Taft Hobby Limited

Viper Jet -90

Instruction Manual

TAFT HOBBY LIMITED

Specification

Wingspan: 1450mm
Lenght: 1274mm
Ductedfan: 90mm/11 blades
Motor: 3541 / 1450KV
Servo: 9 g Digital and metal gear X11PCS
ESC: Hobby wing 80A
Battery type: 22.2V/5000 mAh-30C
Landing gear: retractable metal landing gear
Flying weight: 3050 g
Channel: 6CH

NOTICE

All instructions, warranties and other collateral documents are subject to change at the sole discretion of Taft Hobby Limited For up-to-date product literature, visit www. taft-hobby.com and click on the support tab for this product.

Meaning of Special Language:

The following terms are used throughout the product literature to indicate various levels of potential harm when operating this product

NOTICE: Procedures, which if not properly followed, create a possibility of physical property damage AND little or no possibility of injury.

CAUTION: Procedures, which if not properly followed, create the probability of physical property damage AND a possibility of serious injury.

WARNING: Procedures, which if not properly followed, create the probability of property damage, collateral damage, and serious injury OR create a high probability of supercial injury.

WARNING: Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate th e product correctly can result in damage to the product, personal property and cause serious injury.
This is a sophisticated hobby product. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this Product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision. Do not attempt disassembly, use with incompatible components or augment product in any way without the approval of Horizon Hobby, Inc. This manual contains instructions for safety, operation and maintenance. It is essential to rea d and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or serious injury.

Age Recommendation: Not for children under 14 years. This is not a toy.

Safety Precautions and Warnings

As the user of this product, you are solely responsible for operating in a manner that does not endanger yourself and others or result in damage to the product or the property of others.

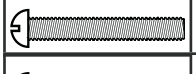
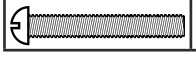
- Always keep a safe distance in all directions around your model to avoid collisions or injury. This model is controlled by a radio signal subject to interference from many sources outside your control. Interference can cause momentary loss of control
- Always operate your model in open spaces away from full-size vehicles, trafc and people.
- Always carefully follow the directions and warnings for this and any optional support equipment (chargers, rechargeable battery packs, etc.).
- Always keep all chemicals, small parts and anything electrical out of the reach of children.
- Always avoid water exposure to all equipment not specifically designed and protected for this purpose. oisture causes damage to electronics.
- Never place any portion of the model in your mouth as it could cause serious injury or even death.
- Never operate your model with low transmitter batteries.
- Always keep aircraft in sight and under control.
- Always use fully charged batteries.
- Always keep transmitter powered on while aircraft is powered.
- Always remove batteries before disassembly.
- Always keep moving parts clean.
- Always keep parts dry.
- Always let parts cool after use before touching.
- Always remove batteries after use.
- Always ensure failsafe is properly set before flying.
- Never operate aircraft with damaged wiring.
- Never touch moving parts.

Introduction

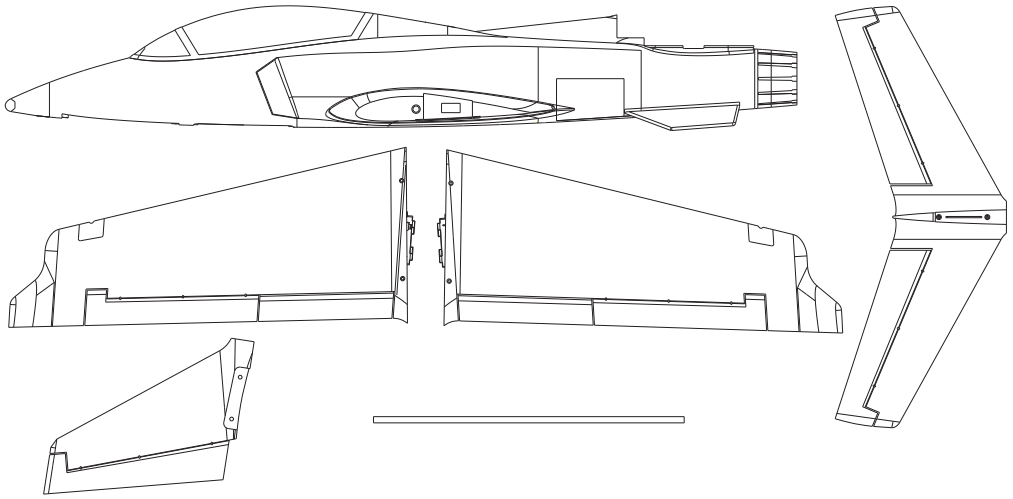
You are about to take Flight with one of the hottest electric ducted fans ever built. Its potent one-two punch of speed and precision aerobatic ability will make every Flight one to remember. Before you take to the sky though, you must read through this manual.

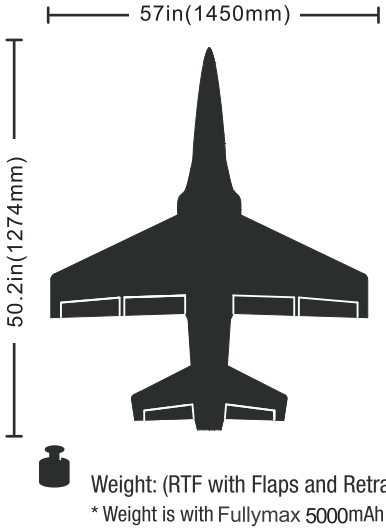
Box Contents

Included Screws and Fasteners

	Size	Qty
	3*25mm	2
	3*5mm	4
	3*12mm	4

Spare fasteners may be included.



