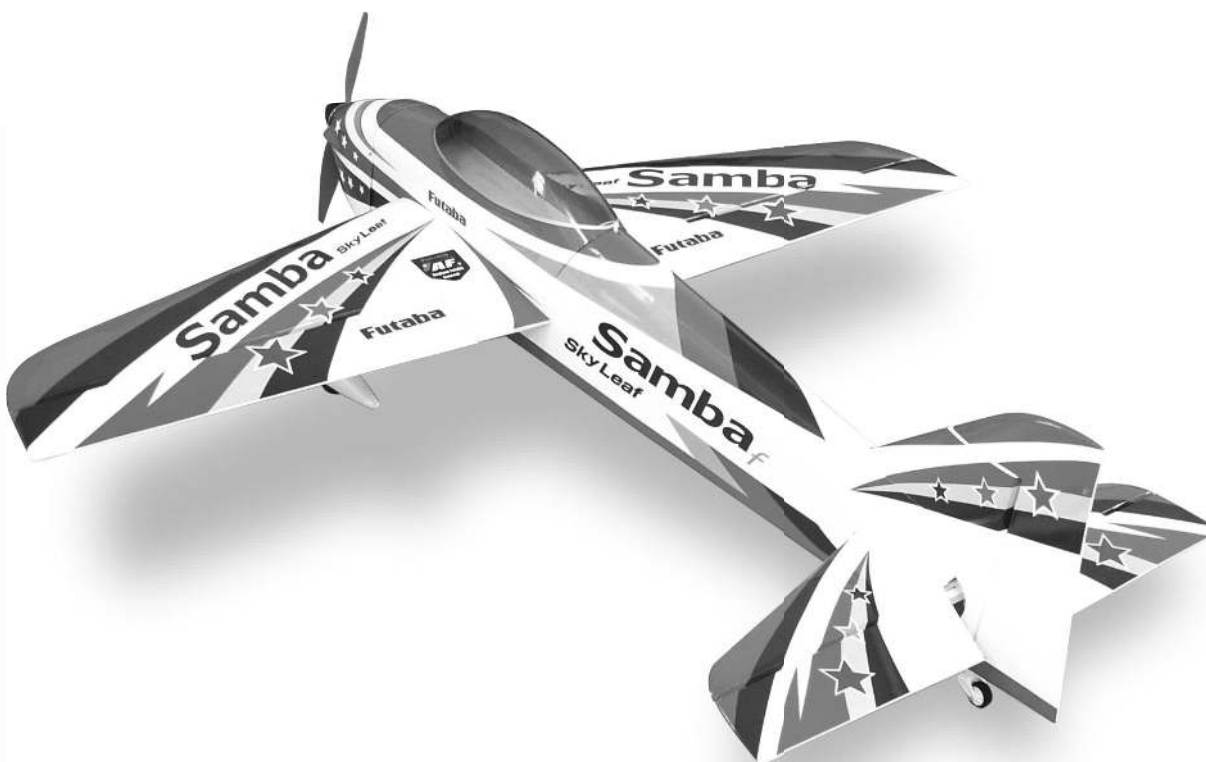


Futaba®

Sky Leaf ***Samba_f***

Sky Leaf Samba f
Electric R/C Airplane

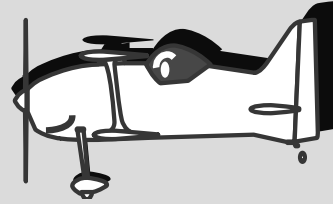


Instruction Manual

1M23Z06701

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

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



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, 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 than 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.*

- No part of this manual may be reproduced in any form without prior permission.
- The contents of this manual are subject to change without prior notice.
- Futaba is not responsible for the use of this product by the customer.
- Company and product names in this manual are trademarks or registered trademarks of the respective company.

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.

❗ Remember: 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.

❗ This airplane is designed to be powered by O.S. OMA-3820-1200 Motor. 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 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°C [86°F] or higher) or cold (0°C [32°F] 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°C [32°F and 86°F].

■ 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 manufacturer 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, ESC, 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 cellphone, 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 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 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, 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 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 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°C to 30°C (50°F to 86°F) 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.

✂ 1 Required for operation (Purchase separately)



- RC system 5-channel minimum radio with mixing functions.
(e.g. Futaba 6K,10J,14SG,16SZ,18SZ,18MZ -T/R Set)

- (For the servo less version → 4 Micro servos)

- Servo Extension Code

◇ 100mm × 4 ◇ 400mm × 1 ◇ 500mm × 1

(In case of servo cable 200mm)

- Motor (e.g. O.S. OMA-3820-1200 Motor)

- Motor controller (e.g. Futaba MC951H/A)

- Lipo Battery (3cell 2,000 ~ 2,600mAh)

- Lipo Battery Charger

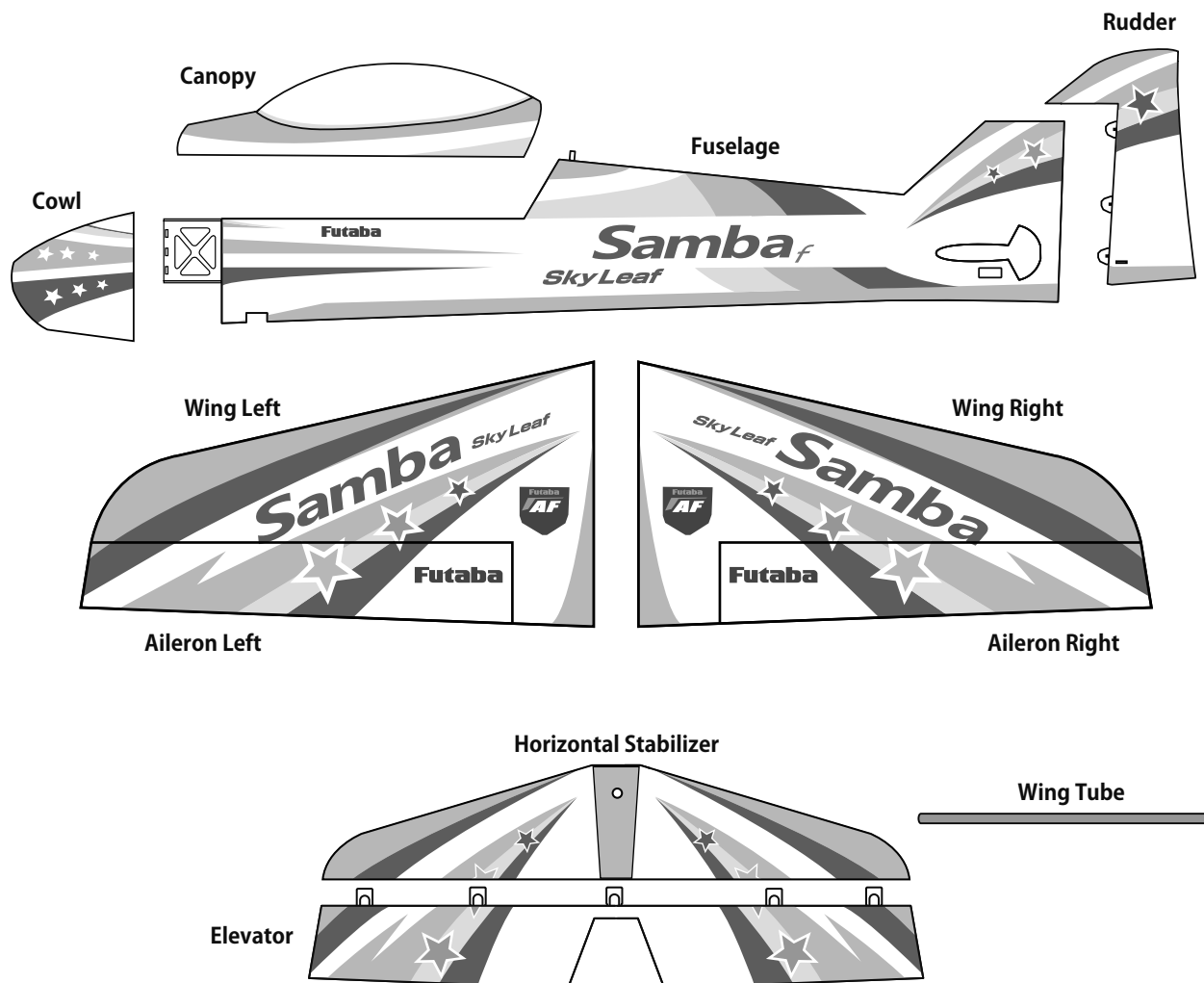
- Propeller (10 × 7 ~ 11 × 7)

