

1 Bind your Transmitter to the Aircraft

For a list of compatible DSM2/DSMX transmitters, please visit www.bindnfly.com

Binding Procedure

CAUTION: When using a Futaba transmitter with a Spektrum DSM[®] module, you must reverse the throttle channel and rebind. Refer to your Spektrum module manual for binding and failsafe instructions. Refer to your Futaba transmitter manual for instructions on reversing the throttle channel.

1. Refer to your transmitter's unique instructions for binding to a receiver (location of transmitter's Bind control).
2. Make sure the flight battery is disconnected from the aircraft.
3. Ensure the transmitter is powered OFF.
4. Connect a fully charged flight battery to the aircraft and turn the aircraft upright. The receiver LED will begin to flash (typically after 5 seconds).
5. Ensure that control surface trims are centered and the throttle sticks and trim are in the lowest position to correctly set the failsafe.
6. Put your transmitter into bind mode. Refer to your transmitter's manual for binding button or switch instructions.
7. After 5 to 10 seconds, the receiver status LED will turn solid, indicating that the receiver is bound to the transmitter. If the LED does not turn solid, refer to the Troubleshooting Guide at the back of the manual.

For subsequent flights, power ON the transmitter for 5 seconds before connecting the flight battery.

2 Transmitter set up

A DSM2/DSMX transmitter is required for this aircraft.

Set wing type and servo reversing to normal.

NOTICE: Do not set your transmitter travel adjust over 100%, doing so may override the servo and cause damage.

For the first flight, fly the model in low rate.

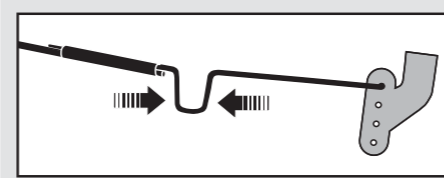
For landing, we recommend using high rate elevator.

	Dual Rates	
	High	Low
Aileron	100%	70%
Elevator	100%	70%
Rudder	100%	70%

4 Centering the Control Surfaces

Before your first flight make sure the aircraft's control surfaces are centered.

1. Power on the transmitter and then the aircraft.
2. Set all transmitter trims and sub-trims to zero.
3. Check the control surfaces to make sure they are centered.
4. If centering is required, use a pair of pliers to carefully bend the metal linkage (see illustration).



Make the U-shape narrower to make the connector shorter. Make the U-shape wider to make the linkage longer.

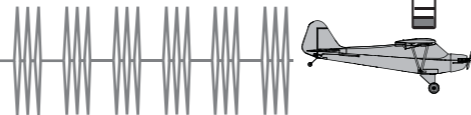
In flight trimming may be required

During your first flight, the aircraft should fly straight and level. Use your transmitter trims to fine tune the aircraft's flight path until its flight path has been corrected. Any transmitter trim that requires 4 or more clicks of trim (per channel), should be mechanically centered. Note the control surface's position and return the transmitter trim to zero. Adjust the linkages mechanically so that the control surfaces are in the flight trimmed position.

5 Low Voltage Cutoff (LVC)

LVC is a feature built into your ESC to protect the battery from over-discharge. When the battery charge becomes too low, LVC limits power supplied to the motor. When you hear the motor power pulse, land the aircraft immediately and recharge the flight battery.

NOTICE: Do not rely on LVC to determine when to land your aircraft. Set a flight timer to the recommended flight time. Repeated flying to LVC will damage the battery.



