



Bind-N-Fly.™ Ready to fly, redefined.

# UMX™ Carbon Cub SS



*Instruction Manual*  
*Bedienungsanleitung*  
*Manuel d'utilisation*  
*Manuale di Istruzioni*

AS3X

**E-flite**  
ADVANCING ELECTRIC FLIGHT

**NOTICE**

All instructions, warranties and other collateral documents are subject to change at the sole discretion of Horizon Hobby, Inc. For up-to-date product literature, visit [www.horizonhobby.com](http://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.

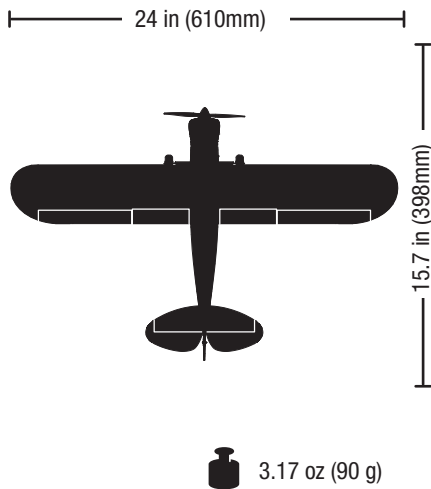
This is a sophisticated hobby product. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision. Do not 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 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.**

The E-flite® UMX™ Carbon Cub SS BNF is a feature-rich scale BNF model that's an escape from the ordinary. Its high-output brushless power system will allow you to leap from tight spots and, with its fully-functional flaps, is simply a joy to fly. Large credit for its gentle manners go to the onboard AS3X™ system, which makes handling super-smooth, even in moderate winds, and provides rock solid control agility. Even though your new model is fully assembled, please read and follow this manual completely to be sure you're ready to take full advantage of what this awesome RC aircraft has to offer.

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### Installed



BL180 (Brushless) Outrunner Motor, 2500Kv (EFLUM180BL2)



DSM2®/DSMX® 6Ch Ultra Micro AS3X™ Receiver BL-ESC (EFLU4864)



(3) 2.3-Gram Performance Linear Long Throw Servos (SPMSA2030L)  
(2) 2.3-Gram Linear Long Throw Offset Servos (SPMSA2030LO)



**Battery:** 180mAh 2S 20C Li-Po (EFLB1802S20)

**Battery Charger:** 2S 7.4V Li-Po (EFLUC1007)

### Needed to Complete



**Recommended Transmitter:**

Full Range DSM2®/DSMX® (DX4e and up)

## Preflight Checklist

✓	
	1. Charge flight battery.
	2. Install flight 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.

✓	
	6. Adjust center of gravity.
	7. Perform a radio system Range Check.
	8. Find a safe and open area.
	9. Plan flight for flying field conditions.

## AS3X™ System Delivers Breakthrough Performance

Horizon Hobby has always made RC sport, scale and unique aircraft with the kind of performance experts appreciate. Now the exclusive Artificial Stability – 3 aXis (AS3X) system helps take performance expectations in ultra micro aircraft a quantum leap higher.

Based on the successful use of MEMS sensor technology within the AS3X Stabilization System essential to Blade® ultra micro flybarless

helicopters, the specifically tuned AS3X System for airplanes helps invisibly correct for turbulence, torque and tip stalls when encountered. Furthermore, the outstanding control agility delivers an ultra smooth, locked-in feel that obeys your every command with performance that's natural feeling. It's so gratifying, in fact, that it's as though you're the RC pilot of an expertly tuned, giant-scale model.

AS3X will change the way you'll want to fly now and in the future. To see what we mean, go to [www.E-fliteRC.com/AS3X](http://www.E-fliteRC.com/AS3X).

## Charging Warnings

The included battery charger (EFLUC1007) has been designed to safely charge the Li-Po battery.

**⚠ CAUTION:** All instructions and warnings must be followed exactly. Mishandling of Li-Po batteries can result in a fire, personal injury, and/or property damage.

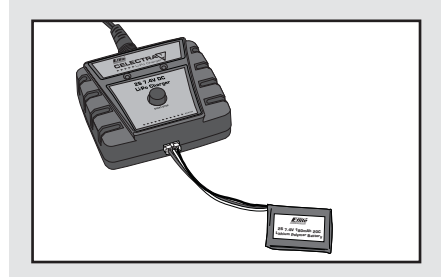
- By handling, charging or using the included Li-Po battery, you assume all risks associated with lithium batteries.
- If at any time the battery begins to balloon or swell, discontinue use immediately. If charging or discharging, discontinue and disconnect. Continuing to use, charge or discharge a battery that is ballooning or swelling can result in fire.
- Always store the battery at room temperature in a dry area for best results.
- Always transport or temporarily store the battery in a temperature range of 40–120° F (4.44 - 48.88° C). Do not store battery or aircraft in a car or direct sunlight. If stored in a hot car, the battery can be damaged or even catch fire.
- Always charge batteries away from flammable materials.
- Always inspect the battery before charging and never charge damaged batteries.
- Always disconnect the battery after charging, and let the charger cool between charges.
- Always constantly monitor the temperature of the battery pack while charging.
- **ONLY USE A CHARGER SPECIFICALLY DESIGNED TO CHARGE LI-PO BATTERIES.** Failure to charge the battery with a compatible charger may cause fire resulting in personal injury and/or property damage
- Never discharge Li-Po cells to below 3V under load.
- Never cover warning labels with hook and loop strips.
- Never leave charging batteries unattended.
- Never charge batteries outside recommended levels.
- Never attempt to dismantle or alter the charger.
- Never allow minors to charge battery packs.
- Never charge batteries in extremely hot or cold places (recommended between 40--120° F or 4.44 - 48.88° C) or place in direct sunlight.

## Charging the Battery

Your aircraft comes with a 2-Cell 7.4V 180mAh 20C Li-Po battery and a Celectra™ 2S 7.4V DC Li-Po Charger that requires a 12V (11V-14V) DC power source.

Refer to the battery warnings. It is recommended to charge the battery pack while you are inspecting the aircraft. The flight battery will be required to confirm proper aircraft operation in future steps.

Please visit [www.horizonhobby.com](http://www.horizonhobby.com) for optional battery adapters.



### The Battery Charging Process

1. Charge only batteries that are cool to the touch and are not damaged. Look at the battery to make sure it is not damaged e.g., swollen, bent, broken or punctured.
2. The connector of the battery is specifically designed to allow it to fit into the charge port one way to prevent reverse polarity connection. However, check for proper alignment and polarity before proceeding to the next step.
3. Gently press the battery connector into the charge port located on the front of the charger.
4. When you make the connection successfully, the green LED blinking on the charger slows, indicating proper connection.
5. Press the button on the charger. The red LED will illuminate, indicating charging has begun.
6. Charging a fully discharged (not over-discharged) 180mAh battery takes approximately 50–60 minutes at the included charger's 300mA charge rate. The included battery can be charged at a rate of up to 3C (540mA).
7. When the battery is fully charged, the green LED will turn solid.
8. Always unplug the battery from the charger immediately upon completion of charging.

