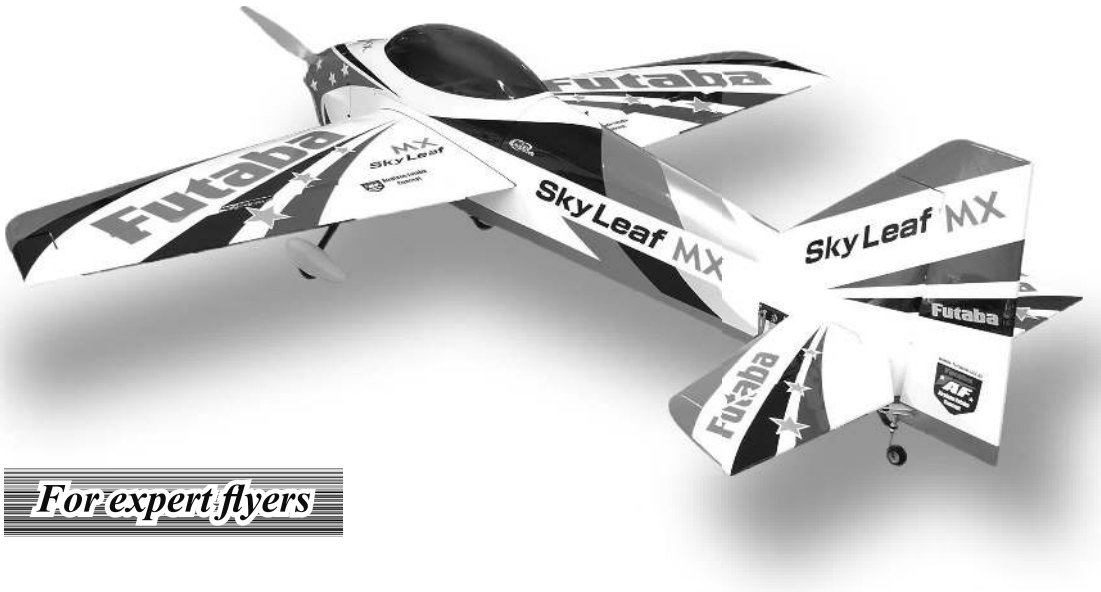
Futaba

SkyLeaf MX

R/C model Aerobatic Plane

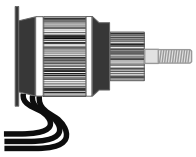
EP: 65 in. motor / GP: Gasoline Engine 30 cc



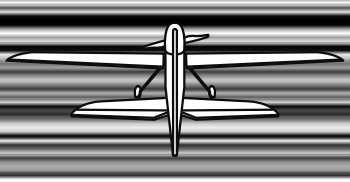
For expert flyers

Instruction Manual

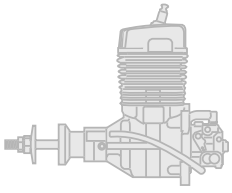
EP



BIG PLANE



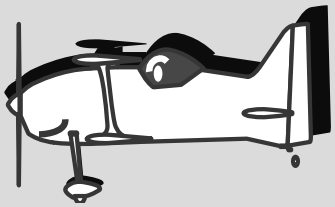
GS



1M23Z06704

Thank you for purchasing Futaba Sky Leaf R/C airplane.

To maximize your enjoyment, and to ensure proper flying, please read through this assembly instruction manual.



This manual has been combined with the electric motor (EP) and the engine (GP). There are some unnecessary parts, so please refer to it according to your purpose.

Futaba guarantees this kit to be free from defects in both material and workmanship at date of purchase. This warranty does not cover any component parts damaged by use or modification. In no case shall Futaba liability exceed the original cost of the purchased kit. Further, Futaba reserves the right to change or modify this warranty without notice.

In that Futaba has no control over the final assembly or material used for final assembly, no liability shall be assumed nor accepted for any damage resulting from the use by the user of the final user-assembled product. By the act of using the user-assembled product, the user accepts all resulting liability. If the buyer is not prepared to accept the liability associated with the product, the buyer is advised to return this kit immediately in new and unused condition to the place of purchase.

Precautions

Application and modification precautions.

1. *This product is only designed for use with radio control models. Use of the product described in this instruction manual is limited to radio control models.*
2. *Modification, adjustment, and parts replacement:*

   Futaba is not responsible for unauthorized modification, adjustment, or replacement of parts on this product.
3. *Your Sky Leaf should not be considered a toy, but rather a sophisticated, working model that functions very much like a full-size airplane. Because of its performance capabilities, this airplane, if not assembled and operated correctly, could possibly cause injury to yourself or spectators and damage to property.*
4. *You must assemble the model according to the instructions. Do not alter or modify the model, as doing so may result in an unsafe or unflyable model. In a few cases the instructions may differ slightly from the figures. In those instances the written instructions should be considered as correct.*
5. *You must take time to build straight, true and strong.*
6. *You must use an R/C radio system that is in good condition, a correctly sized motor/engine, and other components as specified in this instruction manual. All components must be correctly installed so that the model operates correctly on the ground and in the air. You must check the operation of the model and all components before every flight.*
7. *If you are not an experienced pilot or have not flown this type of model before, we recommend that you get the assistance of an experienced pilot in your R/C club for your first flights. If you're not a member of a club, your local hobby shop has information about clubs in your area whose membership includes experienced pilots.*
8. *While this kit has been flight tested to exceed normal use, if the plane will be used for extremely high stress flying, such as racing, or if a motor larger then one in the recommended range is used, the modeler is responsible for taking steps to reinforce the high stress points and/or substituting hardware more suitable for the increased stress.*

For safe use

Please observe the following precautions to ensure safe use of this product at all times.

Meaning of Special Markings:

The parts of this manual indicated by the following marks require special attention from the standpoint of safety.

⚠ **DANGER** - Procedures which may lead to dangerous conditions and cause death/serious injury if not carried out properly.

⚠ **WARNING** - Procedures which may lead to a dangerous condition or cause death or serious injury to the user if not carried out properly, or procedures where the probability of superficial injury or physical damage is high.

⚠ **CAUTION** - Procedures where the possibility of serious injury to the user is small, but there is a danger of injury, or physical damage, if not carried out properly.

⃠ = Prohibited **❗ = Mandatory**

WARNING: Always keep R/C components away from small children.

Assembly precautions

⚠ DANGER

❗ We, as the manufacturer, provide you with a good quality, thoroughly tested kit and instructions, but ultimately the quality and flyability of your finished model depends on how you build it; therefore, we cannot in any way guarantee the performance of your completed airplane, and no representations are expressed or implied as to the performance or safety of your completed airplane.

❗ Take your time and follow the instructions to end up with a well-built model that is straight and true.

❗ First-time builders should seek the advice of experienced modellers before beginning assembly and if they do not fully understand any part of the construction.

❗ Installing a more powerful motor/engine than specified or flying the hi-speed aggressively may lead to serious damage and accidents.

❗ Make the assembly correct with this manual.

■ If the assembly manual is not followed, in flight failure or danger to model and property could occur.

⃠ Do not fly before confirming the correct location of the C.G.

■ If the CG is incorrect, the model will be difficult to fly and could lead to a crash.

❗ Since the direction of the servos of an airplane can be easily mistaken, be very careful.

■ Double check that all directions are correct.

⃠ Do not use an overpowered motor/engine or too large of propeller on this airframe.

■ When not equipped properly, the performance might not be as described by the manufacturer.

❗ Make sure that all surfaces are level before flying.

■ If the surfaces are not level, the airplane will not fly straight and will be hard to control.

❗ Assemble this airplane only in places out of children's reach.

■ A small child may accidentally operate the system. This could cause a dangerous situation and injuries. Each part can be very dangerous when mishandled and cause chemical damage.

⃠ Use glues and adhesives that are needed for assembly in a well ventilated area.

■ Poor ventilation could lead to toxic fumes being inhaled.

Storage and disposal precautions

⚠ CAUTION

⃠ Do not store devices in the following places:

- **Where it is extremely hot (30℃ [86F] or higher) or cold (0℃ [32F] or lower)**
- **Where the equipment will be exposed to direct sunlight**
- **Where the humidity is high**
- **Where vibration is prevalent**
- **Where it is very dusty**
- **Where the device may be exposed to steam and heat**

❗ When the device will not be used for a long time, remove the battery from the transmitter and aircraft and store them in a dry place where the temperature is between 0 and 30℃ [32F and 86F].

■ Leaving batteries inside your model and radio when they are not being used for long periods will result in battery deterioration, liquid leakage and other damage.

Other precautions

⚠ CAUTION

⃠ Do not directly expose model to fuel, oil, exhaust gas, etc.

■ If left in such an environment, the model may be attacked and damaged.

⃠ Do not add any extra devices that are not suggested by the factory on the airplane.

■ If the airplane is changed too much, the manufacture cannot promise correct performance.

❗ Join the Academy of Model Aeronautics.

■ The Academy of Model Aeronautics (AMA) provides guidelines and liability protection should the need arise.

❗ Always use genuine Futaba products such as transmitter, receiver, servo, etc.

■ Futaba is not responsible for damage sustained by combination with other than Futaba Genuine Parts. Use the parts specified in the instruction manual and catalog.

Flying precautions

⚠ DANGER

❗ Take enough safety precautions prior to operating this model. You are responsible for this model's assembly and safe operation.

❗ First-time fliers should seek advice for hints in pre-flight adjustments and assembly from experienced fliers. Be reminded that flying a badly assembled or badly adjusted airplane is very dangerous.

❗ In the beginning, first-time fliers should always be assisted by an experienced flier and never fly alone.

❗ Before flying your airplane, ensure the airfield is spacious enough. Always fly it outdoors in safe areas with no debris or obstacles.

❗ Ensure the propeller are securely installed.

⃠ Do not fly your airplane on days with strong winds or side winds.

⃠ Do not allow a bystander to get too close to the propeller.

❗ Do not use defective propellers.

⃠ Never grasp the transmitter antenna while flying.

■ The transmitter output may drop drastically.

❗ Always make sure that all transmitter stick movements operate all servos properly in the model prior to flight. Also, make sure that all switches, etc. function properly as well. If there are any difficulties, do not use the system until all inputs are functioning properly.

❗ While operating, never touch the transmitter with, or bring the transmitter near, another transmitter, a cell phone, or other wireless devices.

■ Doing so may cause erroneous operation.

⃠ Do not point the antenna directly toward the aircraft during flight.

■ The antenna is directional and the transmitter output is weakest. (The strength of the radio waves is greatest from the sides of the antenna.)

⃠ Never fly on a rainy day, when the wind is strong, and at night.

■ Water could lead to failure or improper functionality and poor control of the aircraft which could lead to a crash.

⃠ Never turn the power switch on and off during flight or while the motor is running.

■ Operation will become impossible and the aircraft will crash. Even if the power switch is turned on, operation will not begin until transmitter and receiver internal processing is complete.

⃠ Do not fly when you are physically impaired as it could pose a safety hazard to yourself or others.

⃠ Do not fly at the following places:

■ Near another radio control flying field.

■ Near or above people.

■ Near homes, schools, hospitals airports, roads or other places where people congregate.

■ Near high voltage lines, high structures, or communication facilities.

❗ When setting the transmitter on the ground during flight preparations, do not stand it upright.

■ The transmitter may tip over, the sticks may move and the propeller may rotate unexpectedly and cause injury.

⃠ Do not touch the motor, motor controller, engine, exhaust silencer, during and immediately after use.

■ These items may become hot during use.

❗ For safety, fly so that the aircraft is visible at all times.

■ Flying behind buildings or other large structures will not only cause you to lose sight of the aircraft, but also degrade the RF link performance and cause loss of control.

❗ From the standpoint of safety, always set the fail safe function.

■ In particular, normally set the throttle channel to idle.

❗ When flying, always return the transmitter setup screen to the Home screen.

■ Erroneous input during flight is extremely dangerous.

❗ Always check the remaining capacity of the transmitter and receiver batteries before each flying session prior to flight.

■ Low battery capacity will cause loss of control and a crash.

❗ Always check operation of each control surface and perform a range test before each flying session.

■ Even one transmitter setting or aircraft abnormality can cause a crash.

❗ Before turning on the transmitter:

1. Always move the transmitter throttle stick position to the minimum (idle) position.

2. Turn on the transmitter first and then the receiver.

❗ When turning off the transmitter's power switch after the motor/engine has stopped (state in which it will not rotate again):

1. Turn off the receiver power switch.

2. Then turn off the transmitter power switch.

■ If the power switch is turned on/off in the opposite order, the propeller may rotate unexpectedly and cause a serious injury.

■ Also always observe the above order when setting the fail safe function.

■ Maximum low throttle: Direction in which the motor runs at the slowest speed or stops.

❗ When adjusting the transmitter, stop the motor/engine, disconnect the motor wiring that allows it to continue operation. When doing so, please exercise extreme caution. Ensure that the aircraft is secured and that it will not come into contact with anything or anyone. Ensure that the motor will not rotate prior to making any adjustments.

■ Unexpected high speed rotation of the motor/engine may cause a serious injury.

⃠ This airframe is not designed to fly at excessively high speeds.

■ The airplane could become damaged.

Battery and charger handling precautions

⚠ DANGER

⃠ Do not recharge a battery that is damaged, deteriorated, leaking electrolyte, or wet.

⃠ Do not allow the charger or battery to become wet.

■ Do not use the charger when it or your hands are wet. Do not use the charger in humid places.

⃠ Do not short circuit the battery.

⃠ Do not repair, deform, modify, or disassemble the battery and/or battery charger.

⃠ Do not drop the battery into a fire or bring it near a fire.

⃠ Do not charge and store the battery in direct sunlight or other hot places.

⃠ Do not charge the battery if it is covered with any object as it may become very hot.

⃠ Do not use the battery in a combustible environment.

■ The gas could ignite ignite and cause an explosion or fire.

❗ Always charge the battery before each flying session.

■ If the battery goes dead during flight, the aircraft will crash.

■ Charging the battery past the specified value may cause a fire, combustion, rupture, or liquid leakage.

■ Do not charge the battery while riding in a vehicle. Vibration will prevent normal charging.

⃠ When using the Lithium battery, do not connect the charger to the balance charge connector and the power connector at the same time.

■ Doing so could cause a fire, combustion, generation of heat, rupture, or liquid leakage.

❗ Insert the power cord plug firmly into the receptacle up to its base.

❗ Always use the charger with the specified power supply voltage.

■ Use the special charger by connecting it to a proper power outlet.

❗ If the battery liquid should get in your eyes, do not rub your eyes, but immediately wash them with tap water or other clean water and get treated by a doctor.

■ The liquid can cause blindness.

