Please be certain the model is clean and free from oily fingerprints and dust. Position decal on the model where desired, using the photos on the box and aid in their location.

2) If all the decals are not precut, please use scissors or a sharp hobby knife to cut the decals from the sheet. Please be certain the model is clean and free from oily fingerprints and dust. Position decal on the model where desired, using the photos on the box and aid in their location.

BALANCING

An important part of preparing the aircraft for flight is properly balancing the model.

1) Attach the wing panels to the fuselage. Make sure to connect the leads from the aileron to the appropriate leads from the receiver. Make sure the leads are not exposed outside the fuselage before tightening the wing bolts. Your model should be flight-ready before balancing.

2) The recommended Center of Gravity (CG) location for your model is (80mm) back from the leading edge at the center of the wing.

3) When balancing your model, make sure it is assembled and ready for flight. Support the plane upright at the marks made on the wing with your figers or a commercially available balancing stand. This is the correct balance point for your model.

*If possible, first attempt to balance the model by changing the position of the receiver battery and receiver. If you are unable to obtain good balance by doing so, then it will be necessary to add weight to the nose or tail to achieve the proper balance point.

With the wing attached to the fuselage, all parts of the model installed (ready to fly), and empty fuel tanks, hold the model at the marked balance point with the stabilizer level.

Lift the model. If the tail drops when you lift, the model is "tail heavy" and you must add weight* to the nose. If the nose drops, it is "nose heavy" and you must add weight* to the tail to balance.

1.

80mm
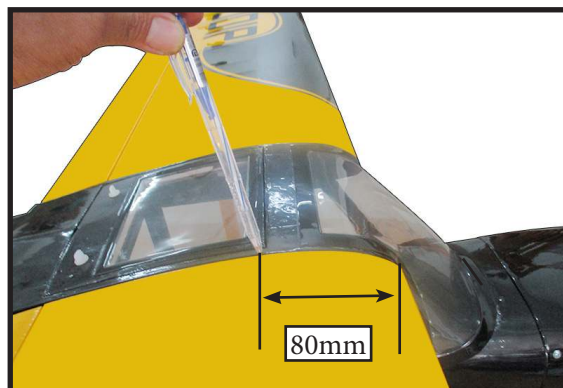
CONTROL THROWS

Ailerons:
High Rate :
  Up : 30 mm
  Down : 30 mm
Low Rate :
  Up : 20 mm
  Down : 20 mm

Elevator:
  High Rate :
  Up : 20 mm
  Down : 20 mm
Low Rate :
  Up : 15 mm
  Down : 15 mm

Rudder:
High Rate :
   Right : 40 mm
   Left : 40 mm
Low Rate :
   Right : 30 mm
   Left : 30 mm

