

Instruction Manual Bedienungsanleitung Manuel d'utilisation Manuale di Istruzioni Scan the QR code and select the Manuals and Support quick links from the product page for the most up-to-date manual information.

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EFL05475



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 horizonhobby.com or towerhobbies.com and click on the support or resources 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:

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.

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

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

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WARNING: Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury.

This is a sophisticated hobby product. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this Product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision. Do not use with incompatible components or alter this product in any way outside of the instructions provided by Horizon Hobby, LLC. This manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or serious injury.

AGE RECOMMENDATION: Not for children under 14 years. This is not a toy.

Safety Precautions and Warnings

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.

WARNING AGAINST COUNTERFEIT PRODUCTS: If you ever need to replace your Spektrum receiver 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 technology.

Registration

Register your product today to join our mailing list and keep up to date with product updates, offers and E-flite® news.



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Specifications		
Wingspan	51.6 in. (1310mm)	
Length	41.0 in. (1040mm)	
Weight	Without Battery: 49.6 oz. (1405g) With Recommended 4S 2200mAh Flight Battery: 57.5 oz. (1640g)	

Included E	ncluded Equipment	
Receiver*	Spektrum [™] AR631 6CH SAFE® and AS3X® Telemetry Receiver (SPMAR631)	
ESC	Avian 70-Amp Smart® Lite Brushless ESC, 3S–6S (SPMXAE70E)	
Motor	3536–1000Kv Brushless 14-pole Motor (SPMXAM3800)	
Propeller	10 x 7E (EFL-1201)	
Servos	(6) A330 9g Sub-Micro Servo, Reversed (SPMSA330R)	

*These components are not included with the Plug and Play (PNP) version of this product.

Recommended Equipment		
Transmitter	NX8 8 Ch DSMX Transmitter Only (SPMR8200)	
Flight Battery	14.8V 2200mAh 4S 30C Smart LiPo Battery: IC3 (SPMX22004S30)	
Battery Charger	S100 1x100W USB-C Smart Charger (SPMXC2090)	

Optional Accessories	
SPMR10100	NX10 10-Channel DSMX Transmitter
SPMX224S30	14.8V 2200mAh 4S 30C Smart G2 LiPo Battery: IC3
SPMX32004S30	14.8V 3200mAh 4S 30C Smart LiPo Battery: IC3

Required Tools





• 10mm or Adjustable Wrench

Low Voltage Cutoff (LVC)

When a Li-Po battery is discharged below 3V per cell, it will not hold a charge. The aircraft's ESC protects the flight battery from over-discharge using Low Voltage Cutoff (LVC). Once the battery discharges to 3V per cell, the LVC will reduce the power to the motor in order to leave adequate power to the receiver and servos to land the airplane.

When the motor power decreases, land the aircraft immediately and replace or recharge the flight battery.

Always disconnect and remove the Li-Po battery from the aircraft after each flight. Charge your Li-Po battery to about half capacity before storage. Make sure the battery charge does not fall below 3V per cell. Failure to unplug a connected battery will result in trickle discharge.

NOTICE: Repeated flying to LVC will damage the battery.

Transmitter Setup (BNF Basic)

IMPORTANT: After you set up your model, always rebind the transmitter and receiver to set the desired failsafe positions.

IMPORTANT: Flap to elevator mix values, control throws, dual rates, exponential, CG range are recommended as STARTING POINTS and should be adjusted for personal preference as/if needed after making initial flights.

If your transmitter allows it, enable the throttle cut feature. Always engage throttle cut before approaching the aircraft.

Dual Rates

Low rate is recommended for the initial flights.

NOTICE: To ensure AS3X® technology functions properly, do not lower rate values below 50%. If lower rates are desired, manually adjust the position of the pushrods on the servo arm.

NOTICE: If oscillation occurs at high speed, refer to the Troubleshooting Guide for more information.

Exponential

After first flights, you may adjust exponential in your transmitter.

Transmitter Telemetry Setup

If the transmitter that you intend to use with this aircraft is not displaying telemetry data, visit Spektrumrc.com and update your firmware. With the latest firmware installed on your transmitter the telemetry option should now be functional on your transmitter.

Telemetry Alarms	
Rx V : Min Rx V	4.2V
Smart ESC : Low Voltage Alarm	3.4V
Smart Battery : Startup Volt Minimum	4.0V
Motor Pole Count	14

Scan this QR code for a step-by-step video of programming compatible Spektrum DX, NX, and iX series transmitters for the Piper Cherokee.



NX Series Transmitter Setup

- 1. Power ON your transmitter, click on scroll wheel, roll to System Setup and click the scroll wheel. Select YES.
- 2. Go to Model Select and choose Add New Model near the bottom of the list. Select Airplane Model Type by choosing airplane image, select Create.
- 3. Set Model Name: Input a name for your model file.
- 4. Go to Aircraft Type and scroll to the wing selection, choose Wing: 1 Normal Tail: Normal
- 5. Select Main Screen, Click the scroll wheel to enter the Function List.
- 6. Go to D/R (Dual Rate) and Expo menu to set D/R and Expo.
- 7. Set Rates and Expo: Aileron
 - Set Switch: Switch F
 - Set **High Rates**: 100%, Expo 10% Low Rates: 70%, Expo 5%
- 8. Set Rates and Expo: Elevator
 - Set Switch: Switch C
 - Set High Rates: 100%, Expo 10% Low Rates 70%, Expo 5%
- 9. Set D/R (Dual Rate) and Expo: Rudder
 - Set Switch: Switch G
 - Set High Rates: 100%, Expo 10% Low Rates 70%, Expo 5%
- 10.Set Throttle Cut; Switch: Switch H, Position: -100%
- 11. Select Flap System
 - Set Switch: Switch D
 - Set Flaps: POS 0: -100%, POS 1: 0%, POS 2: 100%
 - Set ELEV: POS 0: 0%, POS 1: -3%, POS 2: -5%
 - Set Speed: 2.0 s

^{*}If your transmitter uses a 3-position switch for D/R (Dual Rate), use the same rate and exponential values in the middle and low switch positions. After flying, you may choose to set triple rate and exponential values.

