

60 Class
2-cycle engine

90 Class
4-cycle engine

or electric equivalent.

KAWASAKI

Ki-61 Hien "Tony"

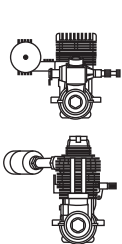
INSTRUCTION MANUAL

VQA048 / VQA049



AEROMODELLO RADIOCOMANDATO

RADIO CONTROLLED ALMOST READY-TO-FLY ENGINE POWERED ALL Balsa PLANE

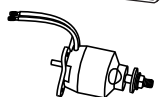


.61 cu.in.

.90 cu.in.



6 ch.



10V (40A)

Wingspan approx.

Fuselage length approx

61.8 in. (1570mm)

48.8 in. (1240mm)

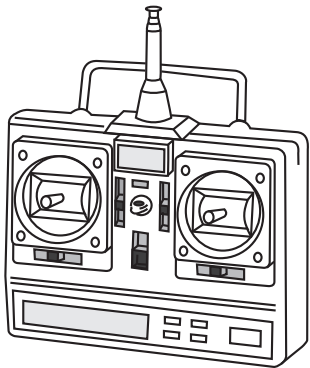


6.4 lb.
(2900g)

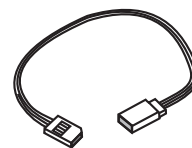


WARNING! This radio control model is not a toy. If modified or flown carelessly it could go out of control and cause serious bodily injury or property damage.
Before flying your airplane, ensure the air field is spacious enough.
Always fly it outdoors in safe areas with no debris or obstacles.

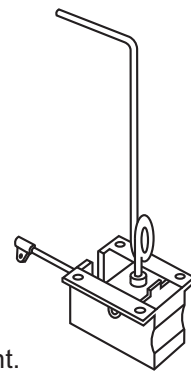
REQUIRED FOR OPERATION (Purchase separately)



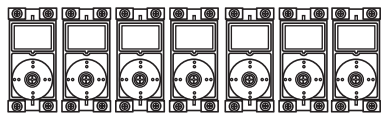
12x6 for .60 - 4 cycle engine
13x7 for .90 - 4 cycle engine
14X8 for Quantum 4120/07



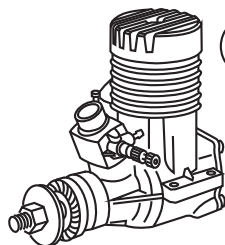
Extension for aileron servo, retract servo.



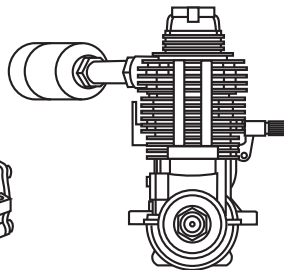
Retract landing gear VQAR010



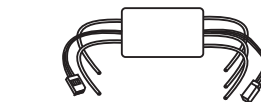
Minimum 6 channel radio for airplane with 6 servos (EP version) and 7 servos (GP version)



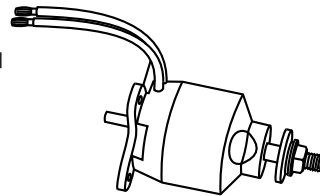
.60 - 2 cycle



.90 - 4 cycle



Phoenix-60 Brushless Motor Control or equivalent.



Quantum 4120/07 Brushless Motor or equivalent.



Retract servo x1

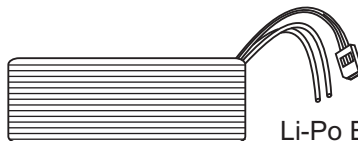


Linkage Stopper x2 (for retract servo)

.Motor control x1(GP version)
.Aileron x2 .Elevator x1
.Rudder x1 .Flap x 2



Silicone tube



Li-Po Battery, 14.8V, 4000mAH, 80A

GLUE (Purchase separately)



Silicon sealer

Cyanoacrylate Glue



Epoxy Glue (5 minute type)

Epoxy Glue (30 minute type)



TOLLS REQUIRED (Purchase separately)

Hobby knife 

Phillip screw driver 

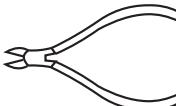
Hex Wrench 

Needle nose Pliers 

Scissors 

Awl 

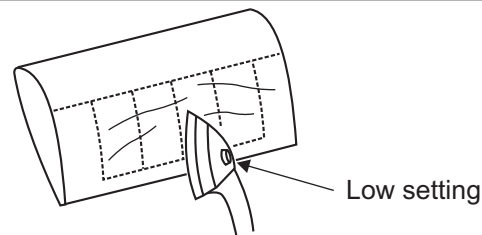
Sander 

Wire Cutters 

Masking tape - Straight Edged Ruler - Pen or pencil - Rubbing alcohol - Drill and Assorted Drill Bits


The pre-covered film on ARF kit may wrinkle due to variations of temperature. Smooth out as explained right.


* Use an iron or heat gun. Start as low setting. Increase the setting if necessary. If it is too high, you may damage the film





Low setting


Symbols used throughout this instruction manual, comprise:


 Drill holes using the stated size of drill (in this case 1.5 mm Ø)


 Take particular care here


 Hatched-in areas: remove covering film carefully

 Check during assembly that these parts move freely, without binding

 Use epoxy glue

 Apply cyano glue

 Assemble left and right sides the same way.

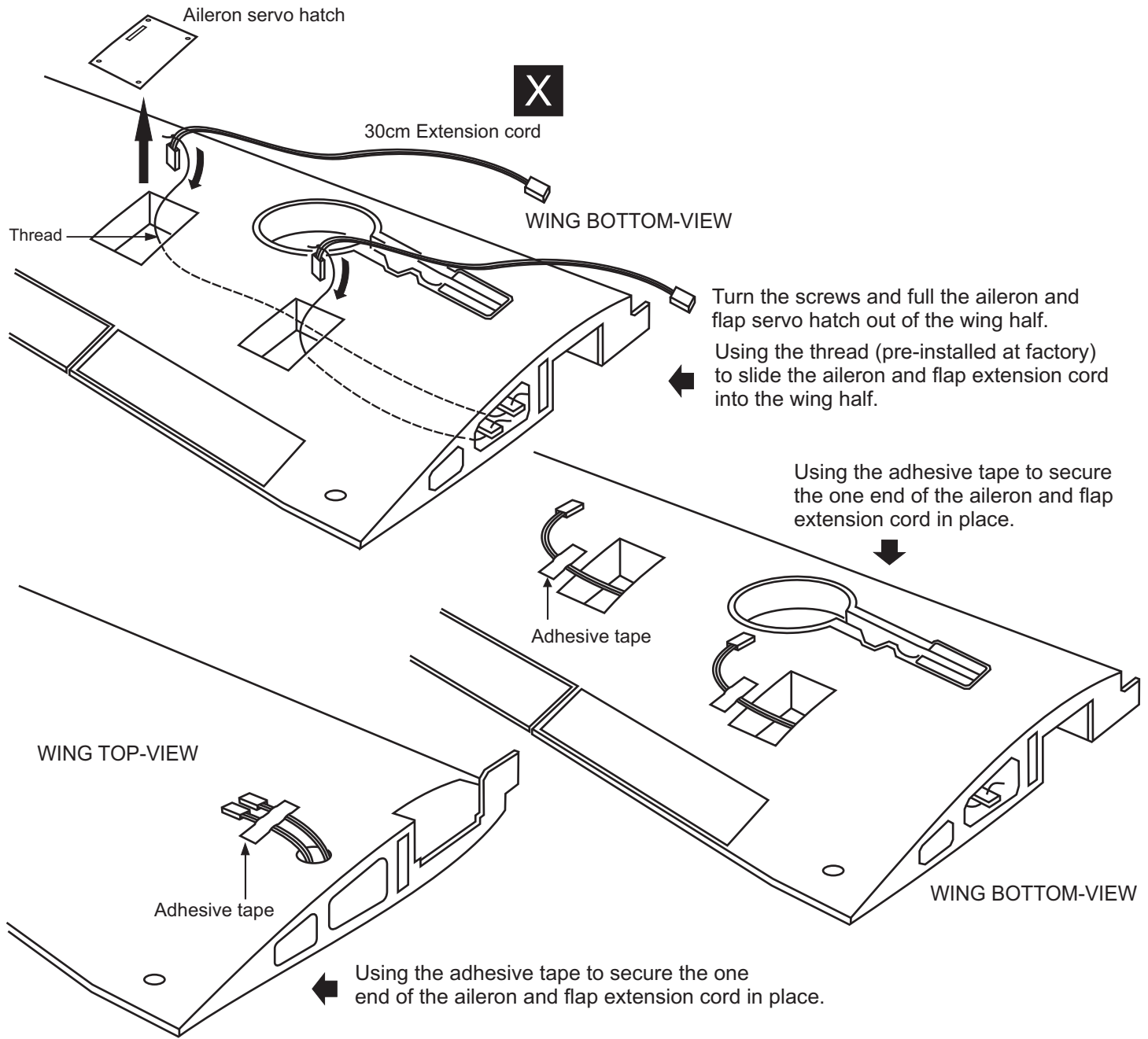
 Not included. These parts must be purchased separately

Read through the manual before you begin, so you will have an overall idea of what to do.

CONVERSION TABLE

1.0mm = 3/64"	3.0mm = 1/8"	10mm = 13/32"	25mm = 1"
1.5mm = 1/16"	4.0mm = 5/32"	12mm = 15/32"	30mm = 1-3/16"
2.0mm = 5/64"	5.0mm = 13/64"	15mm = 19/32"	45mm = 1-51/64"
2.5mm = 3/32"	6.0mm = 15/64"	20mm = 51/64"	

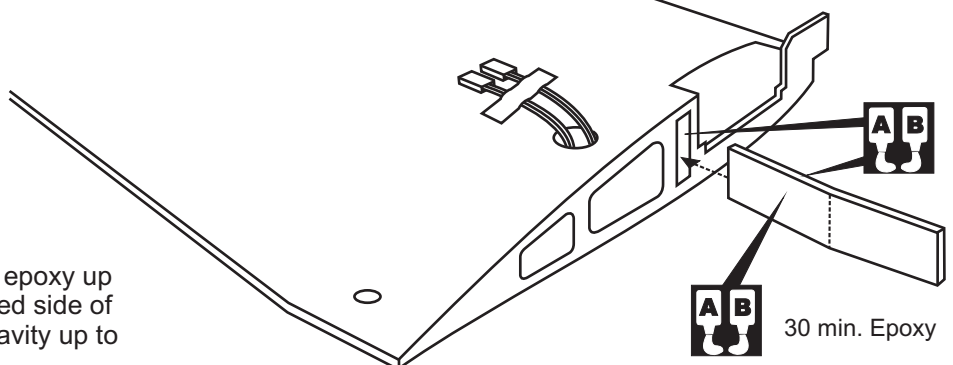
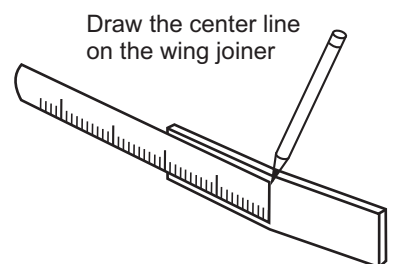
1-Aileron extension cord installation



2- Joining the wing

Before gluing:

- Draw the center line on the wing joiner.
- Trial fit each part before gluing . Be certain that there are no gaps. If the parts will join, but with a gaps, sand or trim the parts a little at a time until the parts meet exactly with no gaps.
- Check for the correct dihedral angle



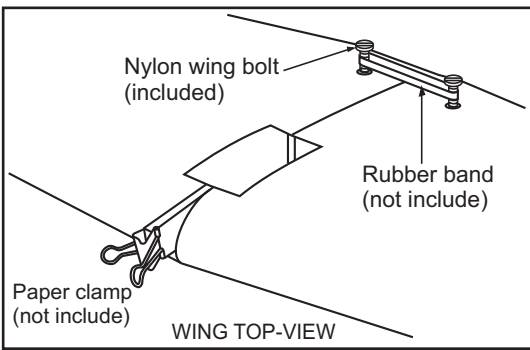
Coat one half of the dihedral brace with epoxy up to the center line. Install the epoxy-coated side of the dihedral brace into the wing joiner cavity up to the center line.

