

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.

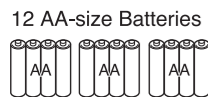
Fly only in open areas and preferably at a dedicated R/C flying site. We suggest having a qualified instructor carefully inspect your airplane before its first flight.Please carefully read and follow all instructions included with this airplane,your radio control system and any other components purchased 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 airplane is highly recommended for this model.



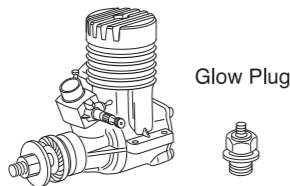
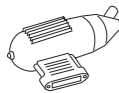
A minimum 6 channel transmitter for airplanes.



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



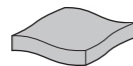
3.5 in Spinner

Purchase a propeller that will match your engine.



15"X7

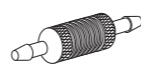
4 Sponge Sheet



Silicone Tube



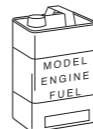
Fuel Filter



5 Required for engine starting:

Glow engine fuel only.

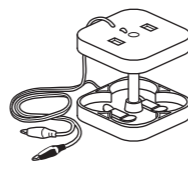
WARNING: Normal gasoline cannot be used with glow engines.



Fuel Pump



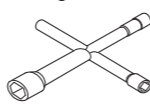
Booster Cord



4 D-size Batteries



Plug Wrench



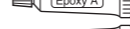
6 Glue

Instant Glue



Epoxy Glue

(Epoxy A)



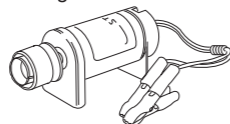
(Epoxy B)



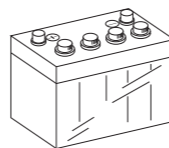
7

Other equipment for enhancing airplane operation & performance

Engine Starter



12V Battery (for starter)



TOOLS REQUIRED (Purchase separately!)

Sharp Hobby Knife



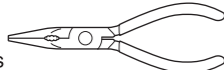
Phillips Screw Driver (l, m, s)



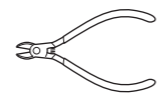
Awl



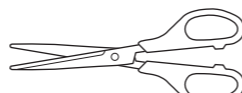
Needle Nose Pliers



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.

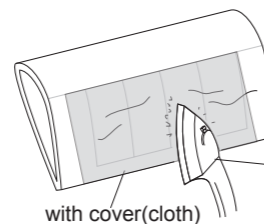
3 Symbols used throughout this instruction manual, comprise:

- Apply epoxy glue.
- Drill holes with the specified diameter (2mm).
- Cut off excess.
- Pay close attention here!
- Assemble left and right sides the same way.
- Apply instant glue (CA glue, super glue).
- Cut off shade portion.
- Ensure smooth non-binding movement while assembling.
- Must be purchased separately!

Do not overlook this Symbol!
Warning!

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.

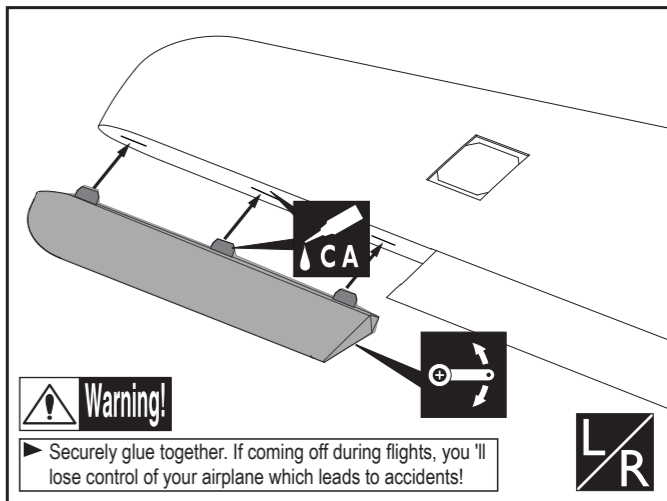


Accessory list for the coming installation steps.

| | | |
|--|----------------------------|---|
| | 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 |

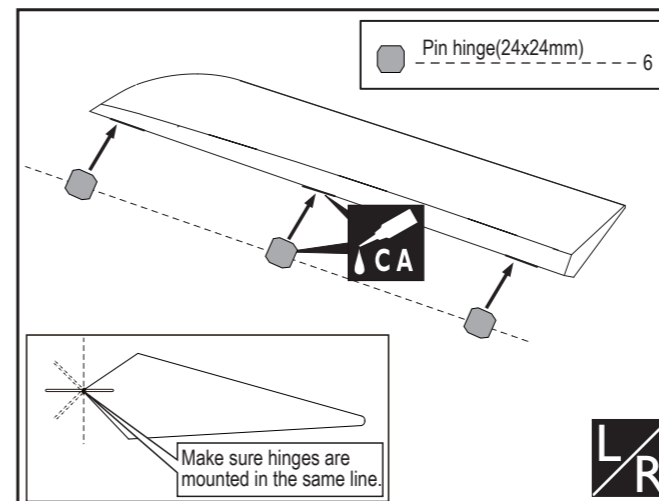
3

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.



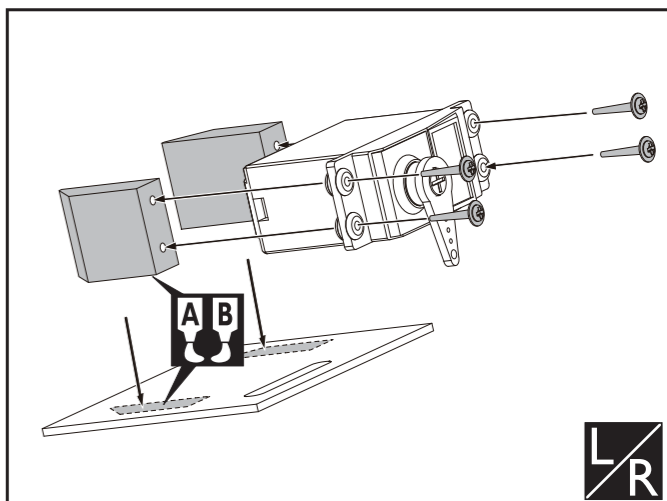
1

Apply instant type CA glue to aileron and pin hinge.



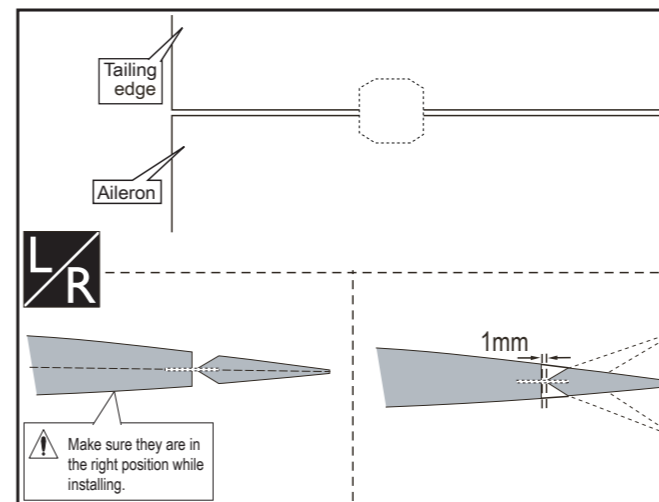
4

Install the servo as the illustration below



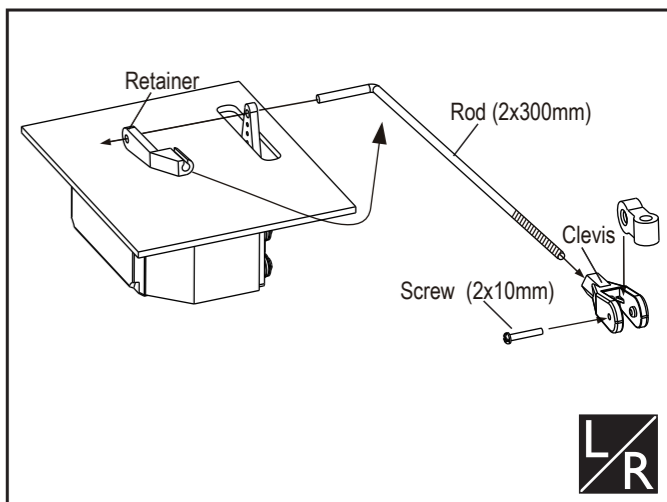
2

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



5

Install the nylon control horn and connect the linkage.



Apply epoxy glue.

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.

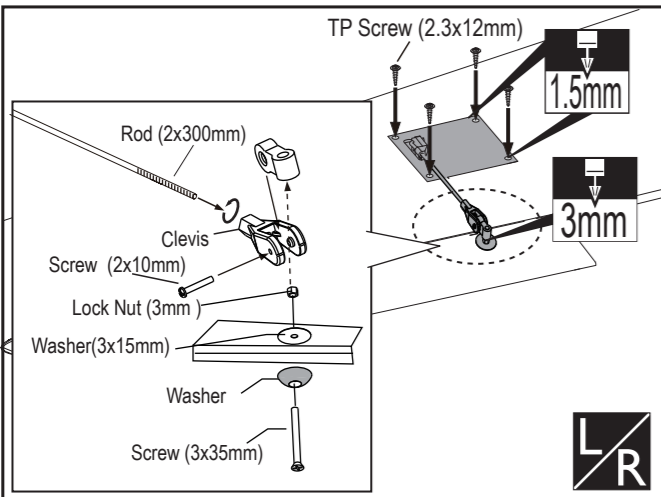
Cut off shaded portion.

Do not overlook this symbol!



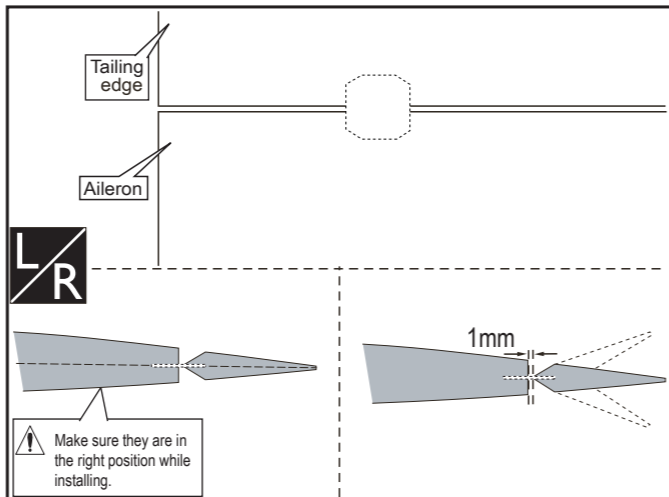
6

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



8

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

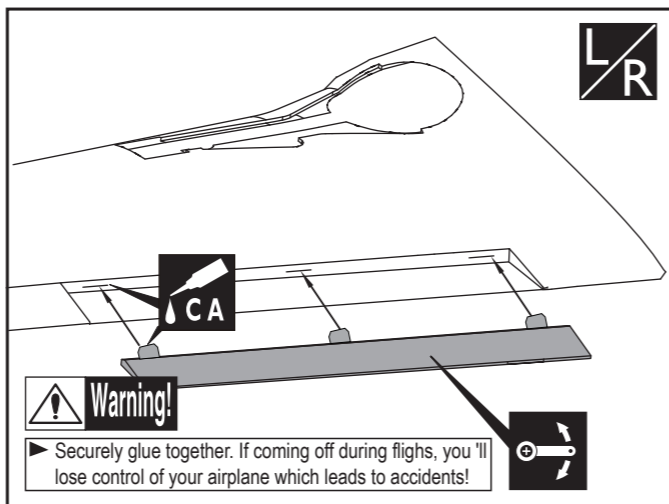


Accessory list for the coming installation steps.

| | | |
|--|----------------------------|---|
| | 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 |

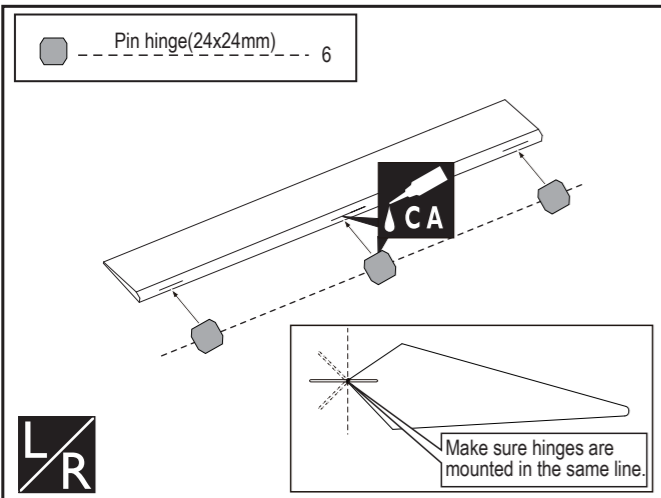
9

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.