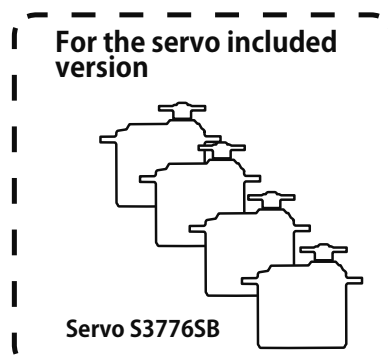
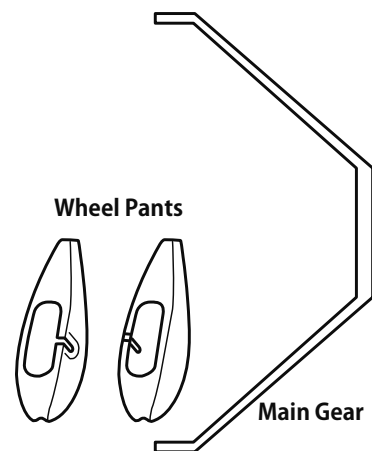
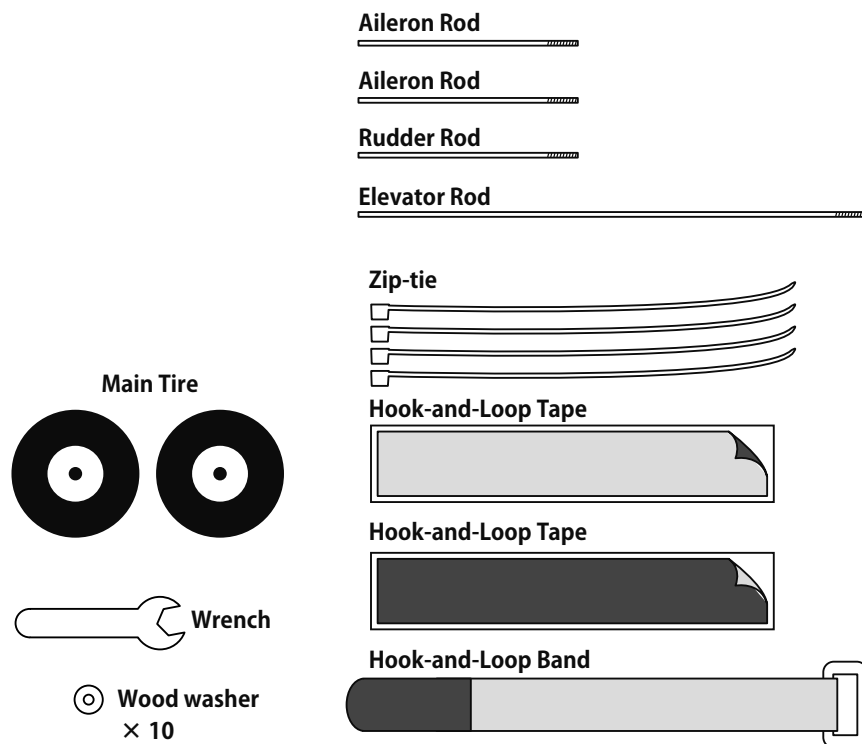
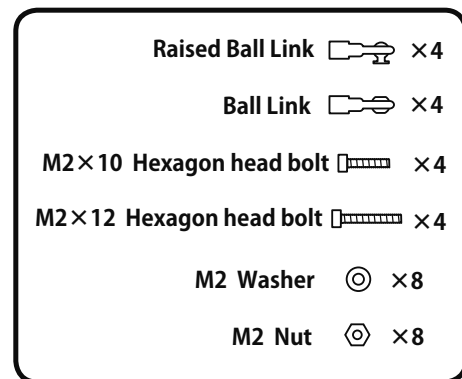
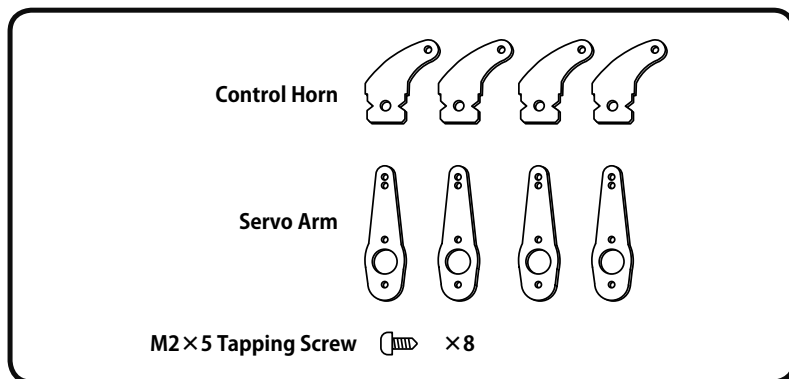
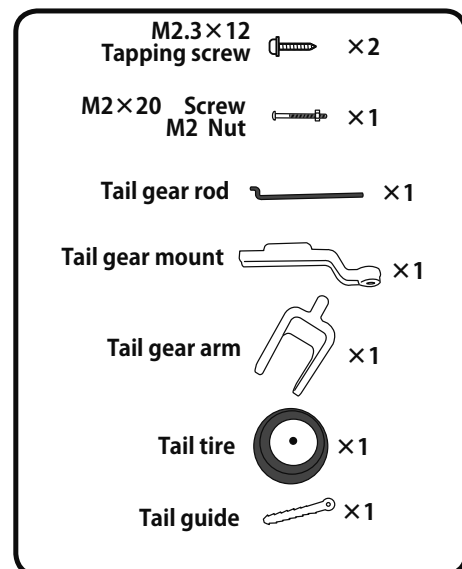
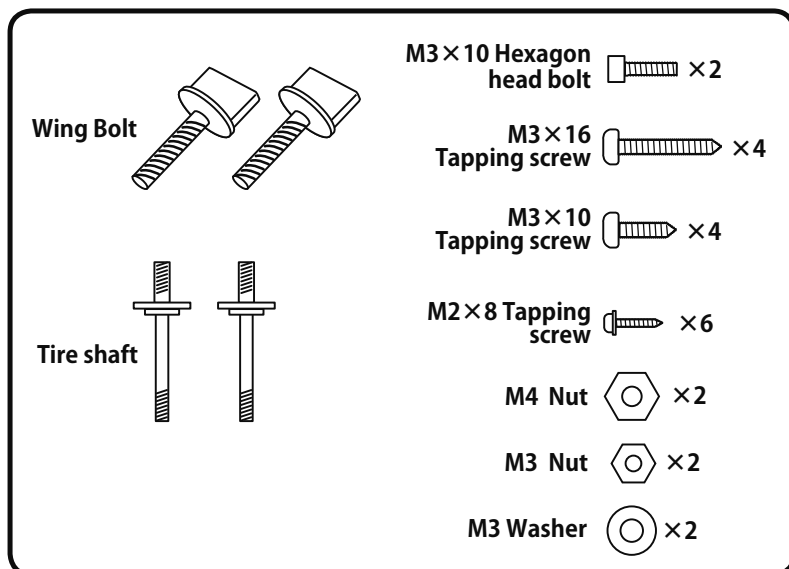
- Spinner (2 in)



- Exacto Knife
- Wire cutters
- Needle nose pliers
- Scissors
- Screwdriver
- Hex key
- Hand drill
- Drill
- Tape
- CA glue
- Magic Marker
- File
- Sandpaper etc.

✂ 2 SET Contents

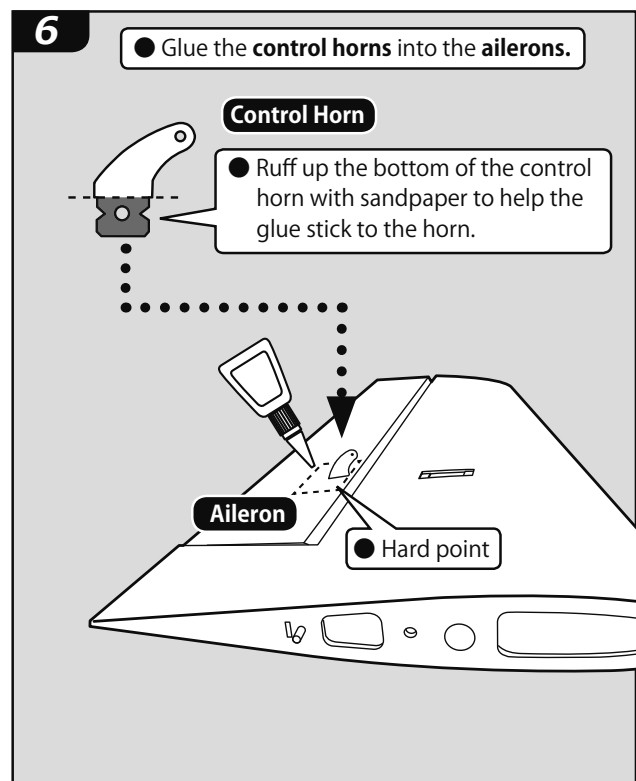
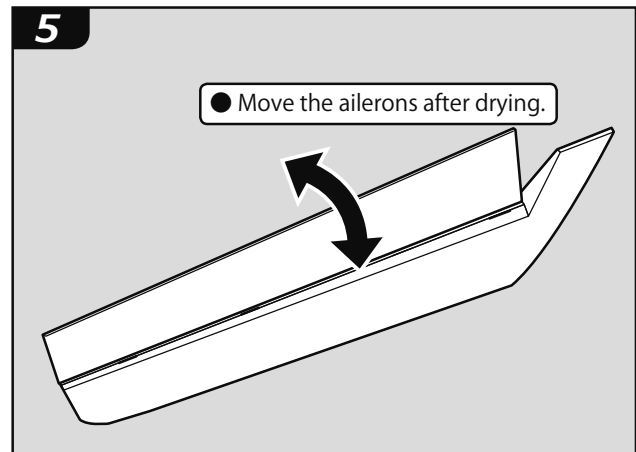
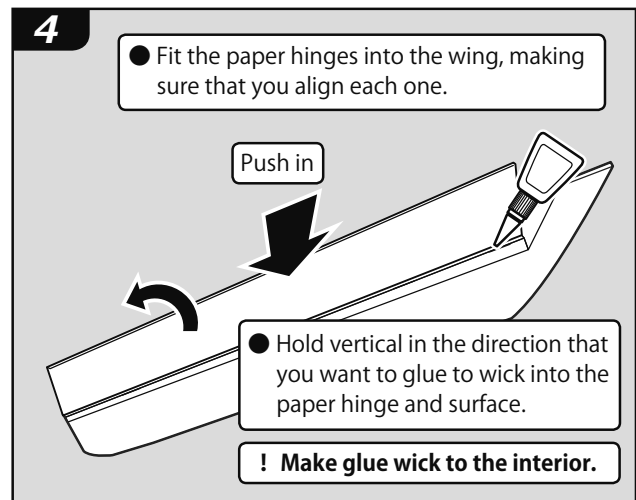
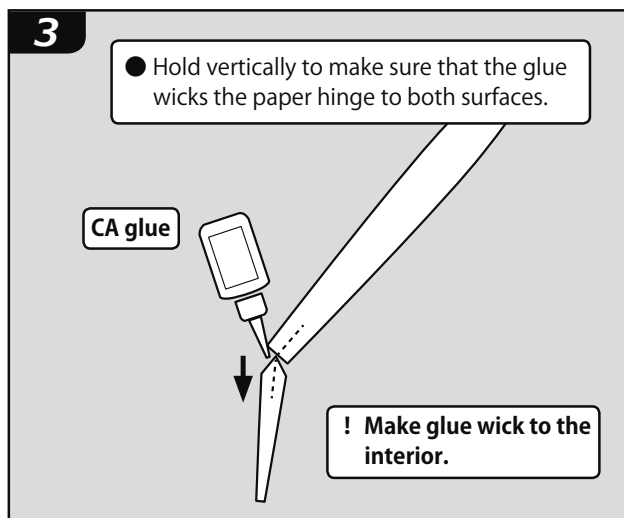
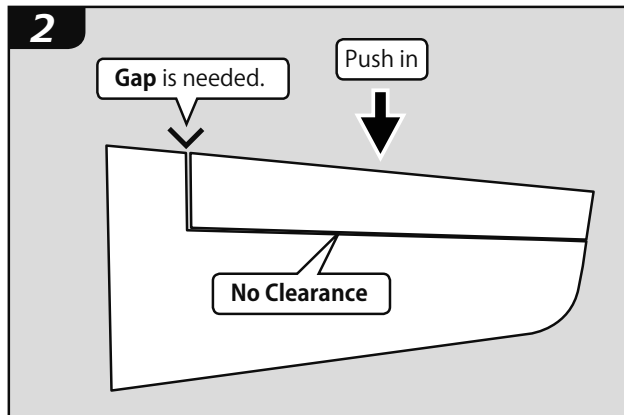
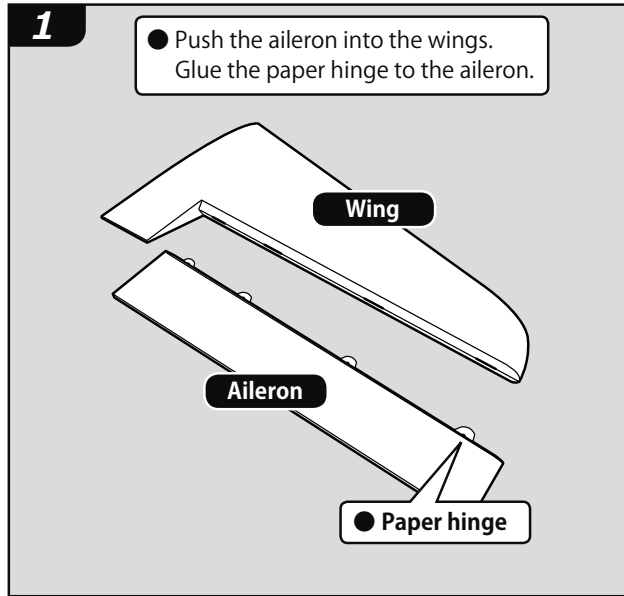