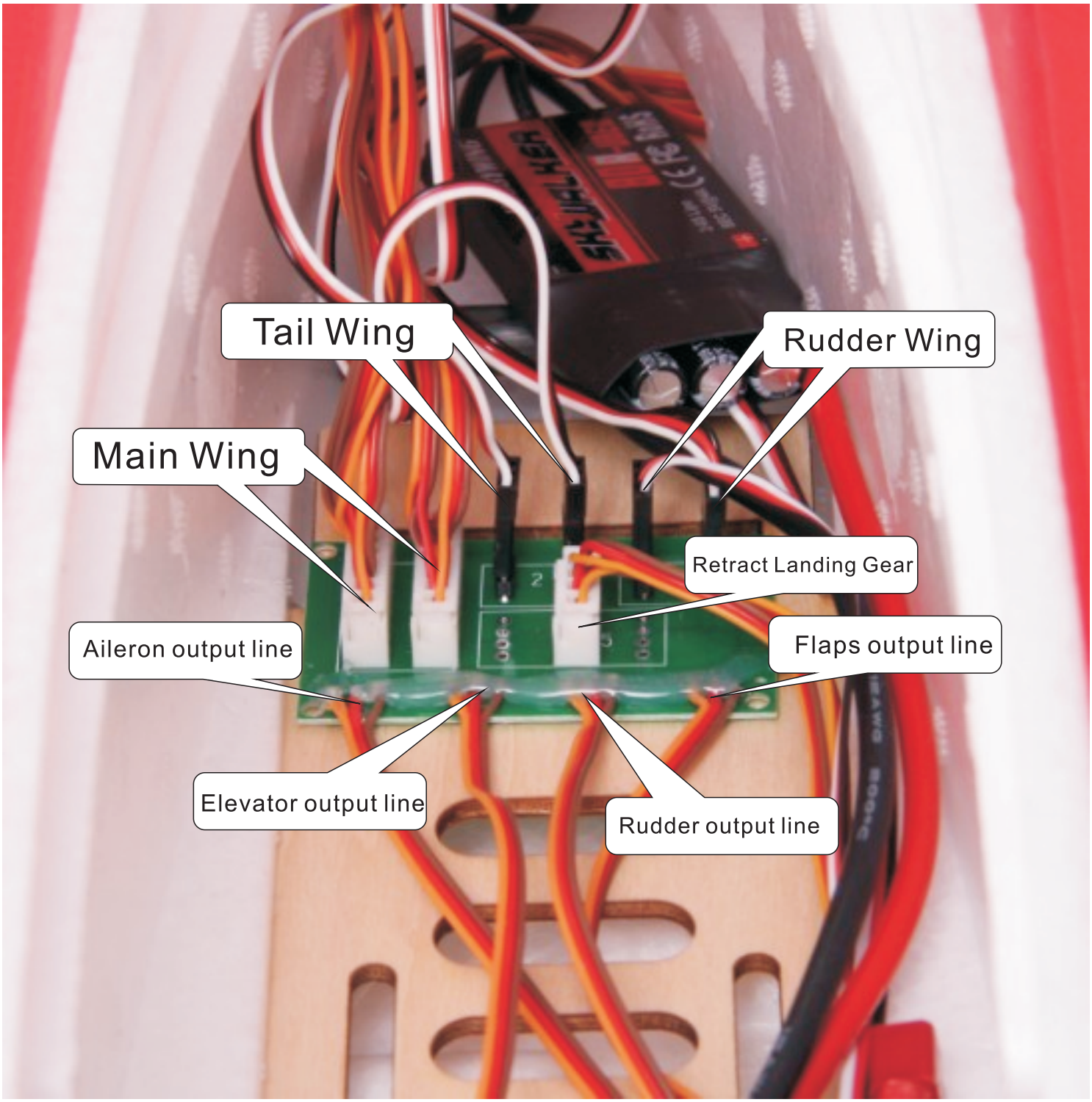


Weight: (RTF with Flaps and Retracts)107.6 oz(3050 g)*
* Weight is with Fullymax 5000mAh 6 cell Lipo

Installed

- **Ducted Fan Unit:** 90mm EDF Fan Unit
- **Motor:** BL 3541Ducted Fan Motor,1450Kv
- **ESC:** 80-Amp BEC Brushless ESC
- (11) 9g Digital and metal gear Servo
- **Battery:** 5000mAh 22.2V 6-cell 30C Li-Po