3- Joining the wing

WING TOP-VIEW

Carefully slide the wing halves together, ensuring that they are accurately aligned. Firmly press the two halves together, allowing the excess epoxy to run out. Note: The two wing halves roots must fit together perfectly. Clear off the excess epoxy.

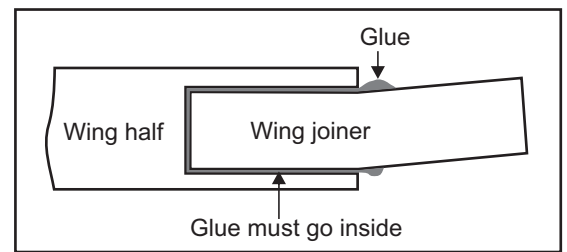
Hold the wing halves together with paper clamp and rubber band.



30 min. Epoxy

WING TOP-VIEW

! Make sure to glue securely, If not properly glued, a failure in flight may occur.



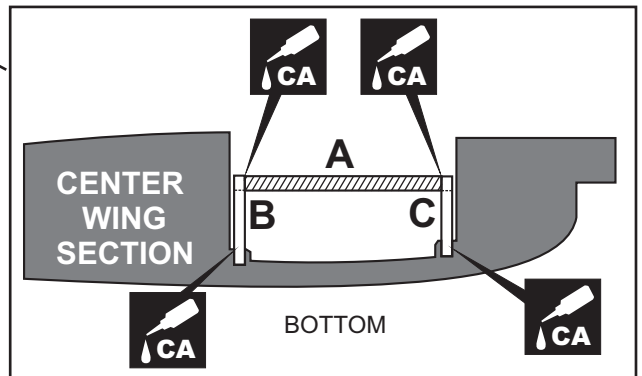
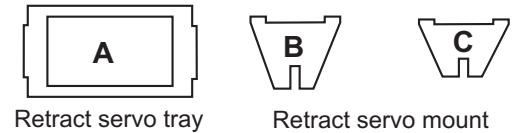
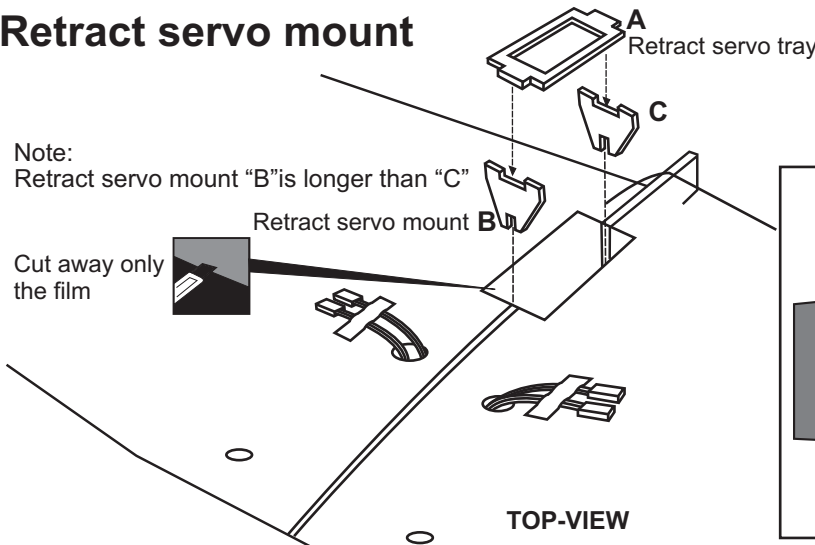
30 min. Epoxy

4-Retract servo mount

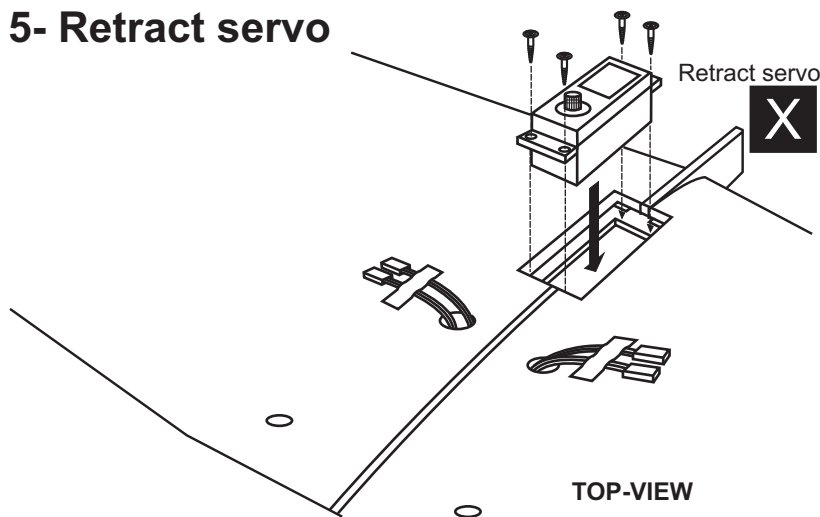
Note:

Retract servo mount "B" is longer than "C"

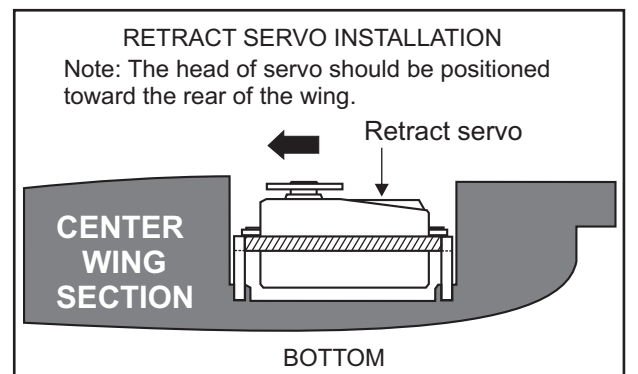
Cut away only the film



5- Retract servo



Install the retract servo onto the retract servo mount and secure it in place with four screw (included with radio set).



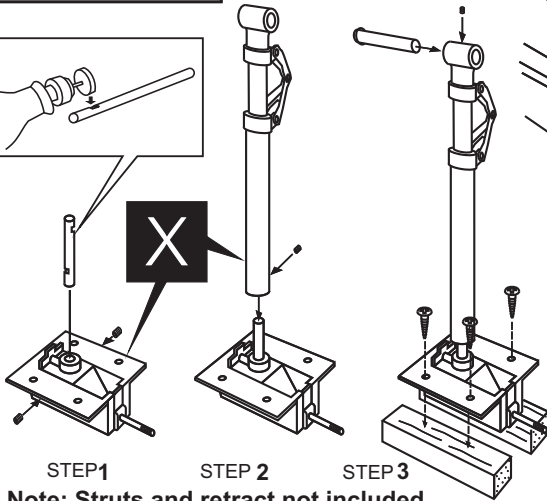
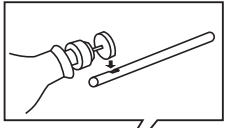
RETRACT SERVO INSTALLATION

Note: The head of servo should be positioned toward the rear of the wing.

6- Retract and struts

3x15mm viti

8

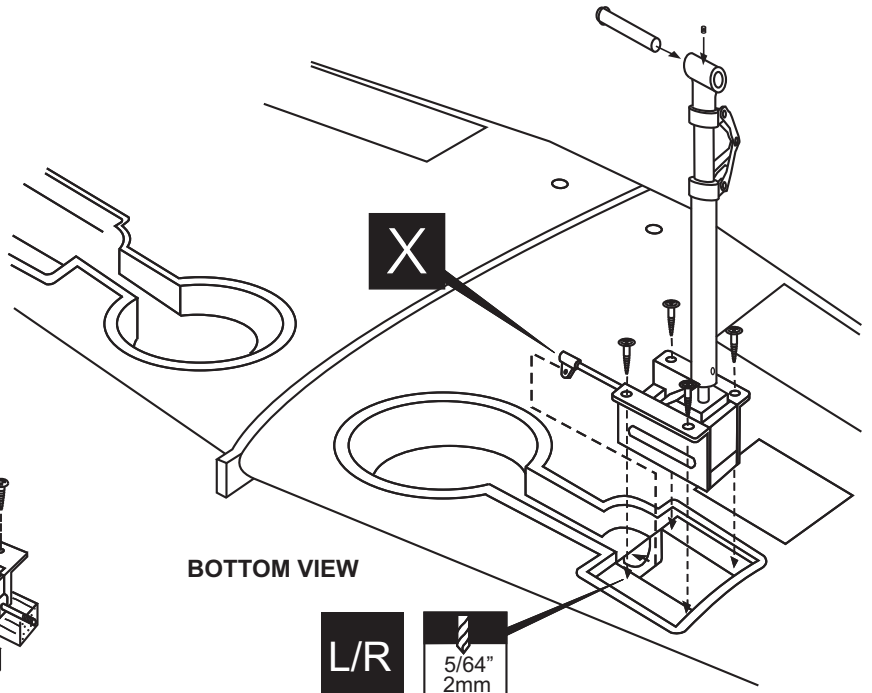


STEP 1

STEP 2

STEP 3

Note: Struts and retract not included.



BOTTOM VIEW

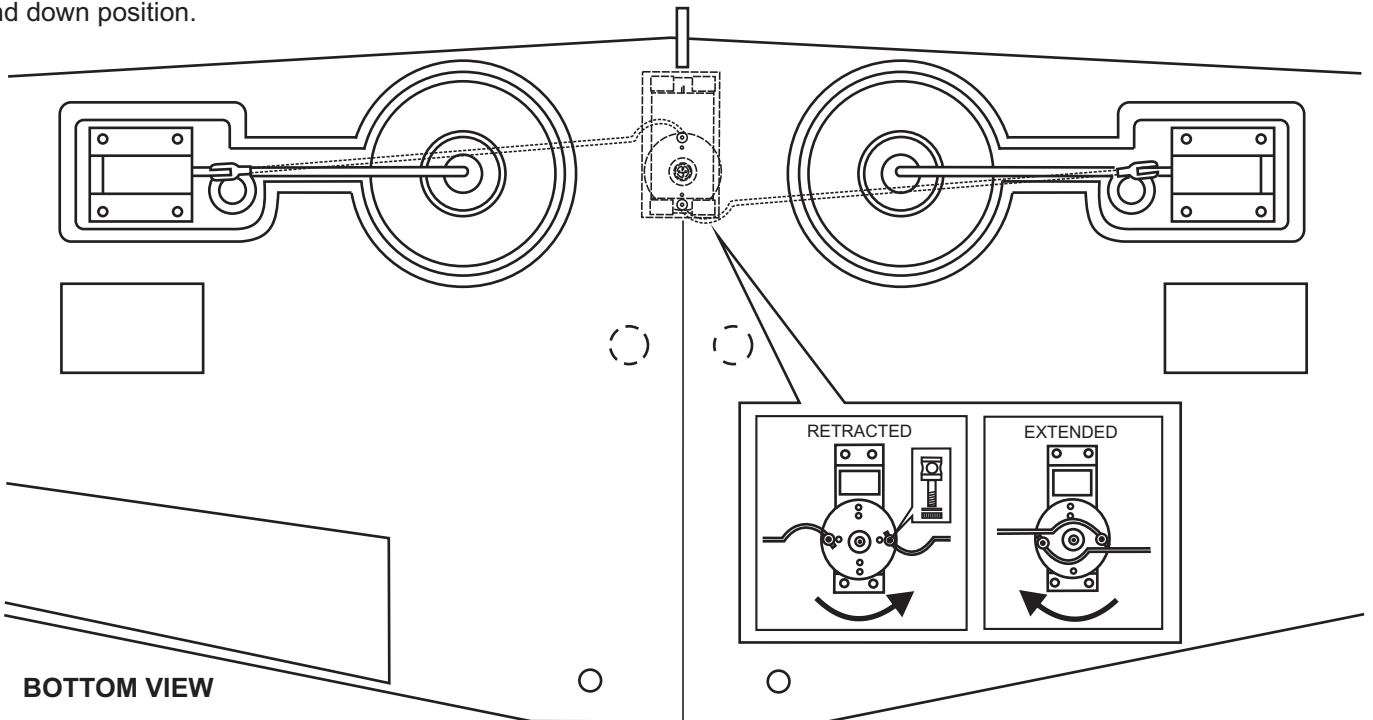
L/R

5/64"
2mm

7- Retract linkage

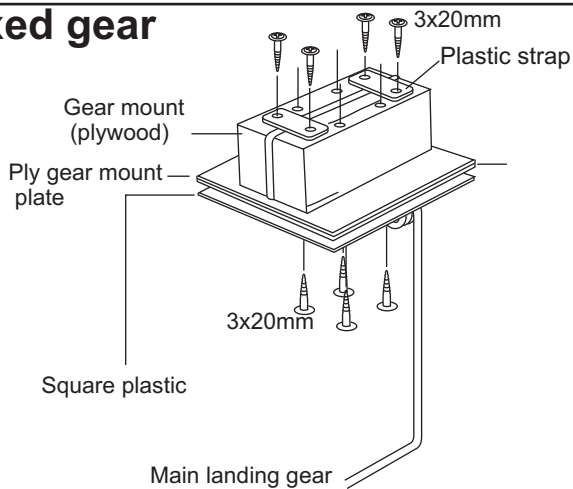
With the retract and retract servo in the retracted position, mark the position where each of the pushrod will attach to the servo arm, a small piece of masking tape works well for this. Cut off the excess length each rod.