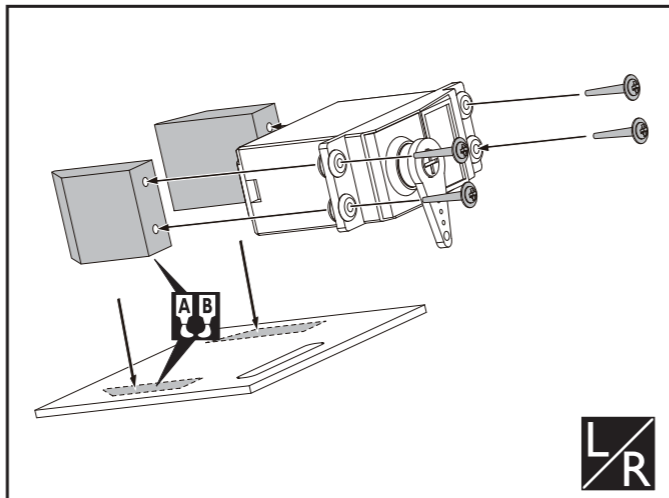
7

Apply instant type CA glue to flap and pin hinges.



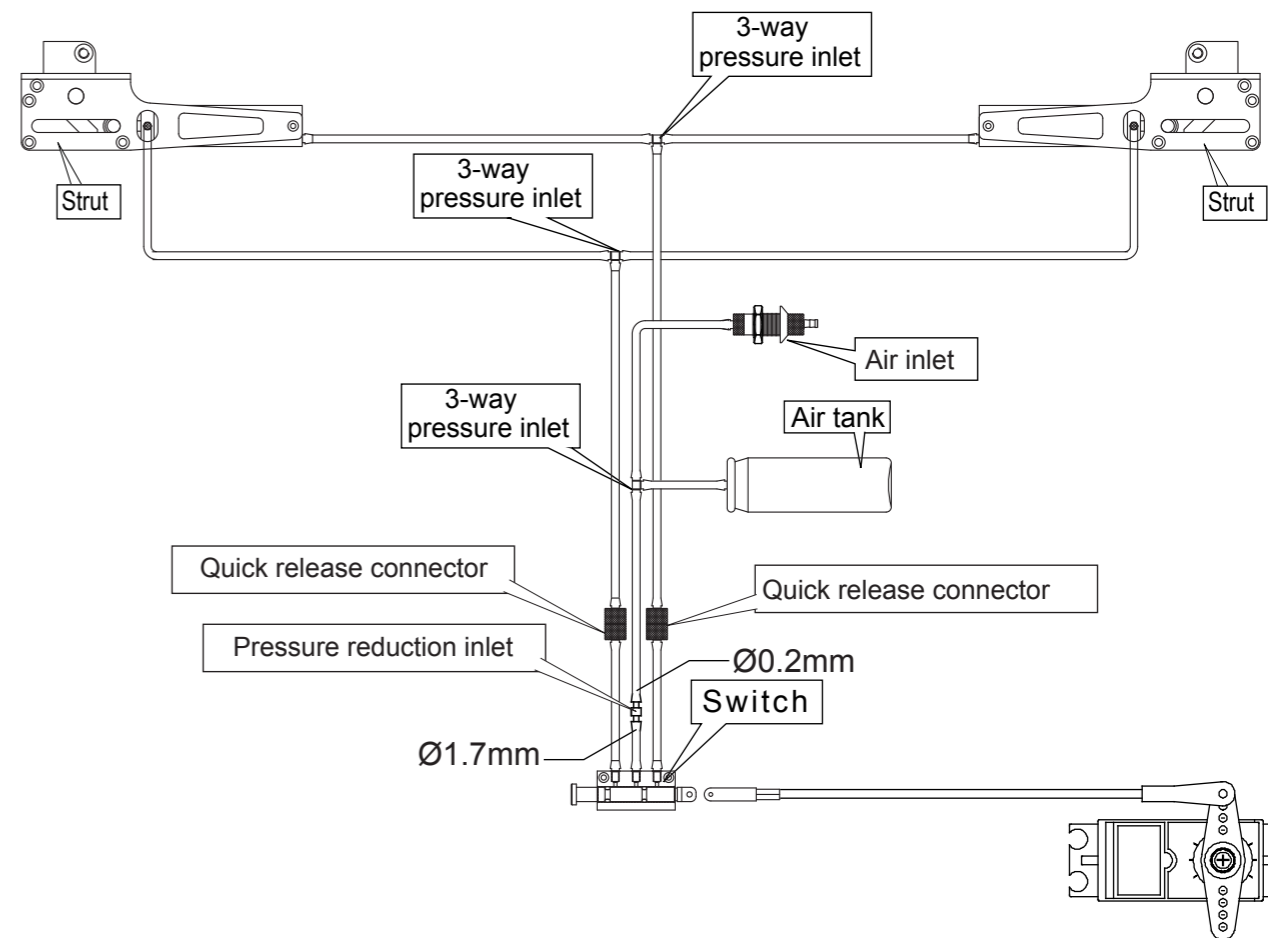
10

Install the servo.



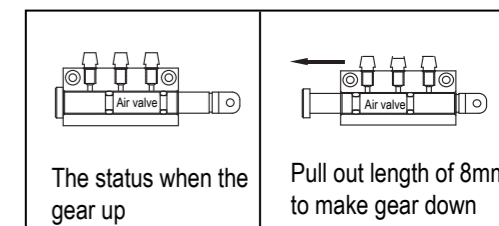
Two wheel retract system

Warning! Make sure to assemble retracts as instructed below.



Warning! Please insure the sealing of the retract system before flight.
Please notice the inner diameter for each side of the pressure reduction inlet.

| | | |
|--|--------------------------|---|
| | Strut (90°) | 2 |
| | Retainer | 1 |
| | Clevis | 1 |
| | Rod (2x300mm) | 1 |
| | TP Screw (2x14mm) | 2 |
| | Switch | 1 |
| | Air line (3000mm) | 1 |
| | 3-way pressure inlet | 3 |
| | Air tank | 1 |
| | Air inlet | 1 |
| | Quick release connector | 2 |
| | Pressure reduction inlet | 1 |



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!



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.

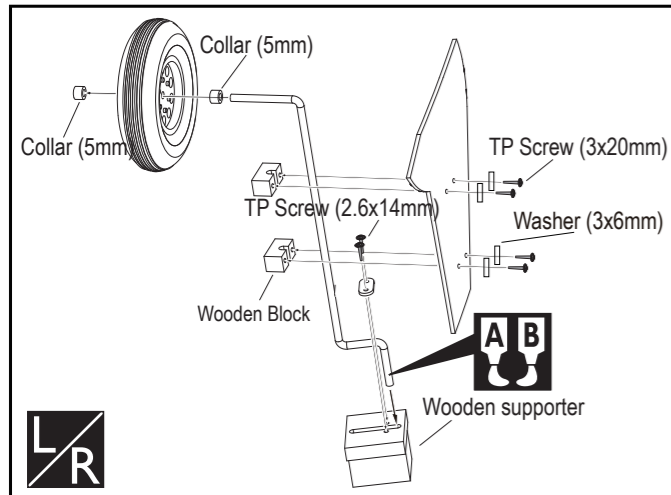


Cut off shaded portion.

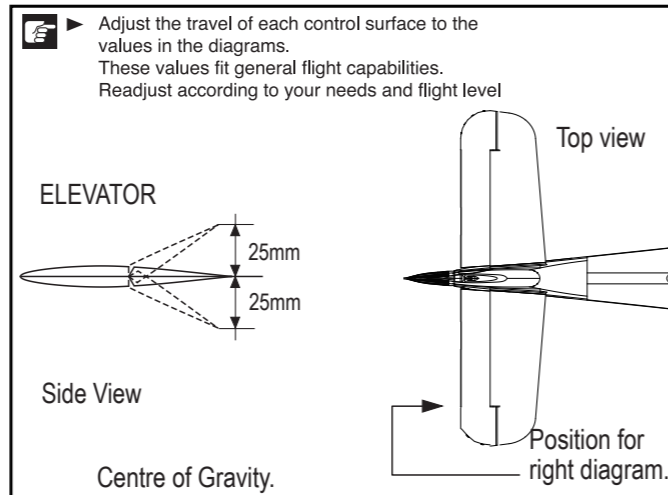
Do not overlook this symbol!



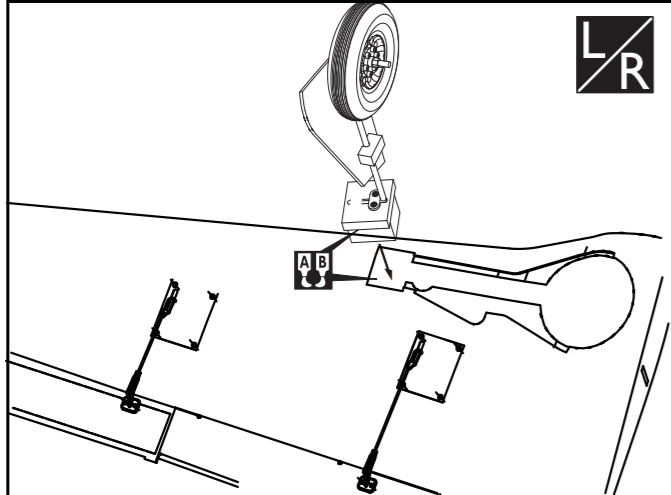
72 Assemble the wheel and gear door to landing gear.



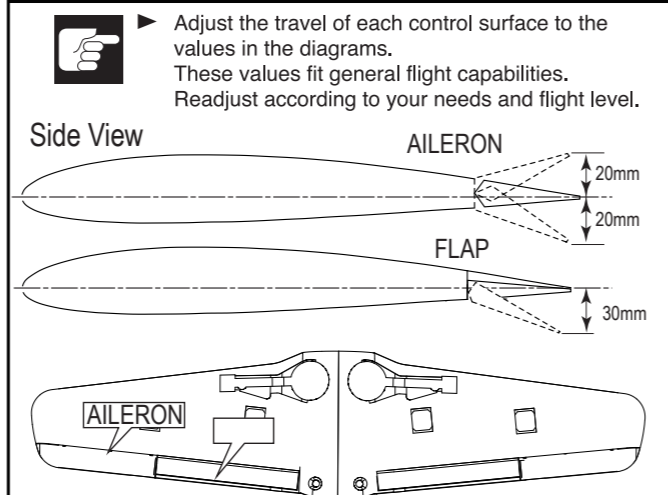
75 Adjustment.



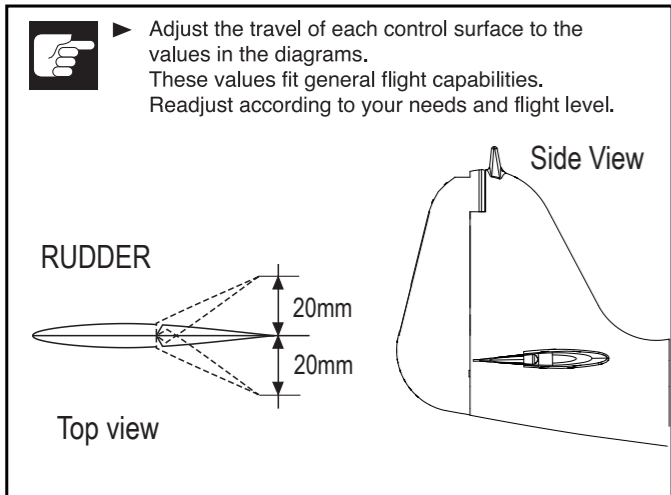
73 Epoxy the landing gear to the wing steadily.



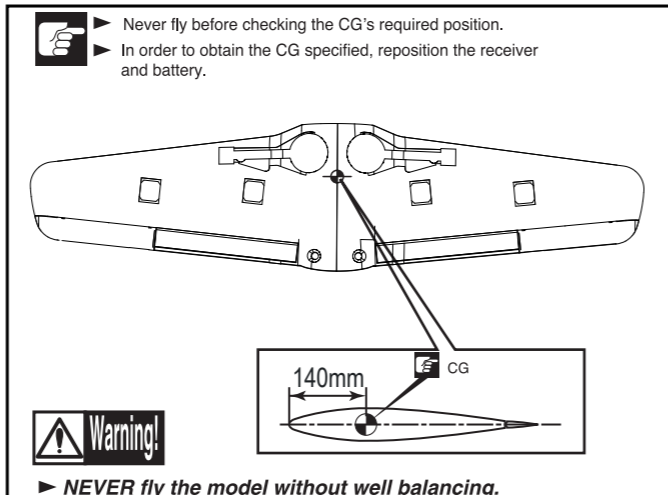
76 Adjustment.



