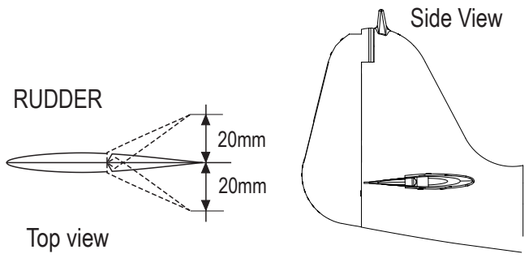
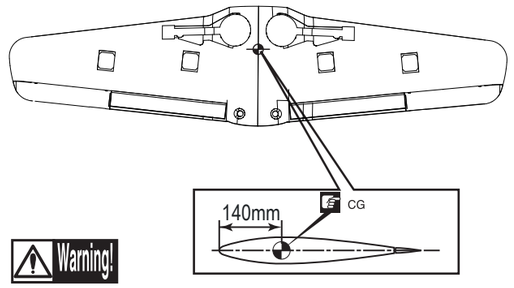
72 Adjustment.

► Adjust the travel of each control surface to the values in the diagrams.
These values fit general flight capabilities.
Readjust according to your needs and flight level.



73 The centre of the Gravity.

► Never fly before checking the CG's required position.
► In order to obtain the CG specified, reposition the receiver and battery.

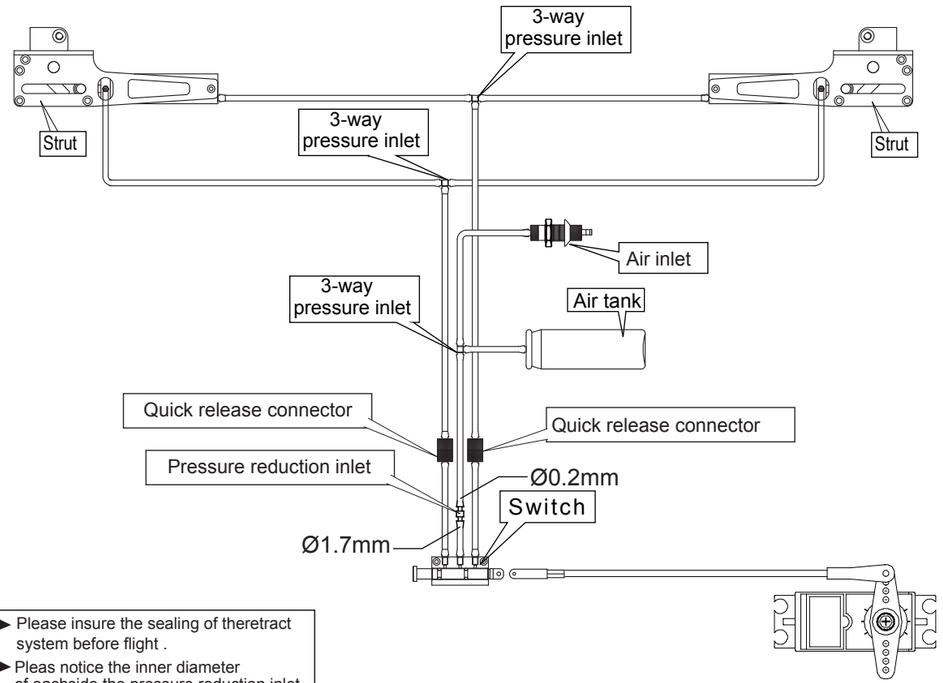


Warning!

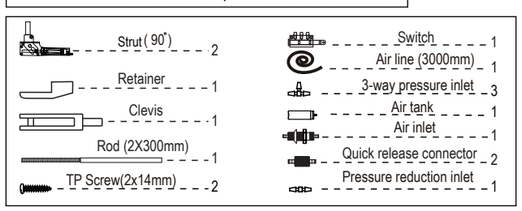
► ***NEVER fly the model without well balancing.***

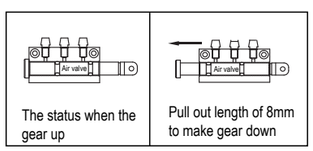
Two wheel retract system

Warning! Make sure to assemble retracts as instructed below.



Warning! ► Please insure the sealing of theretract system before flight .
► Pleas notice the inner diameter of eachside the pressure reduction inlet.





A B Apply epoxy glue.
C.A Apply instant glue (CA glue, super glue).
L/R Assemble left and right sides the same way.
Ensure smooth non-binding movement while assembling.
Pay close attention here!
Cut off shaded portion.
Do not overlook this symbol! Warning!

Before start , please carefully read the explanations!

Focke-Wulf Fw 190

Specification:

Length	:1449 mm(57")
Wing Span	:1800 mm(70.9")
Wing Area	:56.1 sq. dm
	6.04 sq. ft
Wing Loading	:103.4 g/sq. dm
	33.7 oz/sq. ft
Flying Weight	:5.8 kg(12.8 lbs)
Radio	:6ch&8 servos
Engine	:108 2-cycle
	120 4-cycle

INSTRUCTION MANUAL

SAFETY PRECAUTIONS

This R/C airplane is not a toy!

(The people under 18 years old is forbidden from flying this model)

First-time builders should seek advice from people having building experience.If misused or abused,it can cause serious bodily injury and damage to property.
Fly only in open areas and preferably at a dedicated R/C flying site.
We suggest having a qualified instructor carefully inspect your airplane before its first flight.Please carefully read and follow all instructions included with this airplane,your radio control system and any other components purchased separately.

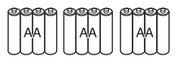
REQUIRED FOR OPERATION (Purchase separately!)

CAUTION: For details concerning the equipment listed below (size, maker, etc.), check with your hobby shop.

1 A minimum 6 channel radio for airplanes (with 9 servos), and dry batteries.

CAUTION: Only use a minimum 6 channel radio for airplanes! (No other radio may be used!)
6 channel radio for aiplane is highly recommended for this model.

12 AA-size Batteries

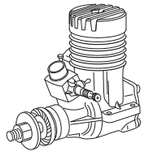


A minimum 6 channel transmitter for airplanes.

For handling the radio properly, refer to its instruction manual.

2 Engine and Muffler
Model Airplane Engine: 4-cycle .120

Muffler

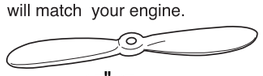


Glow Plug

3 Propeller Spinner

3.5 in Spinner

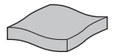
Purchase a propeller that will match your engine.



15"X7

4

Sponge Sheet



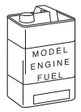
Silicone Tube

Fuel Filter

5 Required for engine starting:

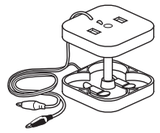
WARNING: Normal gasoline cannot be used with glow engines.

Glow engine fuel only.



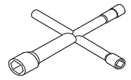
Fuel Pump

Booster Cord



4 D-size Batteries

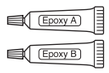
Plug Wrench



6 Glue

Instant Glue

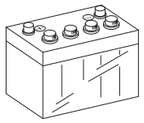
Epoxy Glue



7 Other equipment for enhancing airplane operation & performance

Engine Starter

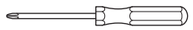
12V Battery (for starter)



TOOLS REQUIRED (Purchase separately!)

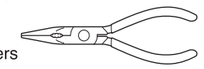
Sharp Hobby Knife

Phillips Screw Driver (l, m, s)

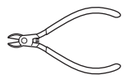


Awl

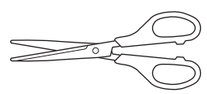
Needle Nose Pliers



Wire Cutters



Scissors



BEFORE YOU BEGIN

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

2 Check all parts. If you find any defective or missing parts, contact your local dealer.

3 Symbols used throughout this instruction manual, comprise:

Do not overlook this Symbol!

Warning!

Appy epoxy glue.

Apply instant glue (CA glue, super glue).

Drill holes with the specified diameter (2mm).

Cut off shade portion.

Cut off excess.

Ensure smooth non-binding movement while assembling.

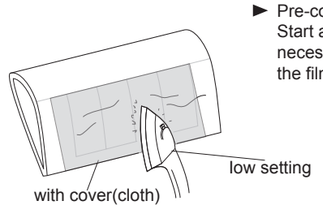
Pay close attention here!

Assemble left and right sides the same way.

Must be purchased separately!

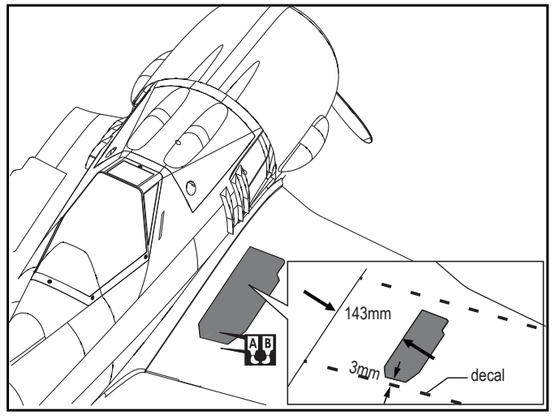
Warning
Remove the covering with proper pressure to cut through only the covering itself.Otherwise, cutting down into the balsa structure may weaken the model part and cause accident.

