

Sport Cub



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





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.

WARNING AGAINST COUNTERFEIT PRODUCTS: If you ever need to replace your Spektrum product found in a Horizon Hobby product, always purchase from Horizon Hobby, LLC. or a Horizon Hobby authorized dealer to ensure authentic high-quality Spektrum product. Horizon Hobby, LLC. disclaims all support and warranty with regards, but not limited to, compatibility and performance of counterfeit products or products claiming compatibility with DSM or Spektrum.

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, 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 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.

Battery Warning

The Battery Charger included with your aircraft is designed to safely balance and 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 (5–49° C). Do not store the 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.

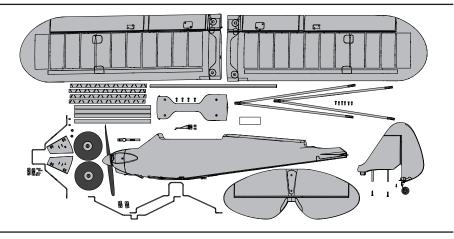
- Always constantly monitor the temperature of the battery pack while charging.
- ONLY USE A CHARGER SPECIFICALLY DESIGNED TO CHARGE LI-PO BATTER-IES. Failure to charge the battery with a compatible charger may cause fire resulting in personal injury and/or property damage.
- Never discharge Li-Po cells 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 5–49° C) or place in direct sunlight.

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Box Contents

Quick Start Reference		
Duel Detec	High	Low
Dual Rates	100 %	70%
CG	63-66mm 2.50 - 2.60 inches back from the leading edge of the wing at the root.	
Flight Timer Setting	First Flight 5 Min.	7 Min.



Specifications

PNP		BNF	⊢−−−−− 1300mm (51.0 in) −−−−−
Installed	Motor 480 Brushless Outrunner Motor, 960Kv (PKZ4416)	Installed	
Installed	2 Aileron Servos, 1 Elevator Servo and 1 Rudder Servo (PKZ1081, PKZ1080, PKZ1090)	Installed	, the set of the set o
Installed	ESC 18-Amp Brushless ESC (PKZ1814)	Installed	(34.0 inches)
Sold Separately	Recommended Receiver Spektrum AR636 6-Channel Sport Receiver (SPMAR636)	Installed	8655mm
Sold Separately	Recommended Battery 11.1V 3S 1300mAh 20C Li-Po (EFLB13003S20)	Included	
Sold Separately	Recommended Battery Charger 3S Li-Po DC Balance Charger (HBZ1003)	Included	Weight:
Sold Separately	Recommended Transmitter Full-Range 4-Channel (or more) 2.4GHz with Spektrum [™] DSM2 [®] /DSMX [®] technology	Sold Separately	945 grams (33.3 ounces) with battery

~	Preflight Checklist	\checkmark	Post Flight Checklist
	1. Read this instruction manual thoroughly.		1. Disconnect the flight battery from the ESC (Required for Safety
	2. Remove and inspect the contents.		and battery life). 2. Power OFF the transmitter.
	3. Charge the flight battery.		3. Remove the flight battery from the aircraft.
	4. Fully assemble the model.		 Recharge the flight battery.
	5. Install the flight battery in the aircraft (once it has been fully charged).		5. Repair or replace all damaged parts.
	6. Bind the aircraft to your transmitter.		6. Store the flight battery apart from the aircraft and monitor the
	7. Make sure the linkages move freely.		battery charge.
	8. Perform the Control Direction Test with the transmitter.		 Make note of the flight conditions and flight plan results, planning for future flight.
	9. Perform the AS3X Control Direction Test with the aircraft.		i dalo nghi
	10. Adjust the flight controls and transmitter.		
	11. Perform a radio system Range Check.		
	12. Find a safe and open area.		
	13. Plan flight for flying field conditions.	Τοι	register your product online visit www.parkzone.com



Battery Charging

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

This Charger may be connected to a 1.5A AC Power Supply (US Only, HBZ1004), sold separately.

DC Li-Po Balancing Charger (HBZ1003) Features

- Charges 3-cell lithium polymer battery packs
- LED charge status indicator
- 12V accessory outlet connector

Specifications

- Input power: 10.5–14V DC, 3-amp
- Max output voltage: 11:1V
- Fixed charge current: 1.3A
- Charges 3-cell Li-Po packs with minimum capacity of 1300mAh



Battery Charging Process

NOTICE: 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.

- 1. Attach the charger to the appropriate power supply (12V accessory outlet).
- 2. Connect the Balancing Lead of the battery to the charger connector.
- 3. Charge the included battery for approximately 1 hr (the LED flashes during charging, then turns solid when charging is complete).
- 4. Always disconnect 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.

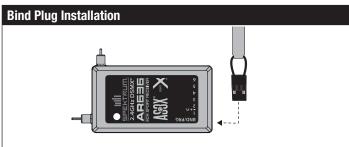
NOTICE: If using a battery other than the included Li-Po battery, refer to your battery manufacturer's instructions for charging.

Transmitter and Receiver Binding

IMPORTANT: The AR636 receiver installed in the Bind-N-Fly aircraft has been pre-programmed for operation in this aircraft. Refer to the receiver manual for correct setup if the receiver is replaced or is used in another aircraft. For a list of compatible DSM2/DSMX transmitters, please visit www.bindnfly.com.

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.

Tip: A servo extension (PKZ5403, sold separately) may be installed in the receiver bind port so binding may be done through the battery door in the bottom of the aircraft.



Failsafe

If the receiver loses transmitter communication, the failsafe will activate. When activated, the airplane controls return to the neutral position established during step 3 of the binding procedure.