Transmitter Setup (BNF Basic)

DX Series Transmitter Setup

- 1. Power ON your transmitter, click on scroll wheel, roll to System Setup and click the scroll wheel. Select YES.
- 2. Go to Model Select and choose Add New Model at the bottom of the list. The system asks if you want to create a new model, select Create.
- 3. Set Model Type: Select Airplane Model Type by choosing the airplane. The system asks you to confirm model type, data will be reset. Select YES.
- 4. Set Model Name: Input a name for your model file.
- 5. Go to Aircraft Type and scroll to the wing selection, choose Wing: Normal Tail: Normal
- 6. Select Main Screen, Click the scroll wheel to enter the Function List.
- 7. Set D/R (Dual Rate) and Expo: Aileron

Set Switch: Switch F

Set High Rates: 100%, Expo 10% — Low Rates: 70%, Expo 5%

8. Set D/R (Dual Rate) and Expo: Elevator

Set Switch: Switch C

Set High Rates: 100%, Expo 10% — Low Rates 70%, Expo 5%

9. Set D/R (Dual Rate) and Expo: Rudder

Set Switch: Switch G

Set **High Rates**: 100%, Expo 10% — Low Rates 70%, Expo 5%

10. Set Throttle Cut; Switch: Switch H, Position: -100%

11. Select Flaps

Set Switch: Switch D

Set Flaps: POS 0: -100%, POS 1: 0%, POS 2: 100% Set ELEV: POS 0: 0%, POS 1: -3%, POS 2: -5%

Set Speed: 2.0 s

*If your transmitter uses a 3-position switch for D/R (Dual Rate), use the same rate and exponential values in the middle and low switch positions. After flying, you may choose to set triple rate and exponential values.

iX Series Transmitter Setup

- Power ON your transmitter and begin once the Spektrtum AirWare app is open.
 Select the orange pen icon in the screen's upper left corner, the system asks for permission to Turn Off RF, select PROCEED.
- 2. Select the three dots in the upper right corner of the screen, select Add a New Model.
- 3. Select Model Option, choose DEFAULT, select Airplane. The system asks if you want to create a new acro model, select Create.
- 4. Select the last model on the list, named **Acro**. Tap on the word Acro and rename the file to a name of your choice.
- 5. Press and hold the back arrow icon in the upper left corner of the screen to return to the main screen.
- 6. Go to the Model Setup menu. Select Aircraft Type. The system asks for permission to Turn Off RF, select PROCEED. Touch the screen to select wing. Select Normal.
- 7. Press and hold the back arrow icon in the upper left corner of the screen to return to the main screen.
- 8. Go to the Model Adjust menu.
- 9. Set Dual Rates and Expo: Select Aileron

Set Switch: Switch F

Set **High Rates**: *100%*, **Expo** *10%* — Low Rates: *70%*, **Expo** *5%*

10. Set Dual Rates and Expo: Select Elevator

Set Switch: Switch C

Set **High Rates**: *100%*, **Expo** *10%* — **Low Rates** *70%*, **Expo** *5%*

11.Set D/R (Dual Rate) and Expo: Rudder

Set Switch: Switch G

Set High Rates: 100%, Expo 10% — Low Rates 70%, Expo 5%

12. Select Flap System

Set Switch: Switch D

Set Flaps: POS 0: -100%, POS 1: 0%, POS 2: 100% Set ELEV: POS 0: 0%, POS 1: -3%, POS 2: -5%

Set Speed: 2.0 s

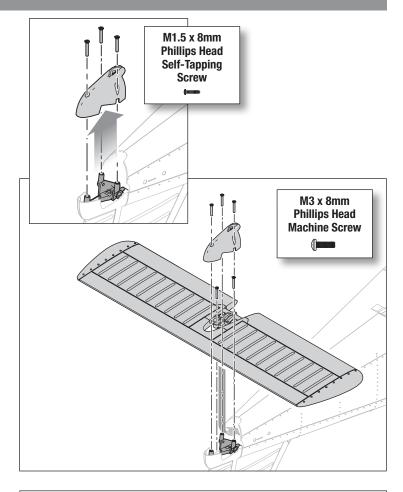
13. Set Throttle Cut; Switch: Switch H, Position: -100%

^{*}If your transmitter uses a 3-position switch for D/R (Dual Rate), use the same rate and exponential values in the middle and low switch positions. After flying, you may choose to set triple rate and exponential values.

Aircraft Assembly

Horizontal Stabilizer Installation

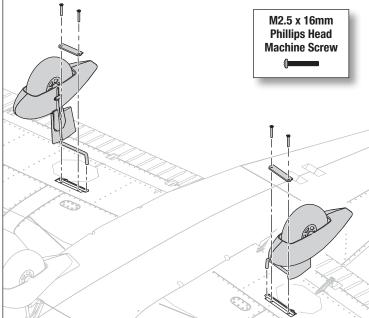
- 1. Remove the three M1.5 x 8mm self tapping screws holding the tail cover in place.
- 2. Locate the horizontal stabilizer on the elevator pivot assembly, and secure it to the assembly with two M3 x 8mm screws
- 3. Install the tail cover and secure it in place with the screws.



