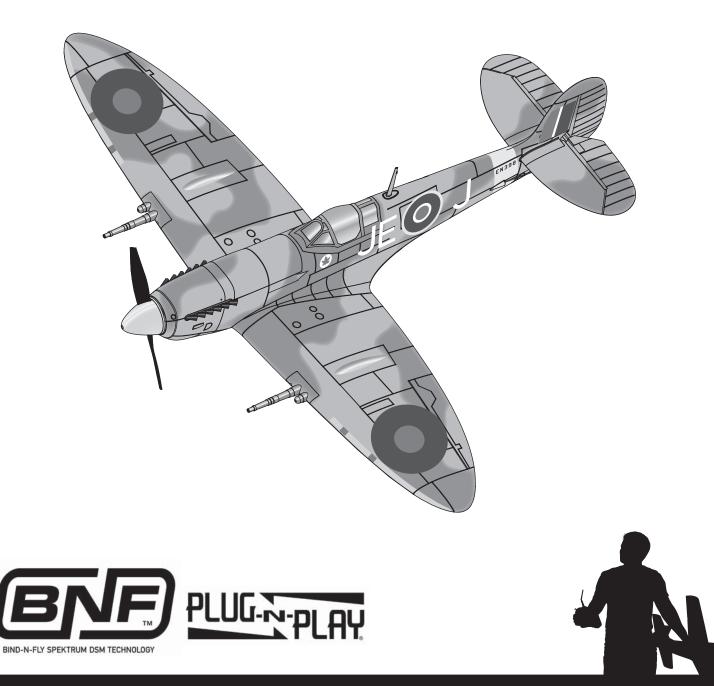


# **Spitfire Mk IX**

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, Inc. 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 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.

#### **Additional 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.

This model 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 model, as this margin will help avoid collisions or injury.

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

- 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.

### **Battery Warnings**

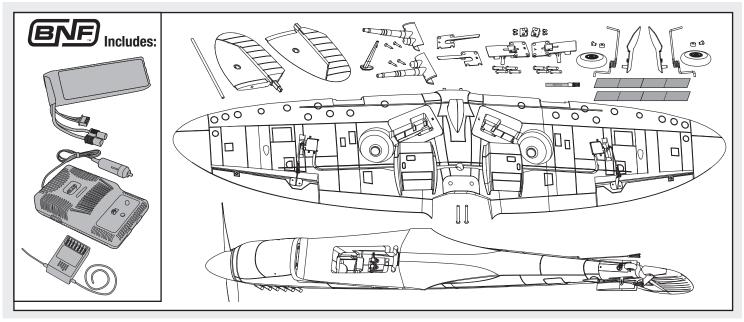
The Battery Charger included with your aircraft is designed to safely charge the Li-Po battery.

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. Do not store battery or model in a car or direct sunlight. If stored in a hot car, the battery can be damaged or even catch fire.
- NEVER USE A Ni-Cd OR Ni-MH CHARGER. 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 safe temperature range.
- Never charge damaged batteries.

Thank you for purchasing the ParkZone<sup>®</sup> Spitfire Mk IX. You are just minutes away from one of the most exciting RC warbird experiences available. The Supermarine Spitfire is an icon of British grit and determination. Its fluid lines are as much a work of art as the aerodynamics. ParkZone has brilliantly captured its power and grace with this remarkably scale, brushless Mk IX replica. The Mk IX was developed by Supermarine in 1942 to counter the threat posed by the Focke Wulf 190. It also has the distinction of being the first Allied warplane to shoot down an Me-262 jet.

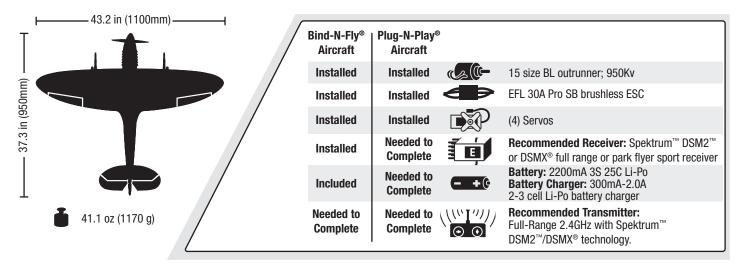
Before you take your first flight, however, you must thoroughly read this manual. Along with the assembly instructions, you'll find important setup tips, a pre-flight checklist and a handy troubleshooting guide. It's all here so your first flight, and everyone after, is as rewarding as it can be.



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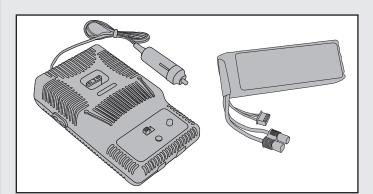
To register your product online, visit www.parkzone.com





## **Charging the Flight Battery**

Your Spitfire Mk IX comes with a DC balancing charger and 3S Li-Po battery. You should only charge your battery with the included charger. Never leave the battery and charger unattended during the charge process. Failure to follow the instructions properly could result in a fire. When charging, make certain the battery is on a heat-resistant surface. Charge the flight battery while assembling the aircraft. Install the fully charged battery to perform control tests and binding.



#### **DC Li-Po Balancing Charger Features**

- Charges 2- to 3-cell lithium polymer battery packs
- Variable charge rates from 300mAh to 2-amp •
- Simple single push-button operation
- LED charge status indicator
- LED cell balance indicator
- Audible beeper indicates power and charge status
- 12V accessory outlet input cord

#### **Specifications**

- Input power: 12V DC, 3-amp
- · Charges 2- to 3-cell Li-Po packs with minimum capacity of 300mAh

3S 11.1V 2200mAh 25C Li-Po Battery Pack (PKZ1029)

The ParkZone® 3S Li-Po battery pack features a balancing lead that allows you to safely charge your battery pack when used with the included ParkZone Li-Po balancing charger.

