MOTIONRC

OV-10 BRONCO

Instruction Manual

OPTIONAL ELECTRONIC RETRACTABLE LANDING GEAR (NOT INCLUDED).
INCLUDES OLEO STRUTS.
ALL BALSA - PLY WOOD CONSTRUCTION.
COVERED WITH ORACOVER®.

95% PRE BUILT ARF ALMOST READY TO FLY

95% ALMOST READY TO FLY EP/GP

SPECIFICATION:

- Wingspan:1,800 mm (70.87in).
- Length: 1,748mm (68.8 in).
- Weight: 6.8 - 7.1 kg (14.96 - 15.62 lbs).
- Wing area: 57.1dm^2.
- Wing loading:119.1 g/dm^2.
- Wing type: Naca Airfoil.
- Servo mount: 33mm x 17mm.
- Gear type: Eltronic retracts, 90 degree. size: 81 x 44 x 29mm (not included). Oleo struts (included).
- Spinner: 58mm (2pcs).

Parts Required (not included):

- Radio: 6 channels min,
  (Admiral RX1000, 10ch Rx recommended).
- Servo: 45g Standard type (8pc),
  (Hitec HS-485HB recommended).
- Engine: 40 - 46 2 stroke (2pcs) for nitro option.
- Motor : 35 - 42 size Brushless Outrunner Electric Motor (2pc),
  (4S set-up, Admiral GP5 4220 770kv recommended)
  (4S set-up, Tomcat G52 5025 590kv recommended)
- Propeller: 12x8 2 blade (2pc).
- ESC: 65 - 85amp Brushless ESC (2pc),
  (ZTW Mantis 65 recommended).
- Battery: 4S 4000 - 5000mah 14.8v 40 - 50C Lipo (2pc),
  (Admiral 4000mah 4S 40C recommended)
  6S 5000-6000mah 22.2v 40-50C Lipo,
  (Admiral 5000mah 6S 50C recommended)
- Retracts: XWAVE RM400-90 *recommended*

TABLE OF CONTENTS

Symbols used throughout this instruction manual, comprise:


Cut off excess.


Apply threadlocker (screw cement).


Must be purchased separately!


Cut off shaded portion carefully.

Apply instant glue (C.A glue, super glue).


Ensure smooth, non-binding movement when assembling.


Pay close attention here.

Apply epoxy glue.

Drill holes using the stated. (in this case 1.5mm Ø).

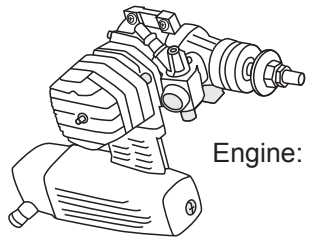

Take particular care here.

Assemble left and right sides the same way.

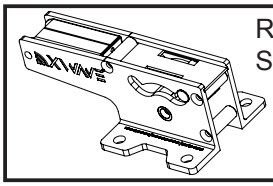
The number of times the same way Assembly (in this case twice).

► Set all scerws securely. If they come off during flight you will lose control of your aircraft!

PARTS LISTING (NOT INCLUDED).



Engine: 46.....2 pcs.

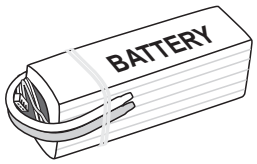


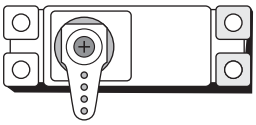
Retracts: XWAVE RM400-90
Size: (81 x 44 x 29)mm.

3 pcs.

LiPo. 4S Set-up:
2 x 14.8V 4000mAh

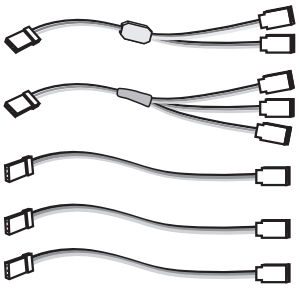
LiPo. 6S Set-up:
1 x 22.2v 6000mah





8 - 10 servos. Size: (32.3x16.8x31)mm.
Torque: 4.8V (3.89kg-cm), 6V (4.82 kg-cm).

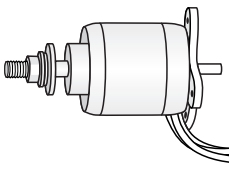
Servo extension leads.



..... 4 pcs.
..... 1 pcs.
920mm ..... 1 pcs.
330mm .... 10 pcs.
190mm ..... 8 pcs.

Propeller (2 pcs). Suit with your engine.

12AWG 200°C
500mm ..... 2 pcs.



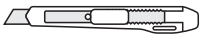
4S Set-up Motor, 2 pcs:
Admiral GP5 4420-770kV
6S Set-up Motor, 2 pcs:
Tomcat G52 5025-590kV

ESC: 65A ..... 2 pcs.

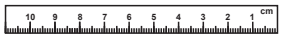
TOOLS & SUPPLIES NEEDED.

Medium C/A glue

Threadlocker
(screw cement).



Modeling knife.

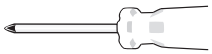


Straight edge ruler.

2 bender plier

Wire cutters.

30 minute epoxy.
5 minute epoxy.



Screw driver

Hex Wrench.

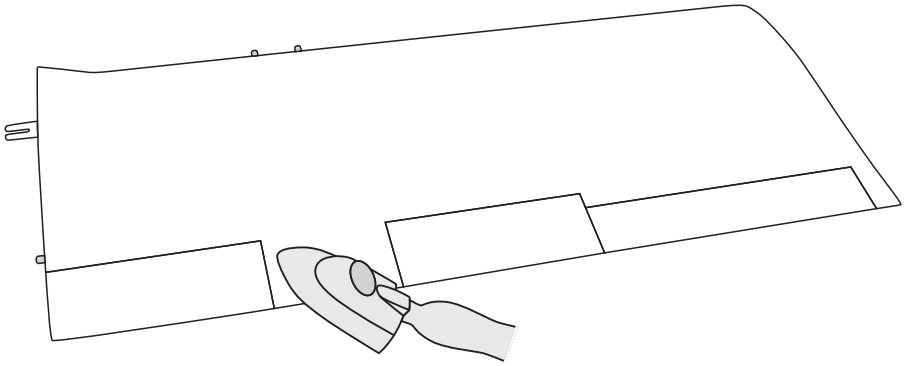
Hand or
electric drill.

Some more tools.

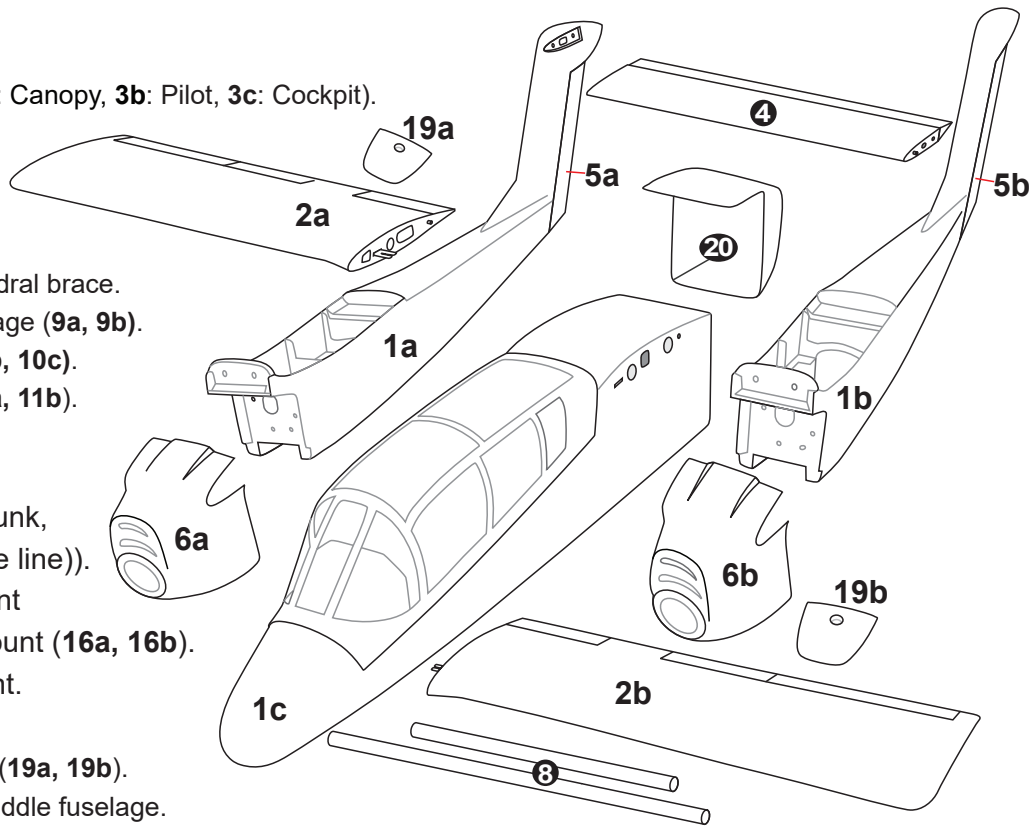
Assorted drill bits.
Masking tape.
Paper towels.
Rubbing alcohol.
90° square or builder's triangle.
Patients.

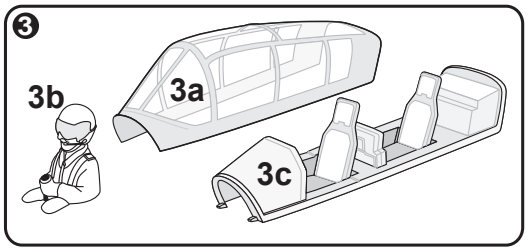
PREPARATIONS:

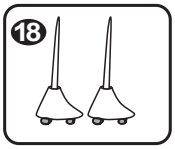
Use a covering iron with a covering sock on hign heat to tighten the covering if necessary. Apply pressure over sheeted areas to thoroughly bond the covering to the wood.

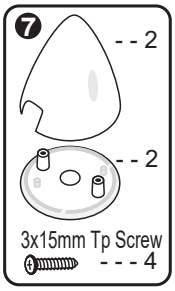


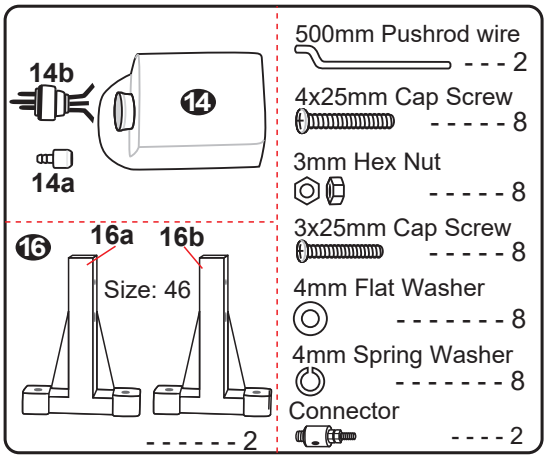
❶ : Fuselage (**1a:** Right fuselage, **1b:** Left fuselage, **1c:** Middle Fuselage).
❷ : Wing panel (**2a, 2b**).
❸ : Cockpit fuselage (**3a**: Canopy, **3b**: Pilot, **3c**: Cockpit).
❹ : Horizontal stabilizer.
❺ : Rudder (**5a, 5b**).
❻ : Cowling (**6a, 6b**).
❼ : Spinner (**58mm**).
❽ : Aluminium wing dihedral brace.
❾ : Plastic parts of fuselage (**9a, 9b**).
❿ : Wheel well (**10a, 10b, 10c**).
⓫ : Main gear struts (**11a, 11b**).
⓬ : Nose gear struts.
⓭ : Wheels (**13a, 13b**).
⓮ : Fuel Tank (**14a:** Clunk, **14b:** Stopper (three line)).
⓯ : Wood - motor mount
⓰ : Plastic - engine mount (**16a, 16b**).
⓱ : Landing gear mount.
⓲ : Antenna.
⓳ : Plastic parts of wing (**19a, 19b**).
⓴ : Fiber glass part of middle fuselage.



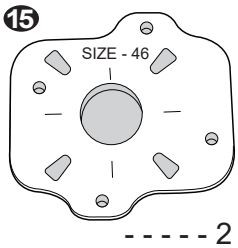






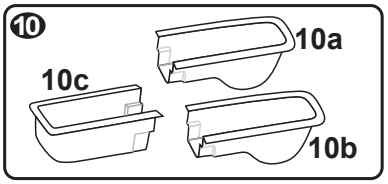


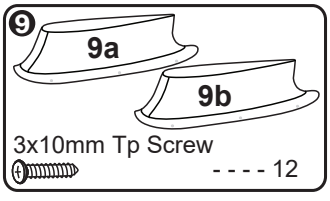
4x60mm Socket Head Cap Screw - - 8
3x15mm Cap Screw - - - - - 8
4mm Flat washer - - - - - 8
4mm Flat washer - - - - - 8
4mm Spring Washer - - - - - 8
3mm Spring Washer - - - - - 8



- - - - - 2

M3 Blind Nut - - - - - 8
10x40mm Plastic - - - - - 8





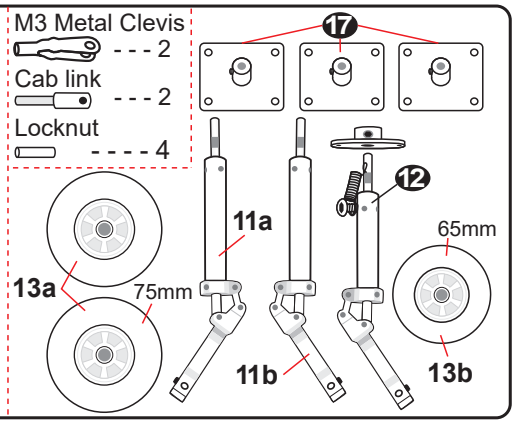
3x10mm Tp Screw - - - - 12

Nylon Clevis - - - - - - 7
1.7x8mm Cap Screw - - - - - - 7
100mm Push rod - - 5
300mm Push rod - - 2
Flaslink - - - - - - 7
Horn - - - - 7

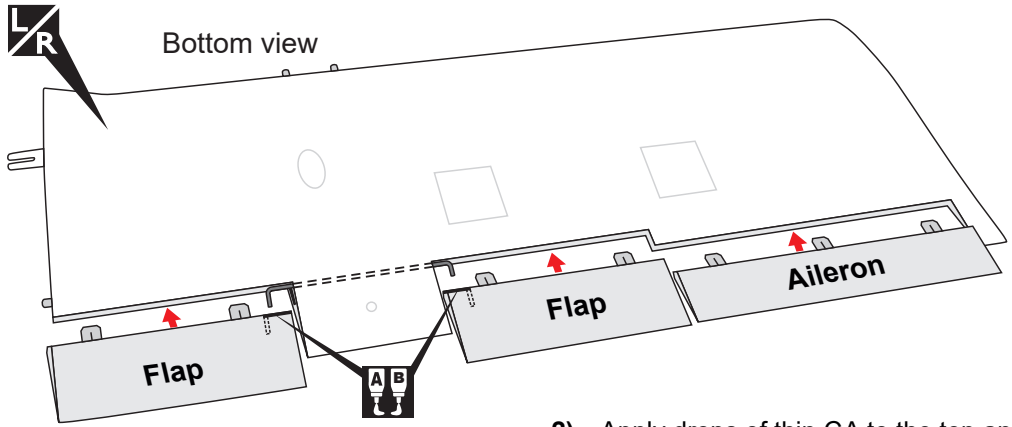
6x45mm Plastic screw - - 2
4x20mm Plastic screw - - - 2
3x12mm Tp Screw - - - - 12
2x10mm Tp Screw - - - - 28

3x15mm Cap Screw - - - - 12
5x30mm Socket Head Cap Screw - - - - - - 3
5mm Flat Washer - - - - - - - 3
3x6mm Button Head Cap Screw - - - - - - - - 1
45mm Aluminium - - - - 2
350mm Cable - - 2
3mm Hex Nut - - - - - - 2

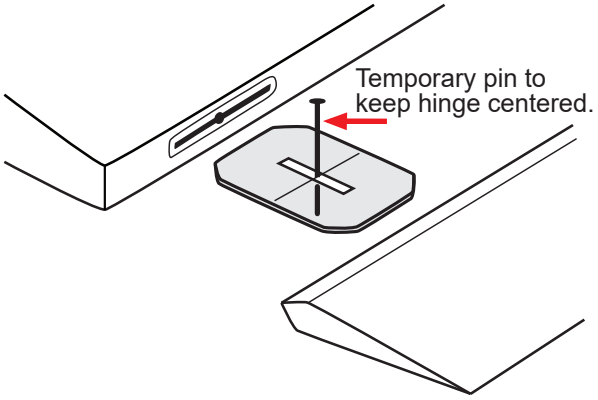
M3 Metal Clevis - - - 2
Cab link - - - 2
Locknut - - - - 4



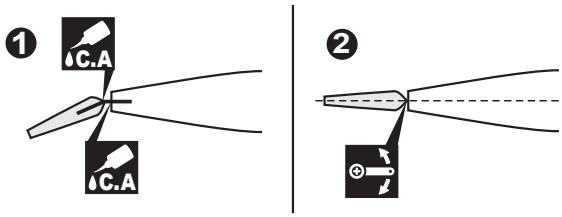
INSTALLING THE AILERONS AND FLAPS.



1) Test fit the ailerons to the wing with the hinges. If the hinges don't remain centered, stick a pin through the middle of the hinge to hold it in position.



2) Apply drops of thin CA to the top and bottom of each hinge. Do not use CA accelerator. After the CA has fully hardened, test the hinges by pulling on the aileron.

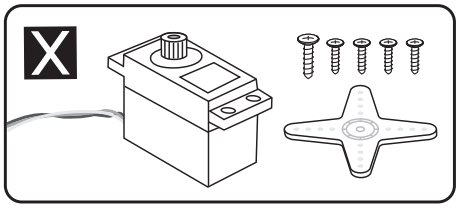


Warning! ► Make certain the hinges are adequately secured with glue. if they come loose in flight accidents may result.

❶ Secure nylon hinges with instant glue, being careful not to glue the wing and aileron together.

❷ Align the center line of main wing with aileron.

INSTALLING THE AILERONS AND FLAPS SERVOS



1. Install the rubber grommets and brass eyelets onto the aileron servos.

2. Using a modeling knife, remove the covering from over the pre-cut servo arm exit hole on the aileron servo tray / hatch. This hole will allow the servo arm to pass through when installing the aileron pushrods.

3. Place the servo into the servo tray. Center the servo within the tray and drill 1.5mm pilot holes through the block of wood for each of the four mounting screws provided with the servo.

4. Using the thread as a guide and using masking tape, tape the servo lead to the end of the thread: carefully pull the thread out. When you have pulled the servo lead out, remove the masking tape and the servo lead from the thread.

5. Place the servo into the servo tray/ hatch into the servo box on the bottom of the wing and drill 1.5mm pilot holes through the tray and servo box for each of the four mounting screws. Secure the servo tray in place using the mounting screws provided.

6. Repeat step # 2 - # 5 to install the second aileron servo in the opposite wing half.

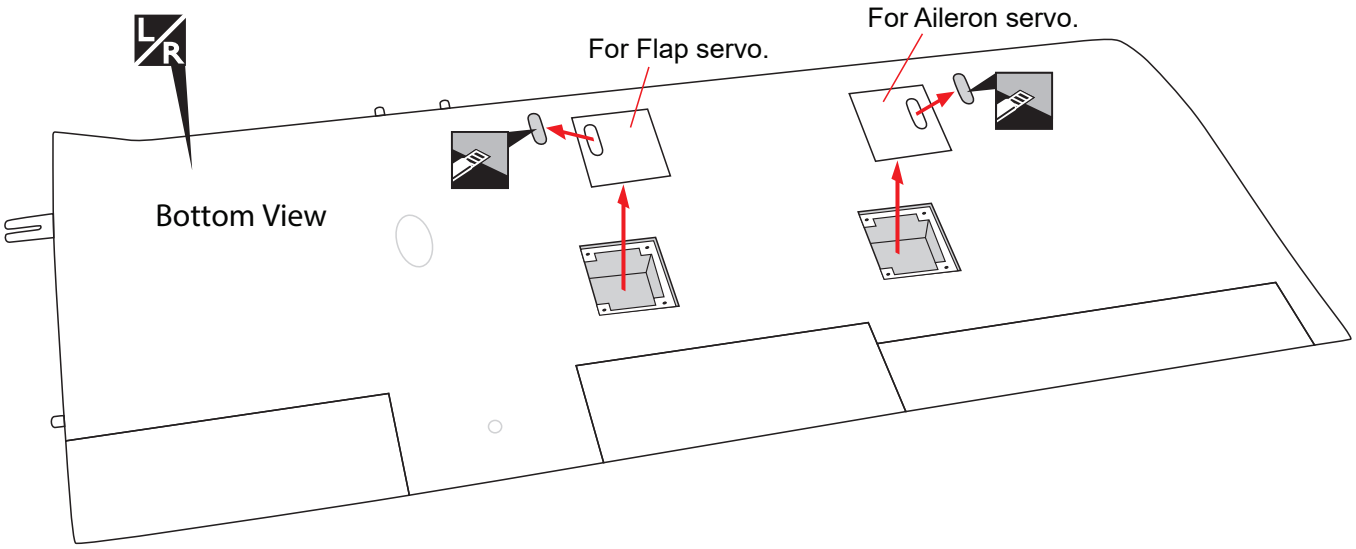
C.A Apply instant glue (C.A glue, super glue).

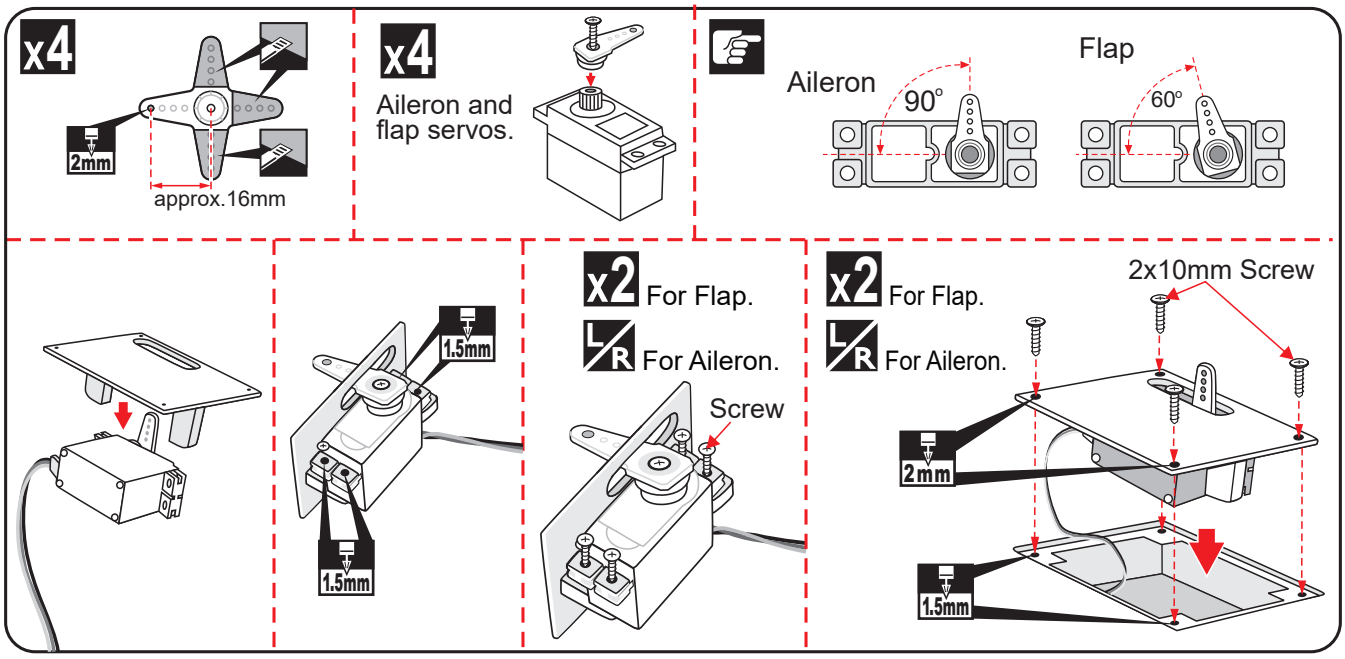
X Must be purchased separately!

A B Apply epoxy glue.

Ensure smooth, non-binding movement when assembling.

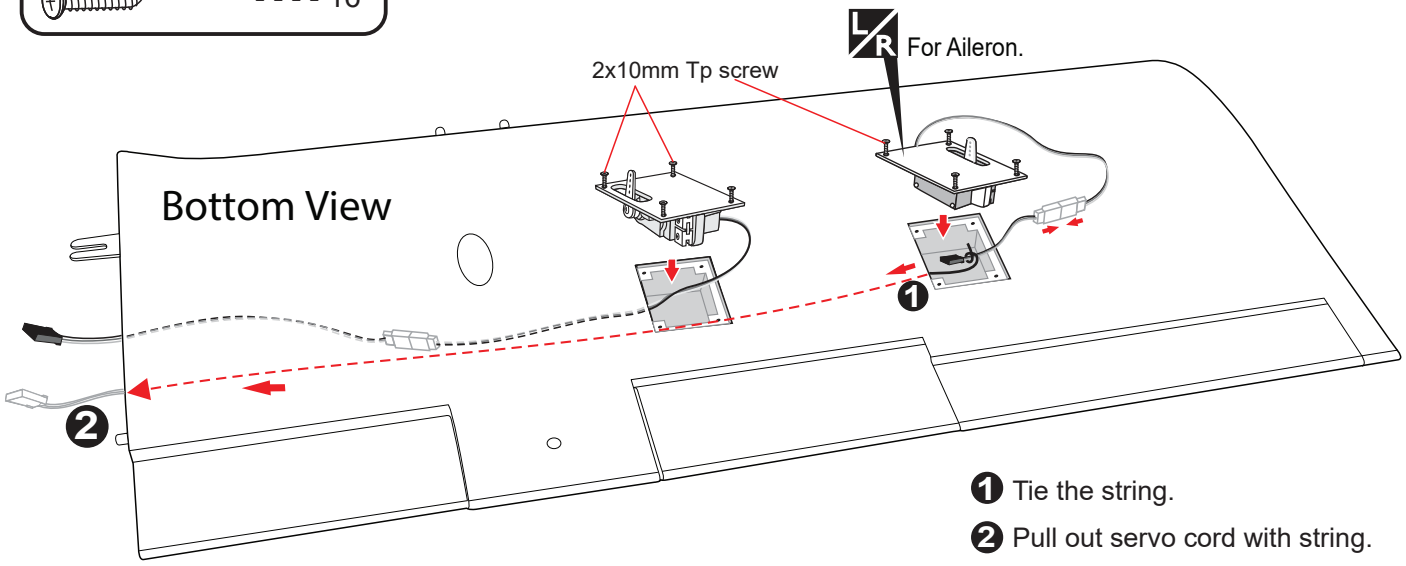
L/R Assemble left and right sides the same way.





2x10mm Tp Screw - - - - 16

Warning!



1 Tie the string.

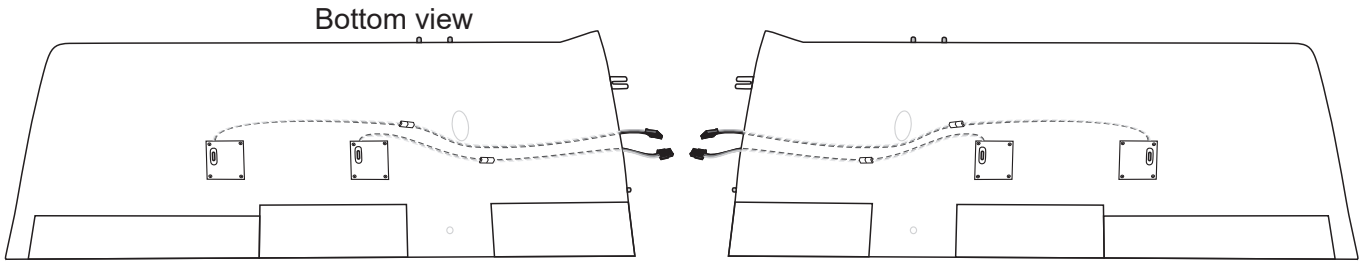
2 Pull out servo cord with string.

L/R Assemble left and right sides the same way.

x4 The number of times the same way Assembly (in this case twice).

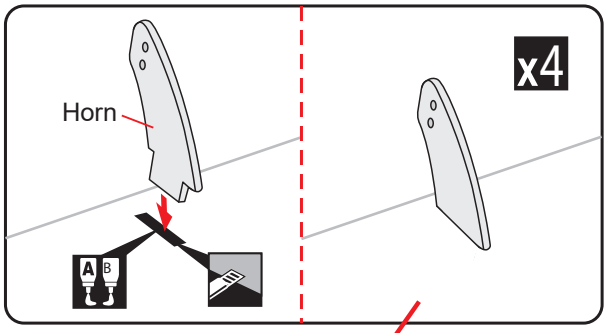
Cut off shaded portion carefully.

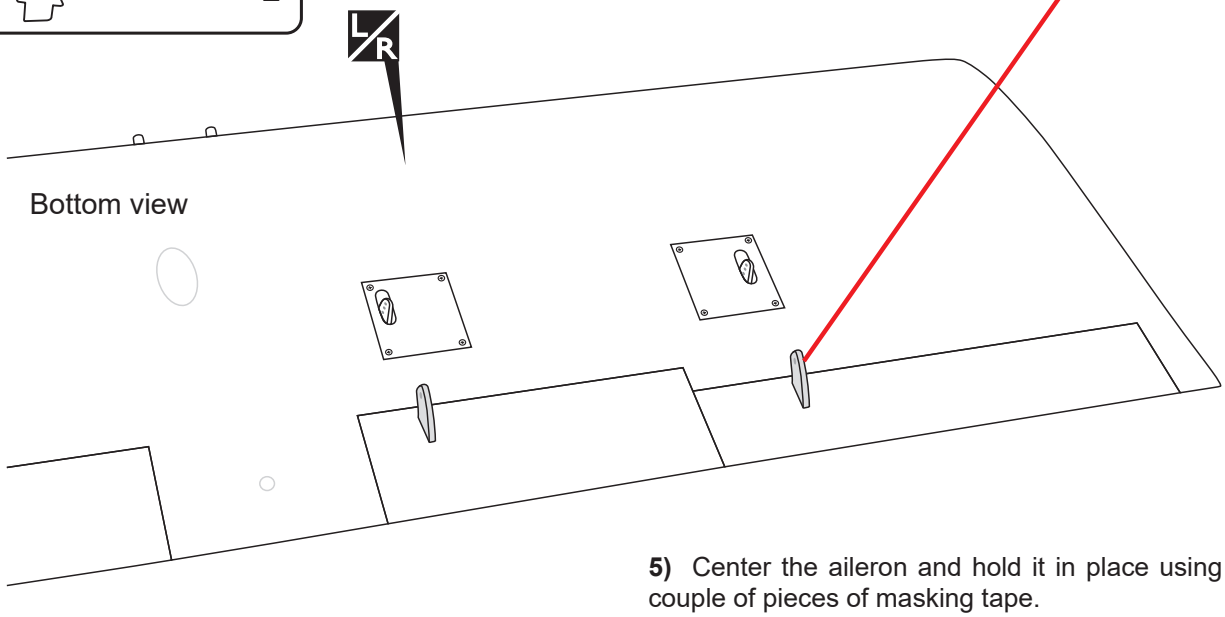
1.5mm Drill holes using the stated. (in this case 1.5mmØ).



INSTALLING THE CONTROL HORNS AND LINKAGES

1.7x8mm Cap Screw - - - 4
Nylon Clevis - - - 4
100mm Push rod - - 4
Flaslink - - - - - - 2
Horn - - - - - - 2





1) Working with the aileron linkage for now, thread one nylon clevis at least 14 turns onto one of the 2mm x 180mm threaded wires.

2) Attach the clevis to the outer hole in the control horn. Install a silicone tube on the clevis.

3) Locate one nylon servo arm, and using wire cutters, remove all but one of the arms. Using a 2mm drill bit, enlarge the third hole out from the center of the arm to accommodate the aileron pushrod wire.

4) Plug the aileron servo into the receiver and center the servo. Install the servo arm onto the servo. The servo arm should be perpendicular to the servo and point toward the middle of the wing.

5) Center the aileron and hold it in place using a couple of pieces of masking tape.

6) With the aileron and aileron servo centered, carefully place a mark on the aileron pushrod wire where it crosses the hole in the servo arm.

7) Using pliers, carefully make a 90 degree bend down at the mark made. Cut off the excess wire, leaving about 6mm beyond the bend.

8) Insert the 90 degree bend down through the hole in the servo arm. Install one nylon snap keeper over the wire to secure it to the arm. Install the servo arm retaining screw and remove the masking tape from the aileron.

