E-flite
ADVANCING ELECTRIC FLIGHT

P-51D Mustang 1.5m

Big Beautiful Doll



Instruction Manual
Bedienungsanleitung
Manuel d'utilisation
Manuale di Istruzioni

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BNF BASIC — **EFL-3359**

PNP PLUG-N-PLAY — **EFL-3360**

1197684.1
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HORIZON HOBBY

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.

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.

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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	59.1" (1500mm)
Length	52" (1320mm)
Weight	Without Battery: 96.10 oz (2723g) With Recommended 5000mAh 6S Battery: 120.35oz (3412g)

Included Equipment	
Receiver	Spektrum™ AR637TA+ 6-Channel AS3X+/SAFE Telemetry Receiver (SPM-1032)
ESC	Avian™ 100-Amp Smart Brushless ESC (SPMXAE1100A)
Motor	4258–460kV 14-Pole Brushless Motor (SPMXAM1000)
Servo	(8) A347 9g Sub-Micro Metal-Geared Digital (SPMSA347)

Recommended Equipment	
Transmitter	Full Range 6-Channel 2.4GHz w/ Spektrum DSM2/DSMX® Technology
Battery	5000mAh 6S 22.2V Smart G2 LiPo 30C: IC5 (SPMX56S30)
Battery Charger	Smart S1100 AC Charger, 1 x 100W (SPMXC2080)

Low Voltage Cutoff (LVC)

When a LiPo 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 LiPo battery from the aircraft after each flight. Charge your LiPo 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.

For your first flights, set your transmitter timer or a stopwatch to 5 minutes. Adjust your timer for longer or shorter flights once you have flown the model.

NOTICE: Repeated flying to LVC will damage the battery.

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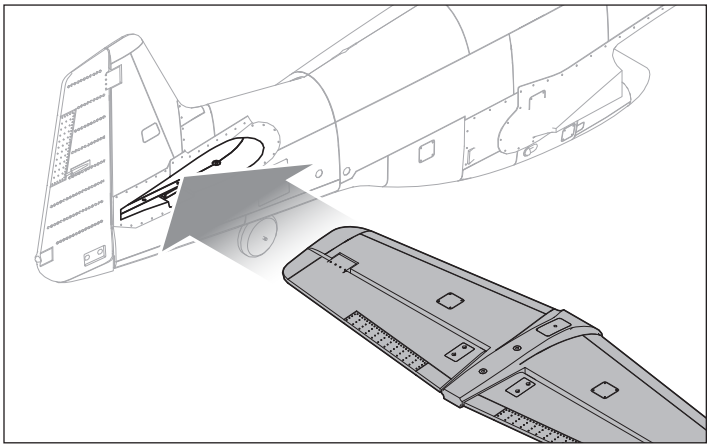
Model Assembly