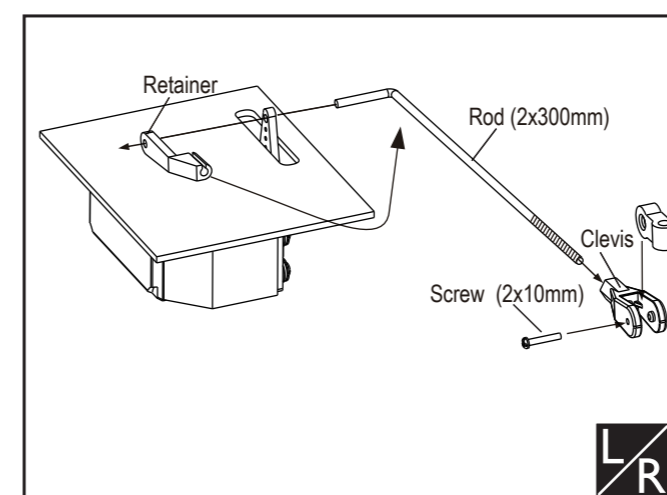
74 Adjustment.



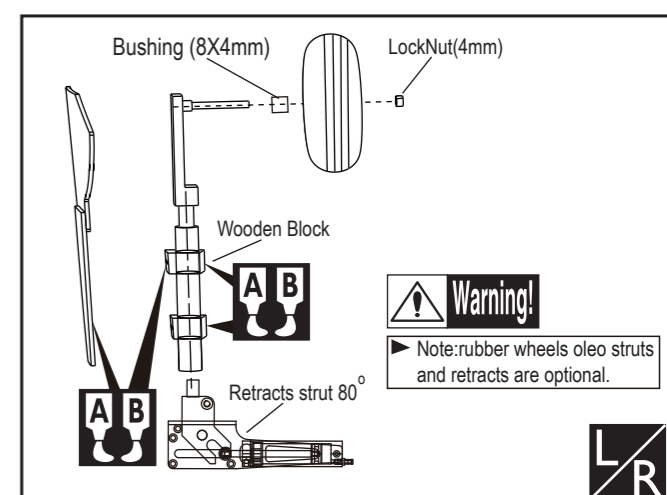
77 The centre of the Gravity.



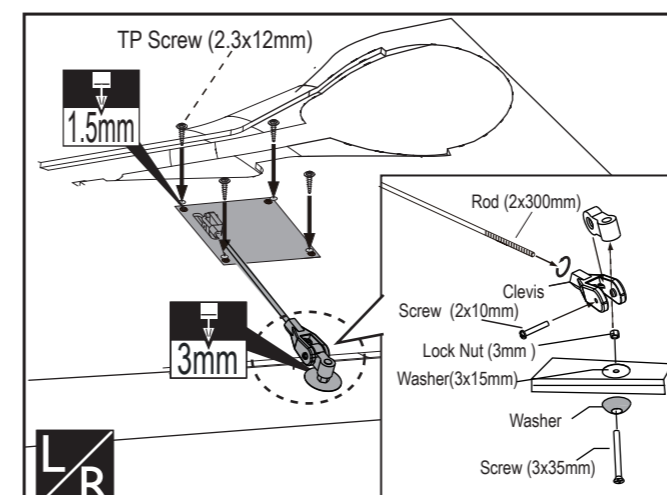
11 Install the nylon control horn and connect the linkage.



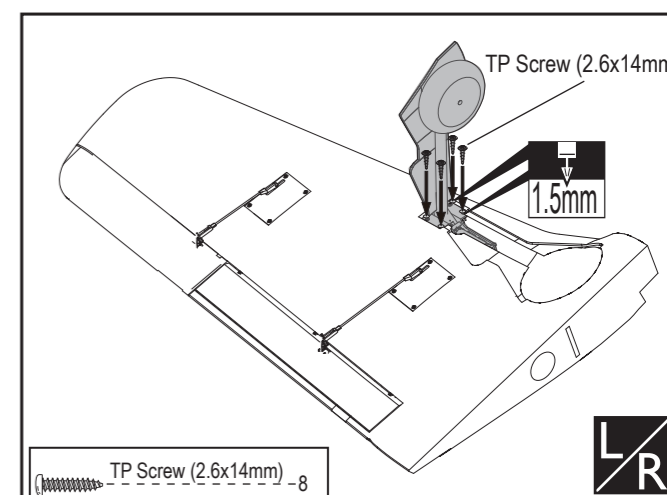
13 Mount the gear door and the wheel to the retract.



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



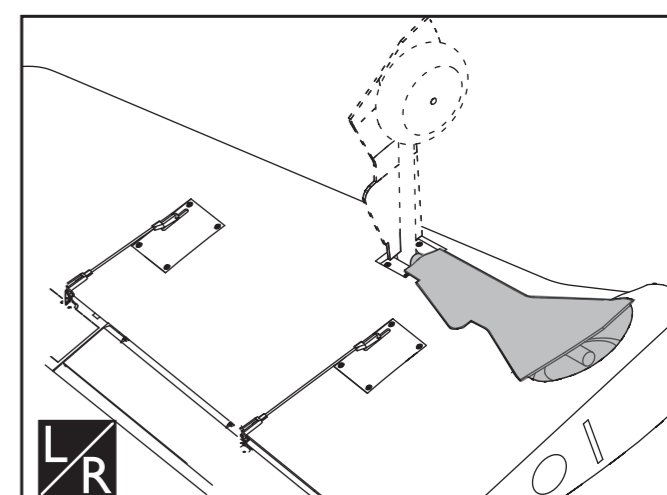
14 Assemble the retract to appropriate position in the wing.



Accessory list for the coming installation steps.

| | | |
|--|--------------------------|---|
| | Nut (4mm) | 2 |
| | Wheel (100mm) | 2 |
| | Bushing (8x4mm) | 2 |
| | Wooden Block(25x15x13mm) | 4 |
| | Gear door | 1 |
| | TP Screw (3x20mm) | 8 |
| | Main wing joiner | 1 |
| | Screw (6x50mm) | 2 |
| | Blind Nut (6mm) | 2 |
| | Wood dowel (6x50mm) | 2 |
| | Washer (3x6mm) | 8 |
| | Wood dowel (6x30mm) | 2 |
| | Rib template (2mm ply) | 1 |

15 The sketch map when the retract up and down.



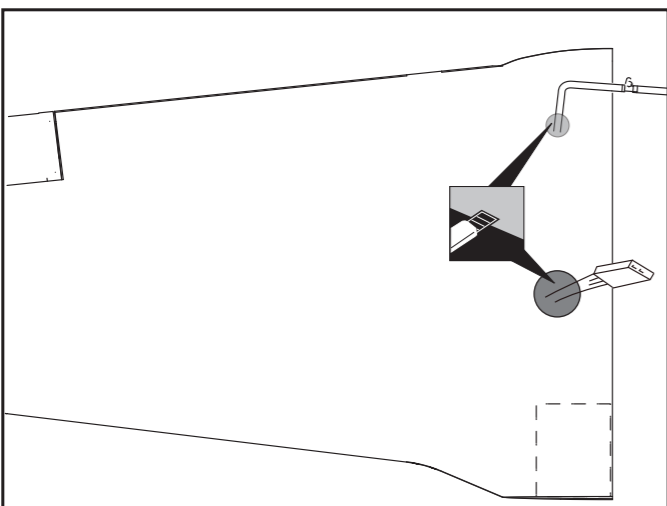
AB Apply epoxy glue. **LR** Assemble left and right sides the same way. **Hand icon** Pay close attention here! **Warning!** Do not overlook this symbol!

CA Apply instant glue (CA glue, super glue). **Hand icon** Ensure smooth non-binding movement while assembling. **Scissors icon** Cut off shaded portion.

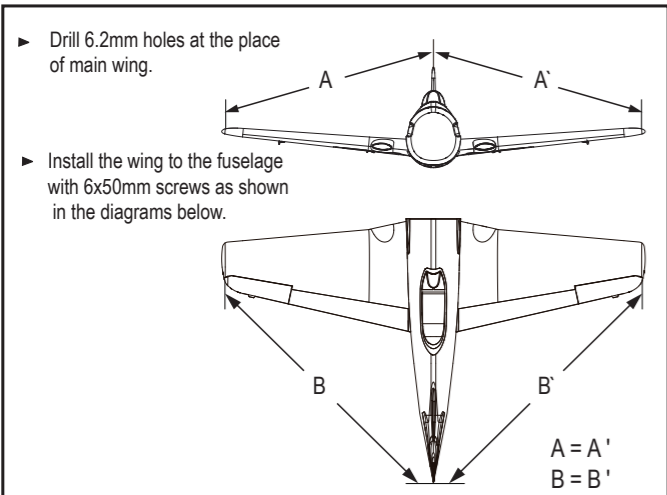
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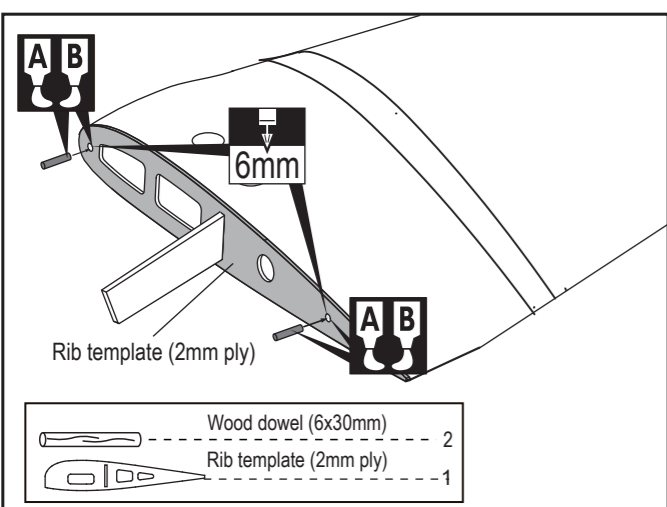
16 Drill holes at appropriate position in the wing for taking the air line and the servo line out.



17 Assemble the wings.



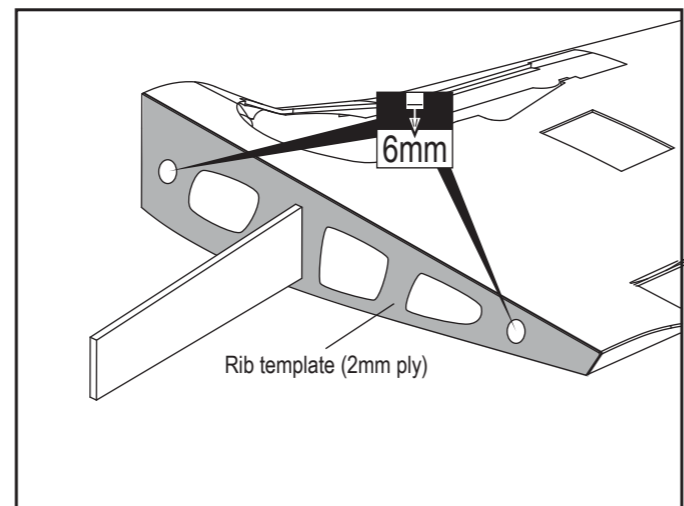
18 According to the rib template drill holes in one wing and epoxy wood dowel in them.



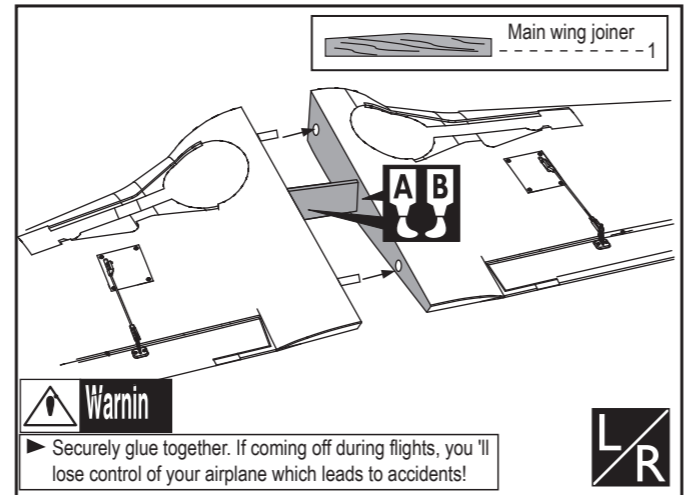
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CA Apply instant glue (CA glue, super glue). **Arrow icon** Ensure smooth non-binding movement while assembling. **Scissors icon** Cut off shaded portion.