CAUTION: The balance connector must be inserted into the correct port of your charger prior to charging.

#### The Battery Charging Process

- 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 1. punctured.
- 2. Attach the input cord of the charger to the appropriate power supply (12V accessory outlet).
- 3. When the Li-Po charger has been correctly powered up, there will be an approximate 3-second delay, then an audible "beep" and the green (ready) LED will flash.
- 4. Turn the control on the Amps selector so the arrow points to the charging rate required for the Battery (the Spitfire Mk IX's included 2200mAh Li-Po battery will charge at 2.0 amps). DO NOT change the charge rate once the battery begins charging.

5. Move the cell selector switch to 3-cell for your battery.

- 6. Connect the Balancing Lead of the Battery to the 3-cell (it has 4 pins) charger port.
- 7. The green and red LEDs may flash during the charging process when the charger is balancing cells. Balancing prolongs the life of the battery.

8. When the battery is fully charged, there will be an audible beep for about 3 seconds and the green LED will shine continuously. Attempting to charge an over-discharged battery will cause the charger to repeatedly flash and beep, indicating an error has occurred.

- 9. 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.

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



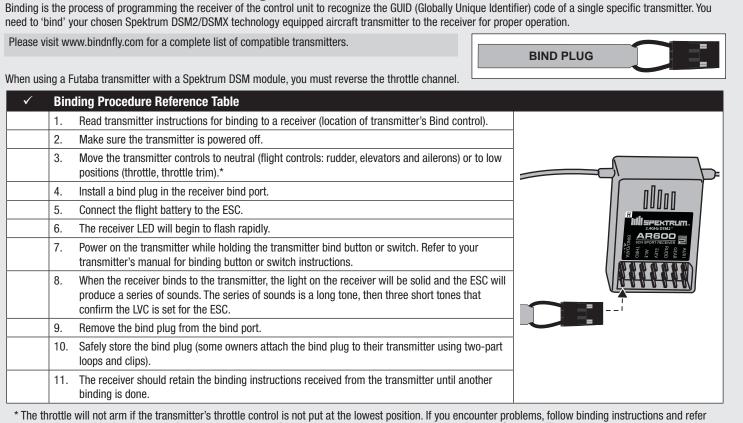
**CAUTION**: Never exceed the recommended charge rate.

## 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.

When the motor 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. Fully charge your Li-Po battery before storing it. During storage make sure battery charge does not go below 3V per cell.



to transmitter troubleshooting guide for other instructions. If needed, contact the appropriate Horizon Product Support office.

## **Installing Battery**

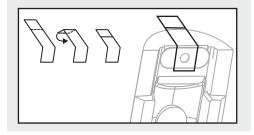
- 1. Carefully lift the back of battery hatch (A) and pull hatch pins from the holes in the fuselage to remove hatch.
- 2. Install flight battery (B) all the way to the front of the battery compartment.
- 3. Connect battery connector to the ESC power connector.

Transmitter and Receiver Binding

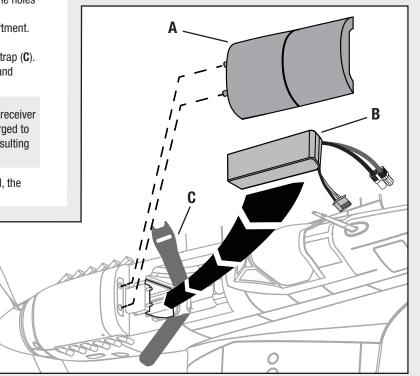
- 4. Make sure the flight battery (B) is held tight using a hook and loop strap (C).
- 5. Install battery hatch on fuselage. Make sure the magnets on hatch and fuselage touch.

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 be damaged, resulting in loss of performance and potential fire when batteries are charged.

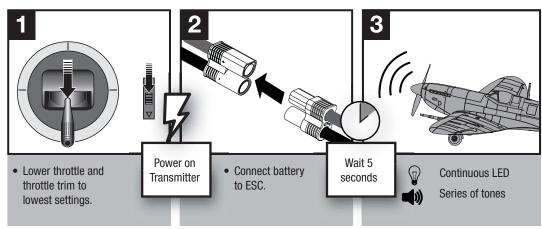
CAUTION: Always keep hands away from propeller. When armed, the motor will turn the propeller in response to any throttle movement.



Prevent damage to paint on the fuselage and hatch by installing a small amount of included clear tape. Use folded tape as a handle to lift the hatch from the fuselage.



## Before Flight



# PLUG-N-PLAY

## **Installing a Receiver**

- 1. Remove the wing to install a receiver.
- 2. Install your park flyer or full range receiver in the fuselage using hook and loop tape or double-sided servo tape.
- 3. Attach the elevator and rudder servo connectors to the appropriate channels of the receiver.

## **Battery Selection and Installation**

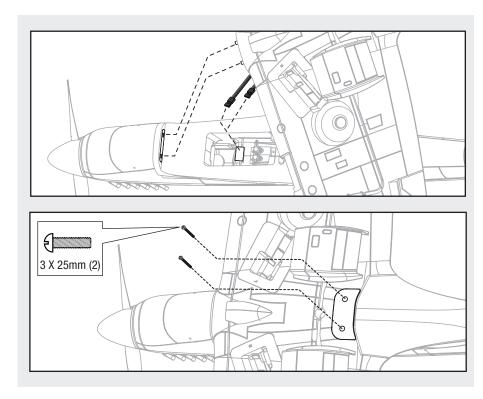
- 1. We recommend the ParkZone 2200mAh 11.1V 25C Li-Po battery (PKZ1029).
- 2. If using another battery, the battery must be at least a 25C 2100mAh battery.
- 4. Attach the aileron Y-harness to the aileron channel of the receiver.
- 5. Attach the ESC connector to the throttle channel of the receiver.
- 3. Your battery should be approximately the same capacity, dimensions and weight as the ParkZone Li-Po battery to fit in the fuselage without changing the center of gravity.