⚠ WARNING

⃠ Do not touch the charger and battery for any length of time during charging.

■ Doing so may result in burns.

⃠ Do not use a charger or battery that has been damaged.

⃠ Do not touch any of the internal components of the charger.

■ Doing so may cause electric shock or a burn.

⃠ If any abnormalities such as smoke or discoloration are noted with either the charger or the battery, remove the battery from the transmitter or charger and disconnect the power cord plug and do not use the charger.

■ Continued use may cause fire, combustion, generation of heat, or rupture.

⃠ Do not subject the batteries to impact.

■ Doing so may cause fire, combustion, generation of heat, rupture, or liquid leakage.

❗ Use and store the battery and battery charger in a secure location away from children.

■ Not doing so may cause electric shock or injury.

❗ If the battery leaks liquid or generates an abnormal odor, immediately move it to a safe place for disposal.

■ Not doing so may cause combustion.

❗ If the battery liquid gets on your skin or clothing, immediately flush the area with tap water or other clean water.

■ Consult a doctor. The liquid can cause skin damage.

❗ After the specified charging time has elapsed, end charging and disconnect the charger from the receptacle.

❗ When recycling or disposing of the battery, isolate the terminals by covering them with tape.

■ Short circuit of the terminals may cause combustion, generation of heat or rupture.

⚠ CAUTION

⃠ Do not place heavy objects on top of the battery or charger. Also, do not place the battery or charger in any location where it could fall.

■ Doing so may cause damage or injury.

⃠ Do not store or use the battery and charger where it is dusty or humid.

■ Insert the power cord plug into the receptacle only after eliminating the dust.

⃠ After the aircraft/transmitter has been used for a long time, the battery may become hot. Immediately remove it from the aircraft/transmitter.

■ Not doing so may cause a burn.

⃠ Do not charge the battery in extreme temperatures.

■ Doing so will degrade the battery performance. An ambient temperature of 10℃ to 30℃ (50F to 86F) is ideal for charging.

⃠ Unplug the charger when not in use.

⃠ Do not bend or pull the cord unreasonably and do not place heavy objects on the cord.

■ The power cord may be damaged and cause combustion, generation of heat, or electric shock.

Gasoline precautions

⚠ DANGER

Gasoline is highly flammable and explosive, toxic and extremely dangerous, so be careful when handling it. Carefully read the manual of the gasoline engine and follow it.

Always keep fire extinguishers near the fuel and plane.

Remove fuel from the plane when not in flight, remember that there is a danger of igniting remaining gas.

Remove the fuel and battery from the plane, and keep it in a place with no fire.

Because the plane is easy to burn, be aware of the fire.

To charge the battery, remove it from the plane and do it away.

Fuel tank, fuel pipe, fuel pump etc. must be used exclusively for gasoline engine. Do not use for glow engines.

1 Required for flight (Purchase separately)

- Transmitter/Receiver (More than 6 channels)
  (e.g. Futaba 10J, 12K, 14SG, 16SZ, 18SZ, 18MZ)
- Receiver battery
- Extension code
- Spinner（82 mm）

EP - Motor

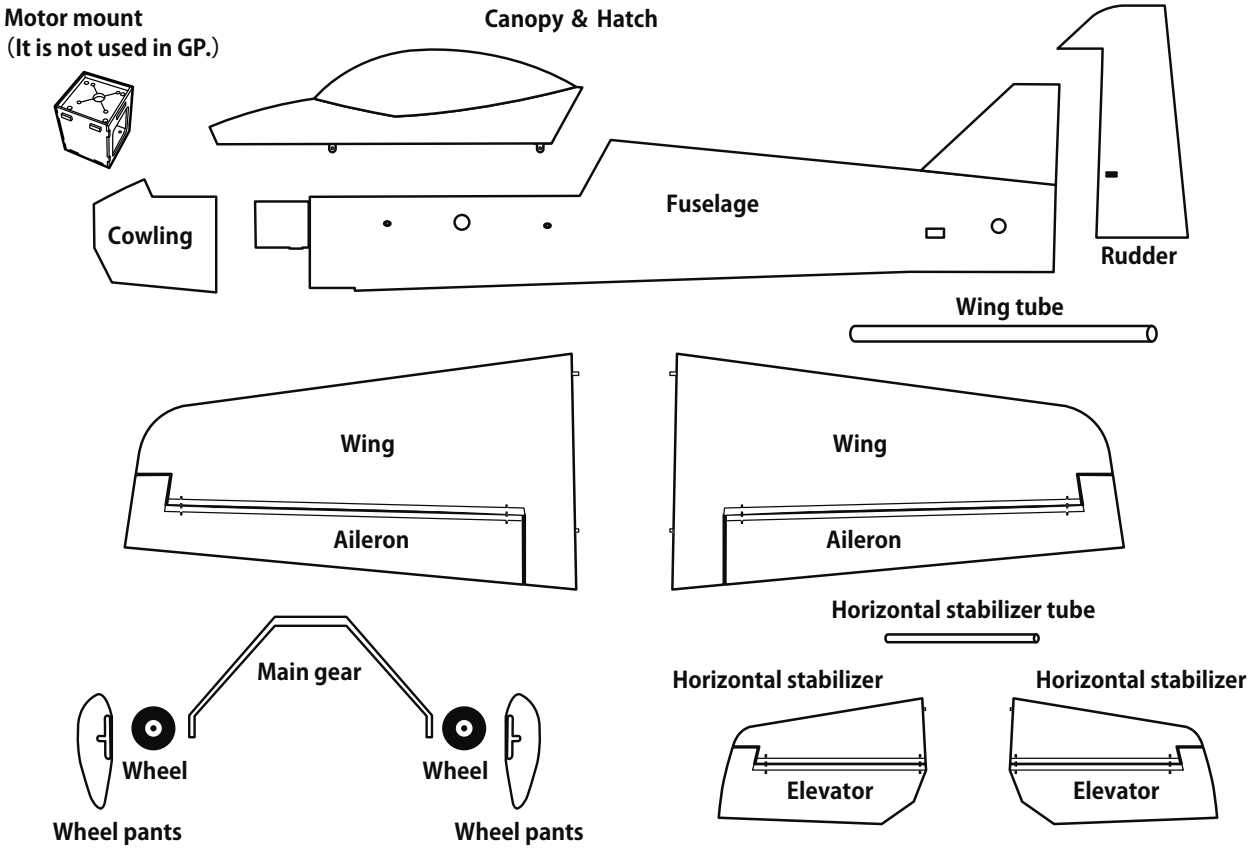
- Motor 65 in. class（Futaba FMA-5065, KV300, etc.）
- Motor controller（Futaba MC9100A, etc.）
- Lipo Battery（8 cell 3,500 ～ 5,000 mAh）
- Lipo charger
- Propeller（19 × 10 ～ 20 × 8）
- （5 servos）Unnecessary when servo SET

GP - Engine

- Gasoline Engine 30cc（O.S.GT33, etc.）
- Silencer
- Fuel tank (400 ～ 500 cc)
- Gasoline fuel + Oil
- Fuel silicon tube for gasoline（Nipple, fuel stopper）
- Igniter battery
- Propeller（18 × 10 ～ 19 × 8）
- （6 servos）Unnecessary when servo SET

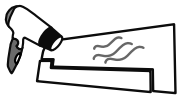
- Exacto Knife
- Wire cutter
- Needle nose pliers
- Scissors
- Screwdriver
- Hex key
- Drill
- Tape
- CA glue
- Epoxy Adhesives
- Magic Marker
- Iron
- Hook-and-Loop Tape
- Sandpaper
- Grease　　etc.

2 SET contents



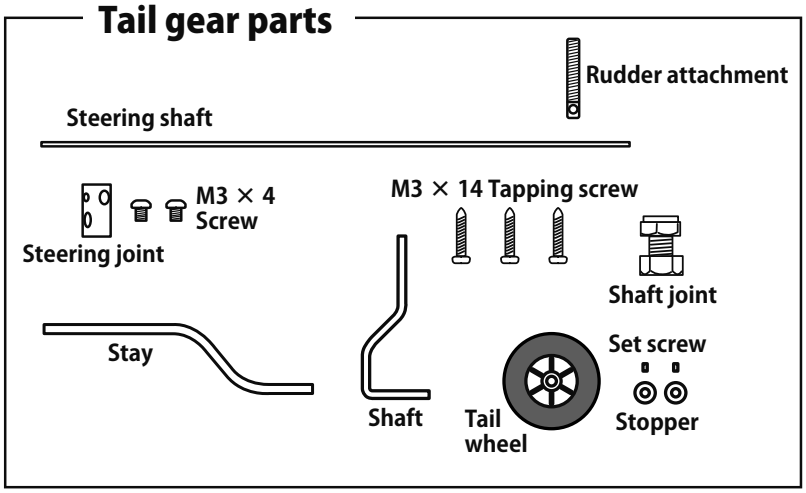
The edge of the film may be peeled off. One method is to coat with a small amount of clear-paint.

The covered film may become wrinkly due to variations of temperature. Smooth out as explained right.

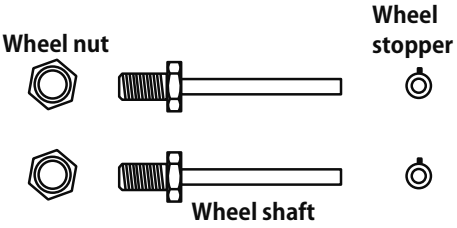


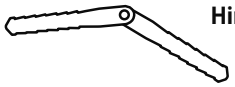
⚠ **Be careful as the film will be damaged if it gets too hot.**

Tail gear parts

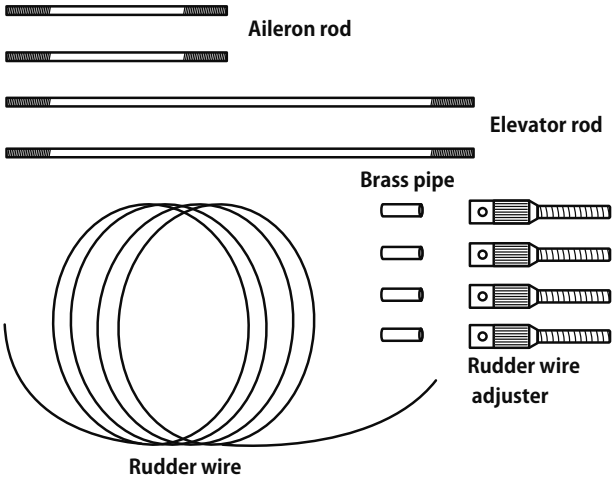


Decal sheet





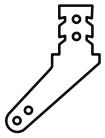
Hinge × 22
(Some hinges are temporarily fixed to the plane)



Ball link × 6

Ball link with spacer × 6

Notice that there are two types of ball links !
Ball link with spacer is attached to the servo horn side.



Control horn × 8

Horn guide × 6

Control horn Rudder × 2

Wood washer  × 2

*Screw nut washer may be included extra.

*ALL parts are subject to change without prior notice.

Screw · Nut · Washer

M4×20 Hex  ×12

M3×16 Hex  ×16

M3×12 Hex  ×6

M3×10 Hex  ×4

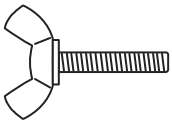
M2.6×12 Tapping  ×4

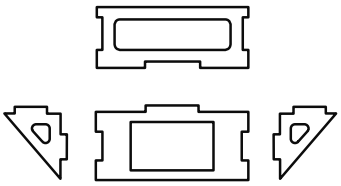
M4 Nylon nut  ×12

M3 Nylon nut  ×12

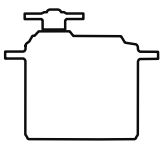
M4 Washer  ×16

M3 Washer  ×26

M4×20 wing bolt  ×2



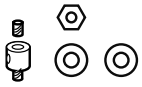
Throttle servo mount
(It is not used in EP.)



In case of Servo SET
Servo BLS175SV × 5
＋ Aluminum horn

Throttle control parts

Throttle rod



Throttle adjuster

Ball link-S

M2 × 9 Hex

M2 Nut

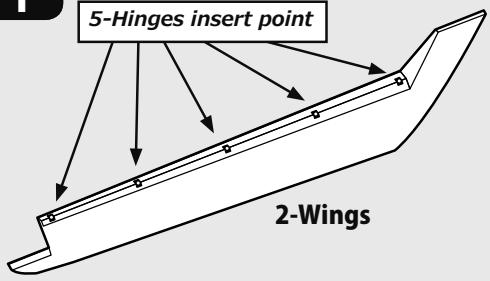
(It is not used in EP.)

3 Main wing

1. Installation of Ailerons

1

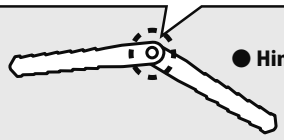
5-Hinges insert point



2-Wings

2

● Grease up to the moving part of the hinge.
● Do not allow grease to adhere to the insertion part.

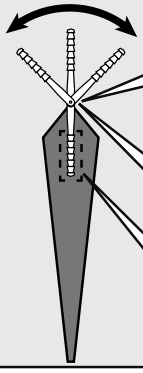


● **Hinge**

3

● Attach the wing to the **hinges** with **Epoxy glue**.

< Aileron >



! Attention to the axial direction of the hinge.

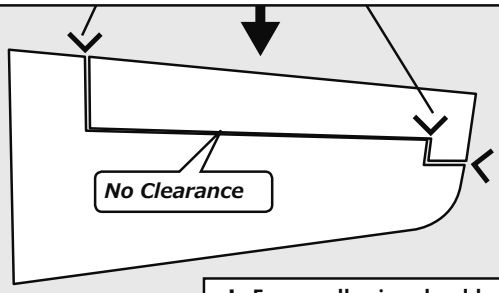
! Epoxy adhesive should not adhere to moving parts.

! Do not allow grease to adhere to the insertion part.

4

● After the adhesion has dried, pour a suitable amount of **Epoxy glue** into the hinge hole of the wing and insert **aileron** into the **wing**.
! ***Be careful not to mistake the front side and bottom side.***

Take **clearance** between **Aileron** and **Wing** (about **1 mm**).
(So that Aileron and Wing do not interfere during operation)

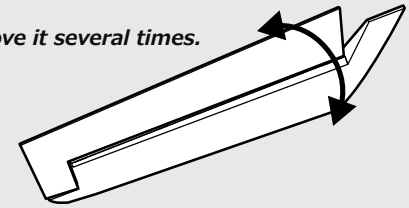


! Epoxy adhesive should not adhere to moving parts.

5

● **Move the aileron** after drying. Check that the aileron is securely attached.

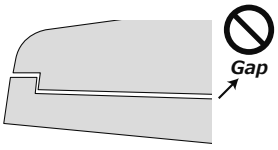
Move it several times.