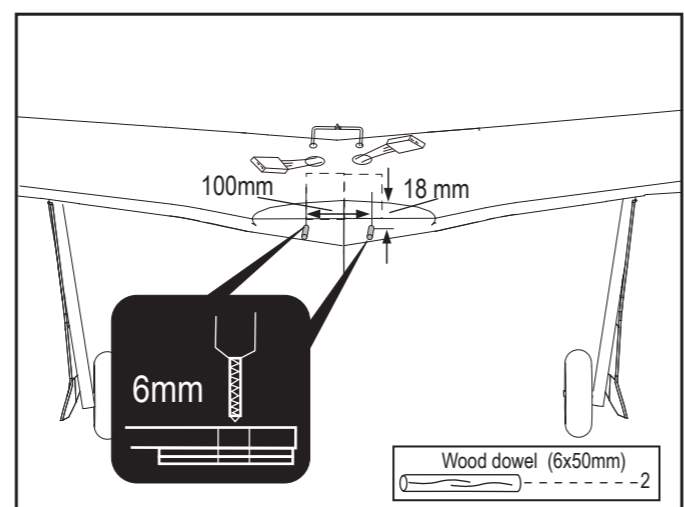
19 According to the rib template drill holes to another main wing.



20 Connect the wings with main wing joiner.



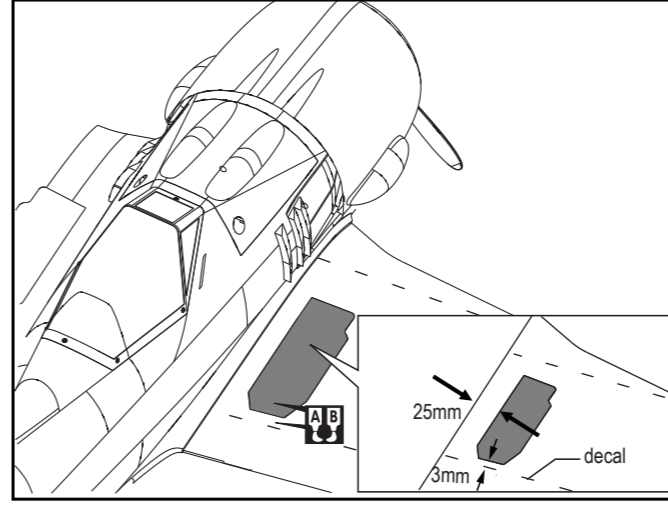
21 Drill holes in the wings and set the wood dowels in them as below.



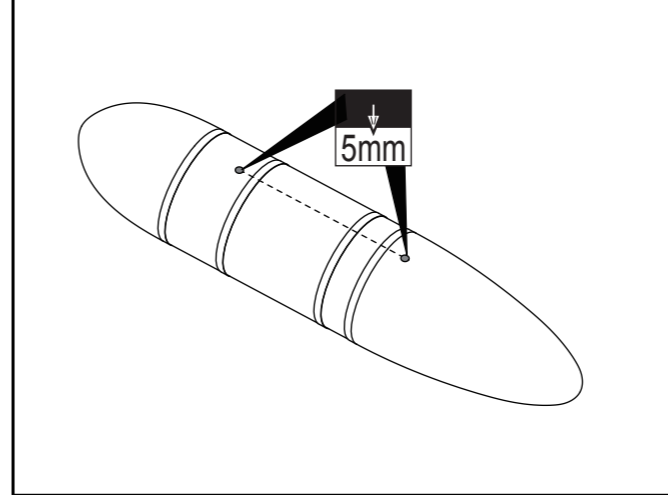
AB Apply epoxy glue. **LR** Assemble left and right sides the same way. **Hand icon** Pay close attention here! **Warning icon** Do not overlook this symbol!

CA Apply instant glue (CA glue, super glue). **Arrow icon** Ensure smooth non-binding movement while assembling. **Scissors icon** Cut off shaded portion.

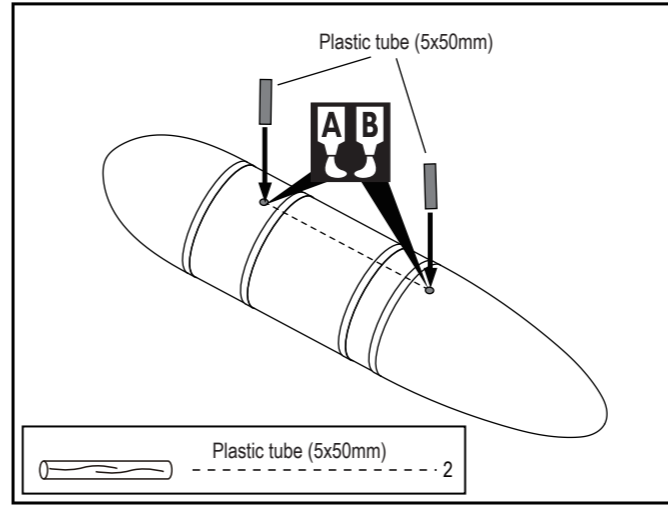
67 Epoxy the PVC part to the appropriate position in wing carefully as below.



68 Drill two holes to appropriate in the drop tank.



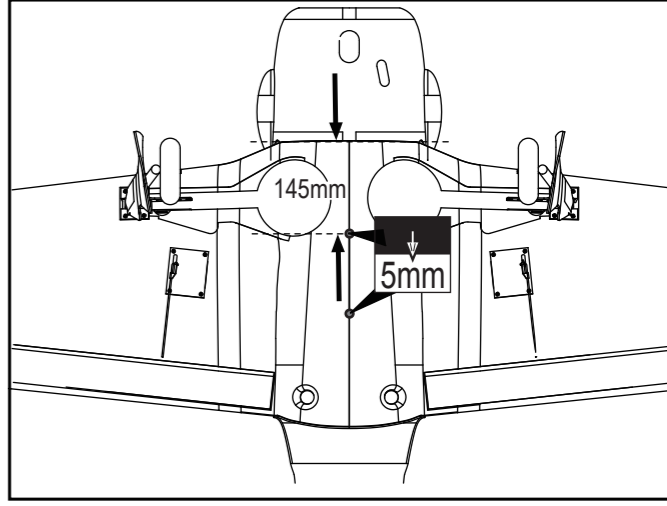
69 Epoxy the plastic tubes in the holes tightly.



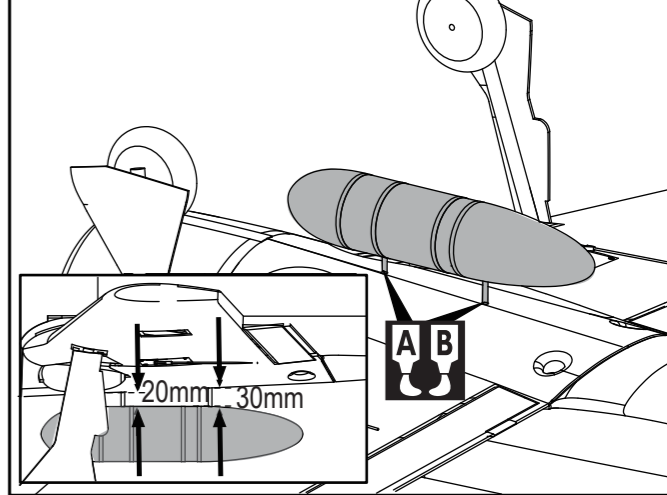
AB Apply epoxy glue. **LR** Assemble left and right sides the same way. **Hand icon** Pay close attention here! **Warning icon** Do not overlook this symbol!

CA Apply instant glue (CA glue, super glue). **Arrow icon** Ensure smooth non-binding movement while assembling. **Scissors icon** Cut off shaded portion.

70



71 Please notice the datas below when assemble the drop tank.



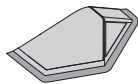



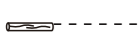
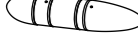

Warning icon Accessory list for the coming installation steps.

| | | |
|--|--------------------------|---|
| | Wheel (100mm) | 2 |
| | Collar (5mm) | 4 |
| | Wooden Block(43x28x26mm) | 2 |
| | Landing gear(5mm) | 1 |
| | TP Screw (3x20mm) | 8 |
| | Landing gear straps | 2 |
| | Gear door | 1 |
| | Wooden Block(25x15x13mm) | 4 |
| | TP Screw (2.6x14mm) | 4 |
| | Washer (3x6mm) | 8 |

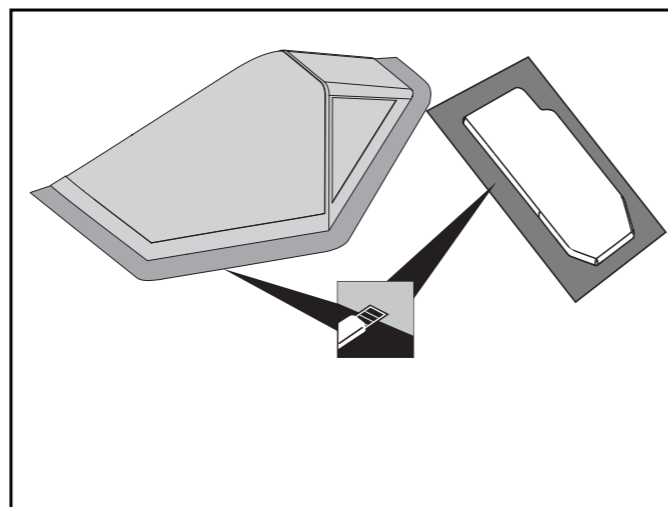
AB Apply epoxy glue. **LR** Assemble left and right sides the same way. **Hand icon** Pay close attention here! **Warning icon** Do not overlook this symbol!

CA Apply instant glue (CA glue, super glue). **Arrow icon** Ensure smooth non-binding movement while assembling. **Scissors icon** Cut off shaded portion.

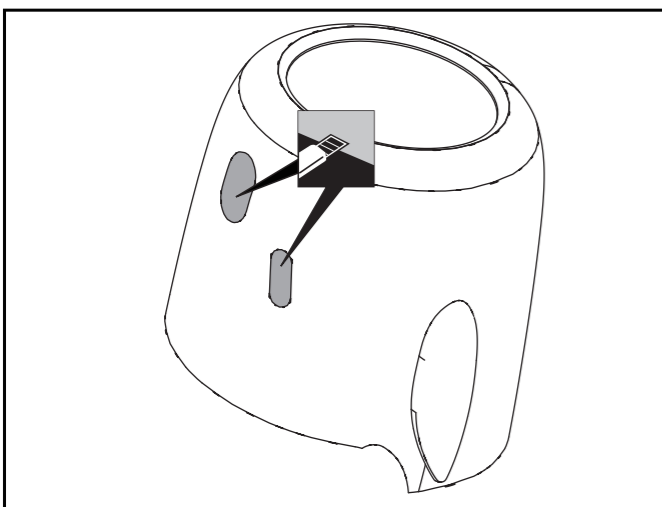
! Accessory list for the coming installation steps.

-  Canopy ----- 1
-  TP Screw (2.3x8mm) ----- 12
-  Ply(15x15x2mm) ----- 12
-  PVC ----- 2
-  Plastic tube (5x50mm) ----- 2
-  Dummy bomb ----- 1
-  Fiber plate ----- 1

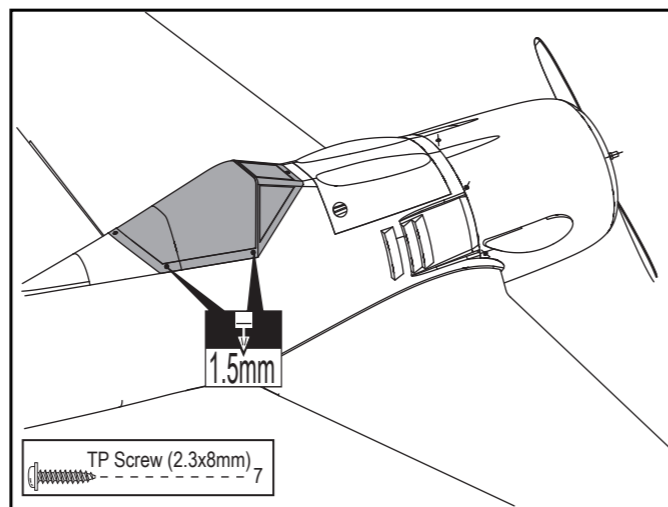
64 Cut away the surplus parts of canopy and PVC parts carefully along the shade line.