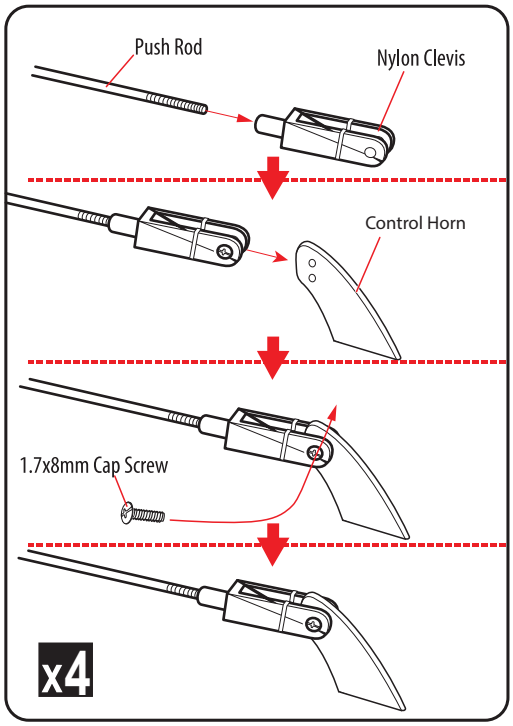
9) Repeat step # 4 - # 8 to install the second aileron linkage. After both linkages are completed, connect both of the aileron servo leads using a Y-harness you have purchased separately.

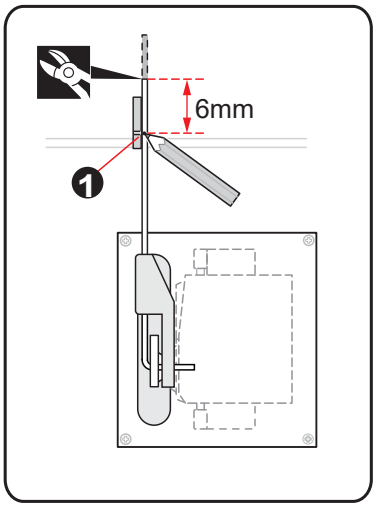
Cut off shaded portion carefully.

Apply epoxy glue.

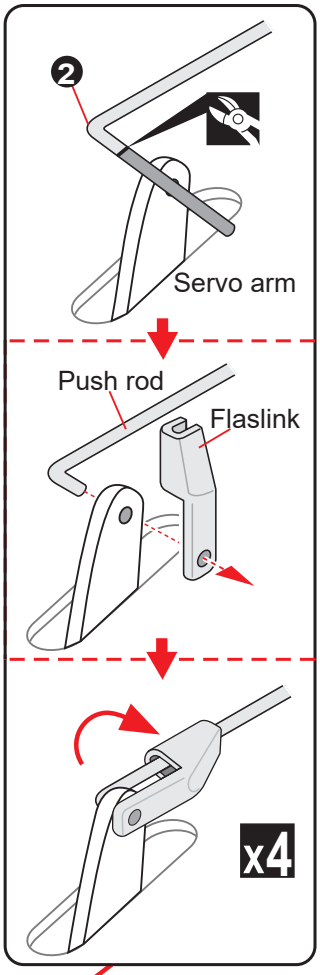
Assemble left and right sides the same way.

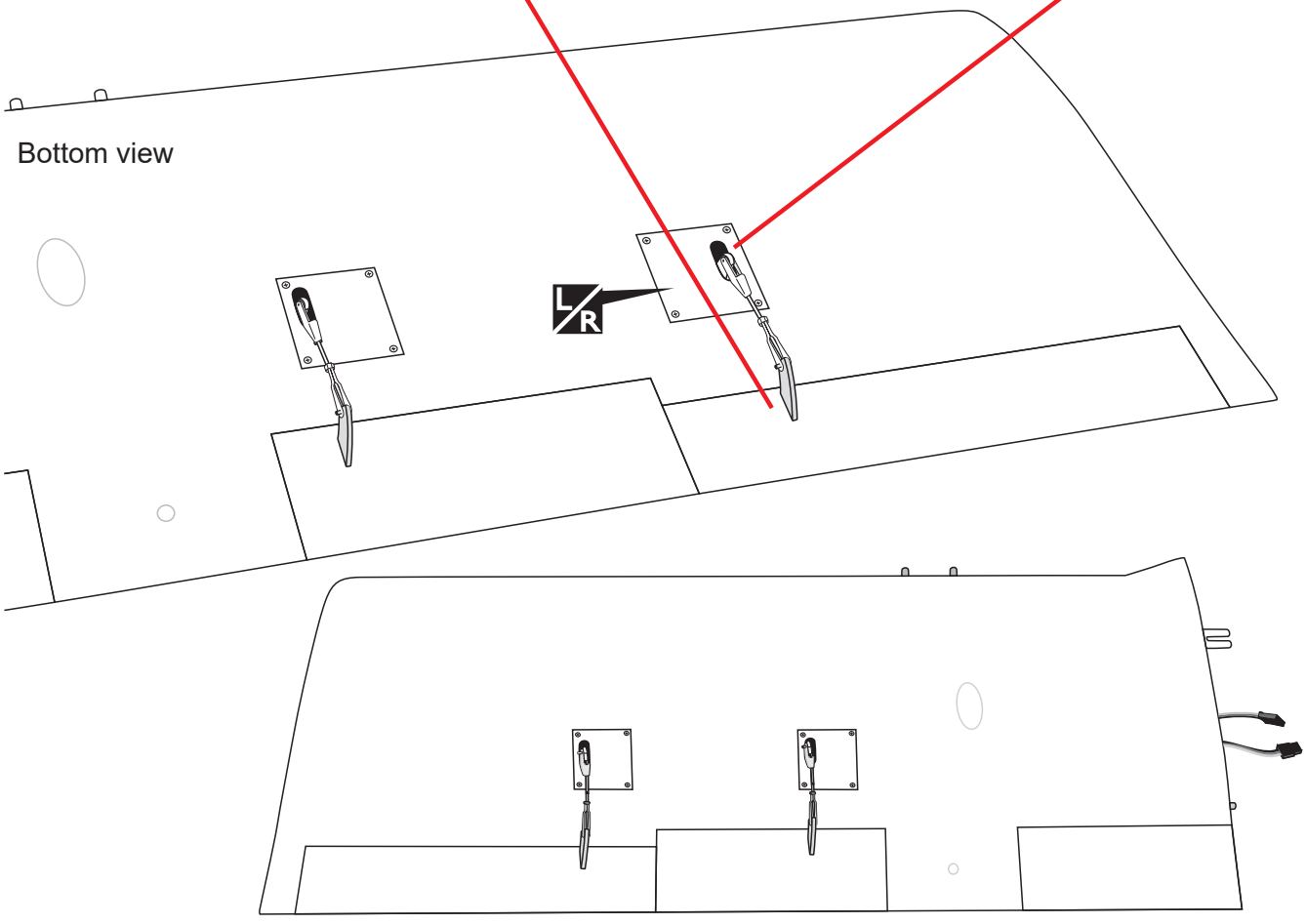
The number of times the same way Assembly (in this case twice).





1 Mark the spot to attach
2 Bend 90°





Cut off excess.

L/R Assemble left and right sides the same way.

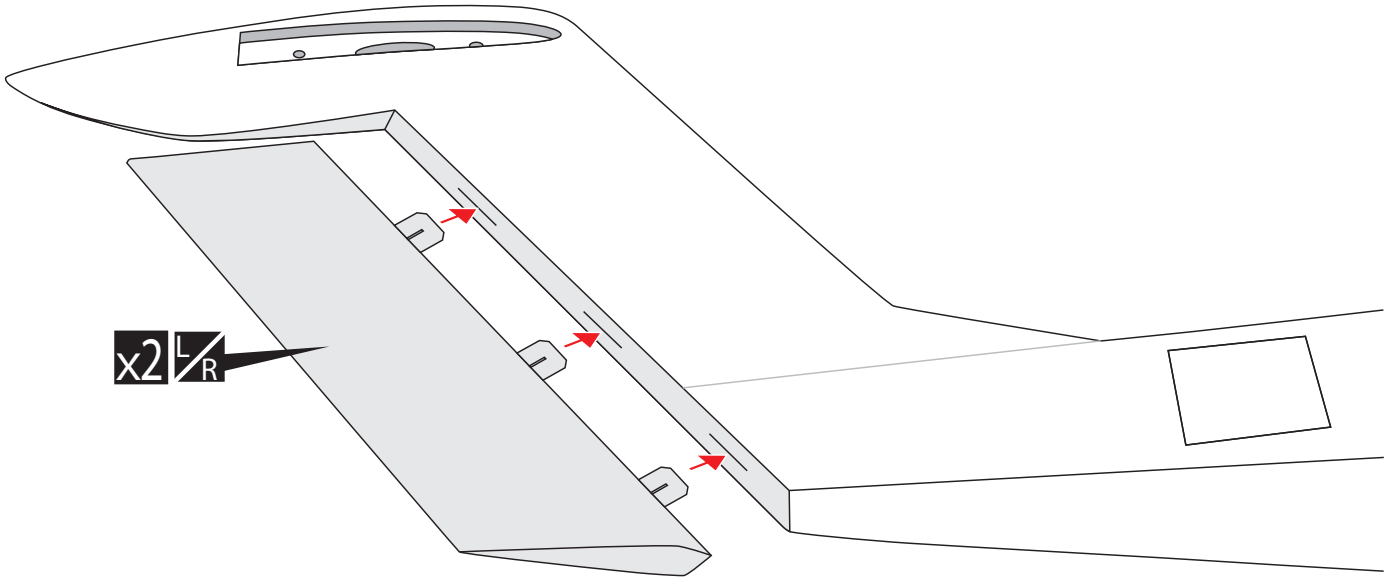
x4 The number of times the same way Assembly (in this case twice).

RUDDER INSTALLATION

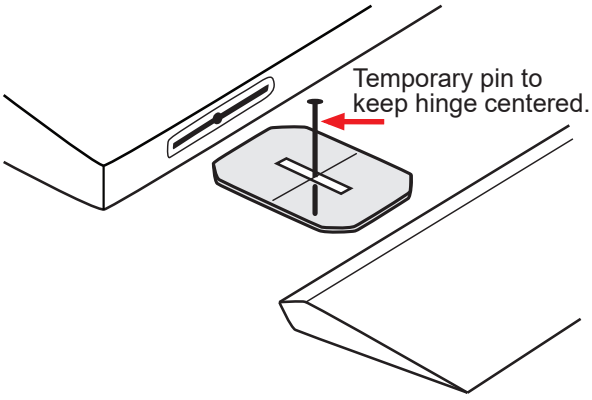
1.7x8mm Cap Screw - - -1	Flaslink - - - - 2
Nylon Clevis - - - 1	Horn - - - - 2
300mm Push rod - - 2	2x10mm Tp Screw - - 8

1) Rudder are installed the same way as the aileron before.

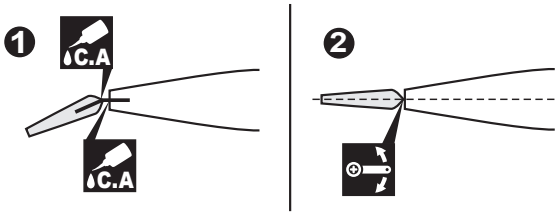
2) Control horn, linkages for rudder are installed the same way as the elevator before.



1) Test fit the ailerons to the wing with the hinges. If the hinges don't remain centered, stick a pin through the middle of the hinge to hold it in position.



2) Apply drops of thin CA to the top and bottom of each hinge. Do not use CA accelerator. After the CA has fully hardened, test the hinges by pulling on the aileron.



Warning! ► Make certain the hinges are adequately secured with glue. if they come loose in flight accidents may result.

❶ Secure nylon hinges with instant glue, being careful not to glue the wing and aileron together.

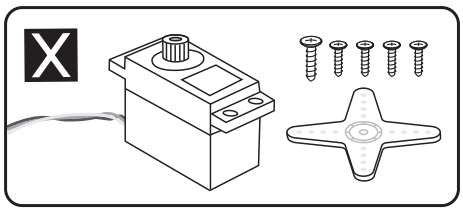
❷ Align the center line of main wing with aileron.

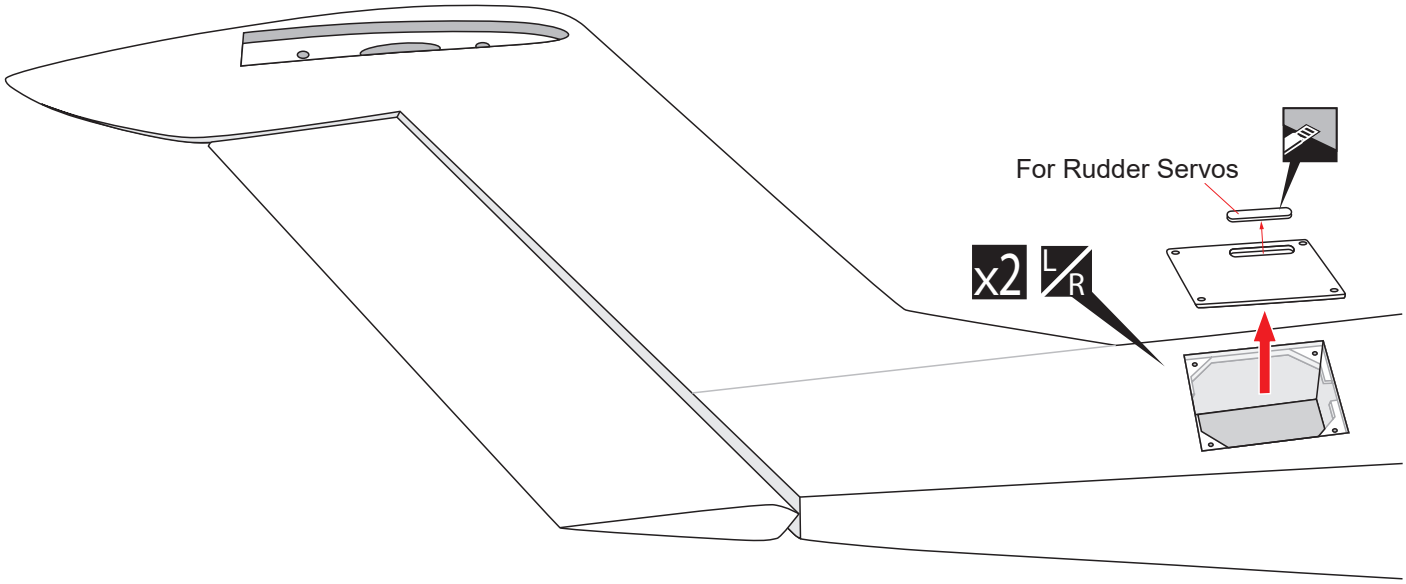
Apply instant glue (C.A glue, super glue).

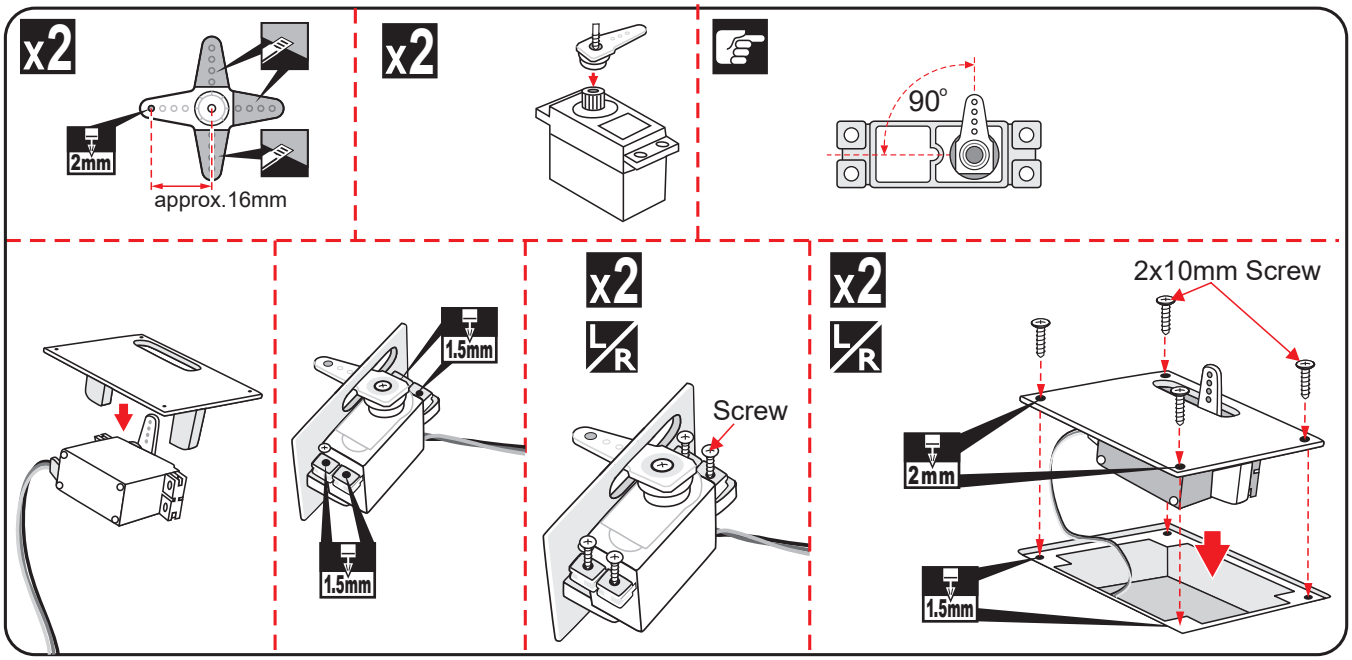
Ensure smooth, non-binding movement when assembling.

Assemble left and right sides the same way.

The number of times the same way Assembly (in this case twice).







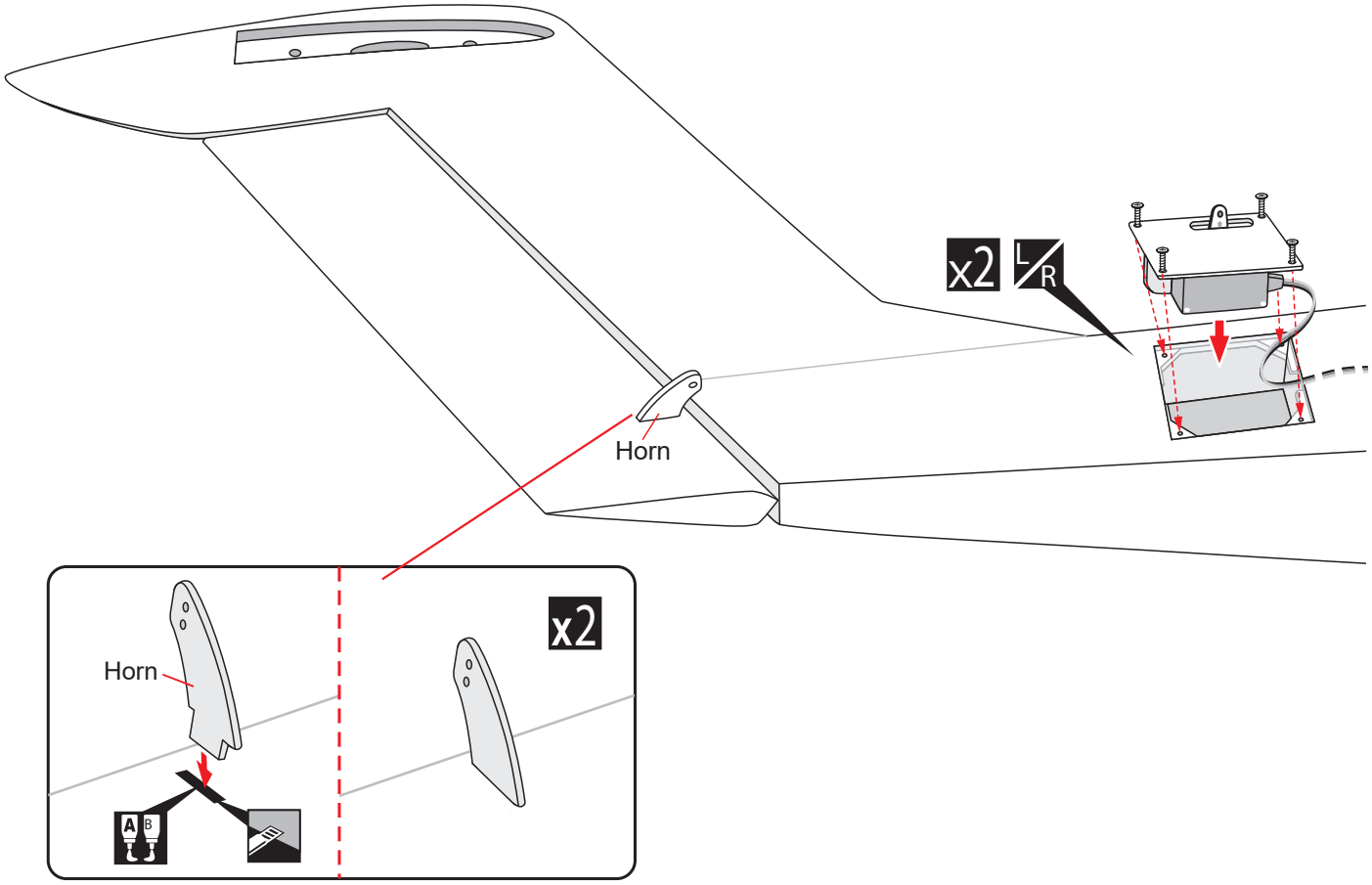
1.5mm Drill holes using the stated. (in this case 1.5mmØ).

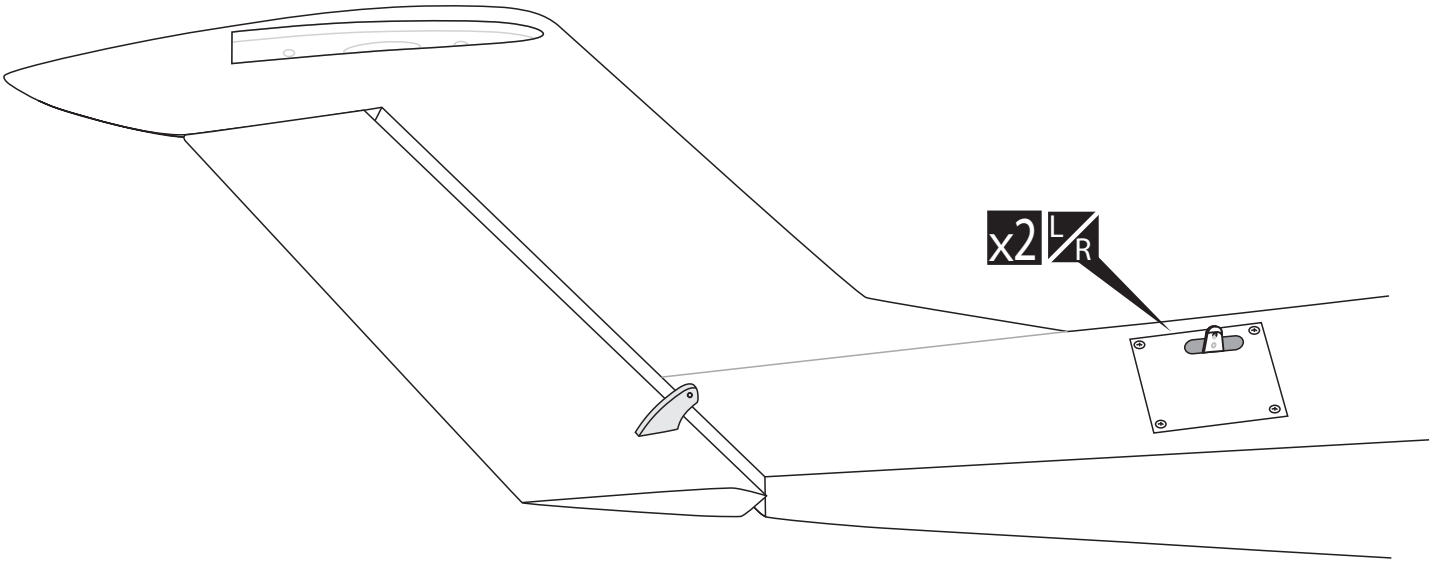
L/R Assemble left and right sides the same way.

Cut off shaded portion carefully.

Pay close attention here.

x2 The number of times the same way Assembly (in this case twice).



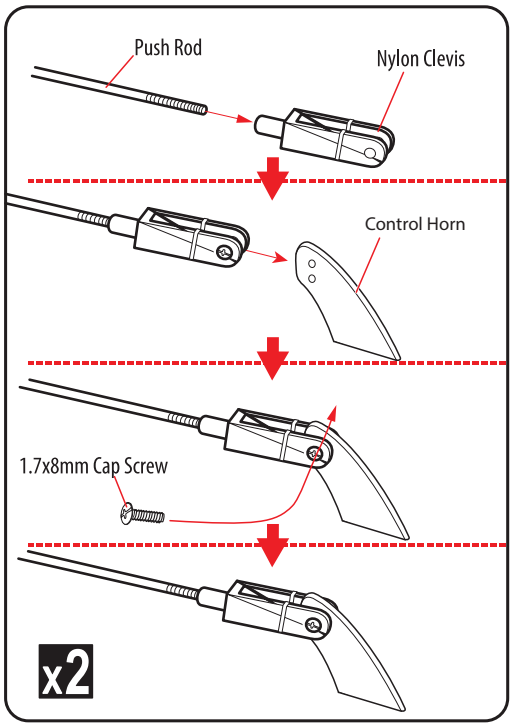


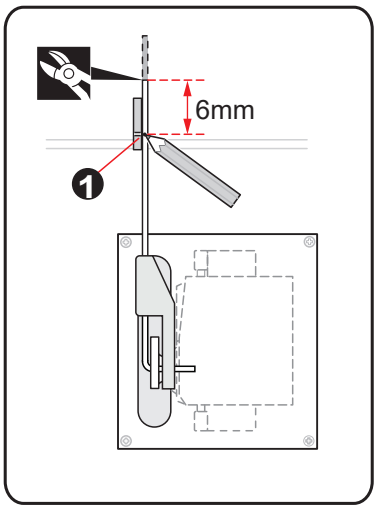
A B Apply epoxy glue.

L/R Assemble left and right sides the same way.

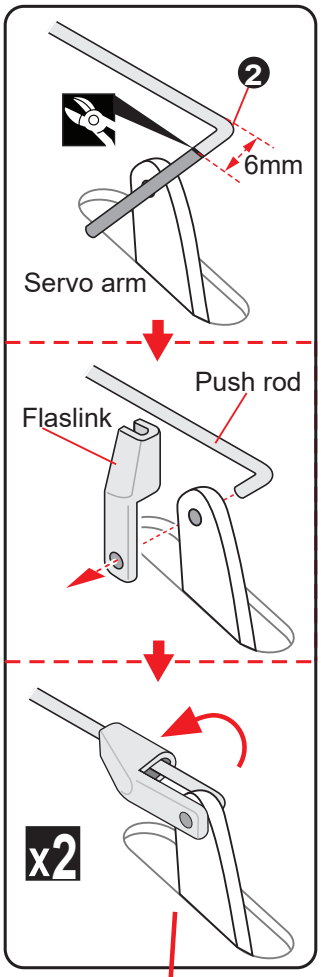
Cut off shaded portion carefully.

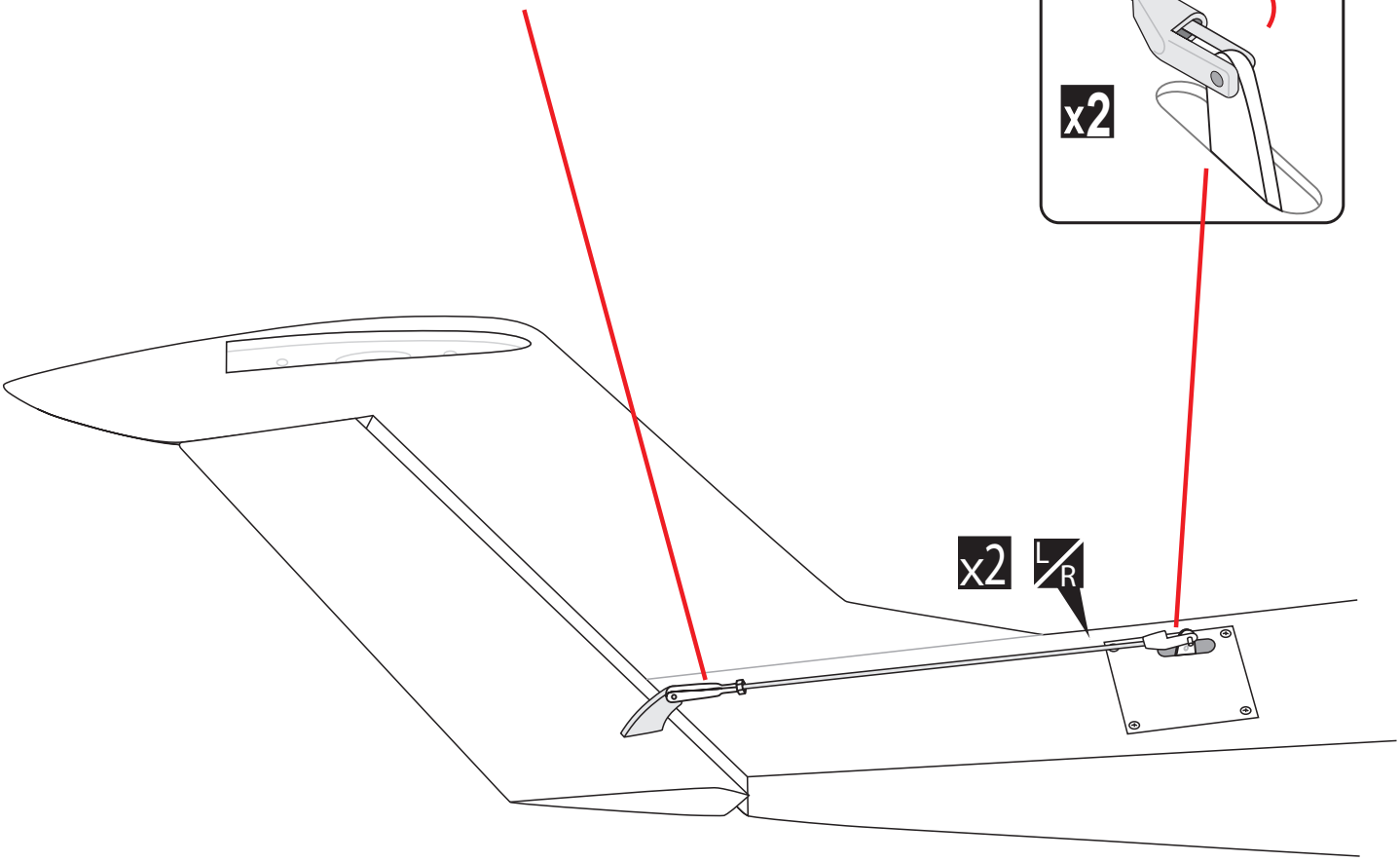
x2 The number of times the same way Assembly (in this case twice).





1 Mark the spot to attach
2 Bend 90°



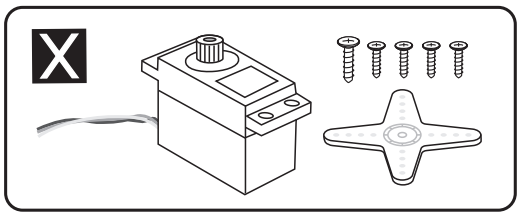


Cut off excess.

L/R Assemble left and right sides the same way.

x2 The number of times the same way Assembly (in this case twice).