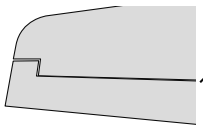


● Attach the aileron to the other main wing by the same work.

Make glue wick to the interior.
■ If the aileron comes off in flight, it will be uncontrollable and crash.

Sky Leaf Tip





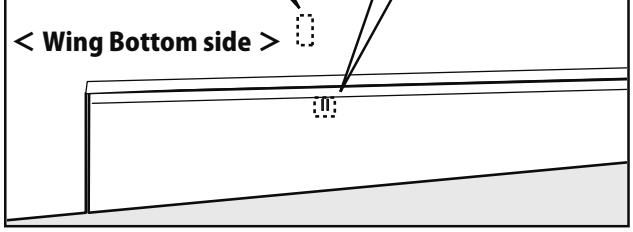
The aileron's effectiveness is good with no clearance !

2. Installation of 2-Aileron Servos

1

● The hole of **Servo** and **Control horn** on the wood under the film. Cut the film of that part. (You can see through.)

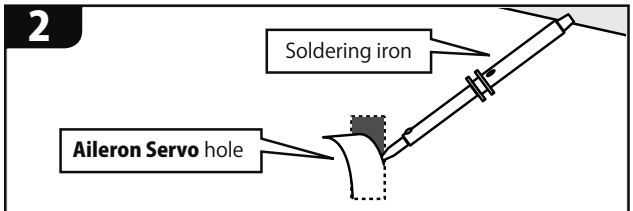
< Wing Bottom side >



2

Soldering iron

Aileron Servo hole



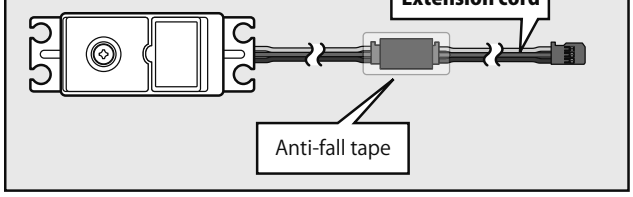
● There is a method of using a soldering iron to cut the film. Touch with a soldering iron along the basewood hole. The remaining film adheres to the base wood.

3

● Connect the **Extension cord** to the **Aileron servo**.

Extension cord

Anti-fall tape



4

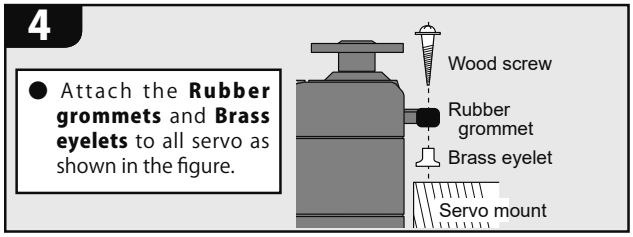
● Attach the **Rubber grommets** and **Brass eyelets** to all servo as shown in the figure.

Wood screw

Rubber grommet

Brass eyelet

Servo mount

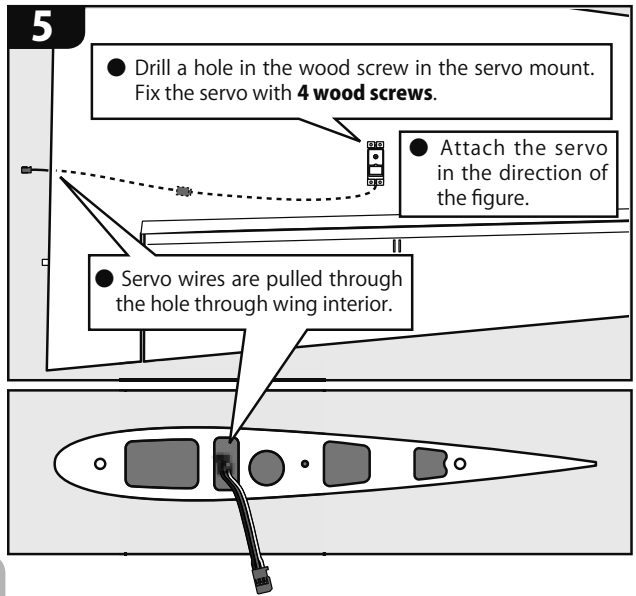


5

● Drill a hole in the wood screw in the servo mount. Fix the servo with **4 wood screws**.

● Attach the servo in the direction of the figure.

● Servo wires are pulled through the hole through wing interior.



6

● **Ruff up** the bottom of the control horn with sandpaper to help the glue stick to the horn.

<Aileron trailing edge>

● **2-Control horns**

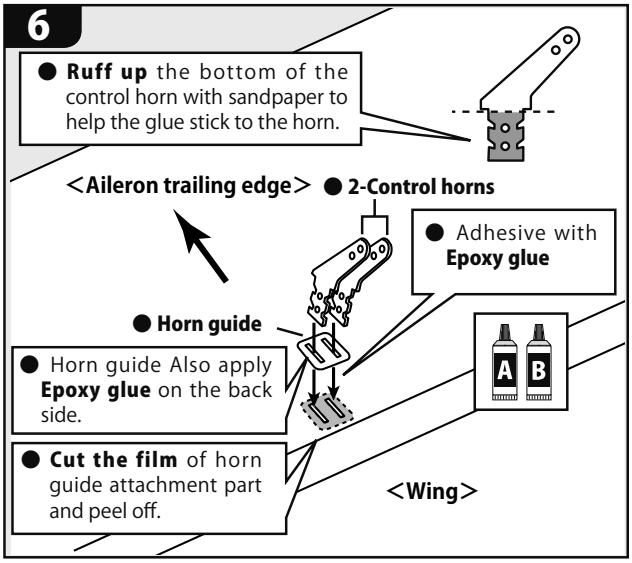
● Adhesive with **Epoxy glue**

● **Horn guide**

● Horn guide Also apply **Epoxy glue** on the back side.

● **Cut the film** of horn guide attachment part and peel off.

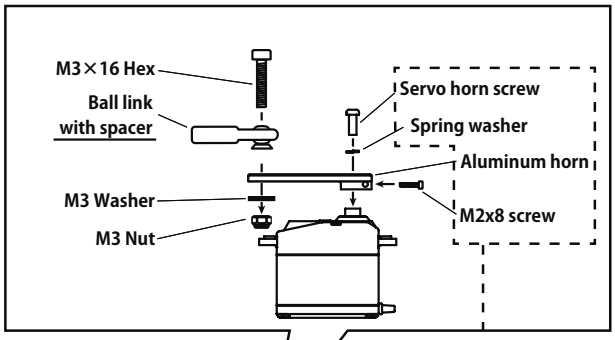
<Wing>



7

● Linkage as shown. Use your radio to center your servos.

Notice that there are two types of ball links !
Ball link with spacer is attached to the servo horn side.

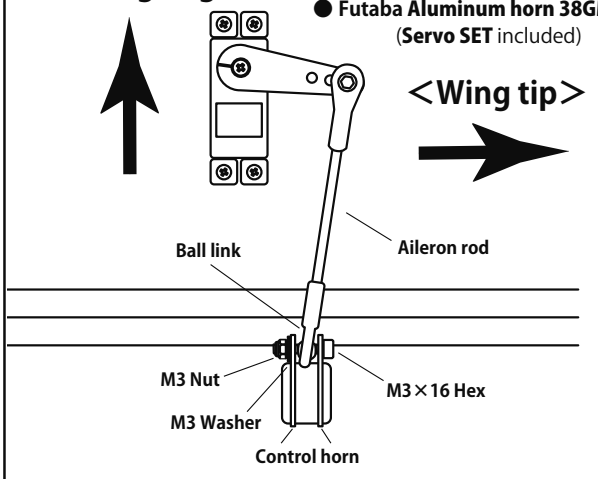


Accessories

<Leading edge>

● **Futaba Aluminum horn 38GM** (**Servo SET** included)

<Wing tip>



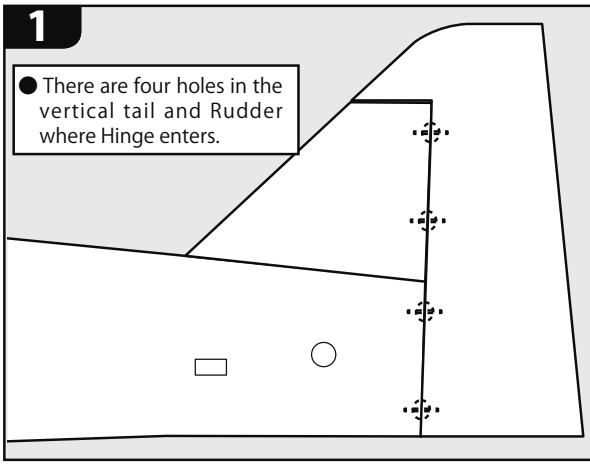
● Attach the **Aileron servo** to the other wing by the same work.

4 Rudder

1. Installation of Rudder

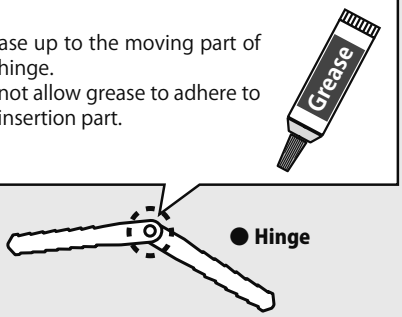
1

● There are four holes in the vertical tail and Rudder where Hinge enters.



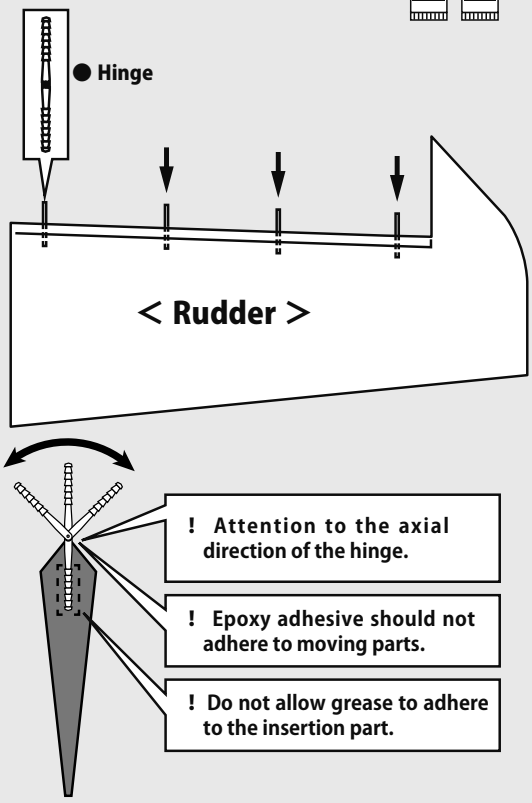
2

● Grease up to the moving part of the hinge.
● Do not allow grease to adhere to the insertion part.



3

● Attach the rudder to the **hinges** with **Epoxy glue**.



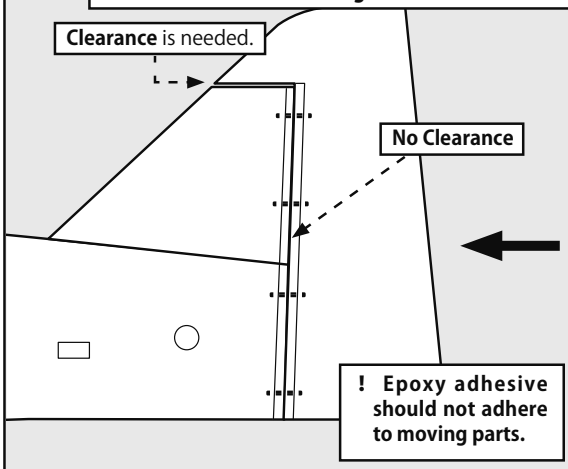
! **Attention to the axial direction of the hinge.**

! **Epoxy adhesive should not adhere to moving parts.**

! **Do not allow grease to adhere to the insertion part.**

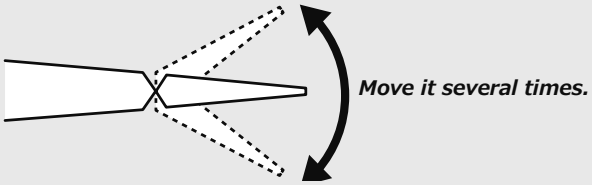
4

● After the adhesion has dried, pour a suitable amount of **Epoxy glue** into the hinge hole of the wing and insert **aileron** into the **wing**.



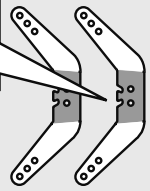
5

● **Move the rudder** after drying. Check that the rudder is securely attached.



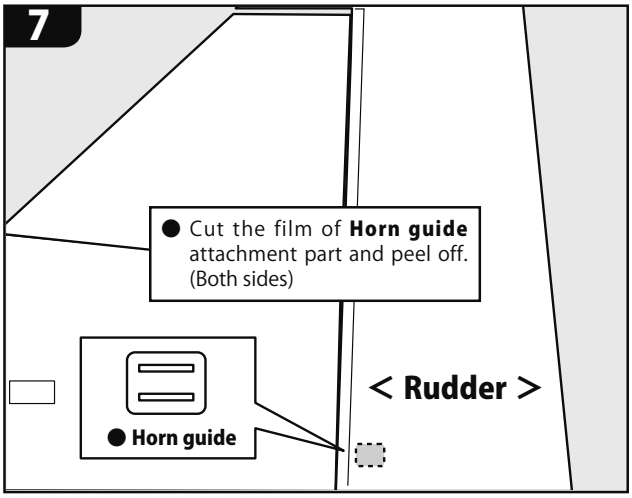
6

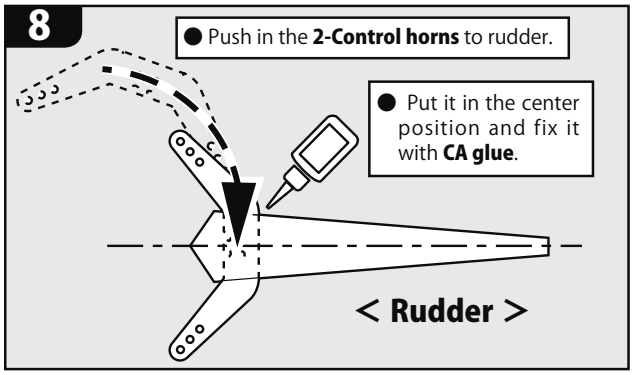
● **Ruff up** the center of the control horn with sandpaper to help the glue stick to the horn.