Landing Gear Installation

Main Gear

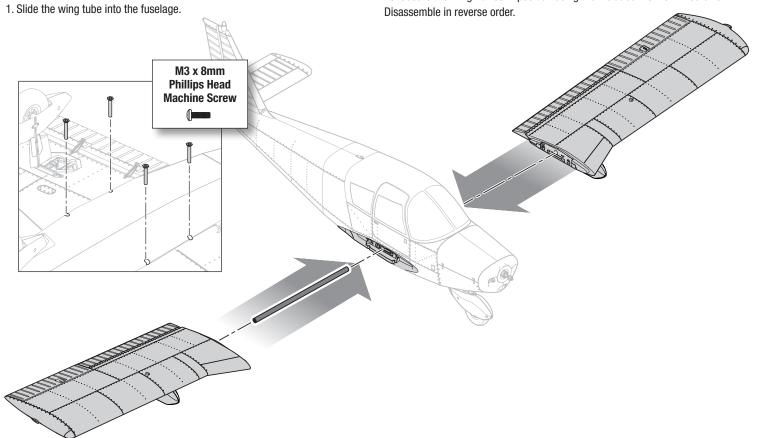
- 1. Insert the main landing gear wires into the landing gear mounting brackets on the bottom of the wings.
- 2. Secure the main gear in place with the retainers and the M2.5 x 16mm screws, as shown.



Aircraft Assembly

Wing Installation
IMPORTANT: Hands-free servo connectors are installed in the wing and fuse-lage mating surfaces. Ensure that they slide together correctly.

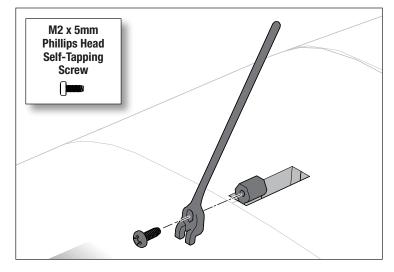
- 2. Slide the wings onto the wing tube until they fully seat to the fuselage.
- 3. Secure the wing halves in position using the included M3 x 8mm screws.



Aircraft Assembly

Antenna Installation

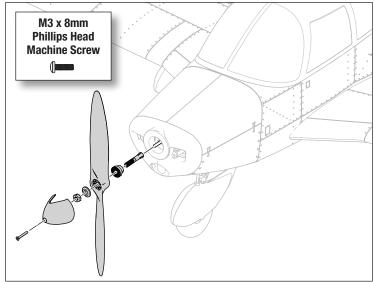
- 1. Place the dummy antenna on the front of the hatch latch.
- 2. Secure the dummy antenna into place with the included M2 x 5mm screw, as shown.



Propeller Installation

- 1. Install the propeller adapter, propeller, propeller washer, and nut.
- 2. Tighten the nut until the prop adapter grasps the propeller shaft securely.
- 3. Secure the spinner with a M3 x 8mm screw.

Disassemble in reverse order.

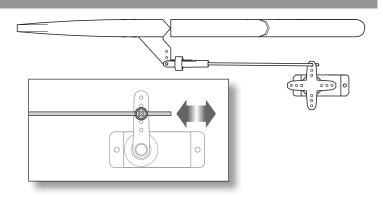


Control Surface Centering

After assembly and transmitter setup, confirm that the control surfaces are centered. The model must be powered on and bound to the transmitter, with the throttle at the lowest setting.

IMPORTANT: Control surface centering must be done with SAFE mode OFF.

- 1. Verify the trims and subtrims on your transmitter are set to zero.
- 2. Power on the model with SAFE mode OFF and the throttle at the lowest setting.
- If any of the control surfaces are not centered, loosen the screw in the quick connector linkage on the servo arm for the control surface that requires adjustment
- 4. Slide the pushrod in or out through the quick connector to center the control surface.
- 5. Apply a small amount of removable thread lock compound to the screw threads.
- 6. Tighten the screw to secure the pushrod.



General Binding Tips and Failsafe

- The included receiver has been specifically programmed for operation of this aircraft. Refer to the receiver manual for correct setup if the receiver is replaced.
- · Keep away from large metal objects while binding.
- Do not point the transmitter's antenna directly at the receiver while binding.
- The orange LED on the receiver will flash rapidly when the receiver enters bind mode.
- Once bound, the receiver will retain its bind settings for that transmitter until you re-bind.
- If the receiver loses transmitter communication, the failsafe will activate. Failsafe moves the throttle channel to low throttle. Pitch and roll channels move to actively stabilize the aircraft in a descending turn.
- If problems occur, refer to the troubleshooting guide or if needed, contact the appropriate Horizon Product Support office.

Transmitter and Receiver Binding / Switching ON and OFF SAFE Select

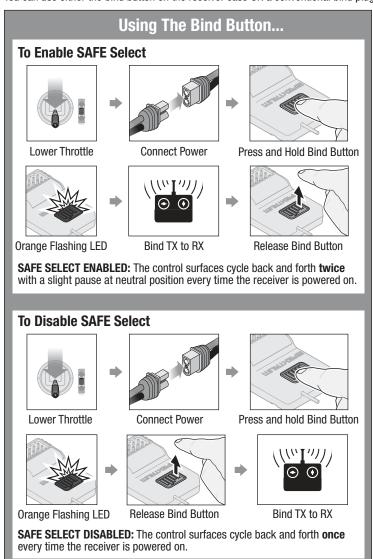
The BNF Basic version of this airplane includes SAFE Select technology, enabling you to choose the level of flight protection. SAFE mode includes angle limits and automatic self leveling. AS3X mode provides the pilot with a direct response to the control sticks. SAFE Select is enabled or disabled during the bind process. With SAFE Select disabled the aircraft is always in AS3X mode. With SAFE Select enabled the aircraft will be in SAFE Select mode all the time, or you can assign a switch to toggle between SAFE Select and AS3X modes.