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

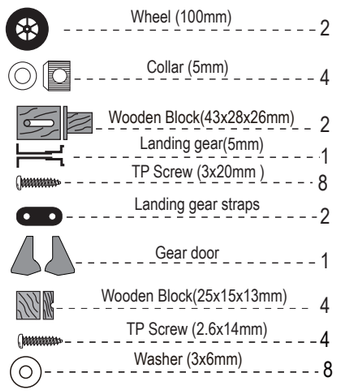


► Pre-cover the covering with clean cloth! Start at low setting. Increase the setting if necessary.If it is too high,you may damage the film.

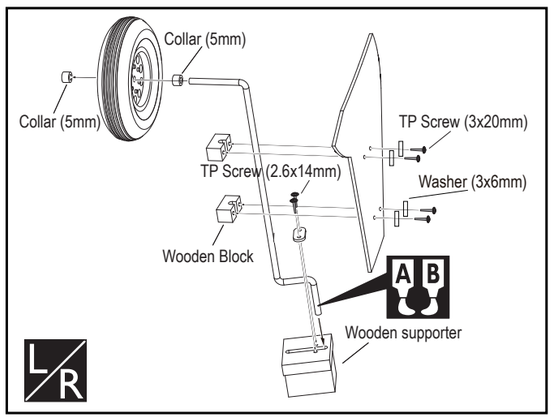
67 Epoxy the PVC part to the appropriate position in wing carefully as below.



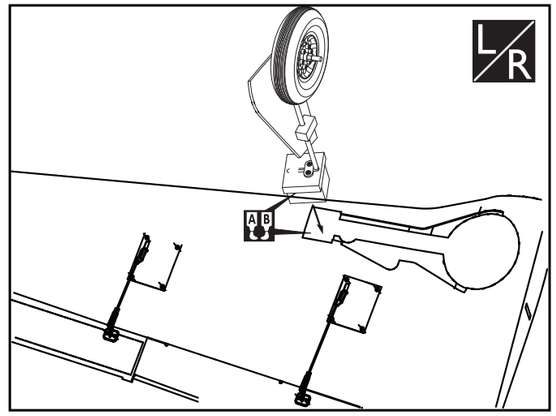
Accessory list for the coming installation steps.



68 Assemble the wheel and gear door to landing gear.

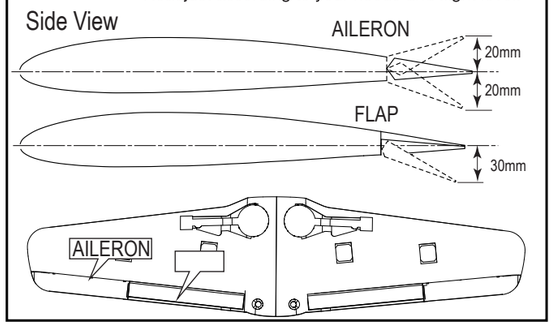


69 Epoxy the landing gear to the wing steadily.



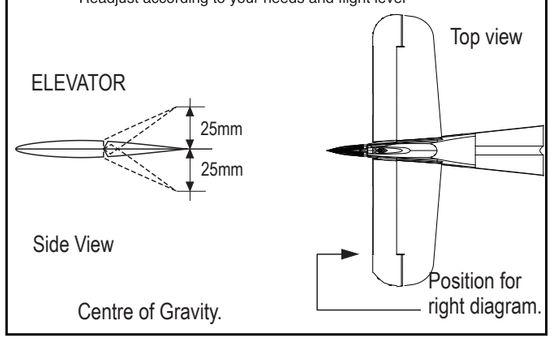
70 Adjustment.

► Adjust the travel of each control surface to the values in the diagrams.
These values fit general flight capabilities.
Readjust according to your needs and flight level.



71 Adjustment.

► Adjust the travel of each control surface to the values in the diagrams.
These values fit general flight capabilities.
Readjust according to your needs and flight level



Apply epoxy glue.

Apply instant glue (CA glue, super glue).

Assemble left and right sides the same way.

Ensure smooth non-binding movement while assembling.

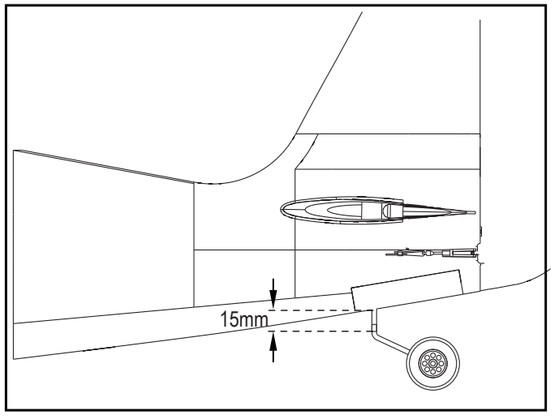
Pay close attention here!

Cut off shaded portion.

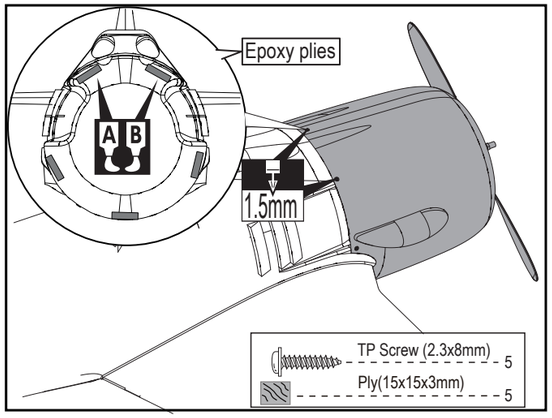
Do not overlook this symbol!

Warning!

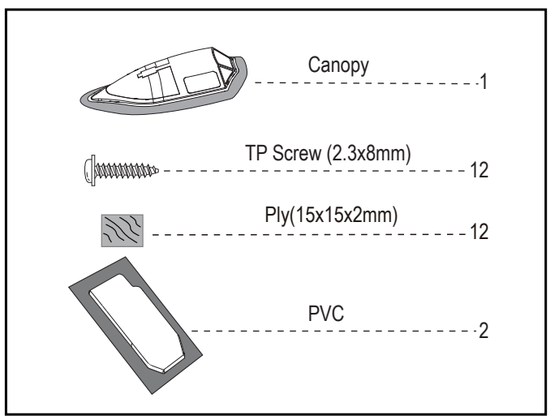
62 Be care to notice the distance between the wheel and fuselage.



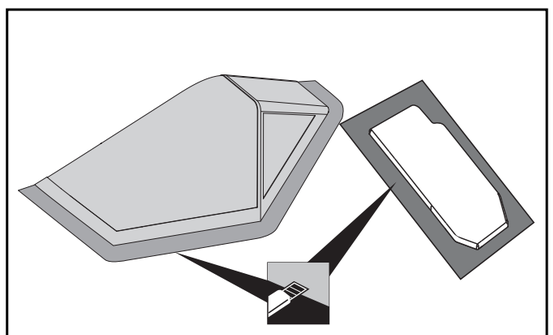
64 Epoxy plies to relevant position inside the fuselage as below for assembling the cowling.



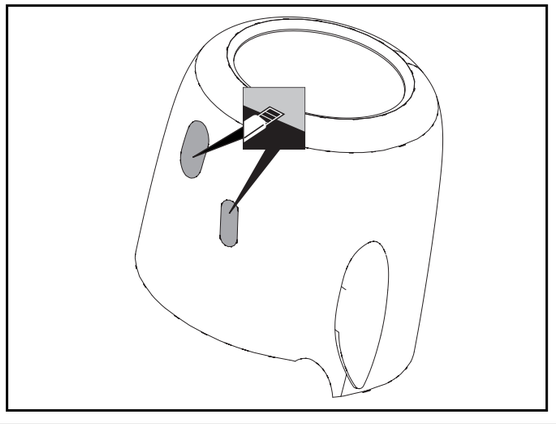
Accessory list for the coming installation steps.



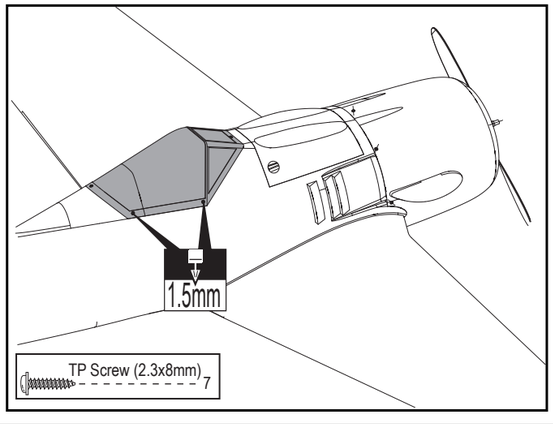
65 Cut away the surplus parts of canopy and PVC parts carefully along the shade line.