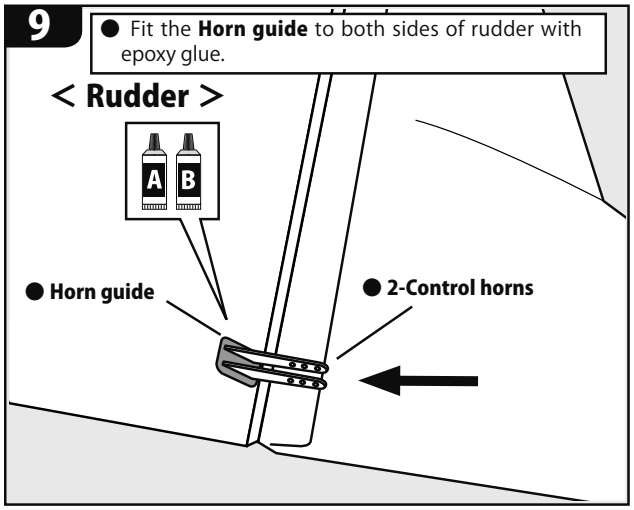


7

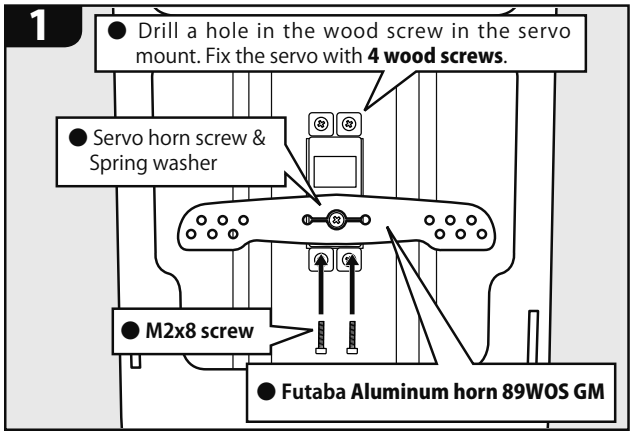
● Cut the film of **Horn guide** attachment part and peel off. (Both sides)

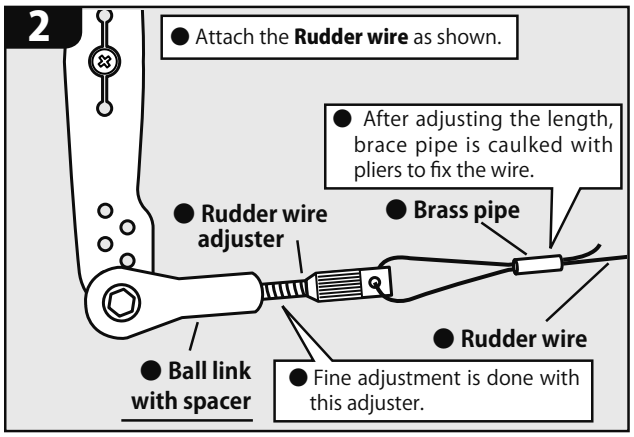


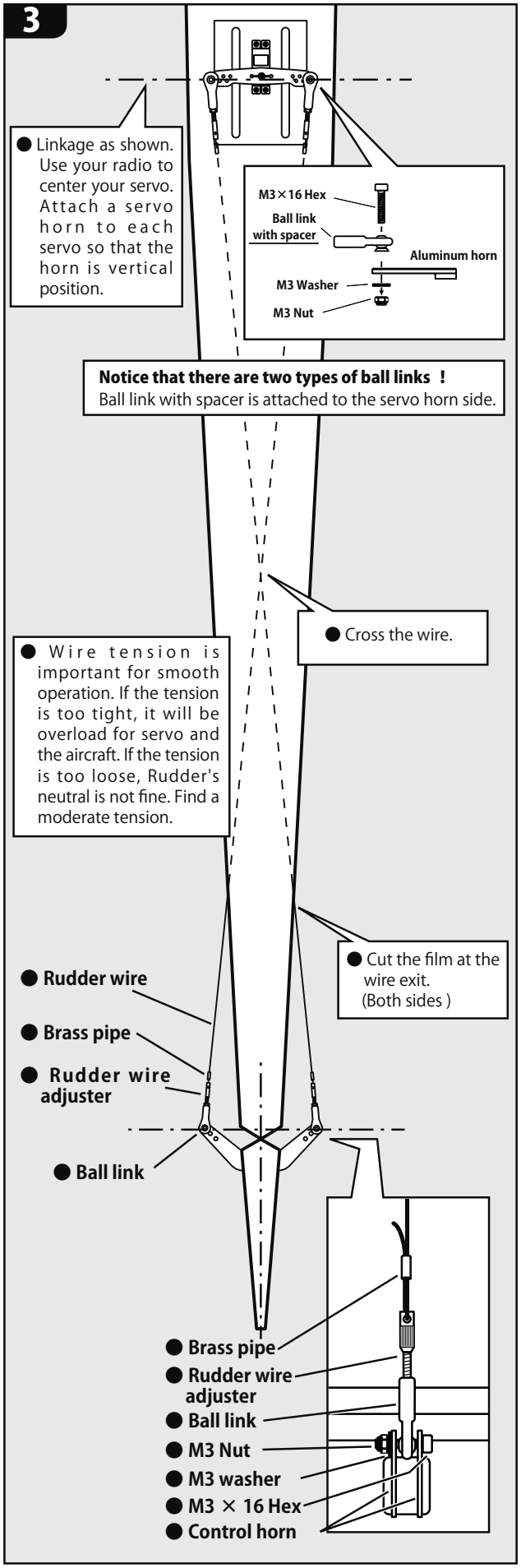




2. Rudder linkage





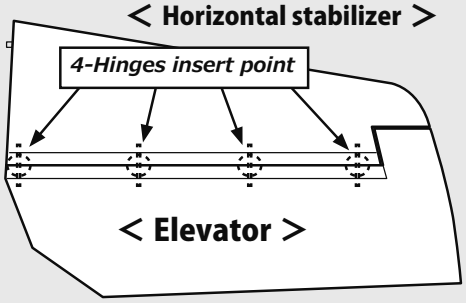


5 Horizontal stabilizer

1. Instal the Elevators

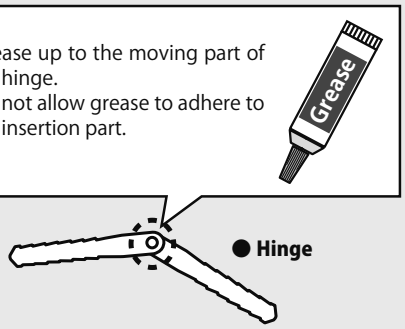
1

< Horizontal stabilizer >



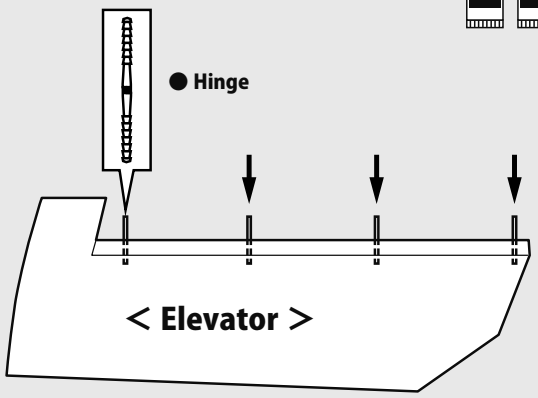
2

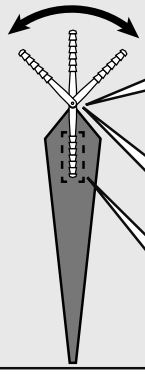
● Grease up to the moving part of the hinge.
● Do not allow grease to adhere to the insertion part.



3

● Attach the rudder to the **hinges** with **Epoxy glue**.





! Attention to the axial direction of the hinge.

! Epoxy adhesive should not adhere to moving parts.

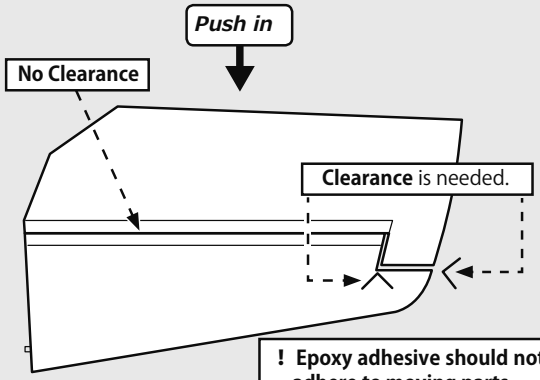
! Do not allow grease to adhere to the insertion part.

⚠ **Install it firmly so as not to come off by vibration or wind pressure.**

■ If the elevator disengages during flight, it will be uncontrollable and will crash.

4

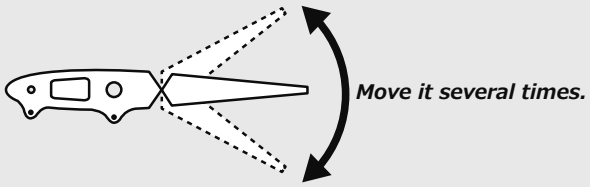
● After the adhesion has dried, pour a suitable amount of **Epoxy glue** into the hinge hole of the **Horizontal stabilizer** and insert **Elevator** into the **wing**.
! ***Be careful not to mistake the front side and bottom side.***



! Epoxy adhesive should not adhere to moving parts.

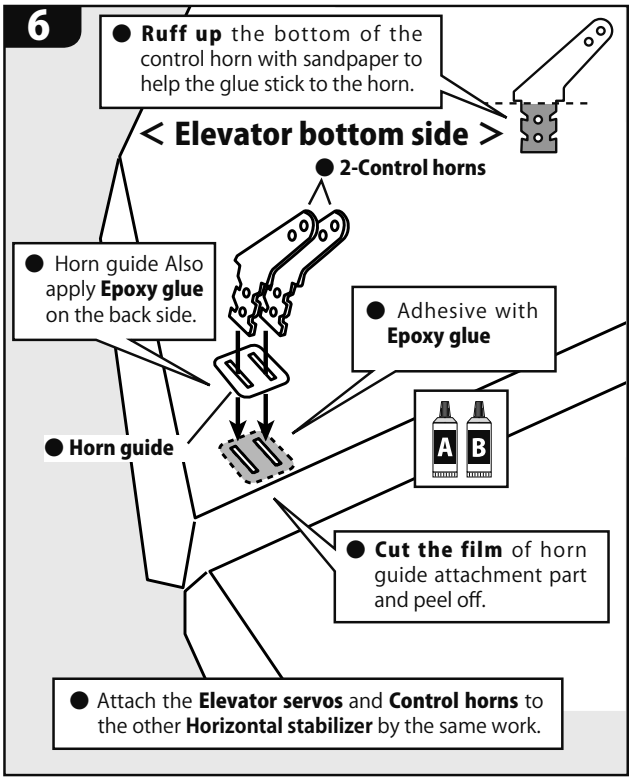
5

● **Move the elevator** after drying. Check that the rudder is securely attached.



6

● **Ruff up** the bottom of the control horn with sandpaper to help the glue stick to the horn.



● Attach the **Elevator servos** and **Control horns** to the other **Horizontal stabilizer** by the same work.

2. Install the Elevator Servo and Horizontal stabilizer

1

● Cut the film at the position shown. (Both sides)

● For **Engine, motor cooling air vent**

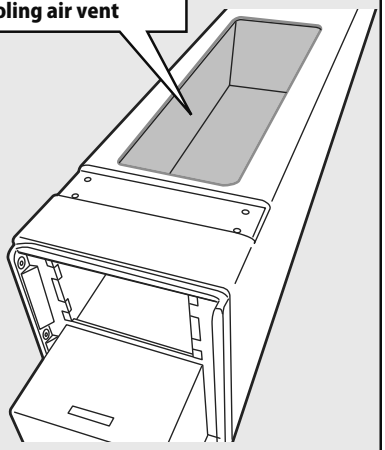
● For **Horizontal stabilizer tube** guide

● For **Horizontal stabilizer** guide

< Fuselage >

● For **Mounting screws**

● For **Elevator servo**



2

● Drill a hole in the wood screw in the servo mount. Fix the 2-servos (Both sides) with **wood screws**.

● Connect the extension cord to the servo beforehand and pass it through in the fuselage.

< Fuselage >

Elevator servo

3

● Insert the **Horizontal stabilizer tube** into fuselage.

Straight into the mounting hole.

4

● Insert the left and right **Horizontal stabilizer** into the **Horizontal stabilizer tube**.

Straight into the Horizontal stabilizer tube.

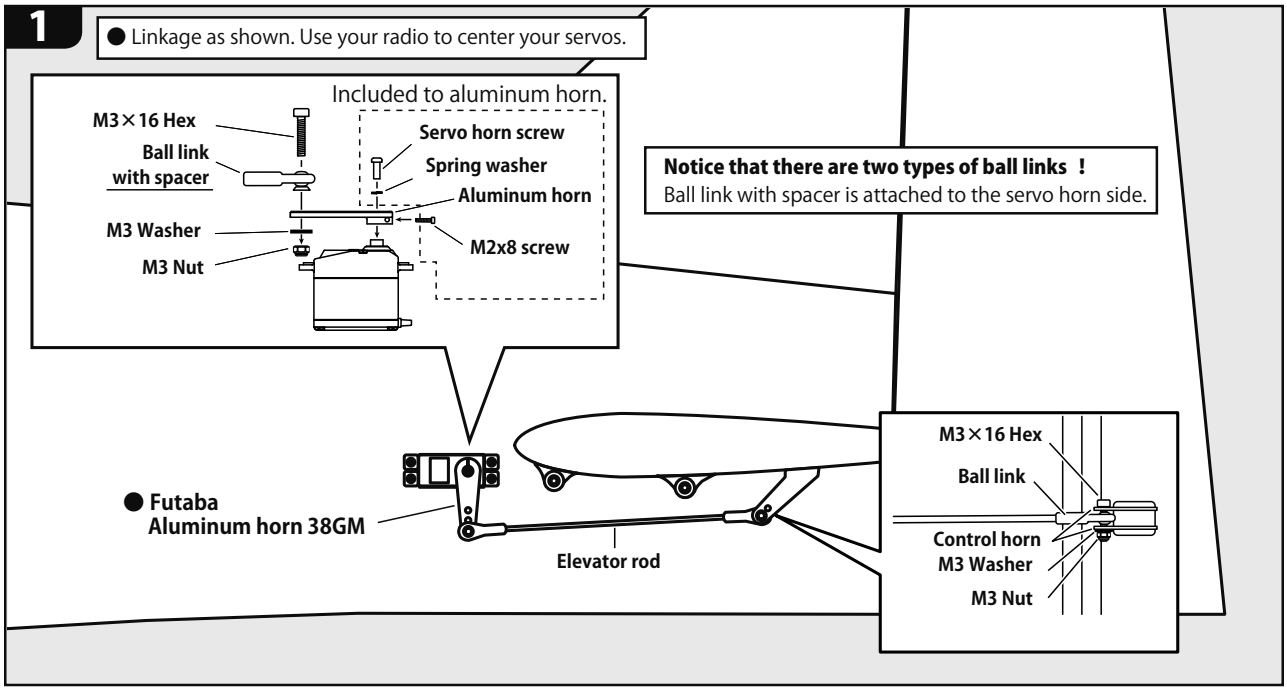
5

● Attach **mounting screws** to the left and right horizontal stabilizers.