**⚠ CAUTION:** Overcharging a battery can cause a fire.

**⚠ CAUTION:** Only use a charger specifically designed to charge a Li-Po battery. Failure to do so could result in fire causing injury or property damage.

**⚠ CAUTION:** Never exceed the recommended charge rate.

### LED Functions under normal operation

- |  |                      |
|--|----------------------|
| 1. Green LED blinking with power connected but without battery ..... | Standby              |
| 2. Green LED blinking .....  | Battery is connected |
| 3. Blinking Red LED at varying speeds .....                          | Charging             |
| 4. Red and Green LED blinking simultaneously .....                   | Balancing            |
| 5. Solid Green LED .....   | Full Charge          |
| 6. Red and Green LED flashing rapidly .....                          | Error                |

## Transmitter and Receiver Binding

Binding is the process of programming the receiver of the control unit to recognize the GUID (Globally Unique Identifier) code of a single specific transmitter. You need to 'bind' your chosen Spektrum™ DSM2™/DSMX® technology equipped aircraft transmitter to the receiver for proper operation.

Any full range JR® or Spektrum DSM2/DSMX transmitter can bind to the AS3X™ DSM2/DSMX® receiver. Please visit [www.bindnfly.com](http://www.bindnfly.com) for a complete list of compatible transmitters.

**NOTICE:** When using a Futaba® transmitter with a Spektrum DSM module, reversing the throttle channel is required.

### ✓ Binding Procedure

1. Refer to your transmitter's unique instructions for binding to a receiver.
2. Make sure the flight battery is disconnected from the aircraft.
3. Power off the transmitter.
4. Connect the flight battery in the aircraft. The receiver LED will begin to flash rapidly (typically after 5 seconds).
5. Make sure the transmitter controls are at neutral and the throttle and throttle trim are in the low position.
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 become 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.

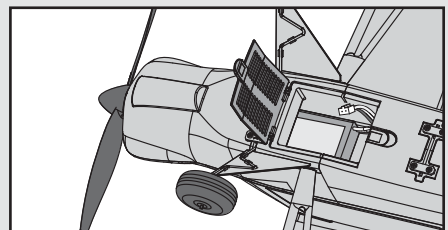
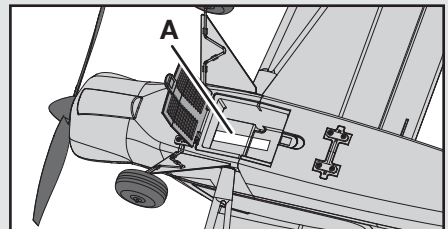
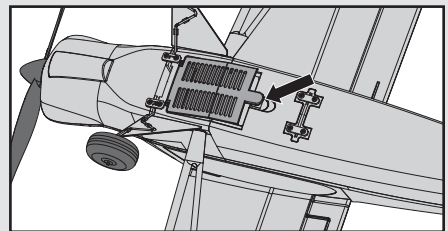
For subsequent flights, power on the transmitter for 5 seconds before connecting the flight battery.

## Installing the Flight Battery

1. Open the battery hatch.
2. Attach the flight battery to the hook and loop strip (A) in the battery compartment. See the *Adjusting the Center of Gravity* instructions for the battery's position.
3. Connect a fully charged flight battery and close the battery hatch, then place the aircraft on the ground out of the wind. **Ensure the aircraft is immobile for 5 seconds so the AS3X system initializes correctly.** See *Arming the ESC* instructions for correct connection of the battery to the ESC.


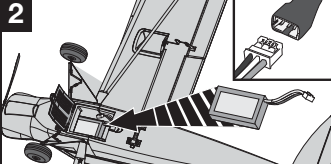





If using a different battery than the recommended 2-Cell 7.4V 180mAh 20C Li-Po, you will need to apply a circle of hook and loop fastener to the battery in order to hold the battery in place.

**⚠ CAUTION:** Always disconnect the Li-Po battery from the aircraft receiver 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.



## Arming the ESC

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

		
<p><b>1</b></p> <p>Lower throttle and throttle trim to lowest settings.</p> <p> Power on the Transmitter then wait 5 seconds</p>	<p><b>2</b></p> <p>Install flight battery and connect it to the ESC.</p>	<p><b>3</b></p> <p> Keep plane immobile and away from wind for 5 seconds.</p> <p> Series of tones</p> <p> Continuous LED</p>

If you accidentally connect the battery while the throttle is fully raised, the ESC will enter programming mode. Disconnect the battery immediately.

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

AS3X will remain active until the battery is disconnected.

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

## Low Voltage Cutoff (LVC)

When a Li-Po battery is discharged below 3V per cell, it will not hold a charge. The aircraft's ESC protects the flight battery from over-discharge using Low Voltage Cutoff (LVC). Before the battery charge decreases too much, LVC removes power supplied to the motor. Power to the motor quickly decreases and increases, showing that some battery power is reserved for flight control and safe landing.

When the motor power pulses, land the aircraft immediately and recharge the flight battery.

Disconnect and remove the Li-Po battery from the aircraft after use to prevent trickle discharge. Before storage, charge the Li-Po battery to full capacity.

During storage, make sure the battery charge does not fall below 3V per cell.

**Tip:** Due to the quiet nature of the aircraft, you may not hear the pulsing of the motor.

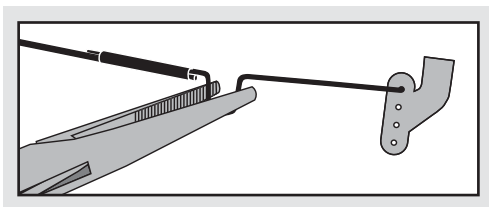
For your first flights, set your transmitter timer or a stopwatch to 4 minutes. Adjust your timer for longer or shorter flights once you have flown the model. Flights of 6 minutes or more are achievable if using proper throttle management.

**NOTICE:** Repeated flying to LVC will damage the battery.

## Control Centering

Before the first flights, or in the event of an accident, make sure the flight control surfaces are centered. Adjust the linkages mechanically if the control surfaces are not centered. Use of the transmitter sub-trims may not correctly center the aircraft control surfaces due to the mechanical limits of linear servos.

1. Make sure the control surfaces are neutral when the transmitter controls and trims are centered. The transmitter sub-trim must always be set to zero.
2. When needed, use a pair of pliers to carefully bend the metal linkage (see illustration).
3. Make the U-shape narrower to make the connector shorter. Make the U-shape wider to make the linkage longer.