63 Trim the cowling for engine and muffler.



66 Assemble the canopy to the fuselage with TP.

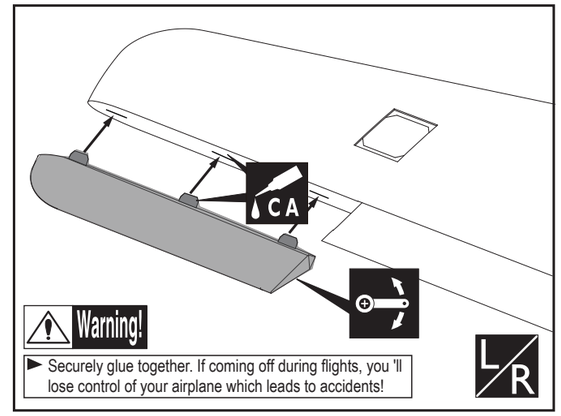


Apply epoxy glue.
Apply instant glue (CA glue, super glue).
Assemble left and right sides the same way.
Ensure smooth non-binding movement while assembling.
Pay close attention here!
Cut off shaded portion.
Do not overlook this symbol! Warning!

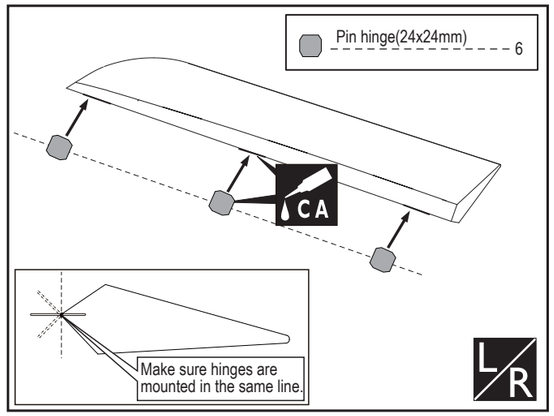
Accessory list for the coming installation steps.

Clevis	2
Retainer	2
Rod (2x300mm)	2
TP Screw (2.3x12mm)	8
Screw (3x35mm)	2
Servo tray(68.5x56.5x2mm)	2
Wooden Block(20x20x8mm)	4
Pin hinge(24x24mm)	6
Washer(3x15mm)	2
Lock Nut (3mm)	2
Washer(3x15mm)	2

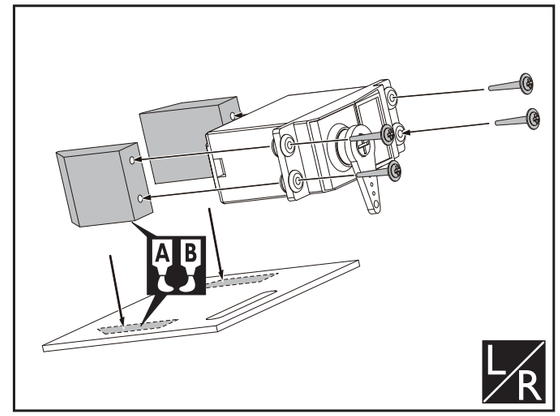
3 Assemble the aileron to main wing with instant type CA glue. Be careful to ensure the moving parts of the hinges are able to move freely.



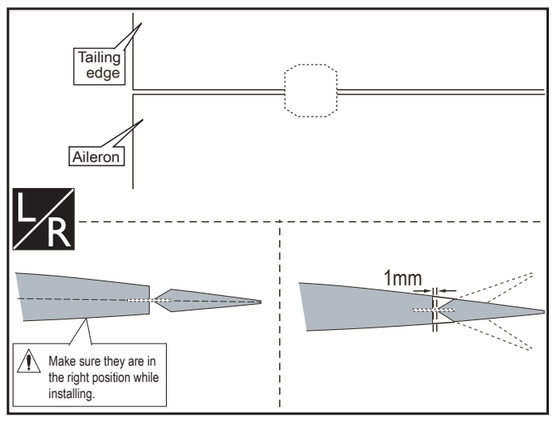
1 Apply instant type CA glue to aileron and pin hinge.



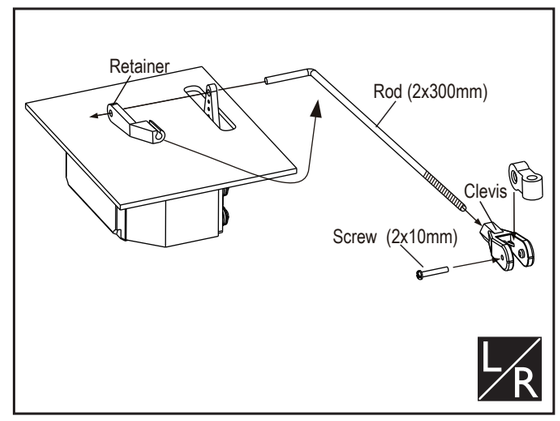
4 Install the servo as the illustration below



2 Keep some space about 1mm width between aileron and trailing edge.

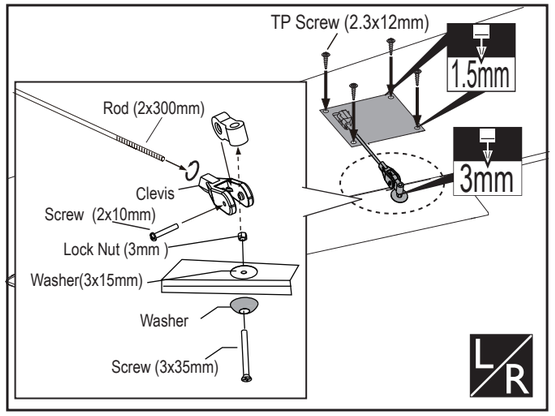


5 Install the nylon control horn and connect the linkage.

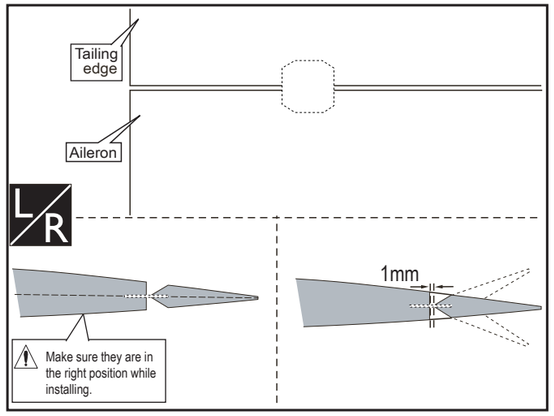


Apply epoxy glue.
Apply instant glue (CA glue, super glue).
Assemble left and right sides the same way.
Ensure smooth non-binding movement while assembling.
Pay close attention here!
Cut off shaded portion.
Do not overlook this symbol! Warning!

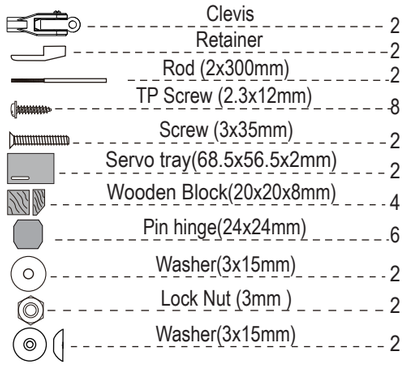
6 Secure the servo.Install the nylon control horn and connect the linkage.



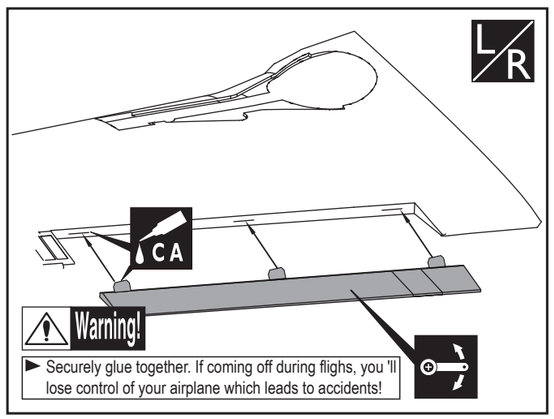
8 Keep some space about 1mm width between trailing edge and flap.



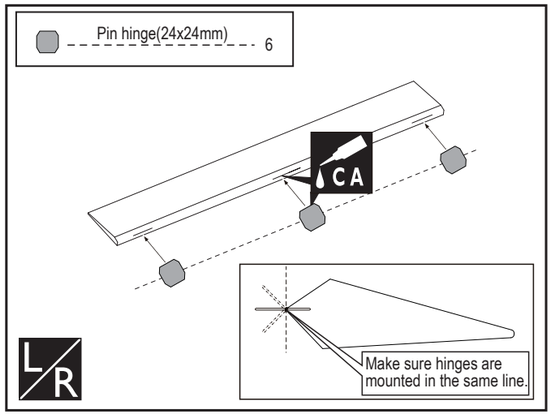
Accessory list for the coming installation steps.



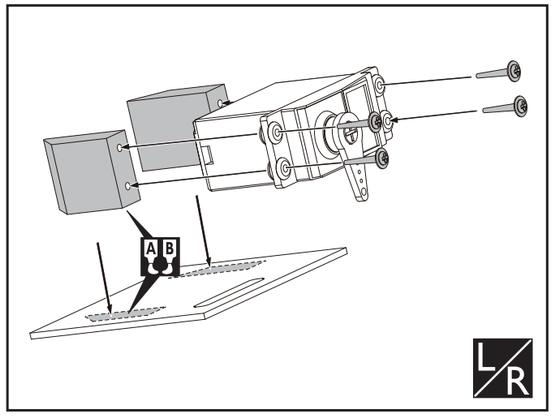
9 Assemble the flap to main wing with instant type CA glue. Be careful to ensure the moving parts of the hinges are able to move freely.