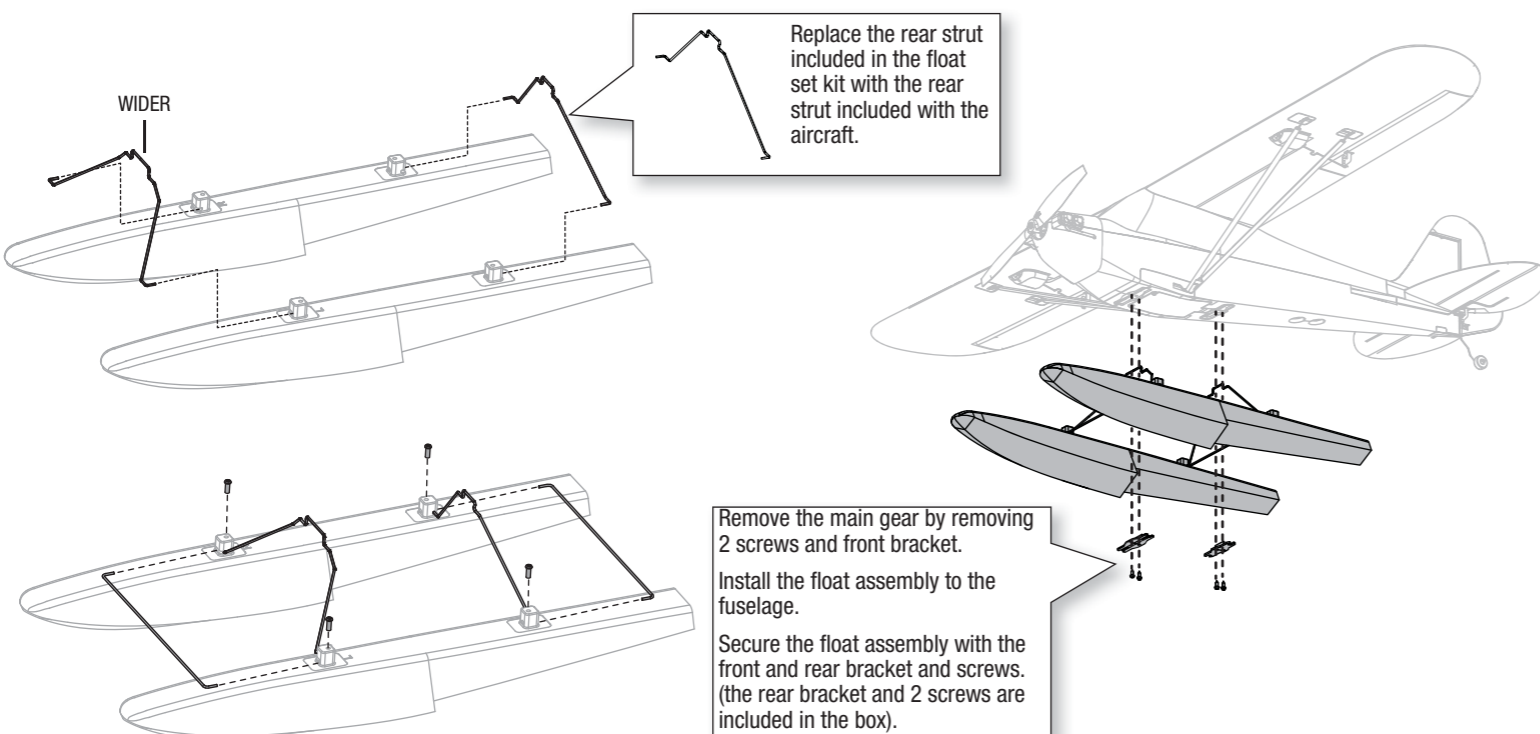
6 Control Direction Tests

There are 2 types of control direction tests to perform on your aircraft. One is to confirm that your transmitter inputs are correctly performed by your aircraft. The second test is to confirm that AS3X[®] technology is operating correctly in your aircraft. Use the chart below to assist you with performing these tests.

Test 1	Control Direction Test		Test 2	AS3X Direction Test	
	Transmitter Input	Aircraft Reaction		Move Aircraft	
Move the control sticks on the transmitter to make sure the aircraft control surfaces move correctly and in the proper direction. Make sure the tail linkages move freely and that paint or decals are not adhered to them.	Elevator				1. Advance the throttle to 25% to activate the AS3X system. 2. Fully lower the throttle. 3. Move the entire aircraft as shown and ensure the control surfaces move in the direction indicated in the graphic. If the control surfaces do not respond as shown, do not fly the aircraft. Refer to the receiver manual for more information. Once the AS3X system is active, control surfaces may move rapidly. This is normal. AS3X is active until the battery is disconnected.
	Aileron				
Rudder					

Optional Float installation (EFLUA1190)

Follow the instructions included with your optional float set for assembly. Replace the rear strut on the float assembly with the rear strut included with the J-3 Cub. Once the rear strut has been switched, install the fully assembled float set as shown.