## **Installing Wing**

- 1. Where installed, remove battery hatch from fuselage.
- 2. Turn aircraft over so the bottom of the fuselage faces up.
- 3. Put the wing's guide pins in the fuselage plate holes.
- Where used, put aileron and retractable landing gear connectors in the hole in the fuselage. Make sure connectors do not fall out of the fuselage after wing is installed.
- 5. Align and attach wing to the fuselage using two screws.

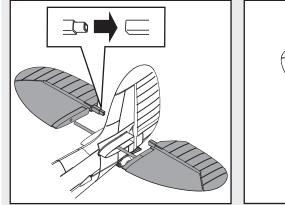
**CAUTION:** Do NOT crush or otherwise damage wiring when attaching wing to fuselage.

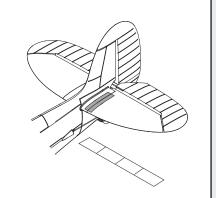
- 6. Turn assembled fuselage and wing so the bottom of the wing is down.
- Connect servo connectors to the receiver or Y-harnesses. There is no difference between two connections on a Y-harness. Left and right servo connectors do not have to be connected to a particular side of a Y-harness.
- 8. Where needed, disassemble in reverse order.



## **Installing Horizontal Tail**

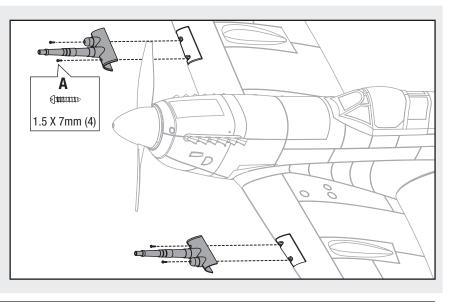
- 1. Install the tube in the hole in the fuselage.
- 2. Install the left horizontal tail on tube.
- 3. Install the left horizontal tail in fuselage mount.
- 4. Install the right horizontal tail on tube, in mount and on connector with left tail.
- 5. Apply four pieces of tape on the fuselage mounts and top and bottom of the horizontal tail.
- 6. Attach clevis to the elevator control horn (see instructions for clevis connection).
- 7. When needed, disassemble in reverse order.

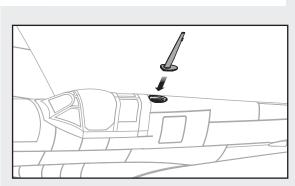




## **Installing Cannons and Antenna**

- 1. Install cannons on the front of the wings using two screws (A) for each cannon.
- 2. Install antenna in slot on top of the fuselage behind the canopy.





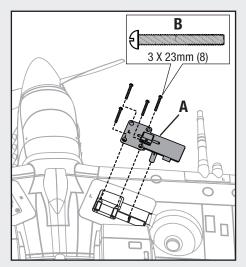
## **Installing Landing Gear**

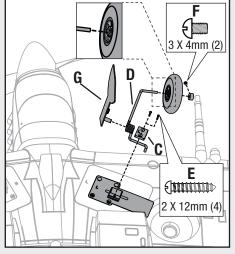
#### Intallation

- 1. Install the left landing gear plate (**A**) (marked with an L) in wing using four screws (**B**).
- 2. Install the left landing gear strut in plate (as shown).
- 3. Install the left cover (C) (marked L) on strut (D) using two screws (E).
- 4. Install wheel on the strut using collar. Make sure the bushing side of the wheel is toward the bend in the strut.
- 5. Tighten setscrew (F) in collar. Use a small amount of threadlock to hold setscrew in collar.
- 6. Install the left wheel pant (**G**) (marked L) on the strut.
- 7. Install right landing gear the same as left landing gear.

#### Removal

When needed, disassemble in reverse order.



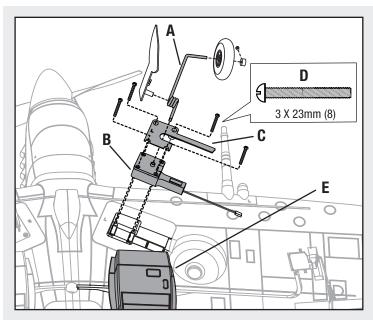


## Installing Optional Retractable Landing Gear

- 1. Remove wing from the model and disconnect aileron servos from Y-harness.
- 2. Remove fixed landing gear and included parts from the wing.
- Install required struts (A) (PKZ5717, sold separately) on retract gear (B) (EFLG100, sold separately) according to the instructions included with electric retracts.

Pre-bent retract struts with three spring coils are required so the wheels can go in the wheel wells without being blocked.

- 4. Plug retracts into gear y-harness connectors in the landing gear mount.
- 5. Install retracts in wing using left and right retract cover plates (C) (marked L and R) and eight screws (D).
- 6. Pull extra gear y-harness slack through the hole in the middle of the wing on the top.
- 7. Place each gear y-harness connector in the slot on the inside edge of each radiator scoop (E).
- 8. In the fuselage, connect the aileron servos to aileron Y-harness and connect gear Y-harness to GEAR port on receiver.
- 9. Install wheels, collars and wheel pants on the retract struts as inlanding gear installation instructions.
- 10. Install wing on model.

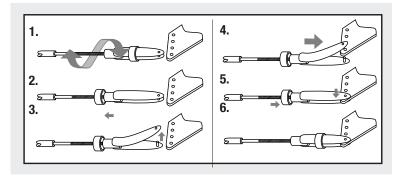


## **Installing Clevises on Control Horns and Control Centering**

Tip: Turn the clevis clockwise or counterclockwise on the linkage.

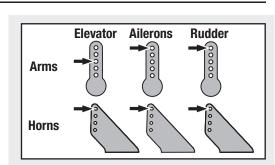
- Pull the tube from the clevis to the linkage.
- Carefully spread the clevis and put the clevis pin in a selected hole in the control horn.
- Move the tube to hold the clevis on the control horn.