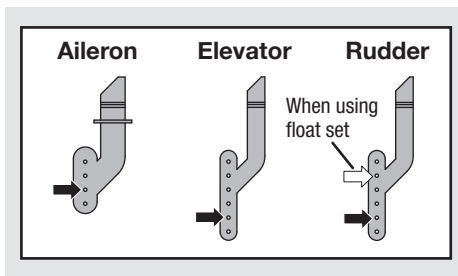
### Centering Controls After First Flights

For best performance with AS3X, it is important that excessive trim is not used. If the aircraft requires excessive transmitter trim (4 or more clicks of trim per channel), return the transmitter trim to zero and adjust the linkages mechanically so that the control surfaces are in the flight trimmed position.

## Settings for Control Horns

The following illustration shows the factory settings for linkages on the control horns. After flying, you may choose to carefully adjust the linkage positions for the desired control response.

**Tip:** We recommend you move the rudder linkage to the second innermost hole in the rudder horn for taxiing with floats.





## Control Direction Test

You should bind your aircraft and transmitter before doing these tests. Move the controls on the transmitter to make sure aircraft control surfaces move correctly and in the proper direction.

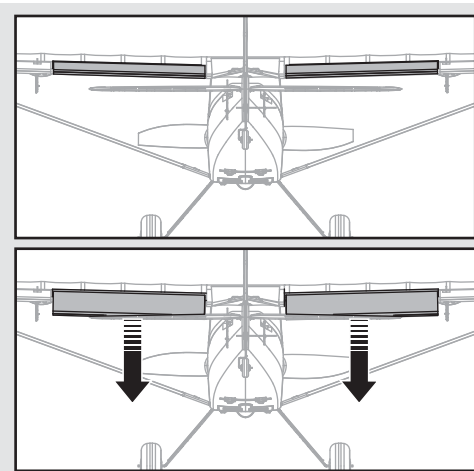
Make sure tail linkages move freely and that paint or decals are not adhered to them.

## Flap Function Test

The flap servo is connected to channel 5 (Gear) of the receiver. The flaps should remain in the UP position for the first few flights until you are comfortable with the aircraft.

Use the Gear switch on your transmitter to move the flaps once you are ready to begin experimenting with flap control.

**Tip:** If you are using a computer radio to fly your UMX Carbon Cub SS, we recommend that you create a mix to compensate for pitching up tendencies when the flaps are in the down position. Enter the mix menu of your radio, and create a mix so that the Gear Channel is the master channel, and the Elevator channel is the slave. Follow the percentages in the table to the right for the total amount of travel.

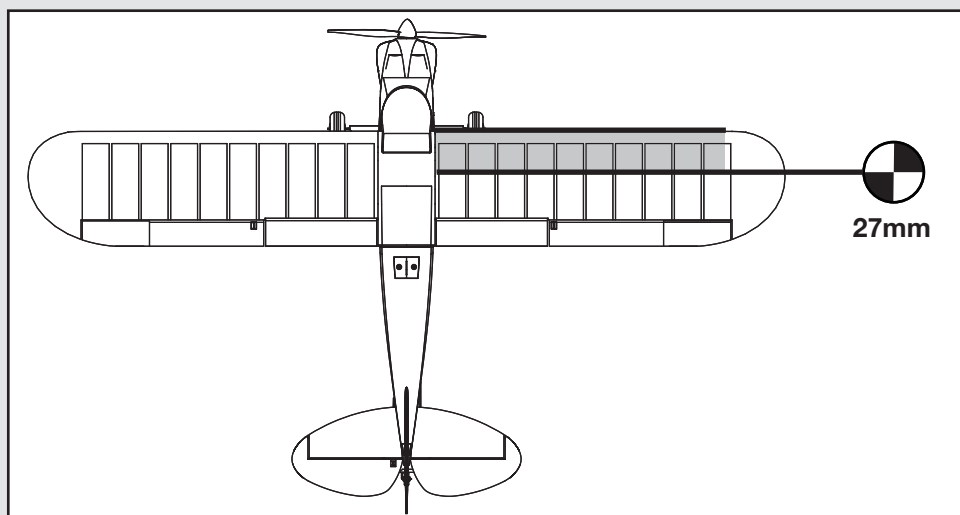


Flap/Elev Mix	Flaps Up		Flaps Down	
	Down Elevator	0%	40%	

## Adjusting Center of Gravity (CG)

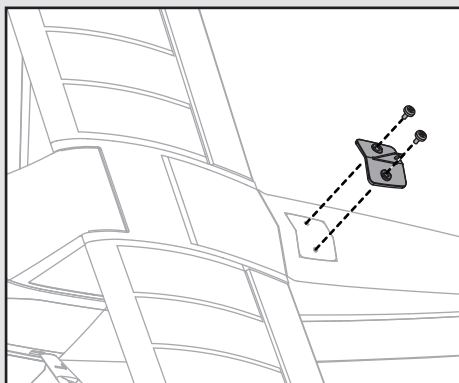
The CG location is **27mm** back from the leading edge of the wing at the root. This CG location has been determined with the included 2S 180mAh 7.4V Li-Po battery installed in the front of the battery cavity.

The battery tray is oversized to allow for Center of Gravity adjustment. Start by placing the battery at the front edge of the battery tray with the connector plug facing the rear of the aircraft. Adjust as needed by sliding the battery back or forward.



## Optional Tow Plate Installation

1. Align the two screws and holes in the tow plate with the holes in the mount on top of the fuselage. The hole for the tow line in the bracket should be toward the back of the aircraft (see illustration).
2. Fully tighten the screws on the fuselage. Make sure that you do not over tighten the screws.
3. Tie the tow line to the tow plate using a non-slip knot after installing the tow plate.

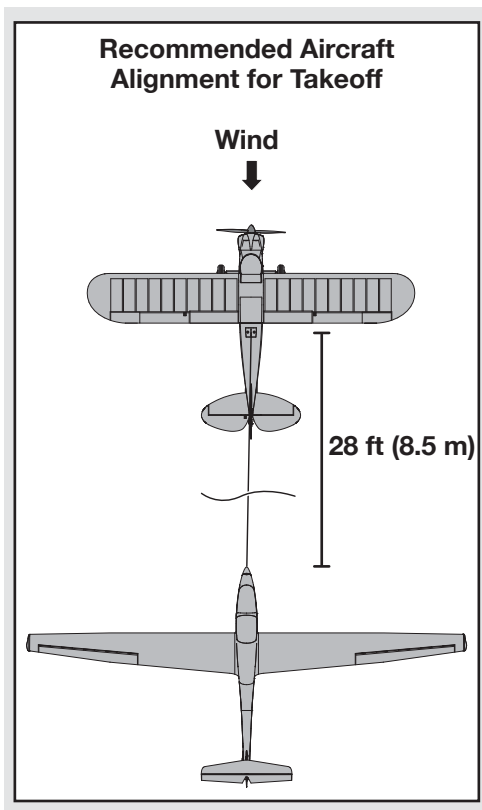


## Towing

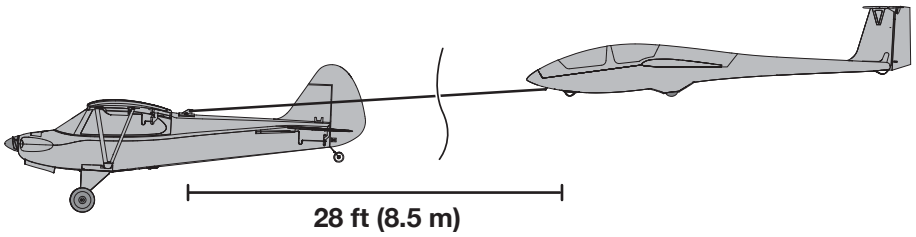
Towing with the Carbon Cub is only recommended for advanced pilots. When towing a sailplane with the Carbon Cub, be sure to fly in a large, open space.