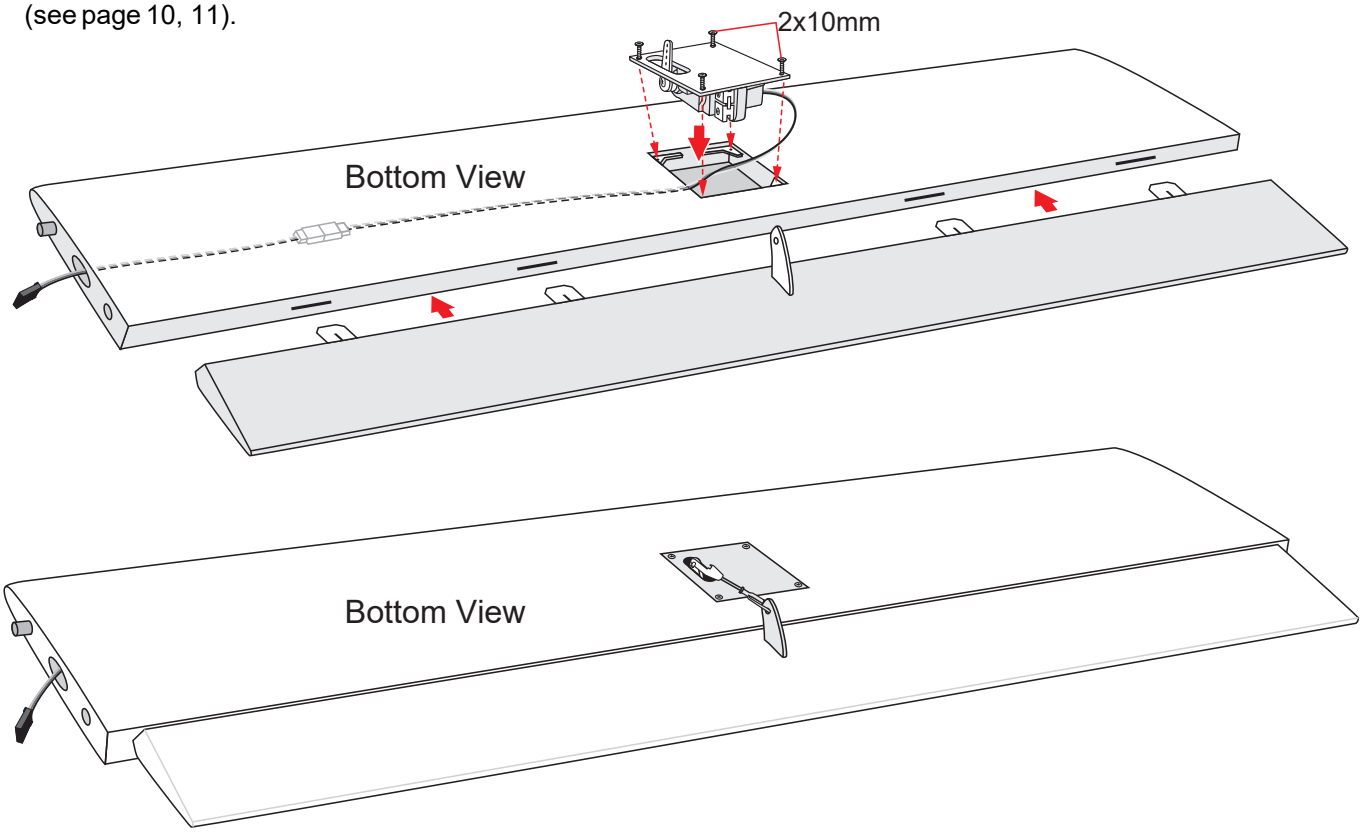
INSTALLING HORIZONTAL STABILIZER



- 1.7x8mm Cap Screw - - - 1
- Nylon Clevis - - - 1
- 100mm Push rod - - 1
- Flaslink - - - - - 1
- Horn - - - - - 1
- 2x10mm Tp Screw - - - - - 4

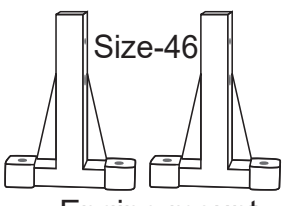
1) Hinges and servo for Elevator are glued the same way as the aileron before (see page 8, 9).

2) Control horn and linkages for Elevator are installed the same way as the aileron before (see page 10, 11).

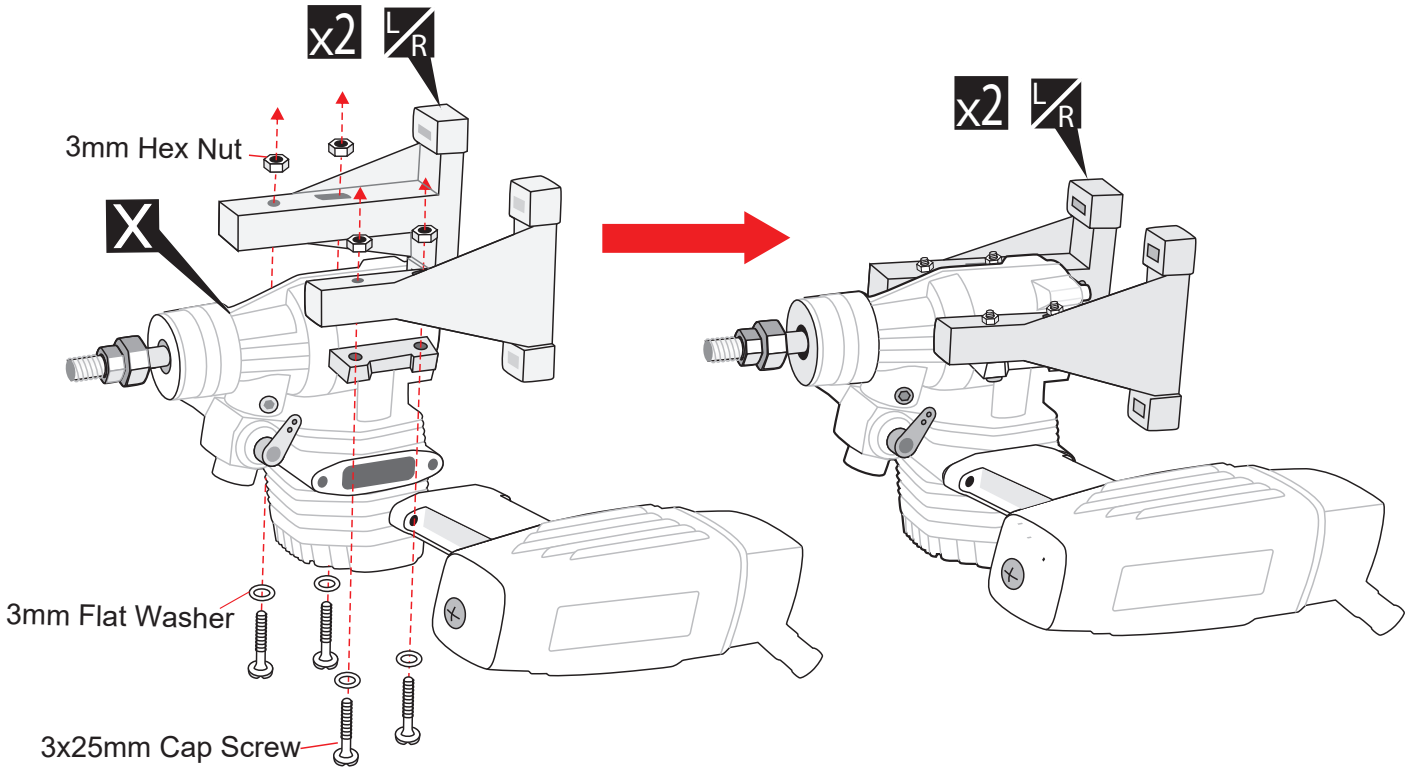


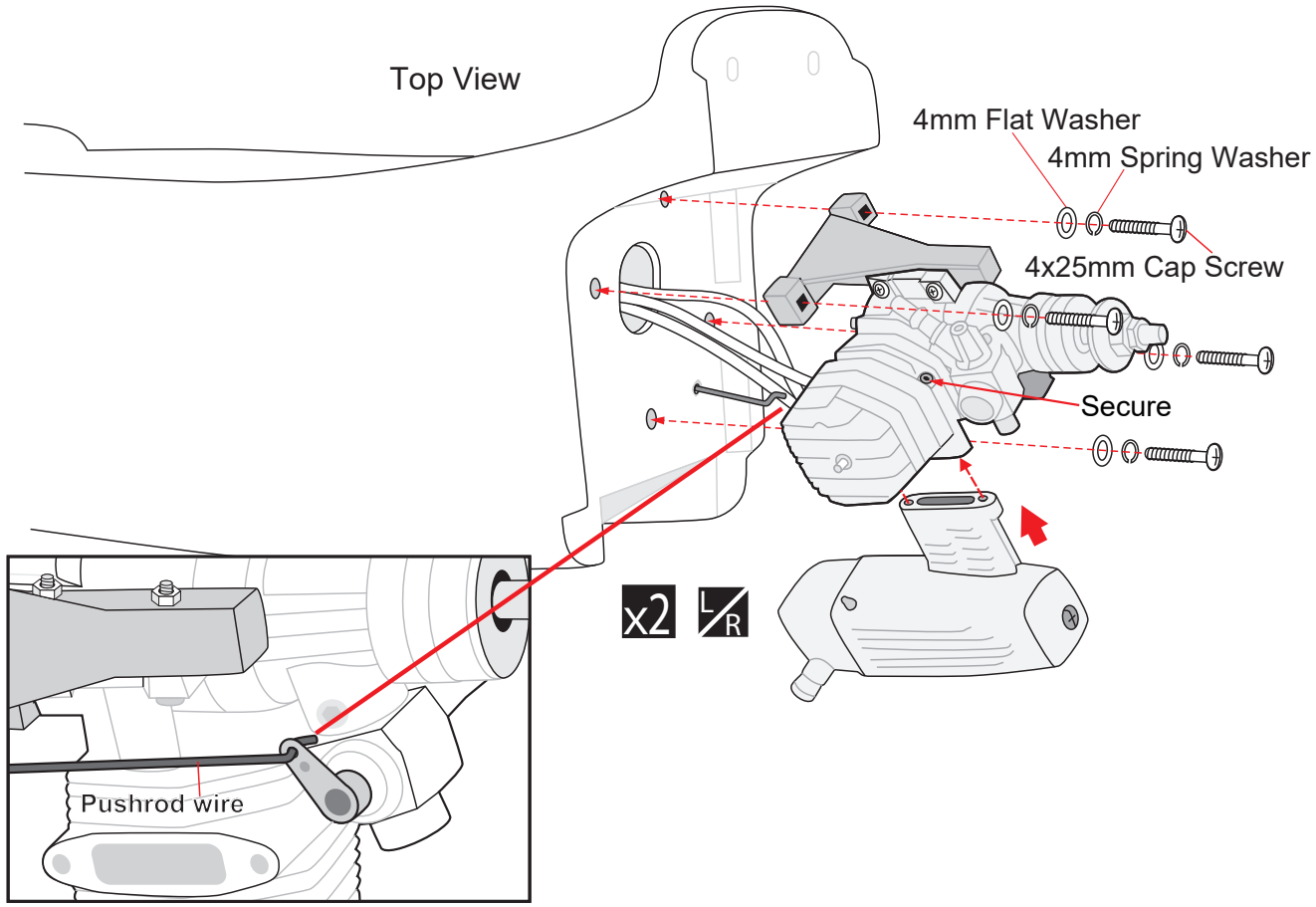
INSTALLING THE ENGINE

- 3mm Hex Nut - - - - - 8
- 3x25mm Cap Screw - - - - - 8
- 3mm Flat washer - - - - - - - 8
- 4mm Flat Washer - - - - - - - 8
- 4mm Spring Washer - - - - - - - 8
- 500mm Pushrod wire - - - 2
- 4x25mm Cap Screw - - - - - 8



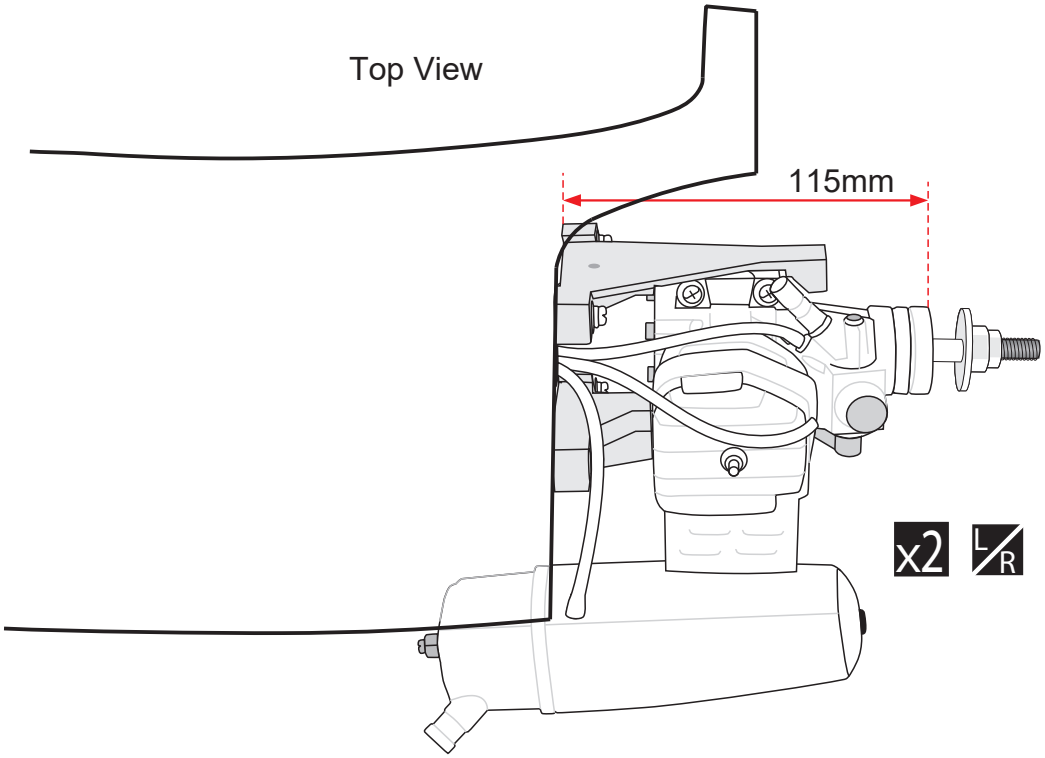
* Locate the long piece of wire used for the throttle pushrod. One end of the wire has been pre-bend in to a "Z" bend at the factory. This "Z" bend should be inserted into the throttle arm of the engine when the engine is fitted onto the engine mount. Fit the engine to the engine mount using the screws provided.



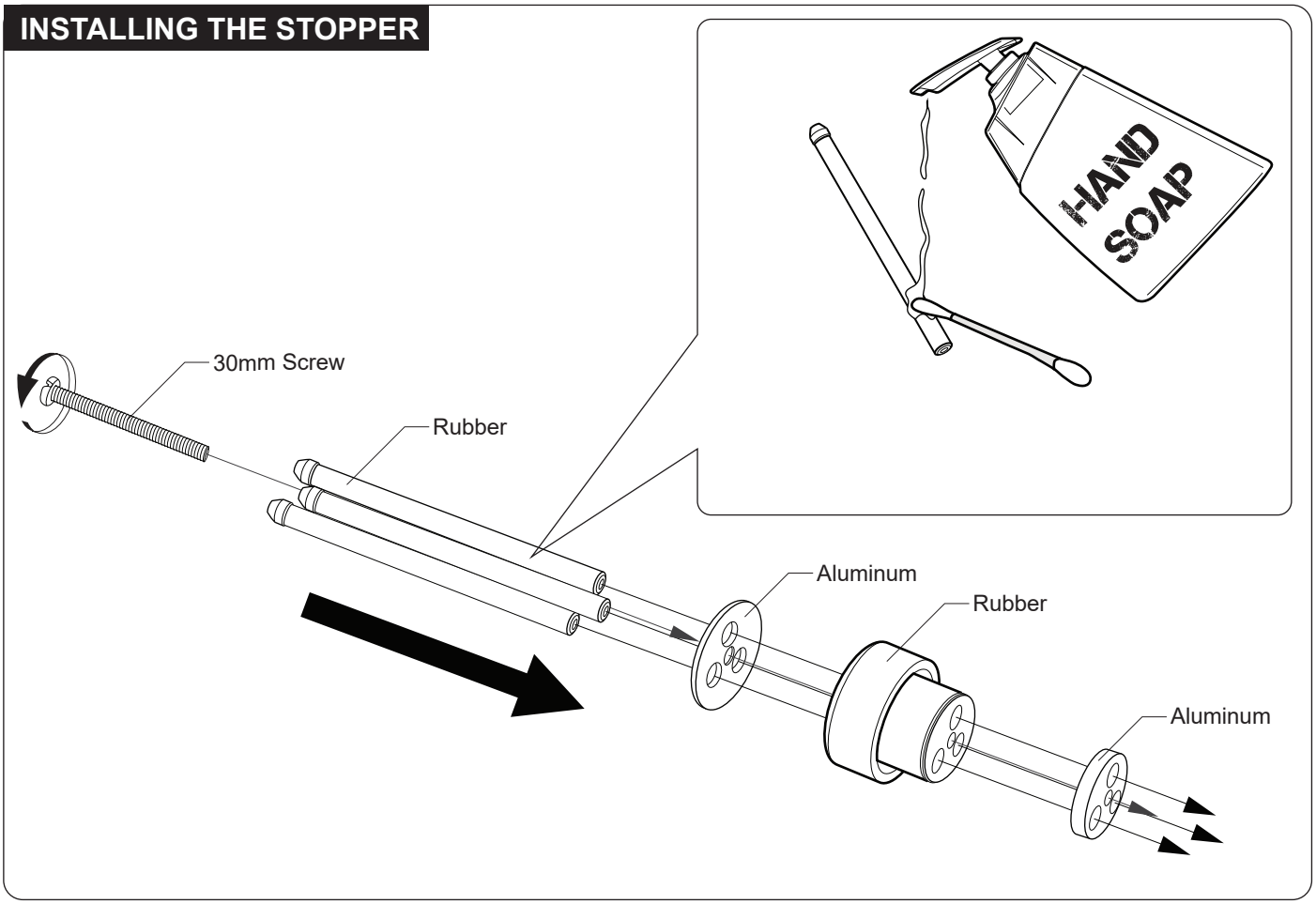


L/R Assemble left and right sides the same way.

x2 The number of times the same way Assembly (in this case twice).

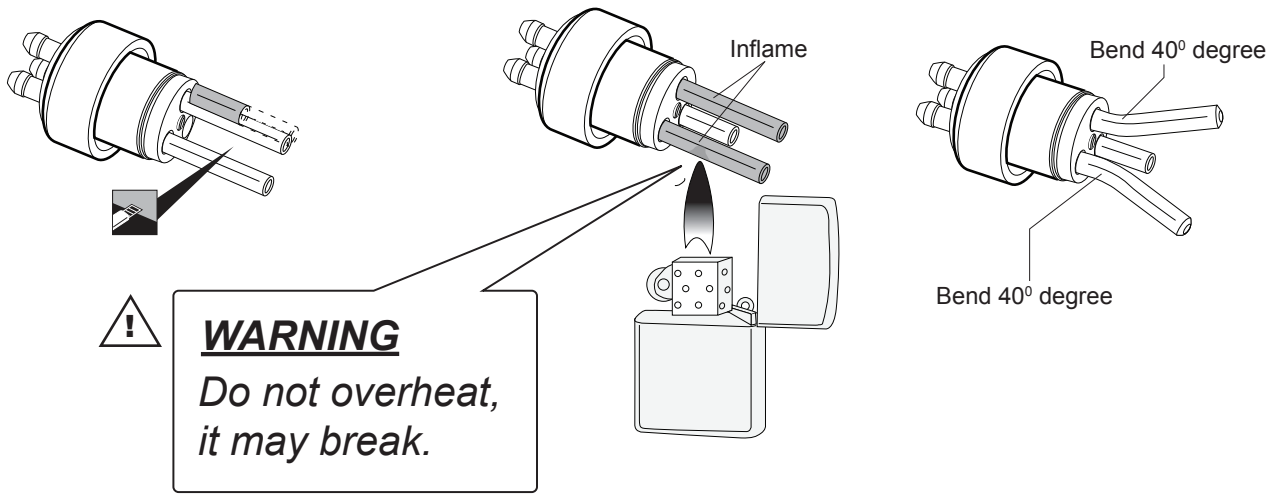


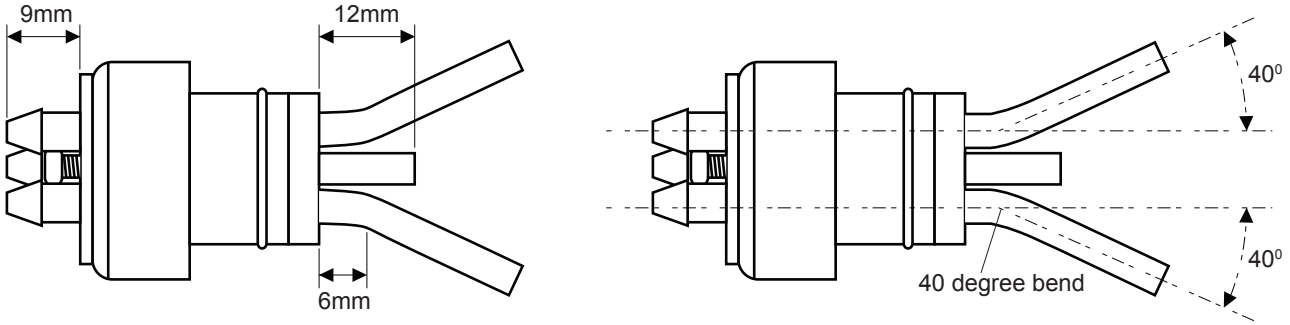
INSTALLING THE STOPPER



L/R Assemble left and right sides the same way.

x2 The number of times the same way Assembly (in this case twice).





Cut off shaded portion

INSTALLING THE FUEL TANK

1. Using a modeling knife, cut one length of silicon fuel line (the length of silicon fuel line is calculated by how the weighted clunk should rest about 5mm away from the rear of the tank and move freely inside the tank). Connect one end of the line to the weighted clunk and the other end to the nylon pick up tube in the stopper.
2. Carefully bend the second nylon tube up at a 45 degree angle (using a cigarette lighter). This tube will be the vent tube to the muffler.
3. Carefully bend the third nylon tube down at a 45 degree angle (using a cigarette lighter). This tube will be vent tube to the fueling valve.

When the stopper assembly is installed in the tank, the top of the vent tube should rest just below the top surface of the tank. It should not touch the top of the tank.

4. 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 of it falls into the tank.
5. When satisfied with the alignment of the stopper assembly tighten the 3mm 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.
6. Using a modeling knife, cut 3 lengths of fuel line . Connect 2 lines to the 2 vent tubes and 1 line to the fuel pickup tube in the stopper.
7. Feed three lines through the fuel tank compartment and through the pre-drilled hole in the firewall. Pull the lines out from behind the engine, while guiding the fuel tank into place. Push the fuel tank as far forward as possible, the front of the tank should just about touch the back of the firewall.

   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.

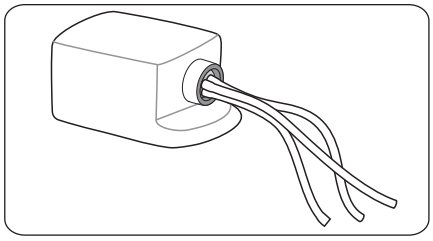
Do not secure the tank into place permanently until after balancing the airplane. You may need to remove the tank to mount the battery in the fuel tank compartment.

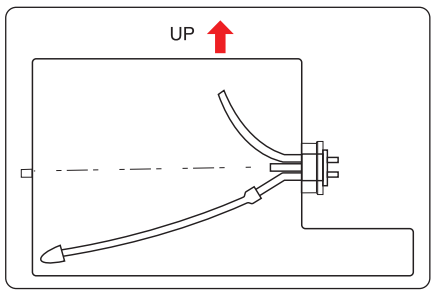
8. Secure the fuel tank.

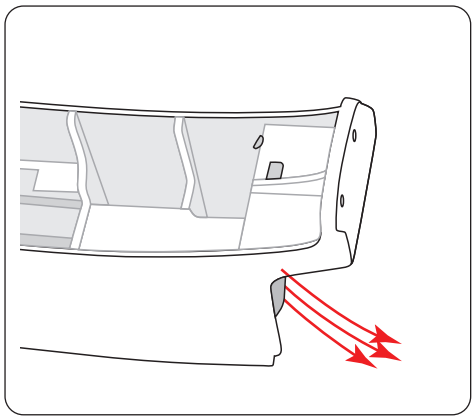
Clunks ---------- 2

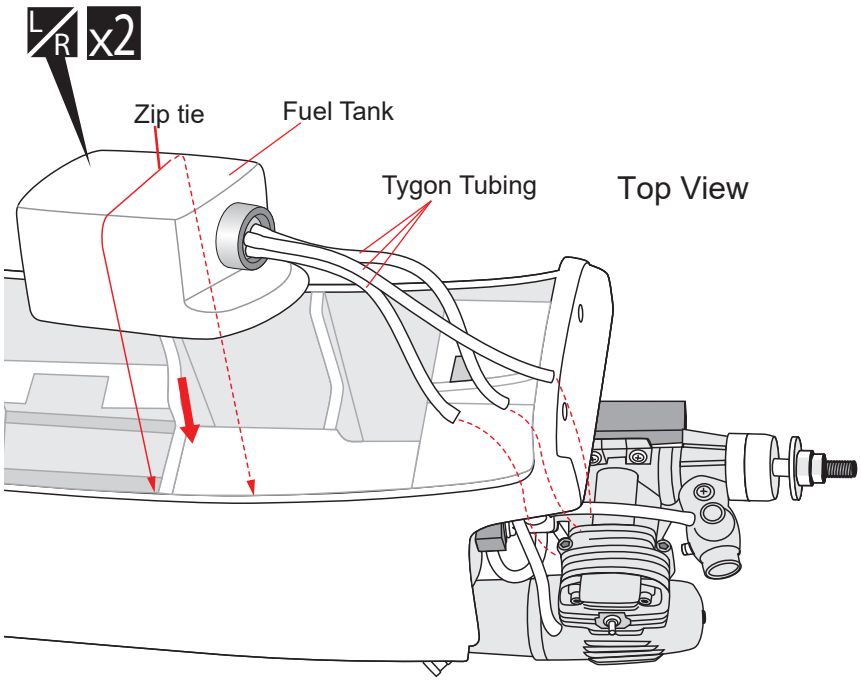
Stopper (three line) ---------- 2

Fuel Tank ---------- 2









INSTALLING THE THROTTLE

1) Install one adjustable metal connector through the third hole out from the center of one servo arm, enlarge the hole in the servo arm using a 2mm drill bit to accommodate the servo connector. Remove the excess material from the arm.

After installing the adjustable metal connector apply a small drop of thin C/A to the bottom nut. This will prevent the connector from loosening during flight.

2) Plug the throttle servo into the reveiver and turn on the radio system. Check to ensure that the throttle servo output shaft is moving in the correct direction. When the throttle sick is moved forward from idle to full throttle, the throttle barrel should also open and close using this motion. If not, reverse the direction of the servo, using the transmitter.

3) Slide the adjustable metal connector / servo arm assembly over the plain end of the pushrod wire. Position the throttle stick and the throttle trim at their lowest positions.

4) Manual push the carburator barrel fully closed. Angle the arm back about 45 degree from center and attach the servo arm onto the servo. With the carburator barrel fully closed, tighte the set screw in the adjustable metal connector.

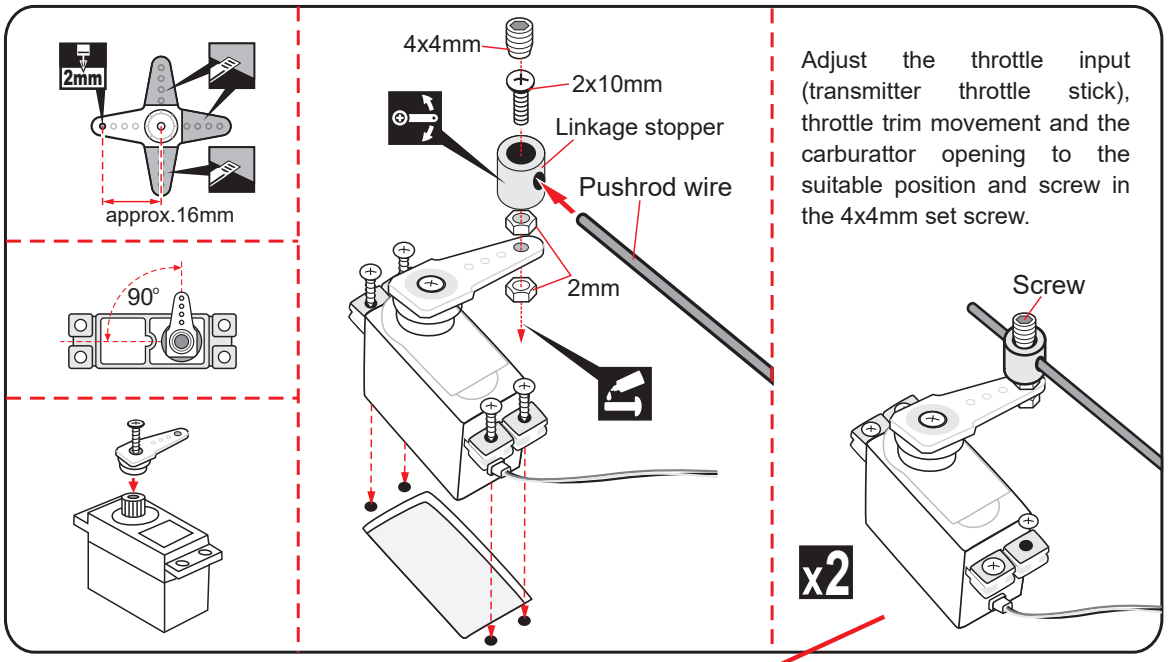
5) Remove the excess throttle pushrod wire using wire cutters and install the servo arm retaining screw.

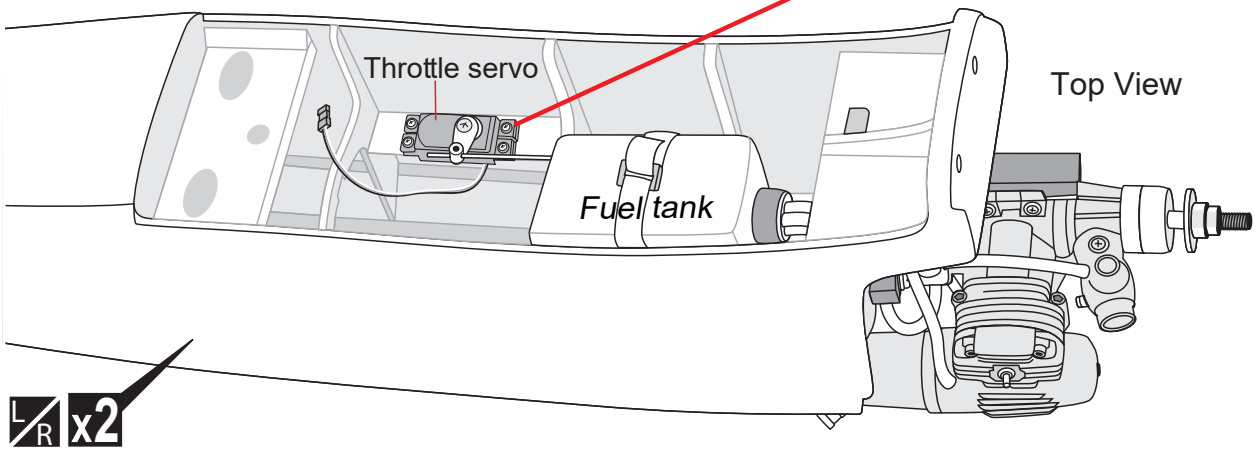
Connector ---------- 1

L/R Assemble left and right sides the same way.

x2 The number of times the same way Assembly (in this case twice).

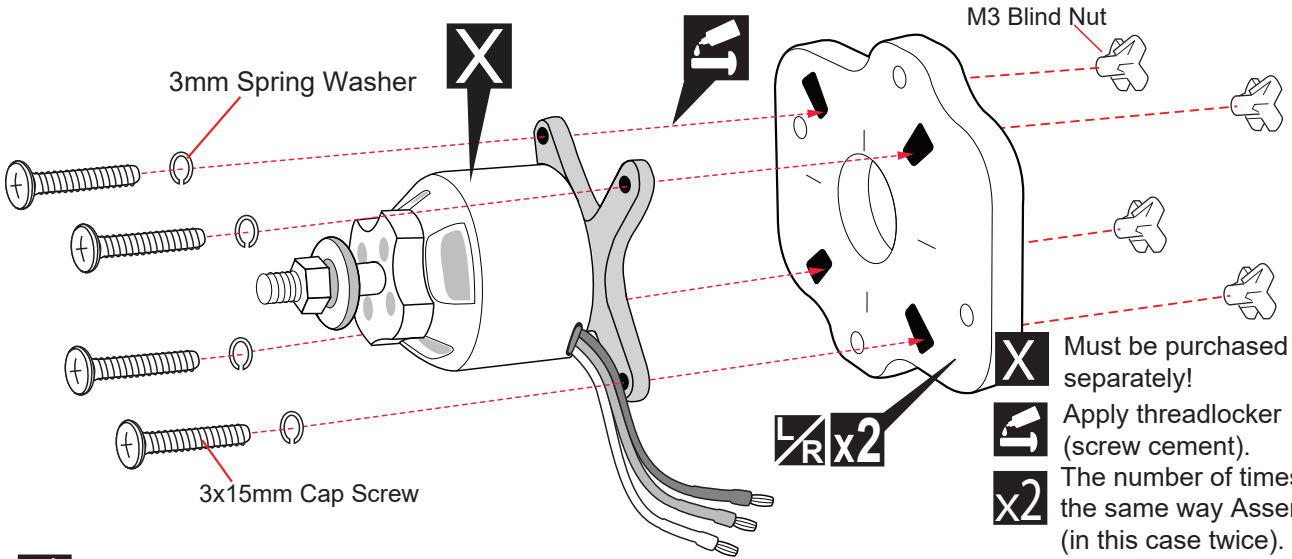
Adjust the throttle input (transmitter throttle stick), throttle trim movement and the carburattor opening to the suitable position and screw in the 4x4mm set scew.