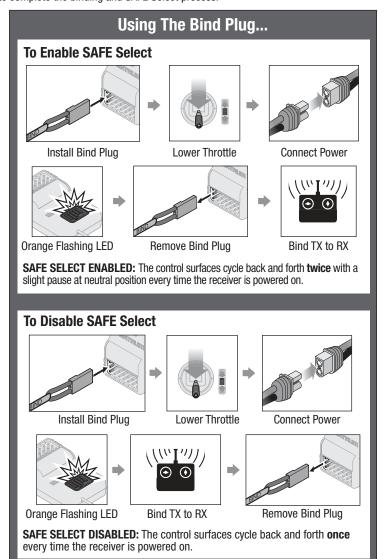
Thanks to SAFE Select technology, this aircraft can be configured for full-time SAFE mode, full-time AS3X mode, or mode selection can be assigned to a switch.

IMPORTANT: Before binding, read the transmitter setup section in this manual and complete the transmitter setup table to ensure your transmitter is properly programmed for this aircraft.

IMPORTANT: Move the transmitter flight controls (rudder, elevators, and ailerons) and the throttle trim to neutral. Move the throttle to low before and during binding. This process defines the failsafe settings.

You can use either the bind button on the receiver case OR a conventional bind plug to complete the binding and SAFE Select process.





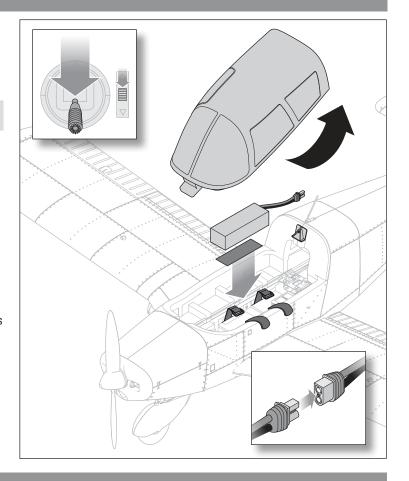
Battery Installation and ESC Arming

We recommend the Spektrum™ 14.8V 2200mAh 4S 30C Smart LiPo Battery: IC3 (SPMX22004S30). Refer to the Optional Accessories list for additional recommended batteries. If using a battery other than those listed, the battery should be within the range of capacity, dimensions and weight of the recommended battery packs to fit in the fuselage. Ensure the model balances at the recommended CG.



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

- Lower the throttle and throttle trim to the lowest settings. Power on the transmitter.
- 2. Pull the hatch latch aft to release the hatch, and lift the hatch rear up.
- 3. For added security, apply the loop side (soft side) of the optional hook and loop tape to the bottom of the battery and the hook side to the battery tray.
- 4. Install a fully charged battery in the middle of the battery compartment, as shown. Secure it using the hook and loop straps.
- Connect the battery to the ESC. If you have not completed the bind sequence, do so at this time as outlined in this manual.
- On a flat surface, keep the aircraft immobile, upright and out of the wind or the system will not initialize.
 - The motor emits a steady beep when the battery is connected, then 4 tones (indicating the number of connected cells) followed by a rising tone to indicate the ESC is armed.
 - · An LED will light on the receiver when it is initialized.
- 7. Reinstall the battery hatch.



SAFE® Select Technology

The E-flite Piper Cherokee has two flight modes controlled by Channel 5, SAFE and AS3X. Switch A is the Spektrum default for channel 5. Position 0 is SAFE, Position 1 is AS3X only.

When flying in SAFE mode, the aircraft will return to level flight any time the aileron and elevator controls are at neutral. Applying aileron or elevator control will cause the airplane to bank, climb or dive. The amount the stick is moved will determine the attitude the airplane flies. Holding full control will push the aircraft to the predetermined bank and pitch limits, but it will not go past those angles.

When flying in SAFE mode, it is normal to hold the control stick deflected with moderate aileron input when flying through a turn. To fly smoothly with SAFE, avoid making frequent control changes and don't attempt to correct for minor deviations. Holding deliberate control inputs will command the aircraft to fly at a specific angle, and the model will make all corrections to maintain that flight attitude.

Return the elevator and aileron controls to neutral before switching from SAFE mode to AS3X mode. If you do not neutralize controls when switching into AS3X mode, the control inputs used for SAFE mode will be excessive for AS3X mode and the aircraft will react immediately.

Differences Between SAFE and AS3X Modes

This section is generally accurate but does not take into account flight speed, battery charge status, and other limiting factors.

		SAFE Select	AS3X
rol Input	Control stick is neutralized	Aircraft will self level	Aircraft will continue to fly at its present attitude
	Holding a small amount of control	Aircraft will bank or pitch to a moderate angle and maintain the attitude	Aircraft will continue to pitch or roll slowly
Control	Holding full control	Aircraft will bank or pitch to the predetermined limits and maintain the attitude	Aircraft will continue to roll or pitch rapidly

Disabling and Enabling SAFE Select

By default, the SAFE Select function of your aircraft is enabled and assigned to the gear channel switch (channel 5). If you do not wish to have access to SAFE Select while flying, you can choose to disable SAFE Select functionality, AS3X will still be active when SAFE Select is disabled.

IMPORTANT: Before attempting to disable or enable SAFE Select, ensure the aileron, elevator, rudder, throttle and gear channels are all on high rate with the travel set to 100%. Turn throttle hold OFF if it is programmed in the transmitter.



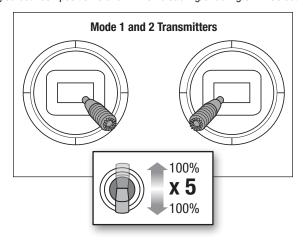
CAUTION: Keep all body parts clear of the propeller, and keep the aircraft securely restrained in case of accidental throttle activation.