The Carbon Cub is designed to tow the E-flite® UMX™ ASK-21 (EFLU1280) sailplane from a smooth runway. A tow line (**approximately 28 feet (8.5 m) long**) is included with the UMX™ ASK-21 or is available separately (EFLU1257).

1. Position both aircraft near each other on your runway, facing into the wind.
2. Tie the tow line to the tow plate on the Carbon Cub. Tie the other end of the tow line to the release mechanism under the nose of the E-flite UMX ASK-21 (see tow mechanism installation in the UMX ASK-21 manual).
3. Space the aircraft apart so there is no slack in the tow line. (If there is slack, it can result in damage to one or both of the aircraft.)
4. **Ensure that the tow line is above the Carbon Cub's horizontal tail** so the Carbon Cub can pull the sailplane into the air safely.
5. Quickly apply power to the Carbon Cub once both pilots are ready for takeoff.
6. Keep the Carbon Cub on the ground until the sailplane is off the ground and is 2–3 ft (0.9–1.2 m) above the Carbon Cub.
7. Slowly apply elevator to lift the Carbon Cub off of the ground. Be sure to keep the Carbon Cub under the sailplane until you have reached your release altitude.



## Recommended Aircraft Towing Positions When Flying



## Tips for Towing

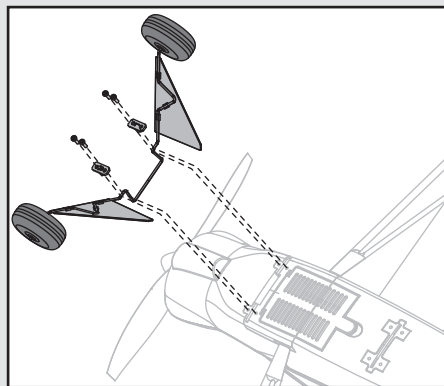
- Continually communicate with the pilot of the sailplane to make the pilot aware when you are turning, are having difficulty, or need the tow line released.
- Be sure that the sailplane pilot keeps the wings level at all times. The sailplane pilot should not try to turn the aircraft, he should allow the tow plane to drag the aircraft around the turns.
- Avoid slack in the line while flying. Slack can cause the tow plane to abruptly pull the sailplane around. This can cause numerous problems, and could result in a crash of one or both aircraft.
- Be sure to make only wide sweeping turns. Tight turns will result in the sailplane becoming unstable.

If a problem occurs, the pilot of the sailplane should release the tow line from the nose of his sailplane so that both aircraft can be safely landed. **Crash damage is not covered under warranty.**

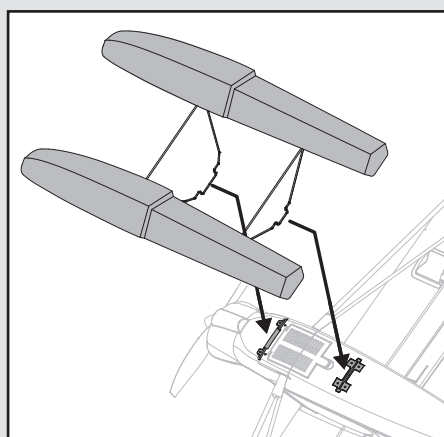
If there is a break in the tow line, tie the ends together securely or replace the line (EFLU1257) when needed.

## Optional Float Installation

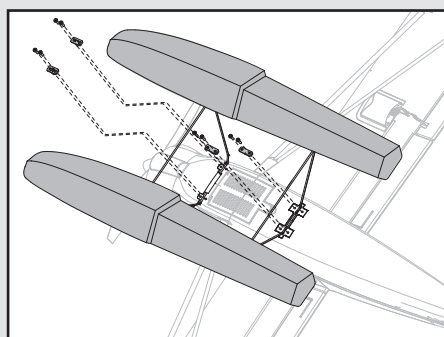
1. Remove all 4 screws and the cover plates from the bottom of the fuselage. Keep these materials to reuse in step 4.
2. Carefully remove and retain the landing gear from the fuselage.



3. Push the square loops of the front and rear float struts into the slots in the bottom of the fuselage.

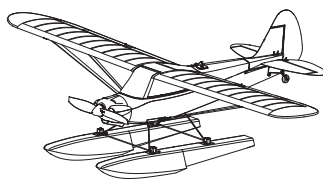


4. Reuse the 4 screws and 2 cover plates from step 1 on the front of the aircraft, then use the 4 screws and 2 cover plates that are included with the float set on the rear section to complete the installation.



**⚠ CAUTION:** Never go alone to get a downed aircraft in the water.

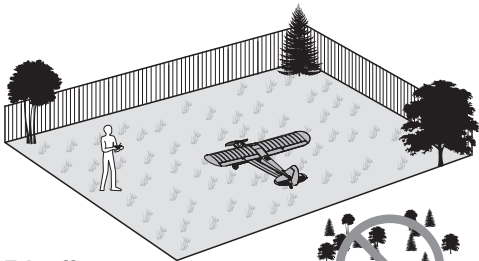
**⚠ CAUTION:** If at any time water splashes in the fuselage while flying from water, bring the aircraft to shore, open the battery hatch and immediately remove any water that may have gotten in the fuselage. Leave the battery hatch open overnight to let the inside dry out and to prevent moisture damage to the electronic components. Failure to do so could cause the electronic components to fail, which could result in a crash.



# Flying Tips and Repairs

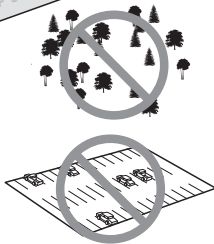
## Flying

We recommend flying your E-flite® UMX Carbon Cub SS outside in no greater than moderate winds or inside in a large gymnasium. 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 Carbon Cub SS in position for takeoff (facing into the wind if flying outdoors). Gradually increase the throttle to full power, holding a small amount of up elevator and steering with the rudder. Climb gently to check trim. Once the trim is adjusted, begin exploring the flight envelope of the aircraft.