INSTALLING THE ELECTRIC MOTOR (EP VERSION)

4x60mm Socket Head Cap Screw - - 8	M3 Blind Nut - - - - - 8	4mm Flat Washer - - - - - 8	Wood - motor mount
3x15mm Cap Screw - - - - - 8	10x40mm Plastic - - - - - 8	4mm Flat Washer - - - - - 8	SIZE - 46 - - - - - 2
	3mm Spring Washer - - - - - 8	4mm Spring Washer - - - - - 8	



X Must be purchased separately!

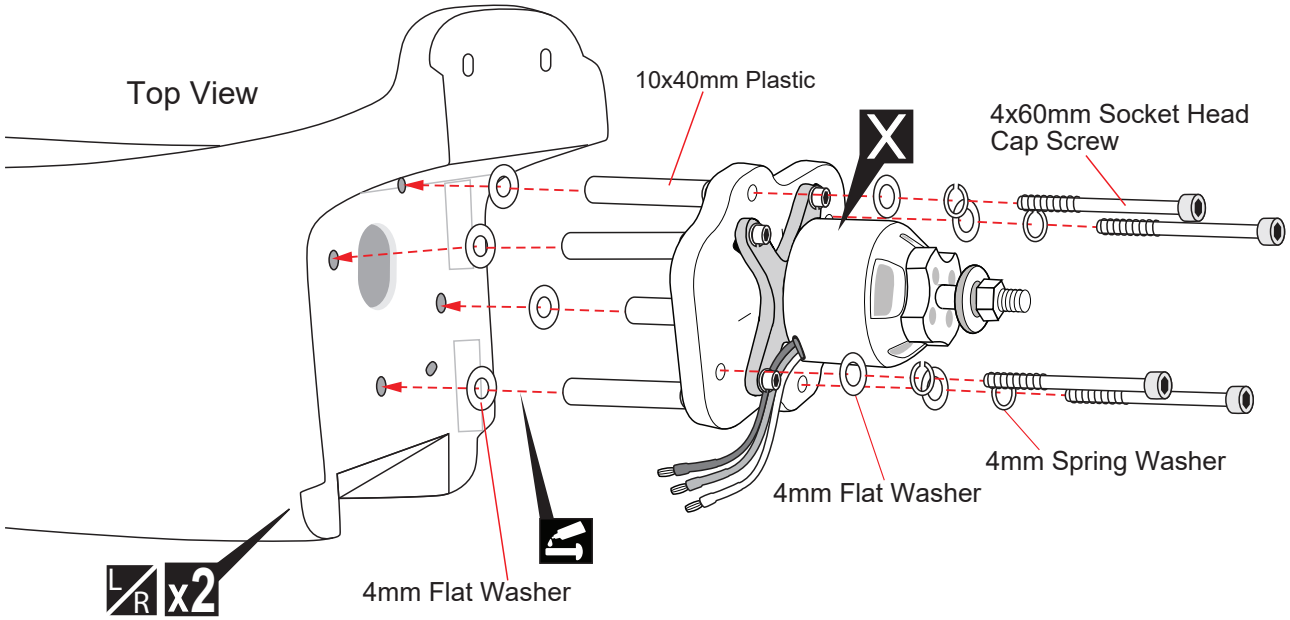
Apply threadlocker (screw cement).

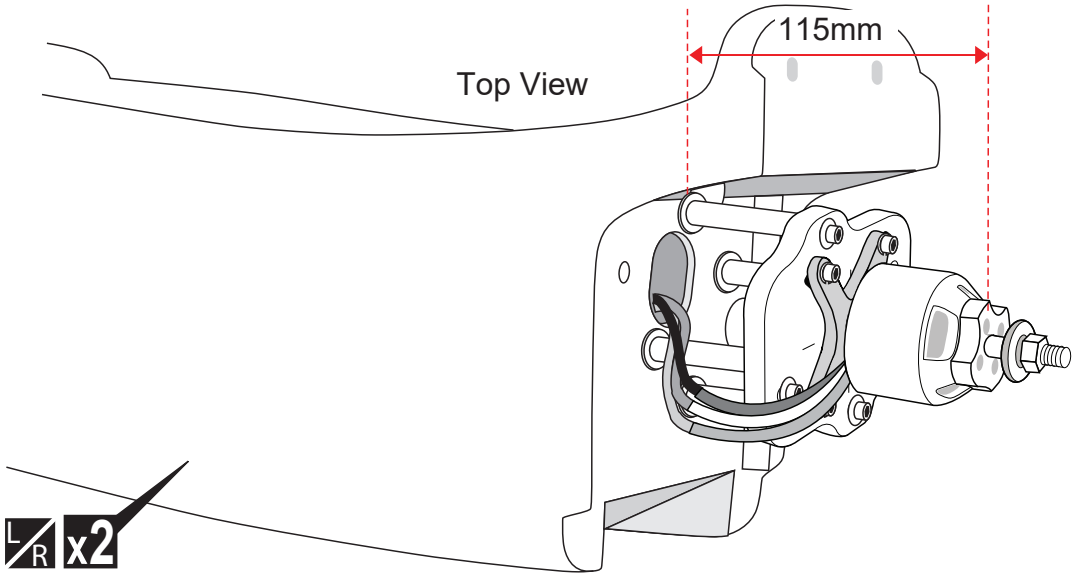
x2 The number of times the same way Assembly (in this case twice).

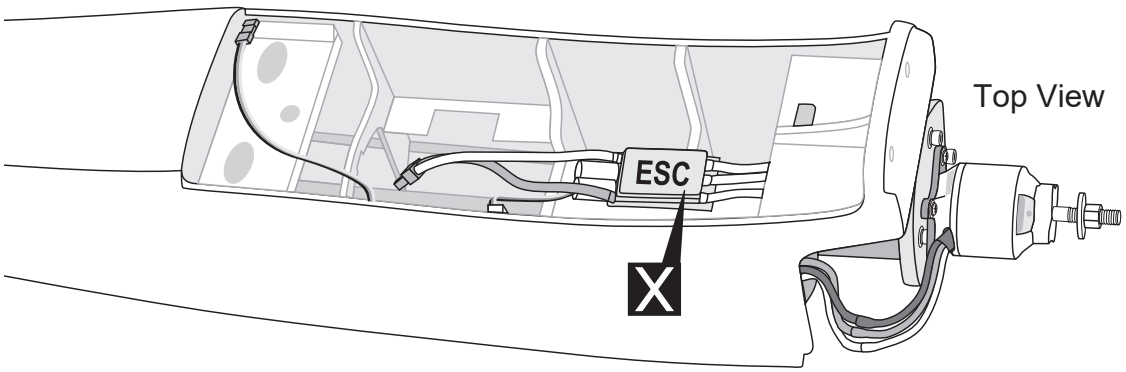
Ensure smooth, non-binding movement when assembling.

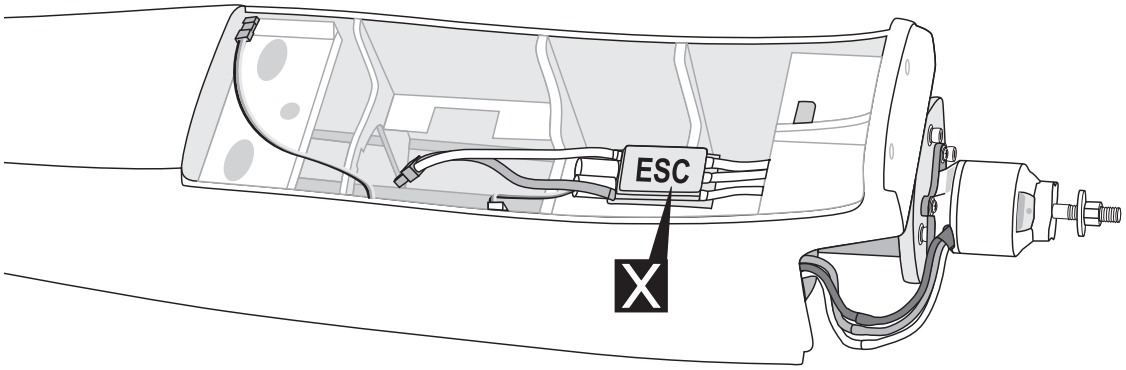
L/R Assemble left and right sides the same way.

2mm Drill holes using the stated. (in this case 2mm Ø).





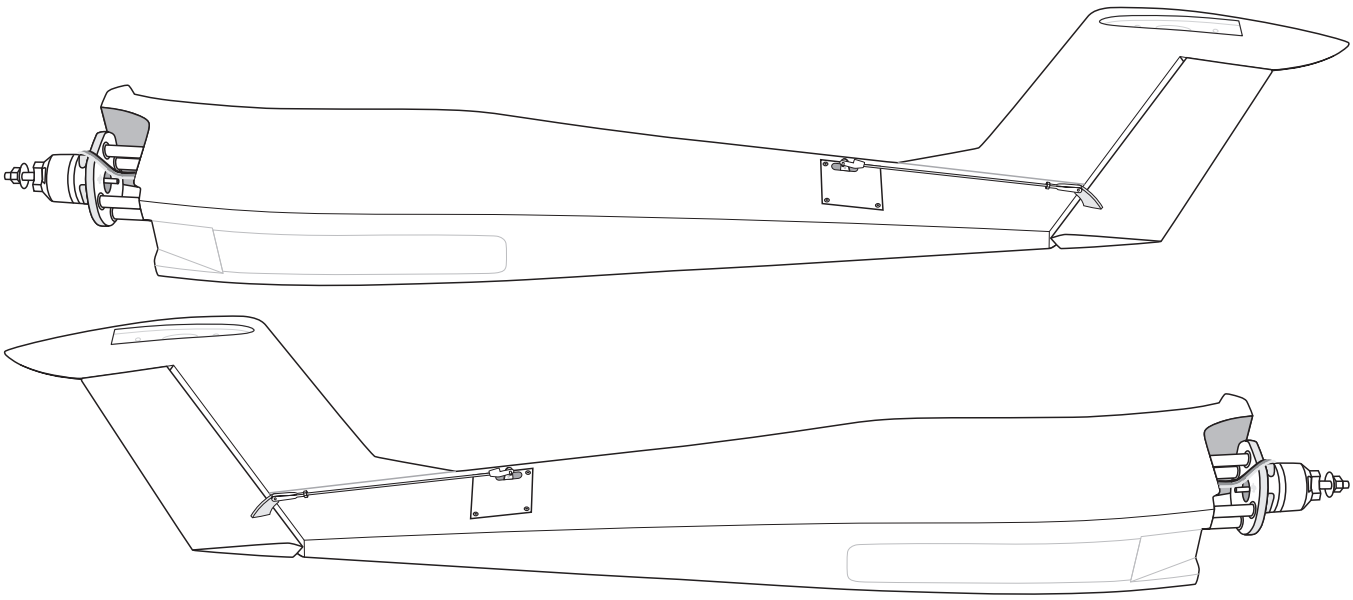




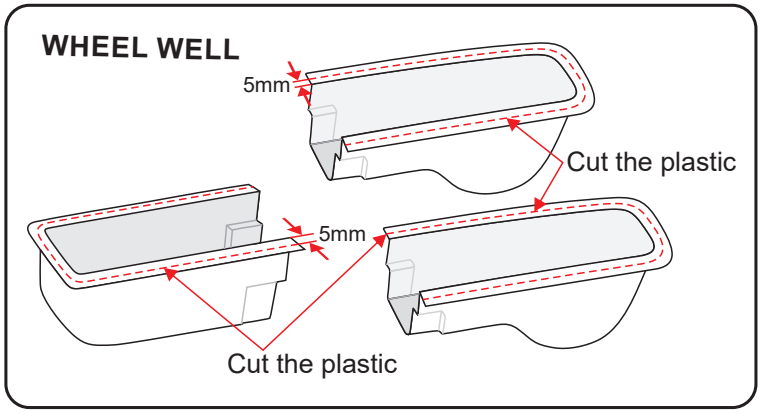
L/R Assemble left and right sides the same way.

X Must be purchased separately!

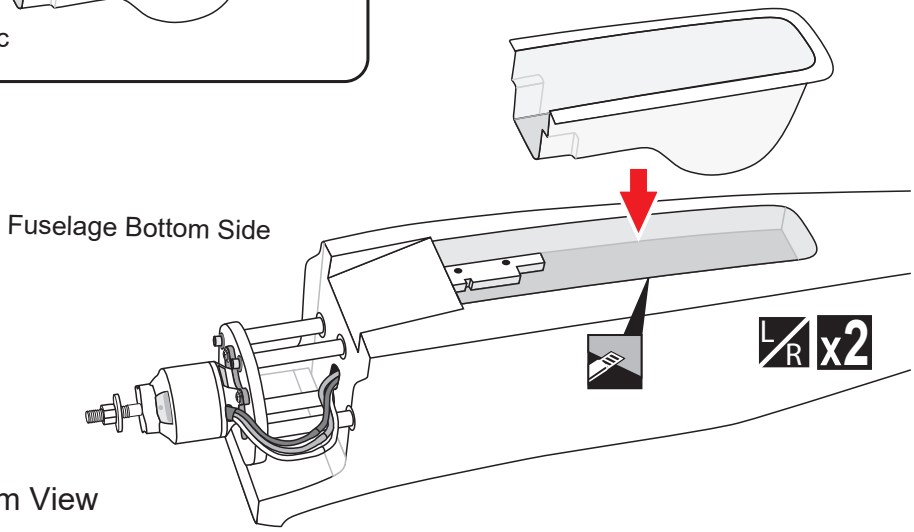
x2 The number of times the same way Assembly (in this case twice).



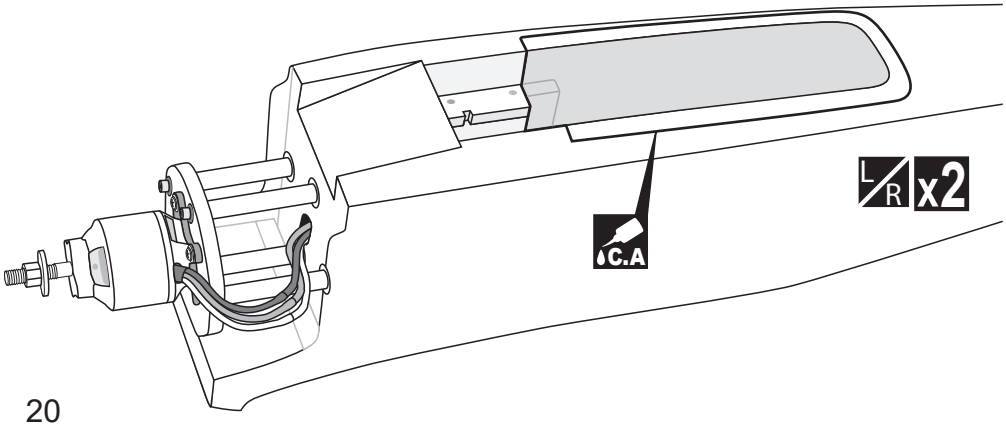
INSTALLING THE WHEEL WELL



* Using a modeling knife, carefully remove the film covering from the fuselage gear tray. Make sure that you do not remove any wood.



Bottom View

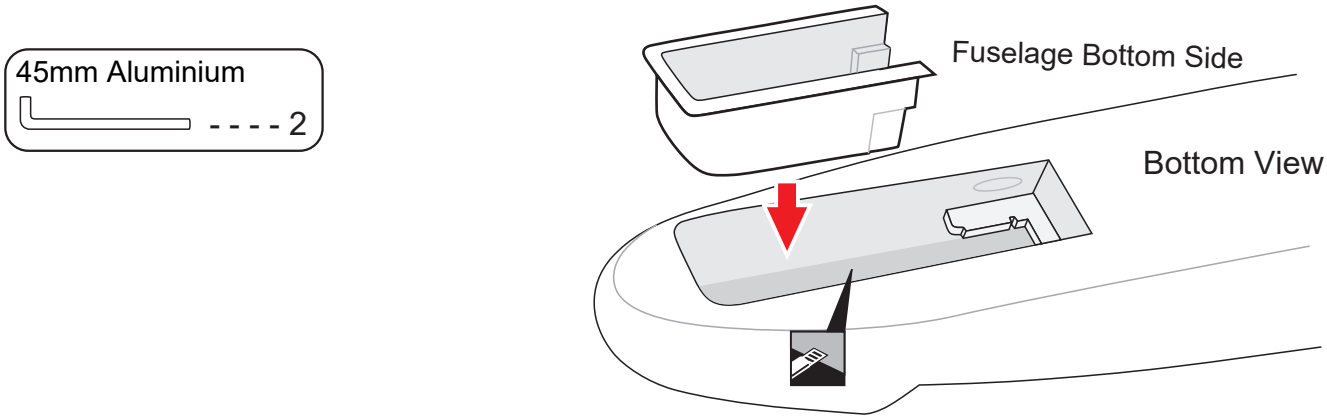


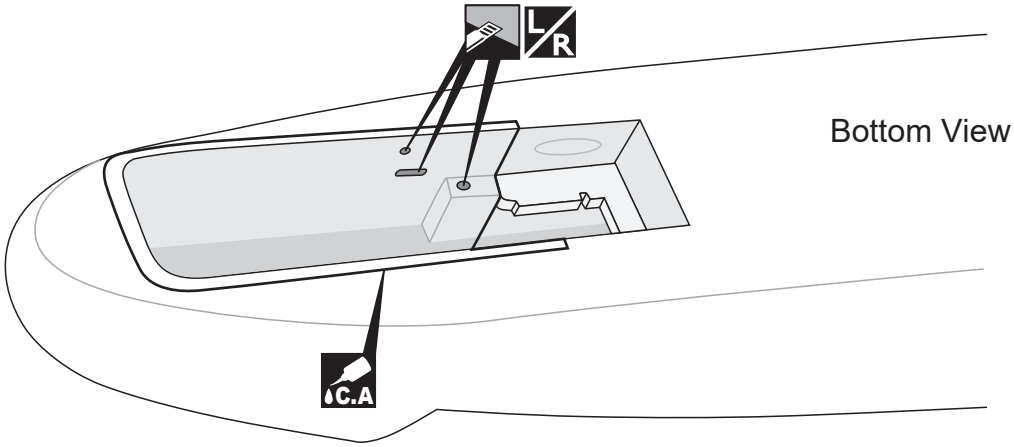
Cut off shaded portion carefully.

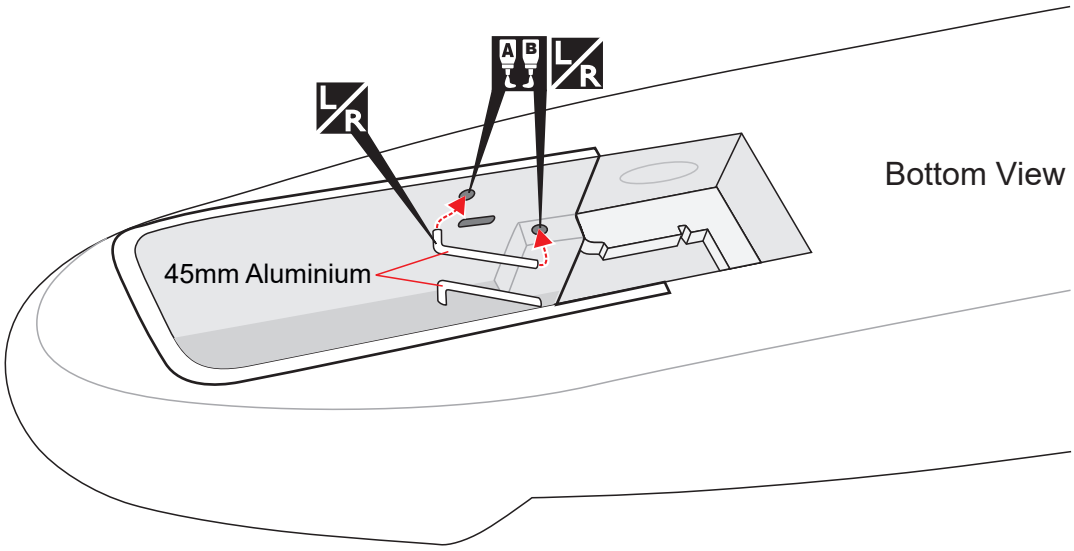
Apply instant glue (C.A glue, super glue).

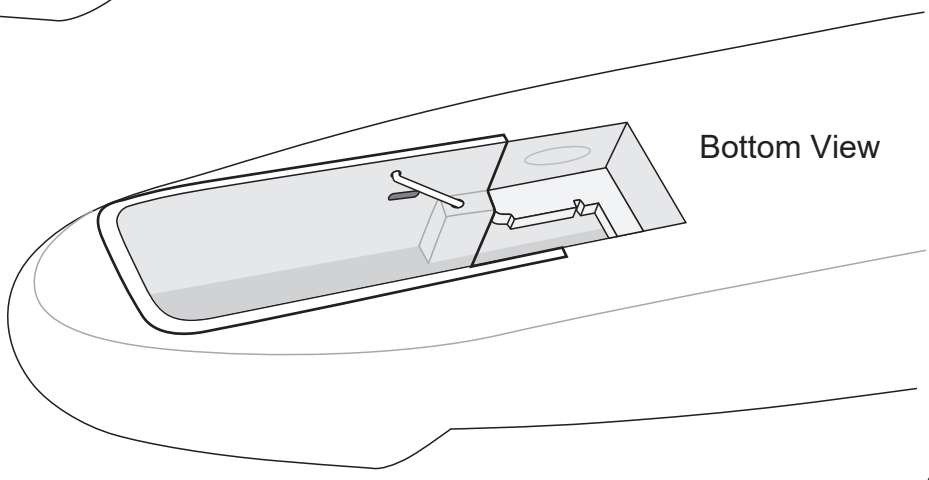
Assemble left and right sides the same way.

The number of times the same way Assembly (in this case twice).









Cut off shaded portion carefully.

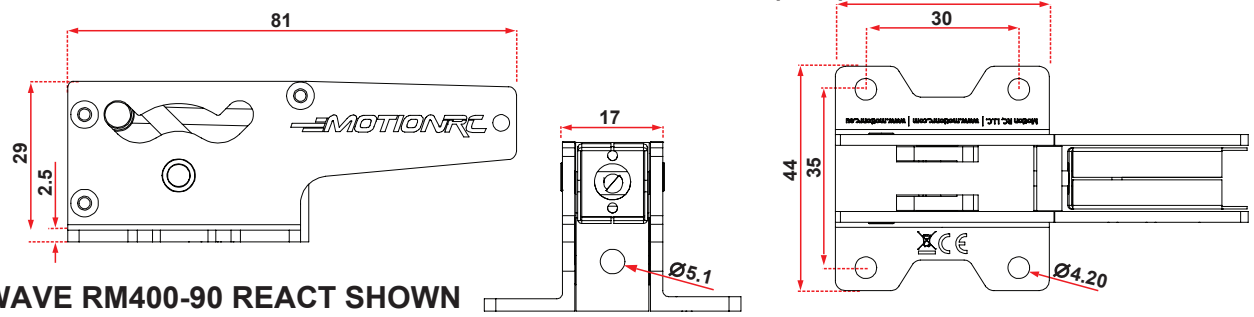
Apply instant glue (C.A glue, super glue).

Assemble left and right sides the same way.

Apply epoxy glue.

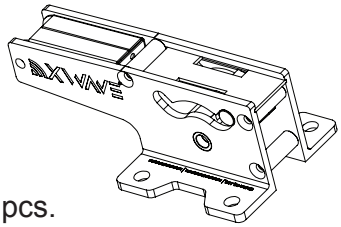
INSTALLING MAIN GEAR

ELECTRIC GEAR DIMENSIONAL DETAIL (mm)



XWAVE RM400-90 REACT SHOWN

ELECTRIC NOT INCLUDED.



X

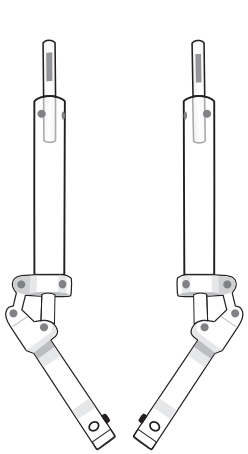
2 pcs.

3x15mm Cap Screw ----- 8

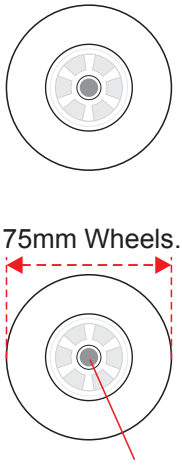
5x30mm Socket Head Cap Screw ------ 2

5mm Flat Washer --- ----- 2

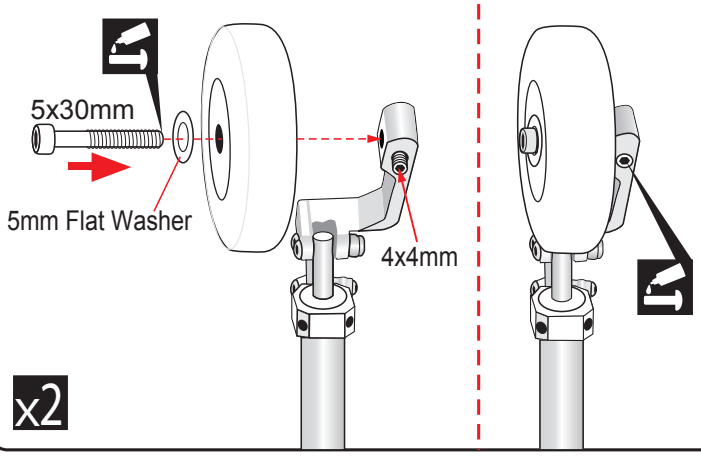
INCLUDED OLEO STRUTS.

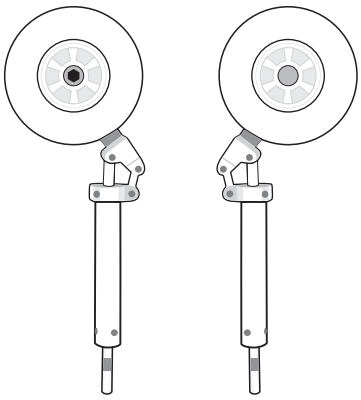


Main gear



5.1mm hold





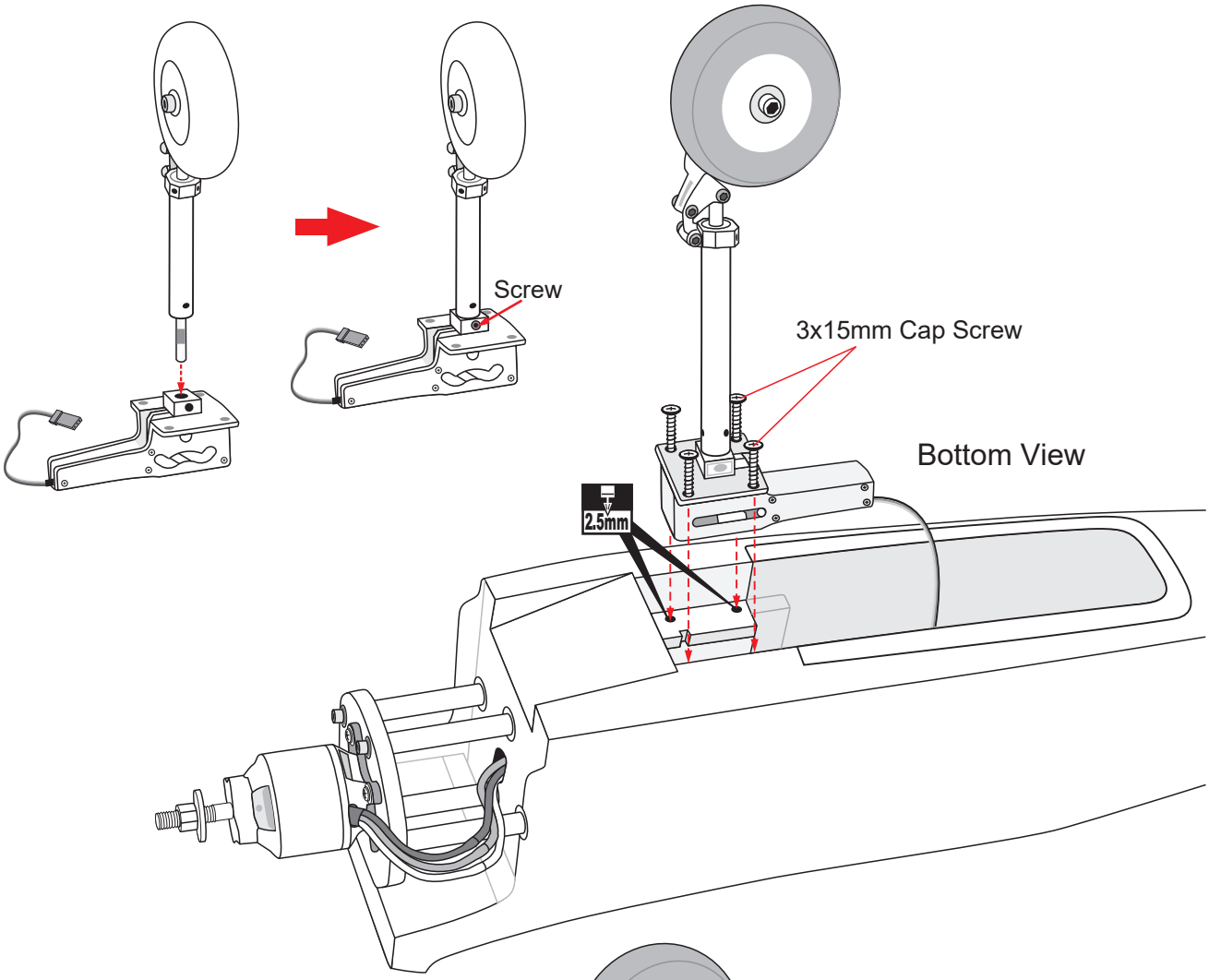
Main gear

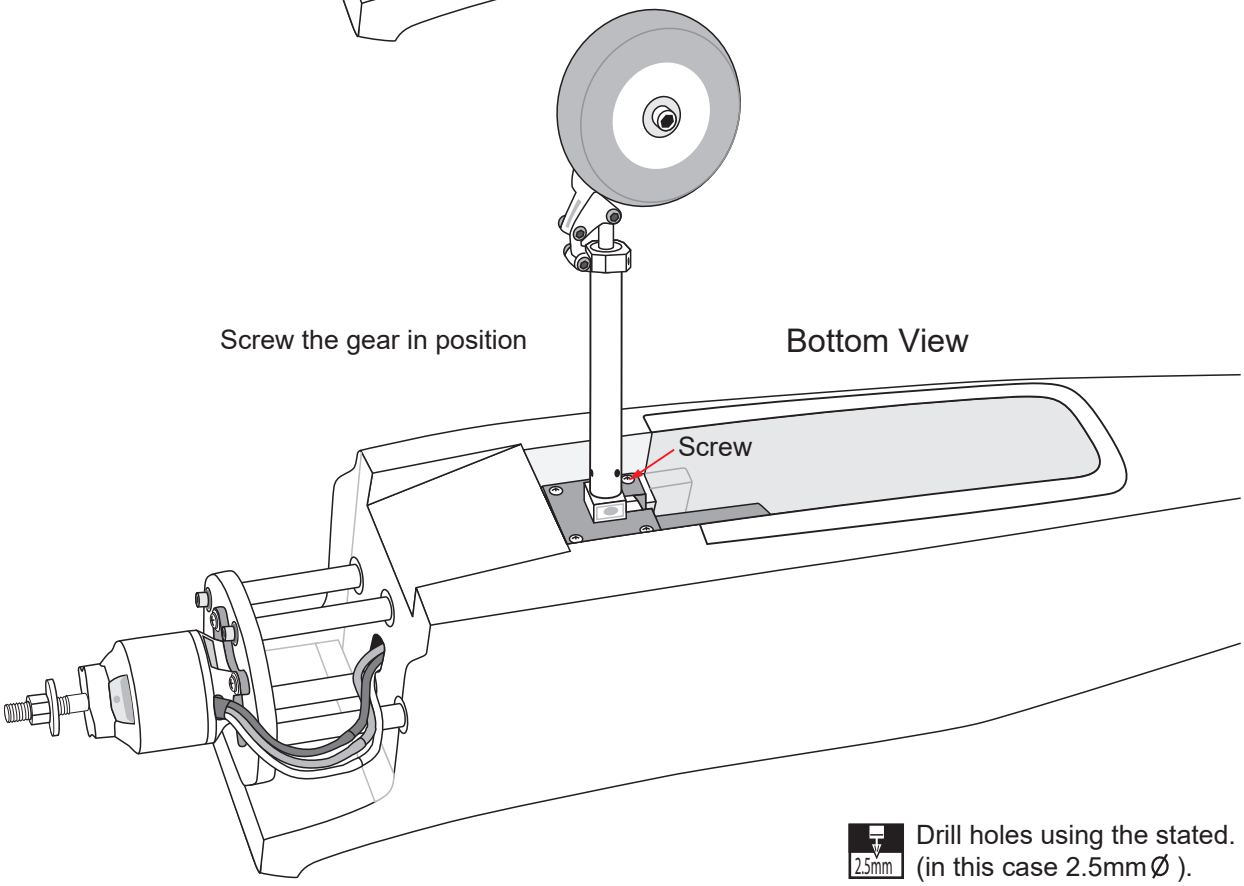
x2 The number of times the same way Assembly (in this case twice).