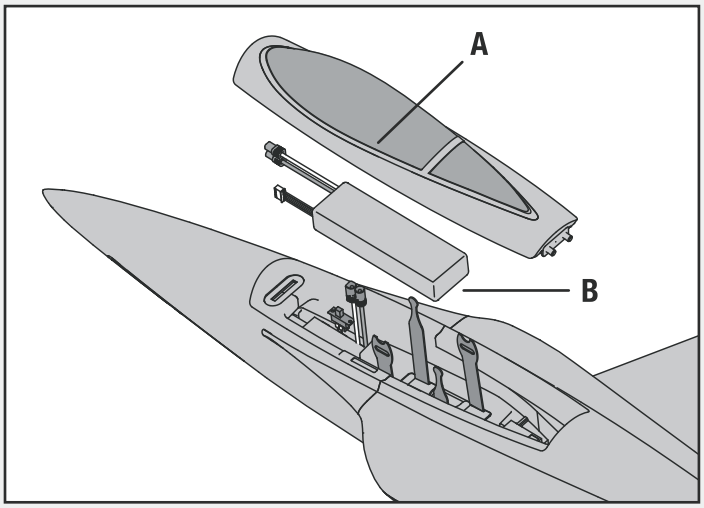
PCB Wires integration

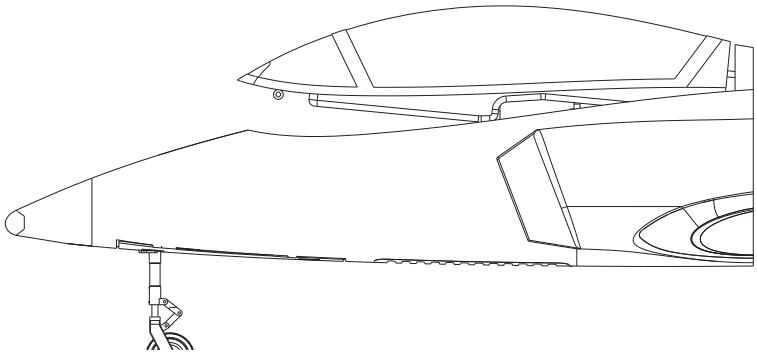


Installing the Battery

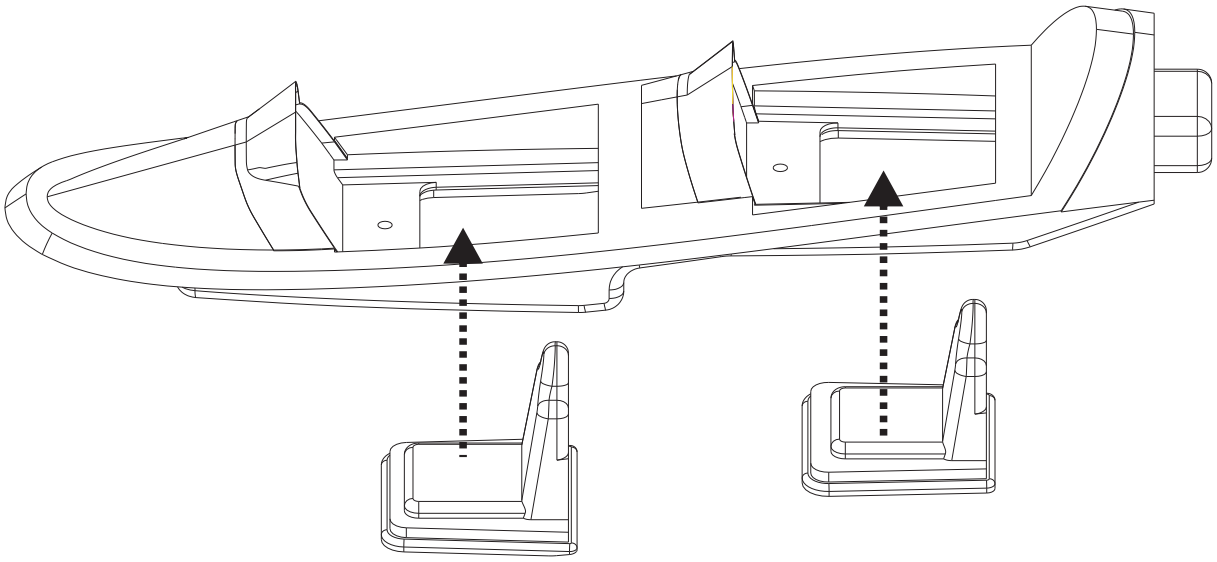
1. Carefully lift the front of the canopy (**A**) and pull the canopy forward and off the fuselage.
2. Place the blue battery connector toward the front of the airplane and install the ight battery (**B**) all the way to the front of the battery compartment.
3. If binding the aircraft receiver to the transmitter, refer to the transmitter manual s binding instructions. If the aircraft is already bound to the transmitter, always power on the transmitter before connecting the ight battery to the ESC connector in the aircraft.
4. Install the canopy on the fuselage. Make sure the magnets on the canopy and fuselage meet.

⚠ **CAUTION:** Always disconnect the Li-Po battery from the aircraft receiver when not ying to avoid over-discharging the battery. Batteries discharged to a voltage lower than the lowest approved voltage may become damaged, resulting in loss of performance and potential re when batteries are charged.