,		
✓	Bi	nding Procedure Reference Table
	1.	Refer to your transmitter instructions for binding to a receiver.
	2.	Ensure the transmitter is powered off.
	3.	Make sure the transmitter controls are at neutral, and the throttle is in the low position and the aircraft is immobile. *
	4.	Install a bind plug in the receiver bind port.
	5.	Connect the flight battery to the ESC. The ESC will produce a series of sounds. One long tone, then three short tones confirm that the LVC is set for the ESC.
	6.	The receiver LED will begin to flash rapidly.
	7.	Power on the transmitter while holding the transmitter bind button or switch.
	8.	When the receiver binds to the transmitter, the light on the receiver will turn solid and the ESC will produce a series of three ascending tones. The tones indicate the ESC is armed, provided the throttle stick and throttle trim are low enough to trigger arming.
	9.	Remove the bind plug from the bind port.
	10	. Safely store the bind plug.
	11.	The receiver should retain the binding instructions received from the transmitter until another binding is done.
		rottle will not arm if the transmitter's throttle control is not put at the

* The throttle will not arm if the transmitter's throttle control is not put at the lowest position. If you encounter problems, follow the binding instructions and refer to the transmitter troubleshooting guide for other instructions. If needed, contact the appropriate Horizon Product Support office.



Receiver Selection and Installation

The Spektrum AR636 receiver is recommended for this airplane. For an AR636 receiver purchased separately, download the setup for the ParkZone® Sport Cub from www.spektrumrc.com and load it in the receiver, before installing the receiver in the aircraft. If you choose to install another receiver, ensure that it is at least a 4-channel full range (sport) receiver, or 5 or more channels with flaps. Refer to your receiver manual for correct installation and operation instructions.

- 1. Before installing the wing, install a receiver in the fuselage.
- 2. Install your full range (sport) receiver in the fuselage using double-sided servo tape.
- 3. Attach the elevator and rudder servo connectors to the appropriate channels of the receiver.
- 4. Attach the aileron Y-harness to the aileron channel of the receiver.
- 5. Attach the ESC connector to the throttle channel of the receiver.

Battery Installation and ESC Arming

Battery Selection

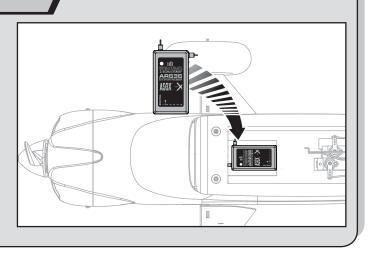
- We recommend the E-flite[®] 1300mAh 11.1V 3S 20C Li-Po (EFLB13003S20).
- If using another battery, the battery must be at least a 1300mAh battery.
- Your battery should be approximately the same capacity, dimensions and weight as the E-flite Li-Po battery to fit in the fuselage without changing the center of gravity a large amount.
- 1. Lower the throttle and throttle trim to the lowest settings. Power on the transmitter, then wait 5 seconds.
- 2. Apply a strip of hook tape (A) to the bottom the battery near the end opposite the battery wires.
- 3. Turn the latch (B) and open the battery hatch.
- 4. Install the fully charged battery (C) even with the front edge of the support covered with loop tape (as shown). See the Adjusting the Center of Gravity instructions for more information.
- 5. Make sure the flight battery is secured using the hook and loop strap (D).
- 6. Connect the battery to the ESC. Keep the aircraft immobile and away from wind for 5 seconds.

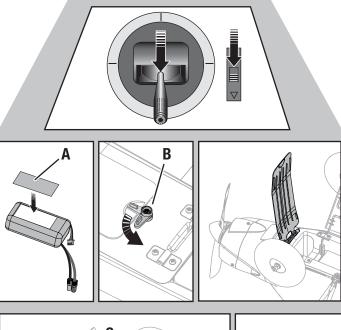
IMPORTANT: Due to the battery hatch location, it is easiest to install the battery and have the receiver initialize with the plane inverted.

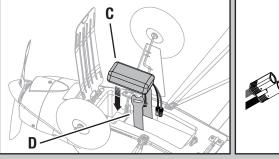
- The ESC will sound a series of tones (refer to step 5 of the binding instructions for more information).
- An LED will light on the receiver.

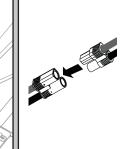
If the ESC sounds a continuous double beep after the flight battery is connected, recharge or replace the battery.

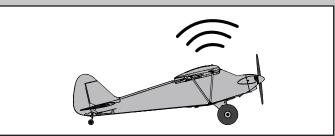
7. Replace the battery hatch and turn the latch.











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Landing Gear Installation

1. Install 2 tires (A) on the strut (B) using 2 wheel collars (C) and 2 set screws (D). Tighten the set screws on the flat spots of the strut.

Tip: Threadlock may be required to keep the collar on the strut.

- 2. If desired for scale appearance, install the left and right fairings (E) (marked L and R) on the respective sides of the strut.
- 3. Turn the latch (F) and open the battery hatch.
- 4. Install the strut in the channels (G) in the fuselage as shown.
- 5. Install the left and right strut brackets (H) (marked L and R) in the respective slots on the bottom of the fuselage using 4 screws (I).
- 6. Replace the battery hatch and turn the latch.

Disassemble in reverse order.

Tail Installation

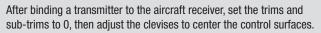
- 1. Install the horizontal tail (A) on the fuselage as shown.
- 2. Carefully insert the 2 pins of the vertical fin (**B**) through the horizontal tail holes and the fuselage holes. Turn the rudder so the control horn is under the horizontal tail.
- 3. Under the fuselage, install the 2 screws (C) into the fuselage and the vertical fin pins. Tighten the screws, but do not break the plastic.
- 4. Install the rudder hinge screw (**D**) as shown. Tighten the screw, then loosen it one half of a turn so the rudder turns freely.
- 5. Connect the respective clevises in the outermost holes in the rudder and elevator control horns. Refer to the clevis adjustment instructions to center the rudder and elevators.

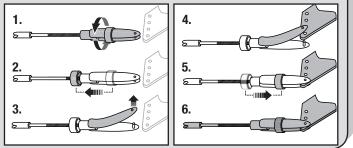
When needed, disassemble in reverse order.