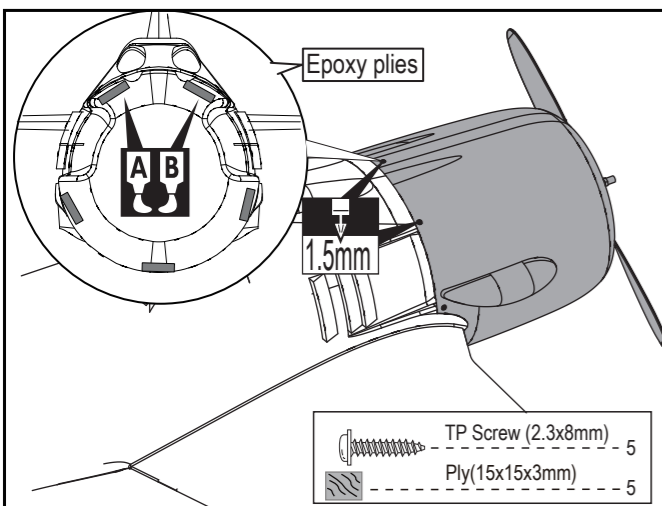
62 Trim the cowling for engine and muffler.



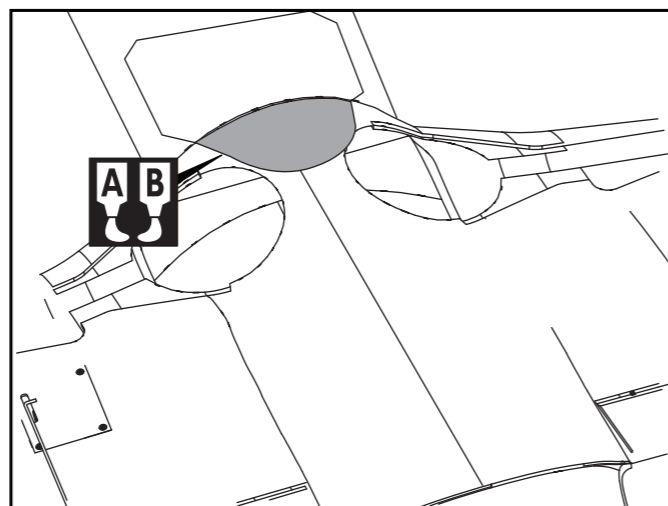
65 Assemble the canopy to the fuselage with TP.



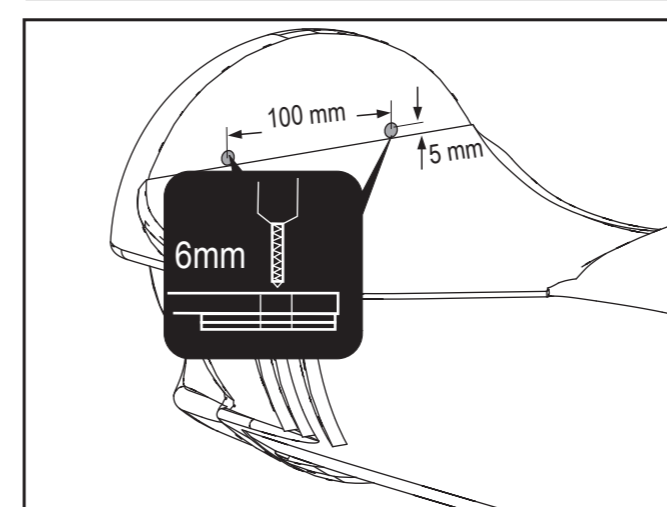
63 Epoxy plies to relevant position inside the fuselage as below for assembling the cowling.



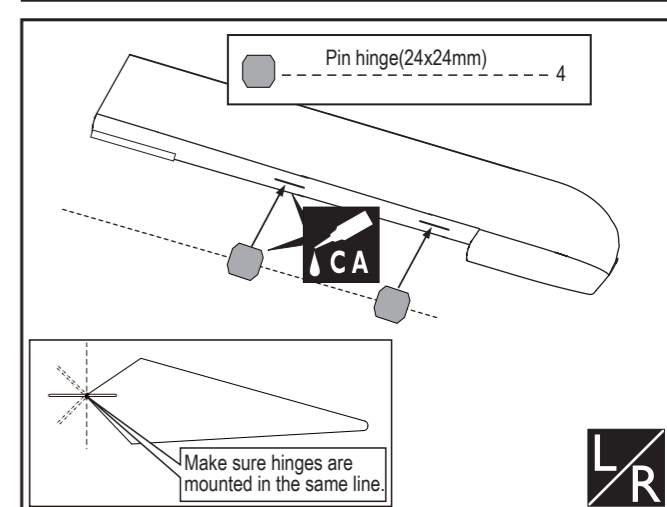
66 Epoxy the belly pant to wing.



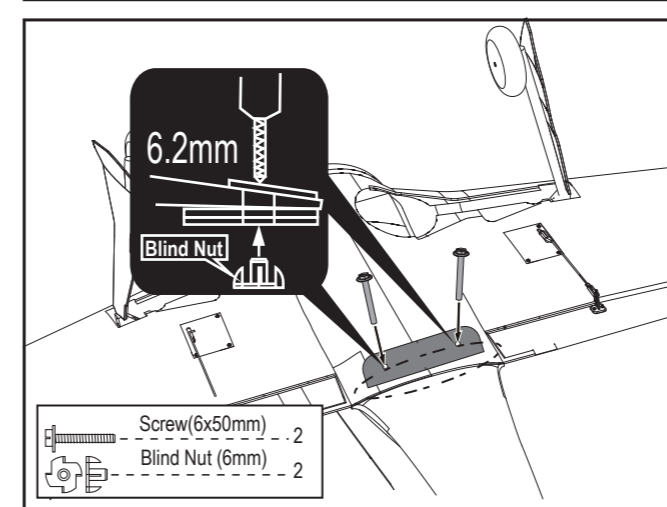
22 Drill holes to relevant position in the fuselage.



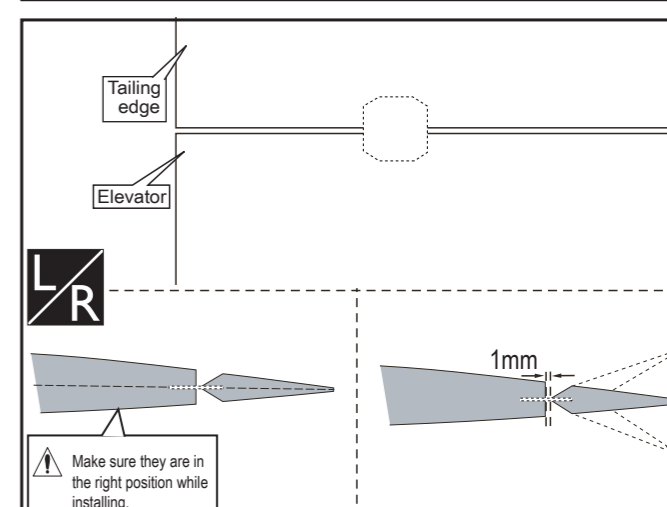
24 Apply instant type CA glue to elevator and pin hinge.



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



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



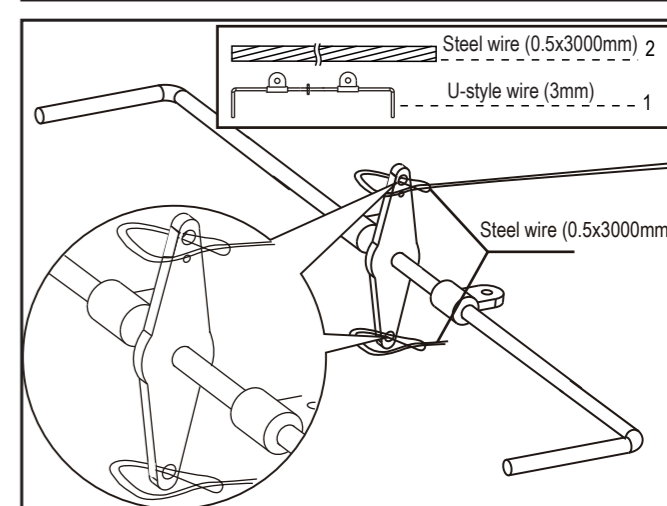
AB Apply epoxy glue. **L/R** Assemble left and right sides the same way. **!** Pay close attention here! **!** Do not overlook this symbol!

CA Apply instant glue (CA glue, super glue). **!** Ensure smooth non-binding movement while assembling. **!** Cut off shaded portion. **!** Warning!

! 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 (2mm ply) ----- 1

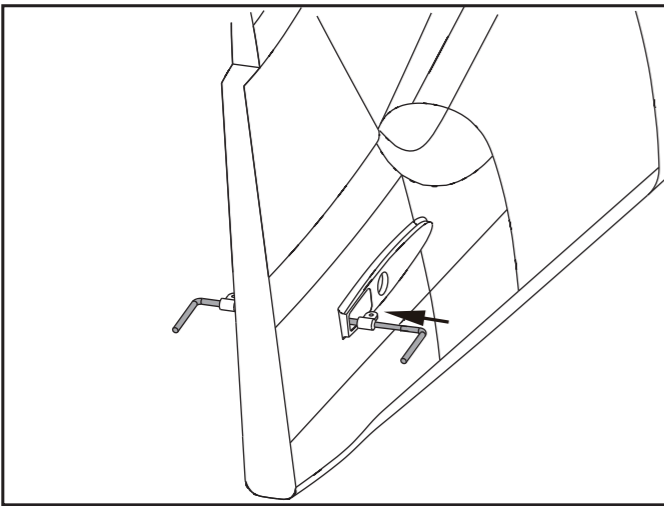
26 connect the fullarm for elevator with steel wire as below.



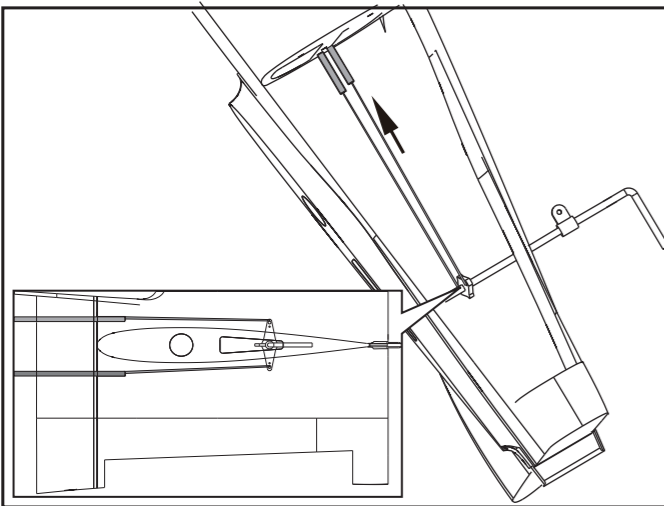
AB Apply epoxy glue. **L/R** Assemble left and right sides the same way. **!** Pay close attention here! **!** Do not overlook this symbol!

CA Apply instant glue (CA glue, super glue). **!** Ensure smooth non-binding movement while assembling. **!** Cut off shaded portion. **!** Warning!

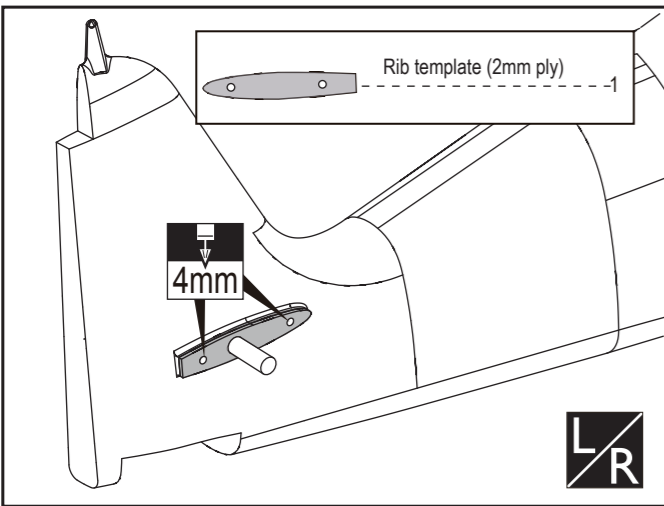
27 Set the U-style wire through the enlarge hole as below.



28 The sketch map of the steel wires in the fuselage.



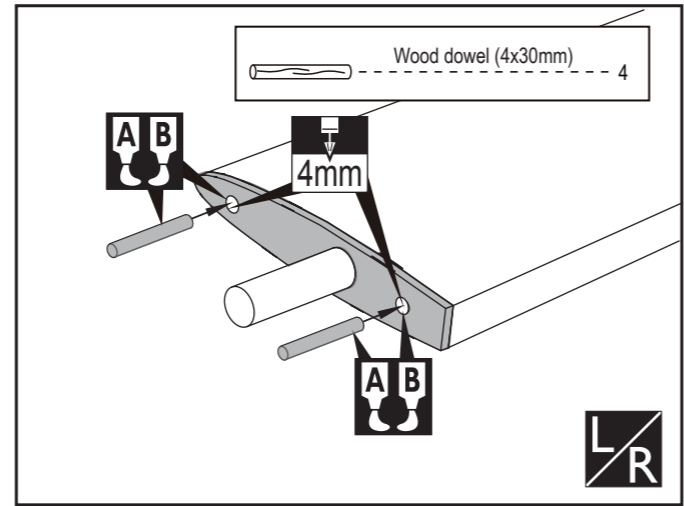
29 According to the rib template drill holes to the tail of fuselage as below.