Apply threadlocker (screw cement).

X Must be purchased separately!

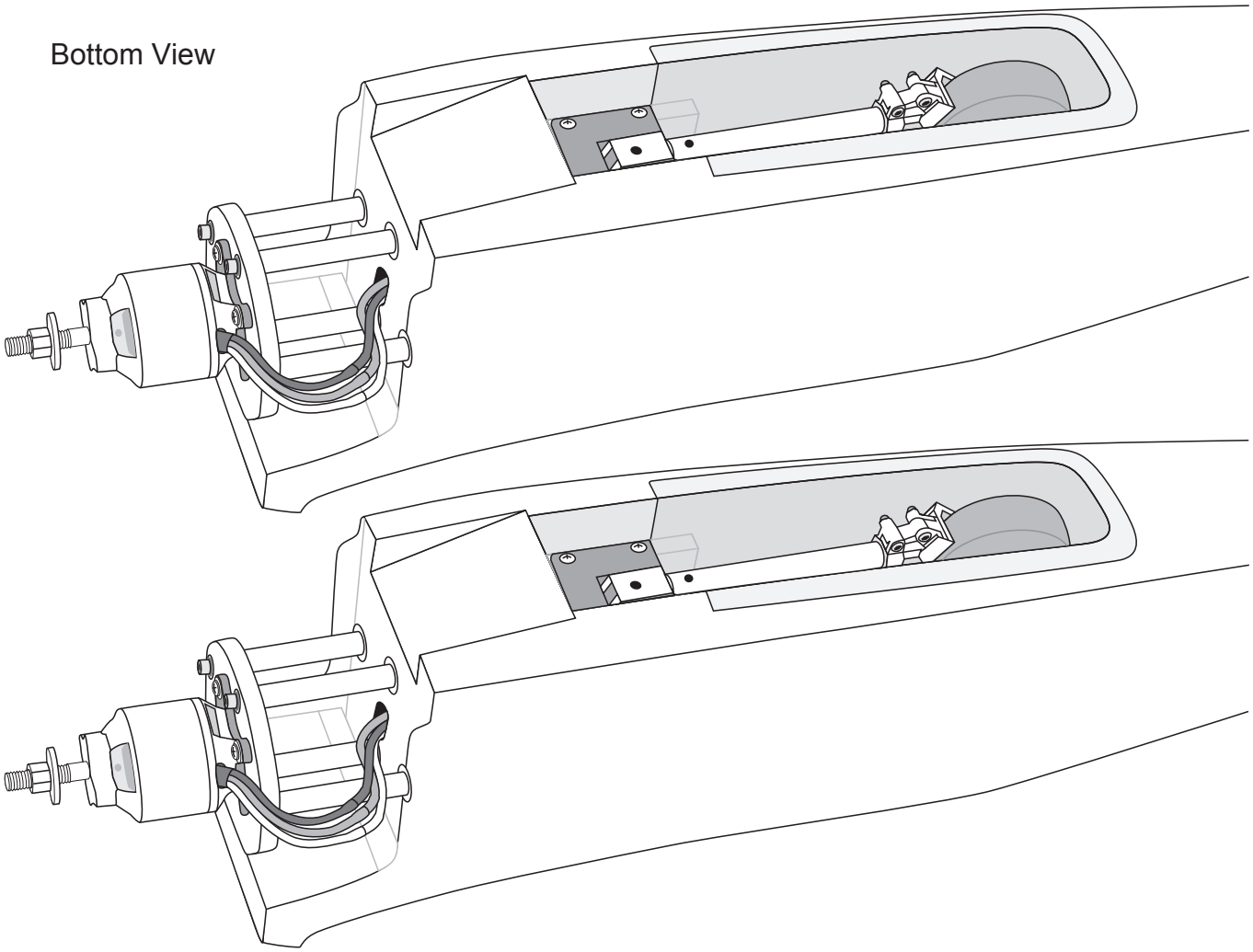
ELECTRONIC RETRACT INSTALLATION





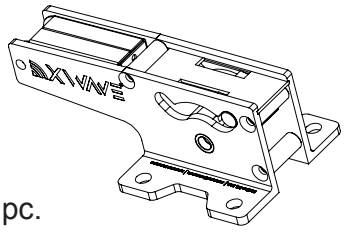
2.5mm Drill holes using the stated. (in this case 2.5mm Ø).

Bottom View



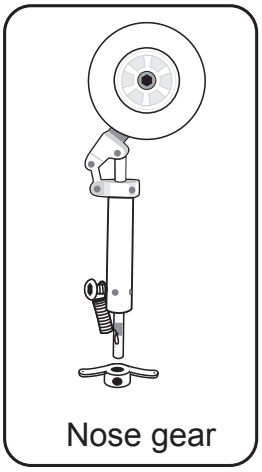
INSTALLING THE NOSE GEAR

ELECTRIC NOT INCLUDED.

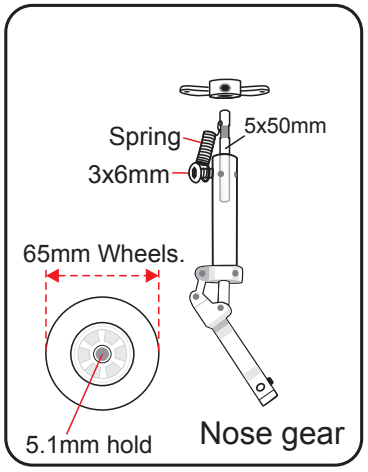


X

1 pc.



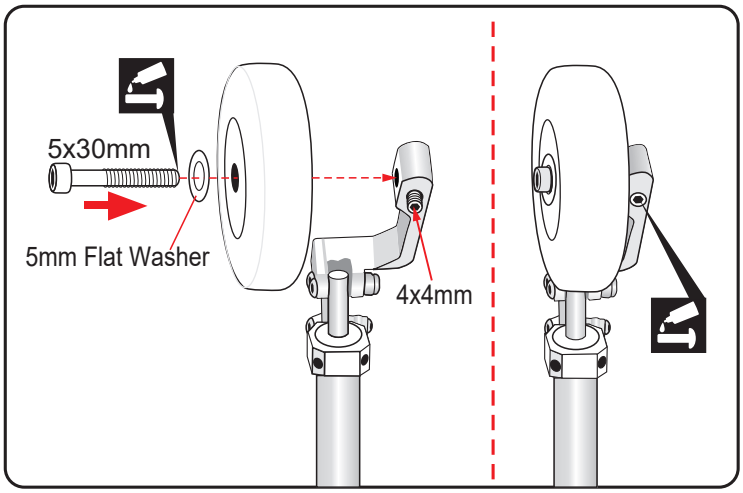
Nose gear

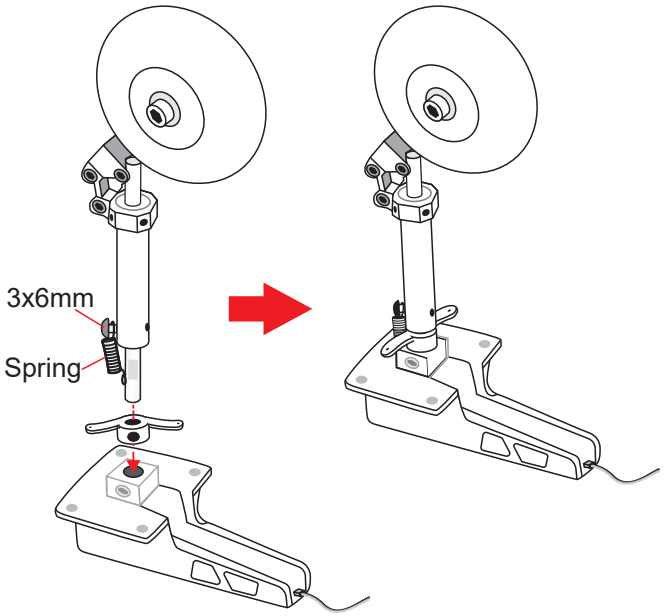


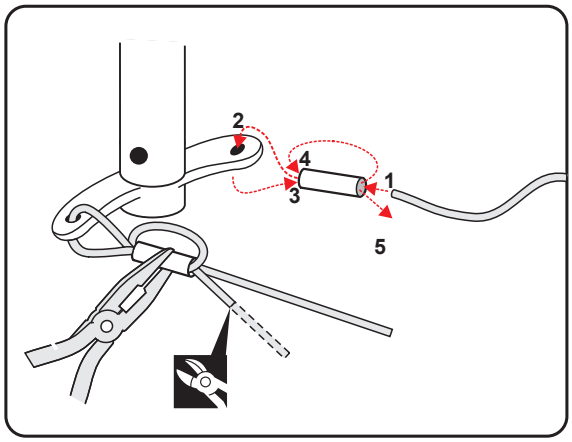
Nose gear

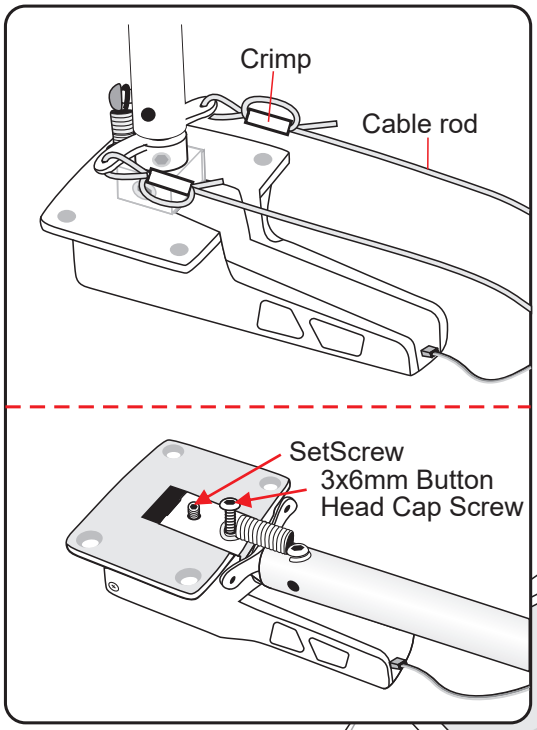
3x15mm Cap Screw - - - - - 4	Locknut - - - - - - - 4
5x30mm Socket Head Cap Screw - - - - - - 1	Cab link - - - - - 2
5mm Flat Washer - - - - - - - - - 1	M3 Metal Clevis - - - - 2
3x6mm Button Head Cap Screw - - - - - - - - 1	350mm Cable - - 2
	3mm Hex Nut - - - - - - 2

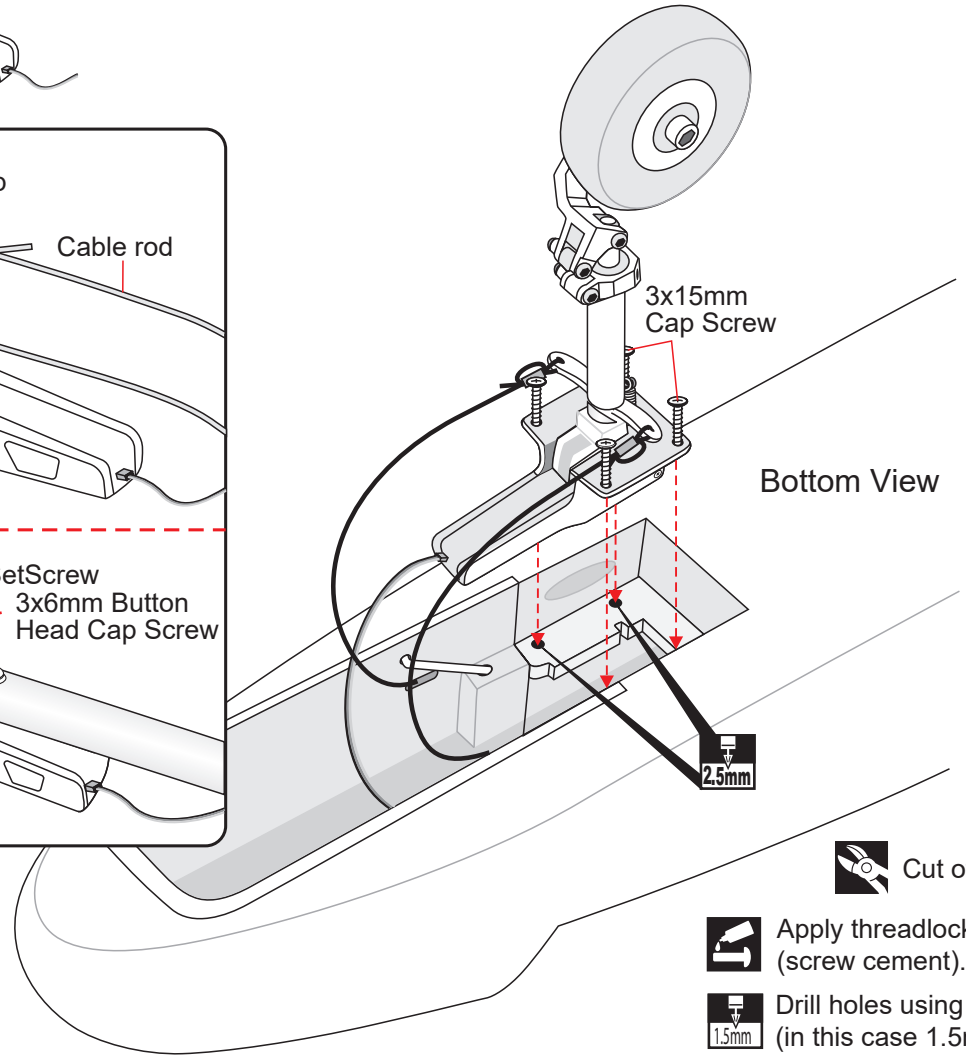
X Must be purchased separately!







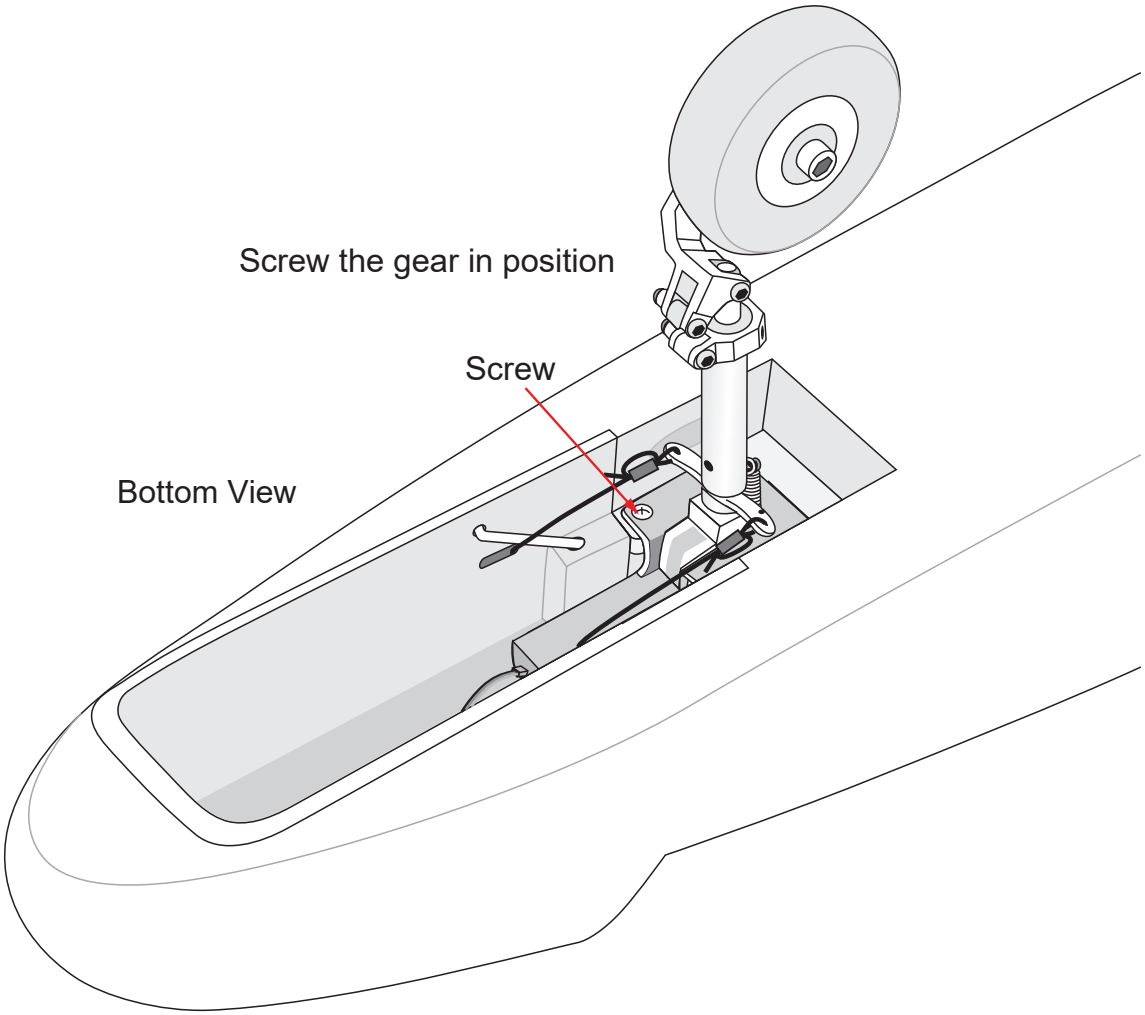


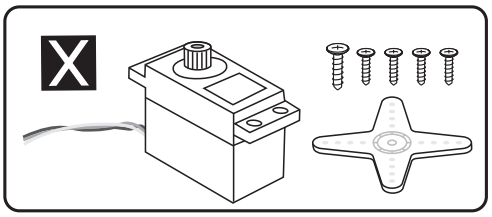


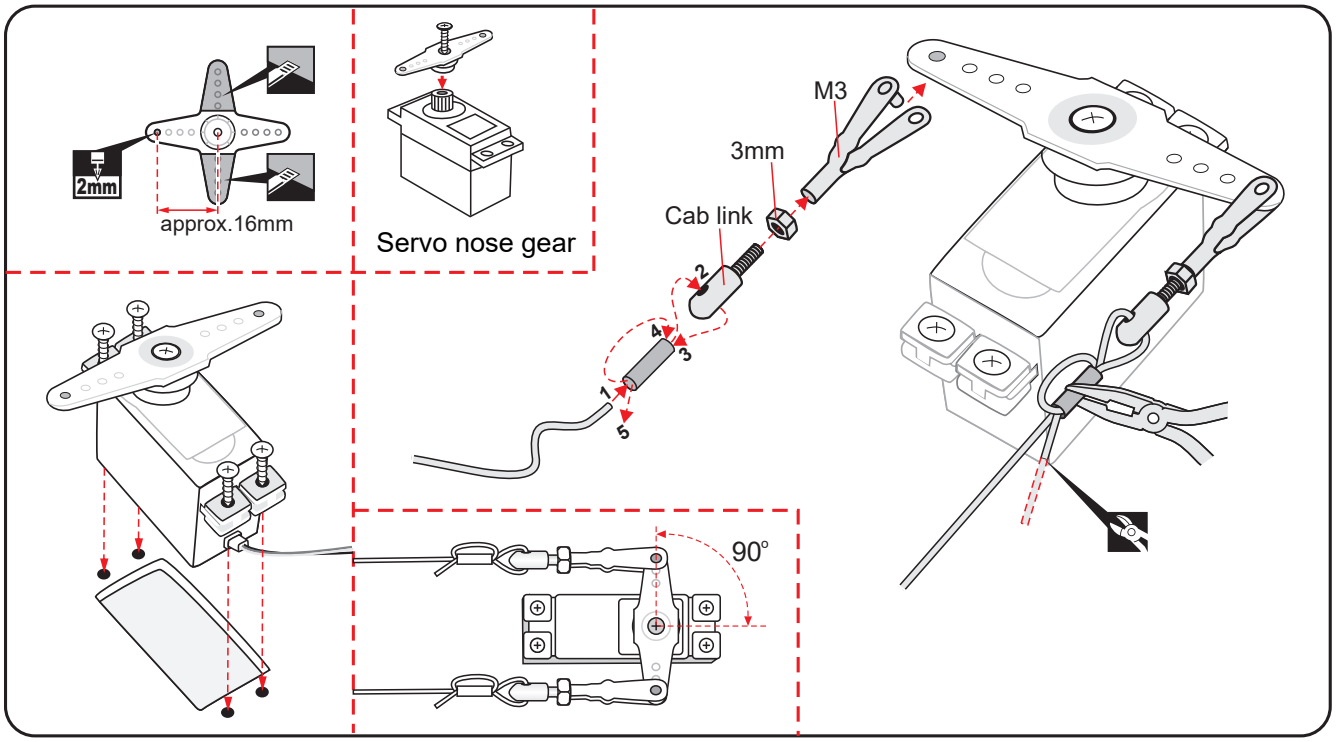
Cut off excess.

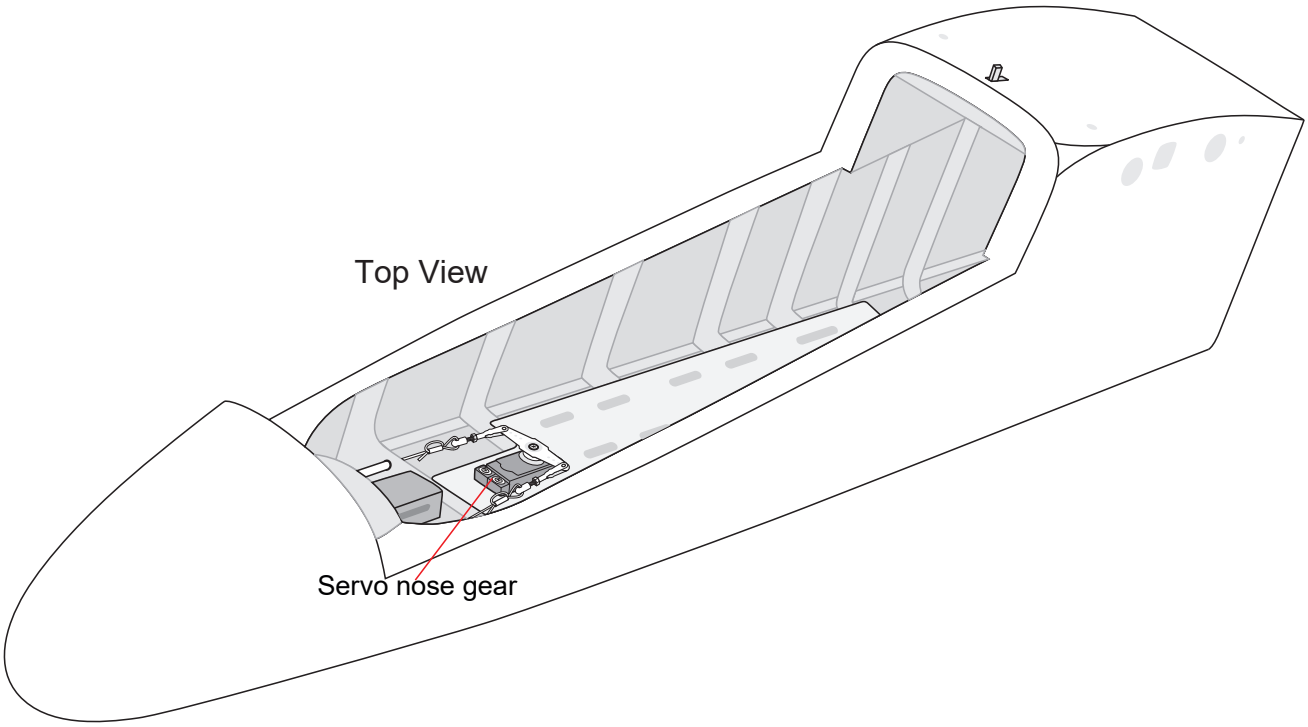
Apply threadlocker (screw cement).

1.5mm Drill holes using the stated. (in this case 1.5mm Ø).


Screw the gear in position
Screw
Bottom View




2mm
approx.16mm
Servo nose gear
M3
3mm
Cab link
2
4
3
1
5
90°



MOUNTING THE COWL

1) Remove the mufler and needle valve assembly from the engine. Slide the fiberglass cowl over the engine.

2) Measure and mark the locations to be cut out for engine head clearance, needle valve, muffler. Remove the cowl and make these cutouts using a rotary tool with a cutting disc and a rotary sanding drum attachment.

3) Slide the cowl back into place. Align the front of the cowl with the crankshaft of the engine. The front of the cowl should be positioned so the crankshaft is in the middle of the precut opening. Hold the cowl firmly in place using several pieces of masking tape.

3 x 12mm TP Screw - - - - 12

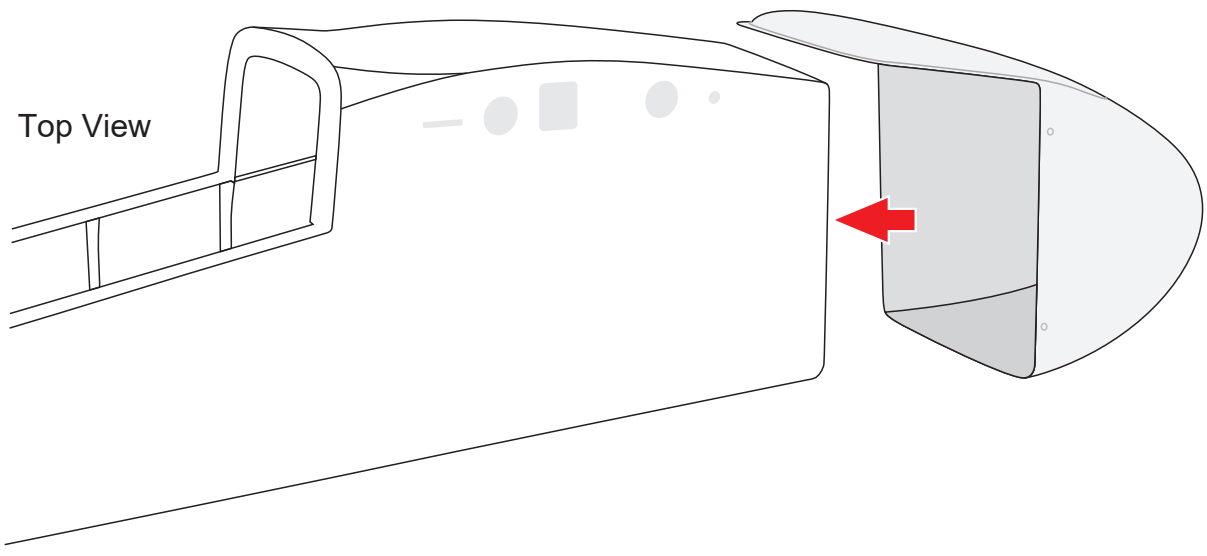
4) While holding the cowl firmly in position, drill four 1,6mm pilot holes through both the cowl and the side edges of the firewall.

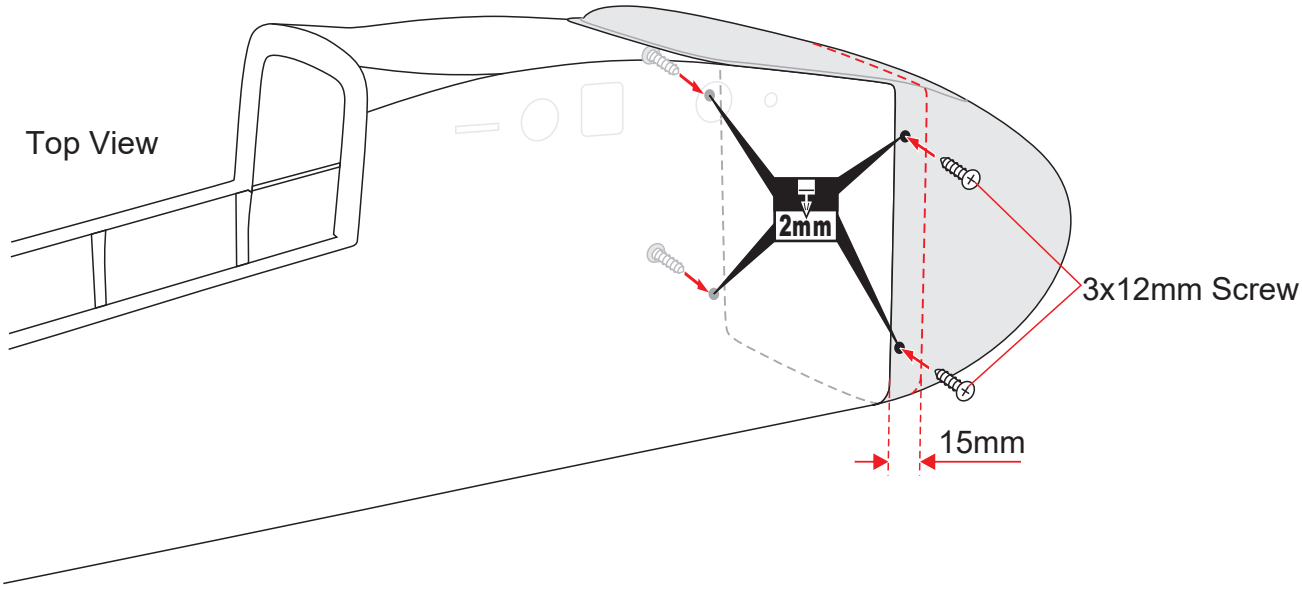
5) Using a 3mm drill bit, enlarge the four holes in the cowling.

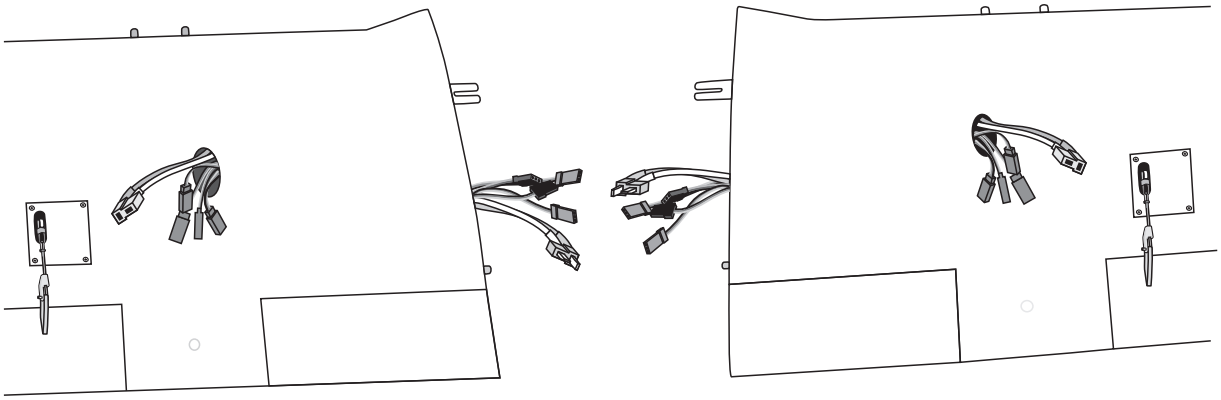
⚠ *Enlarging the holes through the cowl will prevent the fiberglass from splitting when the mounting screws are installed.*

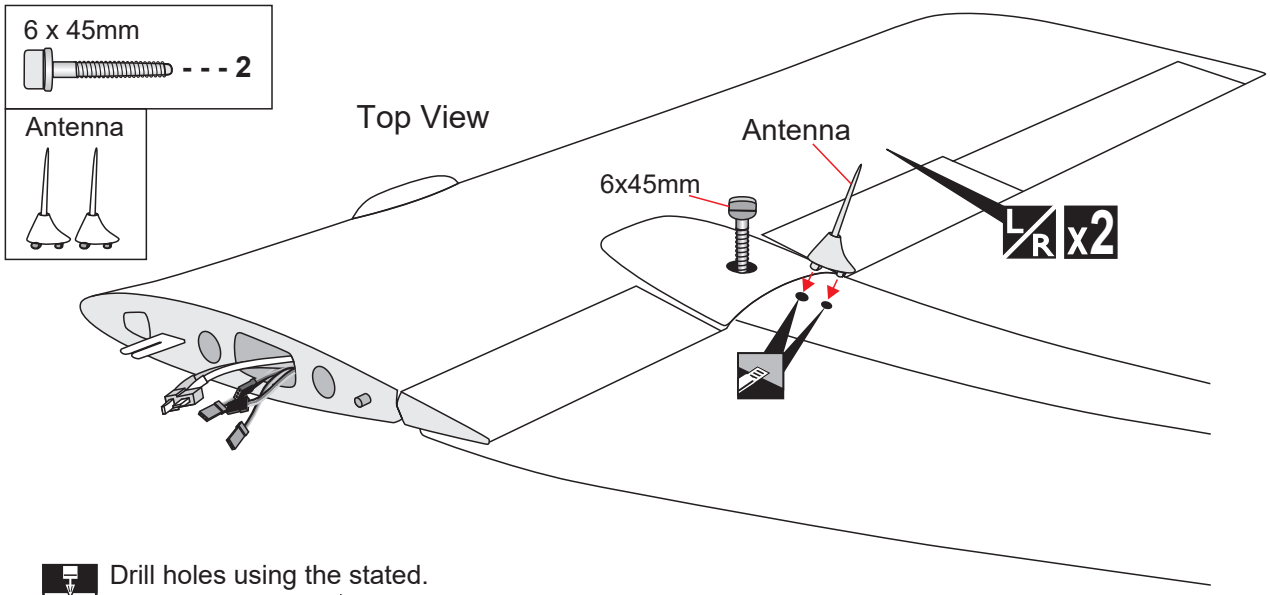
6) Slide the cowl back over the engine and secure it in place using four screws.