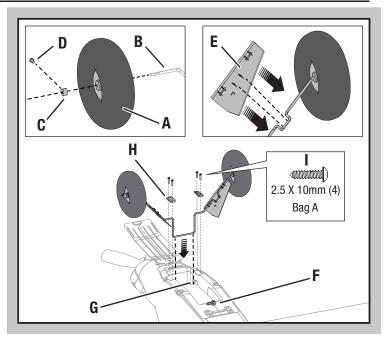
Clevis Installation

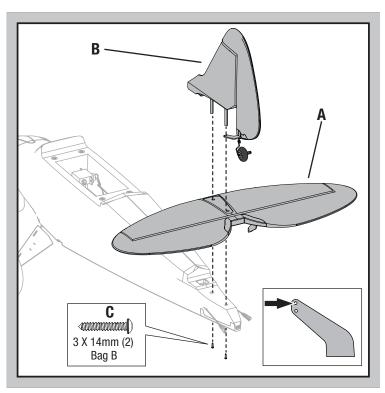
Tip: Turn the clevis on the linkage to change the length of the linkage between the servo arm and the control horn.

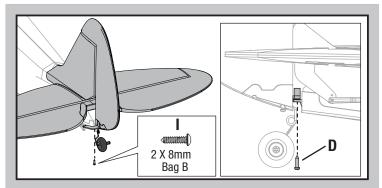
- Pull the tube from the clevis to the linkage.
- Carefully spread the clevis, then insert the clevis pin into the desired hole in the control horn.
- Move the tube to hold the clevis on the control horn.











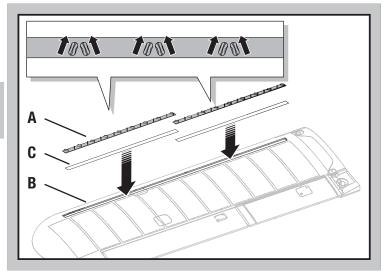
Wing Assemby and Installation

Assembly

1. Install the vortex generators (A) in the wing channels (B) by using double-sided tape (C).

CAUTION: DO NOT crush or otherwise damage the wiring when attaching the wing to the fuselage.

- 2. Slide the wing tube (D) in the hole in the left wing.
- 3. Slide the other end of the wing tube into the hole in the right wing until both wings meet.
- 4. Install the wing cover (E) on the top of the wing, aligning the 4 holes as shown.





We recommend installing the Flaps (optional) in the wing before installing the wing on the fuselage. See the following page for detailed instructions.

Installation

1. Connect the aileron servos from the wings to the Y-harness connectors in the fuselage. The left and right aileron servos can be connected to either side of the Y-harness.

IMPORTANT: Correct operation of the AS3X system requires connection of both ailerons to the included Y-harness and the AILE channel of the receiver.

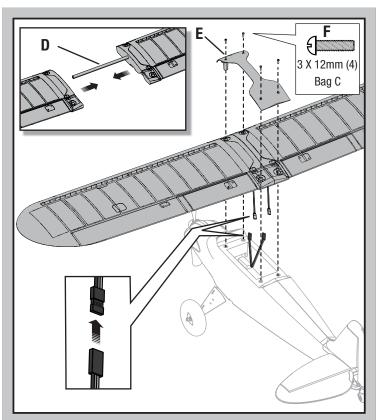
Tip: A servo extension (PKZ5403, sold separately) may be installed in the receiver bind port so binding may be done through the battery door in the bottom of the aircraft.

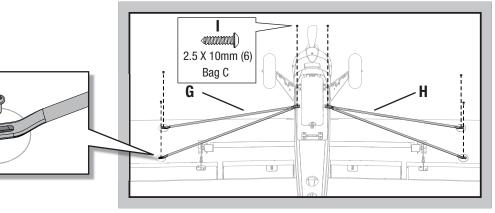
- 2. Attach the assembled wing and wing cover (E) to the fuselage using 4 screws (F).
- 3. Attach the left (G) and right (H) struts (marked L and R) under the wing and fuselage using 6 screws (I).

IMPORTANT: On the wings, tighten the 4 screws in the middle of the strut slots so the wings are not pulled down (Fig J).

Fig. J

Disassemble in reverse order.





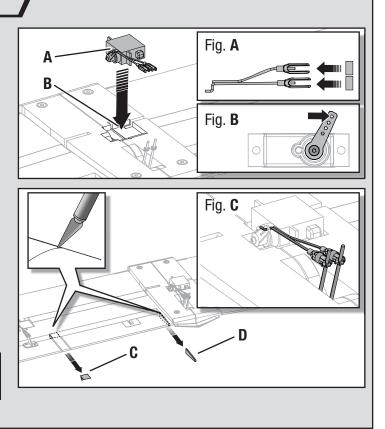
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OPTIONAL Flap Installation

IMPORTANT: If desired, install the optional flaps before installing the wing.

- 1. Install a tube on each clevis (Fig. A).
- 2. Connect the flap servo (PKZ1090, sold separately) to a servo extension (PKZ5403, sold separately).
- 3. Connect the servo extension to the AUX1 port of the receiver.
- 4. Power on the transmitter and move the flap or gear switch to the up position.
- 5. Install the servo arm on the servo at the angle shown (Fig. B).
- 6. Install the flap linkage in the outermost hole of the flap servo arm (Fig.B).
- 7. Install the flap servo (A) in the pocket (B) using hot glue or double-sided tape.
- 8. Attach the clevises to the flap torque rods as shown (Fig. C).
- 9. On both flaps, carefully cut a small amount of foam at the flap hinge (C) and wing root (D) so the flaps move freely (see illustration).
- 10. Do a control test of the flaps using your aircraft and transmitter. Make sure both flaps are symmetrical while they are retracted and extended.

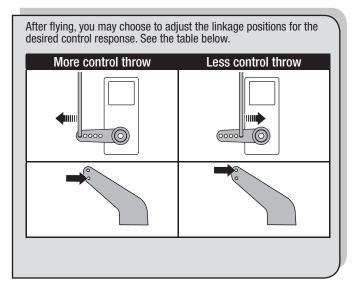
	1/2 or Takeoff	Full
Flap Down	12mm down	25mm down



Control Horn and Servo Arm Settings

The table to the right shows the factory settings for the control horns and servo arms. Fly the aircraft at factory settings before making changes.