Link the servo and retract gear arm with push rod. Be sure to adjust the stroke so that the landing gear locks in both up and down position.



BOTTOM VIEW

8- Fixed gear



Gear mount (plywood)

Ply gear mount plate

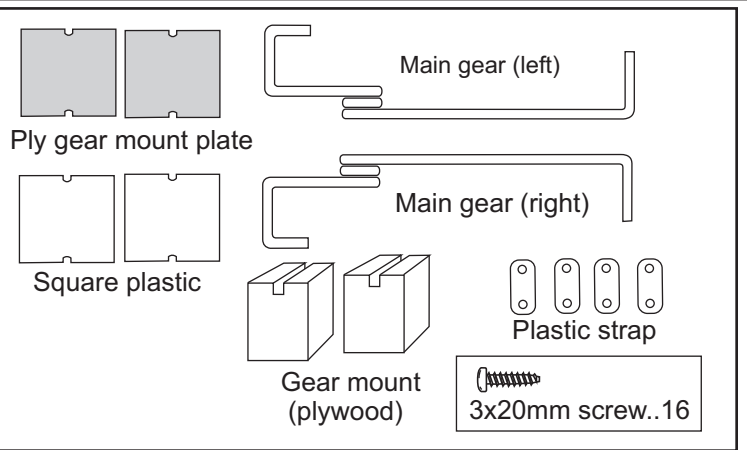
Square plastic

Main landing gear

3x20mm

Plastic strap

3x20mm



Ply gear mount plate

Square plastic

Main gear (left)

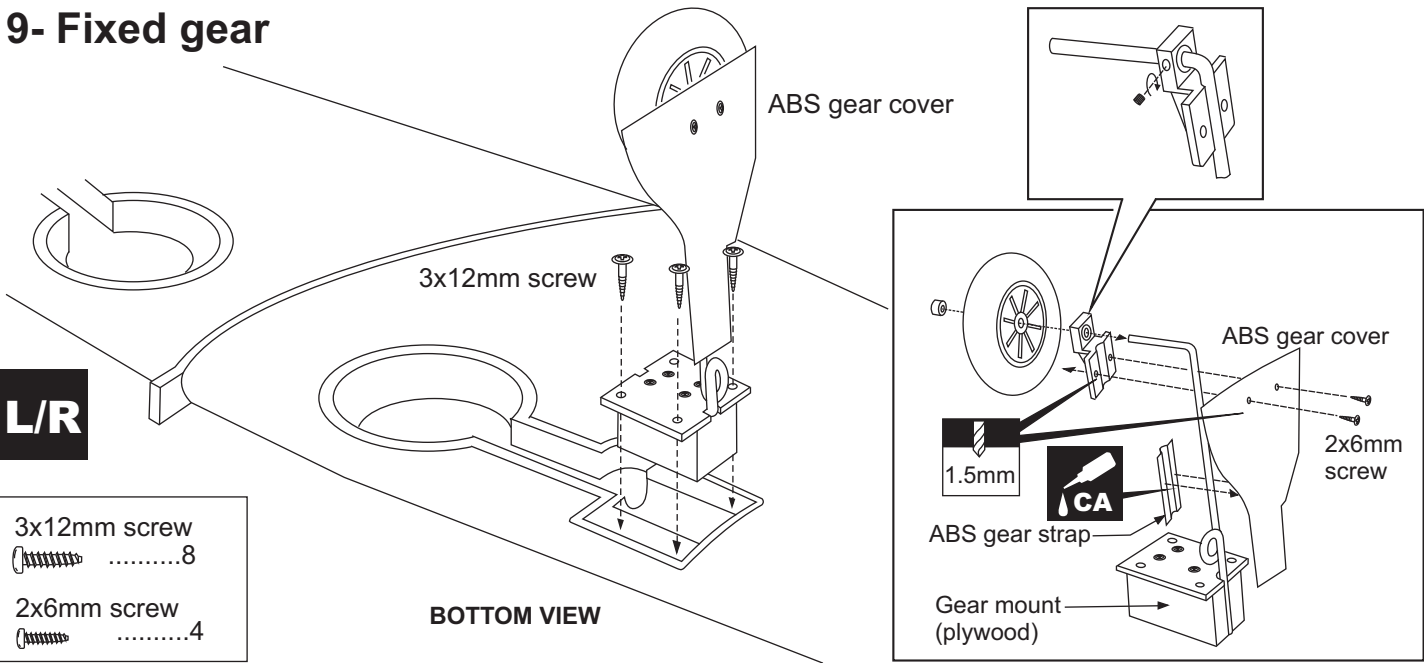
Main gear (right)

Gear mount (plywood)