After binding a transmitter to the model receiver, set trims and sub-trims to 0, then adjust clevises to center the control surfaces.



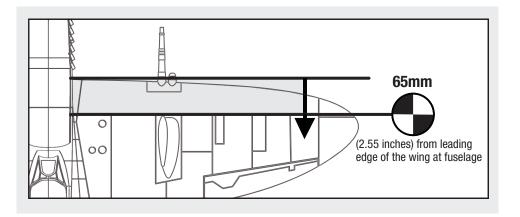
## **Factory Settings**

Fly the model at factory settings before making changes. For pilots who wish for more control throw, adjust position of linkages on servo arms and control horns for increased travel.



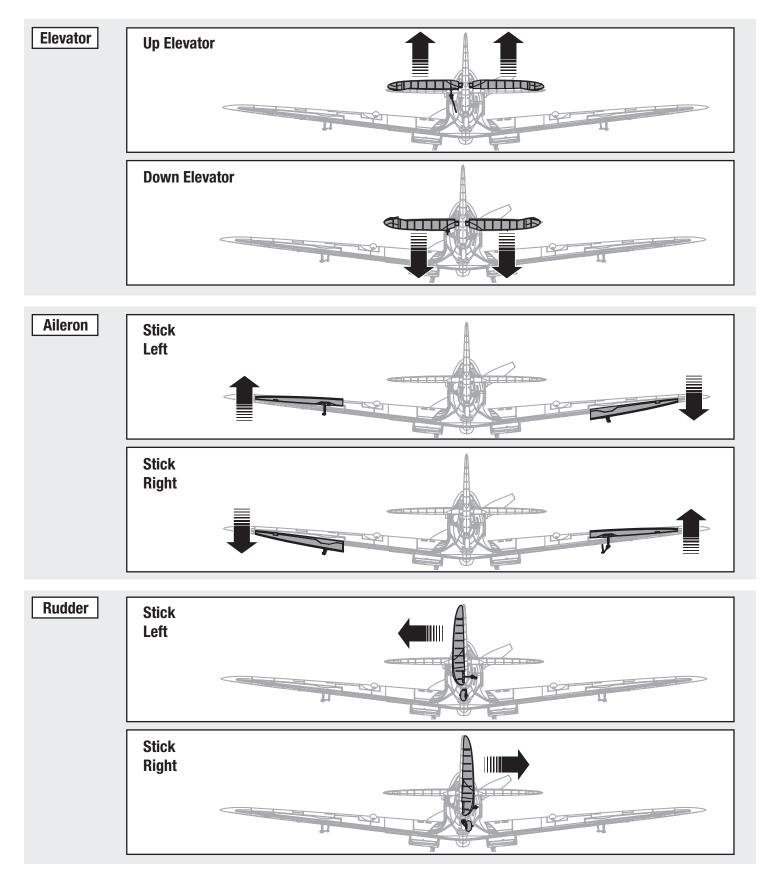
## **Center of Gravity (CG)**

Place battery all the way forward in the fuselage and hold the battery in place using a hook and loop strap. It is easiest to balance the Spitfire Mk IX with the aircraft inverted.



## **Control Direction Test**

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



## **Dual Rates**

We recommend using a DSM2/DSMX aircraft transmitter capable of dual rates. Adjust according to individual preferences after initial flight.

	High Rate	Low Rate
Aileron	15mm up/down	11mm up/down
Elevator	14mm up/down	10mm up/down
Rudder	25mm left/right	18mm left/right

## **Service of Power Components**

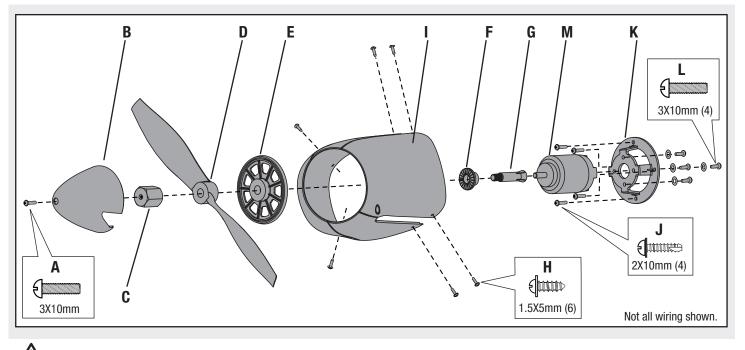
#### Disassembly

- 1. Remove screw (A) and nose cone (B) from spinner nut (C).
- 2. Use a tool to remove the spinner nut.
- 3. Remove propeller (D), nose cone plate (E), backplate (F) and collet (G) from motor shaft.
- 4. Remove six screws (H) from cowling (I).
- Carefully remove cowling from fuselage. Paint may keep cowling attached 5. to the fuselage.
- Remove four screws (J) from the motor mount (K) and fuselage. 6.
- 7. Disconnect motor wires from ESC wires.
- Remove four screws (L) and motor (M) from motor mount. 8. Keep rubber washers attached to the motor mount when removing screws and motor from motor mount.

#### Assembly

Assemble in reverse order.

NOTICE: Make sure the propeller side with the numbers for diameter and pitch (for example, 9.5 x 7.5) faces out from the backplate. A tool is required to tighten the spinner nut on the collet.



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

## **Flying Tips and Repairs**

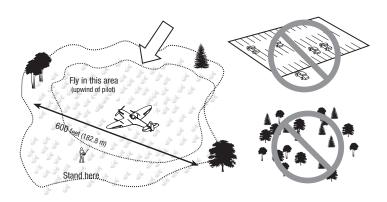
#### **Range Check your Radio System**

After final assembly, range check the radio system with the Spitfire Mk IX. Refer to your specific transmitter instruction manual for range test information.