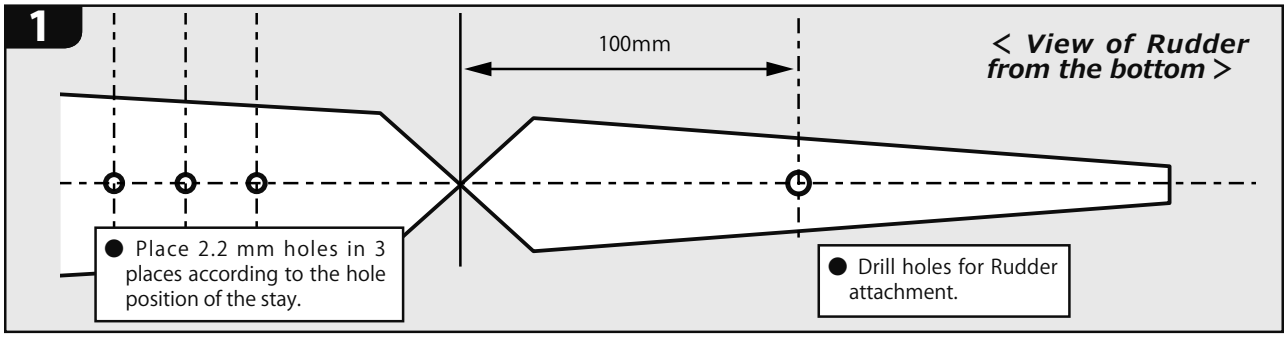
● **M3 × 10 Hex**

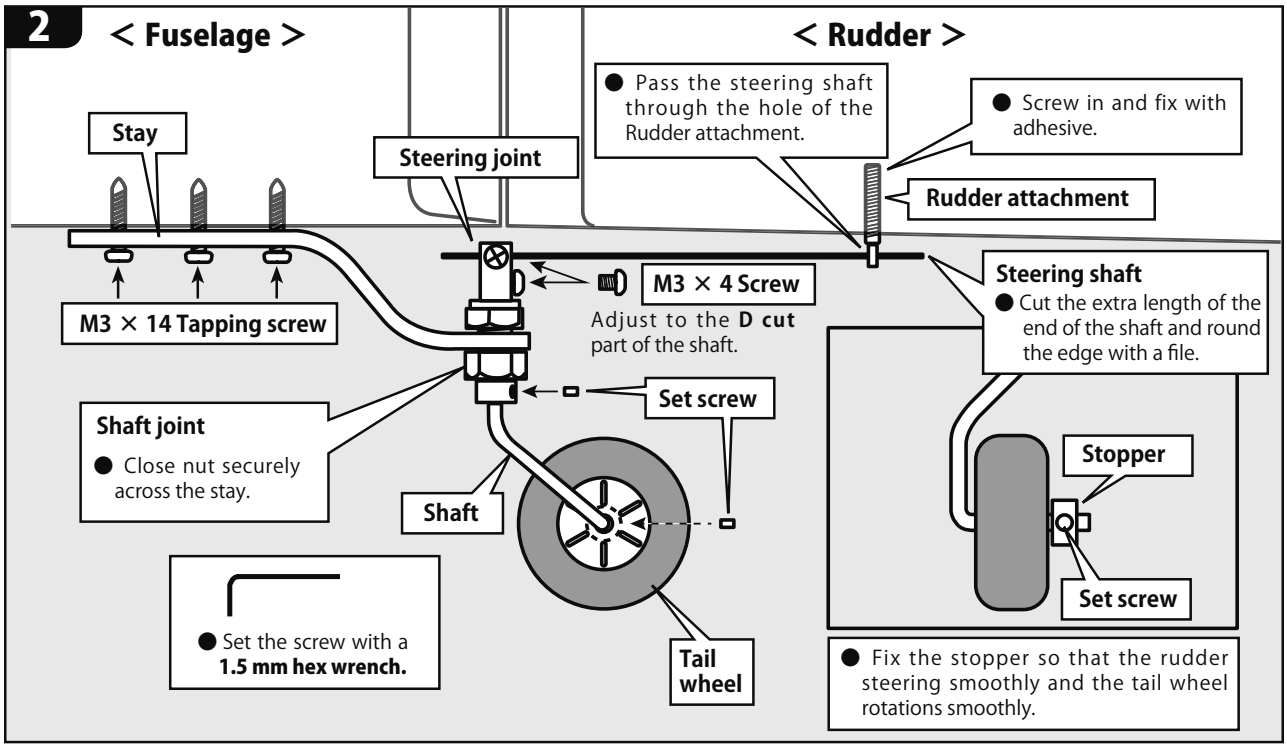
● **M3 washer**

3.Elevator linkage



6 *Tail gear*





7 Main gear

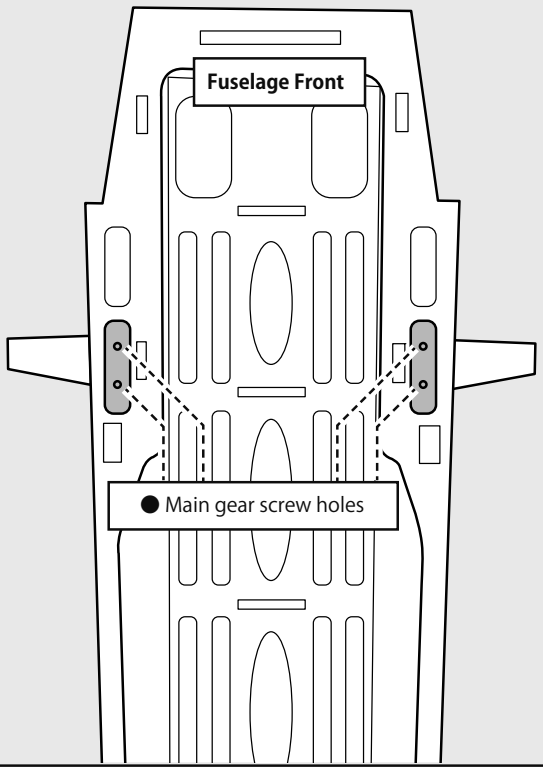
1

● Mount the main gear from inside of the fuselage with **4-M4 x 20 Hex screws** and fix with **4-M4 Nuts** from the bottom.

● Use a long M4 Hex magnet driver.

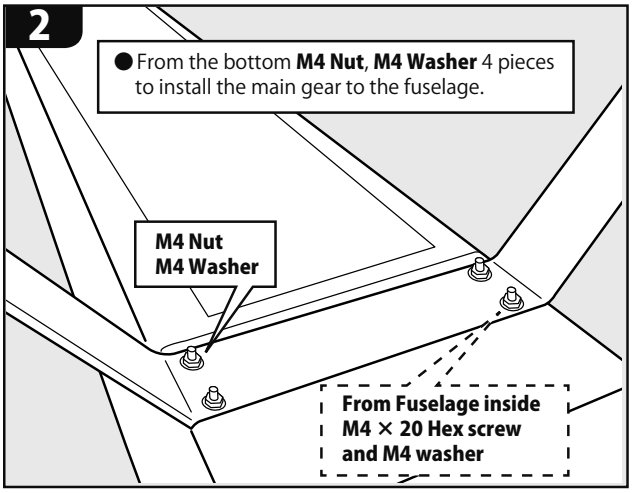
● **M4 x 20 Hex screw**
● **M4 Washer**

● **Main gear**



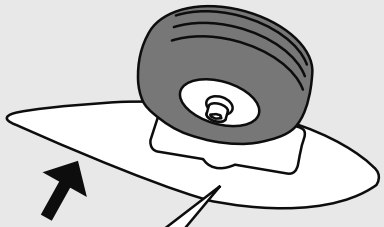
2

● From the bottom **M4 Nut**, **M4 Washer** 4 pieces to install the main gear to the fuselage.



3

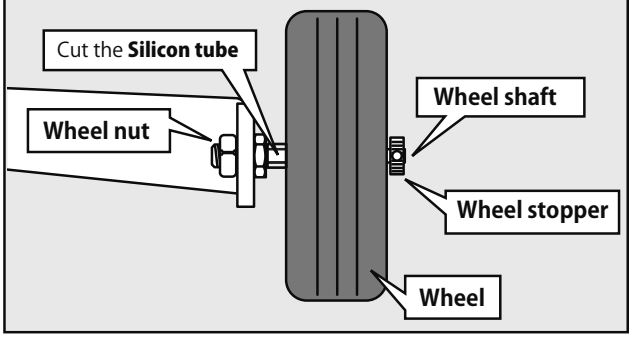
● **Wheel pants** on the left and right Wheel.



If Wheel pants and wheels interfere, cut wheel pants.

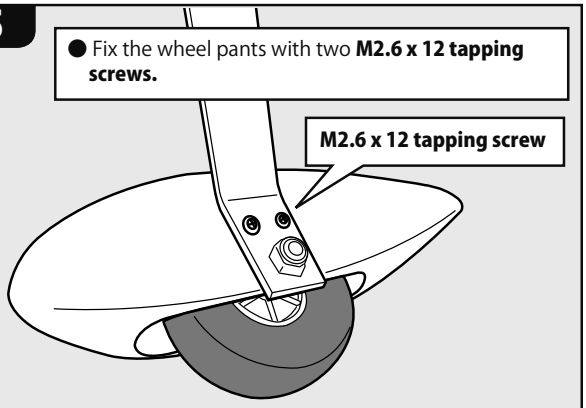
4

● Install the left and right **Wheels** as shown. Adjust at the length of the **Silicon tube** so that the wheel moves smoothly.



5

● Fix the wheel pants with two **M2.6 x 12 tapping screws.**



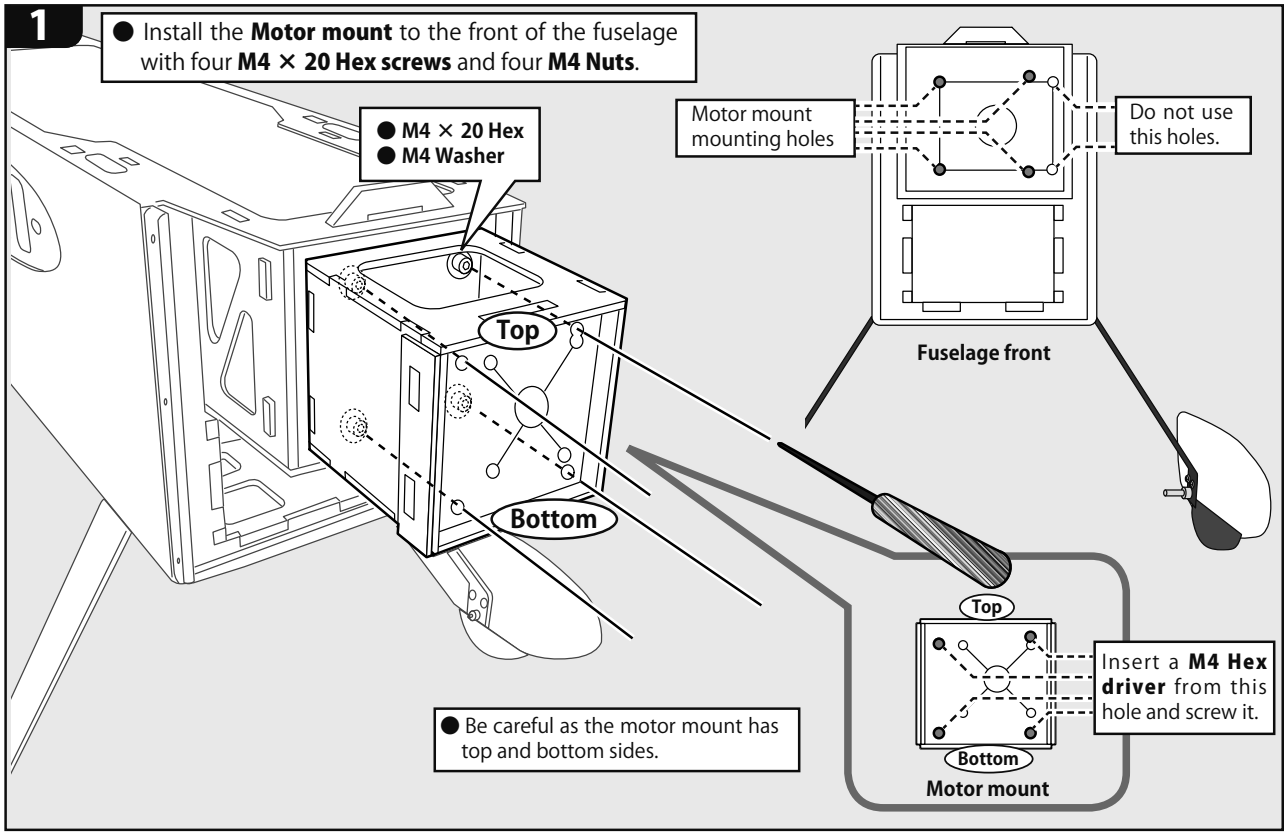
In case of EP (Motor)

This page is an explanation of the case of electric motor. **(It is unnecessary in the case of engine.)**

8 *Installation of Motor mount*

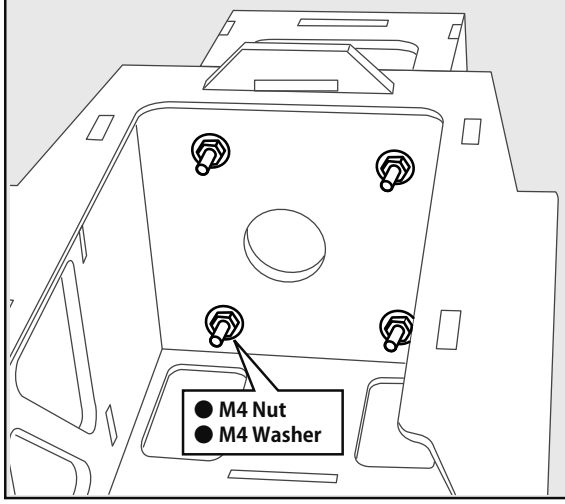
1

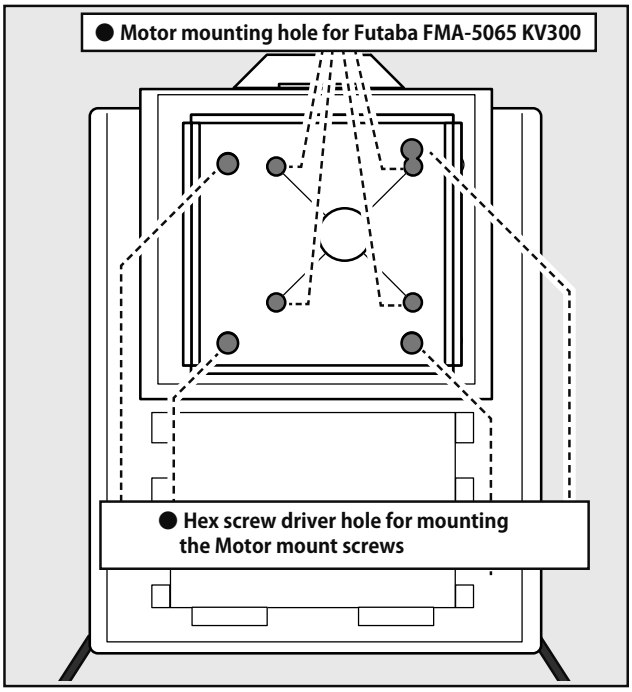
● Install the **Motor mount** to the front of the fuselage with four **M4 × 20 Hex screws** and four **M4 Nuts**.