3 ESC/Receiver Arming

CAUTION: Always keep hands away from the propeller. When armed, the motor will turn the propeller in response to any throttle movement.

Arming the ESC/receiver also occurs after binding as previously described, but subsequent connection of a flight battery requires the following steps.

AS3X

The AS3X[®] system will not activate until the throttle stick or trim is increased for the first time. Once active, the control surfaces may move rapidly and noisily on the aircraft. This is normal. AS3X technology will remain active until the battery is disconnected.

1. Open the battery hatch from the fuselage.
2. Install the flight battery in the center of battery tray. Ensure the battery is secured by the hook and loop strip.

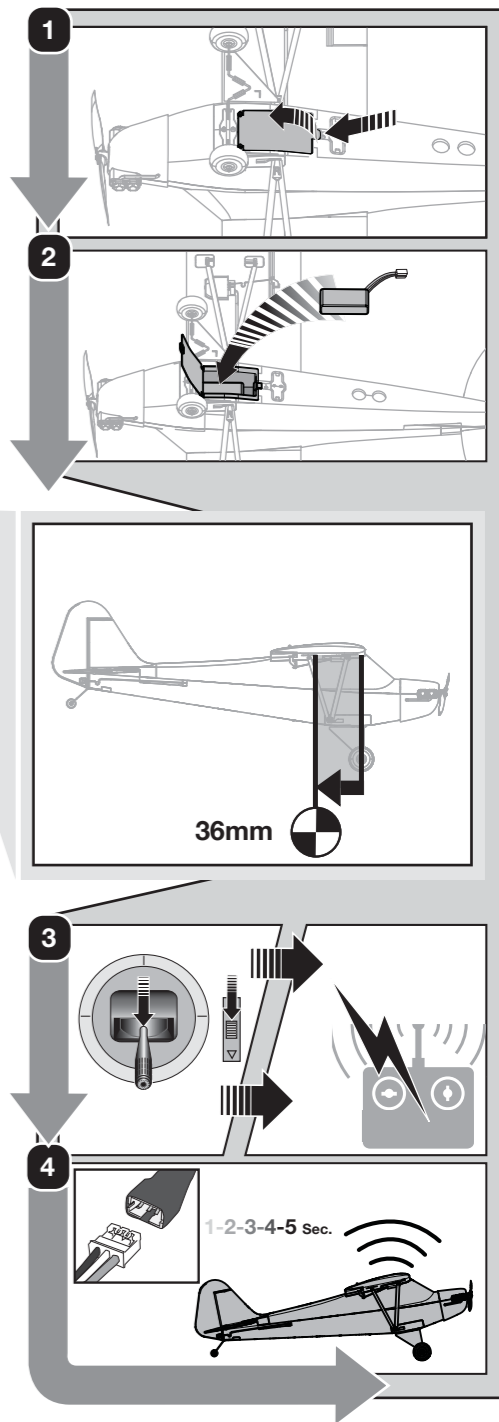
Center of Gravity (CG)

At the wing root, measure back 36mm from the leading edge where the wing meets the fuselage. The easiest way to achieve CG is to balance the aircraft inverted.

3. Lower the throttle and throttle trim to the lowest settings on your transmitter. Power on your transmitter, then wait 5 seconds.
4. Connect the battery to the ESC, noting proper polarity. Keep the plane immobile and away from wind for 5 seconds to allow the AS3X system to initialize. A series of tones and a continuous LED indicates a successful connection.

CAUTION: Always disconnect the Li-Po battery from the ESC when not flying to eliminate power supplied to the motor. The ESC does not have an arming switch and will respond to any transmitter input when a signal is present.

CAUTION: Always disconnect the Li-Po battery from the ESC when not flying 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 fire when batteries are charged.