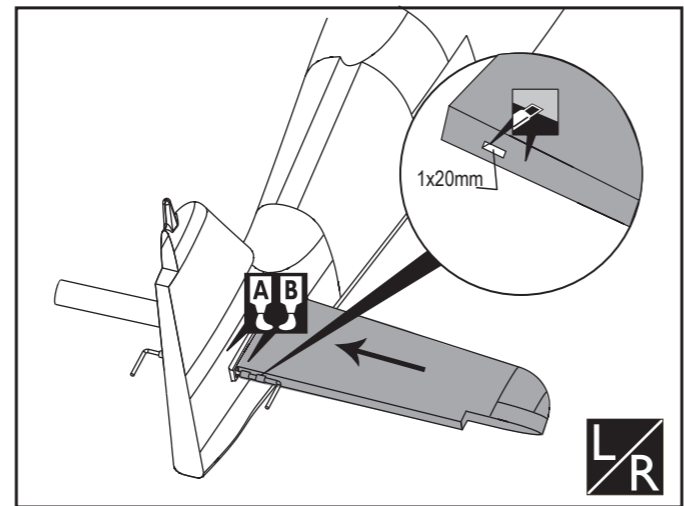
AB Apply epoxy glue. **LR** Assemble left and right sides the same way. **Hand icon** Pay close attention here! **Warning!** Do not overlook this symbol!

CA Apply instant glue (CA glue, super glue). **Arrow icon** Ensure smooth non-binding movement while assembling. **Scissors icon** Cut off shaded portion.

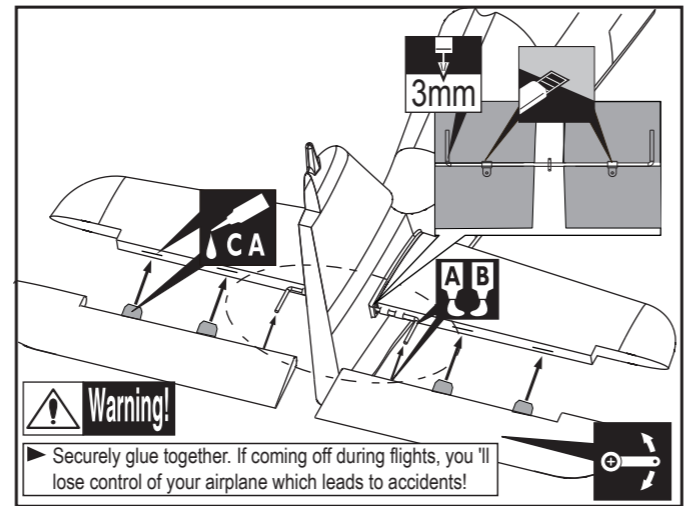
30 Drill two holes at the stabilizer root base on rib template and epoxy the metal dowel in them.



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



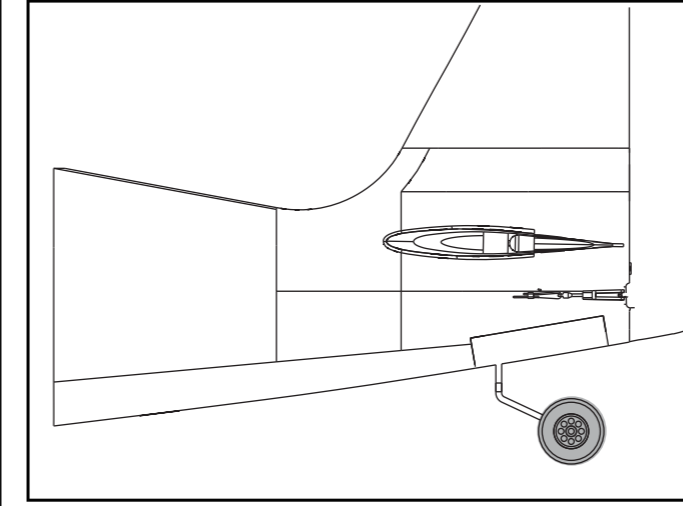
32 Glue the elevator to the stabilizer by CA and epoxy.



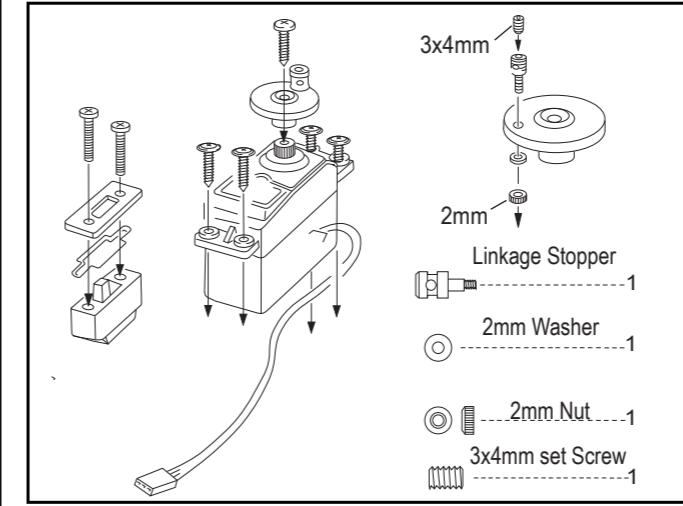
AB Apply epoxy glue. **LR** Assemble left and right sides the same way. **Hand icon** Pay close attention here! **Warning!** Do not overlook this symbol!

CA Apply instant glue (CA glue, super glue). **Arrow icon** Ensure smooth non-binding movement while assembling. **Scissors icon** Cut off shaded portion.

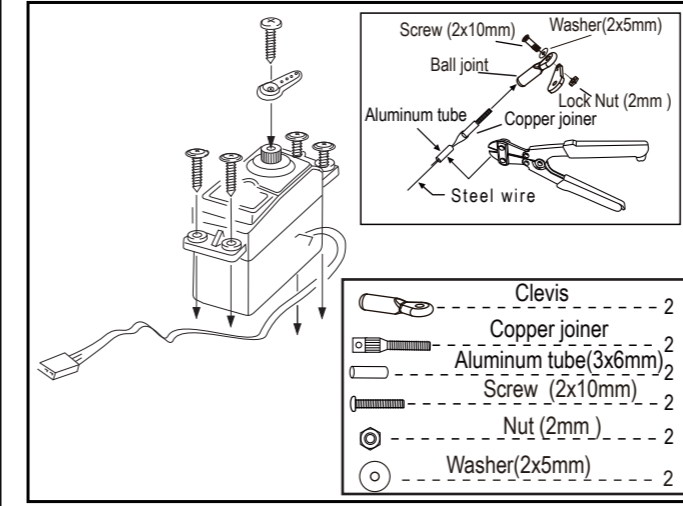
56 Be care to notice the distance between the wheel and fuselage.



57 Install the servo of the rubber servo.



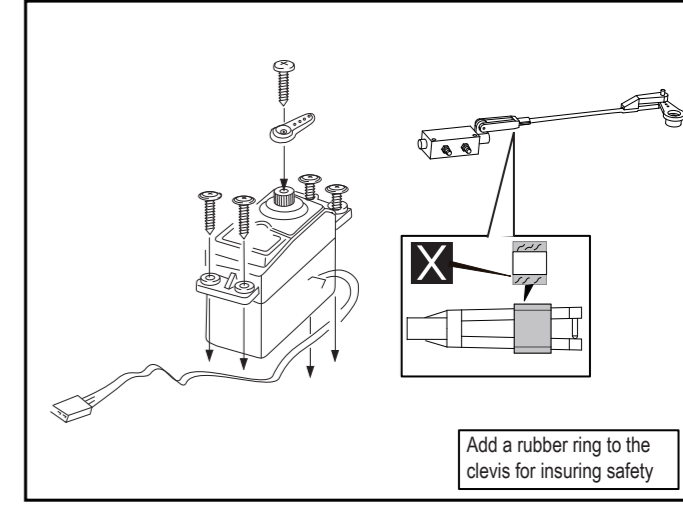
58 Install the servo of elevator.



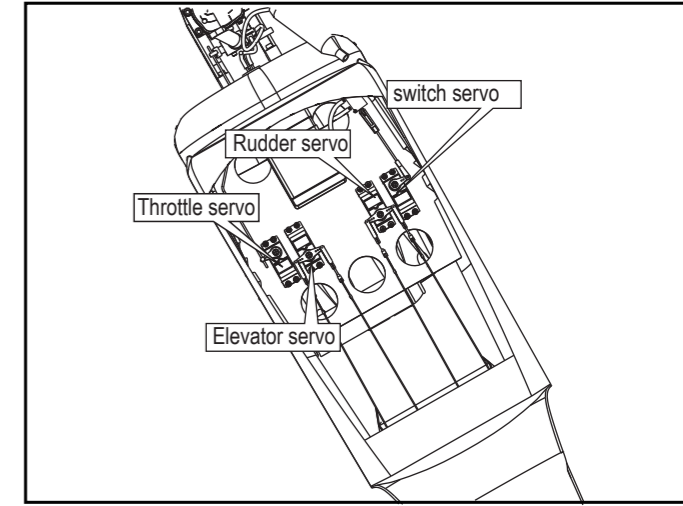
AB Apply epoxy glue. **LR** Assemble left and right sides the same way. **Hand icon** Pay close attention here! **Warning!** Do not overlook this symbol!

CA Apply instant glue (CA glue, super glue). **Arrow icon** Ensure smooth non-binding movement while assembling. **Scissors icon** Cut off shaded portion.

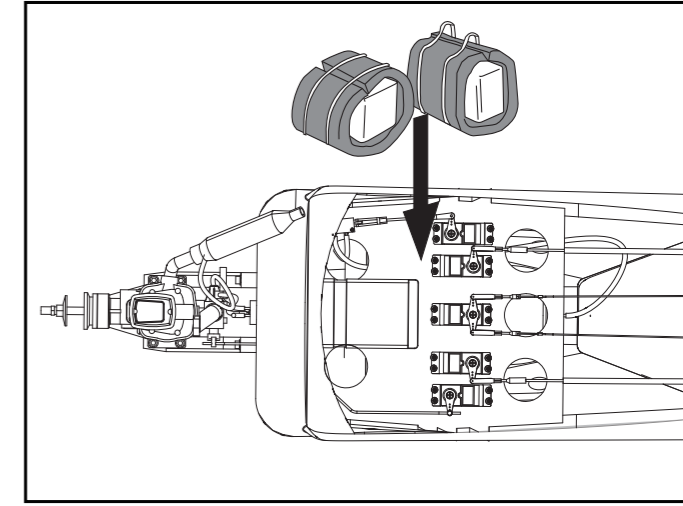
59 Install the servo of switch.



60 The servos installation finished sketch map.



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

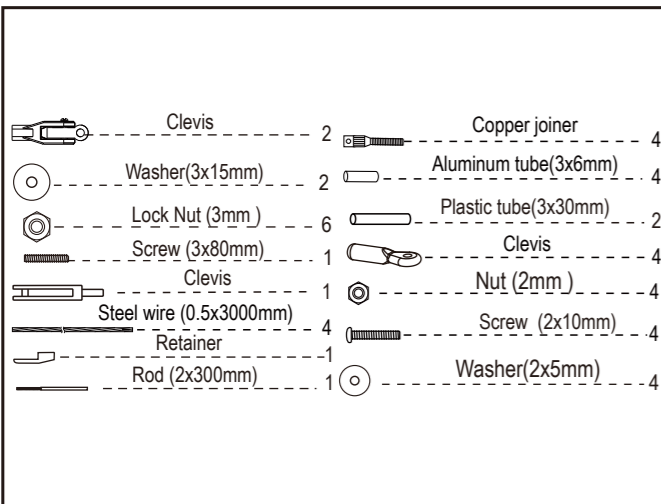


AB Apply epoxy glue. **LR** Assemble left and right sides the same way. **Hand icon** Pay close attention here! **Warning!** Do not overlook this symbol!

CA Apply instant glue (CA glue, super glue). **Arrow icon** Ensure smooth non-binding movement while assembling. **Scissors icon** Cut off shaded portion.