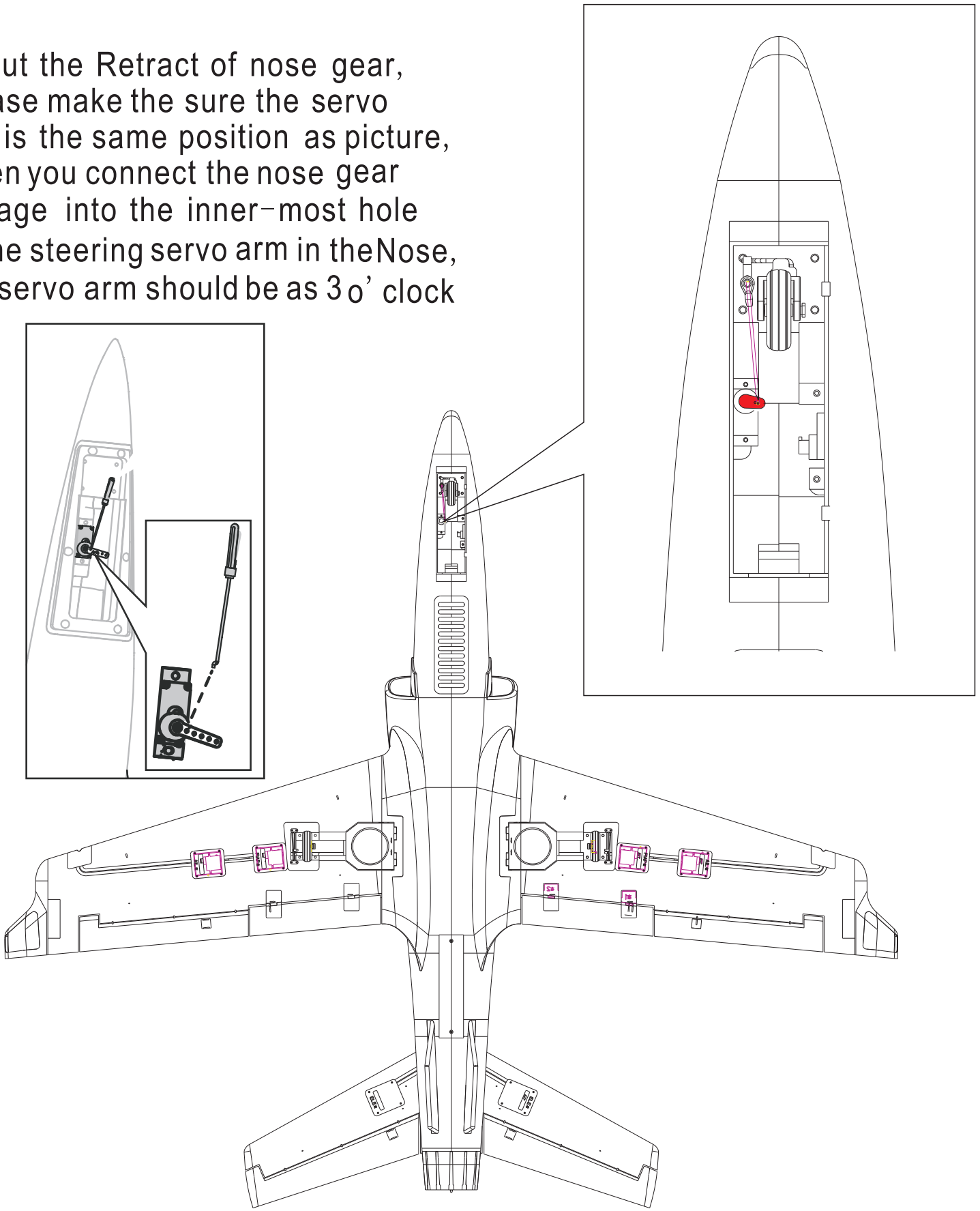


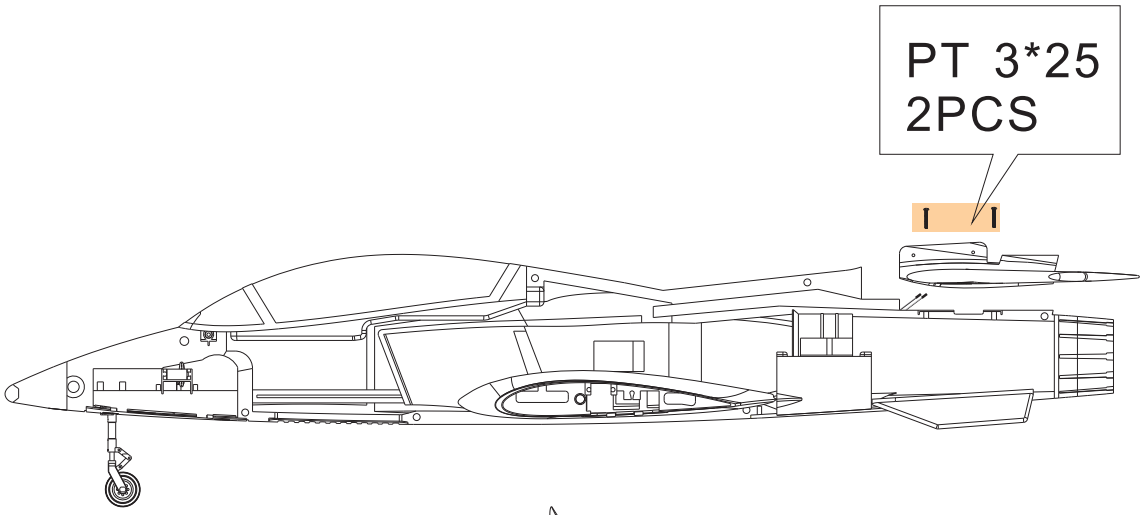
Installing the Pilot and Seat

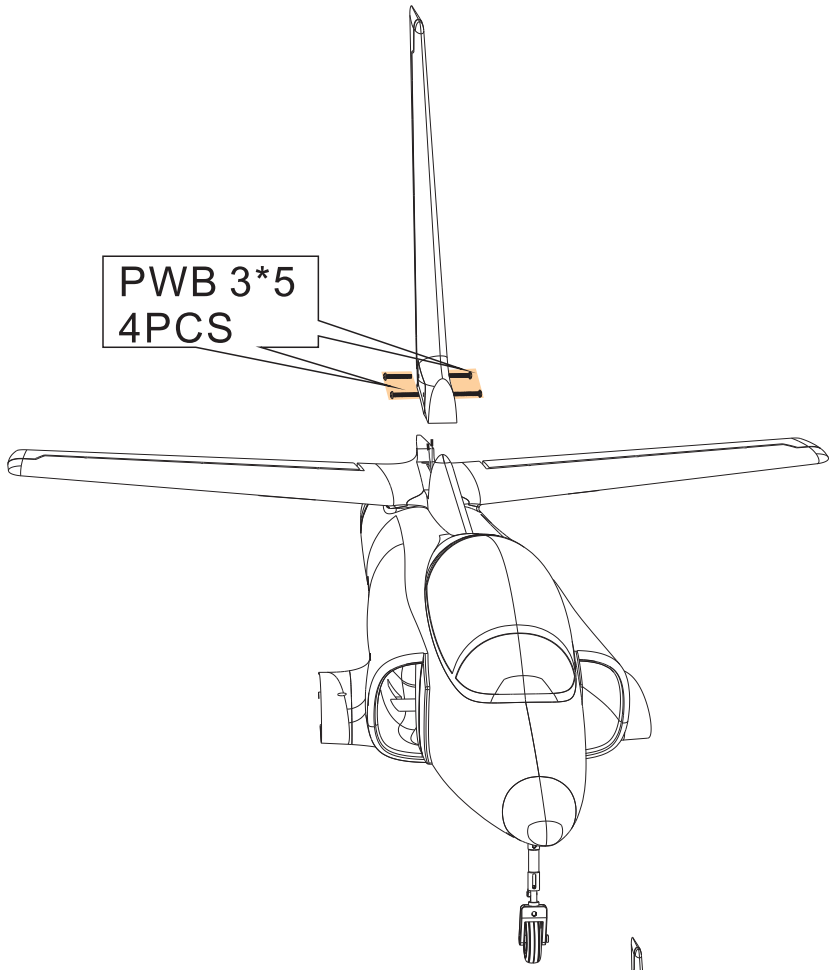


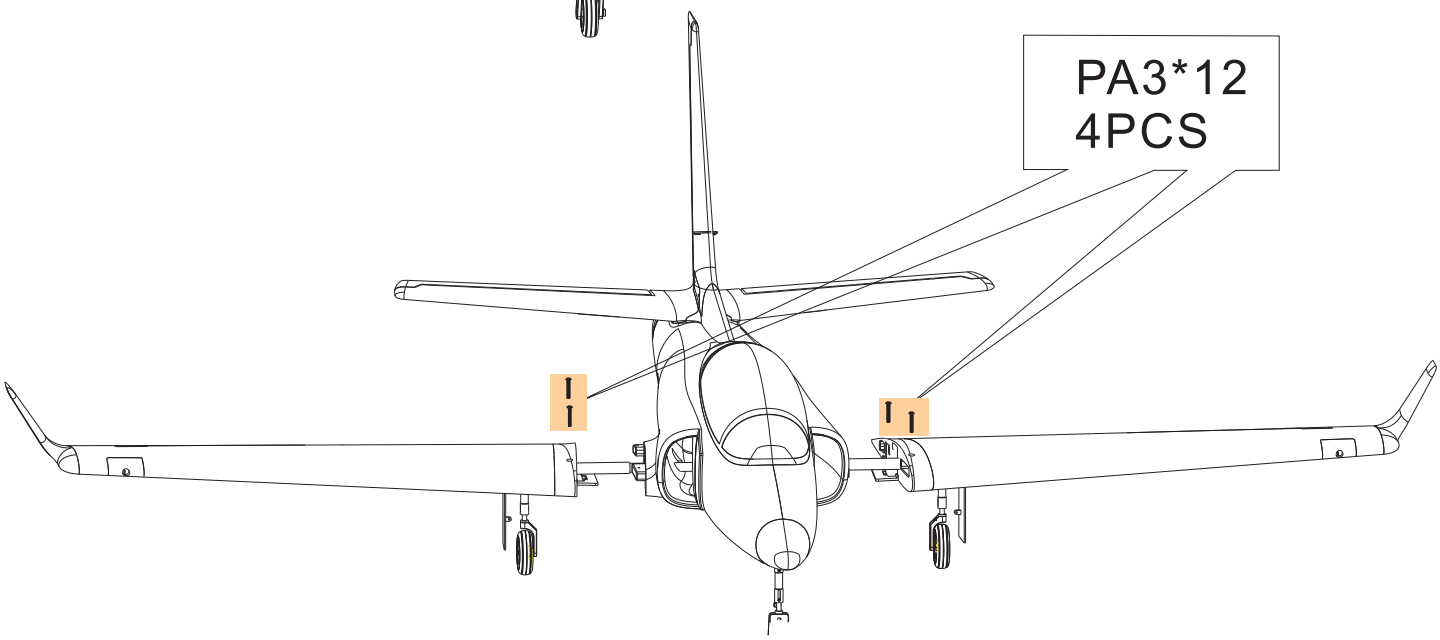
Installing the Fixed Landing Gear

About the Retract of nose gear, please make the sure the servo arm is the same position as picture, When you connect the nose gear linkage into the inner-most hole in the steering servo arm in the Nose, the servo arm should be as 3 o' clock