*Screw nut washer may be included extra.

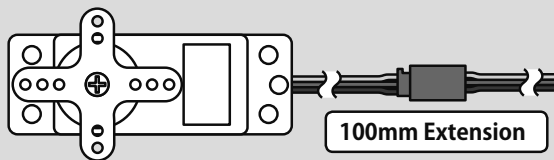
*ALL parts are subject to change without prior notice.

✂ 3 Wing Assembly



7

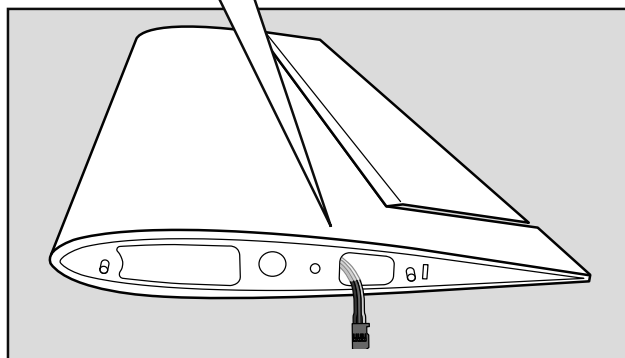
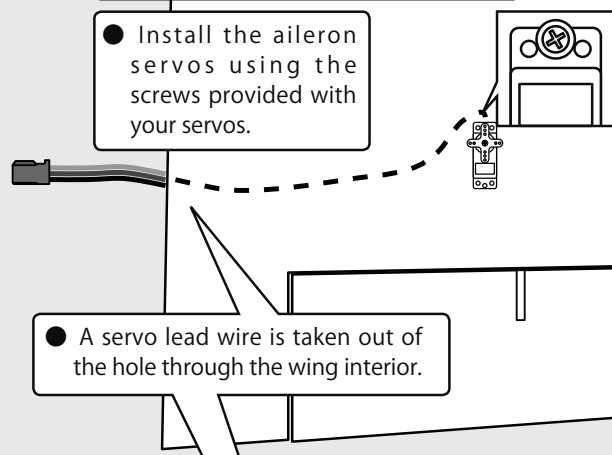
- Prepare aileron servo with a **100mm extension**.



8

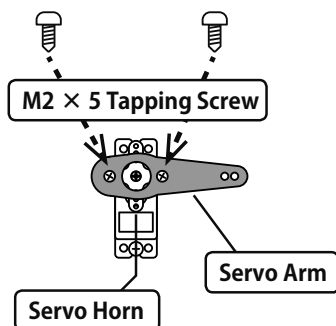
- Place the aileron servos in position and use a drill to make the mounting holes for your servos into the wing.

- Install the aileron servos using the screws provided with your servos.



9

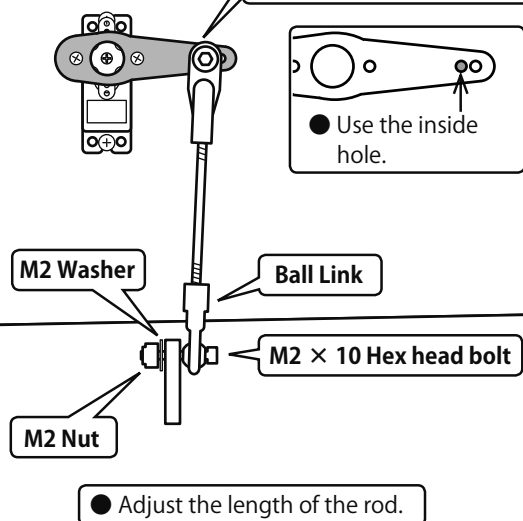
- A servo arm is screwed on the top of a servo horn.



- Use your radio to center your aileron servos. Attach a servo arm to each servo so that the arm is parallel with the hinge line when the servo is centered. Install the arms so that they point outward toward the wing tip.

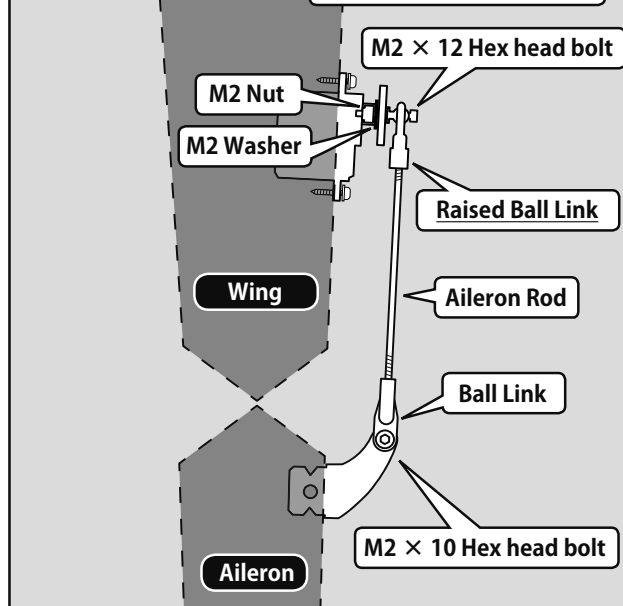
10

! The the **raised ball link** on the **servo side**.



11

! The the **raised ball link** on the **servo side**.