2

● On the back side (Fuselage inside), secure **M4 Nut** and **M4 washer** firmly.



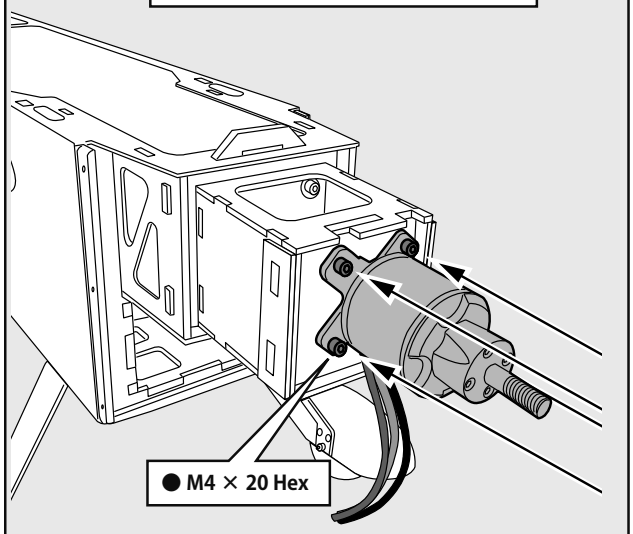


In case of EP (Motor)

9 Installation of Motor

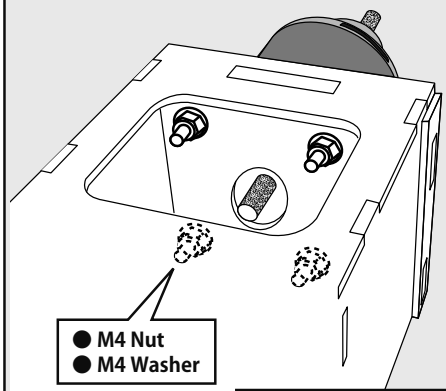
1

● Install the **Motor** to the motor mount with four **M4 x 20 Hex screws**.



2

● On the back side (Fuselage inside), secure **M4 Nut** and **M4 washer** firmly.

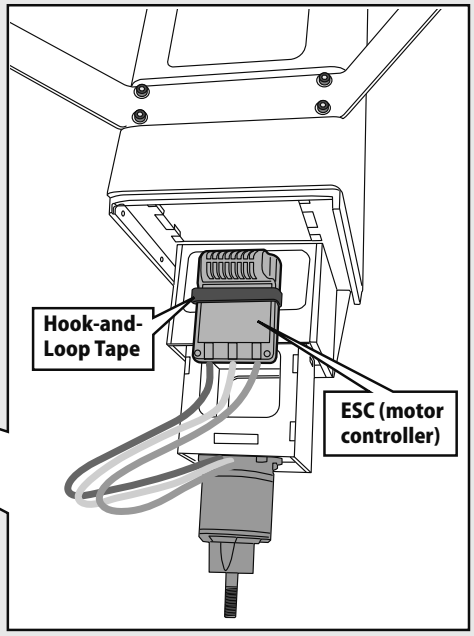


● If you use a motor other than Futaba FMA - 5065 KV 300, re - drill the hole according to the motor.

10 Installation of Motor controller

1

● Attach the ESC (motor controller) to the bottom of Fuselage at Hook-and-Loop Tape.



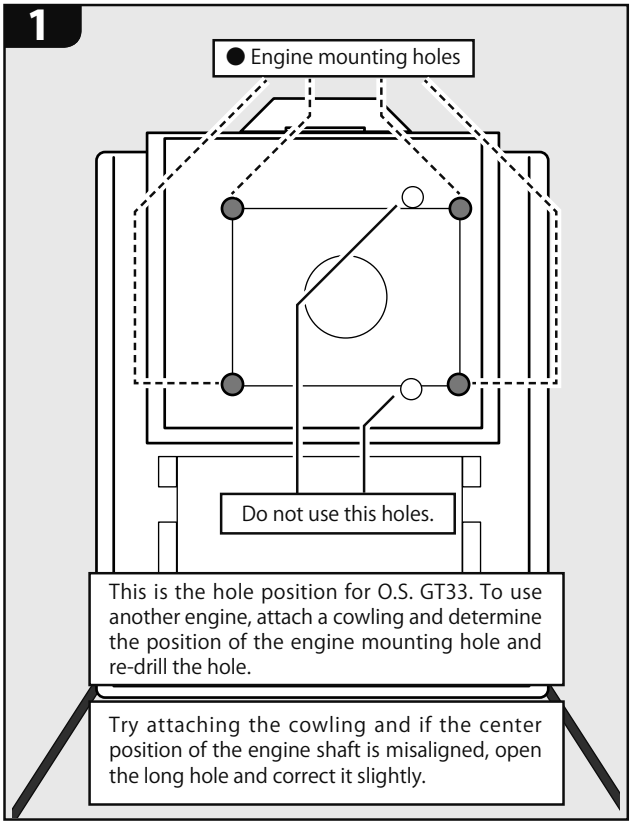
● Follow wiring instructions according to ESC (motor controller) and motor instructions.

In case of GP (Engine)

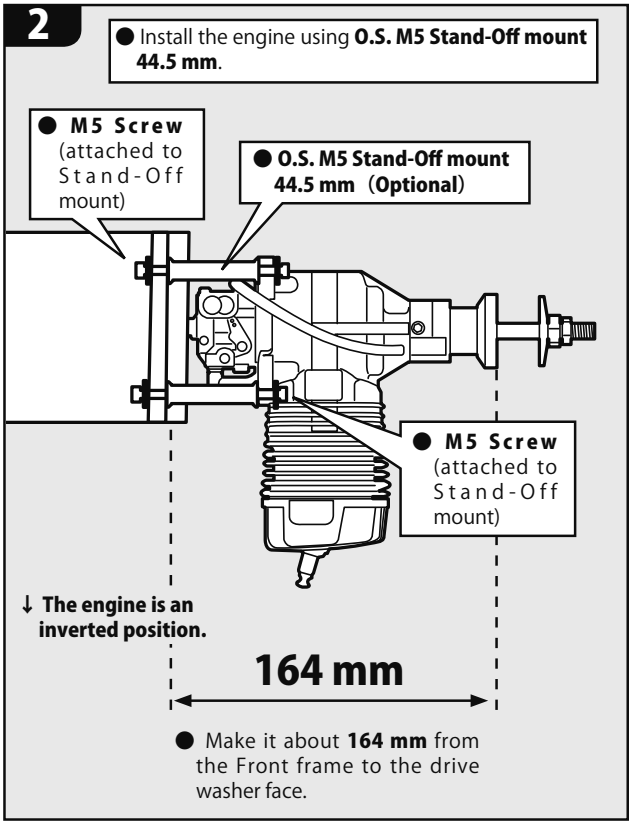
This page is an explanation of the case of engine. **(It is unnecessary in the case of electric motor.)**

8 *Installation of Engine (O.S. GT33)*

1

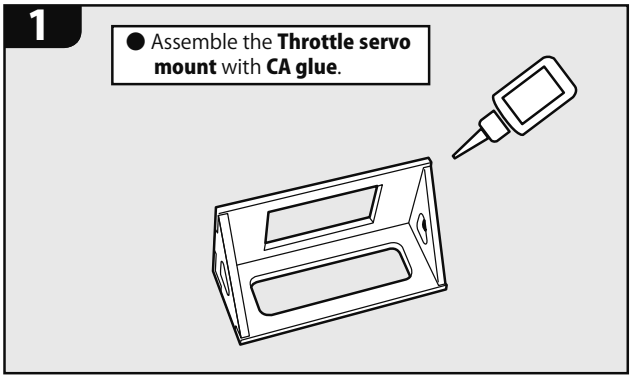


2



9 *Throttle servo・Fuel tank*

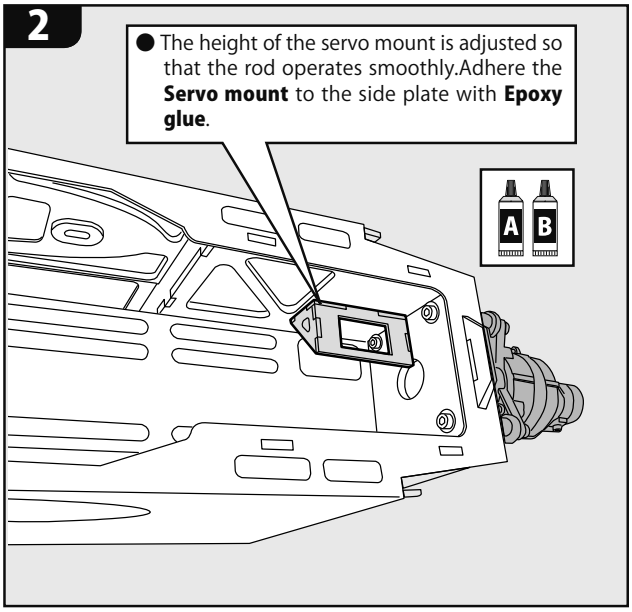
1



Sky Leaf Tip

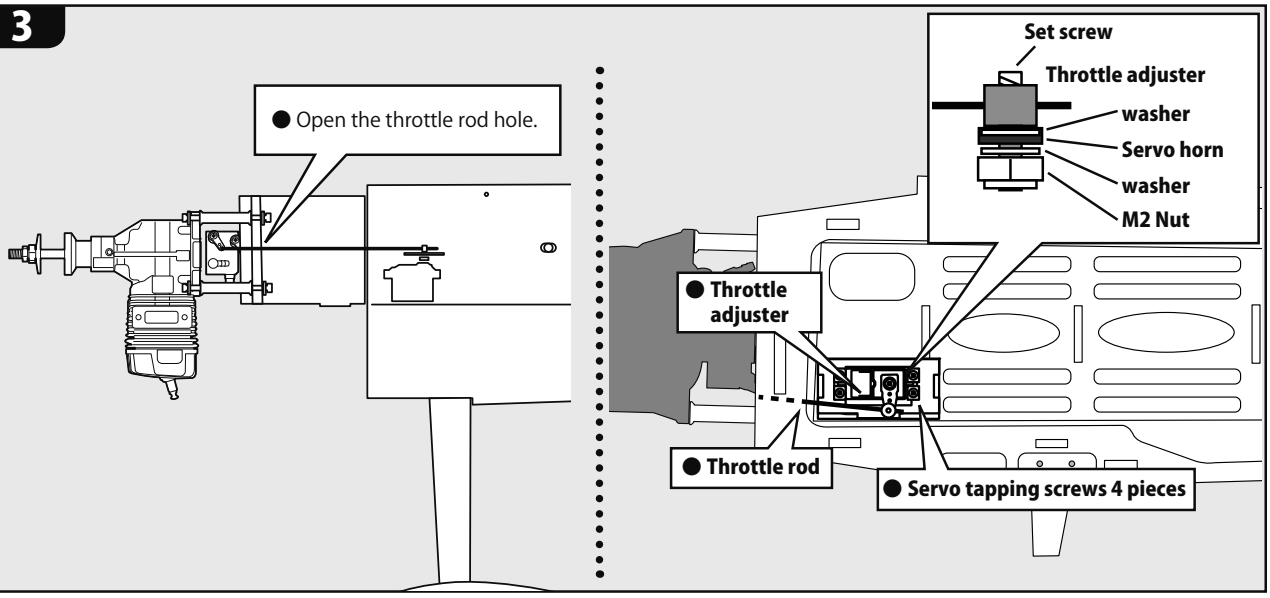
As the engine vibrates, tighten each screw tightly.

2



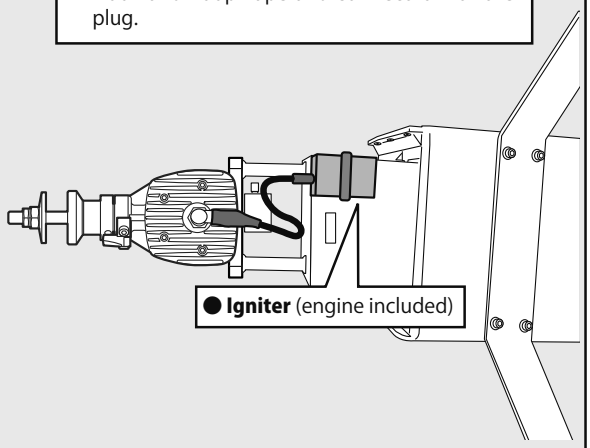
In case of GP (Engine)

3



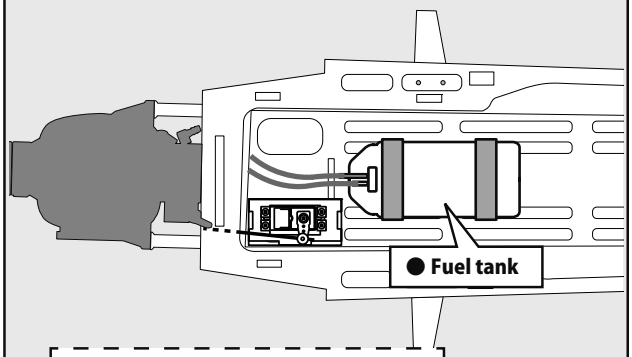
4

● Attach the igniter (engine included) with Hook-and-Loop Tape and connect it with the plug.