7 Apply instant type CA glue to flap and pin hinges.

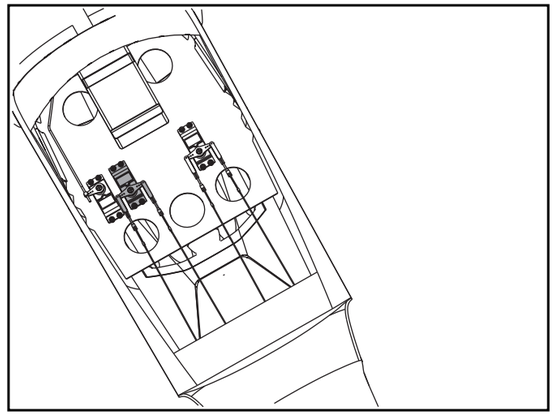


10 Install the servo.

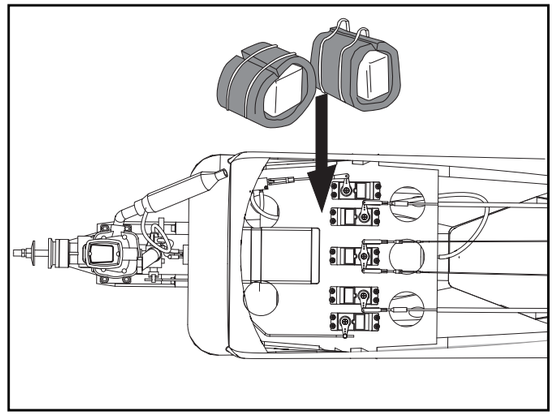


Apply epoxy glue.
Assemble left and right sides the same way.
Pay close attention here!
Apply instant glue (CA glue, super glue).
Ensure smooth non-binding movement while assembling.
Cut off shaded portion.
Do not overlook this symbol! Warning!

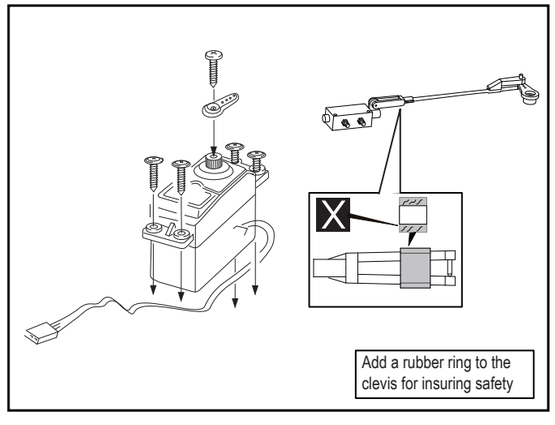
56 Install the elevator servo to the appropriate positionin the fuselage.



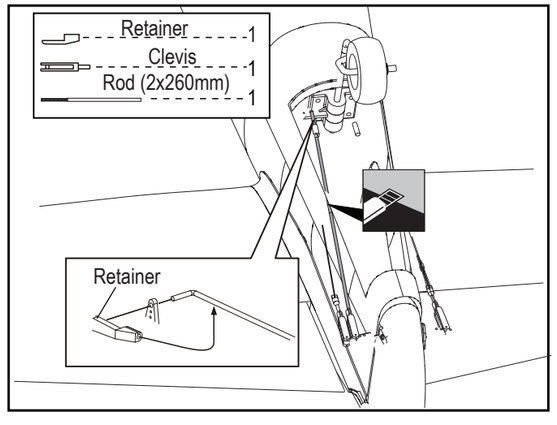
59 Assemble the receiver and the battery to appropriate in the fuselage.



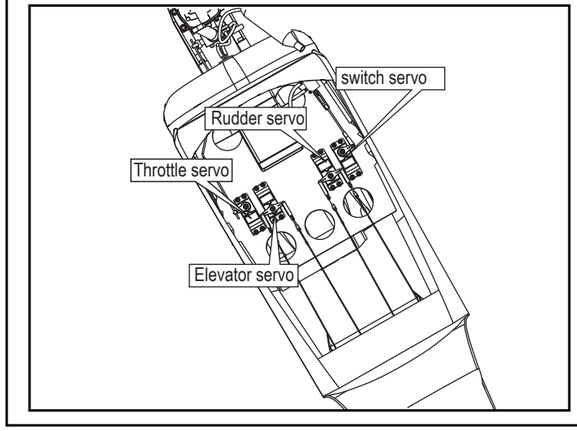
57 Install the servo of swith.



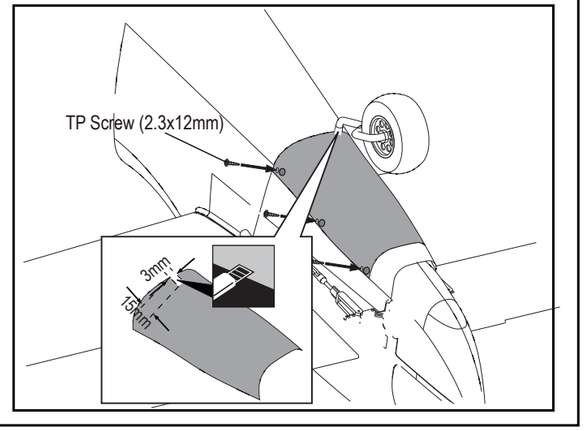
60 Connect the nose arm to the horn in the rudder.



58 The servos installation finished sketch map.

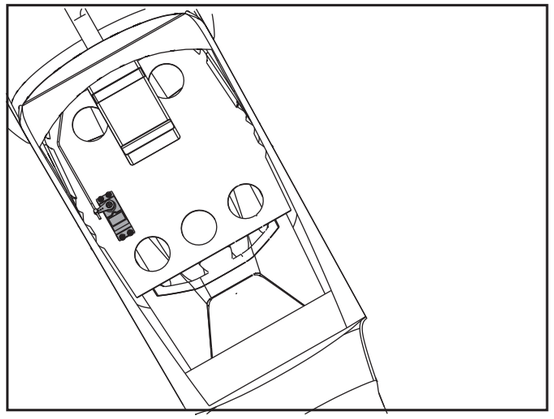


61 Assemble the tail landing gear covering.to thefuselage as below.

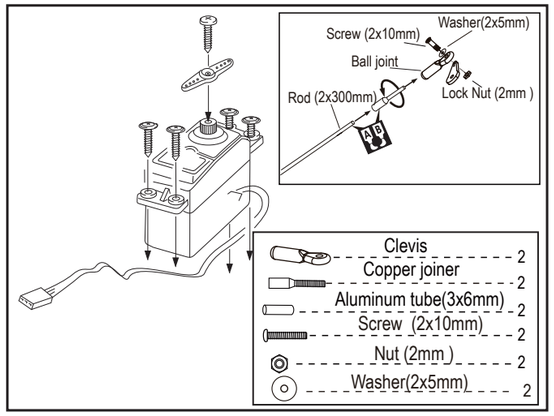


Apply epoxy glue.
Assemble left and right sides the same way.
Pay close attention here!
Apply instant glue (CA glue, super glue).
Ensure smooth non-binding movement while assembling.
Cut off shaded portion.
Do not overlook this symbol! Warning!

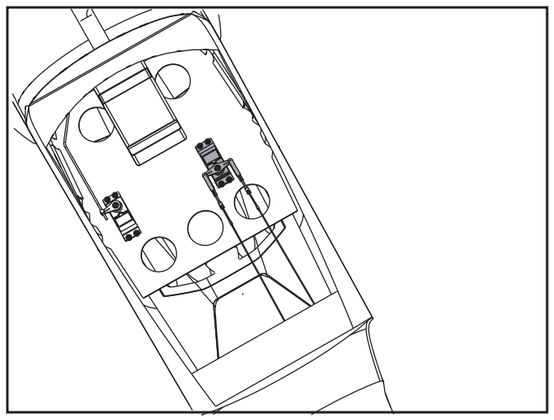
50 Assemle the throttle servo to the fuselage.



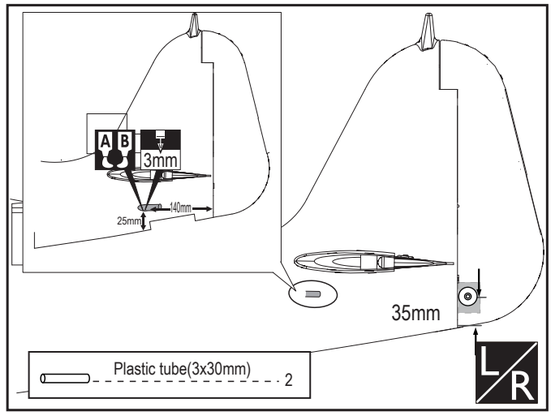
51 Install the servo of the rubber servo.