## Landing

Make sure to land into the wind. Fly the aircraft to approximately 6 inches (15 cm) 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 aircraft pointed into the wind. Gently lower the throttle while pulling back on the elevator to bring the aircraft down on all three wheels.

## Flaps

Due to the pitching up nature of flaps, do not activate the flaps at high throttle settings. Apply the flaps when on final approach. Fly the aircraft down to approximately 6 inches (15 cm) 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 aircraft pointed into the wind. Gently lower the throttle while pulling back on the elevator to bring the aircraft down on all three wheels.

If you need to abort the landing, move the flaps to their UP position before applying power to climb.

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)

The Carbon Cub SS is equipped with Over Current Protection (OCP). OCP

protects the ESC from overheating and stops the motor when the transmitter throttle is set too high and the propeller cannot turn. OCP will only activate when the throttle is positioned just above 1/2 throttle. After the ESC stops the motor, fully lower the throttle to re-arm the ESC.

## Takeoff and Landing on Water

To take off on water, steer with the rudder and slowly increase the throttle. Keep the wings level on takeoff. Hold a small amount (1/4–1/3) of up elevator and the aircraft will lift off once flying speed is reached. Avoid rapidly increasing the throttle as torque from the motor may cause the aircraft to roll to the left when on water.

To land the Carbon Cub SS on water, fly the aircraft to a couple of feet off the surface of the water. Reduce throttle and add up elevator to flare the aircraft.

When taxiing, you must use some throttle to create propeller blast over the rudder to steer, as there is no water rudder.

Avoid taxiing cross wind if there is a breeze, as this can cause the aircraft to flip over if the wind gets under the upwind wing. Taxi 45 degrees into the direction of the wind (not perpendicular to the wind) and use aileron to hold the upwind wing down.

The aircraft will try to face into the wind when taxiing. The wind naturally turns the aircraft to face into the wind.

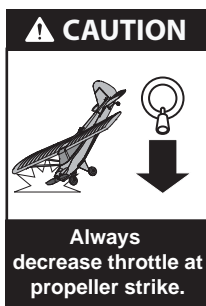
## Repairs

Crash damage is not covered under warranty.

Repair this aircraft using foam-compatible CA (cyanoacrylate adhesive) glue or clear tape. Only use foam-compatible CA glue as other types of glue can damage the foam. When parts are not repairable, see the Replacement Parts List for ordering by item number.

For a listing of all replacement and optional parts, refer to the list at the back of this manual.

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



## Additional Safety Precautions and Warnings

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

This aircraft is controlled by a radio signal subject to interference from many sources outside your control. This interference can cause momentary loss of control, so it is advisable to always keep a safe distance in all directions around your aircraft as this space will help avoid collisions or injury.

- Always keep a safe distance in all directions around your model to avoid collisions or injury.
- 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.

## Post Flight Checklist

✓	
	1. 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.

✓	
	5. Store flight battery apart from aircraft and monitor the battery charge.
	6. Make note of flight conditions and flight plan results, planning for future flights.

# Service of Power Components

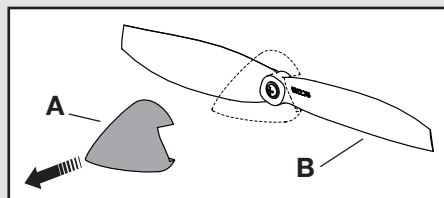
## Disassembly

**CAUTION:** DO NOT handle propeller parts while the flight battery is connected. Personal injury could result.

### Propeller

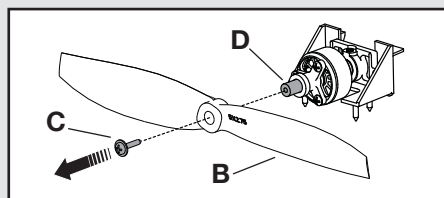
1. Remove the spinner (A) from the propeller (B).

Since the propeller and spinner are glued together, glue residue will need to be cleaned from the spinner or propeller when these parts are used again.



2. Carefully remove the screw (C) and propeller (B) from the motor shaft (D).

A propeller spacer is installed on the motor shaft. Take care to not lose the spacer; it is needed to correctly install the propeller.

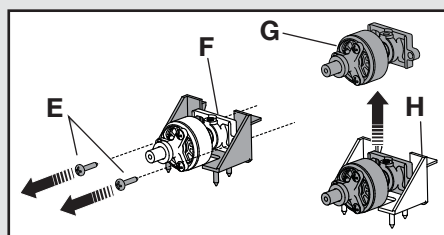


### Motor and Firewall

**Tip:** When the fuselage needs to be opened for access to the motor, servos or receiver, cut the tape or decals to open the fuselage. See "Opening the Fuselage".

1. Remove 2 screws (E), the firewall (F) and motor (G) from the fuselage motor mount (H).

The motor magnet may attract screws to the motor.



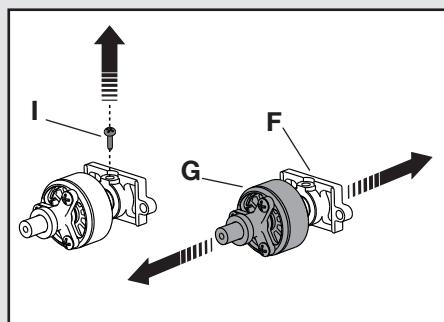
2. Remove the top screw (I) from the firewall (F) and motor (G).

3. Disconnect the motor wire connector from the ESC/receiver connector.

## Assembly

### Motor and Firewall

1. Connect the motor wire connector to the ESC/receiver connector so the wire colors align.
2. Install the motor in the firewall using a screw in the top of the firewall.
3. Attach the firewall to the fuselage motor mount using 2 screws.



### Propeller

1. Install the propeller on the motor shaft using a screw. The numbers on the propeller must face out from the fuselage for correct propeller operation.
2. Install the spinner on the propeller using foam-compatible CA.
3. Put the foam battery hatch on the fuselage and slide it back to fully engage the fuselage.