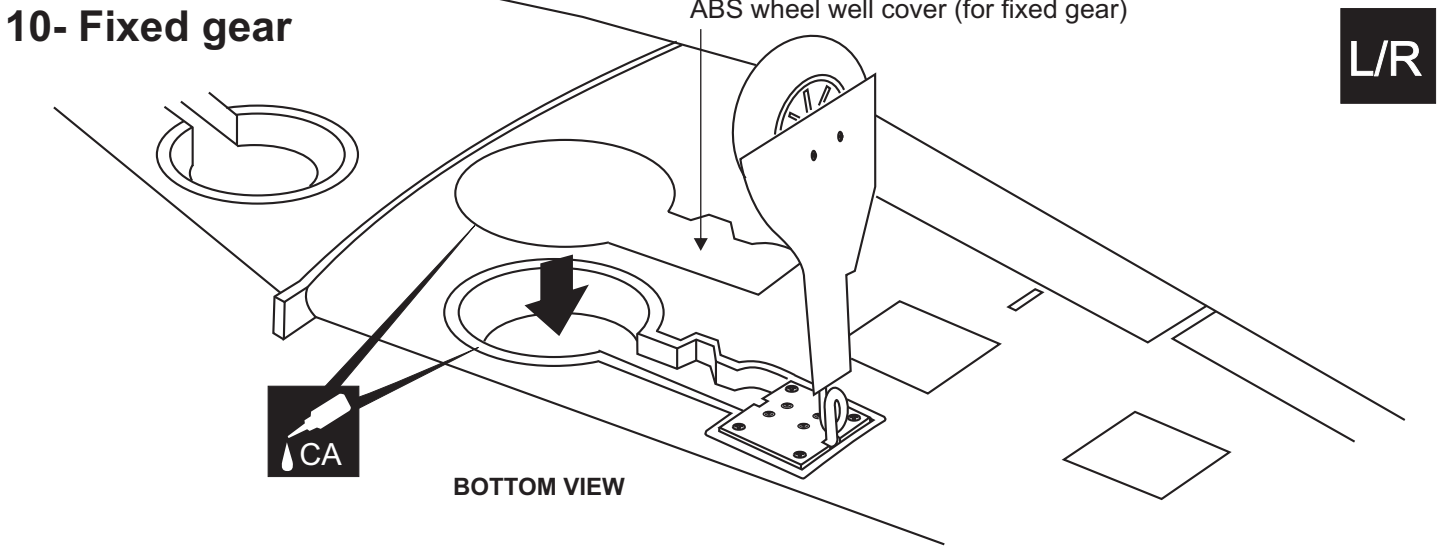
Plastic strap

3x20mm screw..16

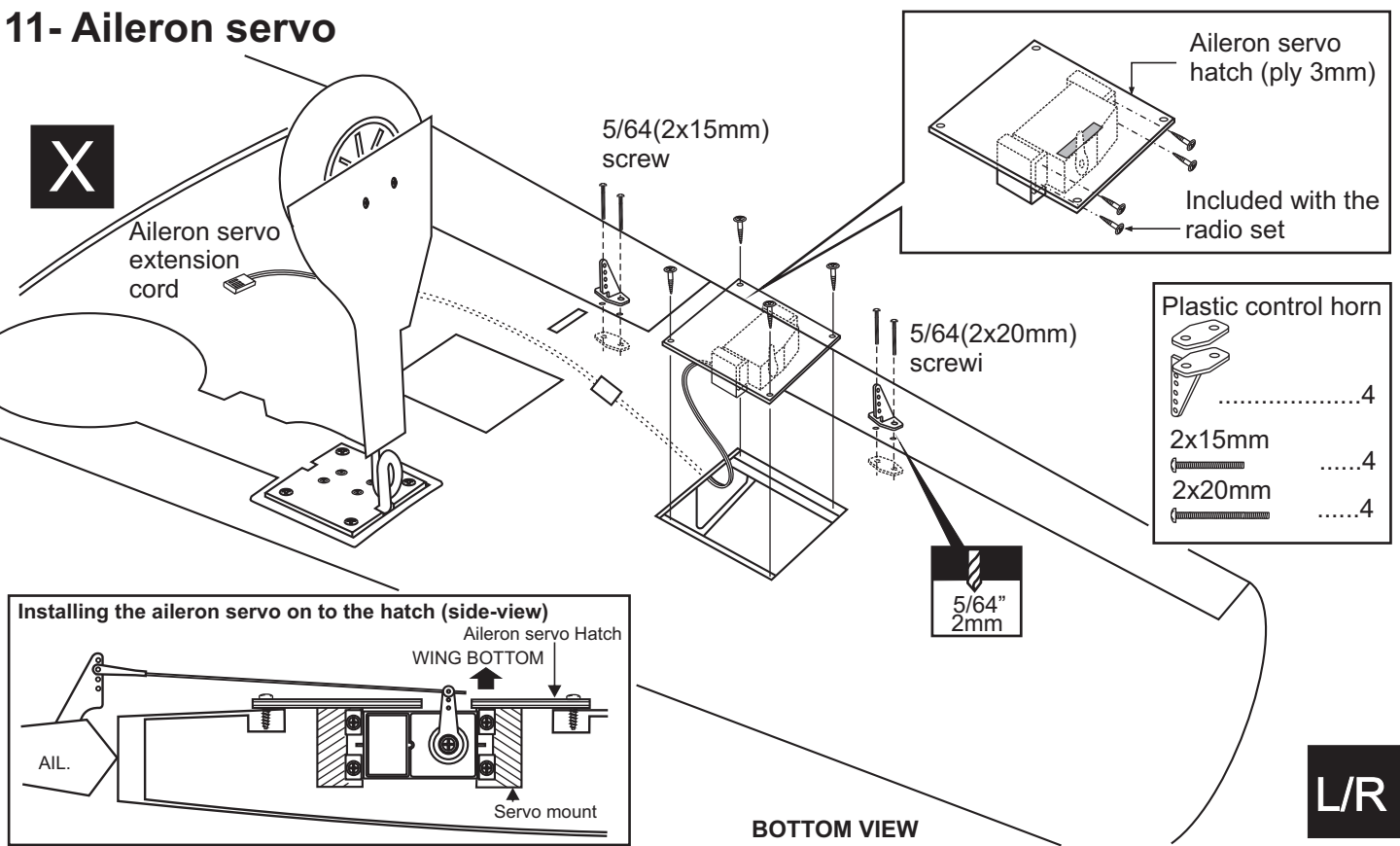
9- Fixed gear



10- Fixed gear

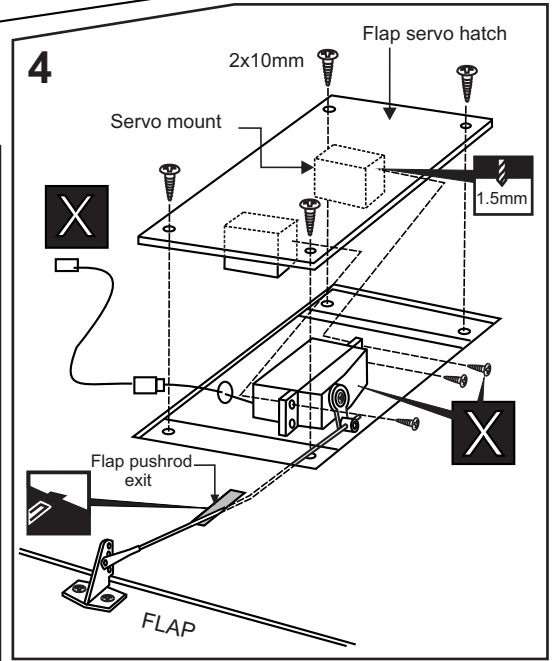
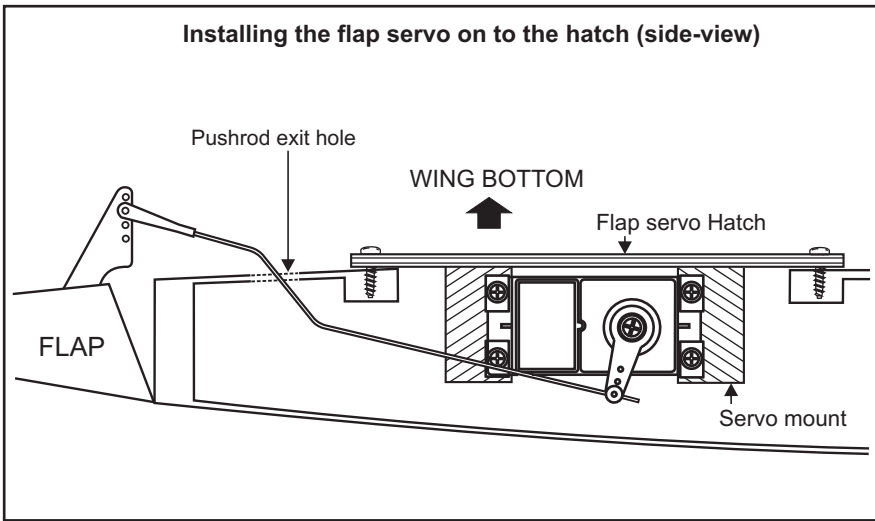
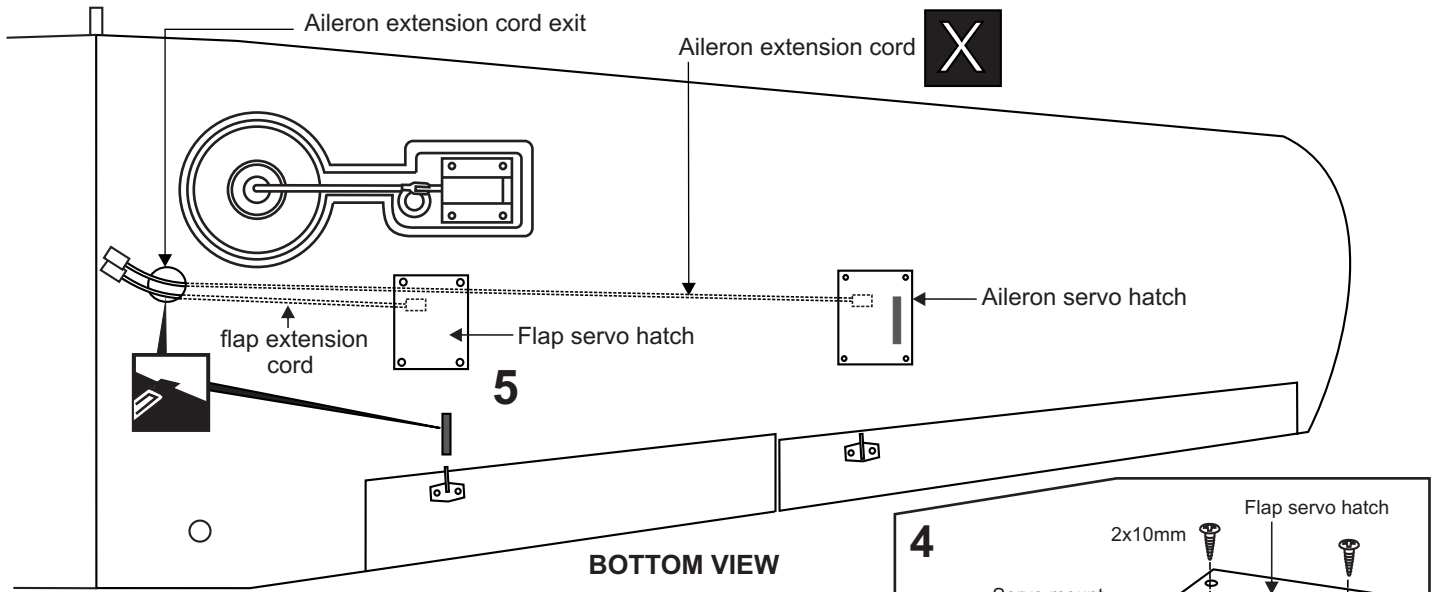


11- Aileron servo



L/R

12- Aileron and flap linkage

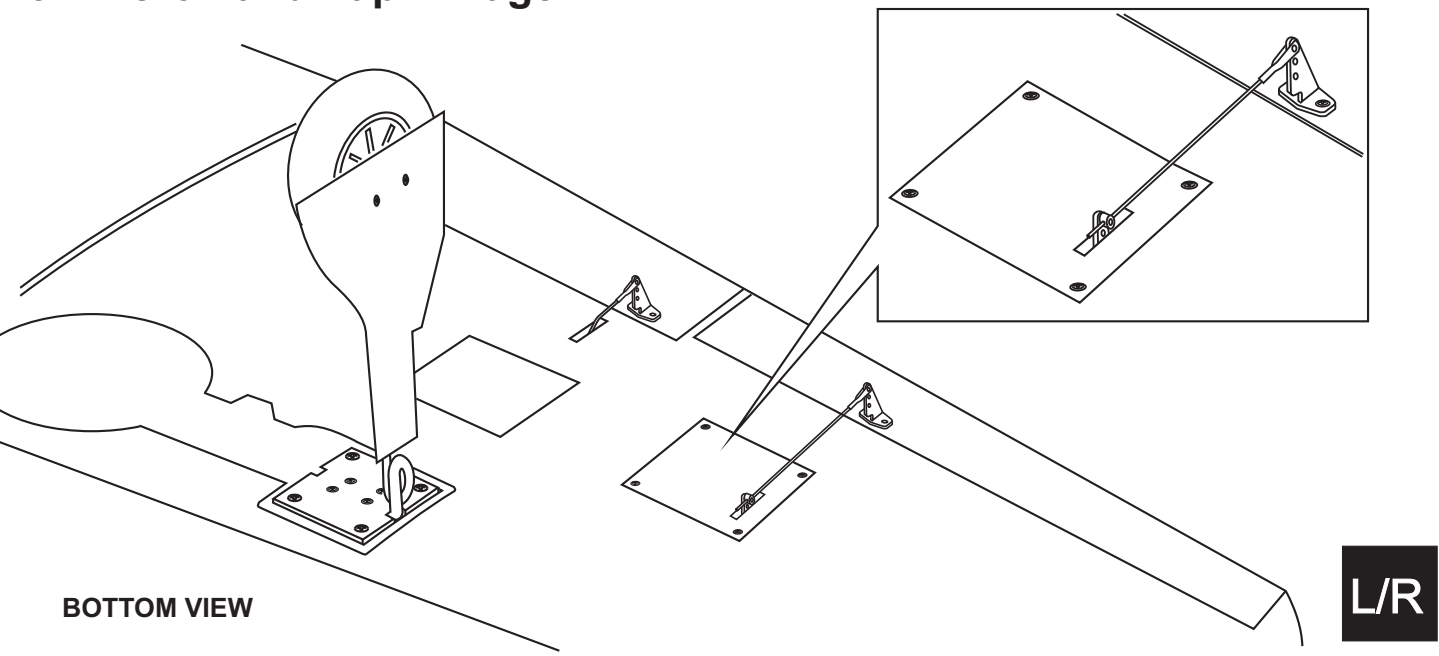


Connector

.....4

L/R

13- Aileron and flap linkage

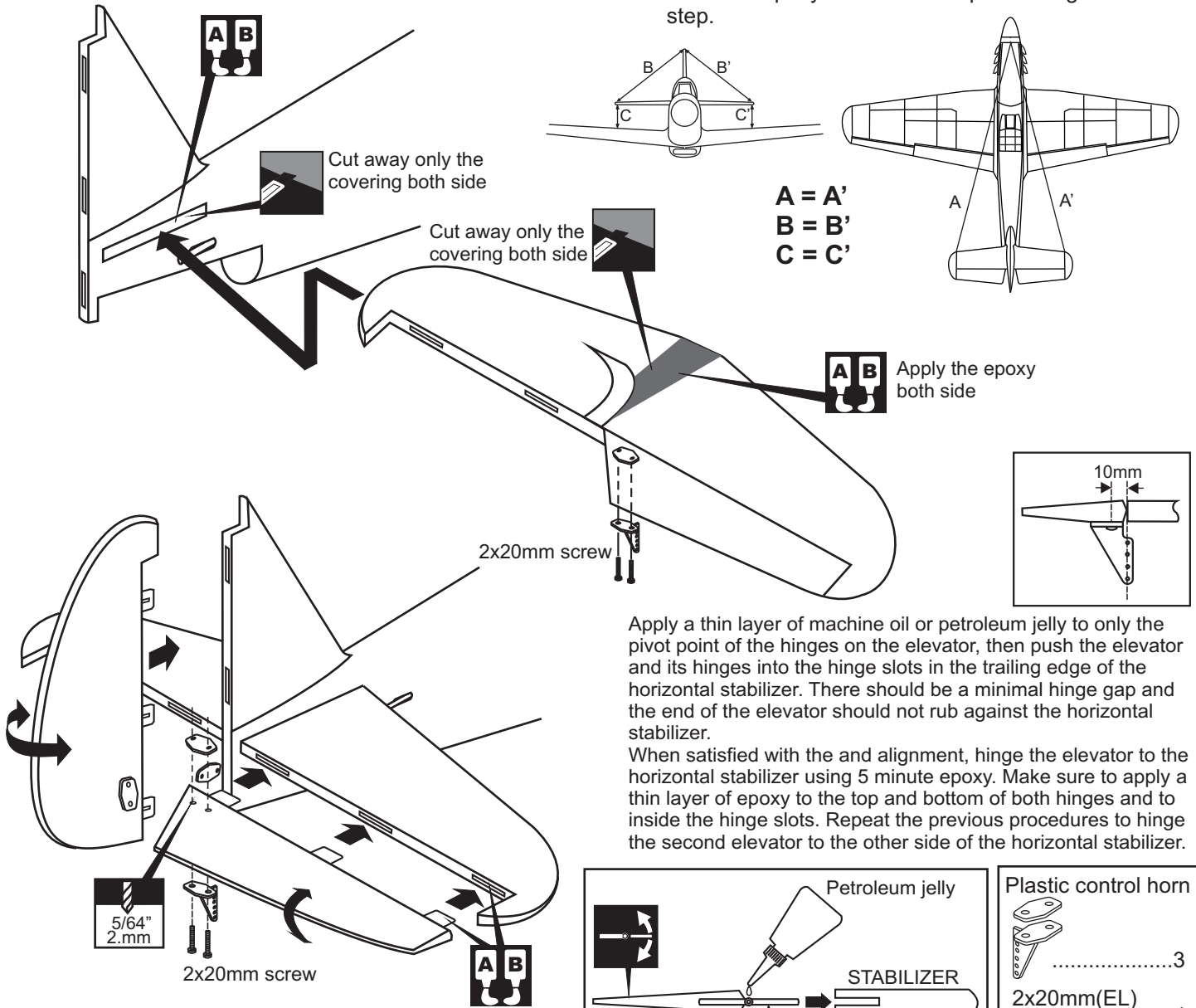


14- Vertical / Horizontal stabilizer

Trial fit each part before gluing . Be certain that there are no gaps. If the parts will join, but with a gaps, sand or trim the parts a little at a time until the parts meet exactly with no gaps.