#### Flying

Always choose a wide-open space for flying your ParkZone Spitfire Mk IX. It is ideal that you fly at a sanctioned flying field. If you are not flying at an approved site, 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.

The Spitfire Mk IX is meant to be flown like a warbird. Care must be given when providing elevator input, especially when flying at higher speeds. If excessive elevator is given, especially at higher speeds, you could cause the wing to flex when making tight turns.



#### Landing

For your first flights, set your transmitter timer or a stopwatch to 7 minutes. Adjust your timer for longer or shorter flights once you have flown the model. When the motor pulses, land the aircraft immediately and recharge the flight battery. It is not recommended to fly the battery to LVC.

The Spitfire Mk IX is easiest to land doing a wheel landing (two point). A wheel landing (two point) is when the airplane touches down on the main landing gear first with the tailwheel off the ground. The Spitfire Mk IX can be landed in three-point attitude, where all three wheels touch down at the same time, but the wheel landing is easier to accomplish. Once the airplane touches down, reduce back pressure on the elevator stick to prevent the plane from becoming airborne again. Fly the airplane down to the ground using 1/4 - 1/3 throttle to allow for enough energy for a proper flare.



Avoid sharp turns on the ground until the plane has slowed enough to prevent scraping the wingtips.

**NOTICE:** When finished flying, never keep the airplane in the sun. Do not store the aircraft in a hot, enclosed area such as a car. Doing so can damage the foam.

#### Repairs

Thanks to the Z-Foam<sup>™</sup> construction of the Spitfire Mk IX, repairs to the foam can be made using virtually any adhesive (hot glue, regular CA (cyanocrylate adhesive), epoxy, etc). When parts are not repairable, see the Replacement Parts List for ordering by item number.

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

## **First Flight Preparation**

- 1. Remove and inspect contents.
- 2. Charge flight battery.
- 3. Read this instruction manual thoroughly.
- 4. Fully assemble model.
- 5. Install the flight battery in the aircraft (once it has been fully charged).
- 6. Bind aircraft to your transmitter.

## Perform the Control Direction Test with the transmitter. Adjust flight controls and transmitter.

7. Make sure linkages move freely.

- 10. Perform a radio system Range Check.
- 11. Find a safe and open area.
- 12. Plan flight for flying field conditions.

- **Maintenance After Flying**
- 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. Repair or replace all damaged parts.
- 6. Store flight battery apart from aircraft and monitor the battery charge.
- 7. Make note of flight conditions and flight plan results, planning for future flights.

## AMA National Model Aircraft Safety Code

#### Effective January 1, 2011

#### A. GENERAL

A model aircraft is a non-human-carrying aircraft capable of sustained flight in the atmosphere. It may not exceed limitations of this code and is intended exclusively for sport, recreation and/or competition. All model flights must be conducted in accordance with this safety code and any additional rules specific to the flying site.

- 1. Model aircraft will not be flown:
  - (a) In a careless or reckless manner.
  - (b) At a location where model aircraft activities are prohibited.
- 2. Model aircraft pilots will:
  - (a) Yield the right of way to all man carrying aircraft.
  - (b) See and avoid all aircraft and a spotter must be used when appropriate. (AMA Document #540-D-See and Avoid Guidance.)
  - (c) Not fly higher than approximately 400 feet above ground level within three (3) miles of an airport, without notifying the airport operator.
  - (d) Not interfere with operations and traffic patterns at any airport, heliport or seaplane base except where there is a mixed use agreement.
  - (e) Not exceed a takeoff weight, including fuel, of 55 pounds unless in compliance with the AMA Large Model Aircraft program. (AMA Document 520-A)
  - (f) Ensure the aircraft is identified with the name and address or AMA number of the owner on the inside or affixed to the outside of the model aircraft. (This does not apply to model aircraft flown indoors).
  - (g) Not operate aircraft with metal-blade propellers or with gaseous boosts except for helicopters operated under the provisions of AMA Document #555.
  - (h) Not operate model aircraft while under the influence of alcohol or while using any drug which could adversely affect the pilot's ability to safely control the model.
  - (i) Not operate model aircraft carrying pyrotechnic devices which explode or burn, or any device which propels a projectile or drops any object that creates a hazard to persons or property. Exceptions:
    - Free Flight fuses or devices that burn producing smoke and are securely attached to the model aircraft during flight.
    - Rocket motors (using solid propellant) up to a G-series size may be used provided they remain attached to the model during flight. Model rockets may be flown in accordance with the National Model Rocketry Safety Code but may not be launched from model aircraft.
    - Officially designated AMA Air Show Teams (AST) are authorized to use devices and practices as defined within the Team AMA Program Document (AMA Document #718).
  - (j) Not operate a turbine-powered aircraft, unless in compliance with the AMA turbine regulations. (AMA Document #510-A).
- 3. Model aircraft will not be flown in AMA sanctioned events, air shows or model demonstrations unless:
  - (a) The aircraft, control system and pilot skills have successfully demonstrated all maneuvers intended or anticipated prior to the specific event.

(b) An inexperienced pilot is assisted by an experienced pilot.

4. When and where required by rule, helmets must be properly worn and fastened. They must be OSHA, DOT, ANSI, SNELL or NOCSAE approved or comply with comparable standards.

#### **B. RADIO CONTROL**

- All pilots shall avoid flying directly over unprotected people, vessels, vehicles or structures and shall avoid endangerment of life and property of others.
- A successful radio equipment ground-range check in accordance with manufacturer's recommendations will be completed before the first flight of a new or repaired model aircraft.
- 3. At all flying sites a safety line(s) must be established in front of which all flying takes place (AMA Document #706-Recommended Field Layout):
  - (a) Only personnel associated with flying the model aircraft are allowed at or in front of the safety line.
  - (b) At air shows or demonstrations, a straight safety line must be established.

(c) An area away from the safety line must be maintained for spectators.(d) Intentional flying behind the safety line is prohibited.