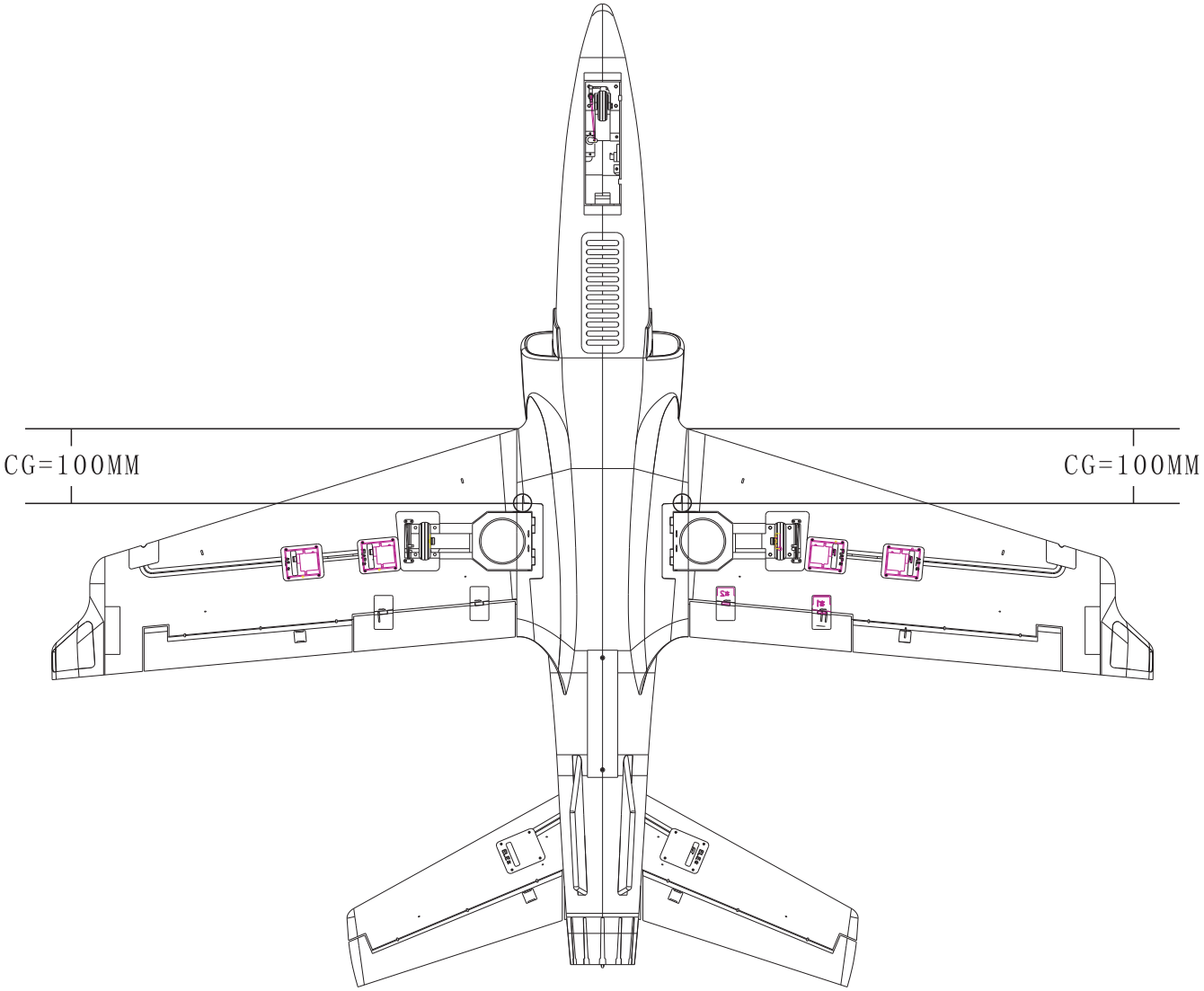

PT 3*25
2PCS


PWB 3*5
4PCS


PA3*12
4PCS

Center of Gravity (CG)

Place the battery all the way forward in the battery compartment and hold the battery in place using hook and loop straps. It is easiest to balance the aircraft with the aircraft inverted.

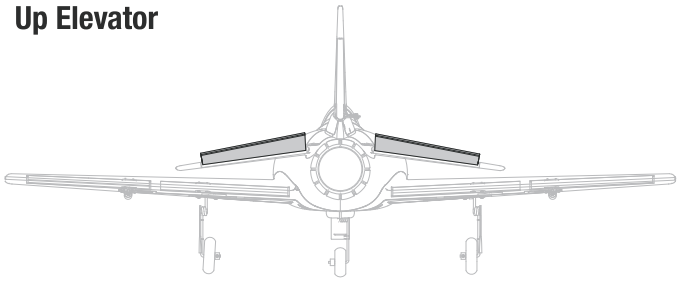


Control Direction Test

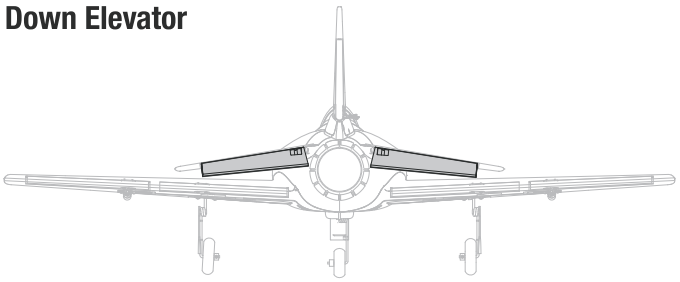
Bind your aircraft and transmitter before performing these tests. Move the controls on the transmitter to ensure the aircraft control surfaces move correctly. After doing the Control Test, correctly set the failsafe. Make sure the transmitter controls are at neutral and the throttle an d throttle trim are in the low position, then rebind the model to your transmitter. If the receiver loses its link to the transmitter, the failsafe automatically moves the controls and throttle settings to those made at binding.