7) Install the muffler. Connect the fuel and pressure lines to the carburator, muffler and fuel filler valve. Tighten the screws completely.







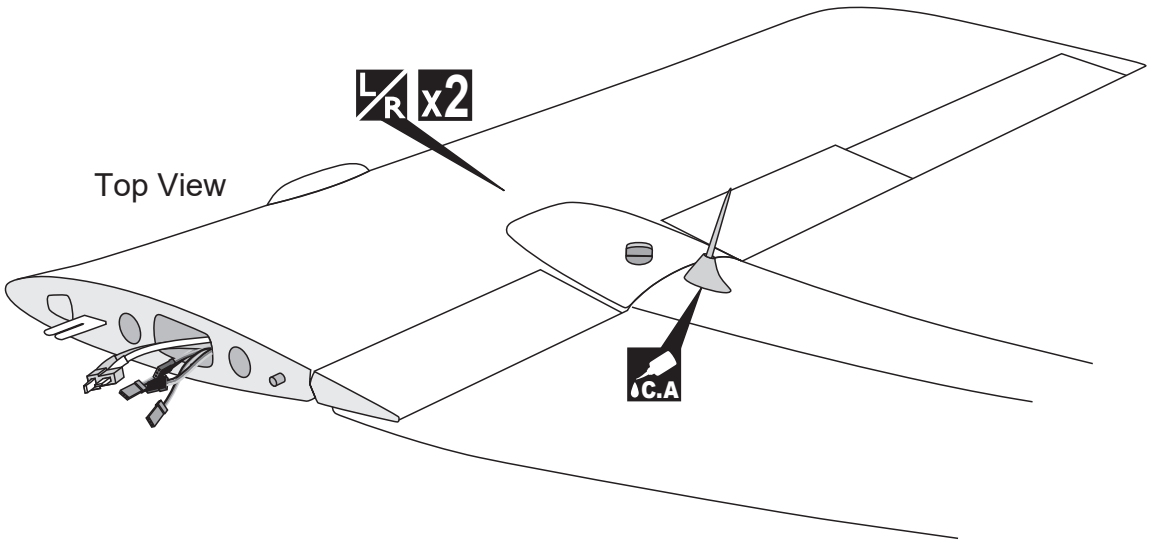


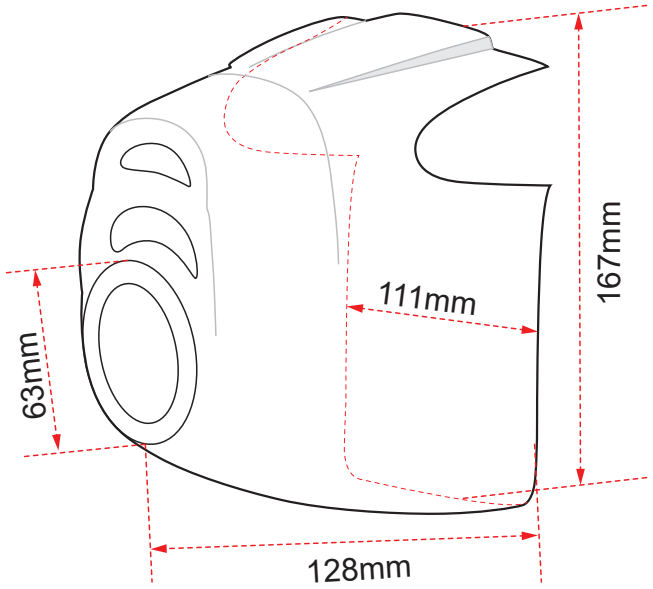
2mm Drill holes using the stated. (in this case 2mm Ø).

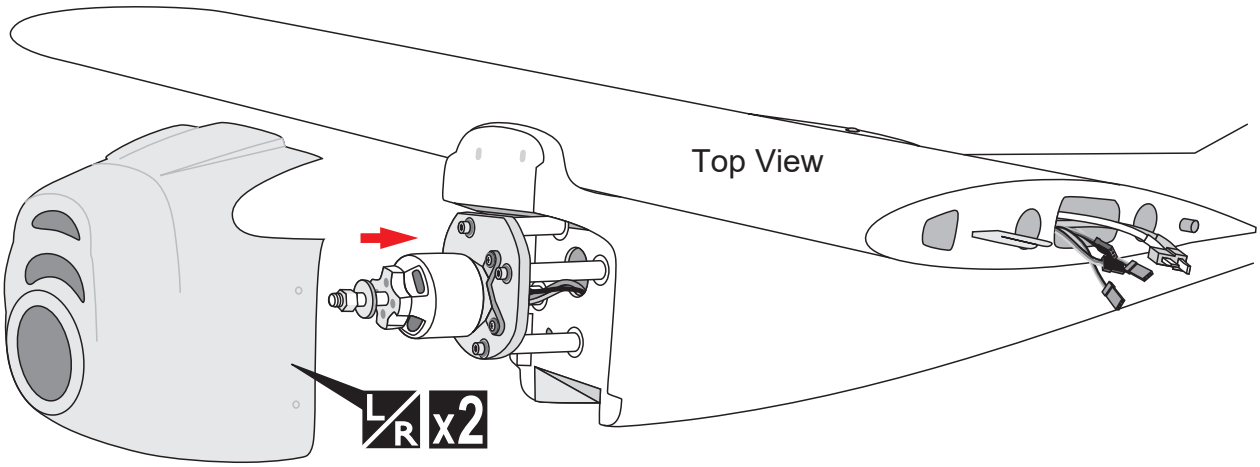
x2 The number of times the same way Assembly (in this case twice).

L/R Assemble left and right sides the same way.

Cut off shaded portion carefully.



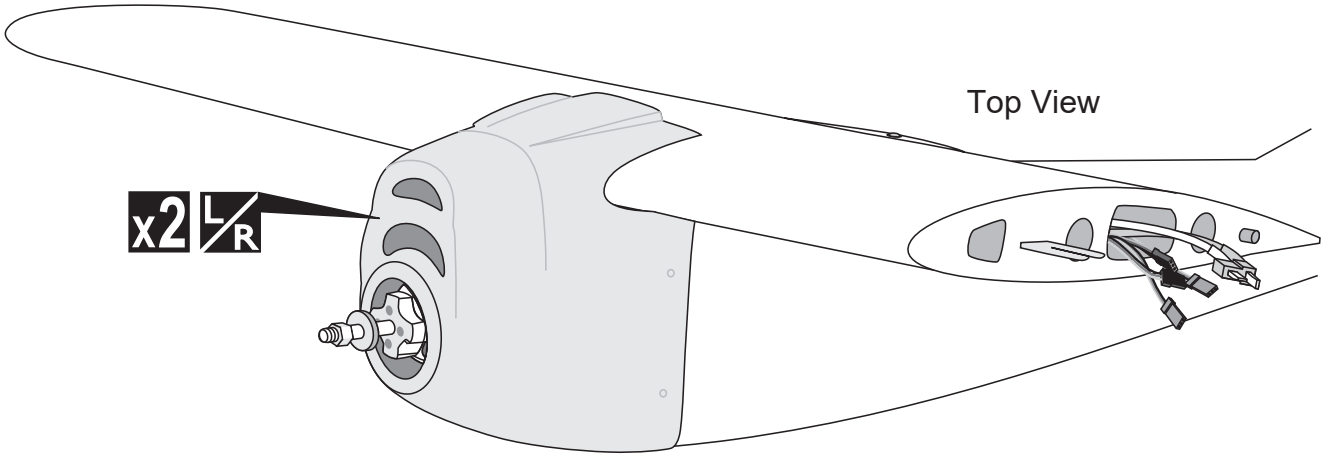


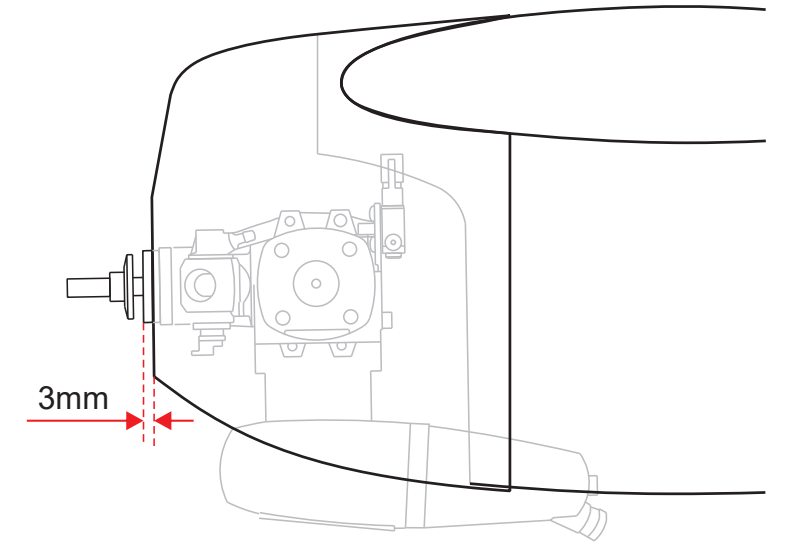


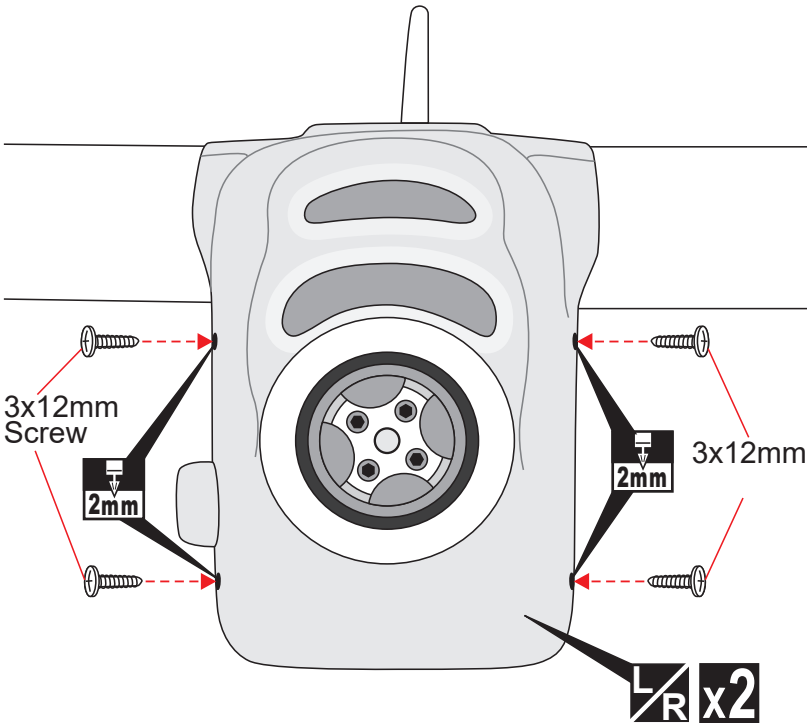
L/R Assemble left and right sides the same way.

x2 The number of times the same way Assembly (in this case twice).

C.A Apply instant glue (C.A glue, super glue).







L/R Assemble left and right sides the same way.

x2 The number of times the same way Assembly (in this case twice).

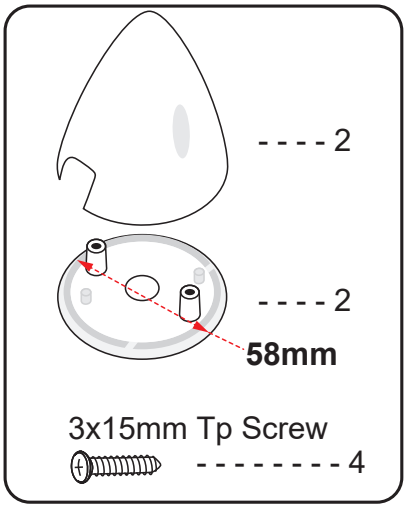
INSTALLING THE SPINNER

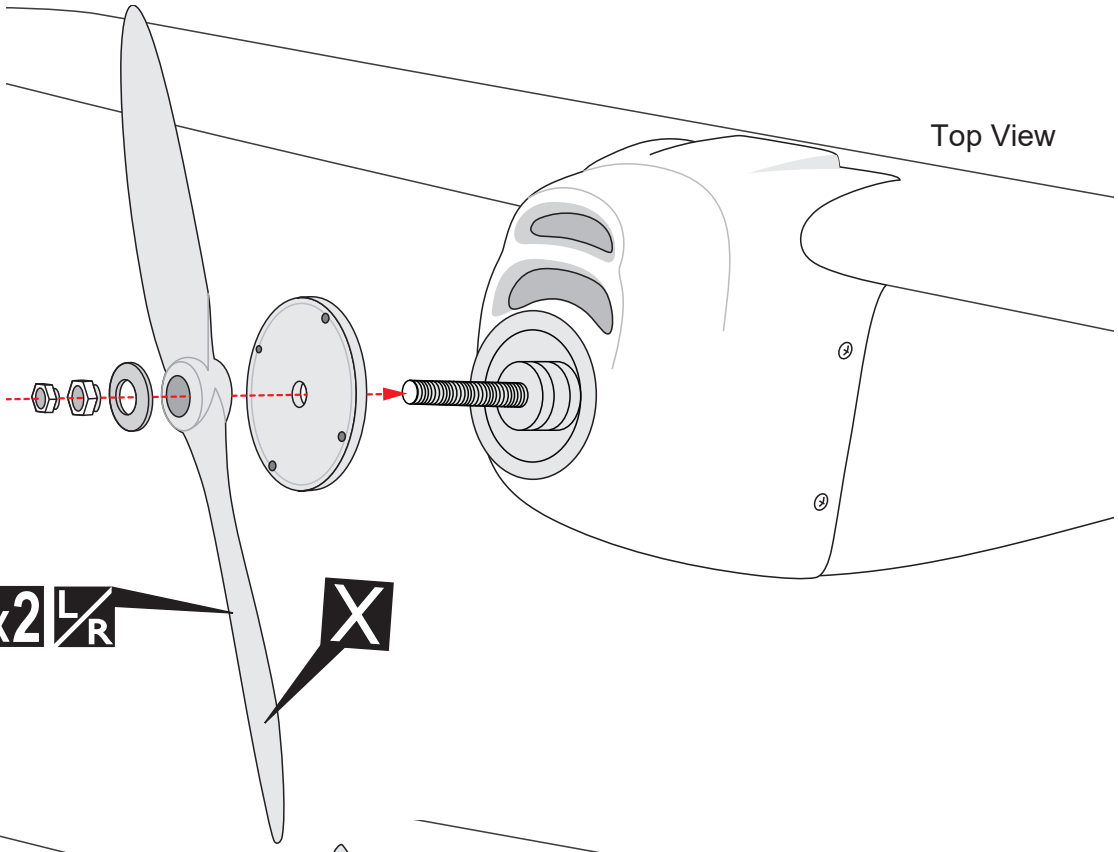
* Install the spinner back-plate, propeller and spinner cone. The spinner cone is held in place using two screws.

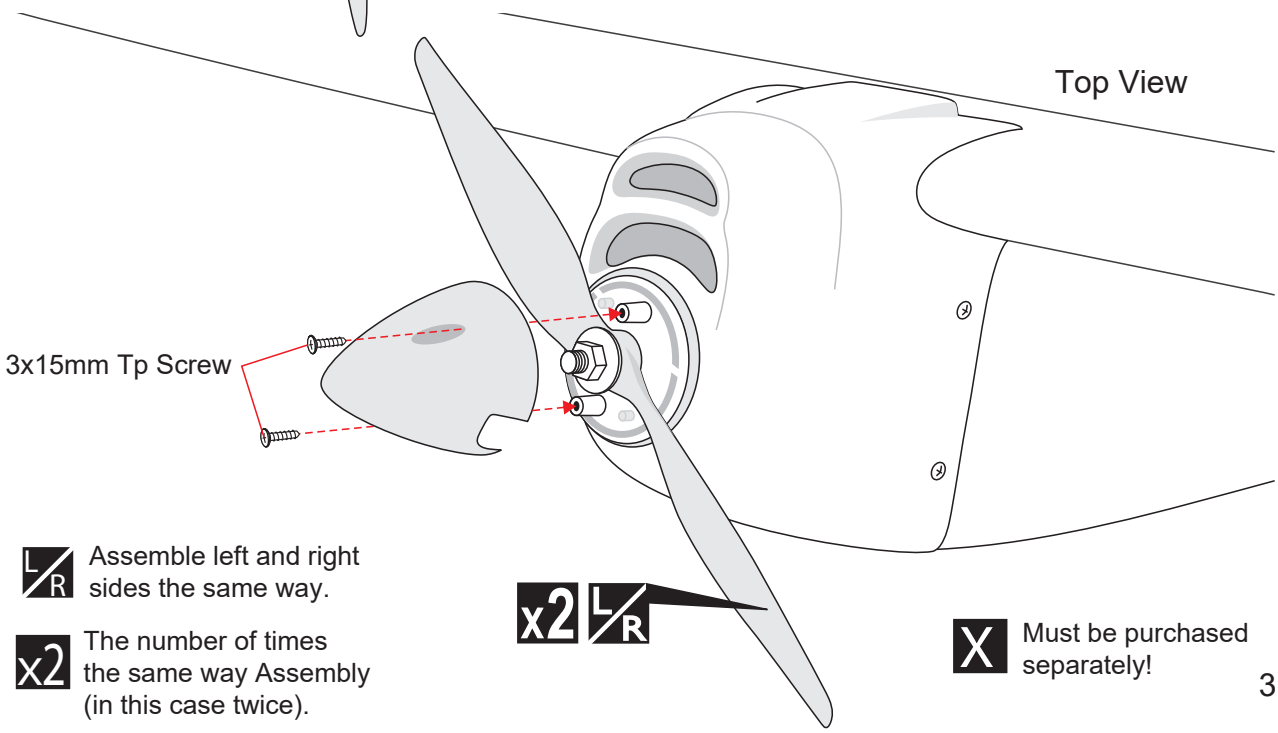
The propeller should not touch any part of the The propeller should not touch any part of the spinner cone. If it dose, use a sharp modeling knife and carefully trim away the spinner cone where the propeller comes in contact with it.

Warning!

- Securely tighten the nut holding the propeller for it not come off when the motor is spinning. If coming off, there is a high risk of injury!
- Always ensure propeller and spinner are balanced.If unbalanced, vibration may result at high rotation and cause damage or injury.



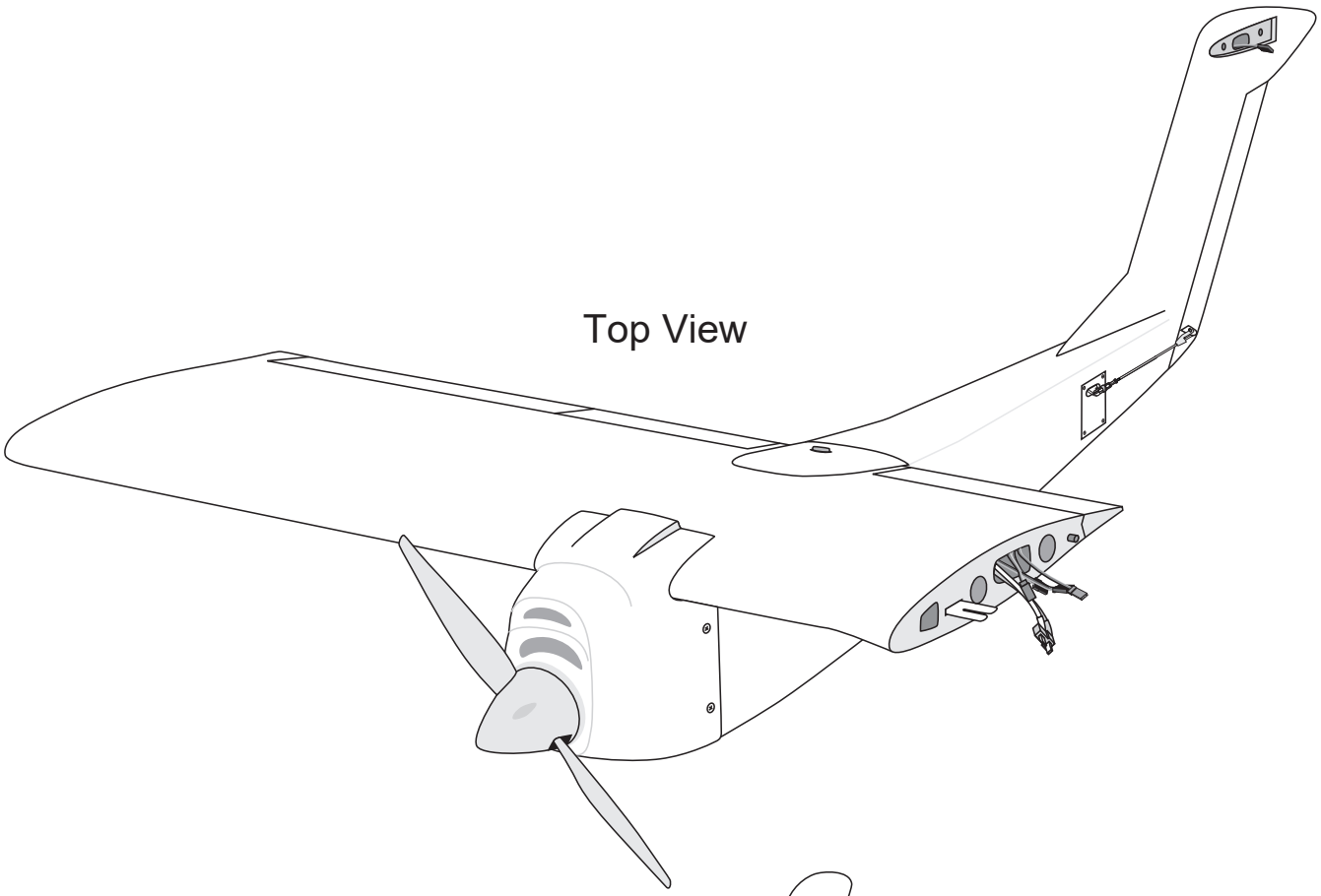


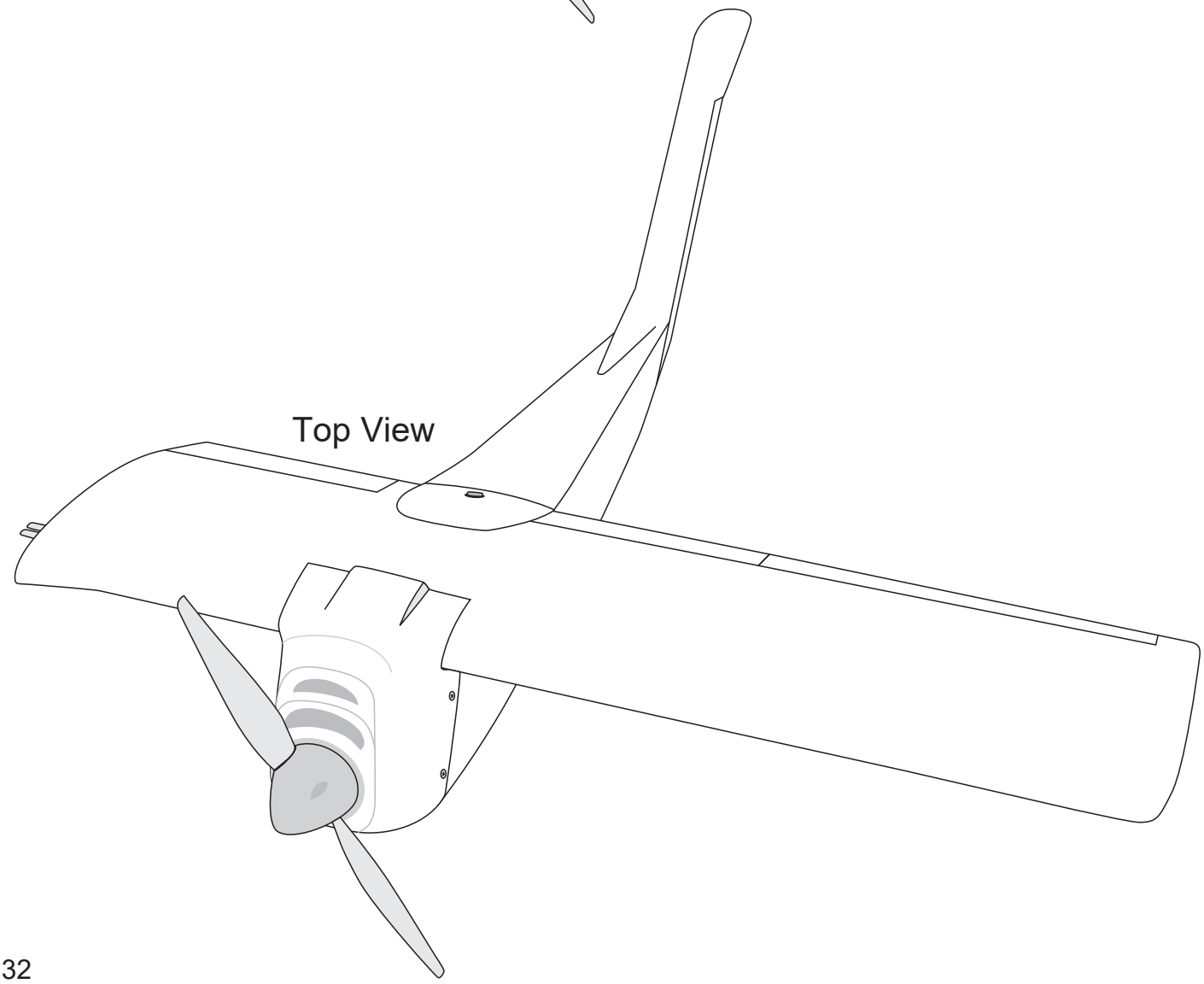


L/R Assemble left and right sides the same way.

x2 The number of times the same way Assembly (in this case twice).

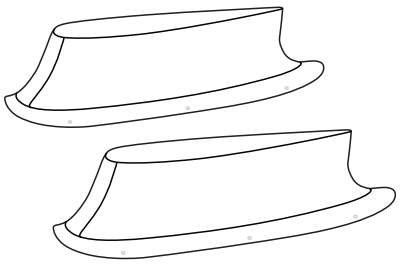
X Must be purchased separately!


Top View

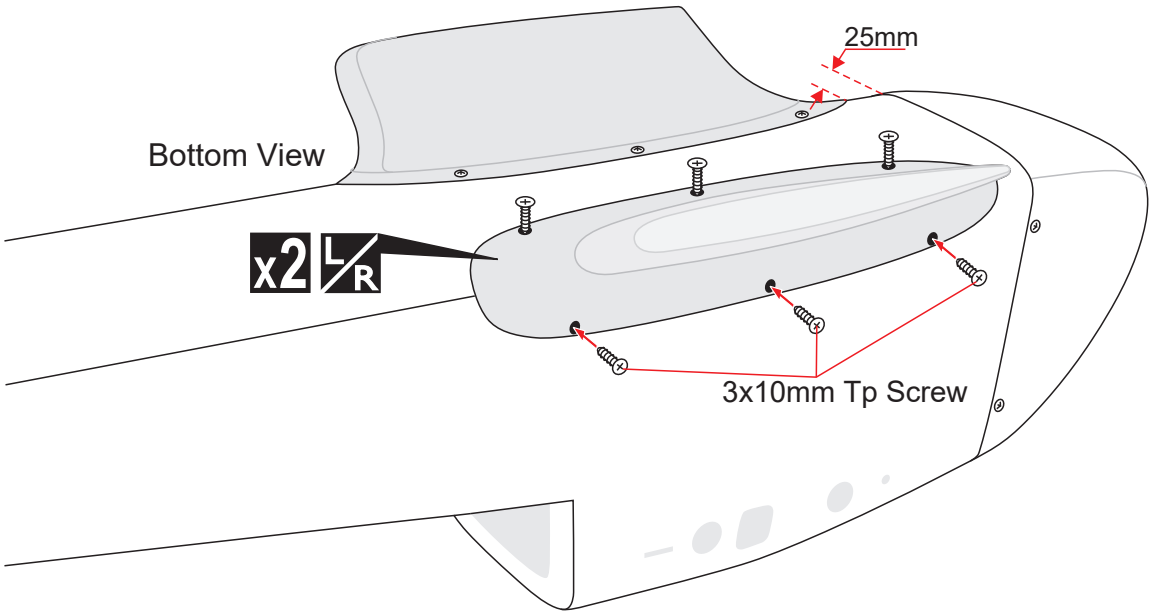

Top View

PLASTIC PARTS FOR FUSELAGE

3x10mm TP Screw - - - - 12



Plastic parts of fuselage



L/R Assemble left and right sides the same way.

x2 The number of times the same way Assembly (in this case twice).

INSTALLING THE RECEIVER AND BATTERY

1) Plug the servo leads and the switch lead into the receiver. You may want to plug an aileron extension into the receiver to make plugging in the aileron servo lead easier when you are installing the wing. Plug the battery pack lead into the switch.

2) Wrap the receiver and battery pack in the protective foam to protect them from vibration. Use a rubber band or masking tape to hold the foam in place.

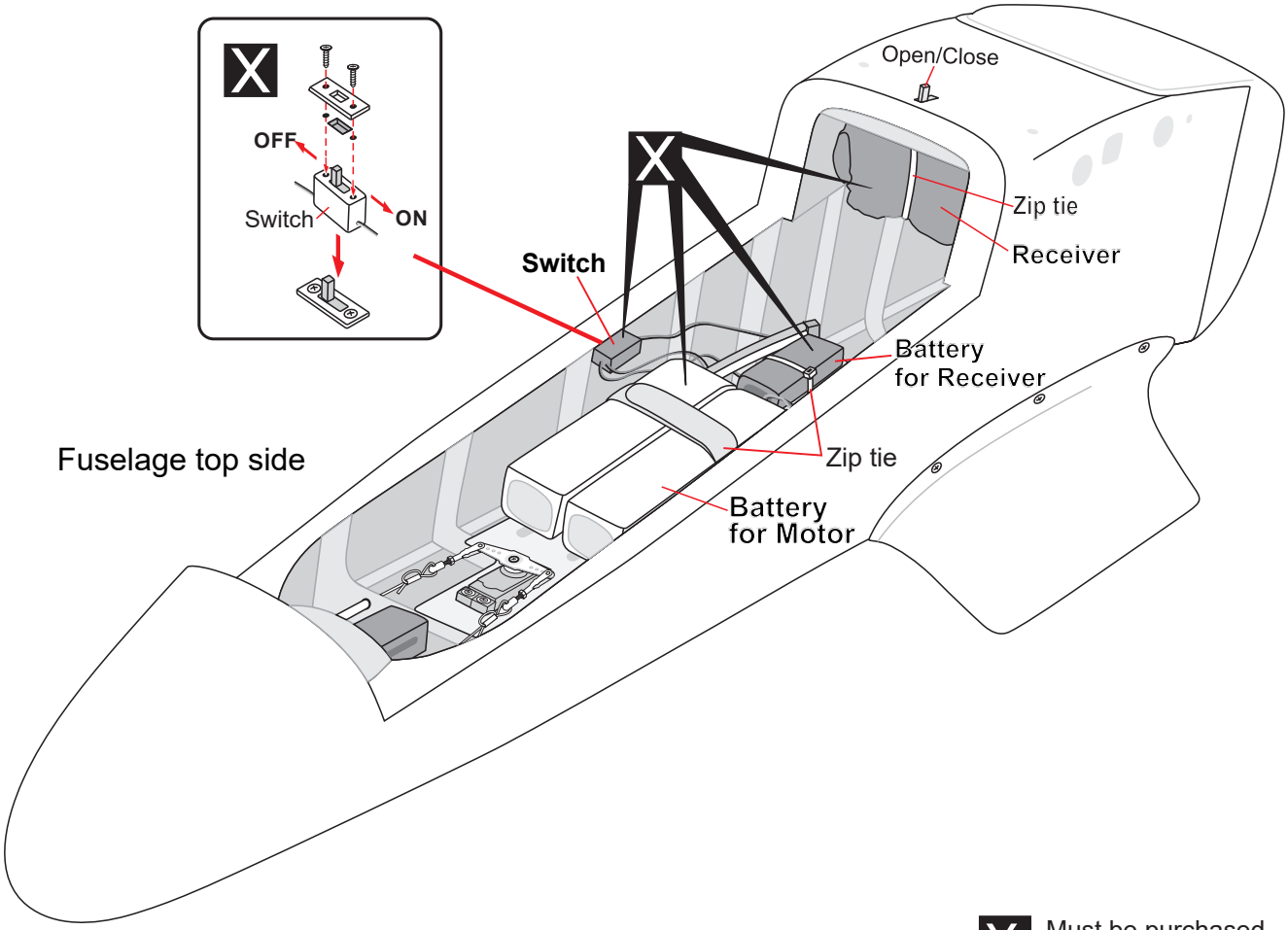
Do not permanently secure the receiver and battery until after balancing the model.