- 1. Power on the transmitter.
- 2. Power on the aircraft.
- 3. Hold both transmitter sticks to the inside bottom corners and toggle the Gear switch 5 times (1 toggle = full up and down). The control surfaces of the aircraft will move, indicating SAFE Select has been enabled or disabled.

Repeat the process to disable or enable or disable SAFE Select. The aircraft will cycle both ailerons up and down to indicate a change has been made.

DXe and DXS Transmitters

Switch A is the FMODE switch on the these transmitters, and the switch needs to be toggled between position 0 and 2 when disabling/enabling SAFE Select.



Control Surface Direction

Switch on the transmitter and connect the battery. Use the transmitter to operate the aileron, elevator, and rudder controls. View the aircraft from the rear when checking the control directions.

Ailerons

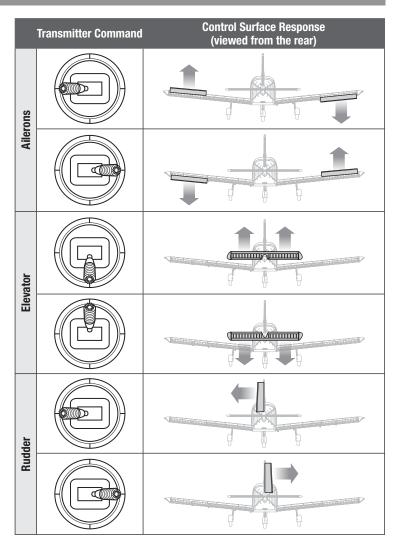
- 1. Move the aileron stick to the left. The left aileron should move up and the right aileron down, which will cause the aircraft to bank left.
- 2. Move the aileron stick to the right. The right aileron should move up and the left aileron down, which will cause the aircraft to bank right.

Elevator

- 3. Pull the elevator stick back. The trailing edge of the stabilator should move up, which will cause the aircraft to pitch up.
- 4. Push the elevator stick forward. The trailing edge of the stabilator should move down, which will cause the aircraft to pitch down.

Rudder

- 5. Move the rudder stick to the left. The rudder and the nose wheel should move to the left, which will cause the aircraft to yaw left.
- 6. Move the rudder stick to the right. The rudder and the nose wheel should move to the right, which will cause the aircraft to yaw right.



AS3X Control Response Test (BNF Basic)

This test ensures that the AS3X® control system is functioning properly. Assemble the aircraft and bind your transmitter to the receiver before performing this test.

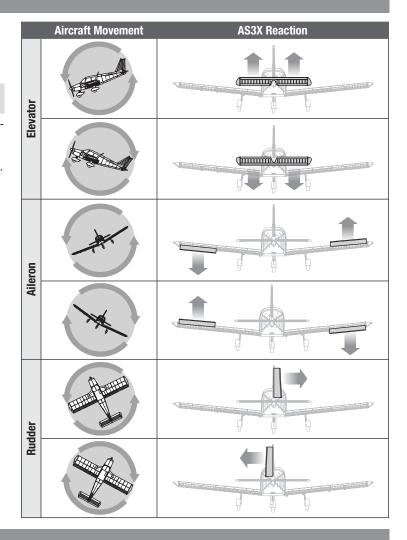
1. Raise the throttle just above 25%, then lower the throttle to activate AS3X technology.



CAUTION: Keep all body parts, hair and loose clothing away from a moving propeller, as these items could become entangled.

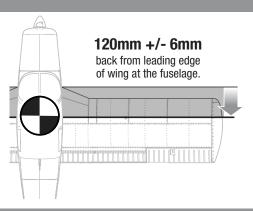
Move the entire aircraft as shown and ensure the control surfaces move in the direction indicated in the graphic. If the control surfaces do not respond as shown, do not fly the aircraft. Refer to the receiver manual for more information.

Once the AS3X system is active, control surfaces may move rapidly. This is normal. AS3X remains active until the battery is disconnected.



Center of Gravity (CG)

The CG location is measured from the leading edge of the wing at the root. This CG location has been determined with the recommended Li-Po battery (SPMX22004S30). Measure the CG with the aircraft inverted.

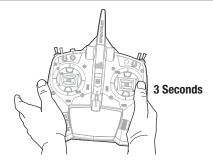


In Flight Trimming

During your first flight, trim the aircraft for level flight at 3/4 throttle. Make small trim adjustments with your transmitter's trim switches to straighten the aircraft's flight path.

After adjusting trim **do not touch the control sticks for 3 seconds.** This allows the receiver to learn the correct settings to optimize AS3X performance.

Failure to do so could affect flight performance.



Flying Tips and Repairs

Consult local laws and ordinances before choosing a flying location.

Flying Field

Always choose a wide-open space for flying your aircraft. It is recommended that you fly at a designated RC flying field. Always avoid flying near houses, trees, wires and buildings. Avoid flying in areas where there are many people, such as parks, schoolyards, or soccer fields.

Range Check your Radio System

Before you fly, range check the radio system. Refer to your specific transmitter instruction manual for range test information.

Understanding Oscillation

Once the AS3X system is active (after advancing the throttle for the first time), you will normally see the control surfaces react to aircraft movement. In some flight conditions, you will see oscillation. If oscillation occurs, decrease airspeed. If oscillation persists, refer to the Troubleshooting Guide for more information.

Takeoff

Place the aircraft in position for takeoff (facing into the wind). Set your transmitter in low rate and gradually increase the throttle from ¾ to full and steer with the rudder. As the airplane gains speed, gently pull back on the elevator and climb to a comfortable altitude. You may also set flaps to half travel for shorter takeoffs.

Flying

Fly the airplane and trim it for level flight at ¾ throttle with flaps up. After adjusting trim in flight do not touch the control sticks for 3 seconds. This allows the receiver to learn the correct settings to optimize AS3X performance.