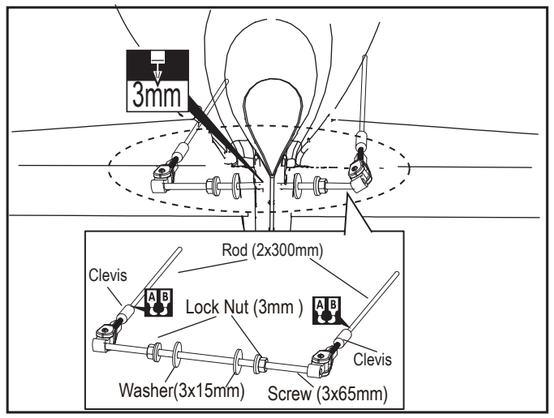
52 Install the servo of elevator in the appropriate position in the fuselage.



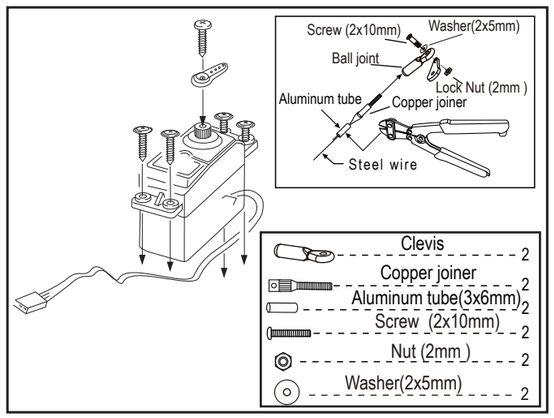
53 Drill holes to appropriate position in the fuselage the position of the horn in the rudder.



54 Assemble the horn to the rudder and connect the linkage to the servo.

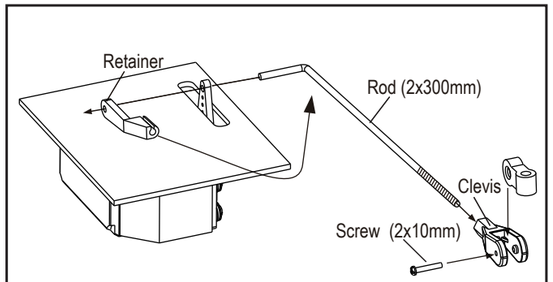


55 Install the servo of elevator.

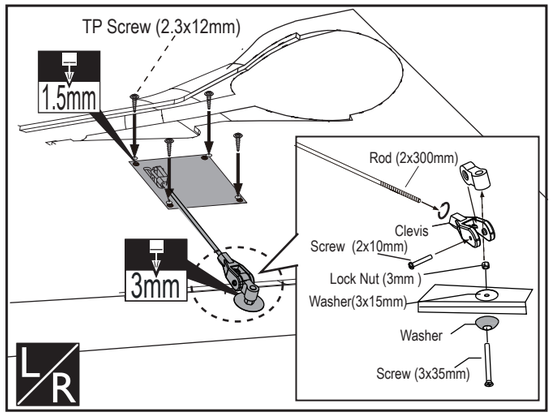


Apply epoxy glue.
Apply instant glue (CA glue, super glue).
Assemble left and right sides the same way.
Ensure smooth non-binding movement while assembling.
Pay close attention here!
Cut off shaded portion.
Do not overlook this symbol! Warning!

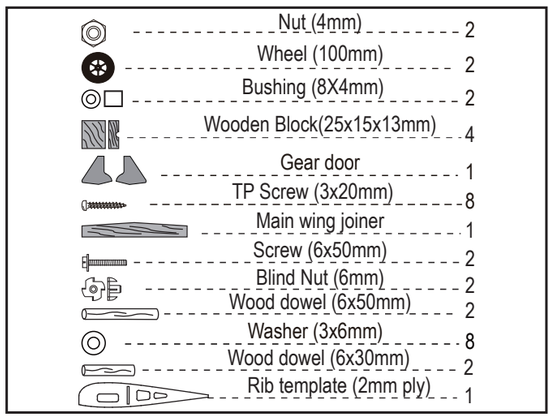
11 Install the nylon control horn and connect the linkage.



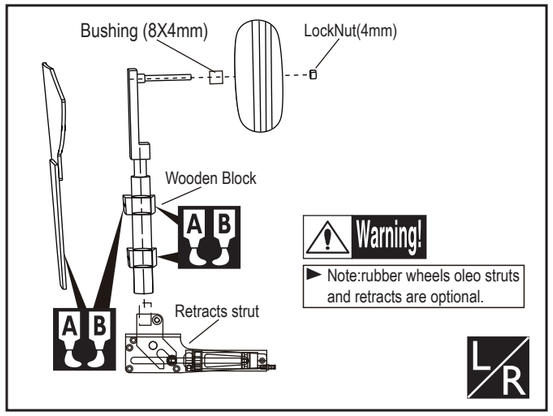
12 Secure the servo.Install the nylon control horn and connect the linkage.



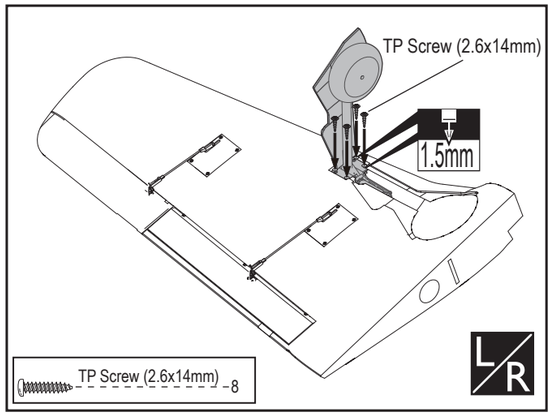
Accessory list for the coming installation steps.



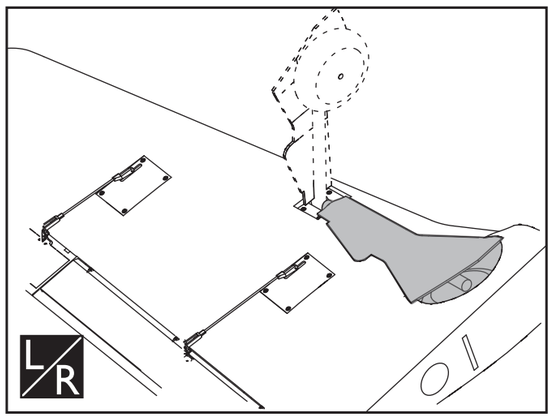
13 Mount the gear door and the wheel to the retract.



14 Assemble the retract to appropriate position in the wing.

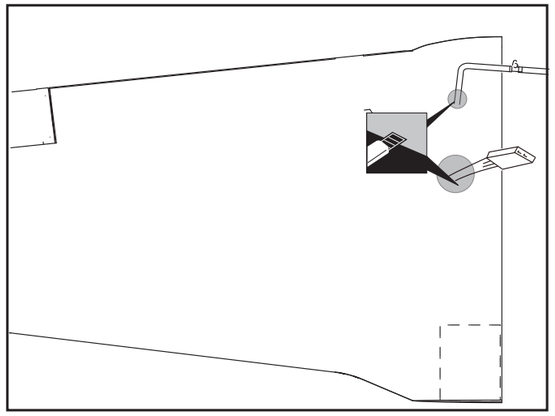


15 The sketch map when the retract up and down.



Apply epoxy glue.
Apply instant glue (CA glue, super glue).
Assemble left and right sides the same way.
Ensure smooth non-binding movement while assembling.
Pay close attention here!
Cut off shaded portion.
Do not overlook this symbol! Warning!

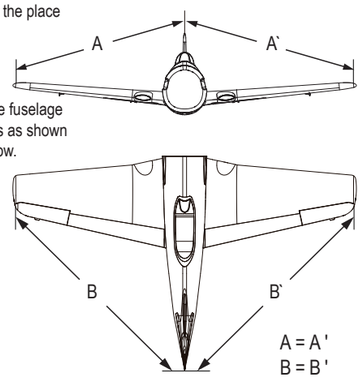
16 Drill holes at appropriate position in the wing for taking the air line and the servo line out.



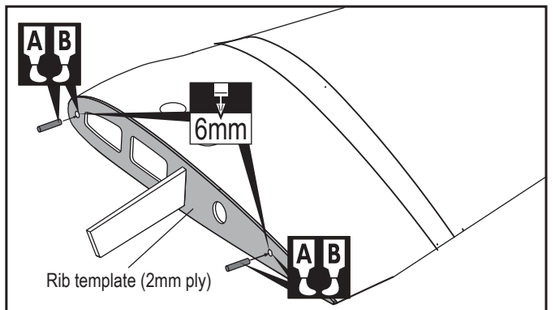
17 Assemble the wings.

► Drill 6.2mm holes at the place of main wing.

► Install the wing to the fuselage with 6x50mm screws as shown in the diagrams below.