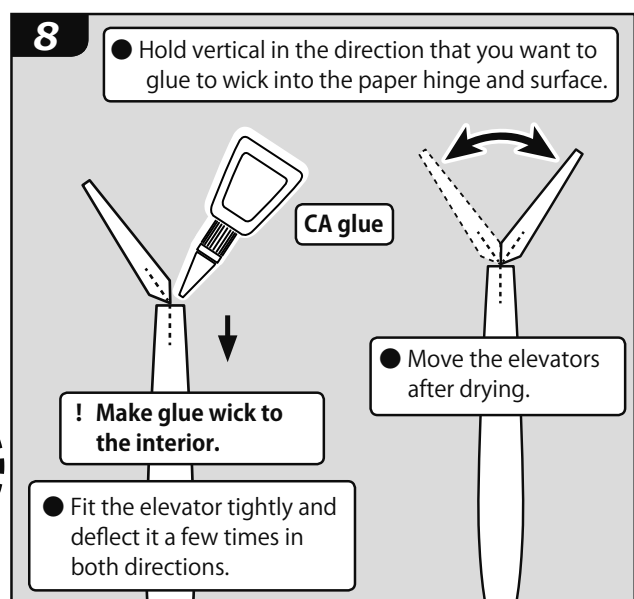
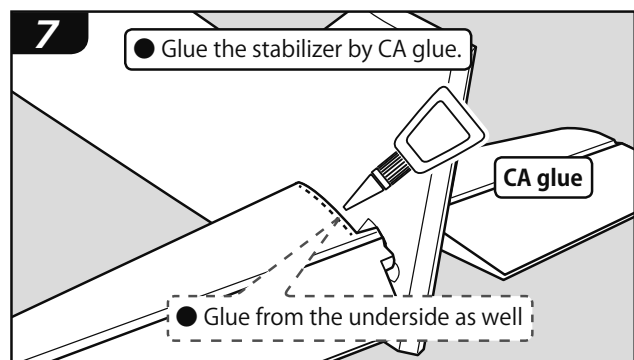
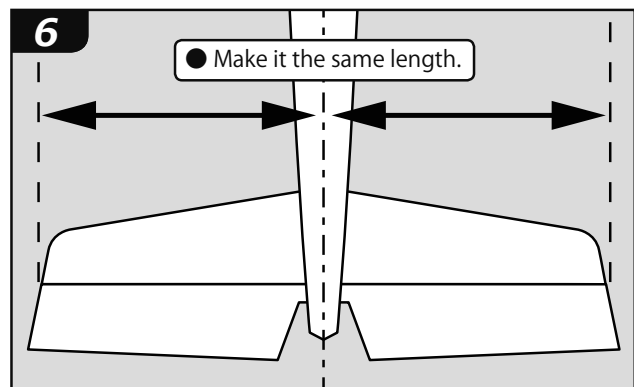
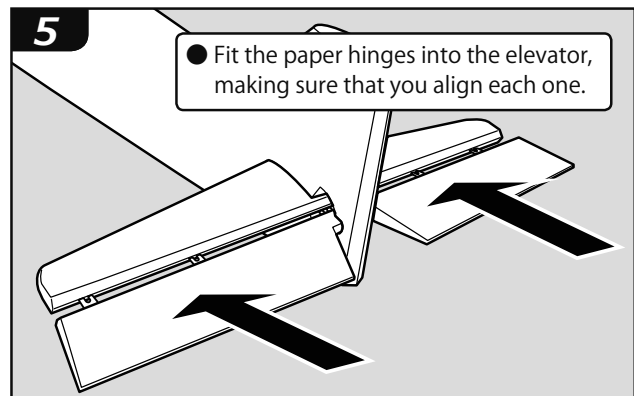
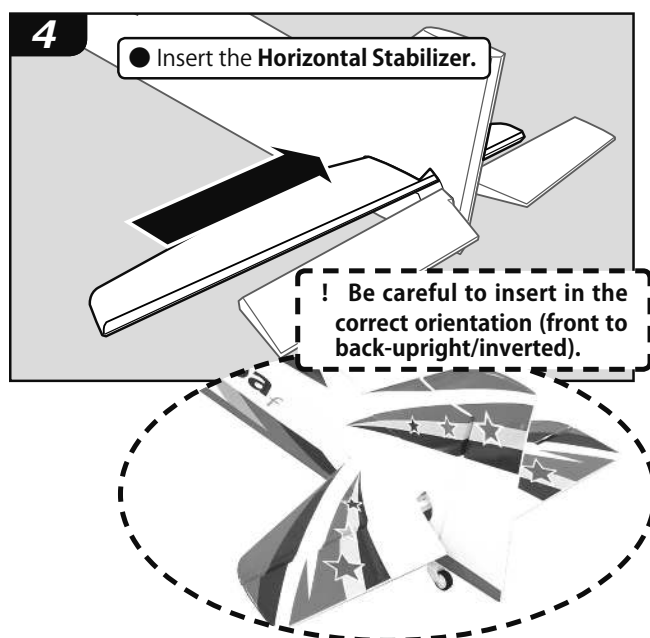
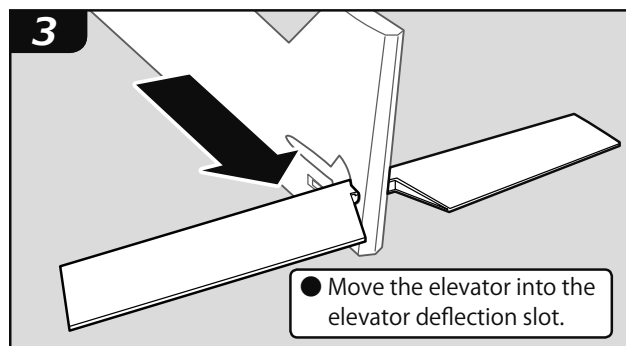
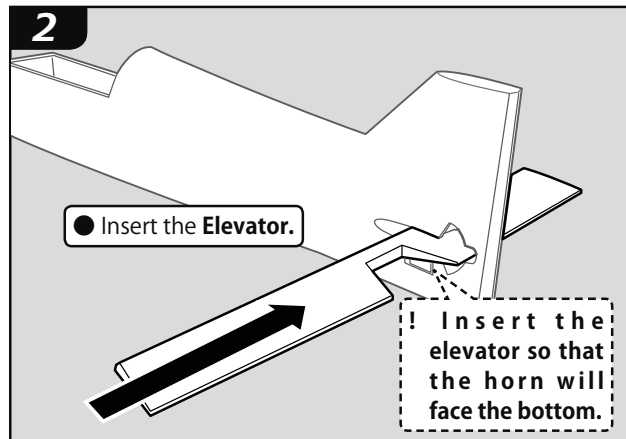
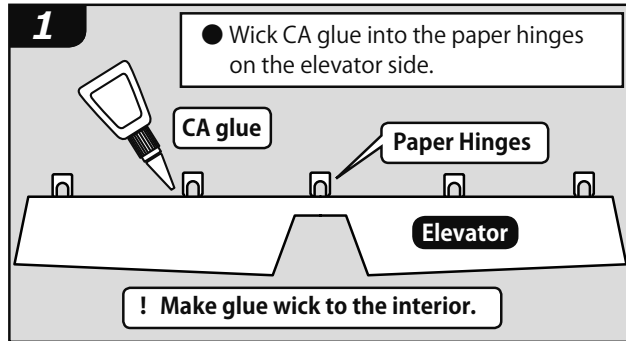
- Both wings are built similarly.

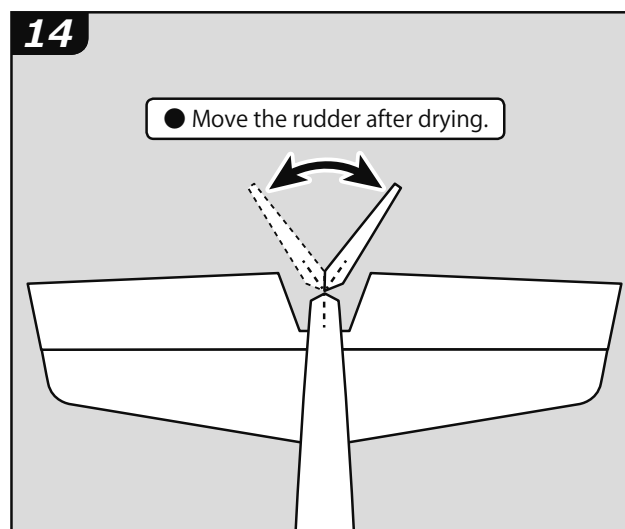
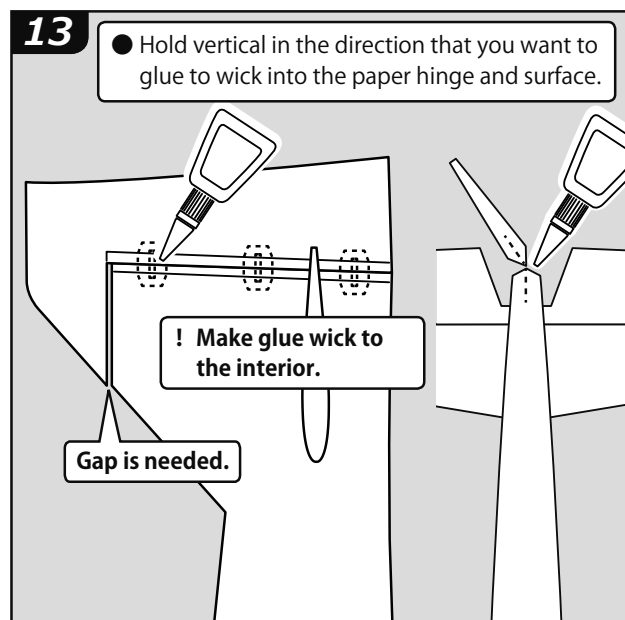
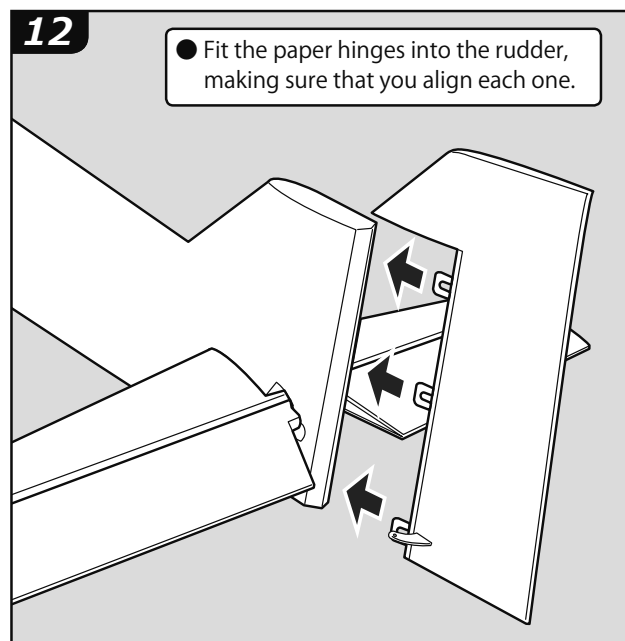
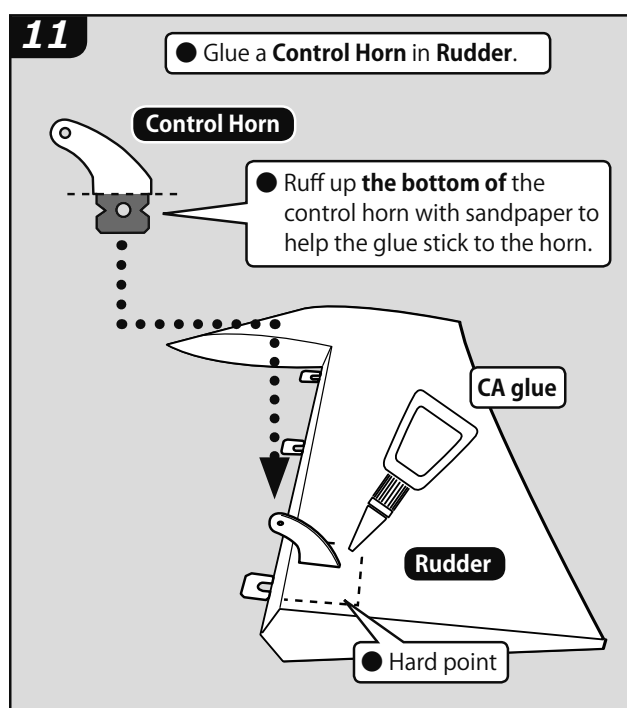
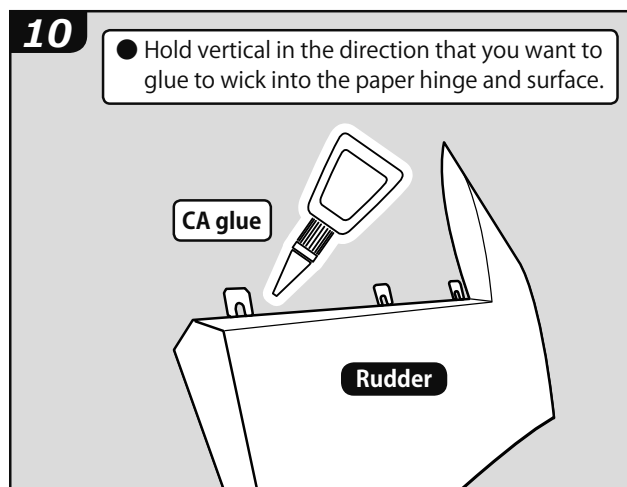
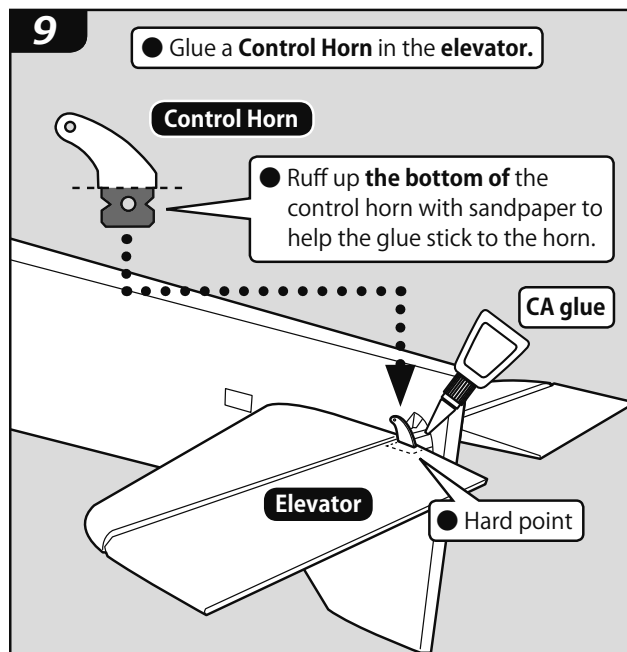


Sky Leaf Tip

The airplane will fly best with very smooth aileron operation.