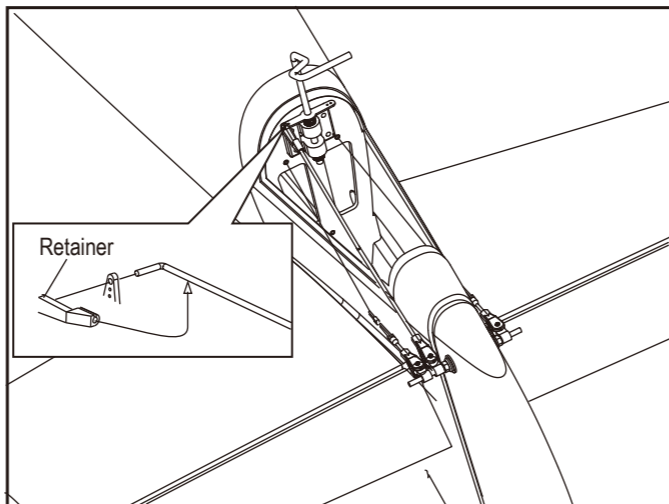


Accessory list for the coming installation steps.



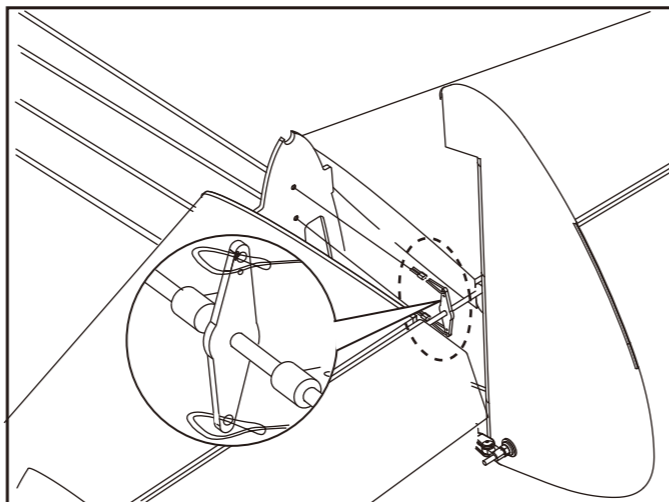
52

The sketch map of the linkage for the rudder and the tail wheel.



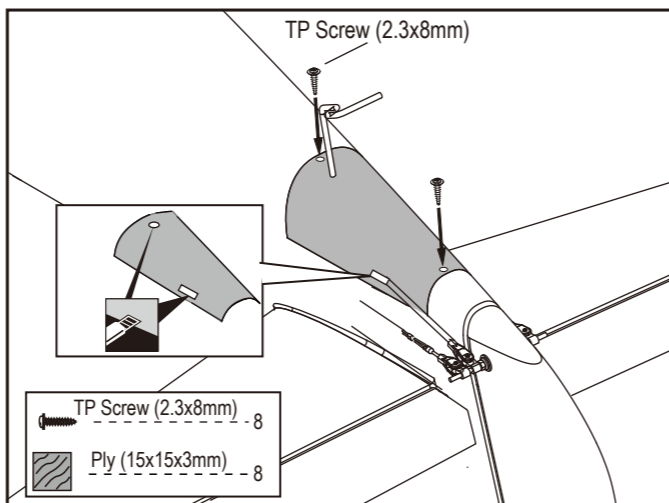
53

The sketch map of the linkages for the rudder and elevator in the fuselage.



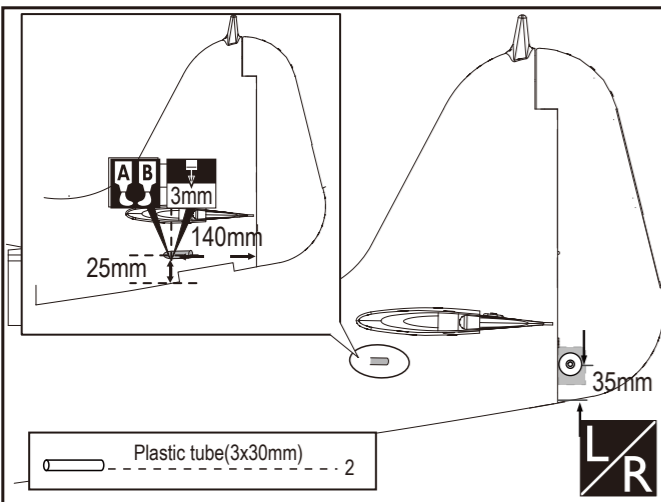
54

Epoxy ply to appropriate position in the fuselage and assemble the tail gear cover with screw.



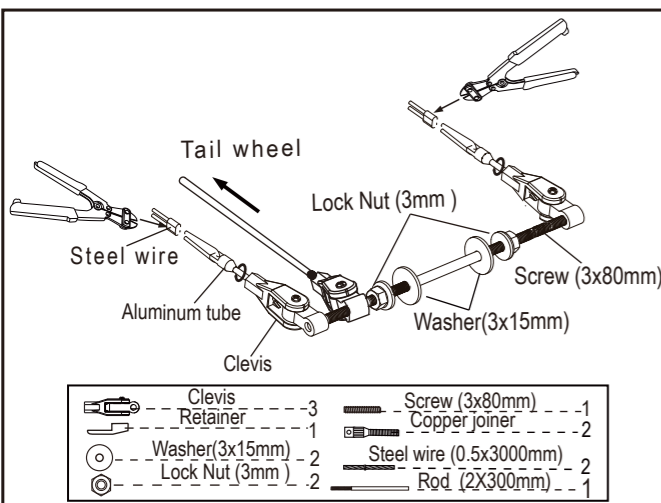
50

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



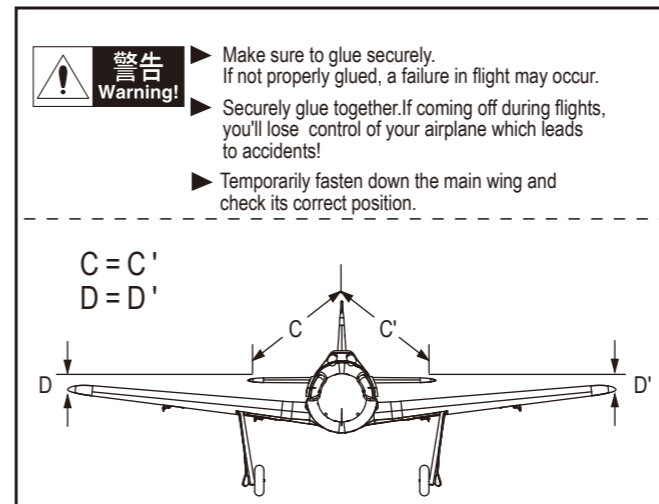
51

The sketch map after the rudder shaft assemble finished.



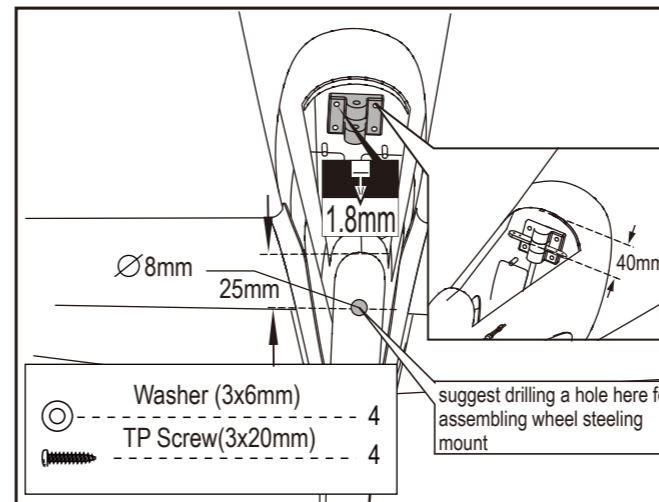
33

Assembly of the stabilizer.



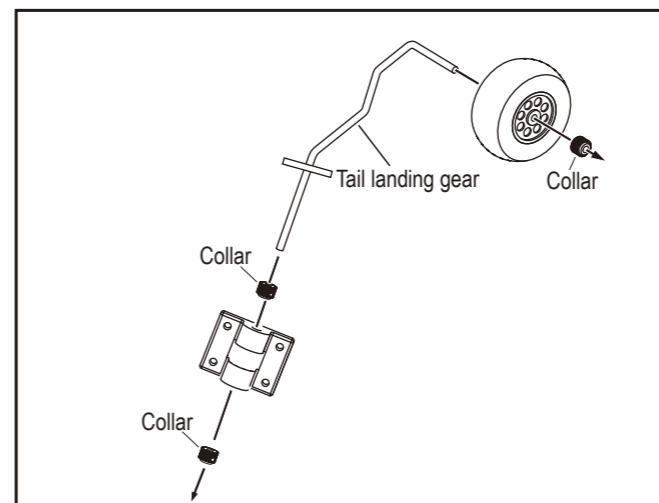
34

Assemble the wheel steering mount to appropriate position.



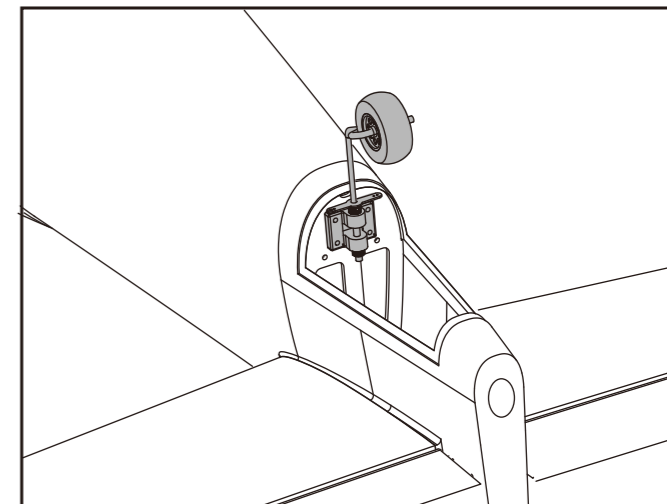
35

Assemble the tail landing gear to the wheel steering mounts as below.



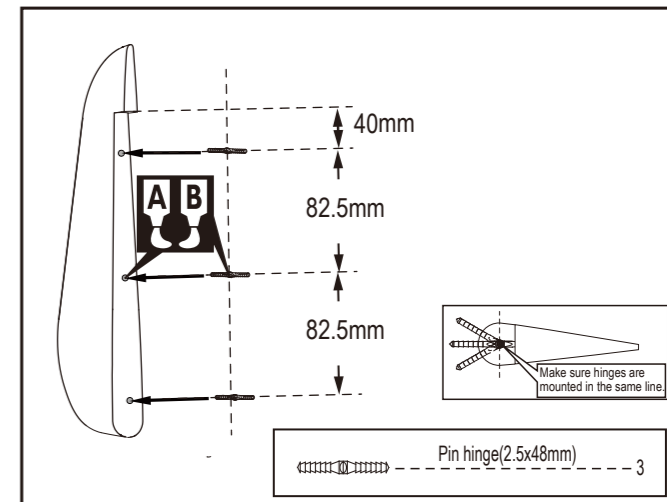
36

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



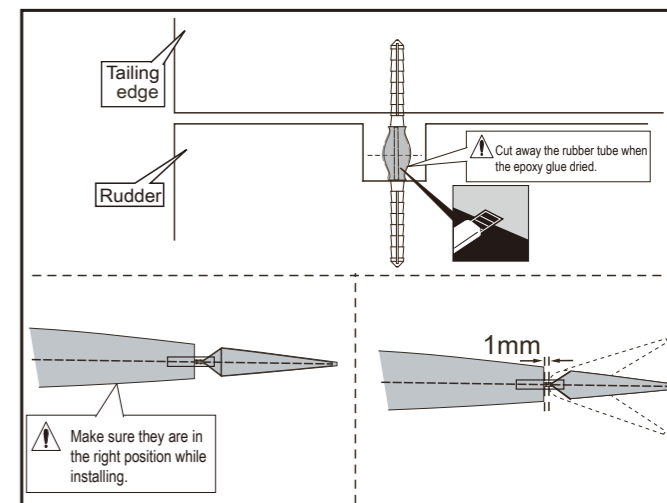
37

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



38

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



Apply epoxy glue.



Assemble left and right sides the same way.



Pay close attention here!

Do not overlook this symbol!



Apply instant glue (CA glue, super glue).



Ensure smooth non-binding movement while assembling.



Cut off shaded portion.



Apply epoxy glue.



Assemble left and right sides the same way.



Pay close attention here!

Do not overlook this symbol!



Apply instant glue (CA glue, super glue).