- RC model aircraft must use the radio-control frequencies currently allowed by the Federal Communications Commission (FCC). Only individuals properly licensed by the FCC are authorized to operate equipment on Amateur Band frequencies.
- RC model aircraft will not operate within three (3) miles of any pre-existing flying site without a frequency-management agreement (AMA Documents #922-Testing for RF Interference; #923- Frequency Management Agreement)
- 6. With the exception of events flown under official AMA Competition Regulations, excluding takeoff and landing, no powered model may be flown outdoors closer than 25 feet to any individual, except for the pilot and the pilot's helper(s) located at the flight line.
- Under no circumstances may a pilot or other person touch a model aircraft in flight while it is still under power, except to divert it from striking an individual. This does not apply to model aircraft flown indoors.
- 8. RC night flying requires a lighting system providing the pilot with a clear view of the model's attitude and orientation at all times.
- 9. The pilot of a RC model aircraft shall:
  - (a) Maintain control during the entire flight, maintaining visual contact without enhancement other than by corrective lenses prescribed for the pilot.
  - (b) Fly using the assistance of a camera or First-Person View (FPV) only in accordance with the procedures outlined in AMA Document #550.

Please see your local or regional modeling association's guidelines for proper, safe operation of your model aircraft.

## Troubleshooting Guide

Problem	Possible Cause	Solution	
Aircraft will not respond to throttle but responds to	Throttle is not at idle and/or throttle trim is too high	Reset controls with throttle stick and throttle trim at lowest setting	
other controls	Throttle servo travel is lower than 100%	Make sure throttle servo travel is 100% or greater	
	Throttle channel is reversed	Reverse throttle channel on transmitter	
Extra propeller noise or	Damaged propeller and spinner, collet or motor	Replace damaged parts	
extra vibration	Propeller is out of balance	Balance or replace propeller	
Reduced flight time or air-	Flight battery charge is low	Completely recharge flight battery	
craft underpowered	Propeller is installed backwards	Install propeller with numbers facing forward	
	Flight battery is damaged	Replace flight battery and follow flight battery instructions	
	Flight conditions may be too cold	Make sure battery is warm before use	
Aircraft will not Bind (dur- ing binding) to transmitter	Transmitter is too near aircraft during binding 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	Move aircraft or transmitter away from large metal object	
	Bind plug is not installed correctly in bind port	Install bind plug in bind port and bind aircraft to transmitter	
	Flight battery/Transmitter battery charge is too low	Replace/recharge batteries	
Aircraft will not link (after binding) to transmitter	Transmitter is too near aircraft during linking process	Move powered transmitter a few feet from aircraft, disconnect and reconnect flight battery to aircraft	
	Aircraft or transmitter is too close to large metal object	Move aircraft or transmitter away from large metal object	
	Bind plug is left installed in bind port	Rebind transmitter to aircraft and remove bind plug before cycling power	
	Aircraft bound to different model memory (ModelMatch <sup>™</sup> 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 not	Control surface, control horn, linkage or servo damage	Replace or repair damaged parts and adjust controls	
move	Wire is damaged or connections are loose	Do a check of wires and connections, connect or replace as needed	
	Transmitter is not bound correctly or the incorrect model was selected	Re-bind or select correct model in transmitter	
	BEC (Battery Elimination Circuit) of the ESC is damaged	Replace ESC	
Controls reversed	Transmitter settings are reversed	Do the Control Direction Test and adjust controls on transmitter appropriately	
Motor power pulses then motor loses power	ESC uses default soft Low Voltage Cutoff (LVC)	Recharge flight battery or replace battery that is no longer performing	
	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 25C battery	

## **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, or (v) Products not purchased from an authorized Horizon dealer.

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 WAR-RANTIES 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 REQUIRE-MENTS 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 COMMER-CIAL 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 POSSIBIL-ITY 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.

#### <u>Law</u>

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 direct your email to productsupport@horizonhobby.com, or call 877.504.0233 toll free to speak to a Product Support representative. You may also find information on our website at www.horizonhobby.com

#### **Inspection or Services**

If this Product needs to be inspected or serviced, 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 www.horizonhobby.com under the Support tab. 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 cashiers 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 www.horizonhobby.com/Service/Request/.

## **Contact Information**

Country of Purchase	Horizon Hobby	Address	Phone Number/Email Address	
United States of	Horizon Service Center (Electronics and engines)	4105 Fieldstone Rd Champaign, Illinois 61822 USA	877-504-0233 Online Repair Request: visit www.horizonhobby.com/service	
America	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	Hamburger Str. 10 25335 Elmshorn Germany	+49 4121 46199 66 service@horizonhobby.de	
France	Horizon Hobby SAS	14 Rue Gustave Eiffel Zone d'Activité du Réveil Matin 91230 Montgeron	+33 (0) 1 60 47 44 70 infofrance@horizonhobby.com	

## **Compliance Information for the European Union**

#### **Declaration of Conformity**

(in accordance with ISO/IEC 17050-1)

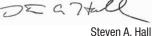
No. HH2011071503

Product(s): Item Number(s): Equipment class: Spitfire Mk IX BNF PKZ5780 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: 2006, EN55024: 1998+A1: 2001+A2: 2003



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

Signed for and on behalf of: Horizon Hobby, Inc. Champaign, IL USA July 15, 2011 Signed for and on behalf of: Horizon Hobby, Inc.

Champaign, IL USA

July 15, 2011

DE G7

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 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.