Elevator

Up Elevator

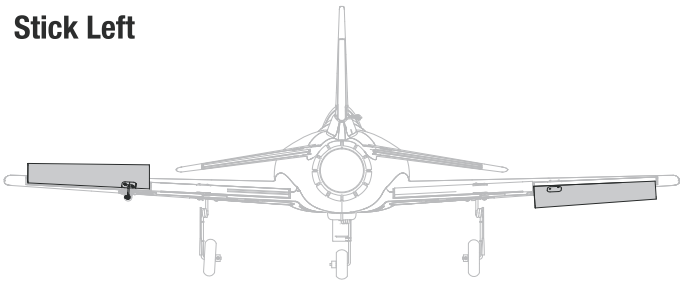


Down Elevator

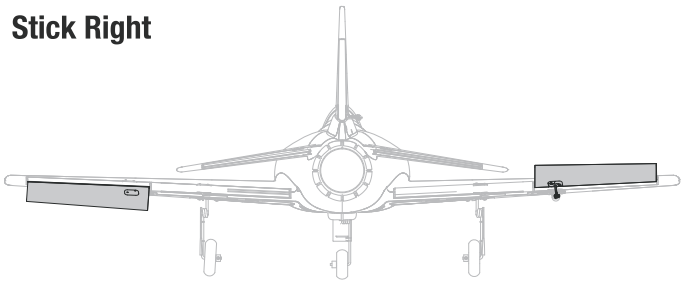


Aileron

Stick Left

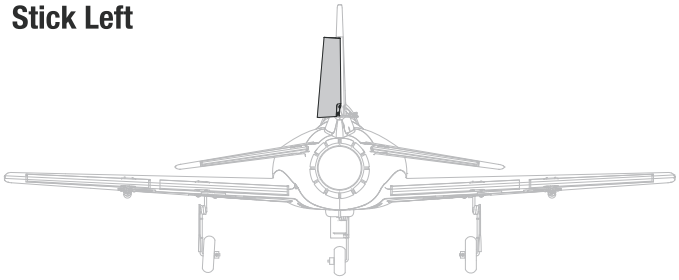


Stick Right

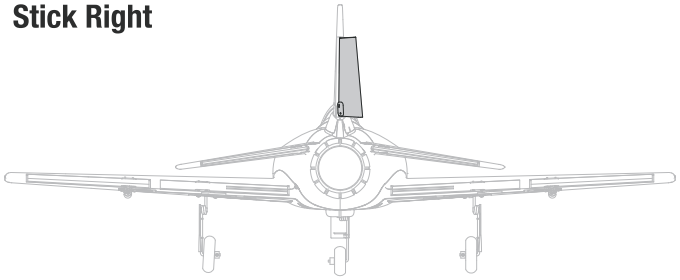


Rudder

Stick Left

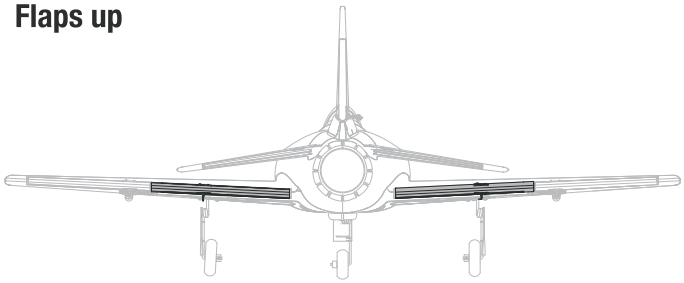


Stick Right

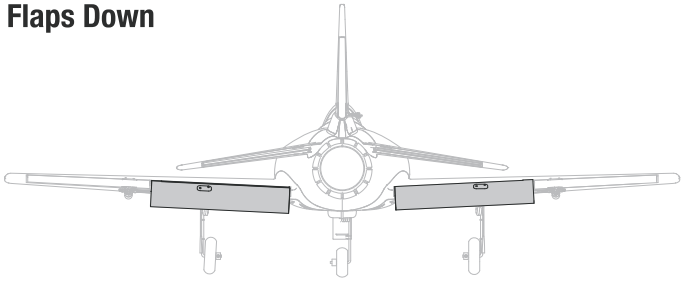


Optional Flaps

Flaps up



Flaps Down



Pre ight Checklist

9	Before Flying Check List
	1. Charge ight battery.
	2. Install ight battery in aircraft (once it has been fully charged).
	3. Bind aircraft to transmitter.
	4. Make sure linkages move freely.
	5. Perform Control Direction Test with transmitter.

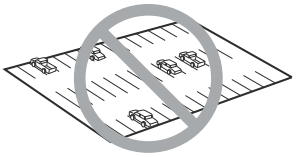
9	Before Flying Check List
	6. Adjust ight controls and transmitter.
	7. Perform a radio system Range Check.
	8. Find a safe and open area.
	9. Plan ight for ying eld conditions.

Flying Tips and Repairs

Range Check your Radio System

After nal assembly, range check the radio system with the Habu 2. Refer to your specic transmitter instruction manual for range test information.

Flying



Always choose a wide-open space for ying your ParkZone Habu 2. It is ideal that you y at a sanctioned ying eld. If you are not ying at an approved site, always avoid ying near houses, trees, wires and buildings. You should also be careful to avoid ying in areas where there are many people, such as busy parks, schoolyards or soccer elds. Consult local laws and ordinances before choosing a location to y your aircraft.

This is a go-where-you-point-it aircraft. It tracks very straight and is capable of many maneuvers. It has a wide speed range, from full throttle high-speed passes to slow ight, but has great handling qualities throughout its entire ight envelope. If this is your rst ducted fan aircraft, just remember that because there is no prop blast blowing air over the control surfaces, the controls will not be as responsive at low speeds. The aircraft is easy to y, but because it can reach a very high speed, plan your ight path to avoid obstacles or people.

Hand launch

It is advisable to have a helper for the rst few hand launches. Hold the airplane behind the wing with the throwing hand and support the nose with the opposite hand. Run the motor up to full throttle and give a FIRM throw straight ahead. The aircraft should be launched rmly with the nose up 5 0 degrees and directly into the wind. Do not throw nose down.

ROG Takeoff

Taxi into position on the runway. Avoid sharp turns when taxiing at higher speeds to avoid tipping the aircraft on its side. Once in position on the runway, start your timer. Hold 1/2 to full up elevator at the start of the takeoff roll to get weight off the nosewheel and allow for smoother takeoffs. Steer with the rudder, and, as speed increases, reduce the up elevator input to 1/4 to 1/2 up elevator. The airplane will lift off when ying speed is reached.