7 Preflight Checklist

✓	Preflight Checklist	✓	
	1. Charge flight battery.		6. Set dual rates and expos.
	2. Install flight battery in aircraft (once it has been fully charged).		7. Adjust center of gravity.
	3. Bind aircraft to transmitter.		8. Perform a radio system Range Check.
	4. Make sure linkages move freely.		9. Find a safe and open area.
	5. Perform Control Direction Tests		10. Plan flight for flying field conditions.

Flying Tips

We recommend flying your aircraft outside in calm conditions. Always avoid flying near houses, trees, wires and buildings. You should also be careful to avoid flying in areas where there are many people, such as busy parks, schoolyards or soccer fields. Consult local laws and ordinances before choosing a location to fly your aircraft.

Takeoff

Place the aircraft in position for takeoff (facing into the wind if flying outdoors). Set dual rates to low position and gradually increase the throttle to 3/4 to full and steer with the rudder. Pull back gently on the elevator and climb to check trim. Once the trim is adjusted, begin exploring the flight envelope of the aircraft.

Landing

Land into the wind. Fly the aircraft to approximately 6 inches (15cm) or less above the runway, using a small amount of throttle for the entire descent. Keep the throttle on until the aircraft is ready to flare.

During flare, keep the wings level and the airplane pointed into the wind. Gently lower the throttle while pulling back on the elevator to bring the aircraft down on all three wheels.

Failure to lower the throttle stick and trim to the lowest possible positions during a crash could result in damage to the ESC in the receiver unit, which may require replacement.

Over Current Protection (OCP)

This aircraft is equipped with Over Current Protection (OCP). This feature protects the ESC from damage. OCP stops the motor when the transmitter throttle is set too high and the propeller cannot turn. The OCP will only activate when the throttle stick is positioned just above 1/2 throttle. After the ESC stops the motor, fully lower the throttle to re-arm the ESC.

NOTICE: Crash damage is not covered under the warranty.

Repairs

Repair the aircraft only with foam-compatible CA (cyanoacrylate adhesive) or clear tape. Use of other types of glue can damage the foam. For a listing of all replacement and optional parts, refer to the product page online at Horizonhobby.com.

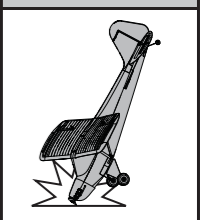
NOTICE: Use of foam-compatible CA accelerant on your aircraft can damage paint. DO NOT handle the aircraft until the accelerant fully dries.

NOTICE: When you are finished flying, never leave the aircraft in direct sunlight or in a hot, enclosed area such as a car. Doing so can damage the foam.

Post Flight Checklist

✓	Post Flight Checklist	✓	
	1. Disconnect the flight battery from the ESC (required for safety and battery life).		5. Store the flight battery apart from the aircraft and monitor the battery charge.
	2. Power OFF the transmitter.		6. Make note of the flight conditions and flight plan results, planning for future flights.
	3. Remove the flight battery from the aircraft.		
	4. Recharge the flight battery.		

CAUTION: Always decrease throttle at propeller strike.



NOTICE

All instructions, warranties and other collateral documents are subject to change at the sole discretion of Horizon Hobby, LLC. For up-to-date product literature, visit www.horizonhobby.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 superficial injury.

WARNING: Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the 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 use with incompatible components or alter this product in any way outside of the instructions provided by Horizon Hobby, LLC. This manual contains instructions for safety, operation and maintenance. It is essential to read 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.

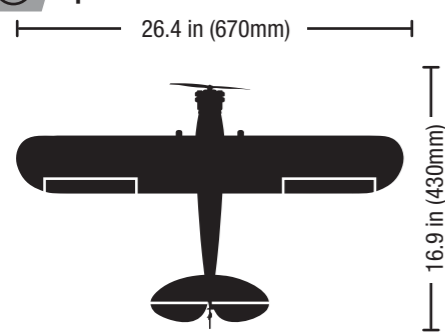
Safety Precautions and Warnings

- 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, traffic 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. Moisture 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 the 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.

Specifications



Wing Area: 100.1 sq. in. (646 sq. cm.)