#### **Declaration of Conformity**

(in accordance with ISO/IEC 17050-1)

No. HH2011071502

Product(s): Item Number(s): Equipment class: Spitfire Mk IX PNP PKZ5775 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:

EN 301 489-1 V1.7.1: 2006 EN 301 489-3 V1.4.1: 2008

## Parts Contact Information • Kontaktinformationen für Ersatzteile • Coordonnés pour obtenir de piéces détachées • Recapiti per i ricambi

Country of Purchase	Horizon Hobby	Address	Phone Number/Email Address
United States of America	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 Technischer Service	Hamburger Str. 10 25335 Elmshorn Germany	+49 4121 46199 60 service@horizonhobby.de
France	Horizon Hobby SAS	14 Rue Gustave Eiffel Zone d'Activité du Réveil Matin 91230 Montgeron	+33 (0) 1 60 47 44 70 infofrance@horizonhobby.com

## Replacement Parts • Ersatzteile • Piéces de rechange • Pezzi di ricambio

Part #   Nummer Numéro   Codice	Description	Beschreibung	Description	Descrizione
PKZ1012	Propeller "9.5 X 7.5"	Luftschraube 9.5x7.5	Hélice 9.5X7.5	Elica "9.5 X 7.5"
PKZ1081	SV80 Long Lead 3-Wire Servo:	SV80 Servo mit langem Kabel	Servo SV80, 3 câbles	SV80 servo con cavo lungo a 3 fili:
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
PKZ1040	2-3 DC Li-Po Balancing Charger	ParkZone 12V 2-3S LiPo Balancer Lader	Chargeur équilibreur 2-3S Li-Po	2-3 DC Li-Po Caricabatterie con bilanciatore
PKZ1090	DSV130 digital, metal gear	DSV130 Digitalservo MG	DSV130 digital, pignons métal	DSV130 digitale, ingranaggi in metallo
PKZ5116	15 BL Outrunner Motor; 950KV	15BL Außenläufer 950Kv: Extra 300	Moteur brushless à cage tournante 15, 950kV	15 BL motore cassa rotante; 950KV
EFLA1030	30-Amp Pro SB Brushless ESC	30A Pro SB Regler	Contrôleur 30A Pro SB	30-Amp Pro SB Brushless ESC
PKZ5701	Spinner: Spitfire Mk IX	ParkZone Spinner Spitfire MkIX	Spitfire MkIX -Cône	Ogiva : Spitfire Mk IX
PKZ5702	Decal Sheet: Spitfire Mk IX	ParkZone Dekorbögen: Spitfire MkIX	Spitfire MkIX -Planche de décoration	Foglio adesivi: Spitfire Mk IX
PKZ5703	Main LG Set: Spitfire MkIX	ParkZone Hauptfahrwerk: Spitfire MkIX	Spitfire MkIX -Jambes de train principales	Set carrello princ: Spitfire MkIX
PKZ5705	Main Wheel Set: Spitfire Mk IX	ParkZone Räder Spitfire MkIX	Spitfire MkIX -Set de roues principales	Set ruote princ: Spitfire Mk IX
PKZ5706	LG Fairing Set: Spitfire Mk IX	ParkZone Fahrwerksverkleidungen Spitfire MkIX	Spitfire MkIX -Set de carénages	Set carenature carrello: Spitfire Mk IX
PKZ5707	Tail Gear Set: Spitfire Mk IX	ParkZone Spornrad Spitfire MkIX	Tail Gear Set: Spitfire Mk IX	Set ruota di coda: Spitfire Mk IX
PKZ5708	Canopy w/Pilot: Spitfire Mk IX	ParkZone Kabinenhaube mit Pilot: Spitfire MkIX	Spitfire MkIX -Verrière avec pilote	Capottina c/pilota: Spitfire Mk IX
PKZ5709	Pilot: Spitfire Mk IX	ParkZone Pilot Spitfire MklX	Spitfire MkIX -Pilote	Pilota: Spitfire Mk IX
PKZ5710	Exhaust Stacks: Spitfire Mk IX	ParkZone Auspuffrohre: Spitfire MkIX	Spitfire MkIX -Sorties d'échappement	Scarichi: Spitfire Mk IX
PKZ5711	Pushrod Set: Spitfire Mk IX	ParkZone Anlenkungen: Spitfire MkIX	Spitfire MkIX -Set de tringleries	Set barrette comando: Spitfire Mk IX
PKZ5712	Hor Stab w/Access: Spitfire Mk IX	ParkZone Höhenleitwerk: Spitfire MklX	Spitfire MkIX -Stabilisateur avec ac- cessoires	Stab orizzontale c/accessori: Spitfire Mk IX
PKZ5713	Painted Cowl: Spitfire Mkl X	ParkZone Cowling lackiert: Spitfire MkIX	Spitfire MkIX -Capot peint	Capotte verniciata: Spitfire MkI X
PKZ5714	Prop Adapter: Spitfire Mk IX	ParkZone Propeller Adapter: Spitfire MkIX	Spitfire MkIX -Adaptateur d'hélice	Adattatore elica: Spitfire Mk IX
PKZ5715	Antenna: Spitfire Mk IX	ParkZone Antenne : Spitfire MkIX	Spitfire MkIX -Antenne	Antenna: Spitfire Mk IX
PKZ5717	Prebent LG Struts: Spitfire Mk IX	ParkZone geb. Fahrwerksbeine: Spitfire MkIX	Spitfire MkIX -jambes de train	Gambe carrello piegate: Spitfire Mk IX
PKZ5718	Battery Hatch: Spitfire Mk IX	ParkZone Akkuklappe: Spitfire MklX	Spitfire MkIX -Trappe d'accu	Sportello batterie: Spitfire Mk IX
PKZ5719	Wing Cannons: Spitfire Mk IX	ParkZone Flächen- MG: Spitfire MkIX	Spitfire MkIX -Canons d'aile	Cannoni alari: Spitfire Mk IX
PKZ5720	Painted Wing: Spitfire Mk IX	ParkZone Tragflächen lackiert: Spitfire MkIX	Spitfire MkIX -Aile peinte	Ala verniciata: Spitfire Mk IX
PKZ5727	Scoop Set: Spitfire Mk IX	ParkZone Hutzen Set: Spitfire MkIX	Spitfire MkIX -Set de prises d'air	Set accessori: Spitfire Mk IX
PKZ5728	Motor Mount: Spitfire Mk IX	ParkZone Motorhalter: Spitfire MkIX	Spitfire MkIX -Support moteur	Supporto motore: Spitfire Mk IX
PKZ5735	Servo Wire Tape: Spitfire Mk IX	ParkZone Klebeband Servoabdeckung: Spitfire MkIX	Spitfire MkIX -Adhésif de masquage des fils de servo	Nastro per fili servi: Spitfire Mk IX
PKZ5767	Bare Fuse: Spitfire Mk IX	ParkZone Rumpf ohne Einbauten: Spitfire MkIX	Spitfire MkIX -Fuselage	Solo fusoliera: Spitfire Mk IX
PKZ5770	Replacement Airframe: Spit Mk IX	ParkZone Ersatzrumpf: Spitfire MkIX	Spitfire MkIX -Fuselage/aile/empen- nage	Ricambio cellula: Spit Mk IX