INSTALLING THE SWITCH

1) The switch should be mounted on the fuselage side, opposite the muffler, close enough to the receiver so the lead will reach. Use the face plate of the switch cut out and locate the mounting holes.

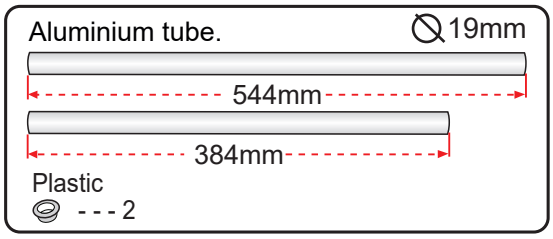
2) Cut out the switch hole using a modeling knife. Use a 2mm drill bit and drill out the two mounting holes through the fuselage side.

3) Secure the switch in place using the two machine screws provided with the radio system.

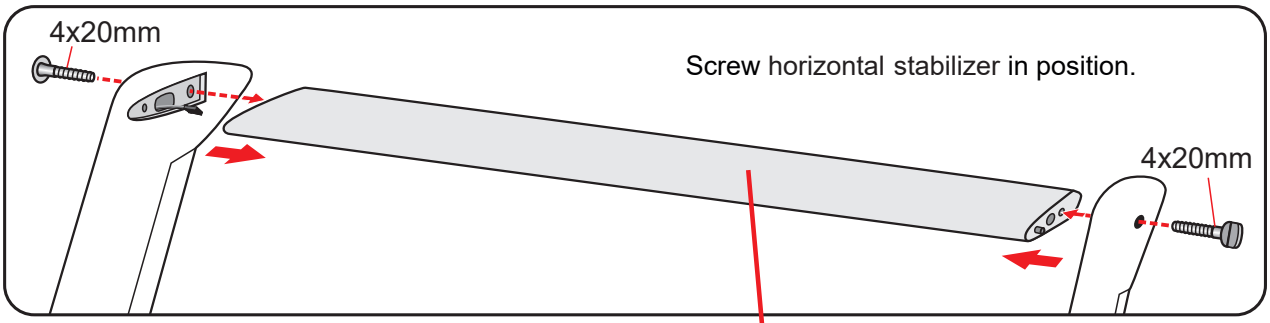


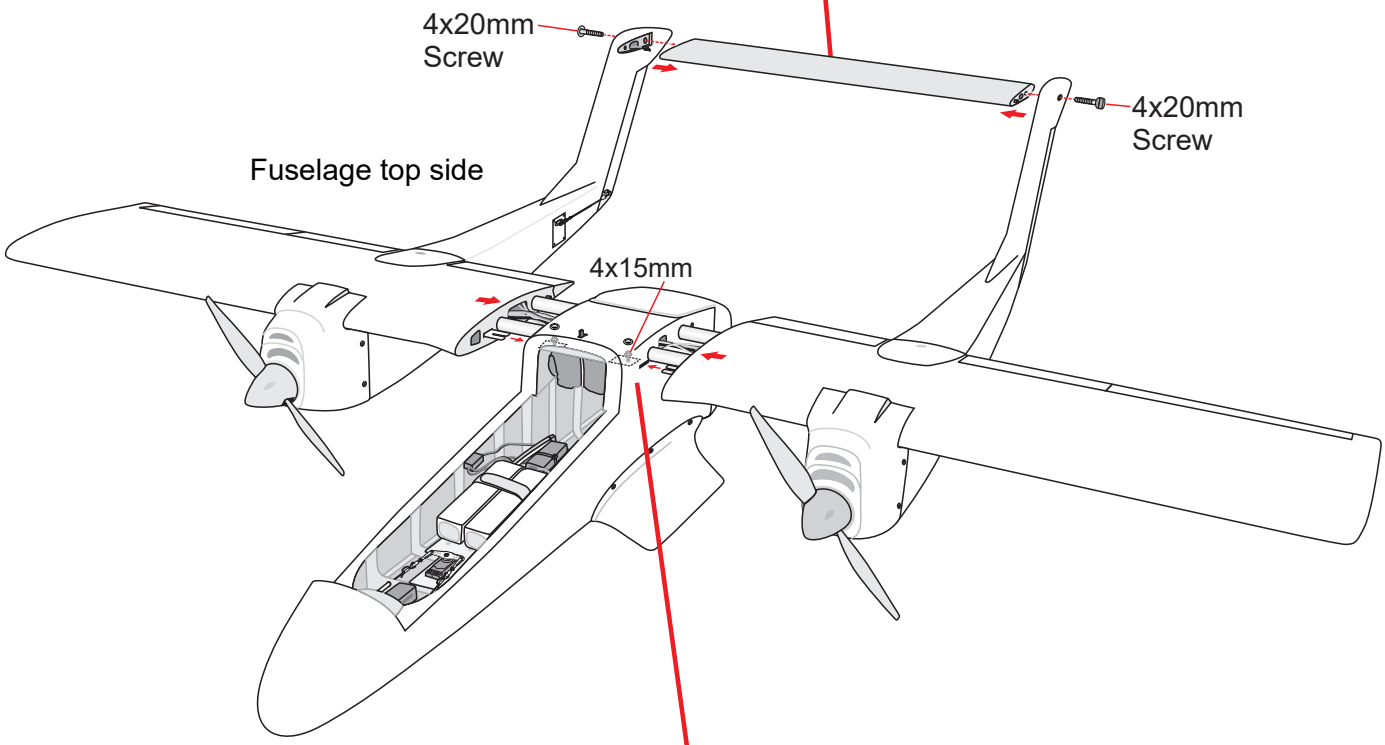
X Must be purchased separately!

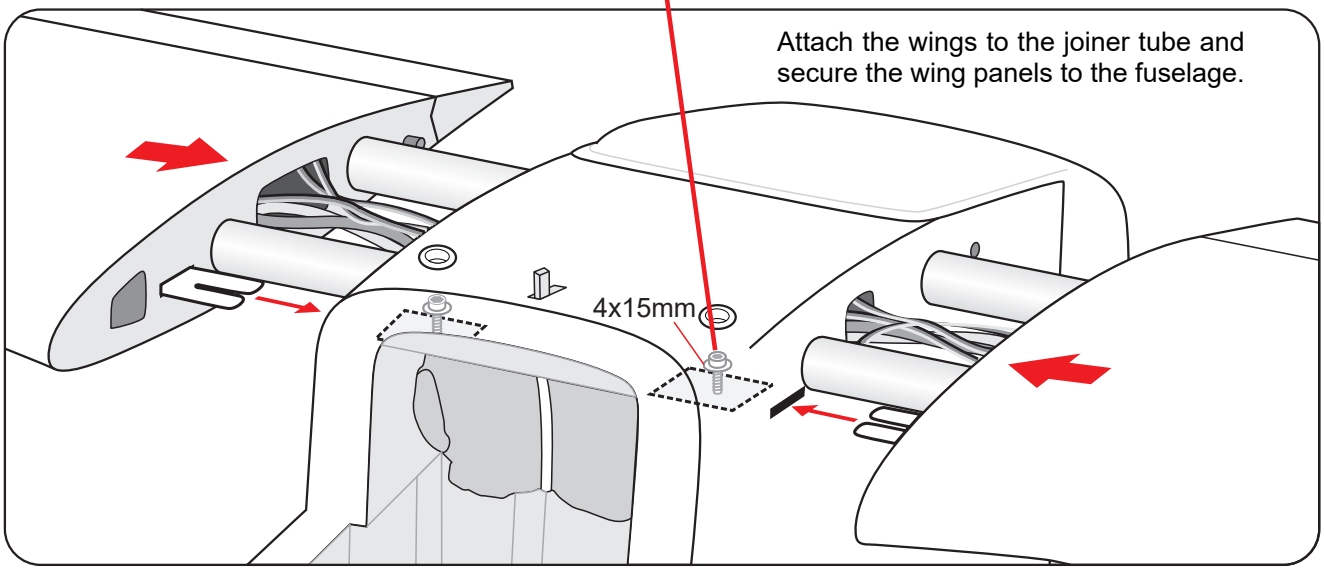
WING ATTACHMENT, HORIZONTAL STABILIZER

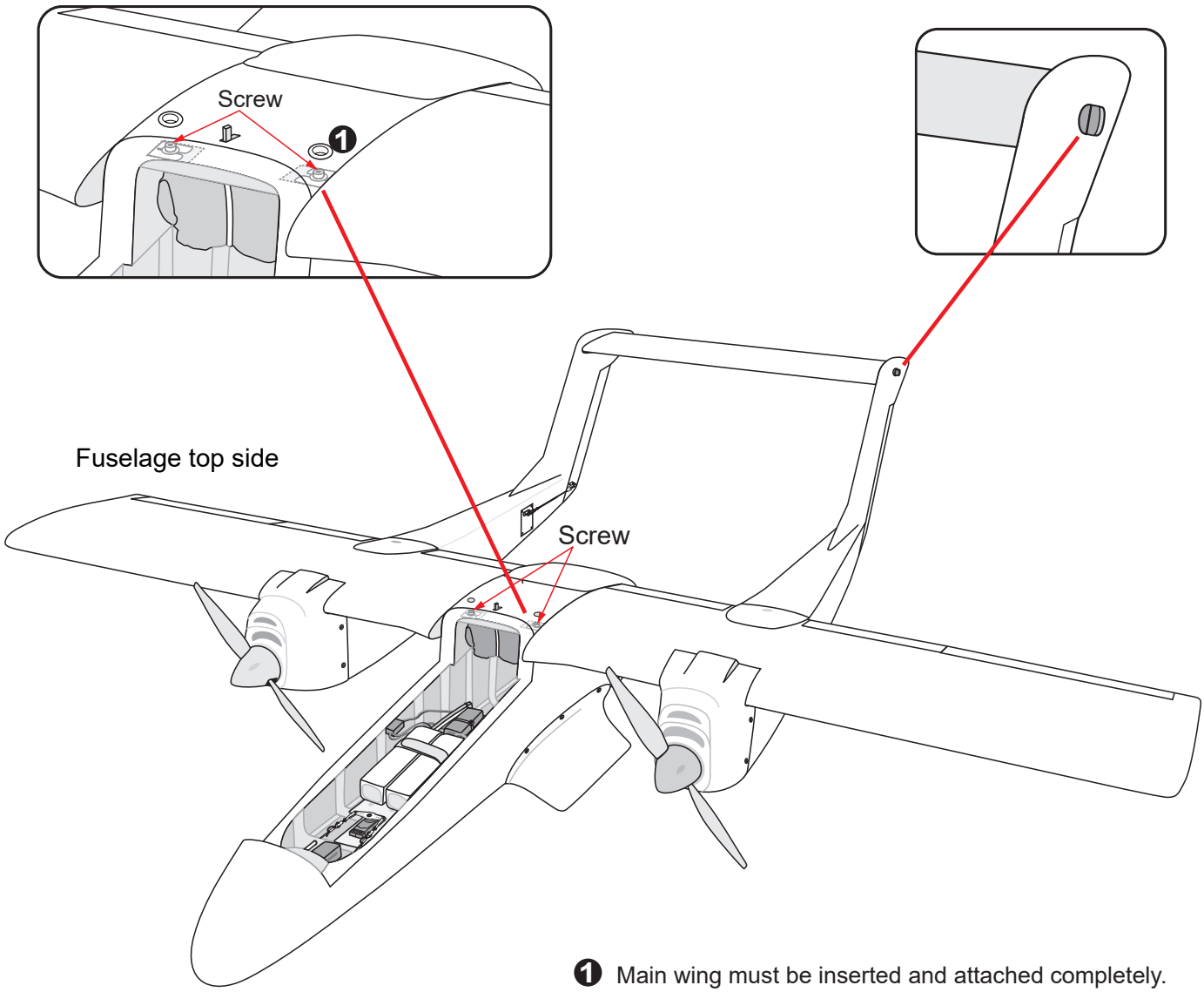


4 x 20mm Plastic screw - - - 2



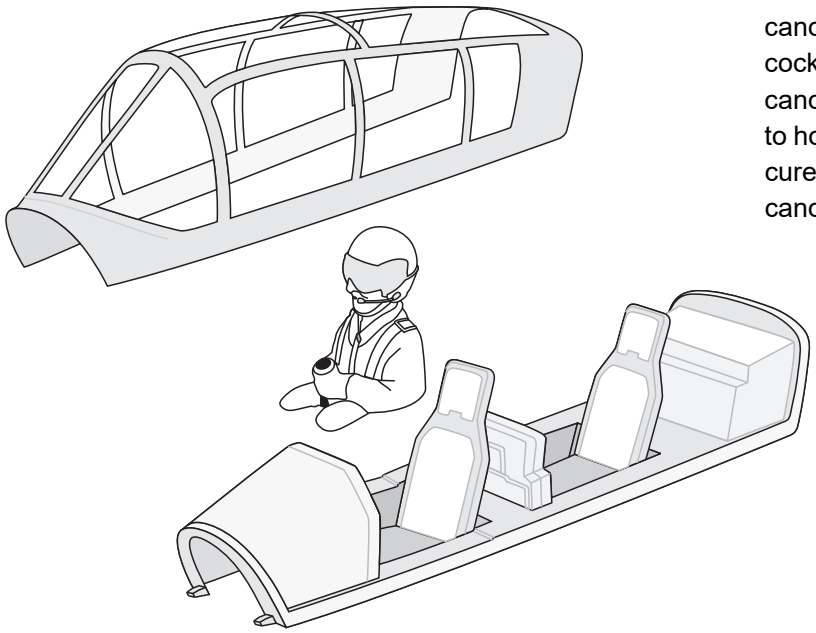




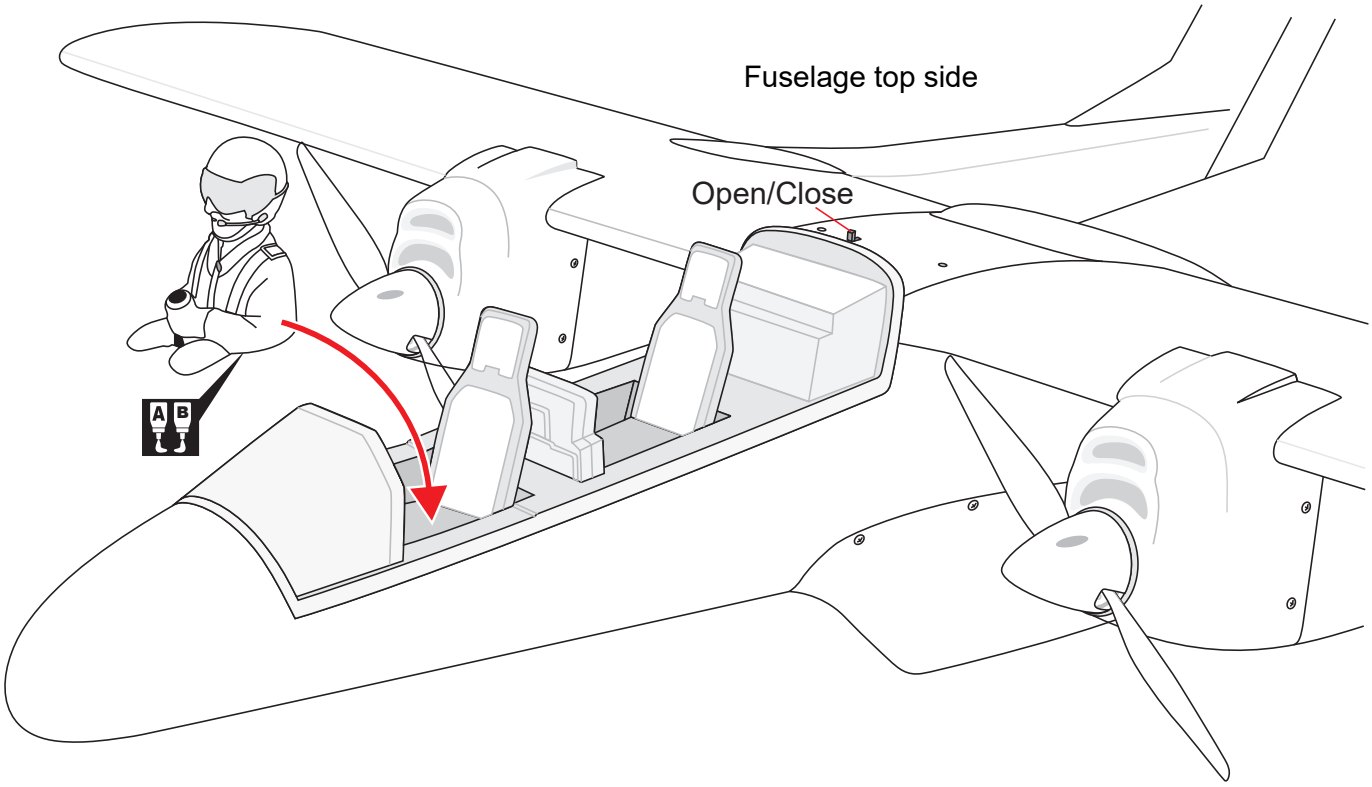


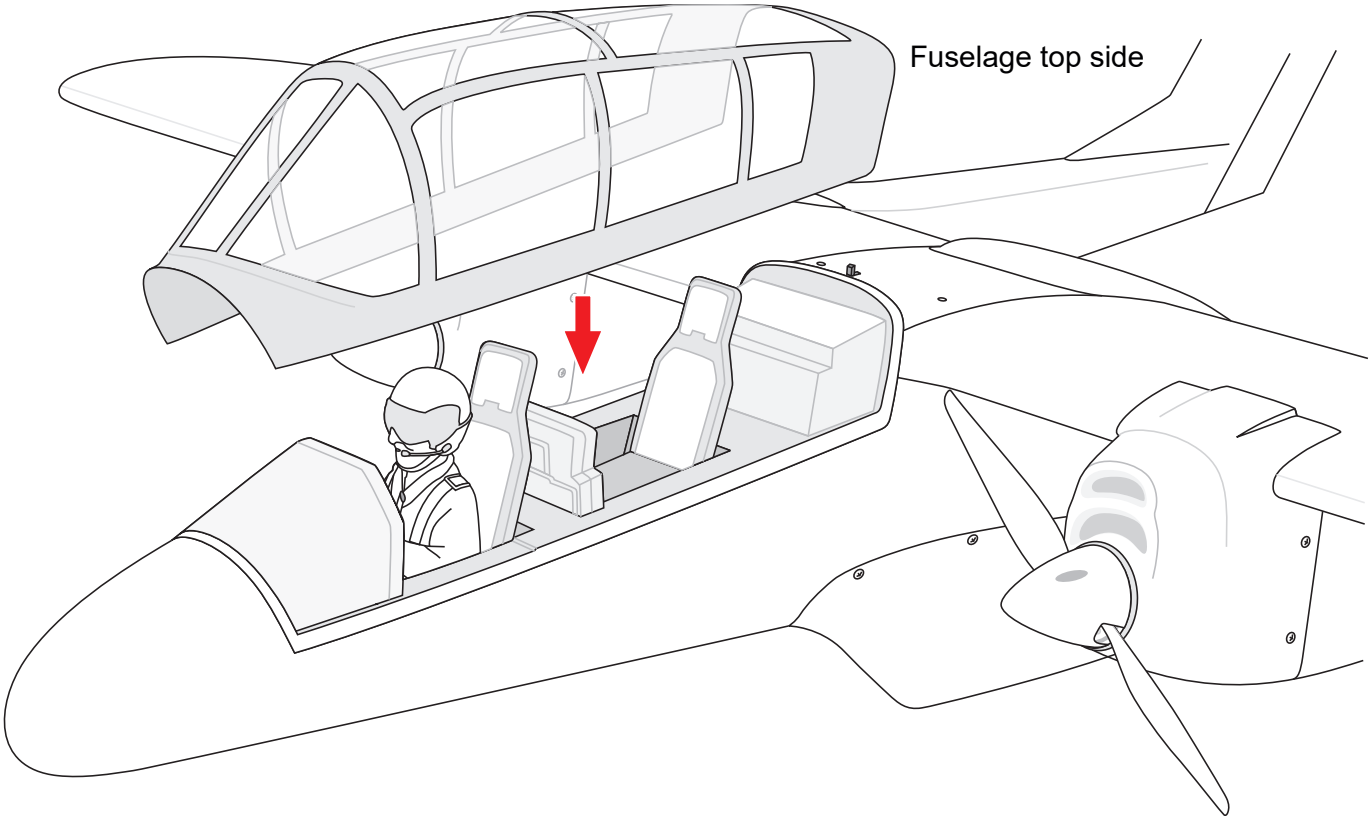
1 Main wing must be inserted and attached completely.

INSTALLING COCKPIT FUSELAGE

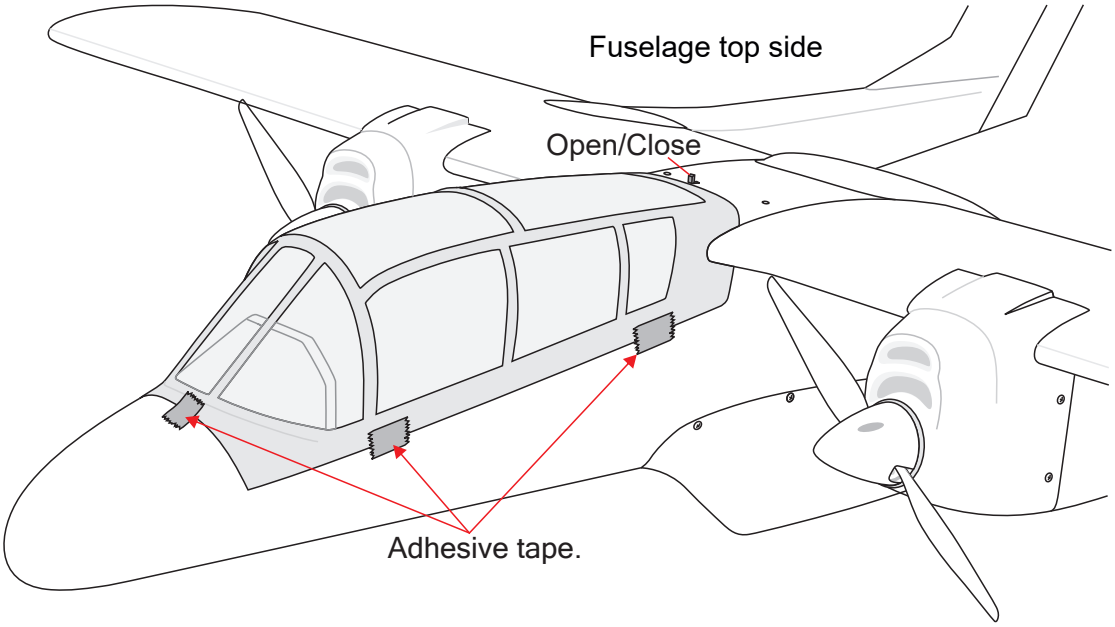


Position the canopy so the rear frame on the canopy is aligned with the rear edge of the cockpit opening. Use canopy glue to secure the canopy to the canopy hatch. Use low-tack tape to hold the canopy in position until the glue fully cures. Wrap the tape completely around the canopy hatch.





A B Apply epoxy glue.



BALANCING

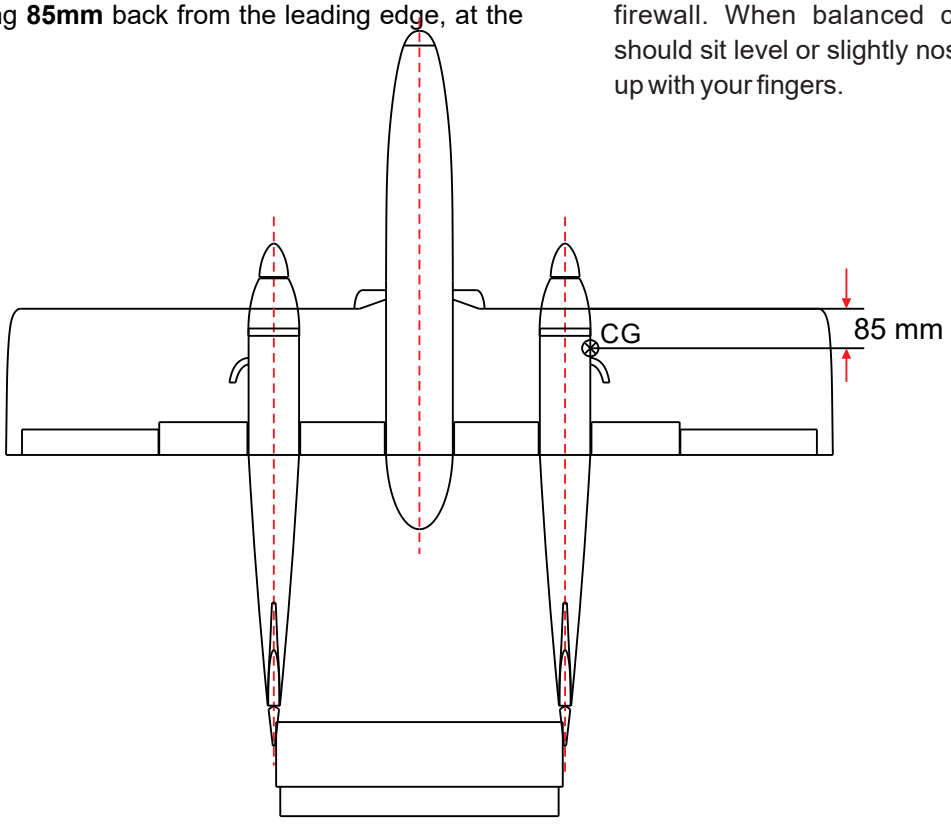
1) It is critical that your airplane be balanced correctly. Improper balance will cause your plane to lose control and crash.

THE CENTER OF GRAVITY IS LOCATED ***85MM*** BACK FROM THE LEADING EDGE OF THE WING. AT THE FUSELAGE. BALANCE A PLANE UPSIDE DOWN WITH THE FUEL TANK EMPTY.

2) Mount the wing to the fuselage. Using a couple of pieces of masking tape, place them on the top side of the wing **85mm** back from the leading edge, at the

3) Turn the airplane upside down. Place your fingers on the masking tape and carefully lift the plane.

4) If the nose of the plane falls, the plane is nose heavy. To correct this first move the battery pack further back in the fuselage. If this is not possible or does not correct it, stick small amounts of lead weight on the fuselage under the horizontal stabilizer. If the tail of the plane falls, the plane is tail heavy. To correct this, move the battery and receiver forward or if this is not possible, stick weight into the firewall. When balanced correctly, the airplane should sit level or slightly nose down when you lift it up with your fingers.



LATERAL BALANCE

After you have balanced a plane on the C.G. You should laterally balance it. Doing this will help the airplane track straighter.

1) Turn the airplane upside down. Attach one loop of heavy string to the engine crankshaft and one to the tail wheel wire. With the wings level, carefully lift the airplane by the string. This may require two people to make it easier.

2) If one side of the wing fall, that side is heavier than the opposite. Add small amounts of lead weight to the bottom side of the lighter wing half's wing tip. Follow this procedure until the wing stays level when you lift the airplane.

CONTROL THROWS

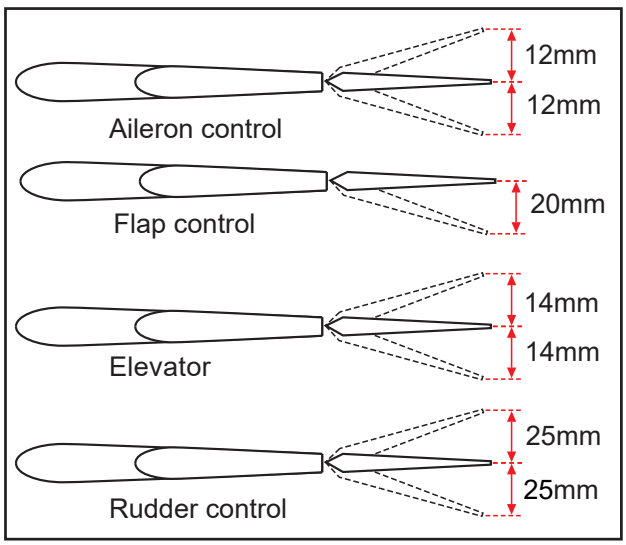
1) We highly recommend setting up a plane using the control throws listed.

2) The control throws should be measured at the widest point of each control surface.

3) Check to be sure the control surfaces move in the correct directions.

Low rate:

- Aileron: 12 mm up 12 mm down
- Flap: 20 mm down
- Elevator: 14 mm up 14 mm down
- Rudder: 25 mm right 25 mm left



PRE-FLIGHT CHECK

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

2) Check every bolt and every glue joint in your plane to ensure that everything is tight and well bonded.

3) Double check the balance of the airplane.

4) Check the control surface.

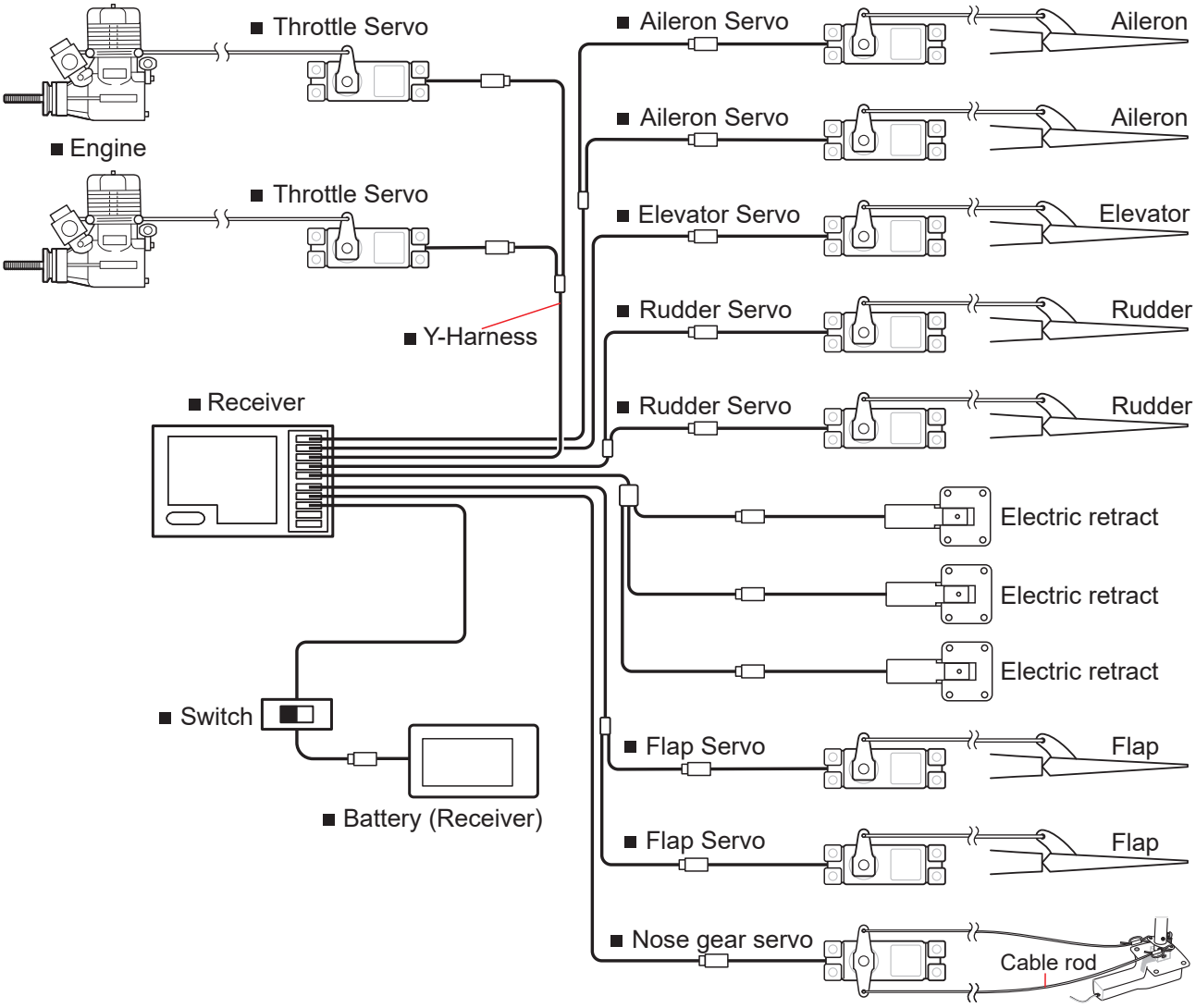
5) Check the receiver antenna. It should be fully extended and not coiled up inside the fuselage.