**NOTICE:** Removing tape or decals may remove paint from the fuselage.

## Opening the Fuselage

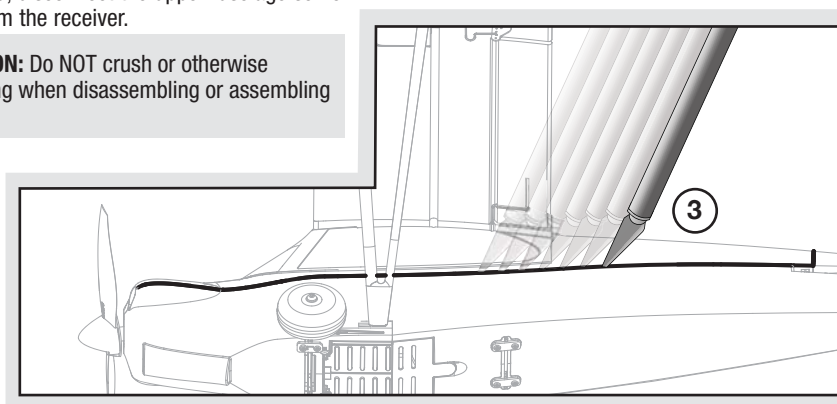
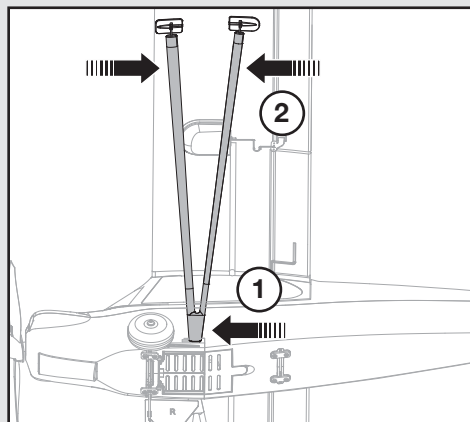
When the fuselage must be opened for access to the motor, servos or receiver:

1. At the fuselage, push the left and right struts (marked L and R) forward, then pull the struts from the fuselage.
2. Push the struts together until they pull free from the wing.
3. Carefully cut the tape or decals to open the fuselage.

**NOTICE:** Removing tape or decals can remove paint from the fuselage.

4. Carefully separate the upper fuselage and wings from the lower fuselage. Some wires are attached in both the upper and lower fuselage. When opening, take care to ensure the wiring is not damaged. If parts need to be completely separated, disconnect the upper fuselage servo leads from the receiver.

**CAUTION:** Do NOT crush or otherwise damage wiring when disassembling or assembling the fuselage.



## Troubleshooting Guide

### AS3X

Problem	Possible Cause	Solution
Control surfaces not at neutral position when transmitter controls are at neutral	Control surfaces may not have been mechanically centered from factory	Center control surfaces mechanically by adjusting the U-bends on control linkages
	Aircraft was moved after the flight battery was connected and before sensors initialized	Disconnect and reconnect the flight battery while keeping the aircraft still for 5 seconds
Model flies inconsistently from flight to flight	Trims are moved too far from neutral position	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	Remove propeller and rebalance or replace it if damaged
	Prop screw is too loose, causing vibration	Tighten the prop screw



## Troubleshooting Guide (Continued)

Problem	Possible Cause	Solution
Aircraft will not respond to throttle but responds to other controls	Throttle stick and/or throttle trim too high	Reset controls with throttle stick and throttle trim at lowest setting
	Throttle channel is reversed	Reverse throttle channel on transmitter
	Motor disconnected from receiver	Open fuselage and make sure motor is connected to the receiver
Extra propeller noise or extra vibration	Damaged propeller, spinner or motor	Replace damaged parts
	Prop screw is too loose	Tighten the prop screw
	Prop is out of balance	Remove and balance propeller, or replace with a balanced propeller.
Reduced flight time or aircraft underpowered	Flight battery charge is low	Completely recharge flight battery
	Propeller installed backwards	Install propeller with numbers facing forward
	Flight battery damaged	Replace flight battery and follow flight battery instructions
	Flight conditions may be too cold	Make sure battery is warm before use
	Battery capacity too low for flight conditions	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	Power off transmitter, move transmitter a larger distance from aircraft, disconnect and reconnect flight battery to aircraft and follow binding instructions
	Bind switch or button not held long enough during bind process	Power off transmitter and repeat bind process. Hold transmitter bind button or switch until receiver is bound
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	Leaving transmitter on, disconnect and reconnect flight battery to aircraft
	Aircraft bound to different model memory (ModelMatch™ radios only)	Select correct model memory on transmitter and disconnect and reconnect flight battery to aircraft
	Flight battery/transmitter battery charge is too low	Replace/recharge batteries
Control surface does not move	Control surface, control horn, linkage or servo damage	Replace or repair damaged parts and adjust controls
	Wire damaged or connections loose	Do a check of wires and connections, connect or replace as needed
	Flight battery charge is low	Fully recharge flight battery
	Control linkage does not move freely	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 the servo	Set Travel adjust to 100% or less and/or set sub-trims to Zero and adjust linkages mechanically

# Limited Warranty

## What this Warranty Covers

Horizon Hobby, Inc. ("Horizon") warrants to the original purchaser that the product purchased (the "Product") will be free from defects in materials and workmanship at the date of purchase.

## What is Not Covered

This warranty is not transferable and does not cover (i) cosmetic damage, (ii) damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or due to improper use, installation, operation or maintenance, (iii) modification of or to any part of the Product, (iv) attempted service by anyone other than a Horizon Hobby authorized service center, (v) Product not purchased from an authorized Horizon dealer, or (vi) Product not compliant with applicable technical regulations.

OTHER THAN THE EXPRESS WARRANTY ABOVE, HORIZON MAKES NO OTHER WARRANTY OR REPRESENTATION, AND HEREBY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL SUITABLY MEET THE REQUIREMENTS OF THE PURCHASER'S INTENDED USE.

## Purchaser's Remedy

Horizon's sole obligation and purchaser's sole and exclusive remedy shall be that Horizon will, at its option, either (i) service, or (ii) replace, any Product determined by Horizon to be defective. Horizon reserves the right to inspect any and all Product(s) involved in a warranty claim. Service or replacement decisions are at the sole discretion of Horizon. Proof of purchase is required for all warranty claims. SERVICE OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY.

## Limitation of Liability

HORIZON SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY, REGARDLESS OF WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR ANY OTHER THEORY OF LIABILITY, EVEN IF HORIZON HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Further, in no event shall the liability of Horizon exceed the individual price of the Product on which liability is asserted. As Horizon has no control over use, setup, final assembly, modification or misuse, no liability shall be assumed nor accepted for any resulting damage or injury. By the act of use, setup or assembly, the user accepts all resulting liability. If you as the purchaser or user are not prepared to accept the liability associated with the use of the Product, purchaser is advised to return the Product immediately in new and unused condition to the place of purchase.

## Law

These terms are governed by Illinois law (without regard to conflict of law principals). This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Horizon reserves the right to change or modify this warranty at any time without notice.

## WARRANTY SERVICES

### Questions, Assistance, and Services

Your local hobby store and/or place of purchase cannot provide warranty support or service. Once assembly, setup or use of the Product has been started, you must contact your local distributor or Horizon directly. This will enable Horizon to better answer your questions and service you in the event that you may need any assistance. For questions or assistance, please visit our website at [www.horizonhobby.com](http://www.horizonhobby.com), submit a Product Support Inquiry, or call 877.504.0233 toll free to speak to a Product Support representative.