NOTICE: If control throws are changed from the reccomended settings, the AR636 gain values will need to be adjusted. Refer to the Spektrum AR636 manual for adjustment of gain values.



Factory Settings		
	Horns	Arms
Elevator		
Rudder		@ 00000
Ailerons		

Transmitter Setup

IMPORTANT: The AR636 receiver installed in the Bind-N-Fly aircraft has been pre-programmed for operation in this aircraft. Refer to the receiver manual for correct setup if the receiver is replaced or is used in another aircraft.

A DSM2/DSMX four-channel (or better) transmitter with dual rates is required for flying this aircraft. The *Spektrum*[™] DX4e, DX5e, DX6i, DX7s, DX8, DX9, DX10t, DX18 and JR[®] X9503, 11X or 12X transmitters may be used. The settings below are recommended starting settings.

For the best flight experience, we recommend flying your aircraft with the Dual Rate switched to high rate. However, if the control response is too great, low rate is still available.

✓	Transmitters DX4e and DX5e
Befor	e binding for Non-computerized Transmitters (DX4e, DX5e):

- 1. Set all trims to NEUTRAL (0%).
- 2. Move the transmitter Dual Rate switch to High Rate.

After binding:

 1. Check and adjust the servos so each arm's neutral position is perpendicular or as close to 90° as possible (loosen and adjust the servo arm splines on the servo only when needed). **DO NOT** use sub-trims to make fine adjustments, off-center sub-trim will affect servo travel and AS3X operation.

 2. Adjust linkage lengths so the control surfaces center when the servo arm is close to perpendicular.

 3. Set rates in the transmitter as recommended.

NOTICE: If using a non-computer radio, reduce flap throw to half or the aircraft may pitch up unexpectedly.

CAUTION: For safe operation, always re-bind the airplane after setup is complete to ensure the failsafe is updated with the latest setup.

Transmitters DX6i and Above

Tip: DX6i transmitters can activate all three channel rates (aileron, elevator and rudder) using a combined Dual Rates switch. Rates and expo can also be adjusted if the recommended rates are not comfortable.

Tip: DX7s and above transmitters can activate rates on one Dual Rates switch like the DX6i transmitter. However, DX7s and above transmitters can also activate rates and exponential on the same switch as the flight mode (Channel 5).

Dual Rates

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

✓ Transmitter Setup Checklist

Before binding for Computerized Transmitters (DX6i, DX7/DX7se, DX7s, DX8, DX9, DX10t, DX18):

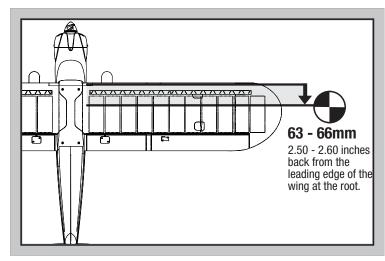
	 Choose a blank model memory with only default (zero) settings (including trim and sub-trim).
	2. Choose Wing/Aircraft Type for single aileron servo.
	3. Set all sub-trims to NEUTRAL (0%).
	4. Set servo travel values to 100% for Aileron, Elevator, and Rudder.
	5. Set the Dual Rate to 100%, 70% for Aileron, Elevator, and Rudder.
Afte	r binding:
	1. Check and adjust the servos so each arm's neutral position is perpendicular or as close to 90° as possible (loosen and adjust the servo arm splines on the servo only when needed). DO NOT use sub-trims to make fine adjustments, off-center sub-trim will affect servo travel and AS3X operation.
	Adjust linkage lengths so the control surfaces center when the servo arm is close to perpendicular.
	3. Set rates in the transmitter as recommended.
	CAUTION: For safe operation, always re-bind the airplane after setup is complete to ensure the failsafe is updated with the latest setup.

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Center of Gravity (CG)

The CG location is 63 - 66mm back from the leading edge of the wing at the root. Make sure the flight battery is secured using the hook and loop strap.

Aircraft CG and weight is based on an E-flite 11.1V 1300mAh 30C battery (EFLB13003S20) installed.



Control Direction Test

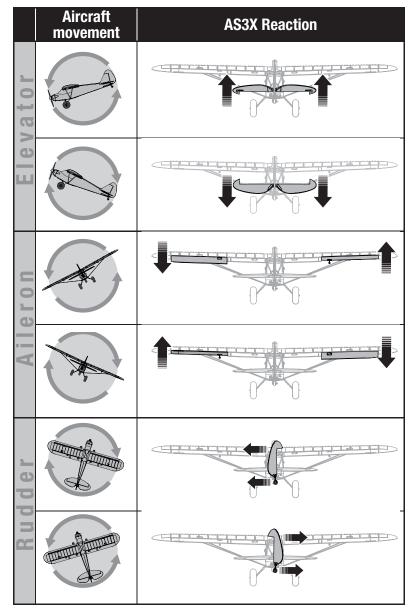
Move the controls on the transmitter to make sure the aircraft control surfaces move in the proper direction.

	Transmitter Command	Aircraft Reaction
/ator	Up Elevator Command	
Elev	Down Elevator Command	
Stick Right		
Aile	Stick Left	
Rudder	Stick Right	
	Stick Left	

AS3X Control Direction Test

Perform the Control Direction Test to ensure the aircraft responds correctly to your transmitter. Once you are sure the aircraft responds correctly, move the aircraft as shown to ensure the AS3X system moves the control surfaces in their proper direction. If the control surfaces do not respond as shown, do not fly the aircraft. Refer to the receiver manual for more information.

The AS3X system will not activate until the throttle stick or trim is increased for the first time after the flight battery is connected. Once the AS3X is active, the control surfaces may move rapidly on the aircraft. This is normal. AS3X will remain active until the battery is disconnected.