When joining the stabilizer it is extremely important to use plenty of epoxy (30 minutes) or CA glue (thin type)

Allow the epoxy to cure before proceeding to the next step.

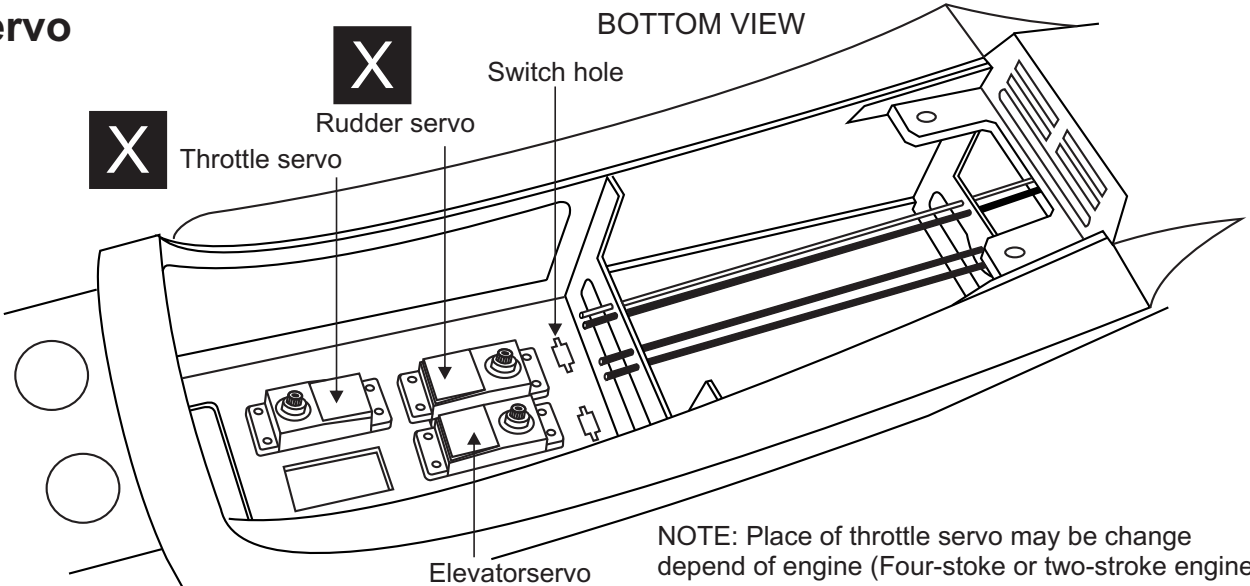


Apply a thin layer of machine oil or petroleum jelly to only the pivot point of the hinges on the elevator, then push the elevator and its hinges into the hinge slots in the trailing edge of the horizontal stabilizer. There should be a minimal hinge gap and the end of the elevator should not rub against the horizontal stabilizer.

When satisfied with the and alignment, hinge the elevator to the horizontal stabilizer using 5 minute epoxy. Make sure to apply a thin layer of epoxy to the top and bottom of both hinges and to inside the hinge slots. Repeat the previous procedures to hinge the second elevator to the other side of the horizontal stabilizer.

Plastic control horn	
3
2x20mm(EL)4
2x30mm(Ru)2



15- Servo

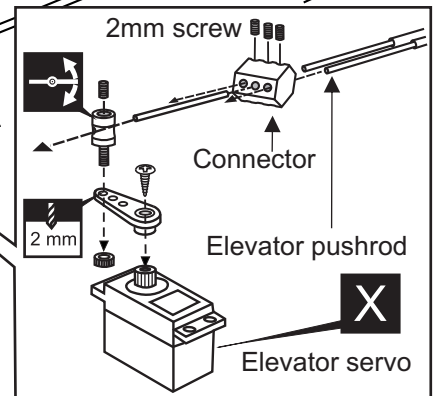
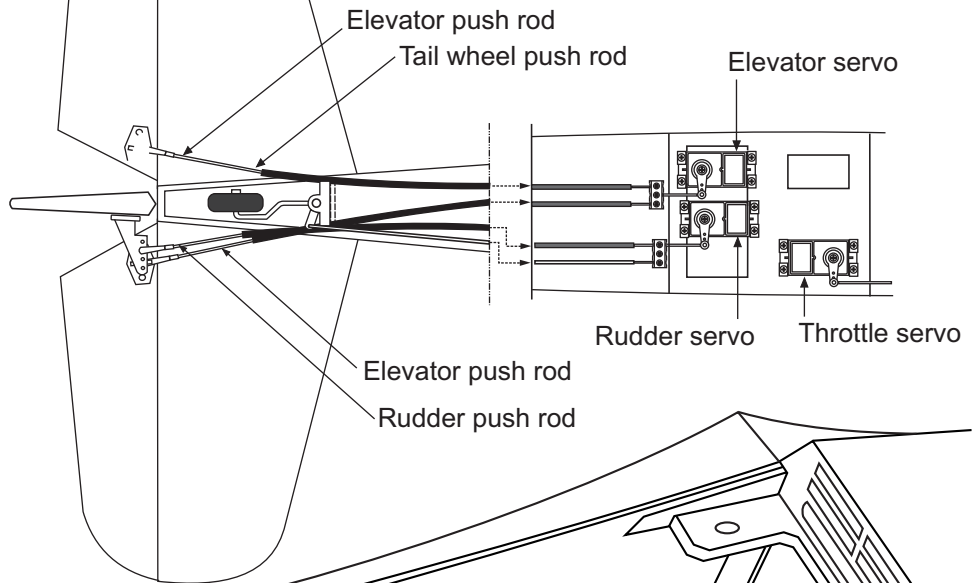
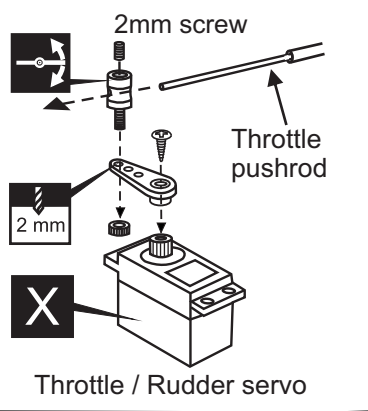


NOTE: Place of throttle servo may be change depend of engine (Four-stroke or two-stroke engine)

16- Linkages

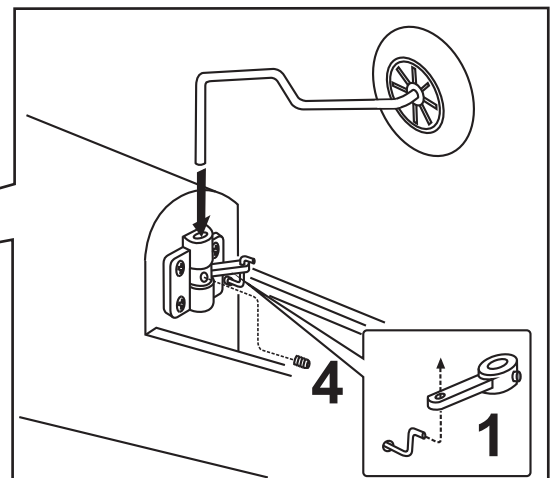
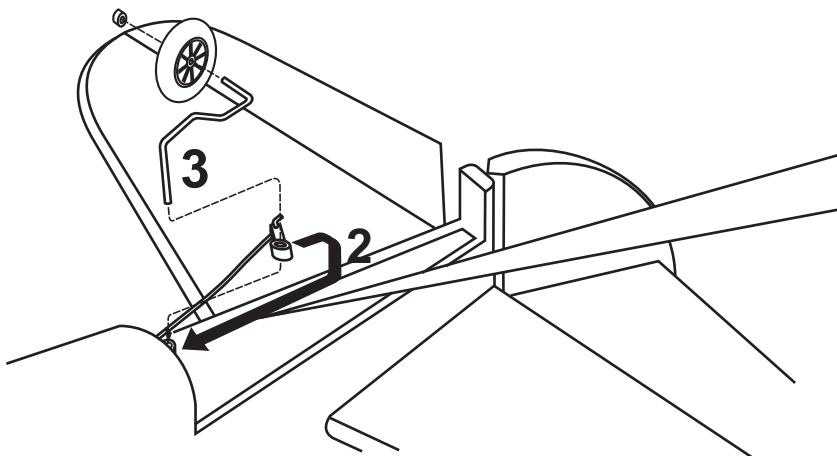
BOTTOM VIEW

- Connector 2
- Connector 3







17- Tail gear

BOTTOM-VIEW



- 1- Insert the tail wheel pushrod into the hole on the tail gear control horn (as show).
- 2- Install the tail wheel control horn in place.
- 3- Instal the tail wheel gear in place.
- 4- Secure the tail wheel control horn in place using a 5/64"(2mm) screw set, Ensure smooth non-binding movement.

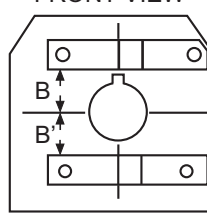
- | | |
|--|--|
| 2x3mm screw 1 | 2mm I.D collar 1 |
| Tail wheel control-horn 1 | Tail landing gear 1 |

18- Engine mount

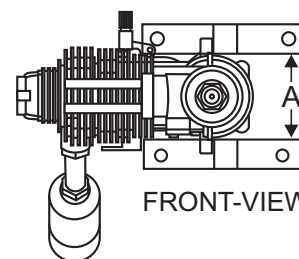
! Align the mark on both mounts with the mark on the fuselage

Note: Engine thrust on balk head is already adjust at factory

FRONT-VIEW



B=B'

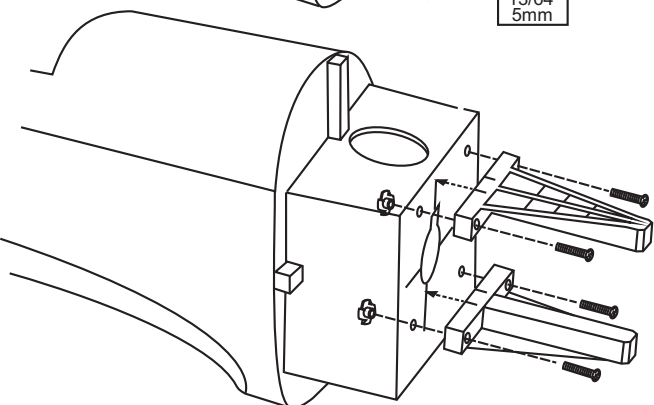
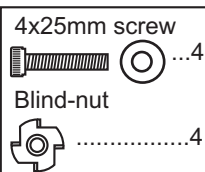


FRONT-VIEW

1-Using a pencil or felt tipped pen, mark the fire wall where the four holes are to be drilled.

2-Remove the engine mount and drill a 3/16"(5mm) hole through the fire-wall at each of the four marks made above.
3-Attach the four blind-nut to the fire-wall as show.

4-Repotion the engine mounts on to the fire-wall and secure them with four 5/32x1"(4x25mm) screws.