✂ 4 Stabilizer Installation

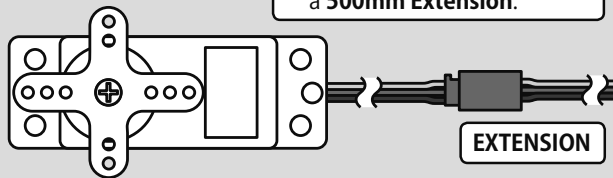




15

- Prepare **Elevator** servo with a **400mm Extension**.

- Prepare **Rudder** servo with a **500mm Extension**.



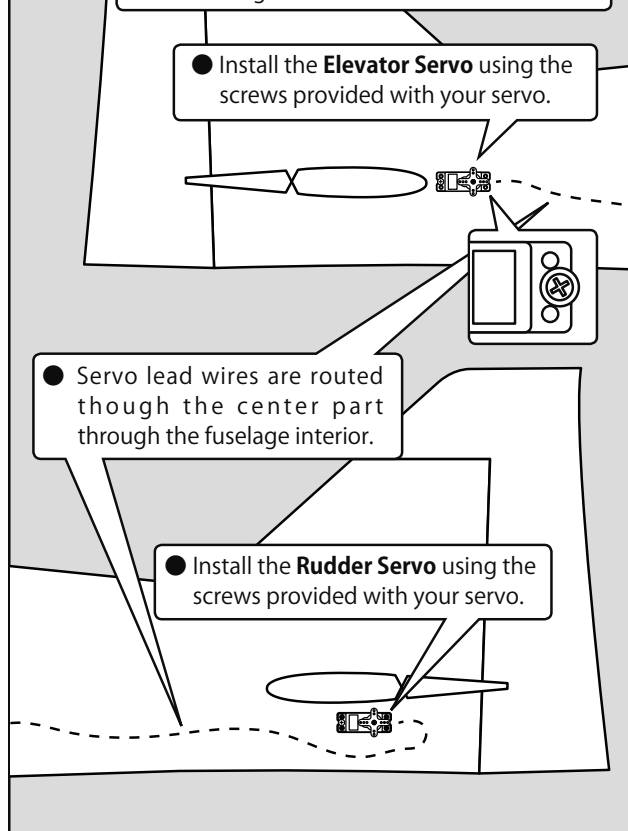
16

- Place the elevator and rudder servos in position and use a drill to make the starter hole for mounting holes for your servos into the fuselage.

- Install the **Elevator Servo** using the screws provided with your servo.

- Servo lead wires are routed through the center part through the fuselage interior.

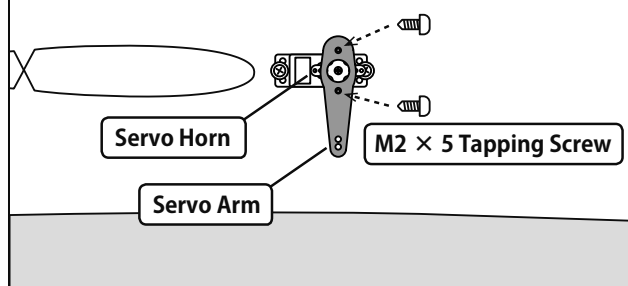
- Install the **Rudder Servo** using the screws provided with your servo.



17

- Screw the servo arm plate to the top of the stock servo arm. (Elevator servo and Rudder servo)

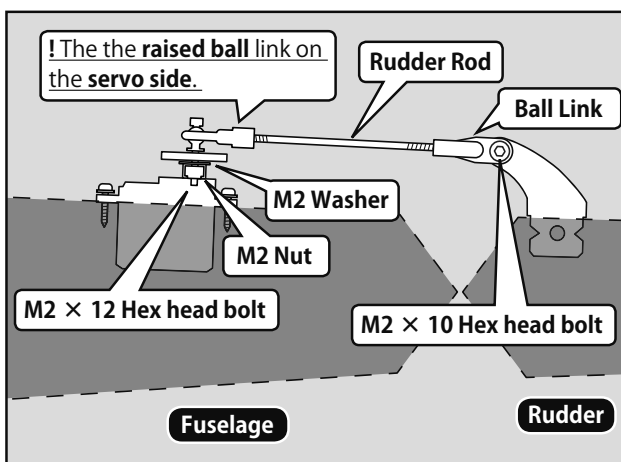
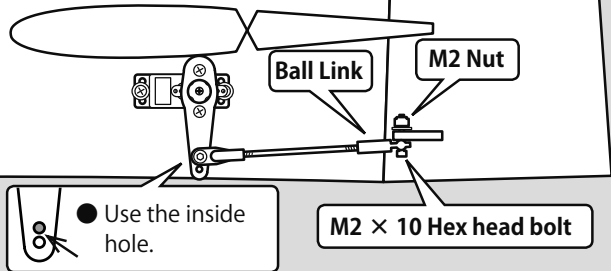
- Use your radio to center your servos. Attach a servo arm to each servo so that the arm is vertical position.



18

Rudder Linkage

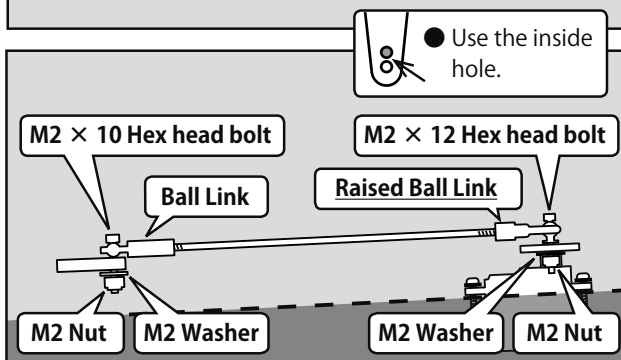
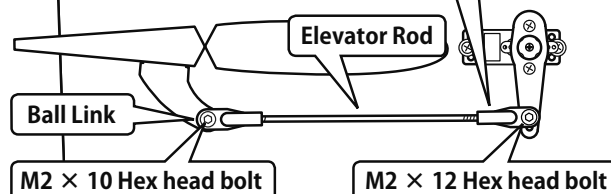
- Adjust the length of the rod so that the surface is neutral and secure the ball link.