Flying Tips

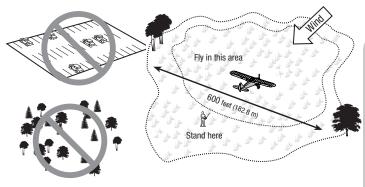
Consult local laws and ordinances before choosing a flying location.

Range Check your Radio System

After final assembly, range check the radio system with the aircraft. Refer to your specific transmitter instruction manual.

Takeoff

Place the aircraft in position for takeoff (facing into the wind). Select low rates for first takeoff and gradually increase the throttle to 3/4 to full and steer with the rudder. Pull back gently on the elevator and climb to a comfortable altitude.



Flying

Fly the airplane and trim it for level flight at 3/4 throttle. After landing, adjust the linkages mechanically to account for trim changes and then reset the trims to neutral. Ensure the aircraft will fly straight and level with no trim or sub-trim.

Flaps

When using flaps, takeoffs and landings are shorter. When taking off, the tail will come off the ground quicker for better rudder control during the takeoff roll.

During landing, the flaps allow a landing approach to be steeper because of the increased drag. Flaps make the plane come in at a slower airspeed and make it easier to flare and settle in for a smooth landing. When deploying the flaps, slow the aircraft down to 1/4 throttle. If the flaps are deployed when the aircraft is at a higher speed, the aircraft will pitch up. Set your down elevator to flap mixing at 30% to reduce the pitch up tendency.

NOTICE: If using a non-computer radio, reduce flap throw to half or the aircraft may pitch up unexpectedly when flaps are deployed.

Landing

Flight times of 7 minutes or more are achievable if using proper throttle management.

For your first flights, set your transmitter timer or a stopwatch to **5 minutes**. Adjust your timer for longer or shorter flights once you have flown the model. If the motor pulses, land the aircraft immediately and recharge the flight battery. It is not recommended to fly the battery to Low Voltage Cutoff (LVC).

To land the aircraft, fly the aircraft down to the ground using 1/4 - 1/3 throttle to allow for enough energy for a proper flare. The aircraft is easiest to land doing a wheel landing (two point), where the aircraft touches down on the main landing gear first while the tailwheel is still off the ground. The aircraft can also be landed in a three-point attitude, where all three wheels touch down at the same time. When the aircraft touches down, reduce back pressure on the elevator stick to prevent the plane from becoming airborne again.

If landing on grass, it is best to hold full up elevator after touchdown and when taxiing to prevent nosing over.

Once on the ground, avoid sharp turns until the plane has slowed enough to prevent scraping the wingtips.

NOTICE: If a crash is imminent, reduce the throttle and trim fully. Failure to do so could result in extra damage to the airframe, as well as damage to the ESC and motor.

NOTICE: Crash damage is not covered under warranty.

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.





Always decrease throttle at propeller strike.

Low Voltage Cutoff (LVC)

When a Li-Po battery is discharged below 3V per cell, it will not hold a charge. The 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 pulses, showing that some battery power is reserved for flight control and safe landing.

Disconnect and remove the Li-Po battery from the aircraft after use to prevent trickle discharge. Charge your Li-Po battery to about half capacity before storage. During storage, make sure the battery charge does not fall below 3V per cell. LVC does not prevent the battery from over-discharge during storage.

NOTICE: Repeated flying to LVC will damage the battery.

Tip: Monitor your aircraft battery's voltage before and after flying by using a Li-Po Cell Voltage Checker (EFLA111, sold separately).

Repairs

Thanks to the Z-Foam[™] construction of this aircraft, repairs to the foam can be made using virtually any adhesive (hot glue, regular CA, epoxy, etc). 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 end of this manual.

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

Optional Floats

To fly this aircraft off water, install the optional HobbyZone[®] Float Set (HBZ7390, sold separately). Float struts, strut brackets and 4 screws are included with the aircraft. Rear bracket screws are included with the floats. Refer to the float manual for installation and water operation instructions.

Motor Service

Disassembly



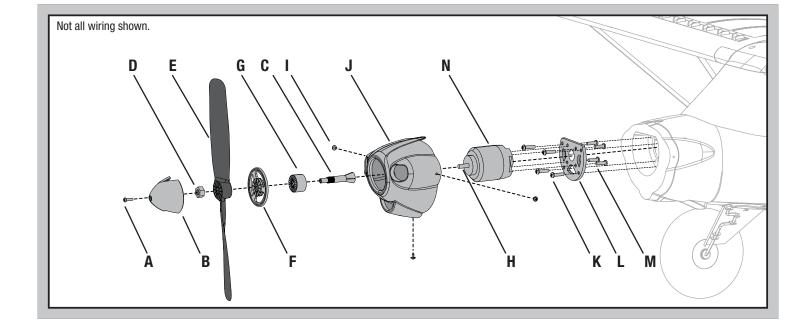
CAUTION: Always disconnect the flight battery from the aircraft before removing the propeller.

- 1. Remove the screw (A) and spinner (B) from the collet (C).
- Remove the spinner nut (D), propeller (E), spinner backplate (F), backplate (G) and collet from the motor shaft (H). You will need a tool to turn the spinner nut.
- 3. Remove the 3 screws (I) from the cowling (J). Carefully remove the cowling from the fuselage. Paint may keep the cowling attached to the fuselage.
- 4. Remove the 4 screws (K) from the motor mount (L) and the fuselage.
- 5. Disconnect the motor wires from the ESC wires.
- 6. Remove the 4 screws (M) and motor (N) from the motor mount.

Assembly

Assemble in reverse order.

- Correctly align and connect the motor wire colors with the ESC wires.
- The propeller size numbers (9 x 6) must face out from the motor for correct propeller operation.
- A tool is required to tighten the spinner nut on the collet.
- Ensure the spinner is fully connected to the spinner backplate for safe operation.