5

● Install the **Fuel tank** to the fuselage with **Hook-and-Loop Tape,** and piping of fuel.

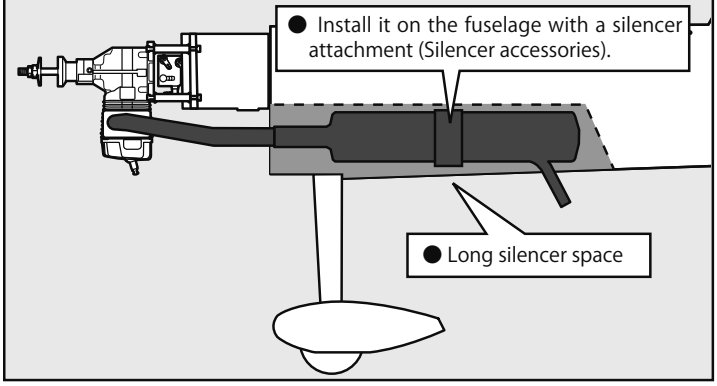


! Use fuel tanks and fuel pipes for gasoline. Do not use for glow.

10 *Silencer*

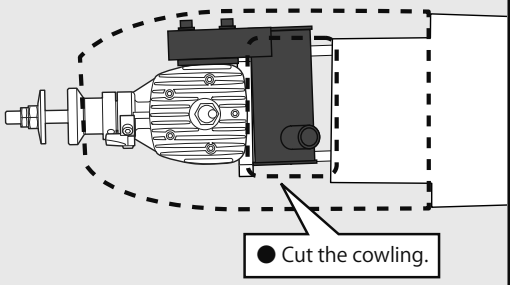
1

● Install a **Long silencer** as shown.



2

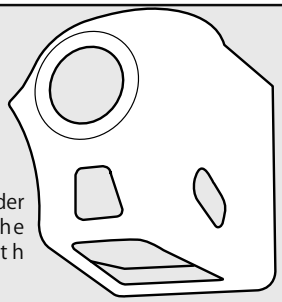
● Install a **Short silencer** as shown.



11 Cowling

1

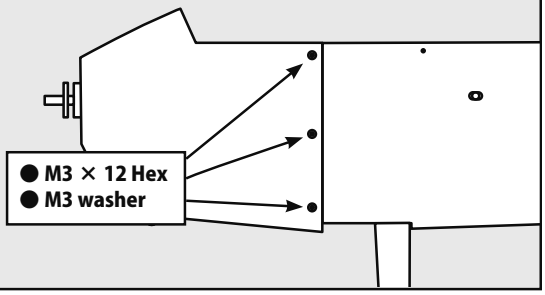
● Cut the part that interferes with the engine and silencer of the cowling.



● Cut a lot in order to air cool the engine with Dremel.

2

● Fit the **Cowling** from the front to the fuselage and secure it with six **M3 × 12 Hex screws** and six **M3 washers**.



12 Switch · Receiver · Battery

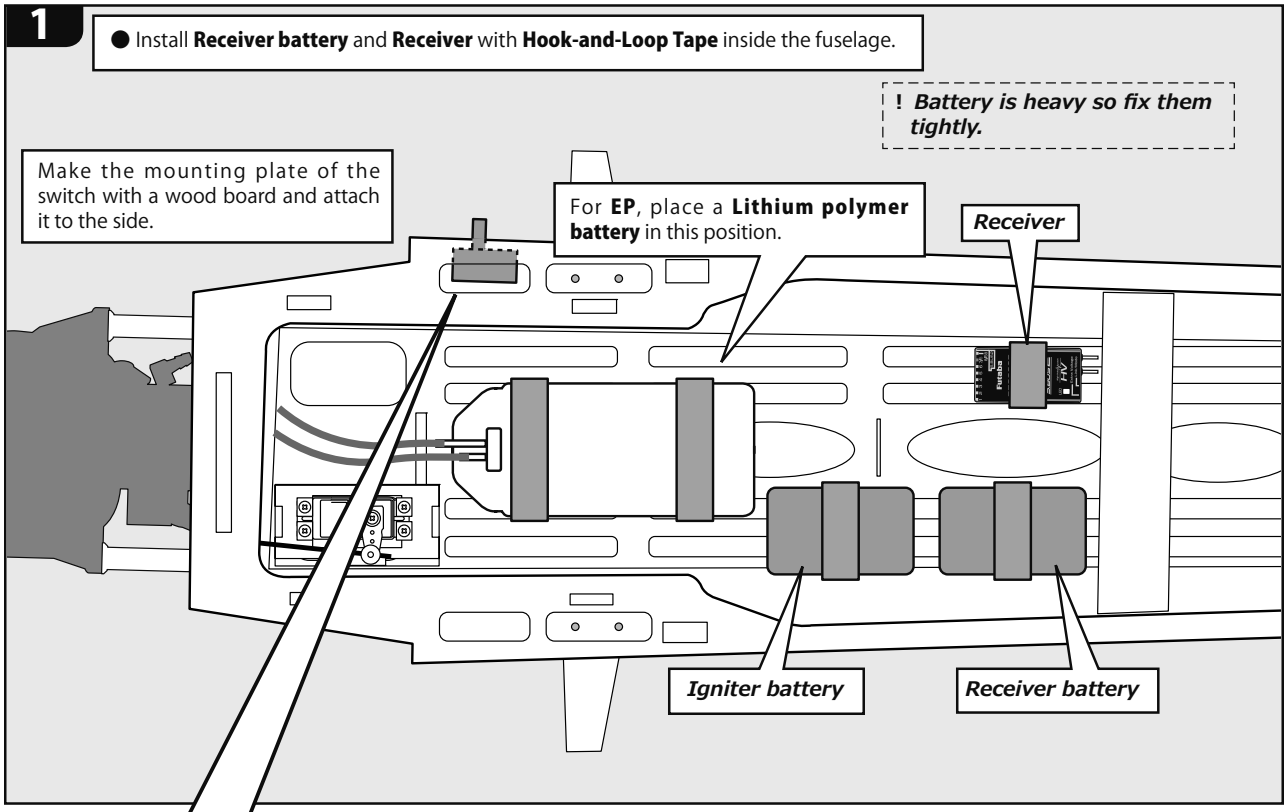
1

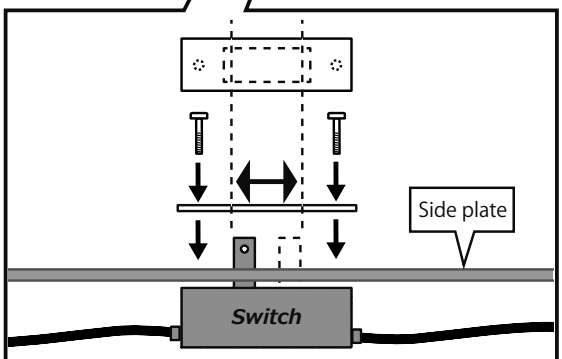
● Install **Receiver battery** and **Receiver** with **Hook-and-Loop Tape** inside the fuselage.

! ***Battery is heavy so fix them tightly.***

Make the mounting plate of the switch with a wood board and attach it to the side.

For **EP**, place a **Lithium polymer battery** in this position.



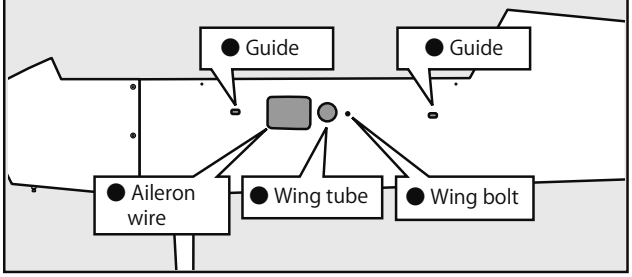


● Make a rectangular hole that is a little larger than the total stroke of the switch so that you can turn the switch ON/OFF without binding.

13 Attach the Main Wing

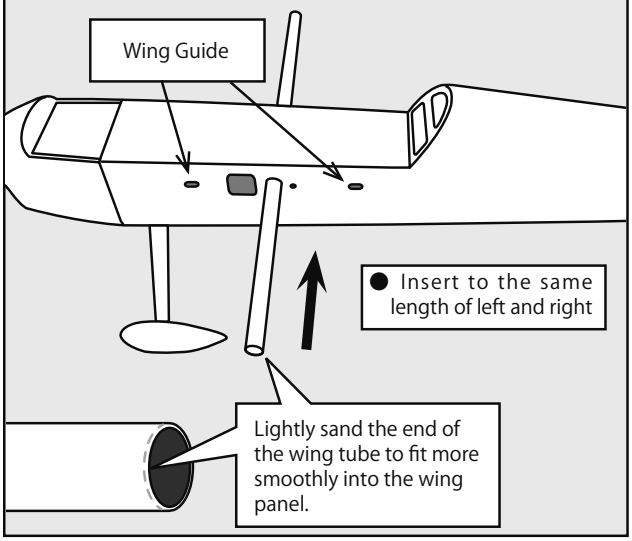
1

● **Cut the film** as shown below. (Both sides)



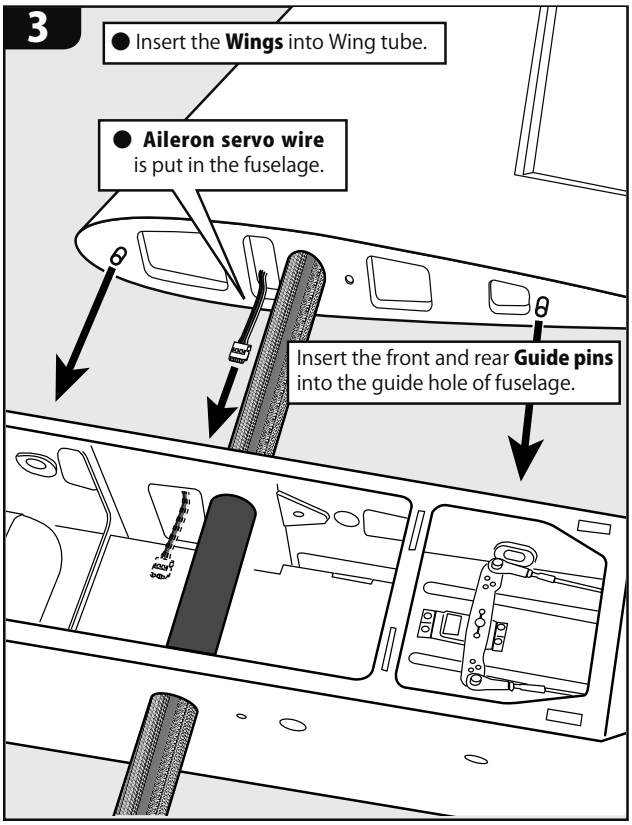
2

● Insert the **Wing tube** straight into fuselage.

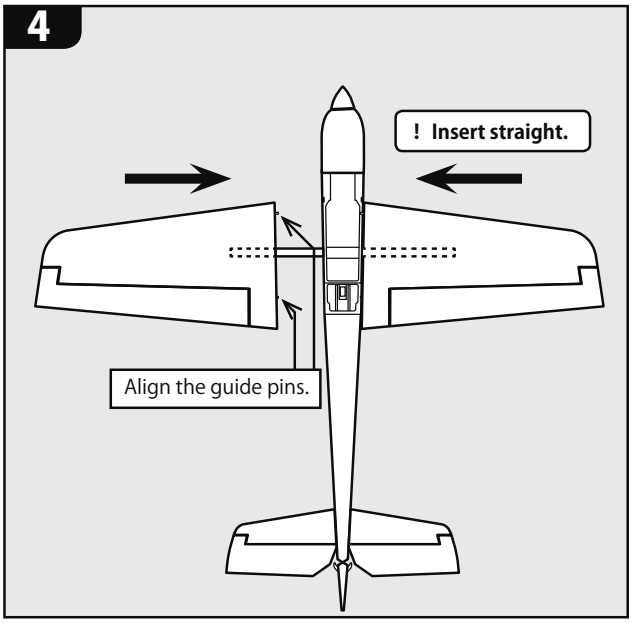


3

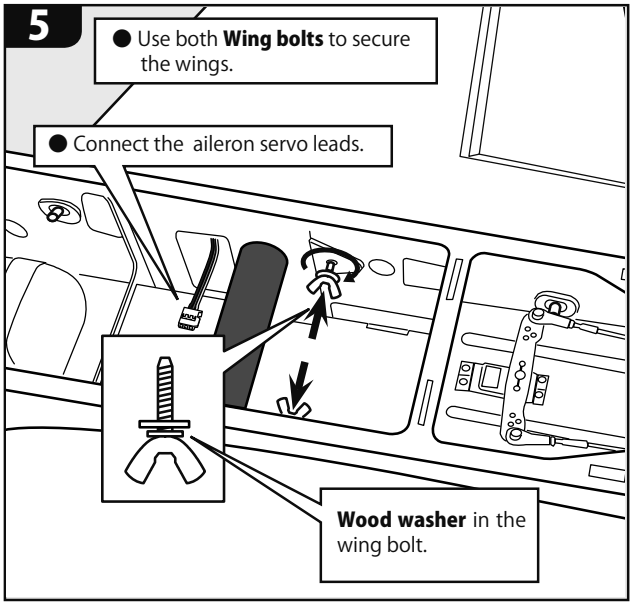
● Insert the **Wings** into Wing tube.