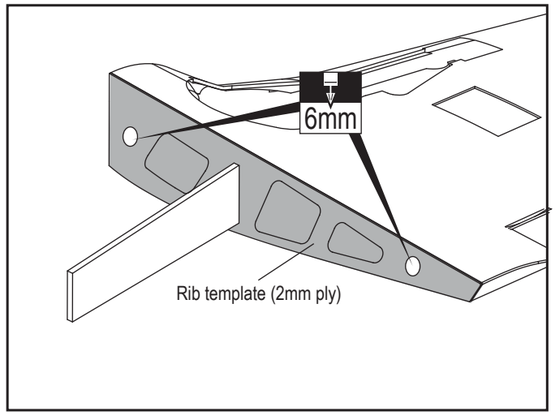


18 According to the rib template drill holes in one wing and epoxy wood dowel in them.

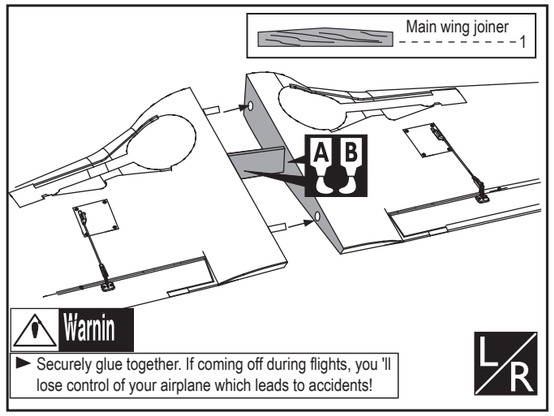


Wood dowel (6x30mm)	2
Rib template (2mm ply)	1

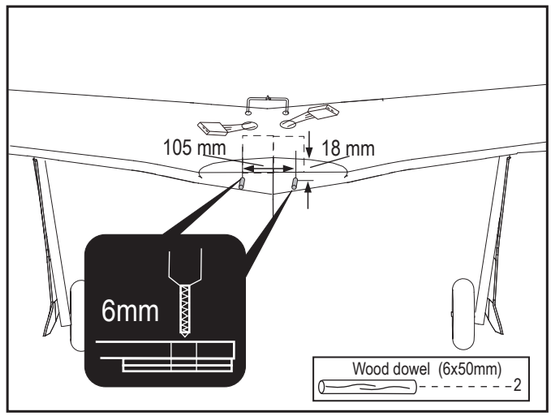
19 According to the rib template drill holes to another main wing.



20 Connect the wings with main wing joiner.



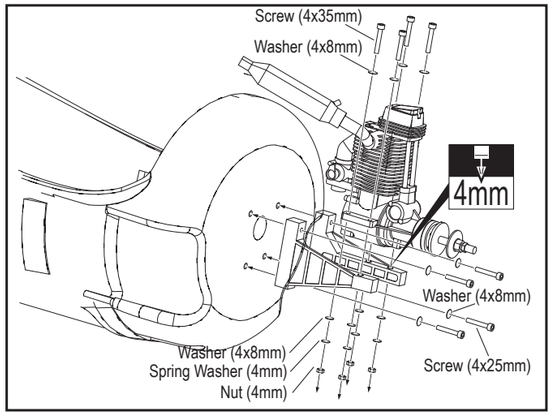
21 Drill holes in the wings and set the wood dowels in them as below.



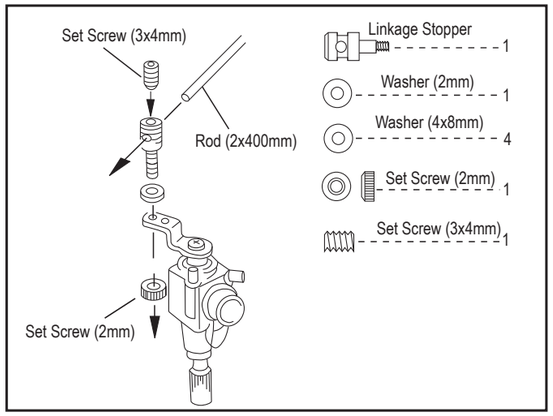
Apply epoxy glue.
Apply instant glue (CA glue, super glue).
Assemble left and right sides the same way.
Ensure smooth non-binding movement while assembling.
Pay close attention here!
Cut off shaded portion.

Do not overlook this symbol!
Warning!

44 Install the engine carefully.

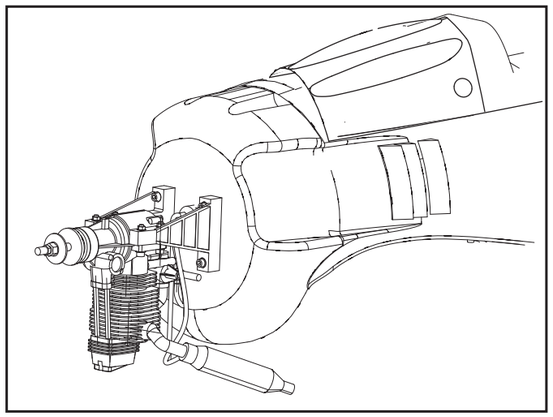


45 Assemble the accelerateor push rod to the engine.

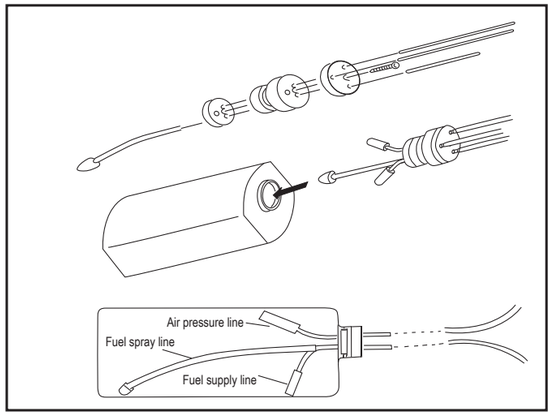


Linkage Stopper	1
Washer (2mm)	1
Washer (4x8mm)	4
Set Screw (2mm)	1
Set Screw (3x4mm)	1

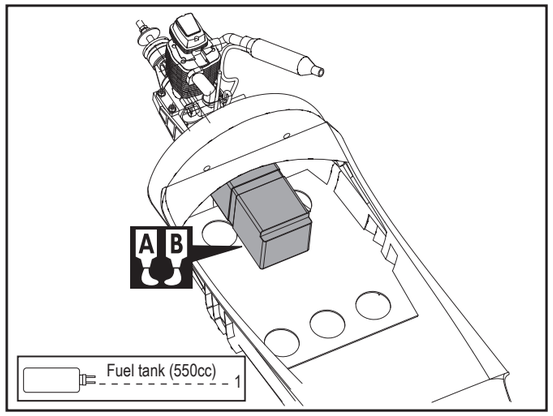
46 Engine installation finished sketch map.



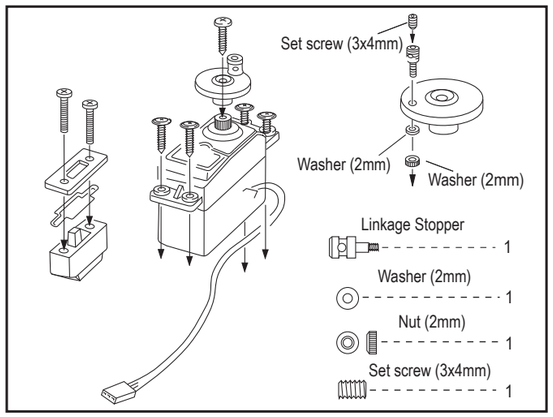
47 Assembly of the fuel tank.



48 Mount the fuel tank to the fuselage.



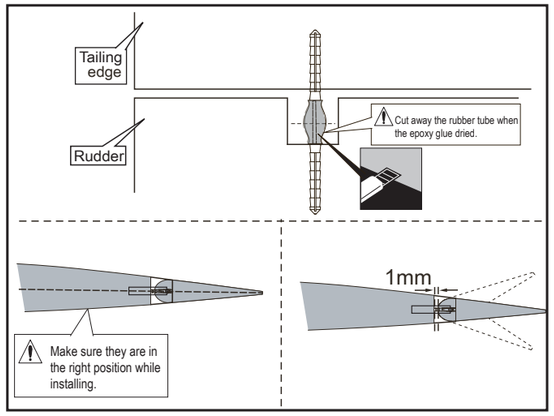
49 Install the servo.



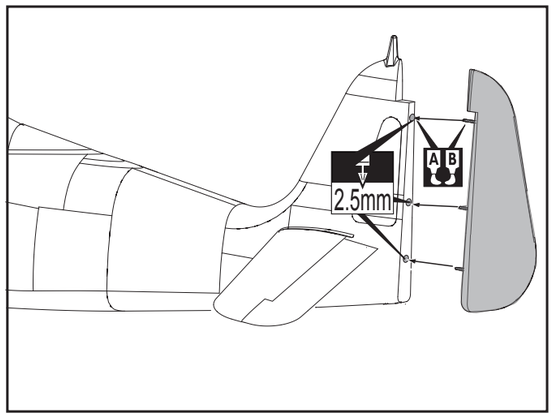
Linkage Stopper	1
Washer (2mm)	1
Nut (2mm)	1
Set screw (3x4mm)	1

Apply epoxy glue.
Apply instant glue (CA glue, super glue).
Assemble left and right sides the same way.
Ensure smooth non-binding movement while assembling.
Pay close attention here!
Cut off shaded portion.
Do not overlook this symbol!
Warning!

39 Epoxy the fibreglass tubes to appropriate position as below and leave some space with width of 1mm between tailing edge and rudder.