Troubleshooting Guide

AS3X

Problem	Possible Cause	Solution
Trim change when flight	Trim is not at neutral	If you need to adjust the trim more than 8 clicks, return the trim to neutral and manually adjust the clevis to center the trim
mode is switched	Sub-Trim is not at neutral	Do not use Sub-Trim. Adjust the servo arm or the clevis
Incorrect response to the AS3X Control Direction Test	Incorrect direction settings in the receiver, which can cause a crash	DO NOT fly. Correct the direction settings (refer to the receiver manual), then fly

Troubleshooting Guide

Problem	Possible Cause	Solution	
Aircraft will not re-	Throttle not at lowest position or throttle trim too high	Reset controls with throttle stick and throttle trim at lowest setting	
spond to throttle but	Throttle servo travel is lower than 100%	Make sure throttle servo travel is 100% or greater	
responds to other controls	Throttle channel is reversed	Reverse throttle channel on transmitter	
	Motor disconnected from ESC	Make sure motor is connected to the ESC	
Extra propeller noise or extra vibration	Damaged propeller and spinner, collet or motor	Replace damaged parts	
	Propeller is out of balance	Balance or replace propeller	
	Prop nut is too loose	Tighten the prop nut	
	Spinner is not tight or fully seated in place	Tighten the spinner or remove the spinner and turn it 180 degrees	
Reduced flight time	Flight battery charge is low	Completely recharge flight battery	
or aircraft underpow-	Propeller installed backwards	Install propeller with numbers facing forward	
ered	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 C rating is too low	Replace battery or use battery with correct C rating	
Aircraft will not Bind (during binding) to	Transmitter too near aircraft during binding process	Move powered transmitter a few feet from aircraft, disconnect and reconnect flight battery to aircraft	
ransmitter	Aircraft or transmitter is too close to large metal object, wireless source or another transmitter	Move aircraft and transmitter to another location and attempt binding again	
	The bind plug is not installed correctly in the bind port	Install bind plug in bind port and bind the aircraft to the transmitter	
	Flight battery/Transmitter battery charge is too low	Replace/recharge batteries	
	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	
Aircraft will not con- nect (after binding) to transmitter	Transmitter too near aircraft during connecting process	Move powered transmitter a few feet from aircraft, disconnect and reconnect flight battery to aircraft	
	Aircraft or transmitter is too close to large metal object, wireless source or another transmitter	Move aircraft and transmitter to another location and attempt connecting again	
	Bind plug left installed in bind port	Rebind transmitter to the aircraft and remove the 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 using different DSM protocol	Bind aircraft to transmitter	
Control surface does	Control surface, control horn, linkage or servo damage	Replace or repair damaged parts and adjust controls	
not move	Wire damaged or connections 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	
	Flight battery charge is low	Fully recharge flight battery	
	BEC (Battery Elimination Circuit) of the ESC is damaged	Replace ESC	
Controls reversed	Transmitter settings are reversed	Perform the Control Direction Test and adjust the controls on transmitter appropriately	
Motor power pulses	ESC uses default soft Low Voltage Cutoff (LVC)	Recharge flight battery or replace battery that is no longer performing	
then motor loses power	Weather conditions might be too cold	Postpone flight until weather is warmer	
	Battery is old, worn out, or damaged	Replace battery	
	Battery C rating might be too small	Use recommended battery	
Aircraft control	Aircraft was moving during initialization	Keep aircraft still during initialization	
surfaces do not move after battery is connected			

Limited Warranty

What this Warranty Covers

Horizon Hobby, LLC. ("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 guestions and service you in the event that

Warranty and Service Contact Information

you may need any assistance. For questions or assistance, please visit our website at www.horizonhobby.com, submit a Product Support Inquiry, or call the toll free telephone number referenced in the Warranty and Service Contact Information section to speak with 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. 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.

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.

Country of Purchase	Horizon Hobby	Address	Phone Number/Email Address
United States of America	Horizon Service Center (Air)	4105 Fieldstone Rd Champaign, Illinois 61822 USA	888-959-2305 Online Repair Request: visit www.horizonhobby.com/service
	Horizon Product Support (All other products)	4105 Fieldstone Rd Champaign, Illinois 61822 USA	877-504-0233 productsupport@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 Technischer Service	Christian-Junge-Straße 1 25337 Elmshorn, Germany	+49 (0) 4121 2655 100 service@horizonhobby.de
France	Horizon Hobby SAS	11 Rue Georges Charpak 77127 Lieusaint, France	+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

Compliance Information for the European Union

Declaration of Conformity

(in accordance with ISO/IEC 17050-1)

No. HH2014041002

Product(s): Item Number(s): Equipment class: Sport Cub BNF PKZ6880

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, EMC Directive 2004/108/EC and LVD Directive 2006/95/EC:

EN 301 489-1 V1.9.2: 2012 EN 301 489-17 V2.1.1: 2009

EN60950-1:2006+A11:2009+A1:2010+A12: 2011

EN55022:2010 + AC:2011 EN55024:2010

Signed for and on behalf of: Horizon Hobby, LLC Champaign, IL USA Apr 10, 2014



Robert Peak **Chief Financial Officer** Horizon Hobby, LLC

Declaration of Conformity

(in accordance with ISO/IEC 17050-1)

No. HH2014041001

Product(s): Item Number(s): Equipment class: Sport Cub PNP PKZ6875 1

The object of declaration described above is in conformity with the requirements of the specifications listed below, following the provisions of the EMC Directive 2004/108/EC:

EN55022:2010 + AC:2011 EN55024:2010



Signed for and on behalf of: Horizon Hobby, LLC Champaign, IL USA Apr 10, 2014

but 1

Robert Peak **Chief Financial Officer** Horizon Hobby, LLC



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 collections 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.