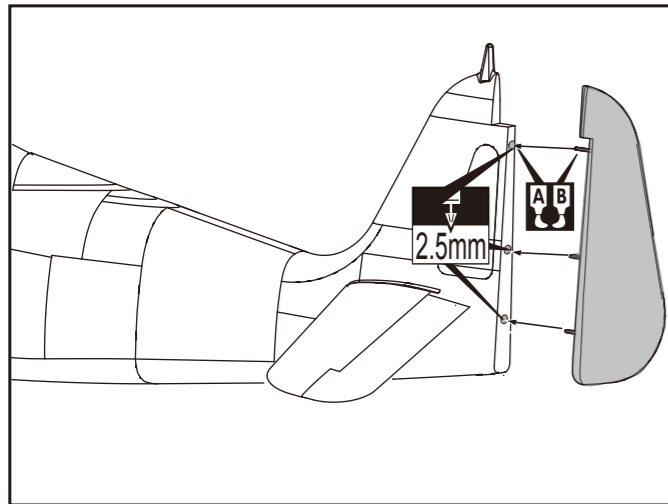
Ensure smooth non-binding movement while assembling.



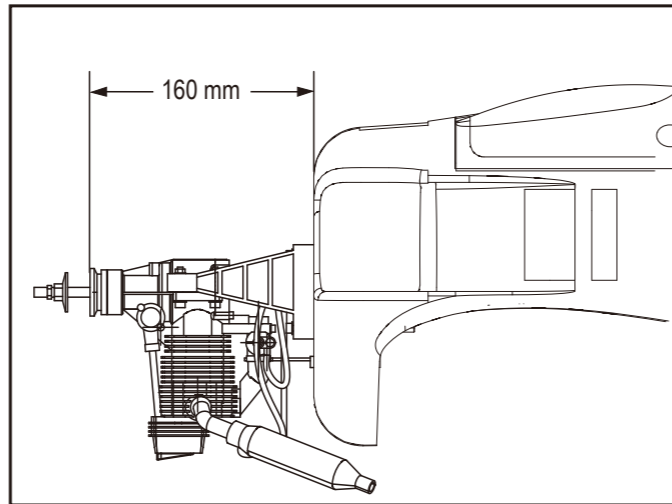
Cut off shaded portion.



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



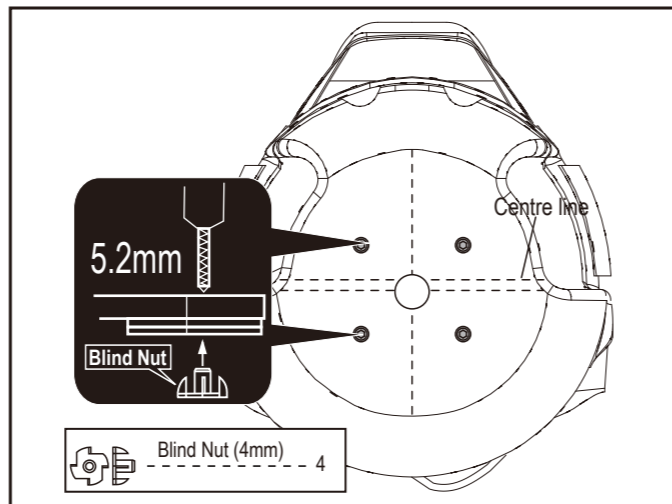
41 The side sketch map of the engine installation finished.



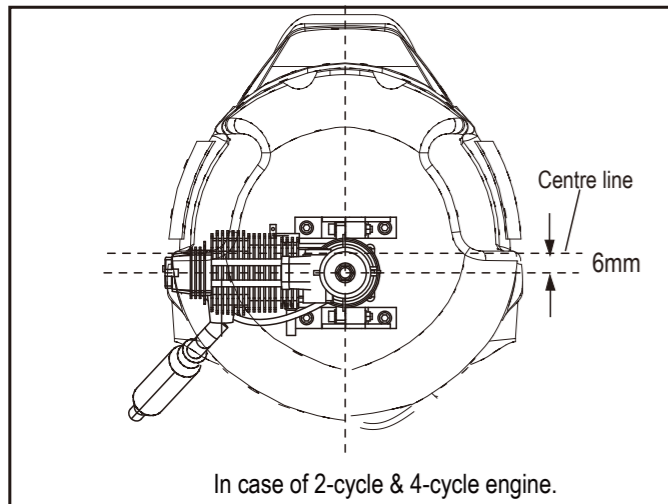
! Accessory list for the coming installation steps.

- Blind Nut (4mm) ----- 4
- Screw (4x35mm) ----- 4
- Screw (4x25mm) ----- 4
- Washer (4x8mm) ----- 12
- Spring Washer (4mm) ----- 4
- Nut (4mm) ----- 4
- Linkage Stopper ----- 2
- Plastic tube (2x400mm) ----- 1
- Engine mount (68x105mm) ----- 2
- Fuel tank (550cc) ----- 1

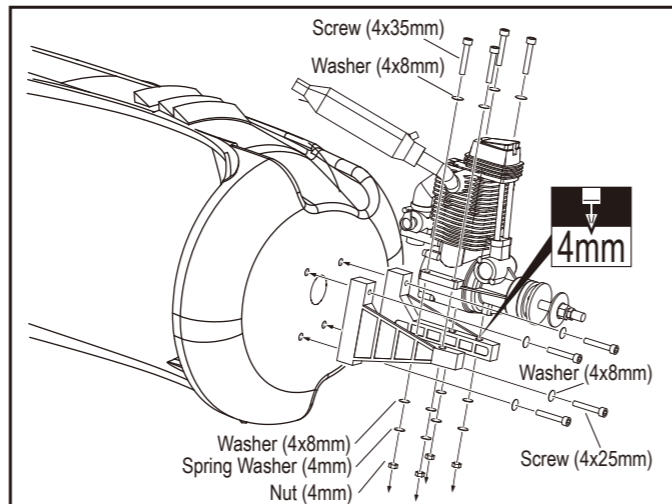
42 Drill 4 holes and set blind nut in appropriate position in the firewall before install the engine.



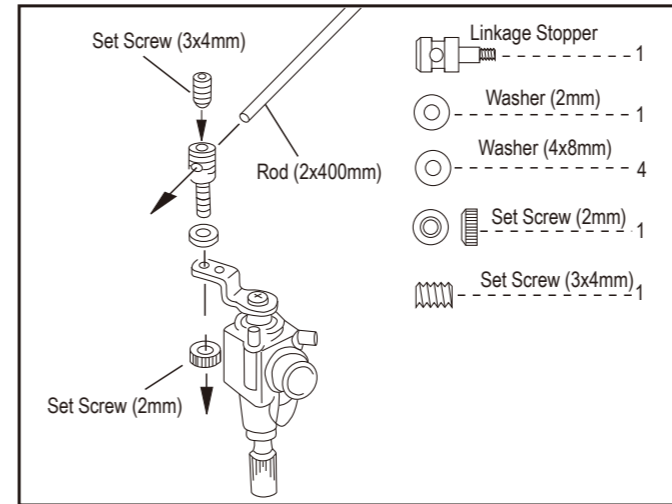
40 The front view of the engine installation finished.



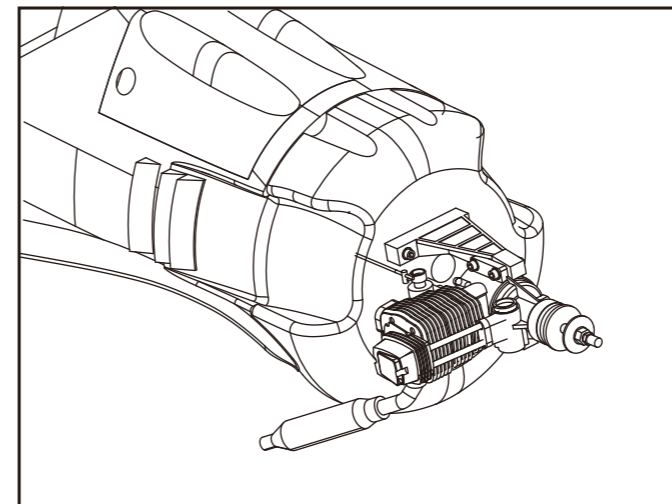
43 Install the engine carefully.



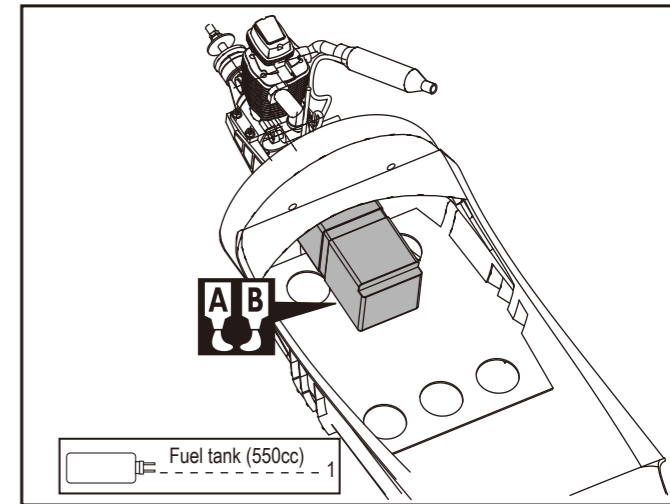
44 Assemble the accelerator push rod to the engine.



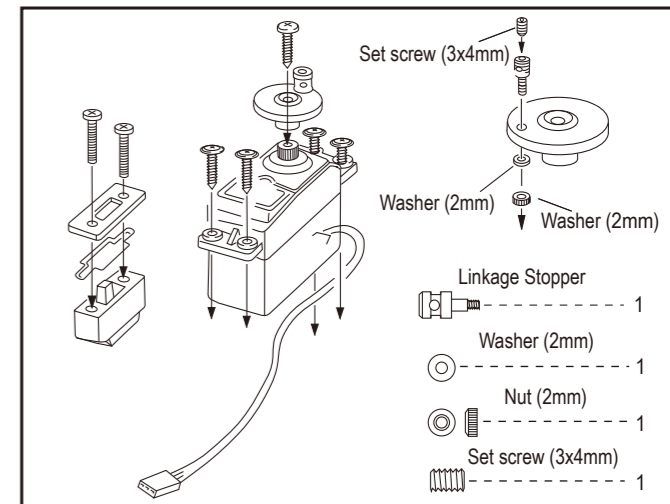
45 Engine installation finished sketch map.



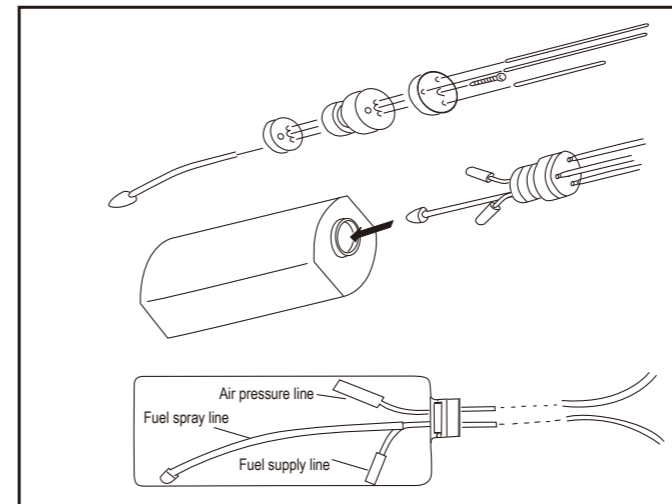
47 Mount the fuel tank to the fuselage.



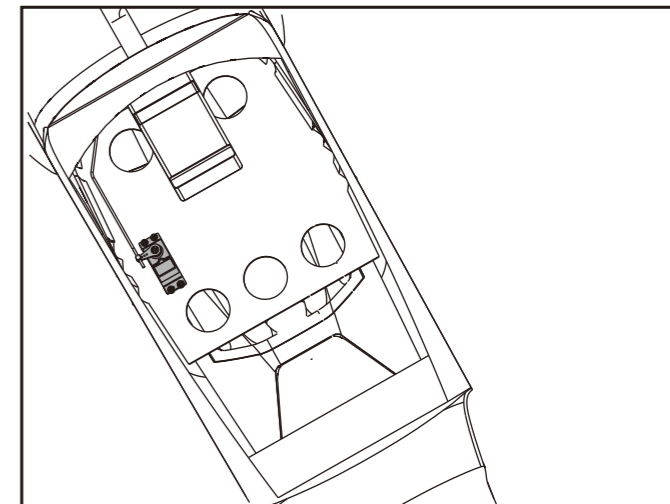
48 Install the servo.



46 Assembly of the fuel tank.



49 Assemble the throttle servo to the fuselage.



AB Apply epoxy glue. **LR** Assemble left and right sides the same way. **!** Pay close attention here!

CA Apply instant glue (CA glue, super glue). **→** Ensure smooth non-binding movement while assembling. **☞** Cut off shaded portion.

Do not overlook this symbol!
Warning!

AB Apply epoxy glue. **LR** Assemble left and right sides the same way. **!** Pay close attention here!

CA Apply instant glue (CA glue, super glue). **→** Ensure smooth non-binding movement while assembling. **☞** Cut off shaded portion.

Do not overlook this symbol!
Warning!