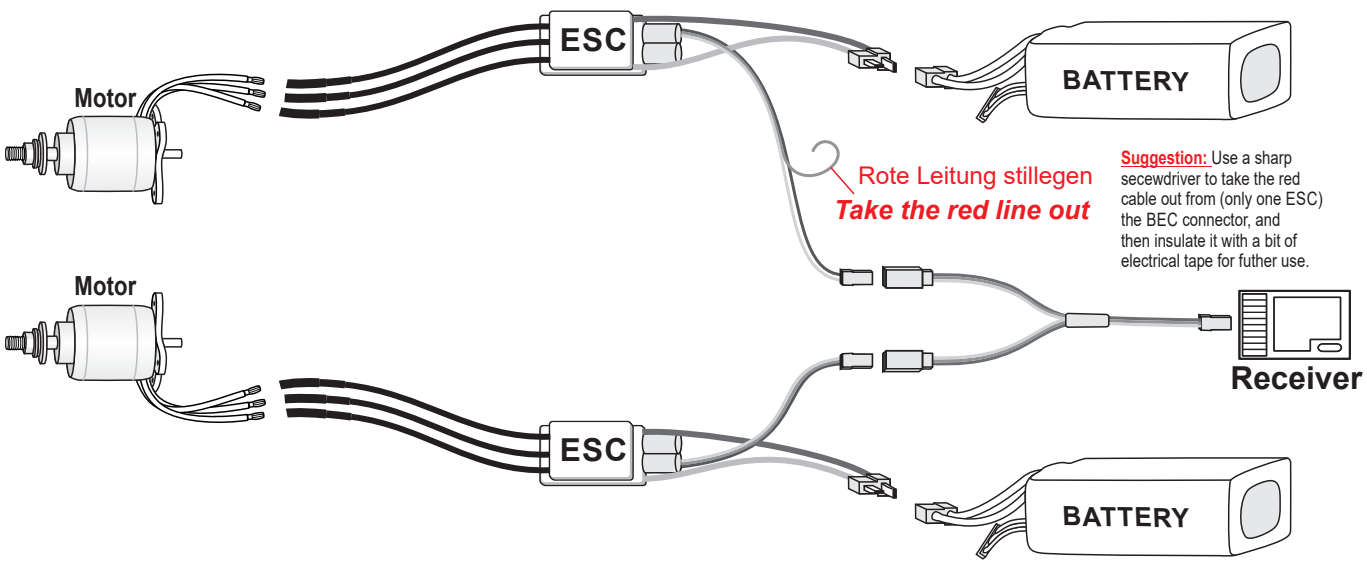
6) Properly balance the propeller.

BASIC POWER SYSTEM SET-UP GUIDELINE

Example of connection

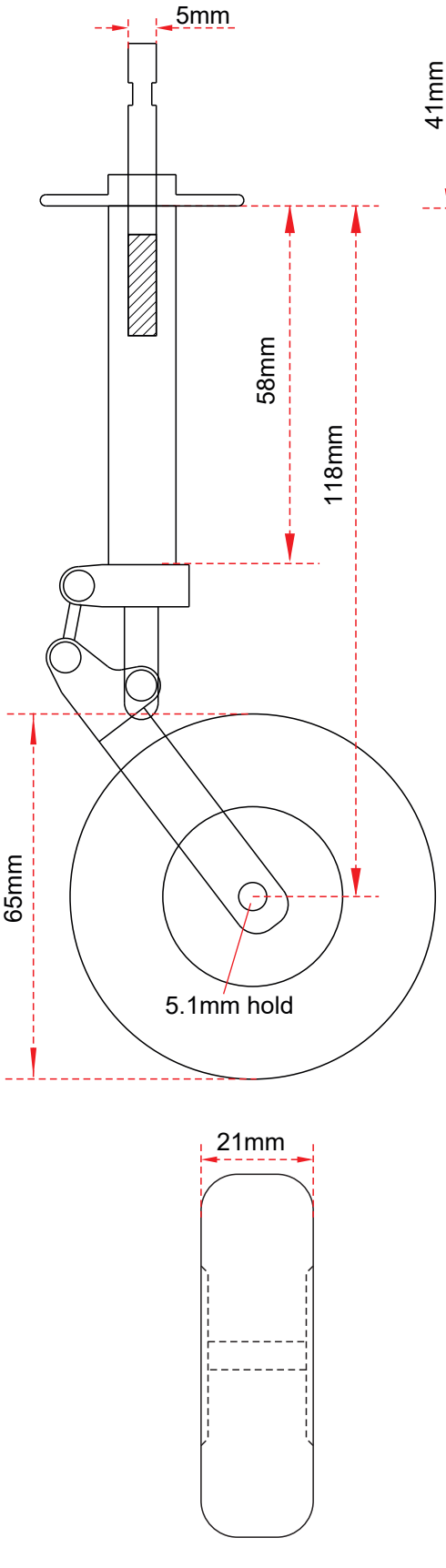
- For more information, refer to radio system instruction manual.
- Follow instruction manual of Engine and Battery.



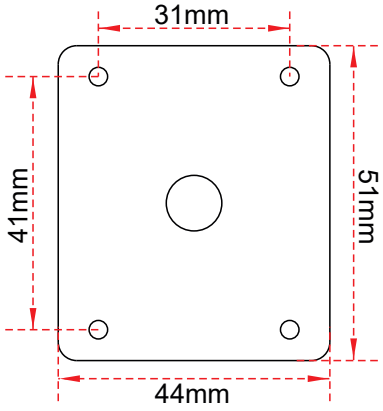


MAIN GEAR DIMENSIONAL DETAIL

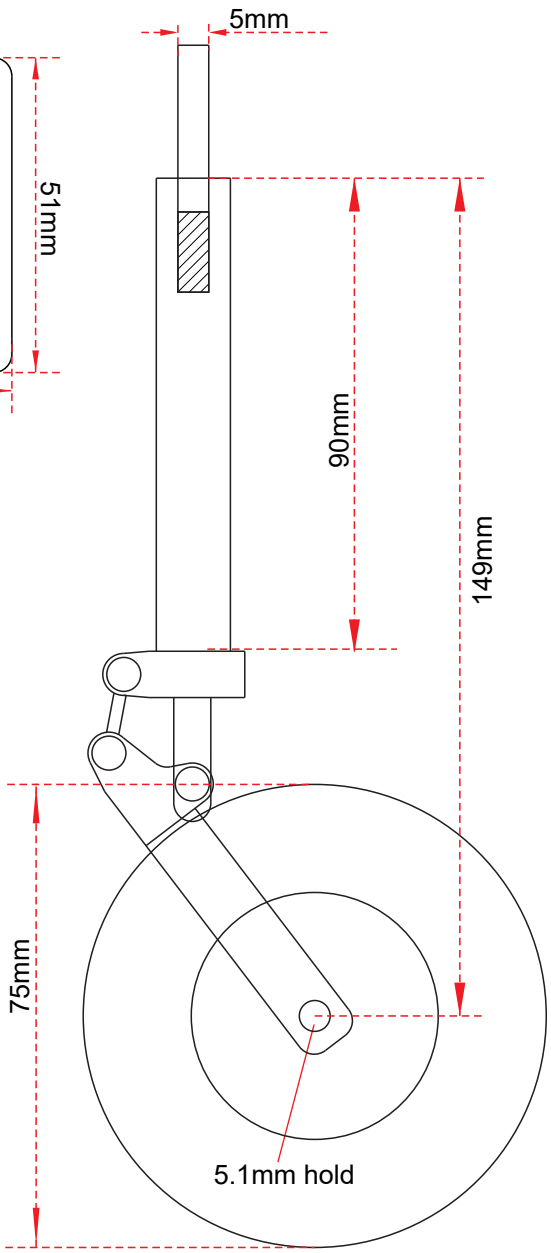
NOSE GEAR STRUTS

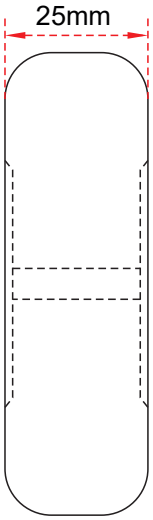


LANDING GEAR MOUNT.

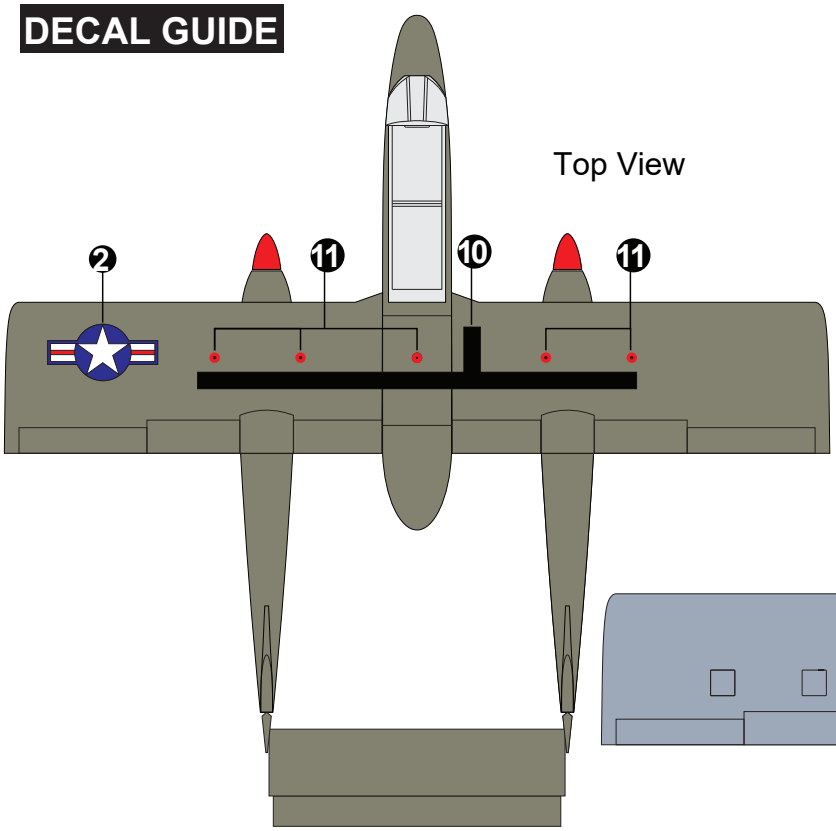


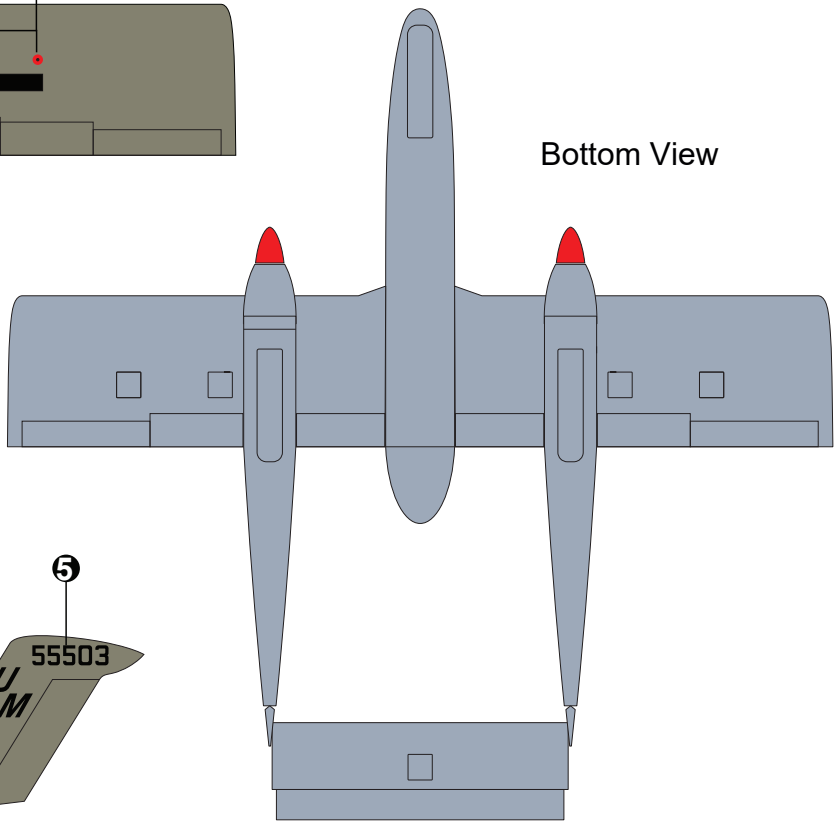
MAIN GEAR STRUTS

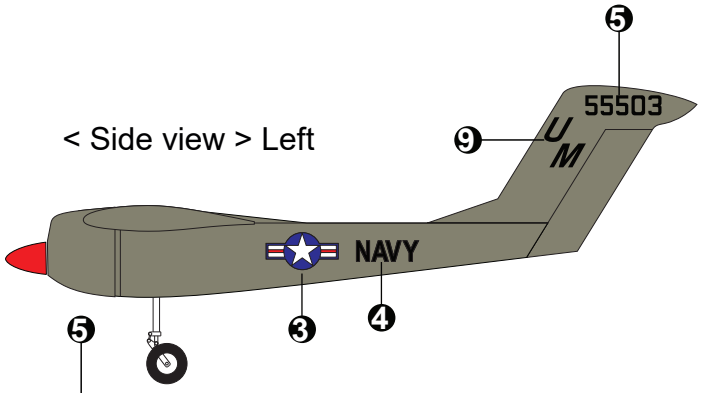


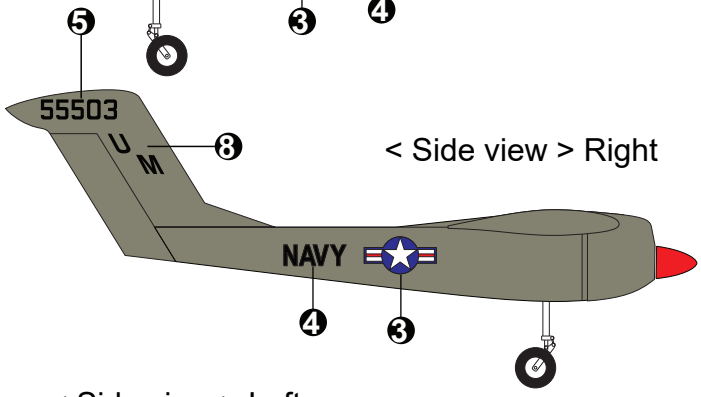


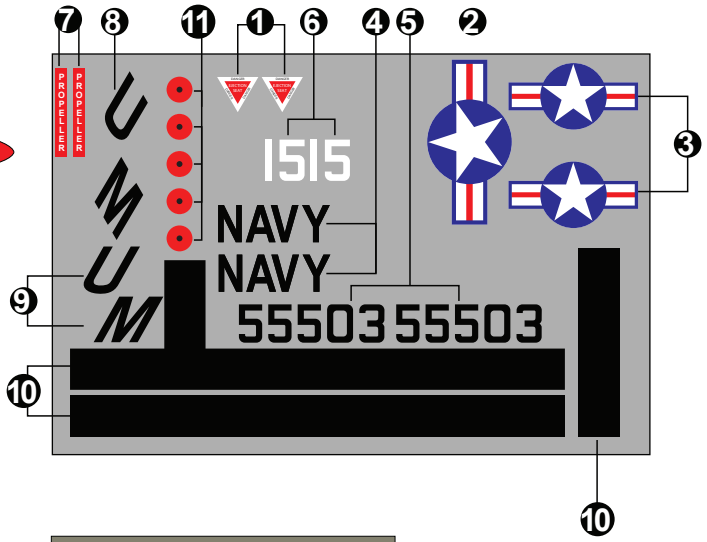
DECAL GUIDE

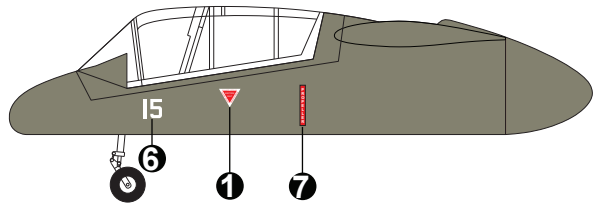


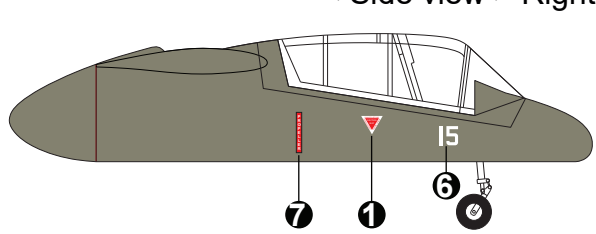








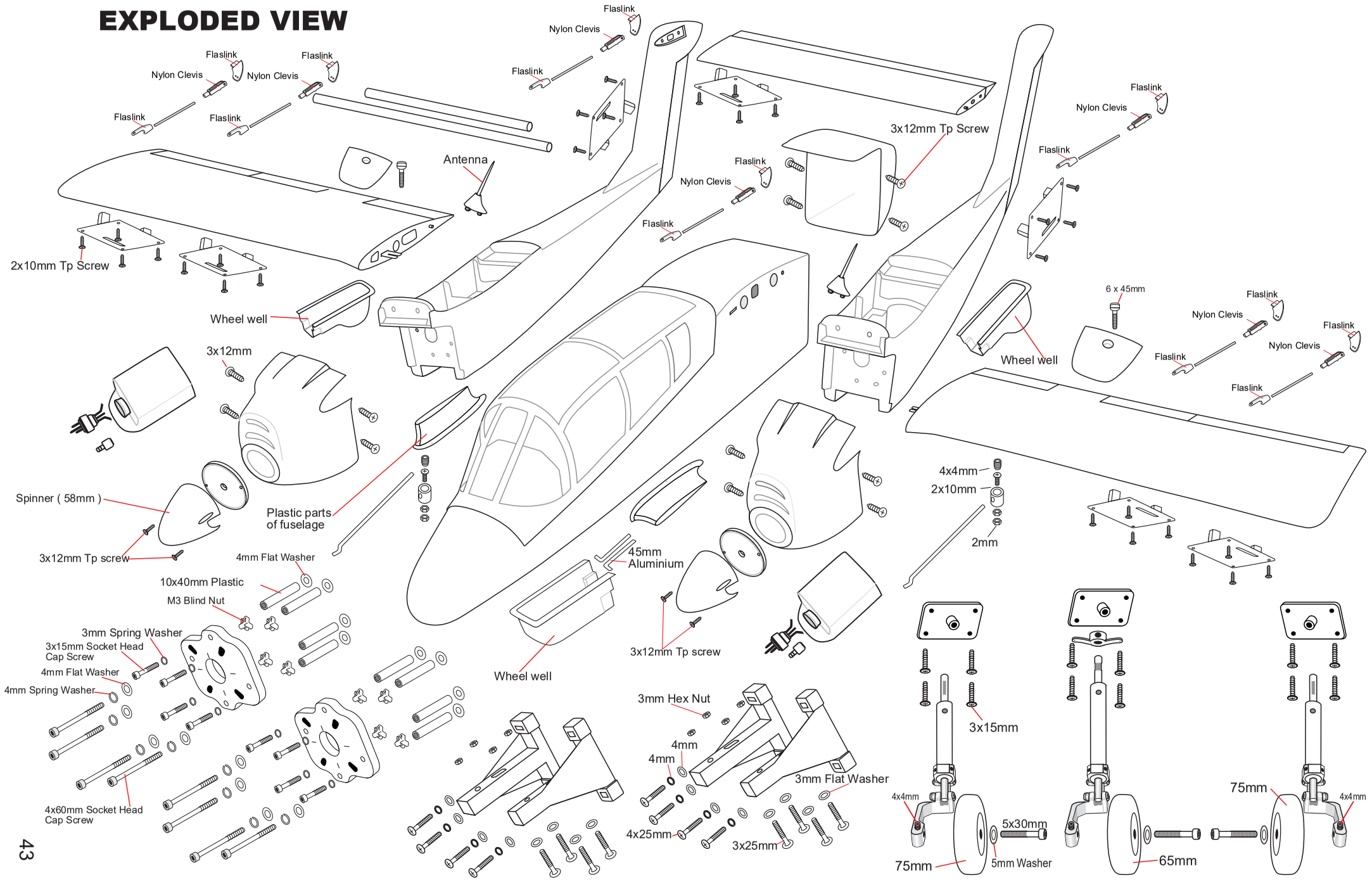




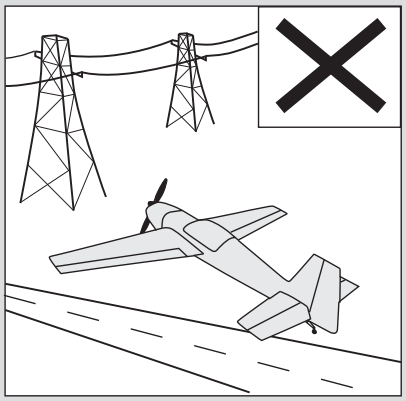
#21-018 - Olive Drab

#21-011 - Grey

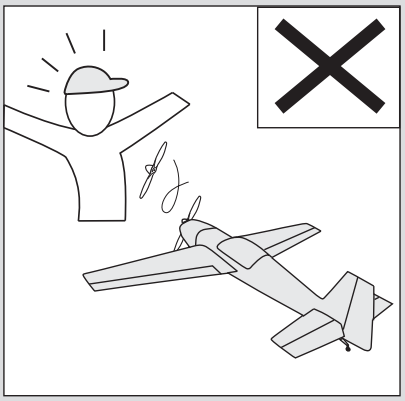
EXPLODED VIEW



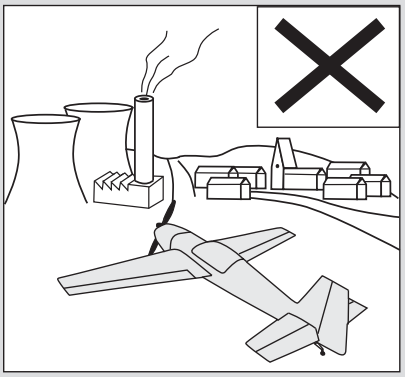
I/C FLYING WARNINGS



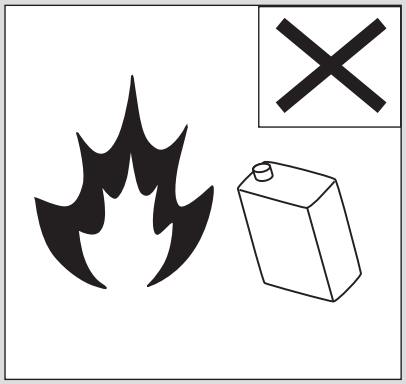
NEVER fly near power lines,aerials or other dangerous areas including airports, motorways etc.



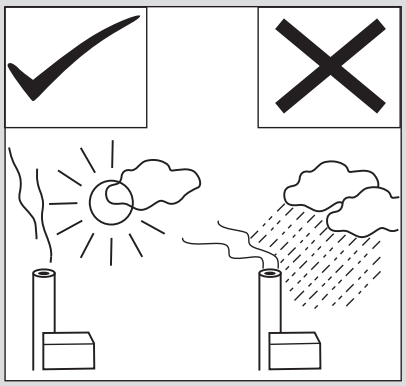
ALWAYS adjust the engine from behind the propeller, and do not allow any part of your body to be in line with the propeller.



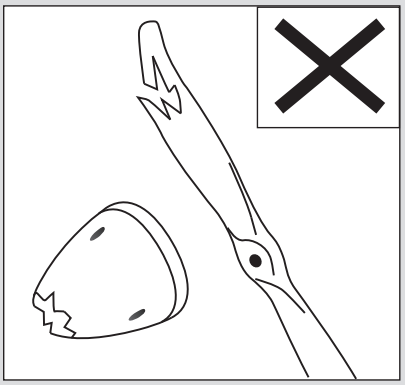
Always operate in open areas, away from factories, hospitals, schools, buildings and houses etc. **NEVER** fly your aircraft close to people or built up areas.



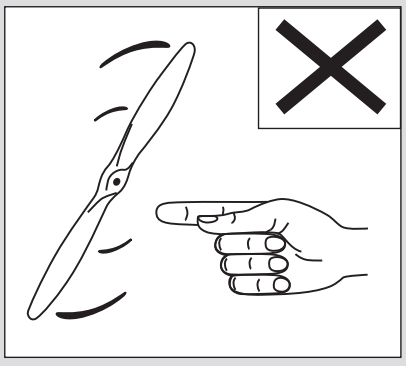
DO NOT dispose of empty fuel containers on a fire, this can lead to an explosion.



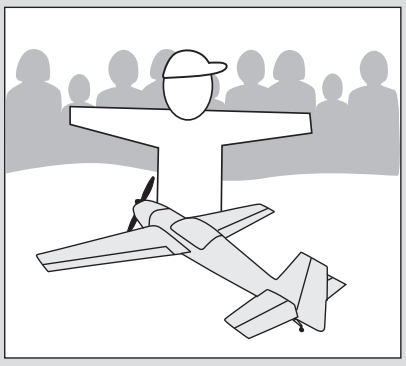
NEVER fly in wet conditions or on windy or stormy days.



NEVER use damaged or deformed propellers or spinners.

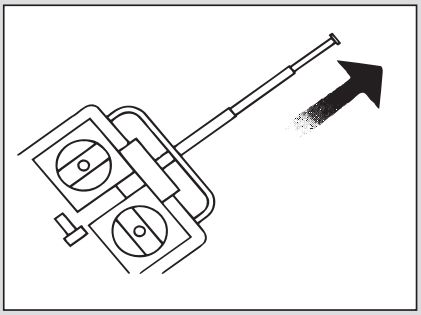


THE PROPELLER IS DANGEROUS.
Keep fingers, clothing (ties, shirt sleeves, scarves) or any other loose objects that could be caught or drawn in, away from the propeller. Take care at **ALL** times.

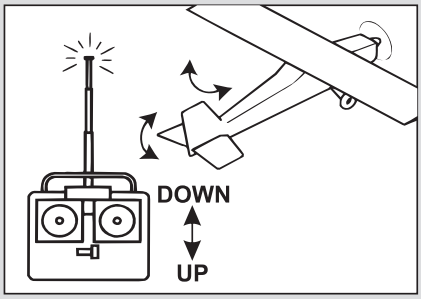


Keep all onlookers (especially small children and animals) well back from the area of operation. This is a flying aircraft, which will cause serious injury in case of impact with a person or animal.

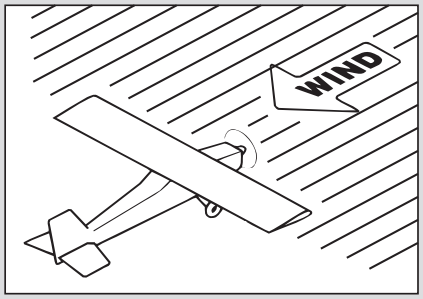
I/C FLYING GUIDELINES



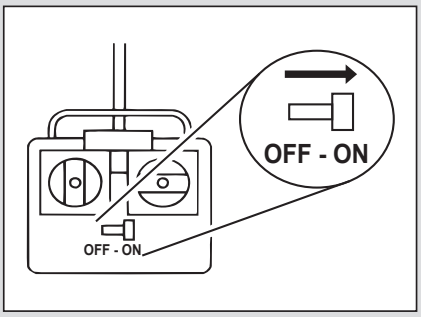
When ready to fly, first extend the transmitter aerial.



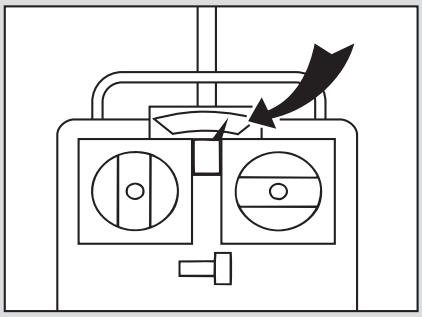
Operate the control sticks on the transmitter and check that the control surfaces move freely and in the CORRECT directions.



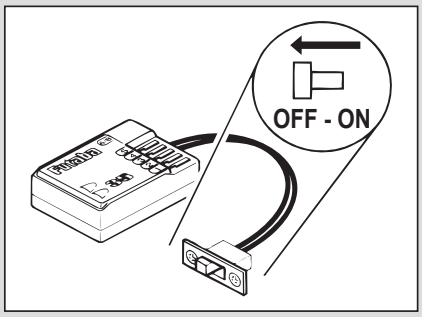
ALWAYS land the model INTO the wind, this ensures that the model lands at the slowest possible speed.



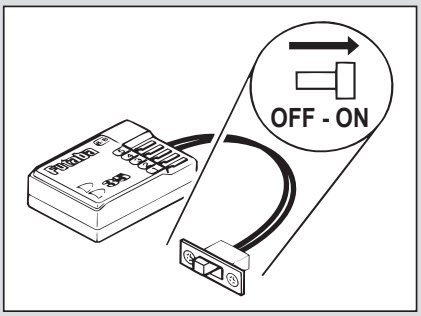
Switch on the transmitter.



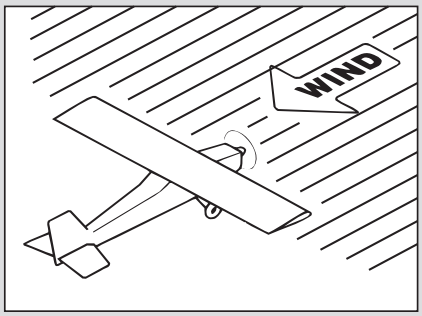
Check that the transmitter batteries have adequate power.



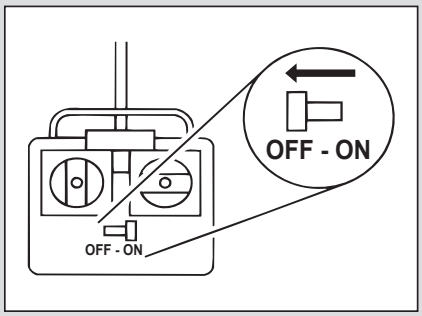
Switch off the receiver.



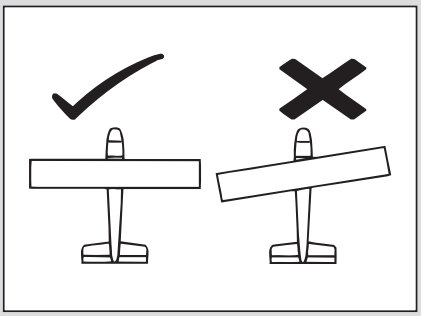
Switch on the receiver.



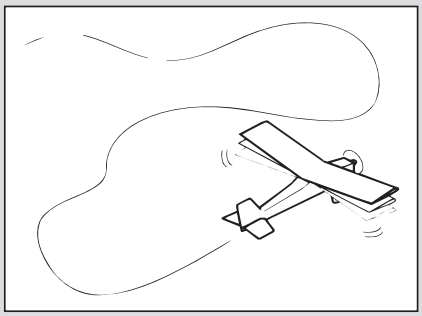
ALWAYS take off into the wind.



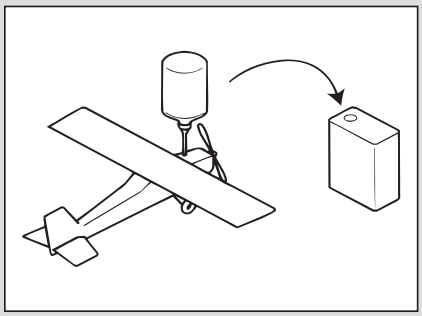
Switch off the transmitter.



Check that the wings are correctly fitted to the fuselage.



If the model does not respond correctly to the controls, land it as soon as possible and correct the fault.



Empty the fuel tank after flying, fuel left in the tank can cause corrosion and lead to engine problems.