Informazioni di compatibilità per l'Unione Europea

Dichiarazione di conformità

(in conformità con ISO/IEC 17050-1)

N. HH2014041002

Prodotto(i): Codice componente: Classe dei dispositivi: 1 Sport Cub BNF PKZ6880

L'oggetto della dichiarazione di cui sopra è conforme ai requisiti delle specifiche elencate qui di seguito, secondo le disposizioni delle direttive europee R&TTE 1999/5/EC, EMC 2004/108/EC e LVD 2006/95/EC:

EN 301 489-1 V1.9.2: 2012 EN 301 489-17 V2.1.1: 2009

EN60950-1:2006+A11:2009+A1:2010+A12: 2011

EN55022:2010 + AC:2011 EN55024:2010

Firmato a nome e per conto di: Horizon Hobby LLC Champaign IL USA 10 aprile 2014

Robert Peak Chief Financial Officer Horizon Hobby, LLC

Dichiarazione di conformità

(in conformità con ISO/IEC 17050-1)

N. HH2014041001

Prodotto(i): Codice(-i) componente(-i): Classe dei dispositivi: 1 Sport Cub PNP PKZ6875

L'oggetto della dichiarazione di cui sopra è conforme ai requisiti delle specifiche elencate qui di seguito, secondo le disposizioni della direttiva europea EMC 2004/108/EC:

EN55022:2010 + AC:2011 EN55024:2010

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Firmato a nome e per conto di: Horizon Hobby LLC Champaign IL USA 10 aprile 2014

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Robert Peak Chief Financial Officer Horizon Hobby, LLC

Istruzioni di smaltimento di RAEE da parte di utenti dell'Unione Europea



Questo prodotto non deve essere smaltito assieme ai rifiuti domestici. È responsabilità dell'utente lo smaltimento di tali rifiuti, che devono essere portati in un centro di raccolta predisposto per il riciclaggio di rifiuti elettrici e apparecchiature elettroniche. La raccolta differenziata e il riciclaggio di tali rifiuti provenienti da apparecchiature nel momento dello smaltimento aiuteranno a preservare le risorse naturali e garantiranno un riciclaggio adatto a proteggere il benessere dell'uomo e dell'ambiente. Per maggiori informazioni sui punti di riciclaggio si invita a contattare l'ufficio locale competente, il servizio di smaltimento rifiuti o il negozio presso il quale è stato acquistato il prodotto.

Replacement Parts • Ersatzteile • Pièces de rechange • Pezzi di ricambio

Part # Nummer Numéro Codice	Description	Beschreibung	Description	Descrizione
PKZ6802	Spinner: Sport Cub	Spinner: Sport Cub	Cône : Sport Cub	Ogiva: Sport Cub
PKZ6806	Landing gear set: Sport Cub	Fahrwerk-Set: Sport Cub	Jeu de train d'atterrissage principal : Sport Cub	Set del carrello di atterraggio: Sport Cub
PKZ6804	Tail Set: Sport Cub	Leitwerk: Sport Cub	Empennages : Sport Cub	Set coda: Sport Cub
PKZ6807	Decal Sheet: Sport Cub	Dekorbogen: Sport Cub	Planche de décoration : Sport Cub	Foglio adesivi: Sport Cub
PKZ6805	Pushrod Set: Sport Cub	Gestänge Set: Sport Cub	Set de tringleries : Sport Cub	Set rinvii: Sport Cub
PKZ6867	Fuselage: Sport Cub	Parkzone Sport Cub: Rumpf	Fuselage : Sport Cub	Fusoliera: Sport Cub
PKZ6808	Motor mount: Sport Cub	Motorbefestigung: Sport Cub	Support moteur : Sport Cub	Supporto del motore: Sport Cub
PKZ6809	Battery Door: Sport Cub	Akkuklappe: Sport Cub	Trappe à batterie : Sport Cub	Portello batteria: Sport Cub
PKZ6820	Main Wing: Sport Cub	Tragfläche: Sport Cub	Aile : Sport Cub	Ala principale: Sport Cub
PKZ6621	Wing Tube: Sport Cub	Tragflächenstreben: Sport Cub	Clé d'aile : Sport Cub	Baionetta ala: Sport Cub
PKZ6821	Wing Struts: Sport Cub	Flächenverbinder: Sport Cub	Haubans : Sport Cub	Montanti ala: Sport Cub
PKZ6822	Vortex Generators: Sport Cub	Vortex Generatoren: Sport Cub	Générateurs de vortex : Sport Cub	Turbolatori: Sport Cub
PKZ6801	Cowl: Sport Cub	Motorhaube: Sport Cub	Capot : Sport Cub	Capottina motore: Sport Cub
PKZ4416	480 Brushless Outrunner Motor 960Kv	Parkzone BI Außenläufer 960kV	Moteur brushless 480 à cage tournante 960Kv	Motore 480 brushless a cassa rotante
PKZ6803	Prop Adapter: Sport Cub	Propeller Adapter: Sport Cub	Adaptateur d'hélice : Sport Cub	Adattatore elica: Sport Cub
PKZ1814	18-Amp Brushless ESC	Parkzone 18A Regler	Contrôleur brushless 18A	Regolatore (ESC) brushless 18A
SPMAR636	Spektrum 6-Channel AS3X Sport Receiver	Spektrum 6 Kanal AS3X Sport Empfänger	Récepteur Spektrum 6 voies avec AS3X	Ricevitore sport AS3X Spektrum 6 canali
EFLB13003S20	1300mAh 3S 20C 11.1v LiPo	1300 mAh 3S 20C 11,1 V LiPo	Accu LiPo 1300 mAh 3S 20C 11,1 V	1300 mAh 3S 20C 11,1 V LiPo
PKZ1019	Propeller: 9 x 6	Propeller: 9 x 6	Hélice 9 x 6	Elica: 9 x 6
PKZ1080	SV80 Short Lead Servo	Parkzone SV80 Servo	Servo de Dérive SV80	SV80 Servo con cavo lungo corto
PKZ1081	SV80 Long Lead Servo	Parkzone SV80 Servo mit langem Kabel	Servo SV80 à câble long	Servo SV80 a cavo lungo
PKZ1090	DSV130 digital servo, metal gear	Parkzone DSV130 Digitalservo MG	Servo DSV130 digital, pignons métal	Servo digitale DSV130, ingranaggi metallo
HBZ1003	3S Li-Po DC Balance Charger	Hobbyzone 3S Lipo Balance Lader	Chargeur équilibreur Li-Po 3S	Caricatore DC con bilanciamento per LiPo 3S