## Optional Parts • Optionale Bauteile • Piéces optionnelles • Pezzi opzionali

Part #   Nummer Numéro   Codice	Description	Beschreibung	Description	Descrizione
EFLG100	10 - 15 Main Electric Retracts	E-flite 10 bis 15 elektr. Hauptfahrwerk	Train rentrant 10-15	10 - 15 Carrello retrattile principale
PKZ5101	Propeller 10.5 X 9: EXTRA 300	Propeller 10.5 x 9: Extra 300	Hélice 10.5X9	Elica 10.5 X 9: EXTRA 300
EFLA250	Park Flyer Tool Assortment, 5 pc	Park Flyer Werkzeugsortiment, 5 teilig	Assortiment d'outils park flyer, 5pc	Park Flyer assortimento attrezzi, 5 pc
EFLAEC302	EC3 Battery Connector, Female (2)	EC3 Akkukabel, Buchse (2)	Prise EC3 femelle (2pc)	EC3 Connettore femmina x batteria
EFLAEC303	EC3 Device/Battery Connector, Male/Female	EC3 Kabelsatz, Stecker/Buchse	Prise EC3 male/femelle	EC3 Connettore batteria maschio/ femmina
EFLC505	1- To 5-cell Li-Po battery charger with balancer	E-flite 1-5 Zellen Lipo Lader mit Balancer	Chargeur équilibreur Li-po 1-5S	Da 1 a 5-celle Li-Po caricabatterie c/ bilanciatore
EFLC3025	80W AC/DC multi-chemistry bat- tery charger	80W AC/DC Multi-Batterie Ladegerät - EU	Chargeur multiple AC/DC 80W	80W AC/DC Caricabatterie universale
SPMAR600	AR600 6-Channel Sport DSM2/ DSMX Receiver	Spektrum AR600 DSMX 6 Kanal Sport Empfänger	Récepteur AR600 6 voies DSM2/DSMX	AR600 6-canali Sport DSM2/DSMX ricevitore
SPMR5510	DX5e DSMX 5-Channel Transmitter Only Mode 2	Spektrum DX5E DSMX 5 Kanalsender ohne Empfänger MD 2	DX5e émetteur seul, mode 2	DX5e DSMX 5-canali solo trasmet- titore Mode 2
SPMR55101	DX5e DSMX 5-Channel Transmitter Only Mode 1	Spektrum DX5E DSMX 5 Kanalsender ohne Empfänger MD 1	DX5e émetteur seul, mode 1	DX5e DSMX 5-Ccanali solo trasmet- titore Mode 1
SPMR6610	DX6i DSMX Transmitter Only Mode 2	Spektrum DX6i DSM X Sender ohne Empfänger MD2	DX6i émetteur seul, mode 2	DX6i DSMX solo trasmettitore Mode 2
SPMR66101	DX6i DSMX Transmitter Only Mode 1	Spektrum DX6i DSM X Sender ohne Empfänger MD1	DX6i émetteur seul, mode 1	DX6i DSMX solo trasmettitore Mode 1
SPMR6610E	DX6i DSMX Transmitter Only Mode 2 Int'l	Spektrum DX6i DSM X Sender ohne Empfänger MD2	DX6i émetteur seul, mode 2 Int'l	DX6i DSMX solo trasmettitore Mode 2 Int'l
SPMR66101E	DX6i DSMX Transmitter Only Mode 1 Int'l	Spektrum DX6i DSM X Sender ohne Empfänger MD1	DX6i émetteur seul, mode 1 Int'l	DX6i DSMX solo trasmettitore Mode
*SPMR8800	DX8 DSMX Transmitter Only Mode	DX8 DSMX Transmitter Only Mode 2	DX8 émetteur seul, mode 2	DX8 DSMX solo trasmettitore Mode 2
*SPMR8800EU	DX8 DSMX Transmitter Only Mode 2 Int'l	Spektrum DX8 nur Sender Mode 1-4	DX8 émetteur seul, mode 2 Int'l	DX8 DSMX solo trasmettitore Mode 2 Int'l
*SPMR88001EU	DX8 DSMX Transmitter Only Mode 1 Int'l	DX8 Transmitter Only MD1	DX8 émetteur seul, mode 1 Int'l	DX8 DSMX solo trasmettitore Mode 1 Int'l
*SPMR88001AU	DX8 DSMX Transmitter Only Mode 1 AU	DX8 DSMX Transmitter Only Mode 1 AU	DX8 émetteur seul, mode 1 AU	DX8 DSMX solo trasmettitore Mode 1 AU

\* All Spektrum DX8 transmitters can be set up for modes 1-4

\* Alle Spektrum DX8 Sender können für Mode 1 - 4 eingestellt werden

\* Tous les émetteurs Spektrum DX8 peuvent êtres paramétrés dans les 4 modes

\* Tutti i trasmettitori Spektrum DX8 possono essere configurati per i modelli 1 - 4

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PKZ5780, PKZ5775

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