Flap:
Mid : 50mm

Horizontal — Elevator 15-20mm / 15-20mm

Fuselage — Rudder 30-40mm / 30-40mm

Wing — Aileron 20-30mm / 20-30mm

Wing — FLAP 50mm
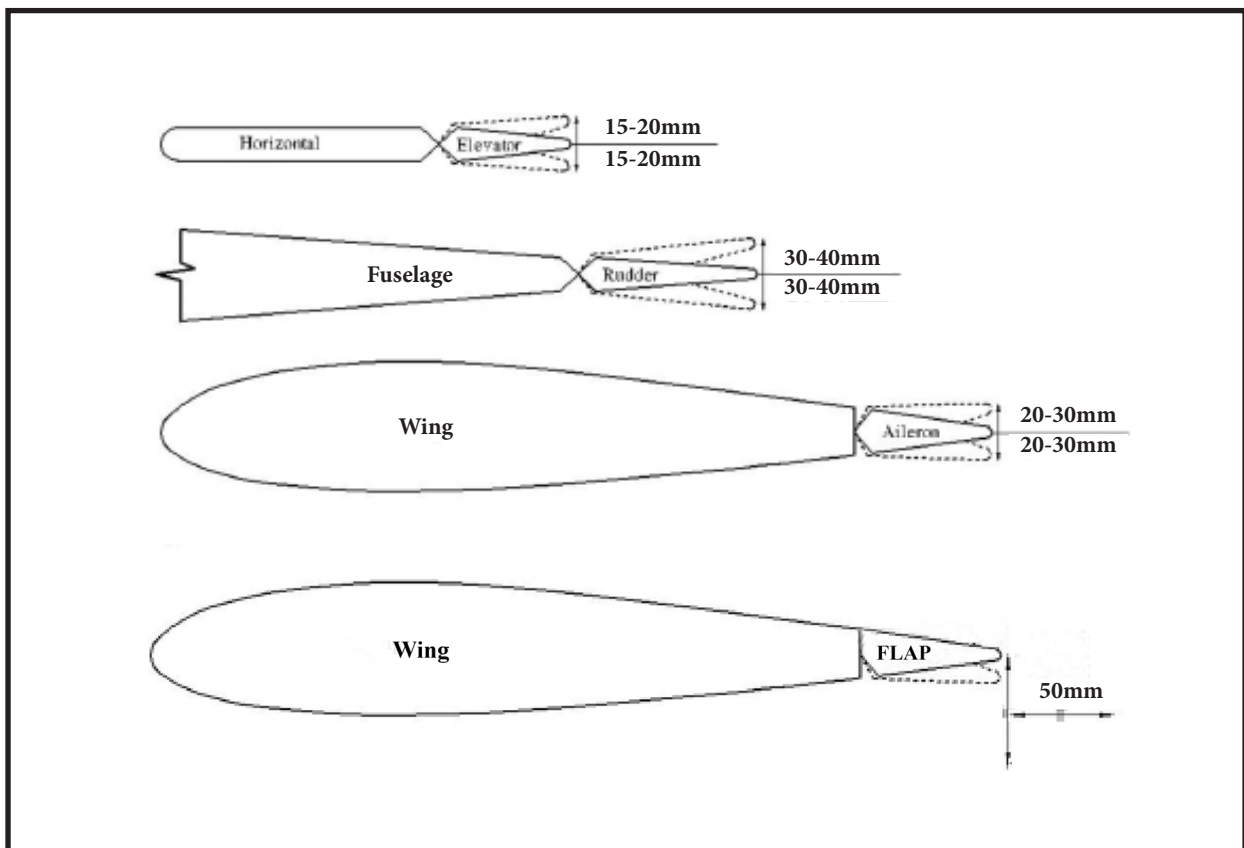
FLIGHT PREPARATION

Check the operation and direction of the elevator, rudder, ailerons and throttle.

☐ A) Plug in your radio system per the manufacturer's instructions and turn everything on.

☐ B) Check the elevator first. Pull back on the elevator stick. The elevator halves should move up. If it they do not, flip the servo reversing switch on your transmitter to change the direction.

☐ C) Check the rudder. Looking from behind the airplane, move the rudder stick to the right. The rudder should move to the right. If it does not, flip the servo reversing switch on your transmitter to change the direction.

☐ D) Check the throttle. Moving the throttle stick forward should open the carburetor barrel. If it does not, flip the servo reversing switch on your transmitter to change the direction.

☐ E) From behind the airplane, look at the aileron on the right wing half. Move the aileron stick to the right. The right aileron should move up and the other aileron should move down. If it does not, flip the servo reversing switch on your transmitter to change the direction.

PREFLIGHT CHECK

☐ 1) Completely charge your transmitter and receiver batteries before your first day of flying.

☐ 2) Check every bolt and every glue joint in the **Aviat A-1C Christen Husky 80" wingspan size 15-20cc** to ensure that everything is tight and well bonded.

☐ 3) Double check the balance of the airplane. Do this with the fuel tank empty.

☐ 4) Check the control surfaces. All should move in the correct direction and not bind in any way.

☐ 5) If your radio transmitter is equipped with dual rate switches double check that they are on the low rate setting for your first few flights.

☐ 6) Check to ensure the control surfaces are moving the proper amount for both low and high rate settings.

☐ 7) Check the receiver antenna. It should be fully extended and not coiled up inside the fuselage.

☐ 8) Properly balance the propeller. An out of balance propeller will cause excessive vibration which could lead to engine and/or airframe failure.

We wish you many safe and enjoyable flights
with your **Aviat A-1C Christen Husky 80" wingspan size 15-20cc.**

If you have any queries, or are interested in our products,
please feel free to contact us

Factory : 12/101A - Hamlet 4 - Le Van Khuong Street - Dong Thanh Ward - Hoc Mon District - Ho Chi Minh City - Viet Nam.

Office : 62/8 Ngo Tat To Street - Ward 19 - Binh Thanh District - Ho Chi Minh City - Viet Nam

Phone : 848 - 86622289 or 848- 36018777
Website : www.SeagullModels.com
Email : Sales@seagullmodels.com
Facebook : www.facebook.com/SeaGullModels.