3.6oz. (102g)

Component List

Installed

- Motor:** BL180 Brushless Outrunner Motor, 2500Kv
- Receiver:** DSM2 6 Ch Ultra Micro AS3X® Receiver BL-ESC
- (2) 2.3-Gram Performance Linear Long Throw Servo

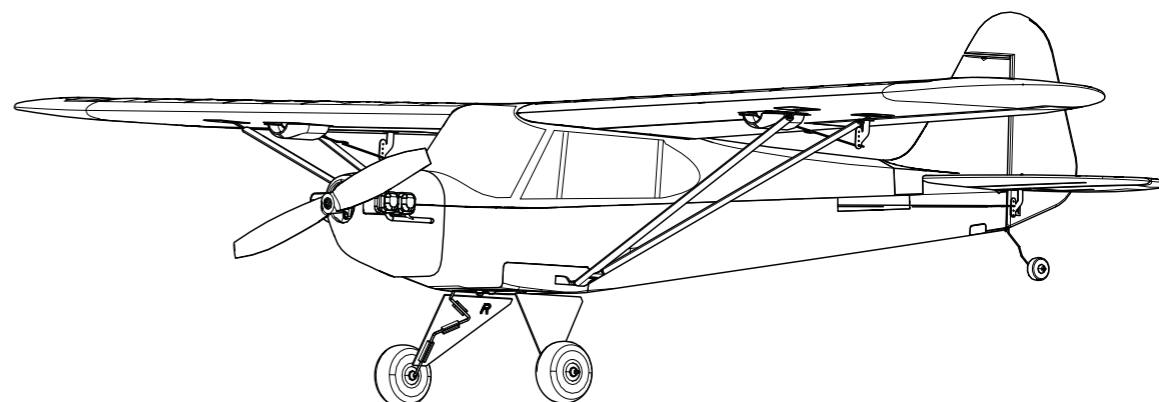
Required to Complete

- Recommended Battery:** 200mAh 2S 7.4V 30C Li-Po, 26AWG
- Recommended Battery Charger:** Celectra™ 2S 7.4V DC Li-Po Charger
- Recommended Transmitter:** Spektrum™ DSM2®/DSMX® full range with dual-rates (DX4e and up)

HORIZON
H O B B Y

Eflite
ADVANCING ELECTRIC FLIGHT

UMX™ J-3 Cub



Instruction Manual

Register your product online at www.e-flite.com

AS3X

Bind-N-Fly
BASIC

Replacement Parts

Part #	Description
EFLU3401	Painted Fuselage: UMX J-3 BL
EFLU3402	Wing with struts: UMX J-3 B
EFLU3403	Complete Tail: UMX J-3 B
EFLU3404	Landing Gear Set: UMX J-3 B
EFLU3405	Plastic Parts Set: UMX J-3 B
EFLU3406	Pushrod Set: UMX J-3 B
EFLU3407	Decal Sheet: UMX J-3 B
SPMSA2030L	2.3-Gram Performance Linear Long Throw Servo
EFLUP575225	5.75x2.25 Electric Propeller: UMX Yak 54
EFLU4067	Prop Adapter: UMX Beast
EFLUM180BL2	180 Brushless Outrunner Motor 2500KV
EFLU4864	DSM2 6 Ch Ultra Micro AS3X Receiver BL ESC

Optional Parts and Accessories

Part #	Description
PKZ1039	Hook and Loop Set (5): Ultra Micros
EFLUA1190	Float Set w/Accessories
SPMA3060	USB-Interface: UM AS3X Programmer
EFLUC1007	Celectra 2S 7.4V DC Li-Po Charger
EFLC1105	1S-2S AC/DC Li-Po Balancing Charger
EFLUC1008	Power Cord for EFLUC1007
EFLB2002S30	200mAh 2s 7.4V DC Li-Po, 26AWG
EFLB2802S30	280mAh 2s 7.4V DC Li-Po, 26AWG
EFLA700UM	Charger Plug Adapter: EFL
EFLA7001UM	Charger Plug Adapter: Thunder Power
EFLU4068	Harness Adapter: UMX Beast
SPM6825	Ultra Micro Linear Servo Reverser
EFLC4000/UK/AU/EU	AC to 12V DC, 1.5 Amp Power Supply (Based upon your sales Region)
	DX6 DSMX 6-Channel Transmitter
	DX7 DSMX 7-Channel Transmitter
	DX9 DSMX 9-Channel Transmitter
	DX18 DSMX Transmitter