Optional Parts • Optionale Bauteile • Pièces optionnelles • Pezzi opzionali

Part # Nummer Numéro Codice	Description	Beschreibung	Description	Descrizione
EFLA250	Park Flyer Tool Assortment, 5 pc	E-flite Park Flyer Werkzeugsortiment; 5 teilig	Assortiment d'outils park flyer, 5pc	Park Flyer assortimento attrezzi, 5 pc
EFLAEC302	EC3 Battery Connector (2)	E-flite EC3 Akkukabel, Buchse (2)	Prises EC3 coté batterie (2)	Connettore batteria
EFLAEC303	EC3 Device/Battery Connector	E-flite EC3 Kabelsatz, Stecker/Buchse	Prises EC3 coté contrôleur (2)	Connettore batteria/dispositivo
PKZ1033	1300mAh 11.1V Li-Po Battery with EC3 Connector	1300mAh 11.1V Li-Po Akku mit EC3 Anschluss	Batterie Li-Po 3S 11.1V 1300mA avec prise EC3	Batteria LiPo 1300mAh 11,1V con connettore EC3
PKZ1031	11.1V 1800mAh 3S LiPo Battery	11.1V 1800mAh 3S LiPo Akku	Batterie Li-Po 3S 11.1V 1800mA avec prise EC3	Batteria LiPo 1800mAh 11,1V
EFLB18003S30	1800mAh 3S 11.1V 30C LiPo,13AWG EC3	1800mAh 3S 11.1V 30C LiPo,13AWG EC3	Batterie Li-Po 3S 11.1V 1800mA 30C avec prise EC3	Batteria LiPo 1800mAh 11,1V 30C con connettore EC3 13AWG
EFLB13003S20	1300mAh 3S 11.1V 20C LiPo,13AWG EC3	1300mAh 3S 11.1V 20C LiPo,13AWG EC3	Batterie Li-Po 3S 11.1V 1300mA 20C avec prise EC3	Batteria LiPo 1300mAh 11,1V 20C con connettore EC3 13AWG
EFLB22003S30	2200mAh 3S 11.1V 30C LiPo,13AWG EC3	2200mAh 3S 11.1V 30C LiPo,13AWG EC3	Batterie Li-Po 3S 11.1V 2200mA 25C avec prise EC3	Batteria LiPo 2200mAh 11,1V 30C con connettore EC3 13AWG
PKZ1029	11.1V 3S 25C 2200MAH Li-Po	11.1V 3S 25C 2200mAh LiPo	11.1V 3S 25C 2200MAH Li-Po	11.1V 3S 25C 2200MAH Li-Po
EFLA111	Li-Po Cell Voltage Checker	E-flite Li-Po Cell Volt Checker	Contrôleur de tension Li-Po	Controllo tensione batteria LiPo
DYNC2010	Prophet Sport Plus 50W AC DC Charger	Dynamite Ladegerät Prophet Sport Plus 50W AC/DC EU	Chargeur Prophet Sport Plus 50W AC DC	Caricatore Prophet Sport Plus 50W AC D
HBZ7390	Float Set: Super Cub LP	Hobbyzone Schwimmersatz für Super Cub LP	Set de flotteurs : Super Cub LP	Set galleggianti: Super Cub LP
PKZ1090	DSV130 digital servo, metal gear	Parkzone DSV130 Digitalservo MG	Servo DSV130 digital, pignons métal	Servo digitale DSV130, ingranaggi metallo
PKZ5403	Servo Extension	Querruderservoverlängerung	Rallonge de servo	Prolunga per servo
HBZ1004	1.5A AC Power Supply (US Only)	1.5A AC Power Supply (US Only)	Alimentation secteur 1.5A (USA uniquement)	1.5A AC Alimentatore (solo USA)
HBZ1004EU	1.5A AC Power Supply (EU Only)	1.5A AC Power Supply (EU Only)	Alimentation secteur 1.5A (EU uniquement)	1.5A AC Alimentatore (solo EU)
HBZ1004UK	1.5A AC Power Supply (UK Only)	1.5A AC Power Supply (UK Only)	Alimentation secteur 1.5A (UK uniquement)	1.5A AC Alimentatore (solo UK)
DYN1405	Li-Po Charge Protection Bag, Large	Dynamite LiPoCharge Protection Bag groß	Sac de charge Li-Po, grand modèle	Busta protezione grande par LiPo
DYN1400	Li-Po Charge Protection Bag, Small	Dynamite LiPoCharge Protection Bag klein	Sac de charge Li-Po, petit modèle	Busta protezione piccola par LiPo
	DX4e DSMX 4-Channel Transmitter	Spektrum DX4e DSMX 4 Kanal Sender ohne Empfänger	Emetteur DX4e DSMX 4 voies	DX4e DSMX Trasmettitore 4 canali
	DX5e DSMX 5-Channel Transmitter	Spektrum DX5e DSMX 5 Kanal Sender ohne Empfänger	Emetteur DX5e DSMX 5 voies	DX5e DSMX Trasmettitore 5 canali
	DX6i DSMX 6-Channel Transmitter	Spektrum DX6i DSMX 6-Kanal Sender	Emetteur DX6i DSMX 6 voies	DX6i DSMX Trasmettitore 6 canali
	DX7s DSMX 7-Channel Transmitter	Spektrum DX7s DSMX 7 Kanal Sender	Emetteur DX7s DSMX 7 voies	DX7s DSMX Trasmettitore 7 canali
	DX8 DSMX 8-Channel Transmitter	Spektrum DX8 DSMX 8 Kanal Sender	Emetteur DX8 DSMX 8 voies	DX8 DSMX Trasmettitore 8 canali
	DX9 DSMX 9-Channel Transmitter	Spektrum DX9 DSMX 9 Kanal Sender	Emetteur DX9 DSMX 9 voies	DX9 DSMX Trasmettitore 9 canali
	DX18 DSMX 18-Channel Trans- mitter	Spektrum DX18 DSMX 18 Kanal Sender	Emetteur DX18 DSMX 18 voies	DX18 DSMX Trasmettitore 18 canali

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