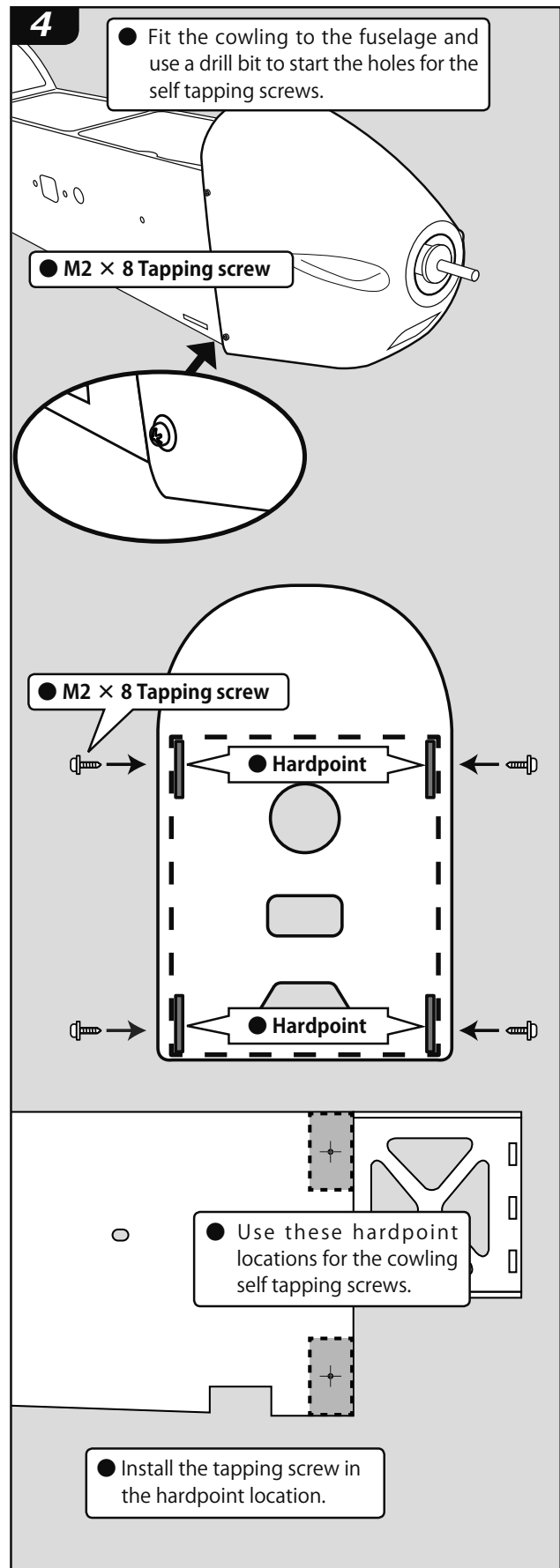
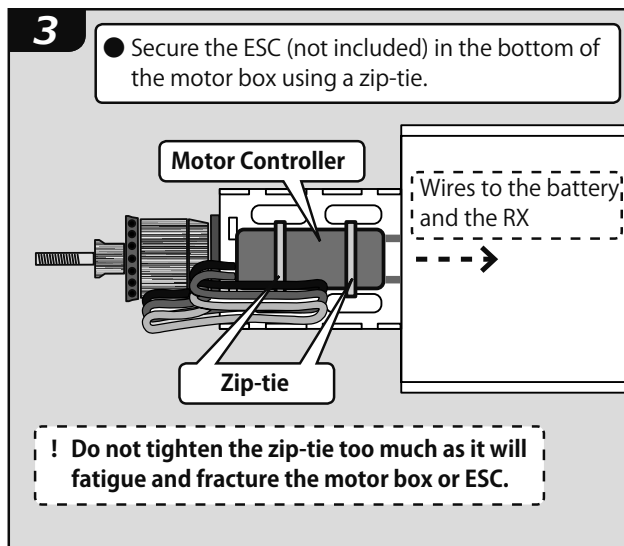
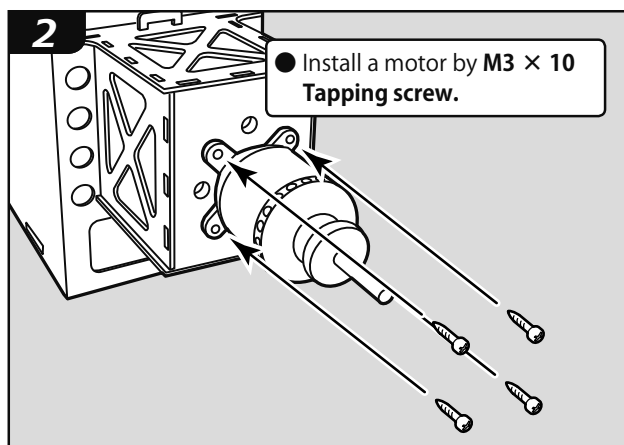
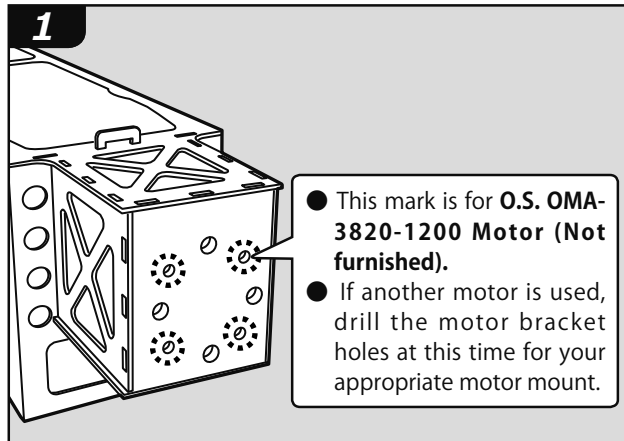
19

Elevator Linkage

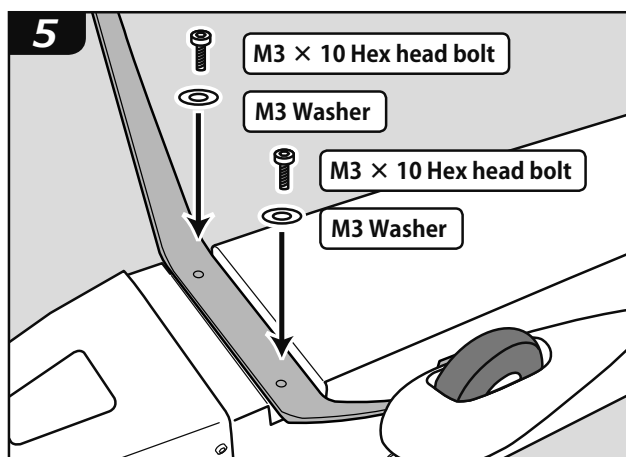
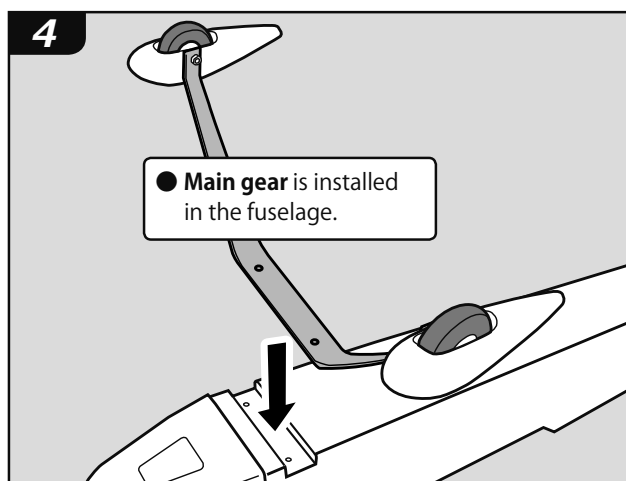
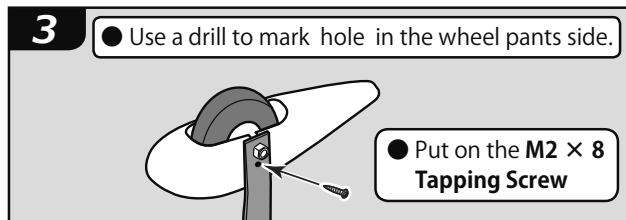
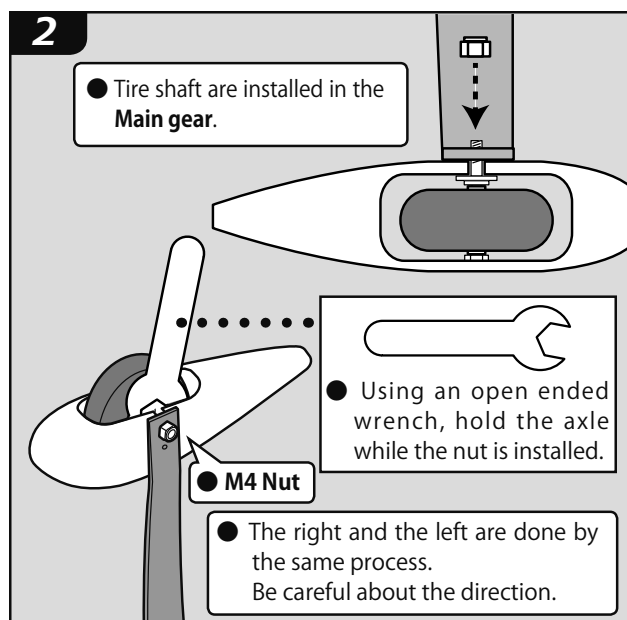
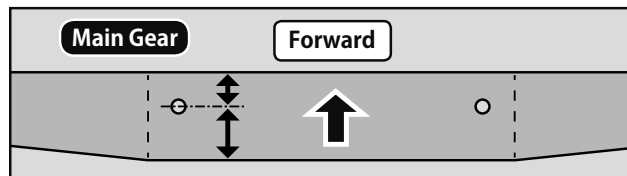
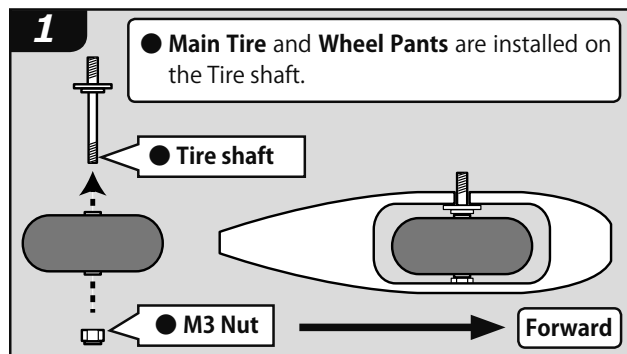
- ! The the raised ball link on the servo side.



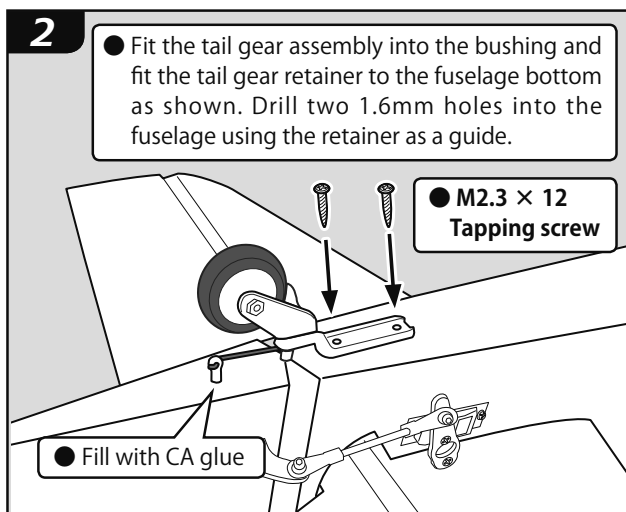
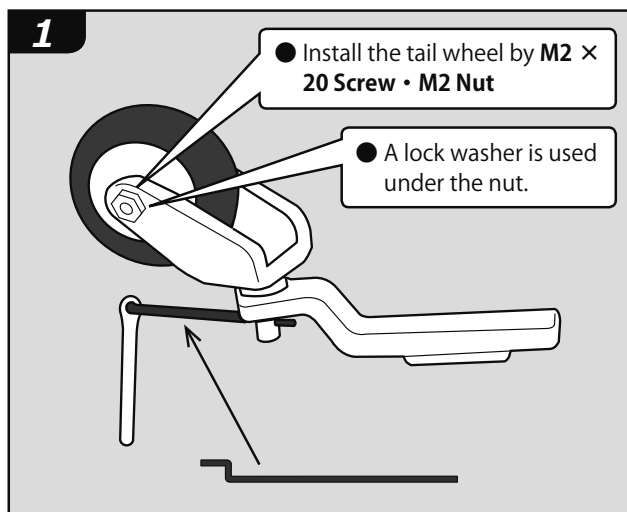
✂ 5 Motor Cowl Installation