Trouble Shooting

Problem	Possible Cause	Solution
AS3X		
Control surfaces not at neutral position when transmitter controls are at neutral	Control surfaces may not have been mechanically centered from factory Aircraft was moved after the flight battery was connected and before sensors initialized	Center control surfaces mechanically by adjusting the U-bends on control linkages Disconnect and reconnect the flight battery while keeping the aircraft still for 5 seconds
Model flies inconsistently from flight to flight	Aircraft was not kept immobile for 5 seconds after battery was plugged in Trims are moved too far from neutral position	Keep the aircraft immobile for 5 seconds after plugging in the battery Neutralize trims and mechanically adjust linkages to center control surfaces
Controls oscillate in flight, (model rapidly jumps or moves)	Propeller is unbalanced, causing excessive vibration Prop screw is too loose, causing vibration	Remove propeller and rebalance or replace it if damaged Tighten the prop screw
Aircraft will not respond to throttle but responds to other controls	Throttle stick and/or throttle trim too high Throttle channel is reversed Motor disconnected from receiver	Reset controls with throttle stick and throttle trim at lowest setting Reverse throttle channel on transmitter Open fuselage and make sure motor is connected to the receiver
Extra propeller noise or extra vibration	Damaged propeller, spinner or motor Prop screw is too loose Prop is out of balance	Replace damaged parts Tighten the prop screw Remove and balance propeller, or replace with a balanced propeller
Reduced flight time or aircraft under-powered	Flight battery charge is low Propeller installed backwards Flight battery damaged Flight conditions may be too cold Battery capacity too low for flight conditions	Completely recharge flight battery Install propeller with numbers facing forward Replace flight battery and follow flight battery instructions Make sure battery is warm before use Replace battery or use a larger capacity battery
LED on receiver flashes and aircraft will not bind to transmitter (during binding)	Transmitter too near aircraft during binding process Bind switch or button not held long enough during bind process Aircraft or transmitter is too close to large metal object, wireless source or another transmitter	Power off transmitter, move transmitter a larger distance from aircraft, disconnect and reconnect flight battery to aircraft and follow binding instructions Power off transmitter and repeat bind process. Hold transmitter bind button or switch until receiver is bound Move aircraft and transmitter to another location and attempt binding again
LED on receiver flashes rapidly and aircraft will not respond to transmitter (after binding)	Less than a 5-second wait between first powering on transmitter and connecting flight battery to aircraft Aircraft bound to different model memory (ModelMatch™ radios only) Flight battery/transmitter battery charge is too low Transmitter may have been bound to a different model (or with a different DSM Protocol) Aircraft or transmitter is too close to large metal object, wireless source or another transmitter	Leaving transmitter on, disconnect and reconnect flight battery to aircraft Select correct model memory on transmitter and disconnect and reconnect flight battery to aircraft Replace/recharge batteries Select the right transmitter or bind to the new one Move aircraft and transmitter to another location and attempt linking again
Control surface does not move	Control surface, control horn, linkage or servo damage Wire damaged or connections loose Flight battery charge is low Control linkage does not move freely	Replace or repair damaged parts and adjust controls Do a check of wires and connections, connect or replace as needed Fully recharge flight battery Make sure control linkage moves freely
Controls reversed	Transmitter settings reversed	Adjust controls on transmitter appropriately
Motor loses power	Damage to motor or power components	Do a check of motor and power components for damage (replace as needed)
Motor power quickly decreases and increases then motor loses power	Battery power is down to the point of receiver/ESC Low Voltage Cutoff (LVC)	Recharge flight battery or replace battery that is no longer performing
Motor/ESC is not armed after landing	Over Current Protection (OCP) stops the motor when the transmitter throttle is set high and the propeller cannot turn	Fully lower throttle and throttle trim to arm ESC
Servo locks or freezes at full travel	Travel adjust value is set above 100%, overdriving servo	Set Travel adjust to 100% or less and/or set sub-trims to zero and adjust linkages mechanically

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