Belly Landing

If landing on grass without the landing gear, use the same approach as if ying with landing gear. Start your are with the power off about 1 foot (30 cm) above the ground and hold the nose off until the tail touches down. Try to keep the wings level to prevent clipping a wing on the ground and turning the aircraft sideways.

Landing

⚠ **CAUTION:** Always lower the throttle after landing to avoid accidental intake of materials, which could result in possible damage to the rotor and/or motor and cause personal injury.

For your rst ights, set your transmitter timer or a stopwatch to **3 1/2 minutes**. Adjust your timer for longer or shorter ights once you have own the model. When the motor pulses, land the aircraft immediately and recharge the ight battery. **It is not recommended to continuously y the battery to LVC.**

This aircraft is very easy to land and can reward you with very smooth scale-like touchdowns. Approach the runway with a 1/4 to 1/8 throttle. Use the power to control altitude and the elevator to control angle of attack. Once your glide path is established, y the aircraft down to about a foot (30 cm) off the runway. Gradually reduce power and are the aircraft to touch down on the main wheels rst. Reduce elevator input to set the nosewheel on the ground and steer with the rudder stick until the aircraft has come to a stop. You can hold the nosewheel off the runway while landing for aerodynamic braking, however, be aware that the aircraft can hop back into the air if a gust of wind or too much elevator input is given while holding the nose off the ground. Always make wide turns with the nose gear to avoid tipping the aircraft on its side.

Flaps

When using the optional aps, the takeoffs and landings are shorter.

During landing, the aps allow a landing approach to be steeper with less throttle. The aps make the plane come in at a slower airspeed and make it easier to are and settle in for a smooth landing.

When deploying the aps, slow the aircraft down to 1/4 throttle. If the aps are deployed when the aircraft is at a higher speed, the aircraft will pitch up. If your transmitter is capable, a slight amount of down elevator to ap mixing will reduce the pitch up tendency.

NOTICE: When nished ying, never keep the aircraft in the sun. Do not store it in a hot, enclosed area such as a car. Doing so can damage the foam.

Repairs

Thanks to the Z-Foam construction, repairs to most of the foam can be made using virtually any adhesive (hot glue, regular CA (cyanocrylate adhesive), epoxy, etc).

NOTICE: Use of CA accelerant on your model can damage paint. DO NOT handle the model until the accelerant fully dries.

When parts are not repairable, see the Replacement Parts List for ordering by item number.

Post Flight Checklist

9	After Flying Check List
	. Disconnect flight battery from ESC (Required for Safety and battery life).
	2. Power off transmitter.
	3. Remove flight battery from aircraft.
	4. Recharge flight battery.

9	After Flying Check List
	5. Repair or replace all damaged parts.
	6. Store ight battery apart from aircraft and monitor the battery charge.
	7. Make note of ight conditions and ight plan results,

Troubleshooting Guide

Problem	Possible Cause	Solution
Aircraft will not respond to throttle but responds to other controls	Throttle is not set to lowest stick postiion and or throttle trim is too high	Reset controls with throttle stick and throttle trim at lowest setting
	Throttle servo travel is lower than 00	Make sure throttle servo travel is 00 or greater
	Throttle channel is reversed	Reverse throttle channel on transmitter
Extra fan noise or extra vibration	Damaged rotor and spinner, collet or motor	Replace damaged parts
	Rotor is out of balance	alance or replace rotor
Reduced ight time or aircraft underpowered	Flight battery charge is low	Completely recharge ight battery
	Flight battery is damaged	Replace ight battery and follow ight battery instructions
	Flight conditions may be too cold	Make sure battery is warm before use
	attery capacity may be too low for ight conditions	Replace battery or use a larger capacity battery
Aircraft will not ind (during binding) to transmitter	Transmitter is too near aircraft during binding process	Move powered transmitter a few feet from aircraft, disconnect and reconnect ight battery to aircraft
	Aircraft or transmitter is too close to large metal ob ect	Move aircraft or transmitter away from large metal ob ect
	ind plug is not installed correctly	Install bind plug and bind aircraft to transmitter
	Flight battery Transmitter battery charge is too low	Replace recharge batteries
	ESC switch is off	Power on ESC switch
Aircraft will not link (after binding) to transmitter	Transmitter is too near aircraft during linking process	Move powered transmitter a few feet from aircraft, disconnect and reconnect ight battery to aircraft
	Aircraft or transmitter is too close to large metal ob ect	Move aircraft or transmitter away from large metal ob ect
	ind plug is left installed	Rebind transmitter to aircraft and remove bind plug before cycling power
	Aircraft bound to different model memory (ModelMatch radios only)	Select correct model memory on transmitter
	Flight battery Transmitter battery charge is too low	Replace recharge batteries
	Transmitter may have been bound to a different model (using different DSM Protocol)	ind aircraft to transmitter
	ESC switch is off	Power on ESC switch
Control surface does not move	Control surface, control horn, linkage or servo damage	Replace or repair damaged parts and ad ust controls
	Wire is damaged or connections are loose	Do a check of wires and connections, connect or replace as needed
	Transmitter is not bound correctly or the incorrect model was selected	Re-bind or select correct model in transmitter
	EC (attery Elimination Circuit) of the ESC is damaged	Replace ESC
	ESC switch is off	Power on ESC switch
Controls reversed	Transmitter settings are reversed	Do the Control Direction Test and ad ust controls on transmitter appropriately
Motor power pulses then motor loses power	ESC uses default soft Low Voltage Cutoff (LVC)	Recharge ight battery or replace battery that is no longer performing
	Weather conditions might be too cold	Postpone flight until weather is warmer
	attery is old, worn out or damaged	Replace battery
	attery C rating might be too small	se recommended 30C battery