### Inspection or Services

If this Product needs to be inspected or serviced and is compliant in the country you live and use the Product in, please use the Horizon Online Service Request submission process found on our website or call Horizon to obtain a Return Merchandise Authorization (RMA) number. Pack the Product securely using a shipping carton. Please note that original boxes may be included, but are not designed to withstand the rigors of shipping without additional protection. Ship via a carrier that provides tracking and insurance for lost or damaged parcels, as Horizon is not responsible for merchandise until it arrives and is accepted at our facility. An Online Service Request is available at [http://www.horizonhobby.com/content/\\_service-center\\_render-service-center](http://www.horizonhobby.com/content/_service-center_render-service-center). If you do not have internet access, please contact Horizon Product Support to obtain a RMA number along with instructions for submitting your product for service. When calling Horizon, you will be asked to provide your complete name, street address, email address and phone number where you can be reached during business hours. When sending product into Horizon, please include your RMA number, a list of the included items, and a brief summary of the problem. A copy of your original sales receipt must be included for warranty consideration. Be sure your name, address, and RMA number are clearly written on the outside of the shipping carton.

**NOTICE: Do not ship LiPo batteries to Horizon. If you have any issue with a LiPo battery, please contact the appropriate Horizon Product Support office.**

### Warranty Requirements

**For Warranty consideration, you must include your original sales receipt verifying the proof-of-purchase date.** Provided warranty conditions have been met, your Product will be serviced or replaced free of charge. Service or replacement decisions are at the sole discretion of Horizon.

### Non-Warranty Service

**Should your service not be covered by warranty, service will be completed and payment will be required without notification or estimate of the expense unless the expense exceeds 50% of the retail purchase cost.** By submitting the item for service you are agreeing to payment of the service without notification. Service estimates are available upon request. You must include this request with your item submitted for service. Non-warranty service estimates will be billed a minimum of ½ hour of labor. In addition you will be billed for return freight. Horizon accepts money orders and cashier's checks, as well as Visa, MasterCard, American Express, and Discover cards. By submitting any item to Horizon for service, you are agreeing to Horizon's Terms and Conditions found on our

website [http://www.horizonhobby.com/content/\\_service-center\\_render-service-center](http://www.horizonhobby.com/content/_service-center_render-service-center).

**ATTENTION: Horizon service is limited to Product compliant in the country of use and ownership. If received, a non-compliant Product will not be serviced.**

**Further, the sender will be responsible for arranging return shipment of the un-serviced Product, through a carrier of the sender's choice and at the sender's expense. Horizon will hold non-compliant Product for a period of 60 days from notification, after which it will be discarded.**

## Warranty and Service Information

Country of Purchase	Horizon Hobby	Address	Phone Number/Email Address
United States of America	Horizon Service Center (Electronics and engines)	4105 Fieldstone Rd Champaign, Illinois 61822 USA	877-504-0233 Online Repair Request visit: <a href="http://www.horizonhobby.com/service">www.horizonhobby.com/service</a>
	Horizon Product Support (All other products)	4105 Fieldstone Rd Champaign, Illinois 61822 USA	877-504-0233 <a href="mailto:productsupport@horizonhobby.com">productsupport@horizonhobby.com</a>
United Kingdom	Horizon Hobby Limited	Units 1-4 Ployters Rd Staple Tye Harlow, Essex CM18 7NS, United Kingdom	+44 (0) 1279 641 097 <a href="mailto:sales@horizonhobby.co.uk">sales@horizonhobby.co.uk</a>
Germany	Horizon Technischer Service	Christian-Junge-Straße 1 25337 Elmshorn, Germany	+49 (0) 4121 2655 100 <a href="mailto:service@horizonhobby.de">service@horizonhobby.de</a>
France	Horizon Hobby SAS	11 Rue Georges Charpak 77127 Lieusaint	+33 (0) 1 60 18 34 90 <a href="mailto:infofrance@horizonhobby.com">infofrance@horizonhobby.com</a>
China	Horizon Hobby – China	Room 506, No. 97 Changshou Rd. Shanghai, China, 200060	+86 (021) 5180 9868 <a href="mailto:info@horizonhobby.com.cn">info@horizonhobby.com.cn</a>

## Compliance Information for the European Union

### Declaration of Conformity

(in accordance with ISO/IEC 17050-1)  
No. HH2011121701



Product(s):  
Item Number(s):  
Equipment class:

UMX Carbon Cub SS BNF  
EFLU1180  
1

The object of declaration described above is in conformity with the requirements of the specifications listed below, following the provisions of the European R&TTE directive 1999/5/EC and EMC Directive 2004/108/EC:

**EN 301 489-1 V1.7.1: 2006**  
**EN 301 489-17 V1.3.2: 2008**

**EN55022: 2010**  
**EN55024: 2010**

Signed for and on behalf of:  
Horizon Hobby, Inc.  
Champaign, IL USA  
Dec 17, 2011

Steven A. Hall  
Vice President  
International Operations and Risk Management  
Horizon Hobby, Inc.

## Instructions for disposal of WEEE by users in the European Union



This product must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of their waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or where you purchased the product.