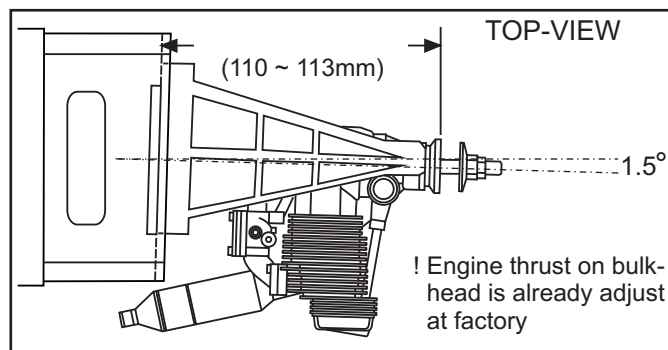


19- Engine installation

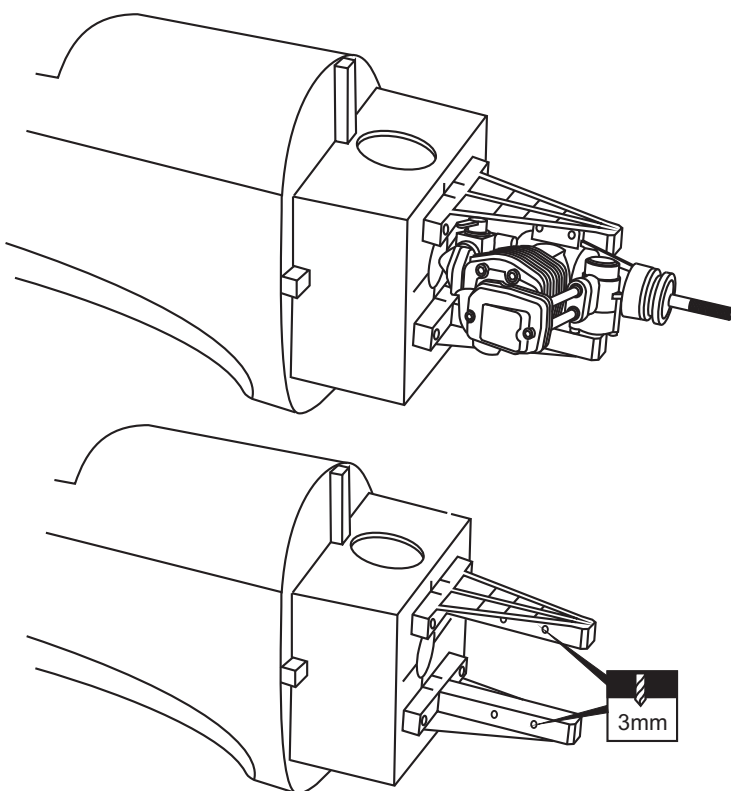
1-Position the engine on the engine mount beams so the distance from the prop hub to the fire wall is 110mm.

2-Mark the engine mounting plate where the four holes are to be drilled.

3-Remove the engine and drill 1/8"(3mm) hole through the beam at each of the four marks made above.

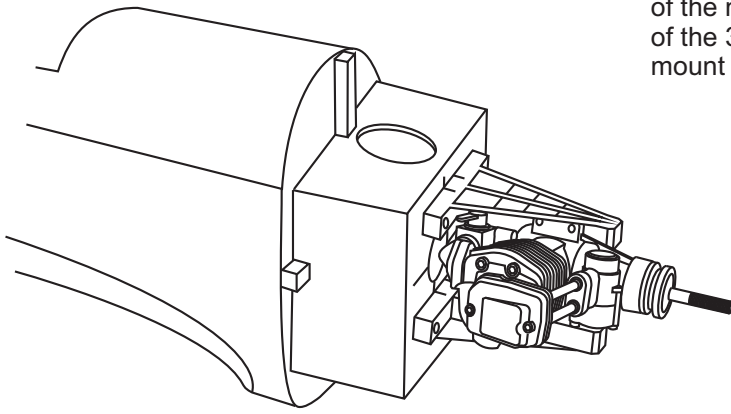


! Engine thrust on bulk-head is already adjust at factory



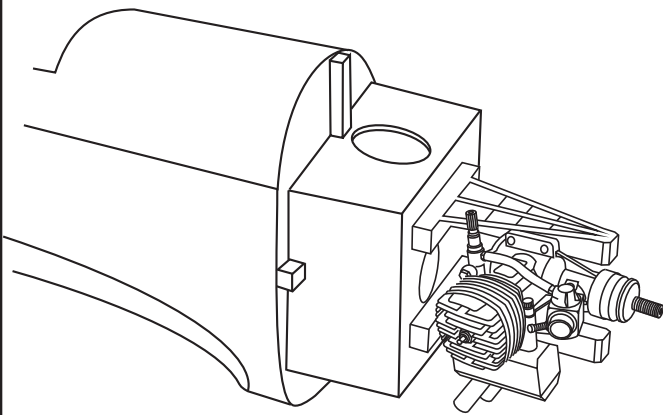
20- Engine installation

-Reposition the engine on the mounting beams , aligning it with the holes drilled. Insert one 3x25mm screw through each of the mounting holes. Apply silicon (Blue-Locktile 242) to each of the 3x25mm screw and firmly secure the engine to the engine mount using four 3mm nuts.

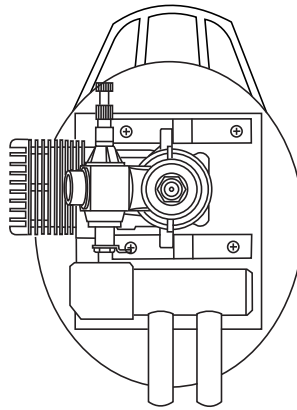


21- Engine installation

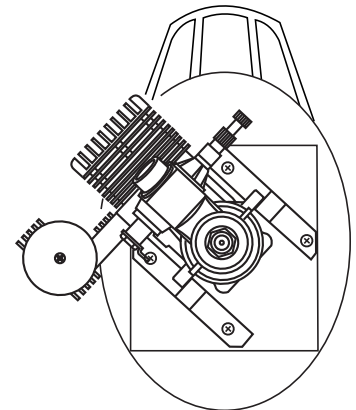
(IN CASE OF 2T ENGINE)



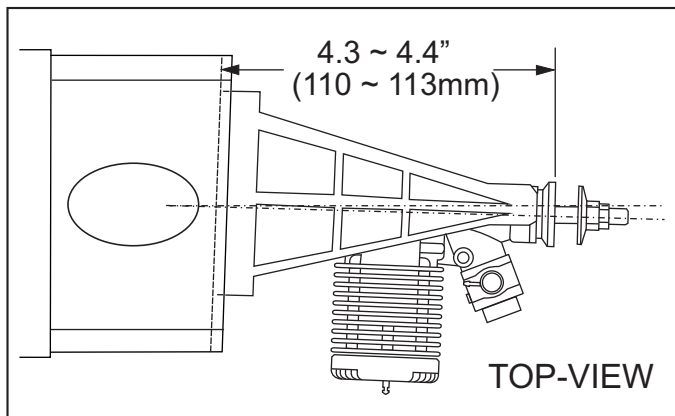
With hang silencer (Pitts-style)



With hang silencer (Pitts-style)

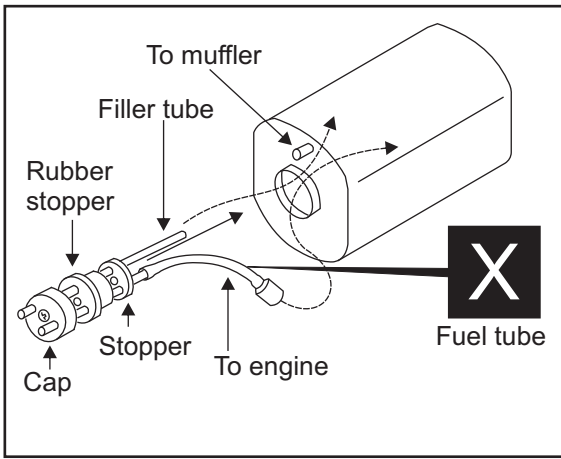


With side silencer

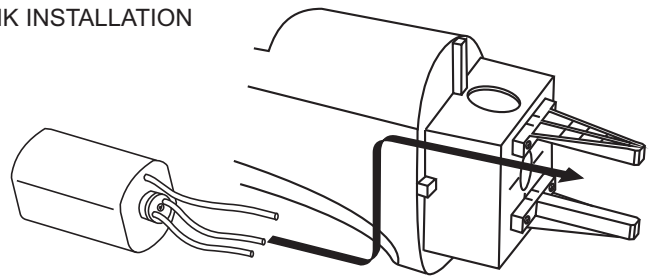


22- Fuel tank

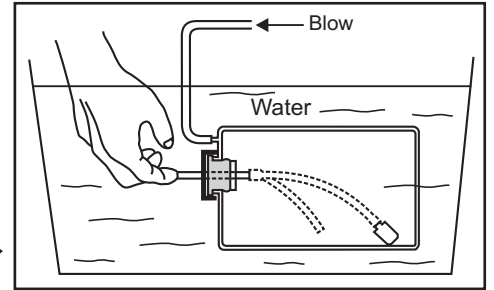
FUEL TANK INSTALLATION



Checking for leaks - block the vents and blow into the feed. if in doubt submersing the tank in a blow of water will show up any problems.

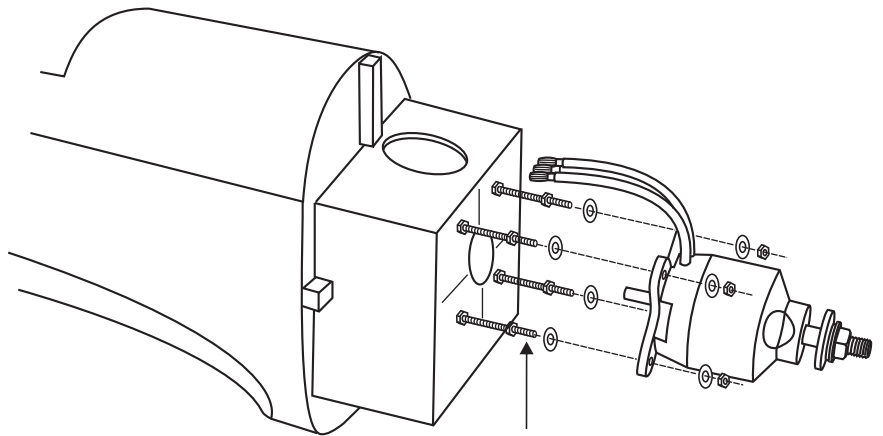
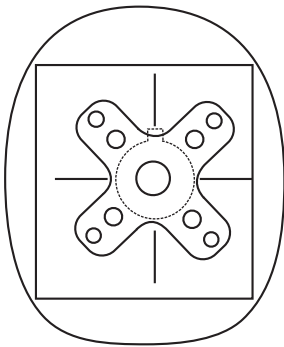


After confirming the direction . Insert this assembly, clunk end first, into the fuel tank and tighten and screw the fuel tank cap on firmly.

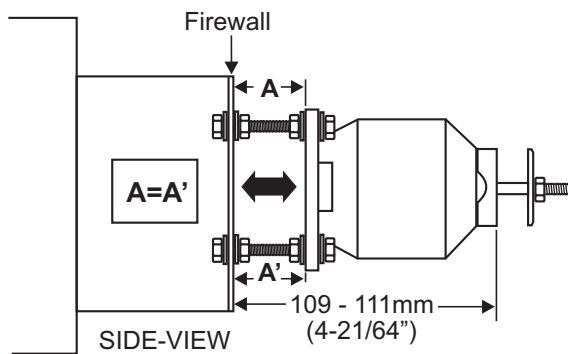


23- Electric motor

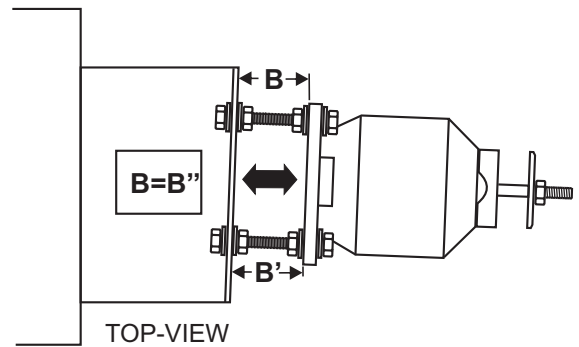
FRONT-VIEW



5x70mm bolt.
(Bolts, nuts and washer are not supplied)



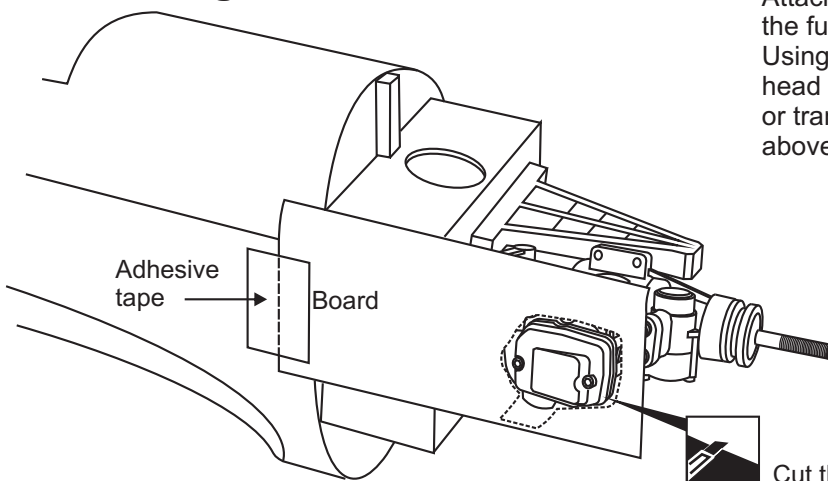
SIDE-VIEW



TOP-VIEW

24- Cowling

Attach the board or transparent plastic on the side of the fuselage with the adhesive tape as show. Using a pencil or felt tipped pen trace around the engine head where it meet the cowl. Cut the opening the board or transparent plastic for the engine head as marked above.