Landing

TIP: To prevent damage to the landing gear wheel pants, remove them when landing the aircraft in tall grass.

Make sure to land the aircraft into the wind. Start to slow the model down to an approach speed and set the flaps to half travel. If landing in windy conditions, land at half flap travel. If flying in light winds, set flaps to full for final approach. With flaps and retracts extended, fly the aircraft to approximately 36 inches (90 cm) or less above the runway, using a small amount of throttle for the entire descent. Keep the throttle on until the aircraft is ready to flare. During flare, keep the wings level and the aircraft pointed into the wind. Gently lower the throttle while pulling back on the elevator to bring the aircraft down on its wheels.

NOTICE: When using flaps with this airplane, down elevator to flap mixing is required. Failure to do so may result in loss of control or a crash.

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: After any impact, always ensure the receiver is secure in the fuselage. If you replace the receiver, install the new receiver in the same orientation as the original receiver or damage may result.

NOTICE: Crash damage is not covered under warranty.

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

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 Smart LiPo Battery Checker and Servo Driver (SPMXBC100, sold separately).

Repairs

Thanks to the EPO foam material in 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 accelerator on your aircraft can damage paint. DO NOT handle the aircraft until accelerator fully dries.

PNP Receiver Selection and Installation

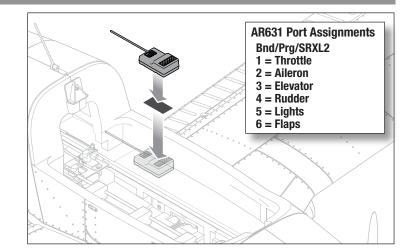
The Spektrum AR631 receiver is recommended for this airplane. If you choose to install another receiver, ensure that it is at least a 6-channel full range receiver. Refer to your receiver manual for correct installation and operation instructions.

Installation (AR631 shown)

- 1. Remove the hatch from the fuselage.
- Mount the receiver parallel to the length of the fuselage as shown. Use double-sided servo tape.
- Attach the appropriate control surfaces to the their respective ports on the receiver using the chart in the illustration.



CAUTION: Incorrect installation of the receiver could cause a crash.



Post Flight Checklist

Disconnect the flight battery from the ESC (required for safety and battery life).

Power OFF the transmitter.

Remove the flight battery from the aircraft.

Recharge the flight battery.

Repair or replace all damaged parts.

Store the flight battery apart from the aircraft and monitor the battery charge.

Make note of the flight conditions and flight plan results, planning for future flights.

Motor Service



CAUTION: Always disconnect the flight battery before performing motor service.

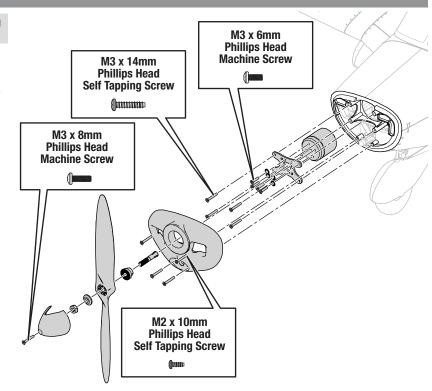
Disassembly

- 1. Remove the spinner screw and the spinner.
- Use a 10mm wrench or an adjustable wrench to remove the propeller nut, propeller washer, propeller, and propeller adapter from the motor shaft.
- 3. Remove the four M2 x 10mm self tapping screws and pull the cowl forward to remove it from the fuselage.
- 4. Remove the four M3 x 14mm self tapping screws and the motor with the X-mount from the fuselage.
- 5. Disconnect the motor wires from the ESC wires.
- Remove the four M3 x 6mm machine screws, washers, and motor from the X-mount.

Assembly

Assemble in reverse order.

- Correctly align and connect the motor wire colors with the ESC wires.
- Install the propeller with the sizing numbers facing away from the motor and tighten with a 10mm wrench or an adjustable wrench.
- Tighten the spinner screw to secure the spinner into place.

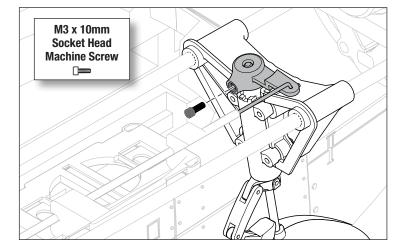


Nose Gear Removal

- 1. Remove the M3 x 10mm screw from the head of the steering assembly.
- 2. Slide the nose gear strut out of the fuselage.

Nose Gear Installation

- Insert the nose gear steering pushrod into the steering arm, using the outside hole.
- 2. Insert the nose gear strut into the nose gear bearing in the fuselage.
- 3. Install the steering arm onto the top of the nose gear strut.
- 4. Secure the steering arm to the nose gear strut while compressing the nose gear strut spring. Tighten the M3 x 10mm screw, taking care to capture the flat spot on the strut.

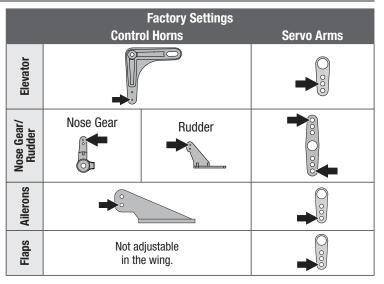


Control Horn and Servo Arm Factory Settings

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.

After flying, you may choose to adjust the linkage positions for the desired control response. See the table, right.