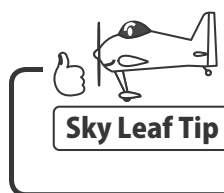
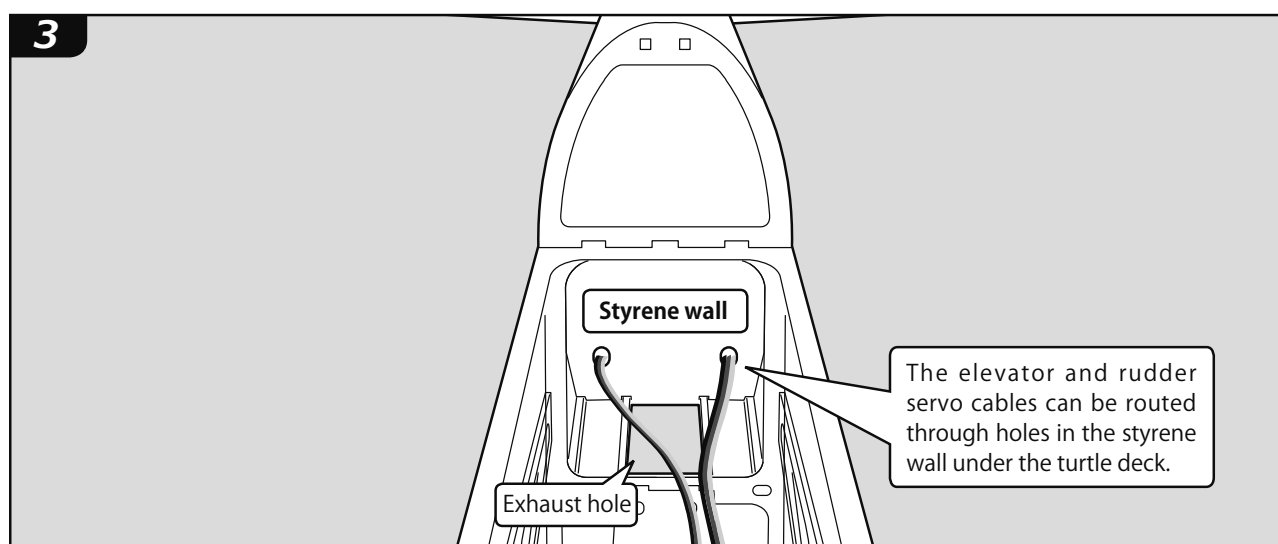
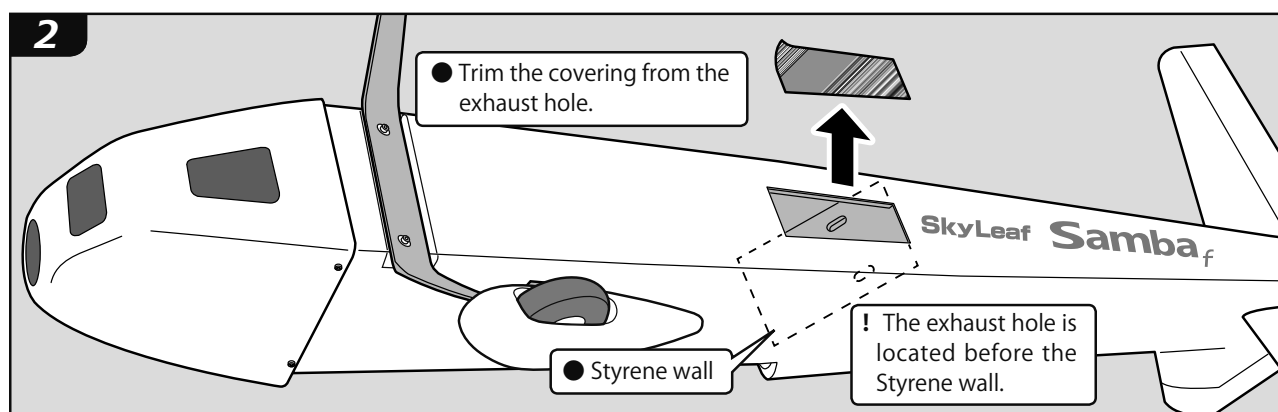
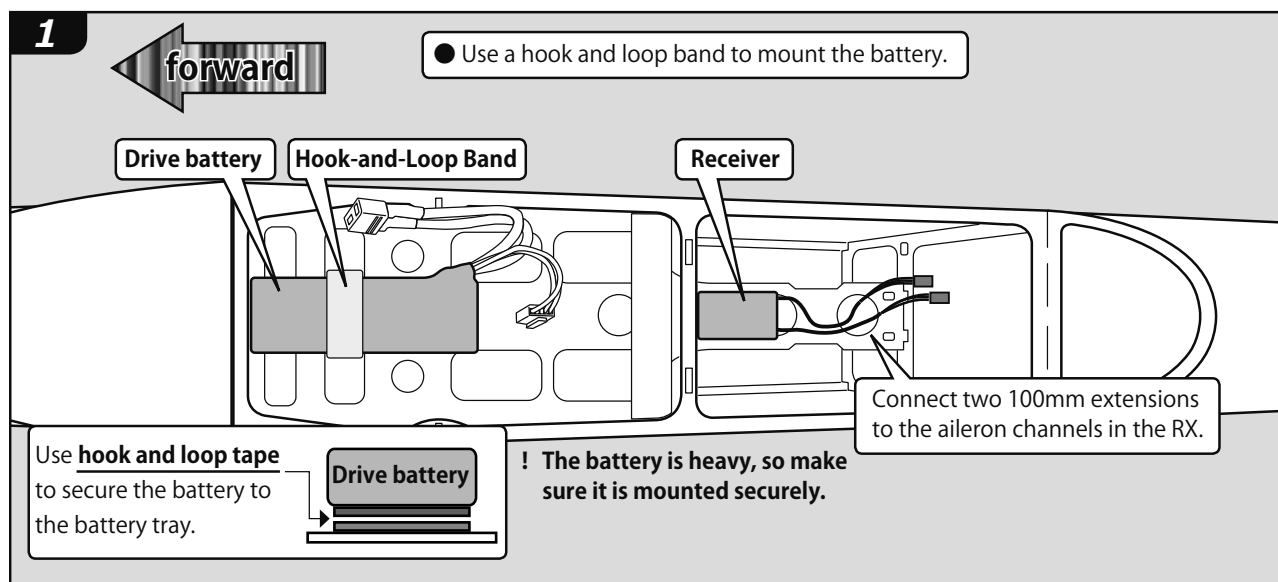
✂ 6 Main Gear Installation



✂ 7 Tail Gear Installation



✂ 8 Receiver & Battery (Not furnished) Installation

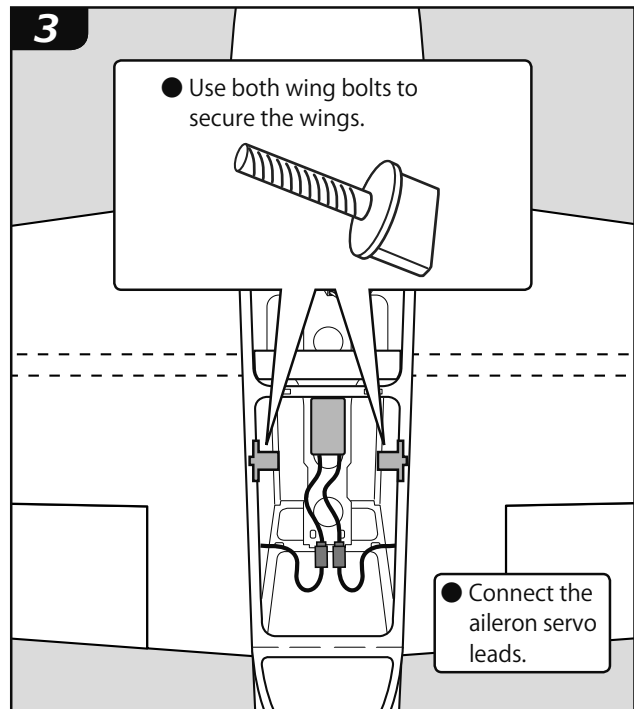
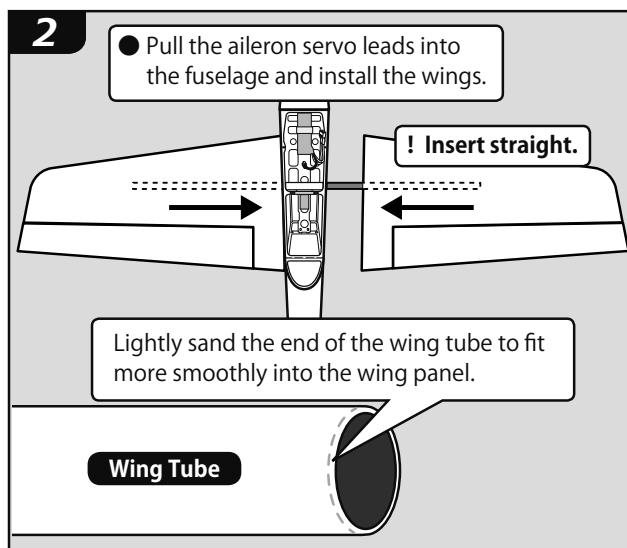
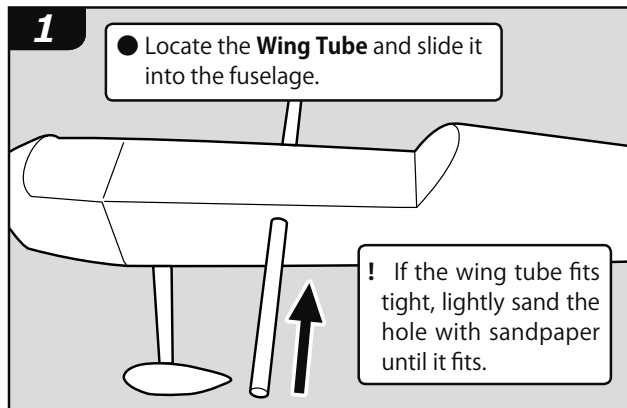


Changing the battery position is a good way to adjust the CG.

⚠ When adjusting the aircraft, disconnect the motor wiring and to allow 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 may cause serious injury.