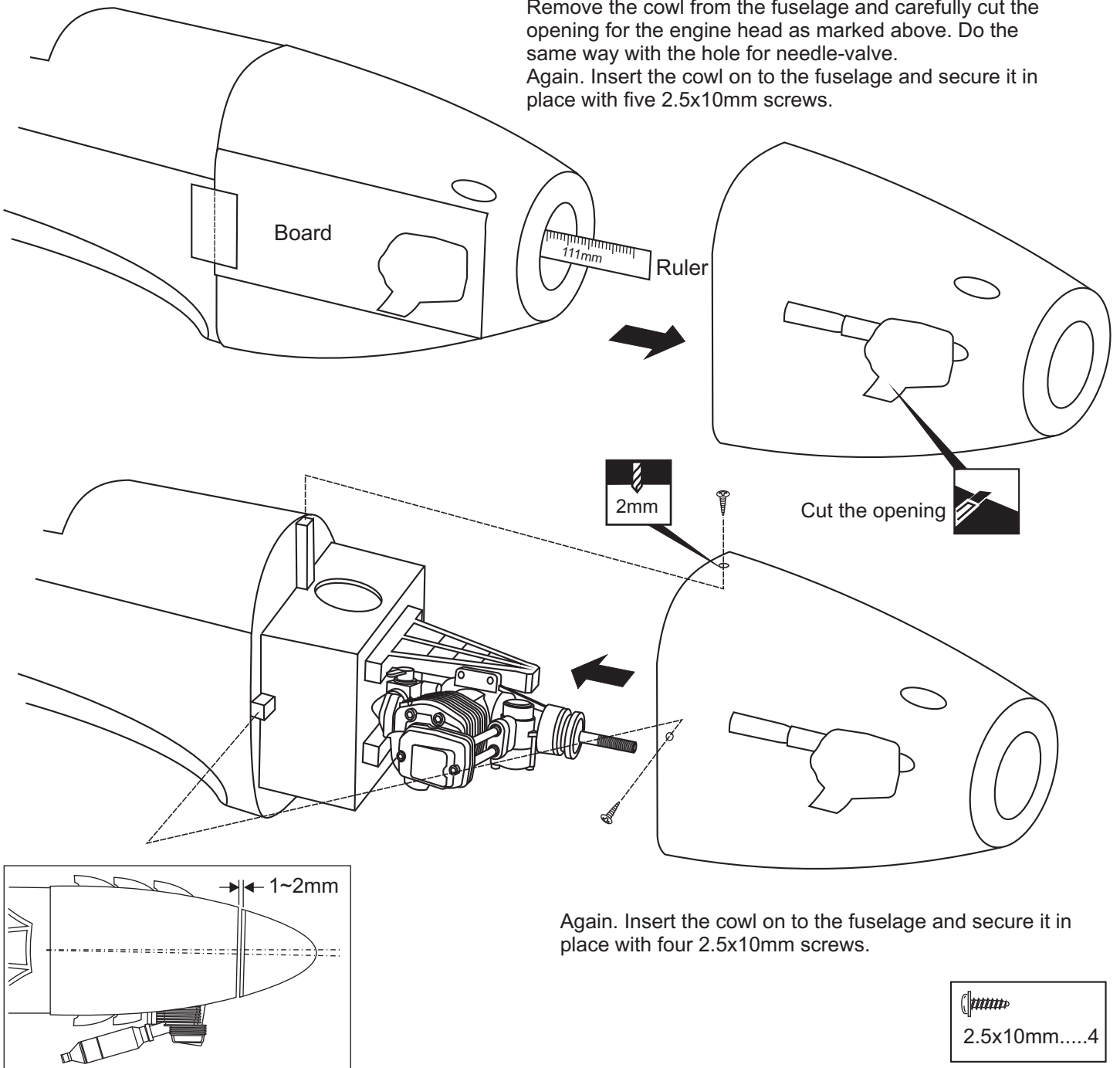
Cut the opening

25- Cowling

Remove the engine and insert the cowl on to the fuselage so the distance from the fire wall to the front of the cowl is 109 to 111mm (4-21/64")

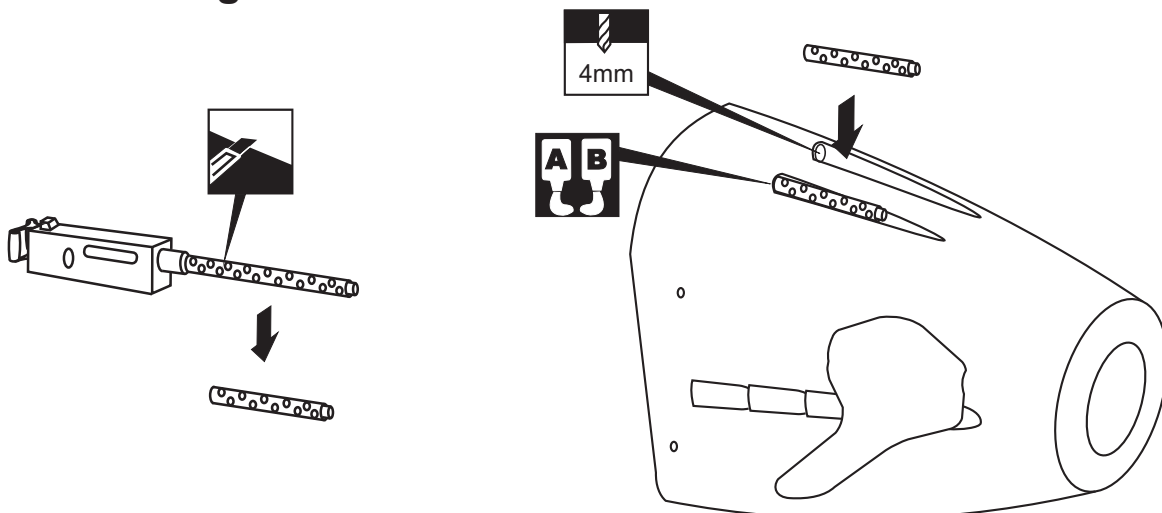
Remove the cowl from the fuselage and carefully cut the opening for the engine head as marked above. Do the same way with the hole for needle-valve.

Again. Insert the cowl on to the fuselage and secure it in place with five 2.5x10mm screws.



Again. Insert the cowl on to the fuselage and secure it in place with four 2.5x10mm screws.

26- Machine guns



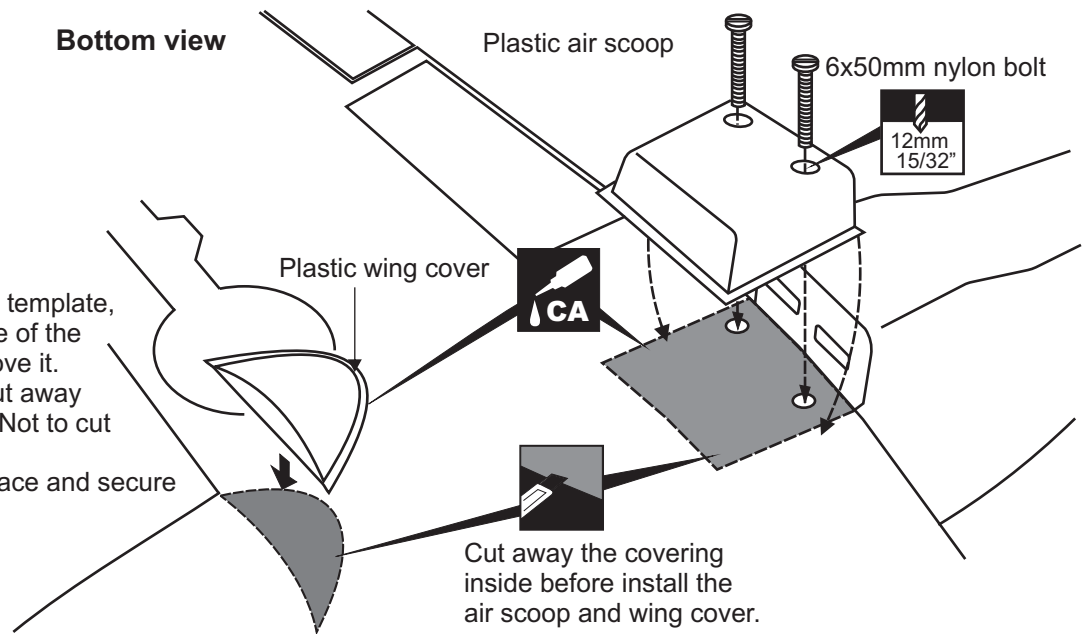
27- Air scoop

6X50mm bolt

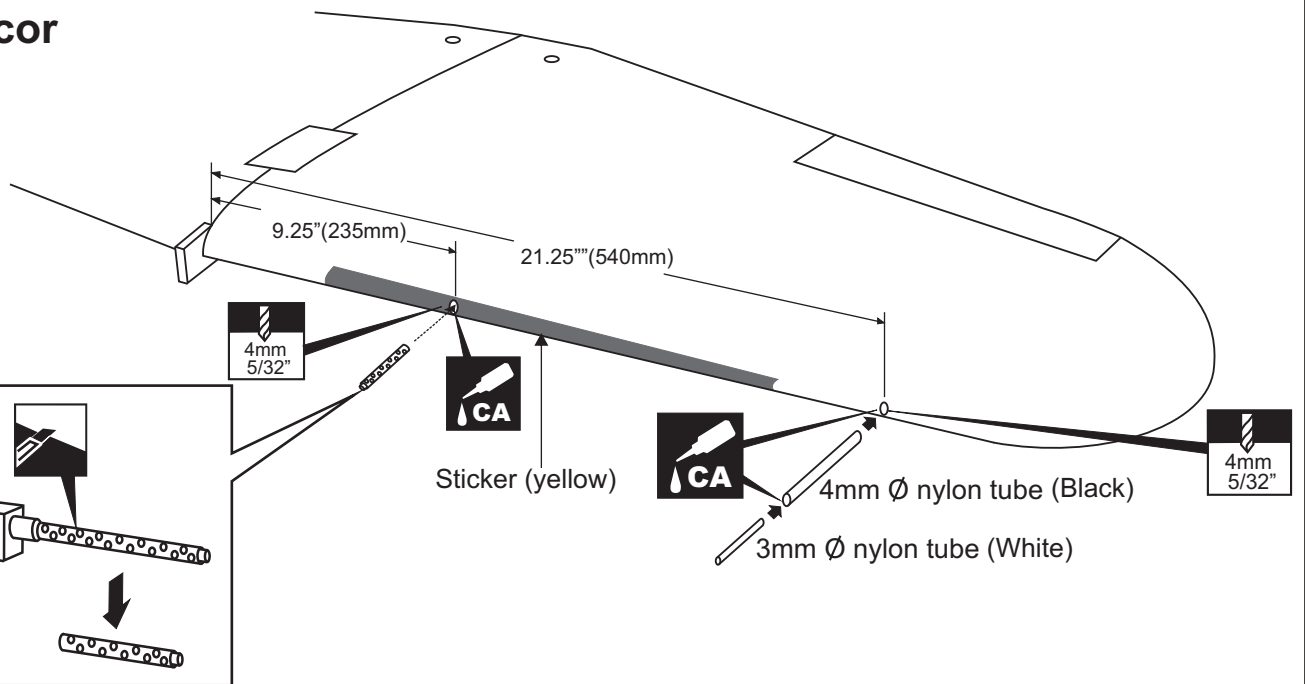
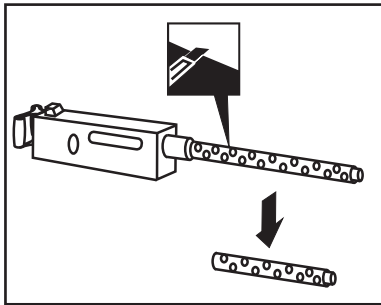


Using the ABS air scoop as a template, trace around the outside edge of the ABS air-scoop and then remove it. Using a sharp hobby knife, cut away the covering inside the lines. Not to cut into the wood. Apply the ABS air scoop in place and secure them with CA glue.