More Control Throw	Less Control Throw



AS3X Troubleshooting Guide

Problem	Possible Cause	Solution
	Damaged propeller or spinner	Replace propeller or spinner
	Imbalanced propeller	Balance the propeller
	Motor vibration	Replace parts or correctly align all parts and tighten fasteners as needed
Oscillation	Loose receiver	Align and secure receiver in fuselage
	Loose aircraft controls	Tighten or otherwise secure parts (servo, arm, linkage, horn and control surface)
	Worn parts	Replace worn parts (especially propeller, spinner or servo)
	Irregular servo movement	Replace servo
	Trim is not at neutral	If you adjust trim more than 8 clicks, adjust the clevis to remove trim
Inconsistent flight	Sub-Trim is not at neutral	No Sub-Trim is allowed. Adjust the servo linkage
performance	Aircraft was not kept immobile for 5 seconds after battery connection	With the throttle stick in lowest position. Disconnect battery, then reconnect battery and keep the aircraft still for 5 seconds
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
	Throttle not at idle and/or throttle trim too high	Reset controls with throttle stick and throttle trim at lowest setting
Aircraft will not respond to throttle but responds to 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
	Motor disconnected from ESC	Make sure motor is connected to the ESC
	Damaged propeller and spinner, collet or motor	Replace damaged parts
Extra propeller noise or extra vibration	Propeller is out of balance	Balance or replace propeller
ribiation	Prop nut is too loose	Tighten the prop nut
	Flight battery charge is low	Completely recharge flight battery
	Propeller installed backwards	Install propeller with numbers facing forward
Reduced flight time or aircraft underpowered	Flight battery damaged	Replace flight battery and follow flight battery instructions
andrait underpowered	Flight conditions may be too cold	Make sure battery is warm before use
	Battery capacity too low for flight conditions	Replace battery or use a larger capacity battery
	Transmitter too near aircraft during binding process	Move powered transmitter a few feet from aircraft, disconnect and reconnect flight battery to aircraft
Aircraft will not Bind (during	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
pinding) to transmitter	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
	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
Aircraft will not connect (after	Bind plug left installed in bind port	Rebind transmitter to the aircraft and remove the bind plug before cycling powe
pinding) to transmitter	Aircraft bound to different model memory (ModelMatch™ radios only)	Select correct model memory on transmitter
	Flight battery/Transmitter battery charge is too low	Replace/recharge batteries
	Transmitter may have been bound to a different aircraft using different DSM protocol	Bind aircraft to transmitter
	Control surface, control horn, linkage or servo damage	Replace or repair damaged parts and adjust controls
	Wire damaged or connections loose	Do a check of wires and connections, connect or replace as needed
Control surface does not nove	Transmitter is not bound correctly or the incorrect airplanes was selected	Re-bind or select correct airplanes 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 appropriate
	ESC uses default soft Low Voltage Cutoff (LVC)	Recharge flight battery or replace battery that is no longer performing
Motor power pulses then	Weather conditions might be too cold	Postpone flight until weather is warmer
notor loses power	Battery is old, worn out, or damaged	Replace battery
	Battery C rating might be too low	Use recommended battery

Replacement Parts

- Part #	Dogovintion
	Description
EFL-1135	Wing Set: Cherokee 1.3m Blue
EFL-1136	Fuselage: Cherokee 1.3m Blue
EFL-1137	Nose Gear Steering Set: Cherokee 1.3m
EFL-1138	Hatch with Pilot: Cherokee 1.3m Blue
EFL-1139	Cowling: Cherokee 1.3m Blue
EFL-1140	Decal Sheet: Cherokee 1.3m Blue
EFL-1141	Wheel Pants Set: Cherokee 1.3m Blue
EFL-1142	Wheel Set: Cherokee 1.3m
EFL-1143	Landing Gear Strut Set: Cherokee 1.3m Blue
EFL-1144	Landing Gear Strut Fairings: Cherokee 1.3m Blue
EFL-1145	Servo Arms Set: Cherokee 1.3m
EFL-1146	Spinner: White Cherokee 1.3m
EFL-1201	Propeller: 10 x 7E
EFL-1202	Propeller Adapter: Cherokee 1.3m
EFL-1203	Pushrod Set: Cherokee 1.3m Blue
EFL5454	Motor Mount: Cherokee 1.3m
EFL5455	Horizontal Stabilizer: Cherokee 1.3m
EFL5459	Wing Tube: Cherokee 1.3m
EFL5462	Hardware Set: Cherokee 1.3m
EFL5463	Steering Mount: Cherokee 1.3m
EFLA520	LED Controller
SPMAR631	AR631 6CH AS3X/SAFE Receiver
SPMSA330R	A330 9g Sub-Micro Servo, Reversed
SPMXAE70E	Avian 70-Amp Smart Lite Brushless ESC, 3S-6S: IC3
SPMXAM3800	Motor: 3536–1000Kv, 14-Pole

Recommended Equipment

Part #	Description
ONXT1000	Ultimate Air/Surface Startup Tool Set
SPMR8200	NX8 8-Channel DSMX Transmitter Only
SPMX224S30	14.8V 2200mAh 4S 30C Smart G2 LiPo Battery: IC3
SPMXC2090	S100 1x100W USB-C Smart Charger

Optional Accessories

Part #	Description		
DYN1405	LiPo Charge Protection Bag, Large		
ONXC4502	LiPo Storage and Carry Bag, 21.5 x 4.5 x 16.5 cm		
SPMR10100	NX10 10-Channel DSMX Transmitter Only		
SPMX22004S30	14.8V 2200mAh 4S 30C Smart LiPo Battery: IC3		
SPMX223S50	11.1V 2200mAh 3S 50C Smart G2 LiPo Battery: IC3		
SPMX324S50	14.8V 3200mAh 4S 50C Smart G2 LiPo Battery: IC3		
SPMXBC100	XBC100 Smart LiPo Battery Checker & Servo Driver		
SPMXC2000	S2100 G2 2x100W AC Smart Charger		
SPMXC2010	S2200 G2 AC 2x200W Smart Charger		
SPMXC2080	S1100 G2 1x100W AC Smart Charger		

Important Federal Aviation Administration (FAA) Information

Use the QR code below to learn more about the Recreational UAS Safety Test (TRUST), as was introduced by the 2018 FAA Reauthorization Bill. This free test is required by the FAA for all recreational flyers in the United States. The completed certificate must be presented upon request by any FAA or law enforcement official.