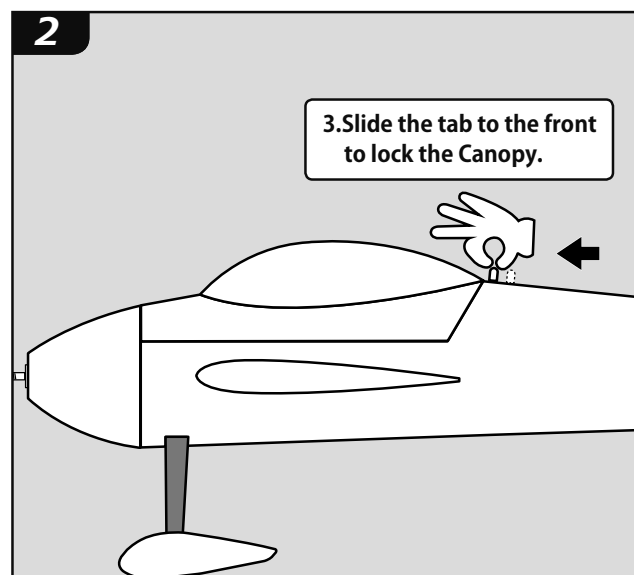
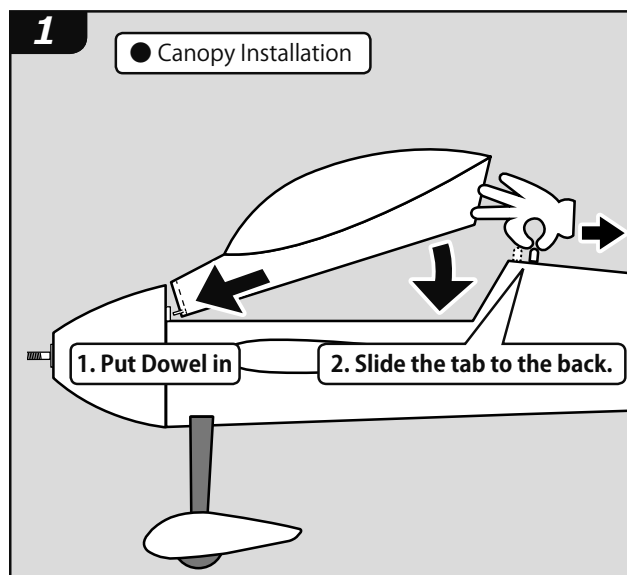
✂ 9 Wing Installation



! 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.

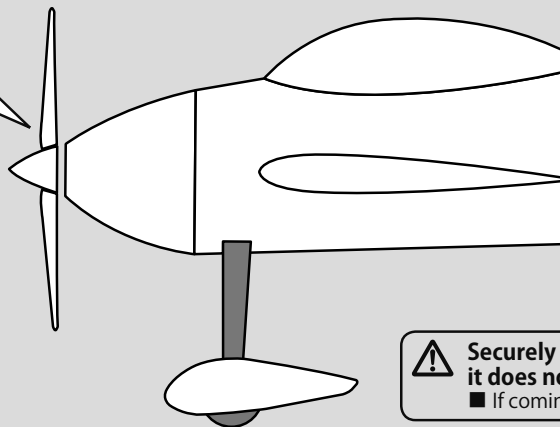
✂ 10 Canopy Installation



✂11 Propeller • Spinner

1

- Install a propeller and spinner (Not furnished) with the most suitable size.

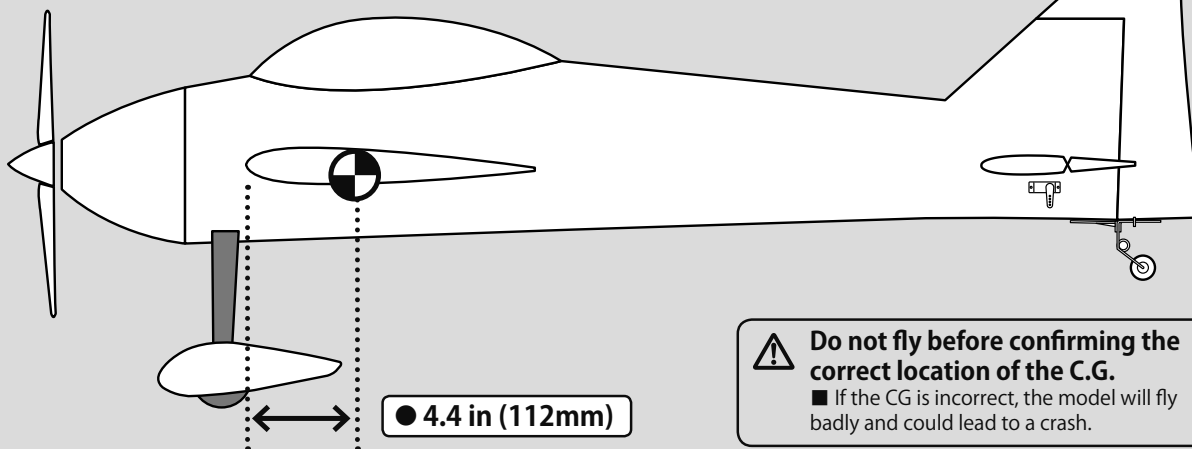


Securely tighten the nut holding the propeller so it does not come off when the motor is spinning.
 ■ If coming off, there is a high risk of injury.

✂12 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.

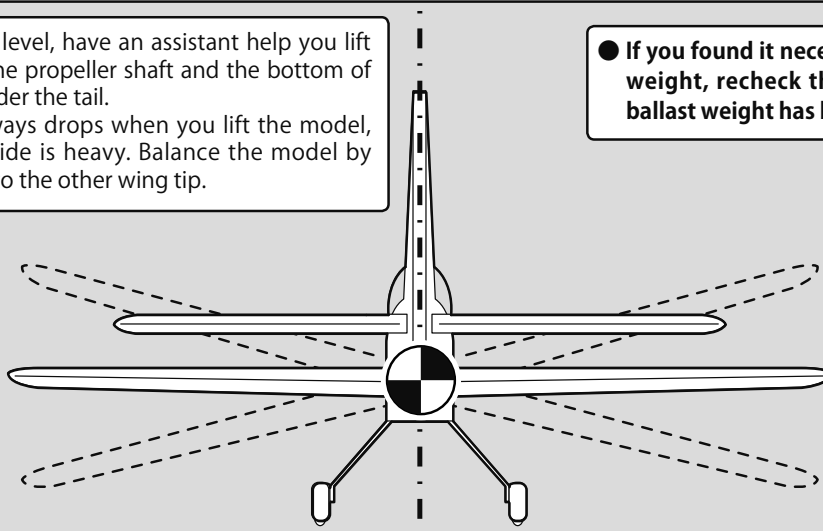


Do not fly before confirming the correct location of the C.G.

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

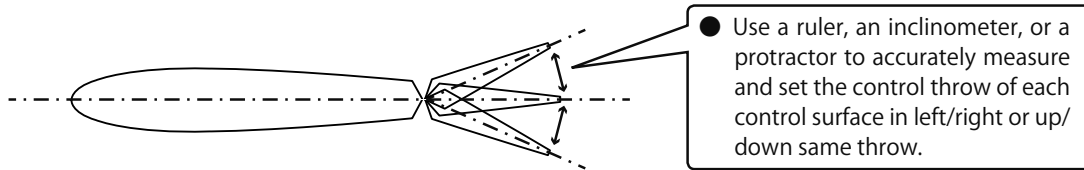
- With the wings level, have an assistant help you lift the model by the propeller shaft and the bottom of the fuselage under the tail. If one wing always drops when you lift the model, it means that side is heavy. Balance the model by adding weight to the other wing tip.

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



✂️ 13 Set the Control Throws

To ensure a successful flight, fly your skyleaf set up only according to the C.G. in this manual. This provides you with the best chance for success and enjoyable first flights that should be surprise-free. A model that is not properly setup may be unstable and possibly unflyable.



- 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

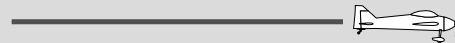


Do the first flight in low rate.

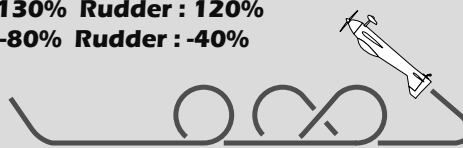
- High Rates are aggressive, so ease into using low rates for general flying.

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 : 50% Rudder : 100%
(EXPO) Aileron : -45% Elevator : -20% Rudder : -30%



- **High Rate:** (D/R) Aileron : 120% Elevator : 130% Rudder : 120%
(EXPO) Aileron : -90% Elevator : -80% Rudder : -40%



✂14 Specification

Airplane : Sky Leaf Samba f
 Overall Length : 48 in (1220mm)
 Wing Span : 48 in (1220mm)
 Wing Area : 457 in² (29.5d m²)
 Wing Thickness : Symmetrical 13%
 Weight : 35.3oz ~ 42.3oz(1000g ~ 1200g)
 Design • Test flight : Futaba's Pilots

S3776SB (S.BUS2 servo) :

- Speed
0.11sec/60° (6.0V)
- Torque
2.4kgf • cm (6.0V)
- Size/Weight
0.86 × 0.43 × 0.86in / 0.35oz
(21.8 × 11.0 × 21.9mm / 10.0g)
- Operating Voltage
4.0V ~ 6.0V **! No dry battery use**



Futaba's Pilots

Tetsuo Onda :

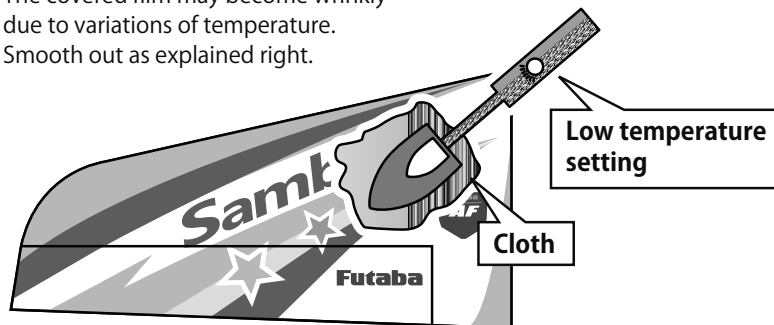
2017 F3A World Championship 1st
 2003 ~ 2018 F3A Japan Championship 16 Wins
 2004 ~ 2014 F3A Asia-Oceania Championship 6 Wins
 2005/11/13/15 F3A World Championship 2nd
 2007, 2009 F3A World Championship 3rd
 2013 World R/C Indoor EP Championship 3rd

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.

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



Use an iron covered with a cloth. Start at low temperature setting. Increase the setting. If it is too high temperature, you may damage the film.

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