Bottom view



28- Decor

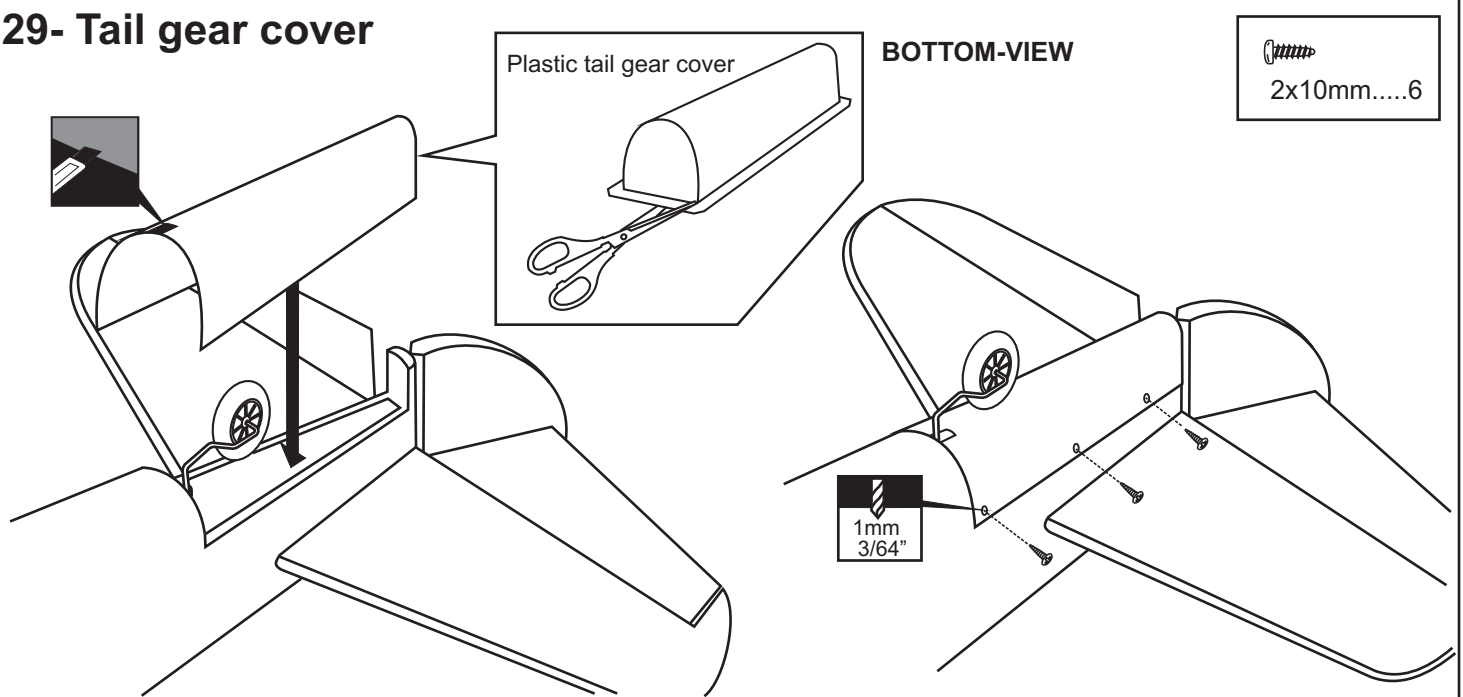


29- Tail gear cover

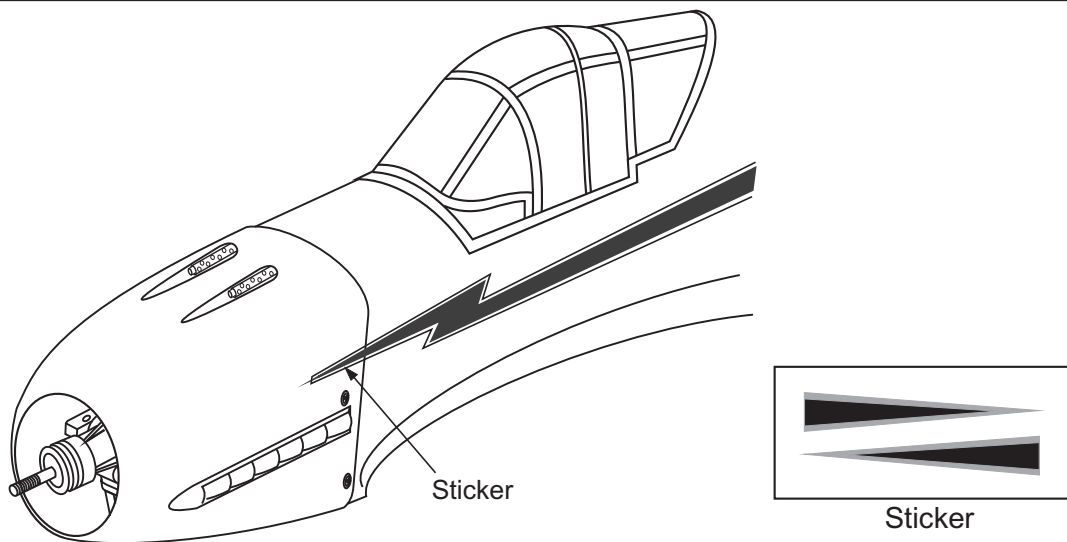
Plastic tail gear cover

BOTTOM-VIEW

2x10mm.....6

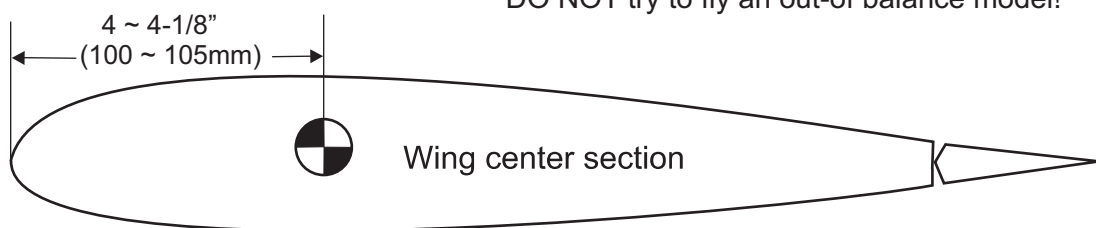


30- Sticker

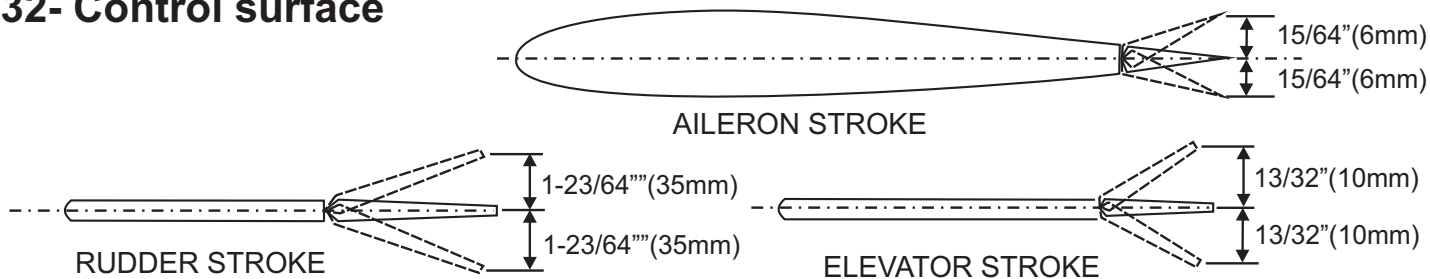


31- Balance

Note: Adjust the location of the battery pack to achieve this C.G location.
DO NOT try to fly an out-of balance model!



32- Control surface



Adjust the travel of the control surfaces to achieve the values stated in the diagrams.
These value will be suitable for average flight requirements. Adjust the values to suit your particular needs.

IMPORTANT: Please do not clean your model with pure alcohol, only use liquid soap with water or use glass cleaner to clean on surface of your model to keep the colour not fade.

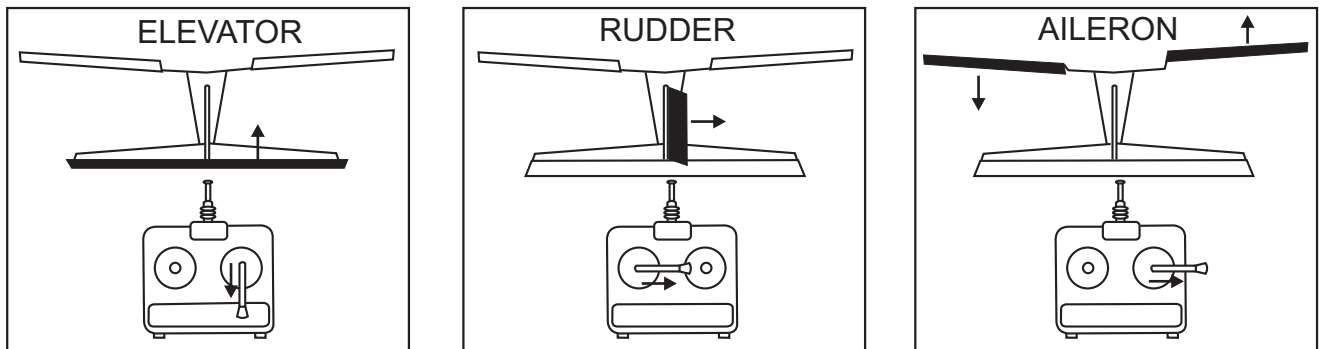
PRE-FLIGHT CHECKING AND ADJUSTING YOUR MODEL

It is almost impossible to fly your model without checking and adjusting your model. You can stop easily if your car is not running strait. But you cannot stop your airplane after take off. Your plane could go right or left. Or even go up or down. Without understanding these instruction before flying the Ki-61, you might otherwise have difficulty in flying, or crash the plane. If you are new to Radio Control flying, you should not fly the Ki-61 but have an expert fly it. Even if you are experienced pilot, read this before your first flight.

PRE-FLIGHT CHECK

1-Balance: There is very important relationship between the CG position and stall characteristic of an airplane or knife-edge performance. An aft CG will make the plane snap roll instead of making a clean stall. And your plane goes to down side at knife edge flying instead of strait. To measure the CG position, measure 4 ~ 4-1/8" (100 ~ 105mm) from leading edge (a + / - 13/64" = 5mm is fine).

2-Check the operation and direction of the elevator, rudder, ailerons and throttle:



CAUTIONS FOR SAFETY

Ensure the airfield is spacious enough.

Ensure the spinner and propeller are securely attached. Immediately disuse defective propeller as well as deformed spinners.

Adjust the engine always from behind, but never from infront or the sides as rotating propeller may badly injure you.

Do not allow watching people to get too close to a rotating propeller.

Fully extend the transmitter and receiver antenna.

Always take off and landing your airplane into the wind.

Switch off the transmitter and receiver after landing.

Do not fly your airplane above people standing around.

BEFORE FLYING CHECK EVERYTHING

Before each flight, inspect the airplane for any loose parts. Check the hinges, make sure the pushrods are still firmly attached, and check the engine mounting bolts. In general, check everything on the plane that might possibly come loose.

CHECK THE FREQUENCE BEFORE FLYING

DO NOT FLY NEAR A POWER LINE

The power lines cause radio interference, so avoid flying near them.

WARNING

Do not put in a large-than recommended engine. A bigger engine does not necessarily mean better performance.