4



5



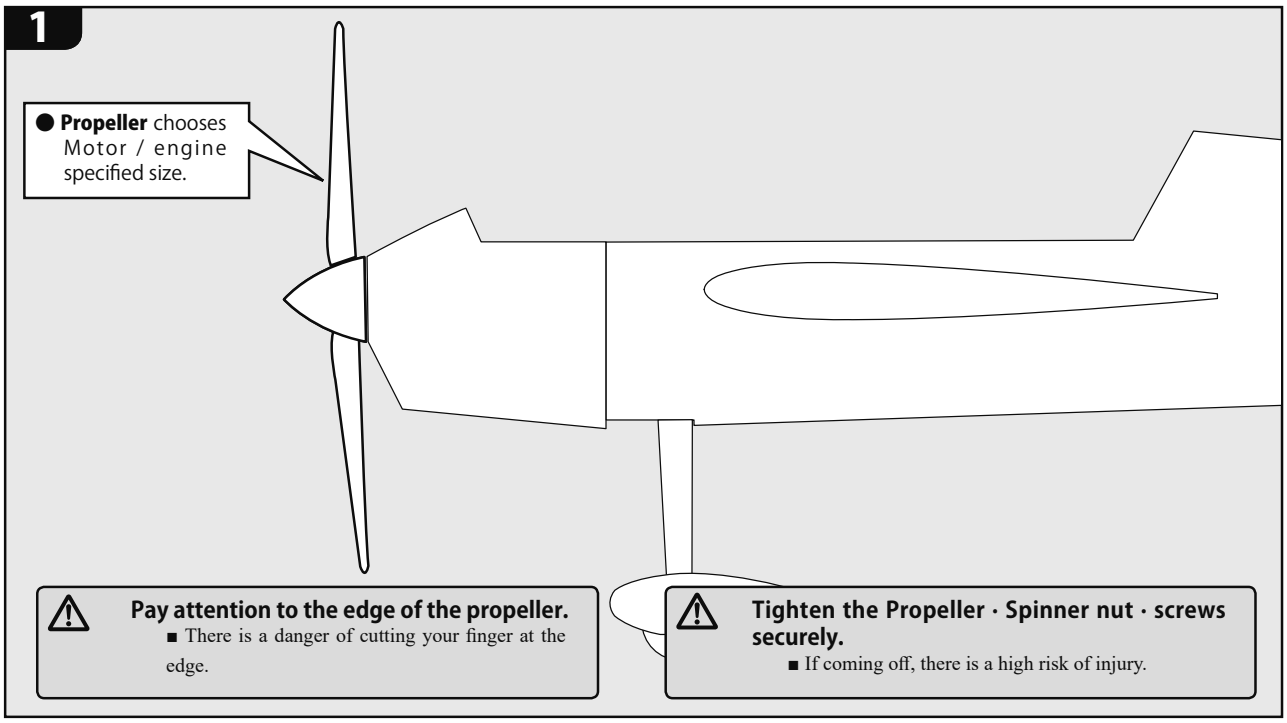
⚠ **Insert a wing tube attentively.**
■ When wing receives damage, it's dangerous.

⚠ **Don't forget to screw the wing bolts into the model.**
■ If the wing bolts are left out, the wing will fall off mid-flight.

14 *Propeller · Spinner*

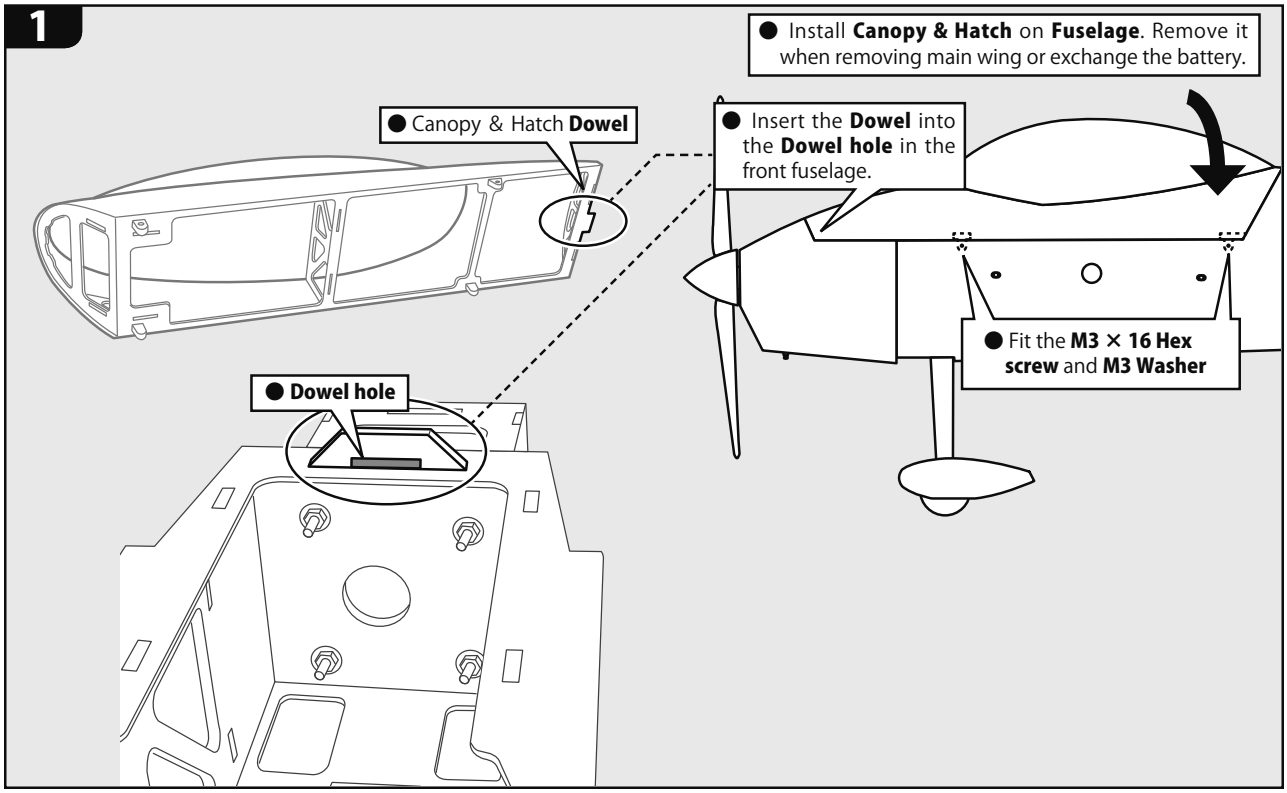
Propeller · Spinner is sold separately. Follow each manual to ensure installation.

1



15 *Canopy & Hatch*

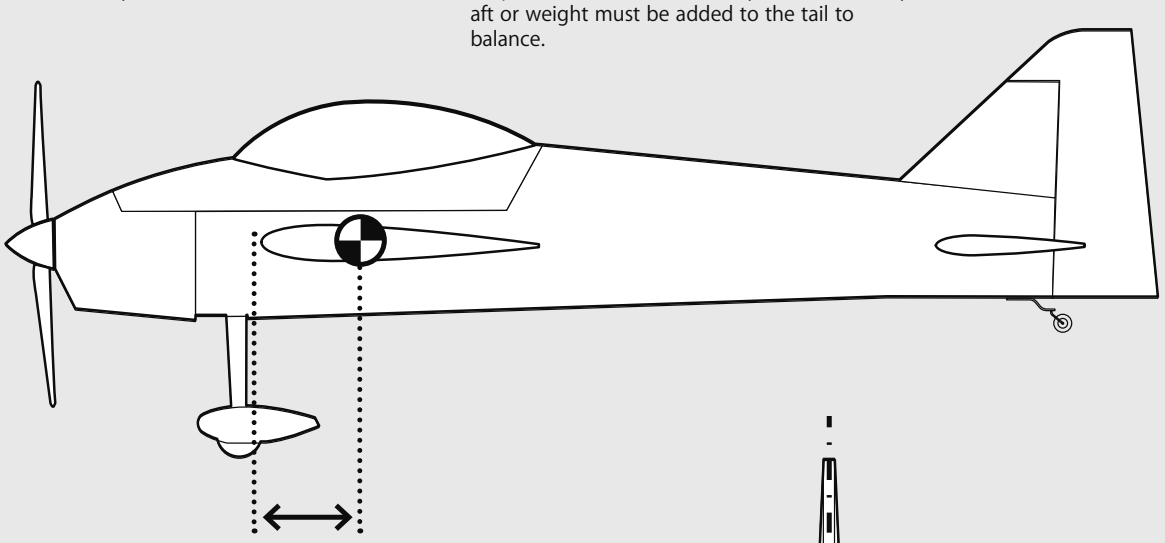
1



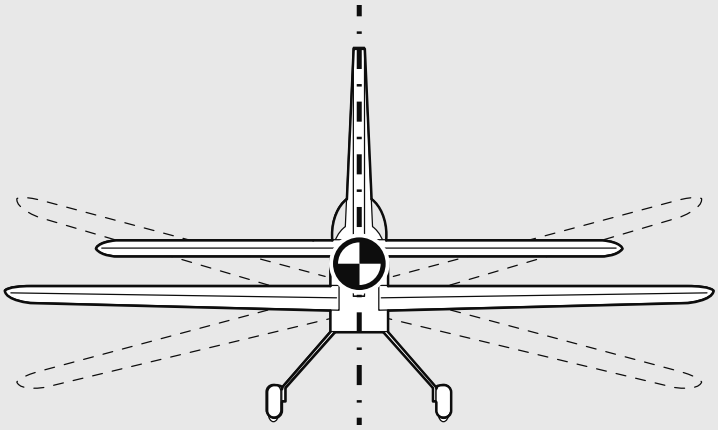
16 C.G. Position

● With the wing attached to the fuselage, all parts of the model installed (ready fly) and installed battery.

● If the tail drops, the model is "tail heavy" and the battery and/or receiver must be shifted forward or weight must be added to the nose to balance. If the nose drops, the model is "nose heavy" and the battery and/or receiver must be shifted aft or weight must be added to the tail to balance.



● 170mm ~ 180mm



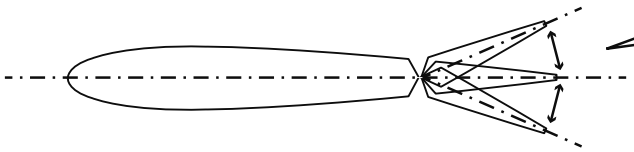
● With the wings level, have an assistant help you lift the model by the propeller shaft and the bottom of the fuselage under the tail.
If one wing always drops when you lift the model, it means that side is heavy. Balance the model by adding weight to the other wing tip.

⚠ Do not fly before confirming the correct location of the C.G.

■ If the CG is incorrect, the model will fly badly and could lead to a crash.

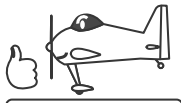
● If you found it necessary to add any weight, recheck the C.G. after the ballast weight has been installed.

17 Set the control throws



● Use a ruler, an inclinometer, or a protractor to accurately measure and set the control throw of each control surface in left/right or up/ down same throw.

● **Make sure that the overload won't be added to each servo at the time of max operation. In case of an overload, reduce the travel adjustment in the TX.**



Sky Leaf Tip

⚠ **Do the first flight in low rate.**
■ High Rates are aggressive, so ease into using low rates for general flying.

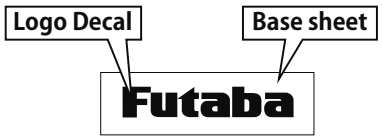
It is best to utilize the dual rate function of the transmitter for the best control. A flight is usually done in low rate. For 3D Flight, it is best to use high rates. When using high rates, use (-) EXPO. That will help control the model more smoothly around neutral stick position's.

● **Low Rate: (D/R) Aileron : 40% Elevator : 35% Rudder : 130%**
(EXPO) Aileron : -45% Elevator : -25% Rudder : -40%

● **High Rate: (D/R) Aileron : 100% Elevator : 125% Rudder : 130%**
(EXPO) Aileron : -80% Elevator : -80% Rudder : -40%

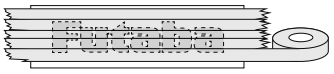
⑱ *Decal sheet*

●How to paste

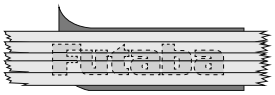


① Cover with masking tape.

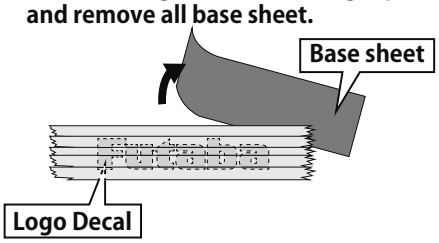
② Cover all of the logo.



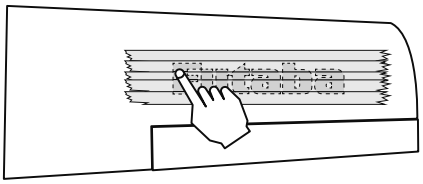
③ Peel off the base sheet.



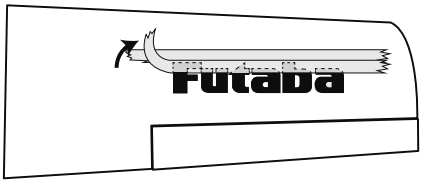
④ Leave the logo on the masking tape and remove all base sheet.



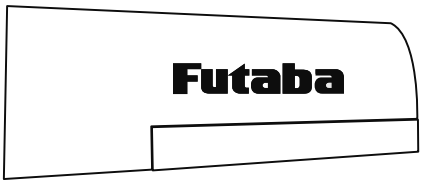
⑤Put the masking tape together with the position on the airplane. Lay the decal from one side to another to prevent air bubbles. After in position rub the decal part lightly to make the bond secure.



⑥ Carefully peel off only the masking tape so that the logo decal will not peel off.



⑦ Completed by closely attaching the logo decal with a soft cloth.



⑲ Specification

Airplane	: Sky Leaf MX
Overall Length	: 70.9 in (1800 mm)
Wing Span	: 70.9 in (1800 mm)
Wing Area	: 1076 in² (69.4 d ㎡)
Wing Thickness	: 12.8%
Weight	: 159 oz ～ 176 oz (4500g ～ 5000 g)
Design・Test flight	: Futaba's Pilots

BLS175SV（S.BUS/High Voltage servo）:

- ● Speed
  0.13 sec/60° （6.6 V)
- ● Torque
  19.4 kgf・cm（6.6 V)
- ● Size/Weight
  1.41 × 0.77 × 0.98 in / 0.95 oz
  (40.0 × 20.0 × 36.8 mm / 66 g)
- ● Operating Voltage
  4.8 V ～ 7.4 V **! No dry battery use**

Futaba's Pilots

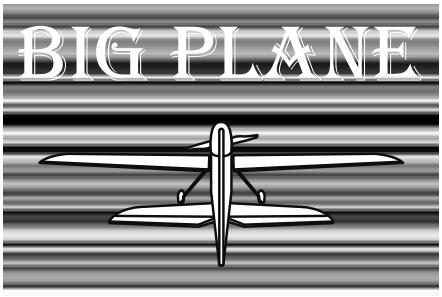
Tetsuo Onda :

2017	F3A World Championship 1st
2003 ～ 2018	F3A Japan Championship 16 Wins
2004 ～ 2014	F3A Asia-Oceania Championship 6 Wins
2005/11/13/15	F3A World Championship 2nd
2007, 2009	F3A World Championship 3rd
2013	World R/C Indoor EP Championship 3rd

Koji Suzuki :

2000	F3A Asia-Oceania Championship 1st
2013	F3A World Championship 7th
2015	F3A World Championship 9th
2013 ～ 2018	F3A Japan Championship 2nd

The product is not repairable by Futaba service center if damaged.



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