If your model aircraft weighs more than .55lbs or 250 grams, you are required by the FAA to register as a recreational flyer and apply your registration number to the outside of your aircraft. To learn more about registering with the FAA, use the QR code below.



Recreational UAS Safety Test



FAA DroneZone

AMA National Model Aircraft Safety Code

Effective January 1, 2018

A model aircraft is a non-human-carrying device capable of sustained flight within visual line of sight of the pilot or spotter(s). It may not exceed limitations of this code and is intended exclusively for sport, recreation, education and/or competition. All model flights must be conducted in accordance with this safety code and related AMA guidelines, any additional rules specific to the flying site, as well as all applicable laws and regulations.

As an AMA member I agree:

- I will not fly a model aircraft in a careless or reckless manner.
- I will not interfere with and will yield the right of way to all human-carrying aircraftusing AMA's See and Avoid Guidance and a spotter when appropriate.
- I will not operate any model aircraft while I am under the influence of alcohol
 or any drug that could adversely affect my ability to safely control the model.
- I will avoid flying directly over unprotected people, moving vehicles, and occupied structures.
- I will fly Free Flight (FF) and Control Line (CL) models in compliance with AMA's safety programming.
- I will maintain visual contact of an RC model aircraft without enhancement other than corrective lenses prescribed to me. When using an advanced flight system, such as an autopilot, or flying First-Person View (FPV),
 I will comply with AMA's Advanced Flight System programming.
- I will only fly models weighing more than 55 pounds, including fuel, if certified through AMA's Large Model Airplane Program.
- I will only fly a turbine-powered model aircraft in compliance with AMA's Gas Turbine Program.
- I will not fly a powered model outdoors closer than 25 feet to any individual, except for myself or my helper(s) located at the flightline, unless I am taking off and landing, or as otherwise provided in AMA's Competition Regulation.
- I will use an established safety line to separate all model aircraft operations from spectators and bystanders.

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, (vi) Product not compliant with applicable technical regulations, or (vii) use that violates any applicable laws, rules, or regulations.

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

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

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

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

WARRANTY SERVICES

Questions, Assistance, and Services—Your local hobby store and/or place of purchase cannot provide warranty support or service. Once assembly, setup or use of the Product has been started, you must contact your local distributor or Horizon directly. This will enable Horizon to better answer your questions and service you in the event that you may need any assistance. For questions or assistance, please visit

our website at www.horizonhobby.com, 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

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.

10/15

Contact Information

Country of Purchase	Horizon Hobby	Contact Information	Address	
	Horizon Service Center (Repairs and Repair Requests)	servicecenter.horizonhobby.com/RequestForm/		
	Horizon Product Support (Product Technical Assistance)	productsupport@horizonhobby.com	2904 Research Rd Champaign, Illinois, 61822 USA	
	Horizon Froduct Support (Froduct Technical Assistance)	877-504-0233		
	Sales	websales@horizonhobby.com		
		800-338-4639		
Furonean Union	Horizon Technischer Service	service@horizonhobby.eu	Hanskampring 9	
	Sales: Horizon Hobby GmbH	+49 (0) 4121 2655 100	D 22885 Barsbüttel, Germany	

FCC Information

FCC ID: BRWSPMSR6200A

This equipment complies with FCC and IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and/or antenna and your body (excluding fingers, hands, wrists, ankles and feet). This transmitter must not be colocated or operating in conjunction with any other antenna or transmitter.

Supplier's Declaration of Conformity

EFL Cherokee 1.3m BNF Basic (EFL05450): This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a

residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Horizon Hobby, LLC 2904 Research Rd., Champaign, IL 61822

Email: compliance@horizonhobby.com

Web: HorizonHobby.com

IC Information

CAN ICES-3 (B)/NMB-3(B)

IC: 6157A-SPMSR6200A

This device contains license-exempt transmitter(s)/receivers(s) that comply with Innovation, Science, and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following 2 conditions:

- 1. This device may not cause interference.
- This device must accept any interference, including interference that may cause undesired operation of the device.

Compliance Information for the European Union

EU Compliance Statement:
EFL Cherokee 1.3m BNF Basic (EFL05450): Hereby, Horizon Hobby,
LLC declares that the device is in compliance with the following: EU
Radio Equipment Directive 2014/53/EU; RoHS 2 Directive 2011/65/EU, RoHS 3
Directive - Amending 2011/65/EU Annex II 2015/863.

EFL Cherokee 1.3m PNP (EFL05475): Hereby, Horizon Hobby, LLC declares that the device is in compliance with the following: EU EMC Directive 2014/30/EU; RoHS 2 Directive 2011/65/EU, RoHS 3 Directive - Amending 2011/65/EU Annex II 2015/863.

The full text of the EU declaration of conformity is available at the following internet address: https://www.horizonhobby.com/content/support-render-compliance.

Wireless frequency and output: Receiver:

2404-2476MHz 5.58dBm

EU Manufacturer of Record:

Horizon Hobby, LLC 2904 Research Road Champaign, IL 61822 USA

EU Importer of Record:

Horizon Hobby, GmbH Hanskampring 9 22885 Barsbüttel Germany

WEEE NOTICE:



This appliance is labeled in accordance with European Directive 2012/19/EU concerning waste of electrical and electronic equipment (WEEE). This label indicates that this product should not be disposed of with household waste. It should be deposited at an appropriate facility to enable recovery and recycling.





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US 8,201,776. Other patents pending. http://www.horizonhobby.com/