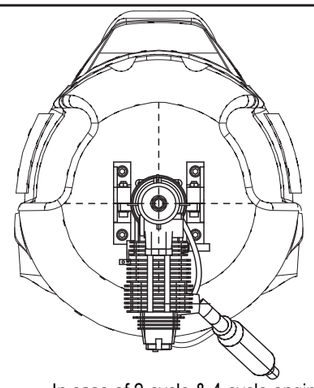
40 Drill holes to the relevant position in the tailing edge and epoxy the rudder to them.



Accessory list for the coming installation steps.

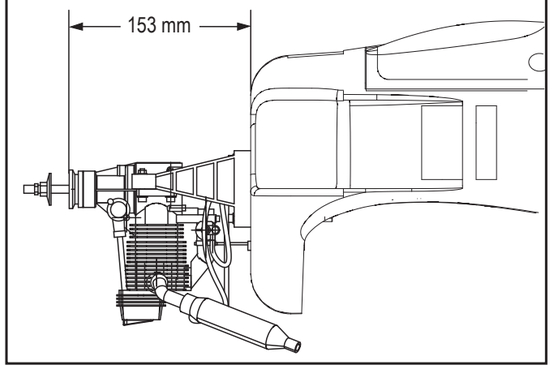
Clevis	2	Blind Nut (4mm)	4
Washer(3x15mm)	2	Screw (4x35mm)	4
Lock Nut (3mm)	6	Screw (4x25mm)	4
Screw (3x65mm)	1	Washer(4x8mm)	12
Clevis	1	Spring Washer (4mm)	4
Fiberglass pushrod(3x870mm)	2	Nut (4mm)	4
Steel wire (0.5x1500mm)	2	Linkage Stopper	2
Copper joiner	4	Plastic tube (2x400mm)	1
Copper joiner	4	Engine mount (68x105mm)	2
Aluminum tube(3x6mm)	4	Fuel tank (550cc)	1
Plastic tube(3x30mm)	2	Screw (2x10mm)	4
Clevis	4	Washer(2x5mm)	4
Nut (2mm)	4		

41 The front view of the engine installation finished.

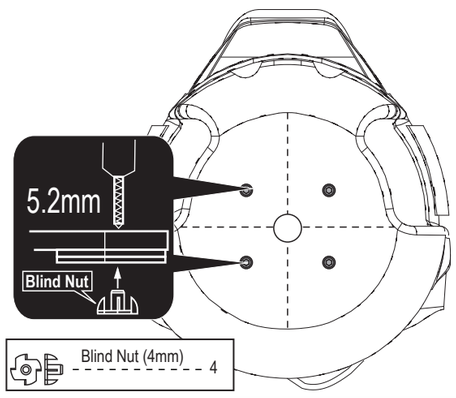


In case of 2-cycle & 4-cycle engine.

42 The side sketch map of the engine installation finished.

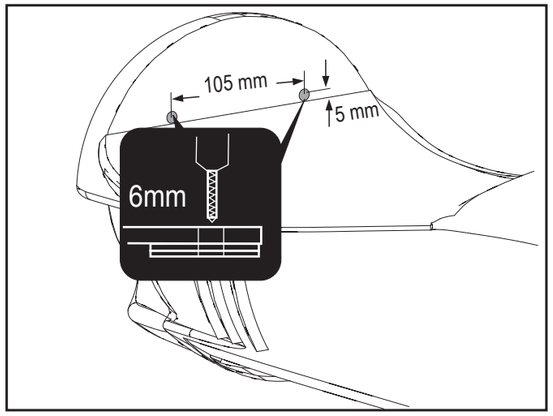


43 Drill 4 holes and set blind nut in appropriate position in the firewall before install the engine.



Apply epoxy glue.
Apply instant glue (CA glue, super glue).
Assemble left and right sides the same way.
Ensure smooth non-binding movement while assembling.
Pay close attention here!
Cut off shaded portion.
Do not overlook this symbol! Warning!

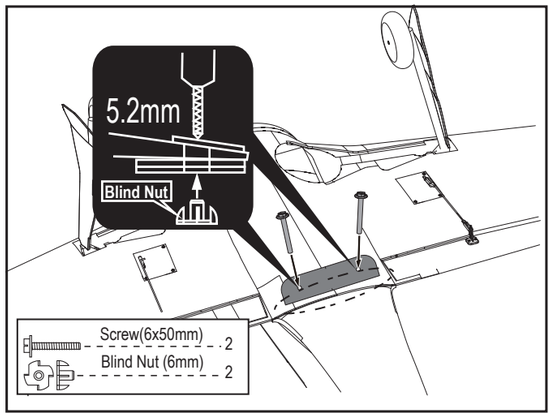
22 Drill holes to relevant position in the fuselage.



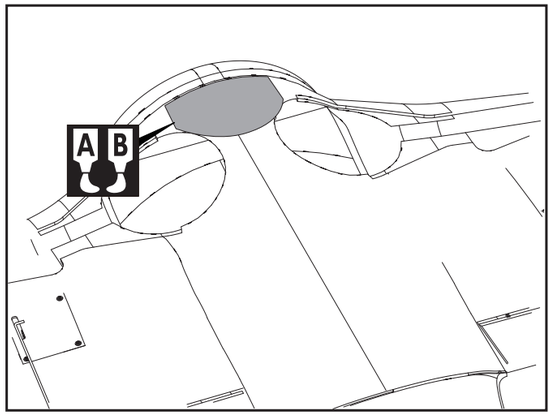
Accessory list for the coming installation steps.

Retainer	1
Clevis	3
Nose arm(3mm)	1
Washer (3x6mm)	4
TP Screw(3x20mm)	4
Tail landing gear(3mm)	1
Tail wheel (45mm)	1
Collar (3mm)	2
Rod (2X257mm)	1
TP Screw (2.3x12mm)	4
Pin hinge(24x24mm)	7
Stab joiner (16x230mm)	1
U-style wire (3mm)	1
Steel wire (0.5x3000mm)	2
Pin hinge(2.5x48mm)	3
Matal douel (4x30mm)	4
Rib template (3mm ply)	1

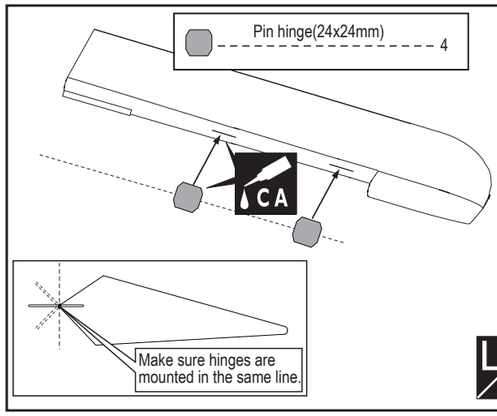
23 Assemble the wings to the fuselage with screw and blind nut as below.



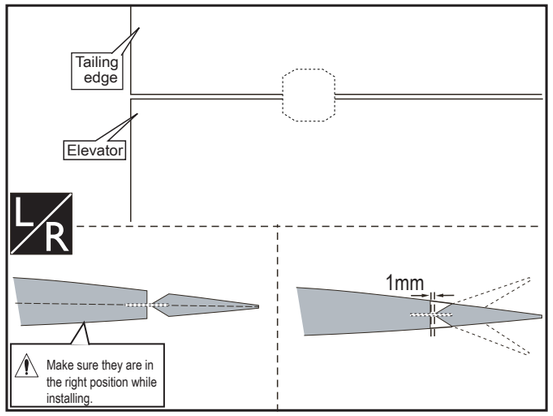
24 Epoxy the belly pant to wing .



25 Apply instant type CA glue to elevator and pin hinge.

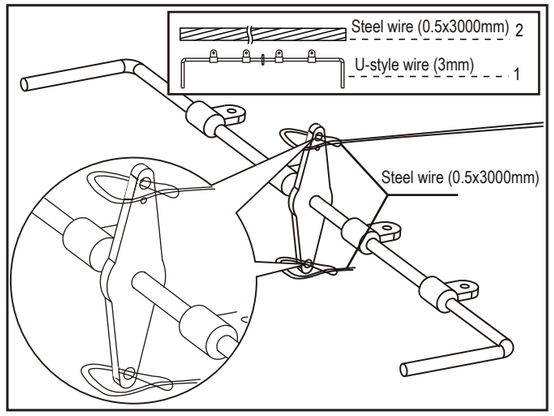


26 Keep some space about 1mm width between elevator and tailing edge.

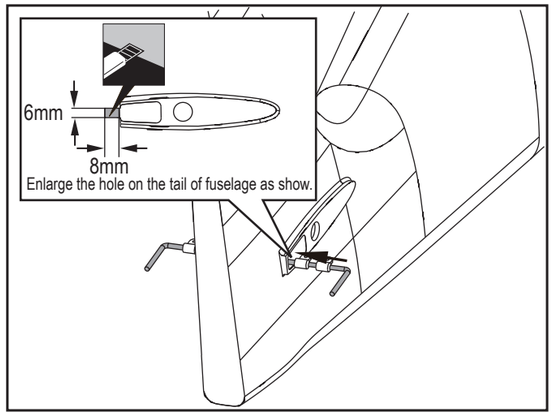


Apply epoxy glue.
Apply instant glue (CA glue, super glue).
Assemble left and right sides the same way.
Ensure smooth non-binding movement while assembling.
Pay close attention here!
Cut off shaded portion.
Do not overlook this symbol! Warning!