# Replacement Parts – Ersatzteile Pièces de rechange – Recapiti per i ricambi

Part # • Nummer Numéro • Codice	Description	Beschreibung	Description	Descrizione
EFLUP050275	5 x 2.75 Electric Propeller	5 x 2.75 Elektro Propeller	Hélice électrique 5 x 2,75	Elica elettrica 5 x 2,75
EFLU1102	Decal Sheet: UMX Carbon Cub SS	Dekorbogen : UMX Carbon Cub SS	Planche de décalcomanies : UMX Carbon Cub SS	Foglio con decalcomanie: UMX Carbon Cub SS
EFLU1103	Landing Gear Set: UMX Carbon Cub SS	Fahrwerkset: UMX Carbon Cub SS	Jeu de train d'atterrissage : UMX Carbon Cub SS	Set del carrello di atterraggio: UMX Carbon Cub SS
EFLU1108	Spinner (3): UMX Carbon Cub SS	Spinner (3): UMX Carbon Cub SS	Cône d'hélice (3) : UMX Carbon Cub SS	Spinner (3): UMX Carbon Cub SS
EFLU1120	Main Wing w/Lights: UMX Carbon Cub SS	Tragfläche mit Licht : UMX Carbon Cub SS	Aile principale avec feux : UMX Carbon Cub SS	Ala principale con luci: UMX Carbon Cub SS
EFLU1125	Complete Tail w/ Accessories: UMX Carbon Cub	Leitwerk kpl. m. Zbh: UMX Carbon Cub SS	Queue complète avec accessoires : UMX Carbon Cub	Coda completa di accessori: UMX Carbon Cub
EFLU1126	Pushrod Linkage Set: UMX Carbon Cub SS	Gestänge / Anlenkungen : UMX Carbon Cub SS	Jeu de liaison de biellette : UMX Carbon Cub SS	Set leveraggi asta di spinta: UMX Carbon Cub SS
EFLU1167	Fuselage w/Battery Tray Door: UMX Carbon Cub SS	Rumpf mit Akkuklappe: UMX Carbon Cub SS	Fuselage avec porte du bac de la batterie : UMX Carbon Cub SS	Fusoliera con sportello vano batteria: UMX Carbon Cub SS
EFLU1107	Servo Cover (2): UMX Carbon Cub SS	Servoabdeckung : UMX Carbon Cub SS	Protection de servo (2) : UMX Carbon Cub SS	Copertura servo (2): UMX Carbon Cub SS
EFLUM180BL2	180 Brushless Outrunner Motor 2500Kv	180 Brushless Outrunner Motor 2500Kv	Moteur à cage-tourante sans balai 180, 2500 Kv	Motore outrunner brushless 180 da 2.500 Kv
EFLU1168	Prop Adapter (Long): Ultra-Micro Carbon Cub SS	Prop.Adapter (Lang) Ultra-Micro Carbon Cub SS	Adaptateur d'hélice (Long): Ultra-Micro Carbon Cub SS	Adattatore Elica (lungo): Ultra-Micro Carbon Cub SS
EFLUC1007	Celectra 2S 7,4 V DC Li-Po Charger	Celectra 2S 7,4 V DC Li-Po Ladegerät	Chargeur Celectra DC 7,4 V 2S	Celectra 2S 7,4 V DC Caricabatterie Li-Po
EFLUC1008	Power Cord for EFLUC1007	Anschlußstecker mit Krokodilklemmen für EFLUC1007	Câble d'alimentation EFLUC1007	Cavo alimentazione per EFLUC1007
EFLU4864	DSMX 6 Ch Ultra Micro AS3X Receiver BL-ESC	DSMX 6 Kanal Ultra Micro AS3X Empfänger BL-ESC	Ultra micro récepteur 6 voies DSMX AS3X a avec contrôleur brushless intégré	DSMX 6 Ch Ultra Micro AS3X Ricevitore BL-ESC
SPMSA2030L	2.3-gram Performance Linear Long Throw Servo (Flaps)	2,3 Gramm Servo m. langen Ruderweg (Klappen)	Servo linéaire de performance course longue 2,3 g (volets)	Servo corsa lunga lineari a prestazioni elevate da 2,3 grammi (Alette)

Part # • Nummer Numéro • Codice	Description	Beschreibung	Description	Descrizione
SPMSA2030LO	2.3-Gram Linear Long Throw Offset Servo (Ailerons)	2,3 Gramm Linear Offset Servo (Querruder)	Servo linéaire offset course longue 2,3 g (Ailerons)	Servo di offset corsa lunga lineari a prestazioni elevate da 2,3 grammi (Alettoni)
SPM6836	Replacement Servo Mechanics: 2.3-Gram 2030Li	Ersatzservomechanik 2,3 Gramm 2030L	Pièces de rechange mécaniques servo : 2,3 g 2030 L	Componenti meccanici di ricambio del servo: 2030L da 2,3 grammi
EFLU4070	Replacement Servo Retaining Collars: MCX/2/MSR	Ersatz Stellringe MCX/MSR	Colliers de servo: MCX/2/MSR	Collari di fissaggio per servo: MCX/2/MSR

## Optional Parts and Accessories Optionale Bauteile und Zubehörteile Pièces optionnelles et accessoires – Parti opzionali e accessori

Part # • Nummer Numéro • Codice	Description	Beschreibung	Description	Descrizione
EFLUA1190	Float Set: UMX Carbon Cub SS	Schwimmer Set: UMX Carbon Cub SS	Floteurs : UMX Carbon Cub SS	Set di galleggianti: UMX Carbon Cub SS
EFLA700UM	Charger Plug Adapter: EFL	Ladekabel Adapter EFL	Prise d'adaptation chargeur: EFL	Adattatore per la carica: EFL
EFLA7001UM	Charger Plug Adapter: TP	Ladekabel Adapter TP	Prise d'adaptation chargeur: TP	Adattatore per la carica: TP
EFLC4000/AU/ EU/UK	AC to 12V DC, 1.5 Amp Power Supply (Based upon your sales Region)	AC zu 12V DC 1,5 Ampere Netzstecker (Basierend nach Vertriebsregion)	Alimentation CA vers 12 V CC, 1,5 A (En fonction de votre région)	Alimentatore da CA a 12 V CC, 1,5 Amp (in base al Paese di vendita)
	DX5e DSMX 5-channel Transmitter	Spektrum DX5e DSMX 5 Kanalsender ohne Empfänger	Emetteur DX5e DSMX 5 voies	DX5e DSMX Trasmettitore 5 canali
	DX6i DSMX 6-Channel Transmitter	DX6i DSMX 6-Kanal Sender	Emetteur DX6i DSMX 6 voies	DX6i DSMX Trasmettitore 6 canali
	DX7s DSMX 7-Channel Transmitter	Spektrum DX7s 7 Kanal Sender	Emetteur DX7s DSMX 7 voies	DX7s DSMX Trasmettitore 7 canali
	DX8 DSMX Transmitter	Spektrum DX8 nur Sender	Emetteur DX8 DSMX 8 voies	DX8 DSMX Solo trasmettitore

**– Parts Contact Information –**  
**– Intaktinformationen für Ersatzteile –**  
**– Coordonnés pour obtenir de pièces détachées –**  
**– Recapiti per i ricambi –**

<b>Country of Purchase</b>	<b>Horizon Hobby</b>	<b>Address</b>	<b>Phone Number/Email Address</b>
United States	Sales	4105 Fieldstone Rd Champaign, Illinois, 61822 USA	800-338-4639 sales@horizonhobby.com
United Kingdom	Horizon Hobby Limited	Units 1-4 Ployters Rd Staple Tye Harlow, Essex CM18 7NS, United Kingdom	+44 (0) 1279 641 097 sales@horizonhobby.co.uk
Germany	Horizon Hobby GmbH	Christian-Junge-Straße 1 25337 Elmshorn, Germany	+49 (0) 4121 46199 60 service@horizonhobby.de
France	Horizon Hobby SAS	11 Rue Georges Charpak 77127 Lieusaint	+33 (0) 1 60 18 34 90 infofrance@horizonhobby.com
China	Horizon Hobby – China	Room 506, No. 97 Changshou Rd. Shanghai, China, 200060	+86 (021) 5180 9868 info@horizonhobby.com.cn

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US D578,146. PRC ZL 200720069025.2. US 7,898,130. Other patents pending.

[www.e-fliterc.com](http://www.e-fliterc.com)