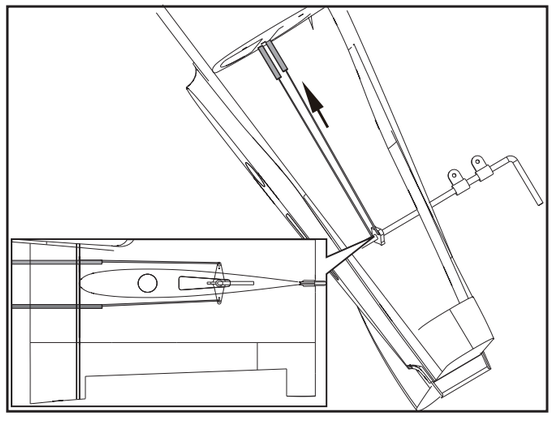
27 connect the fullarm for elevator with steel wire as below.



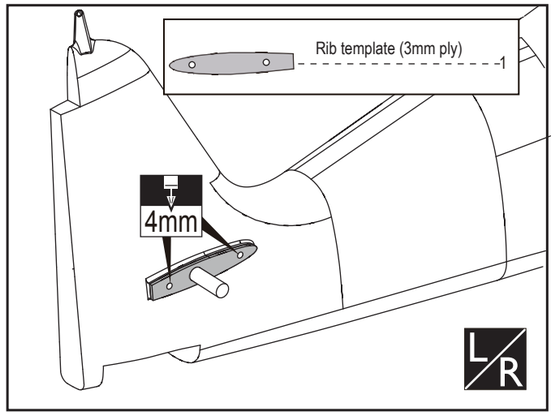
28 Set the U-style wire through the enlarge hole as below.



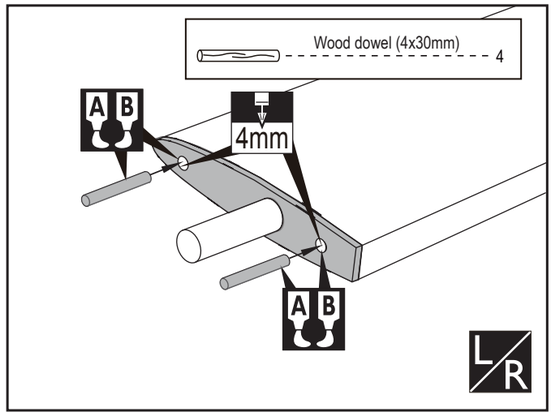
29 The sketh map of the steel wires in the fuselage.



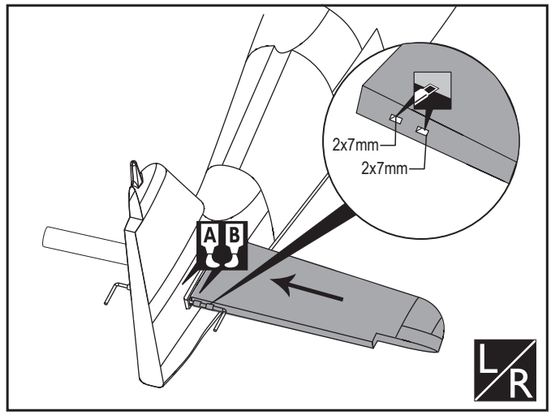
30 A ccording to thr rib template drill holes to the tail of fuselage as below.



31 Drill two holes at the stabilizer root base on rib template and epexy the metal dowel in them.

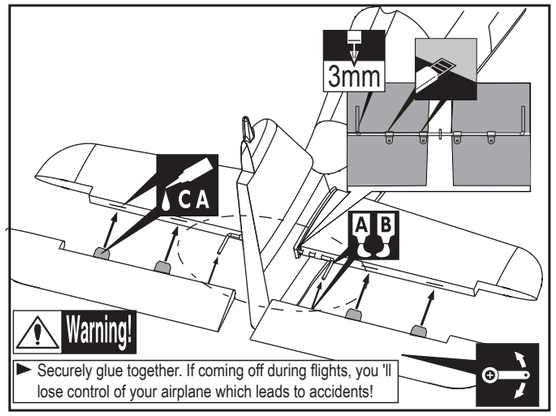


32 Drill holes to appropriate position in the stabilizer and epoxy it to the fuselage as below.

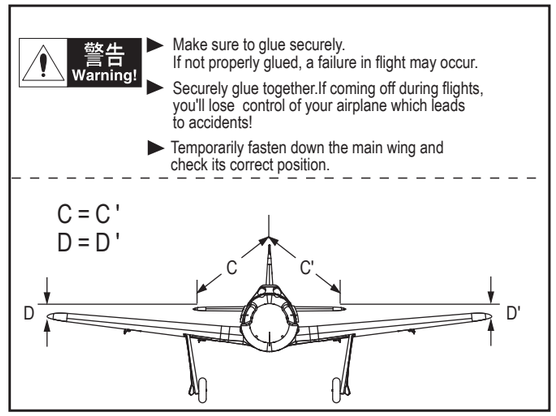


A B Apply epoxy glue.
C.A Apply instant glue (CA glue, super glue).
L/R Assemble left and right sides the same way.
Ensure smooth non-binding movement while assembling.
Pay close attention here!
Cut off shaded portion.
Do not overlook this symbol! Warning!

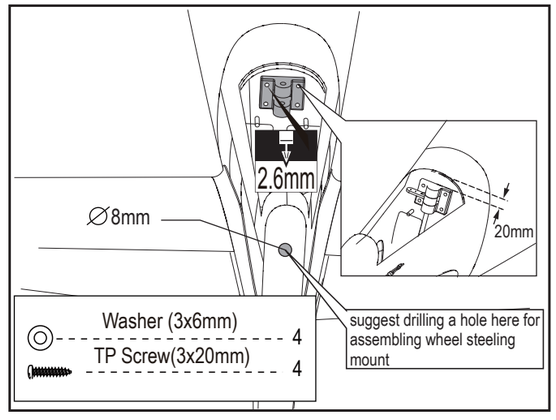
33 Glue the elevator to the stabilizer by CA and epoxy.



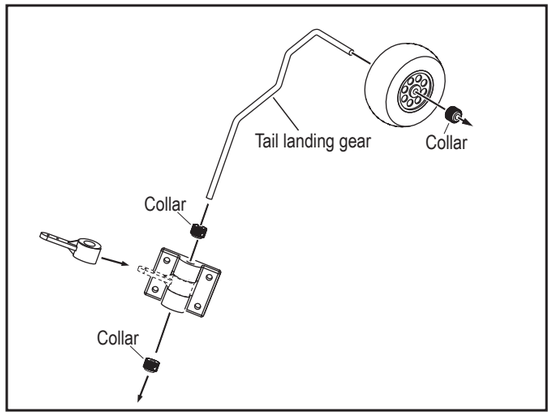
34 Assembly of the stabilizer.



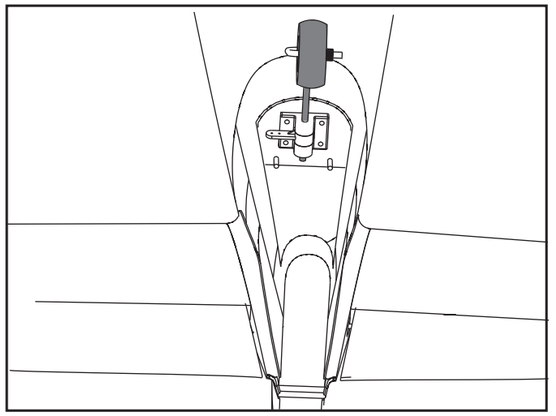
35 Assemble the wheel steeling mount to appropriate position.



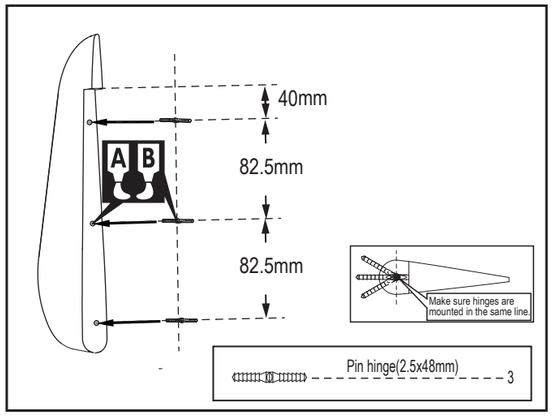
36 Assemble the tail landing gear to the wheel steeling mounts as below.



37 The sketch map when the tail landing gear be installed to the fuselage.



38 Drill holes to appropriate position in the rudder and epoxy the ping hinges in them



A B Apply epoxy glue.
C.A Apply instant glue (CA glue, super glue).
L/R Assemble left and right sides the same way.
Ensure smooth non-binding movement while assembling.
Pay close attention here!
Cut off shaded portion.
Do not overlook this symbol! Warning!