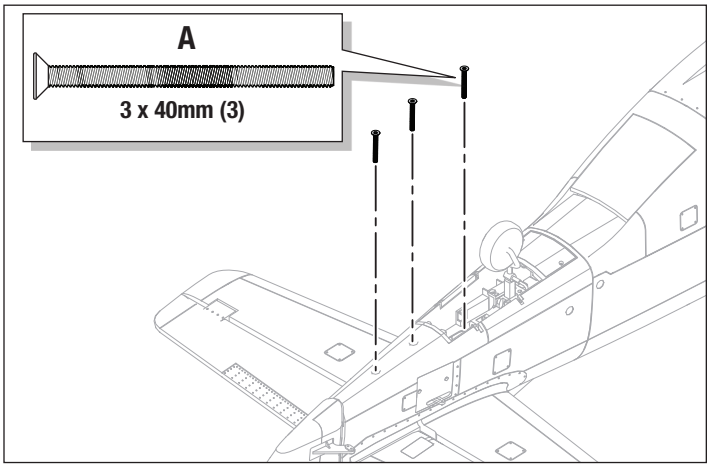
Horizontal Stabilizer Installation

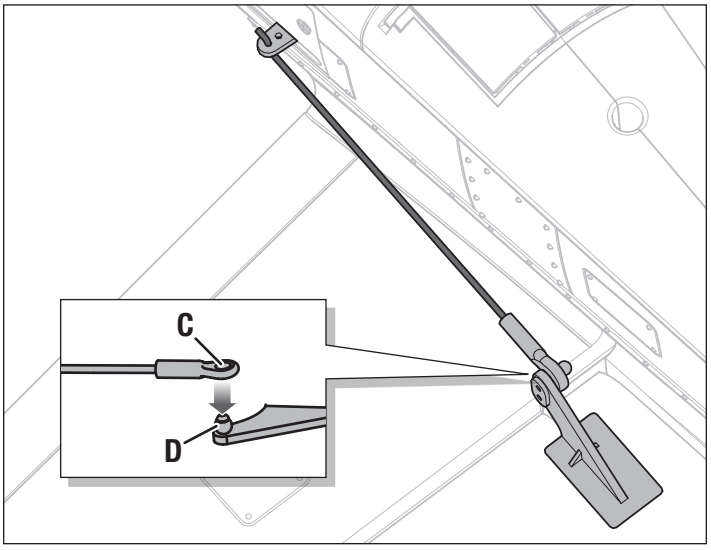
Refer to the **Manual Transmitter Setup / Programming Option** section for instructions to retract the tailwheel in order to access the front horizontal stabilizer mounting screw hole.

1. Slide the horizontal stabilizer into the tail opening in the rear of the fuselage. Ensure the control horn faces down.
2. Center the horizontal stabilizer, then secure it in place using the included three 3 x 40mm screws (**A**).
3. Insert the control linkage z-bend into the second hole of the servo arm (**B**).
4. Use ball link pliers to connect the ball link (**C**) to the ball (**D**) installed on the elevator control horn.
   Ensure the elevator servo arm is in the correct position.

Disassemble in reverse order.





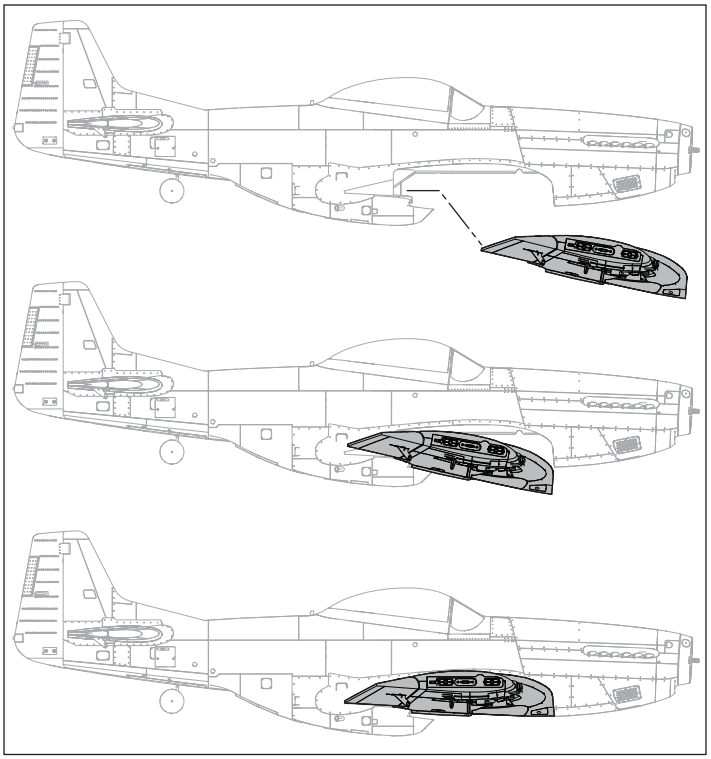


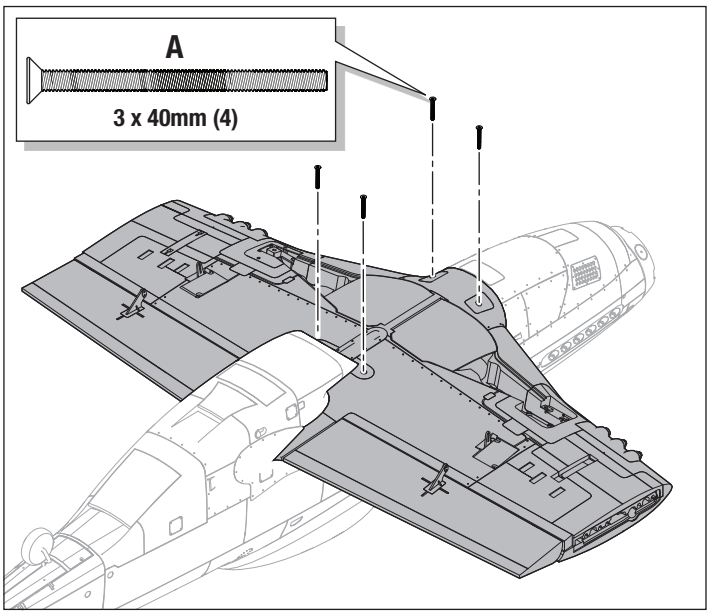
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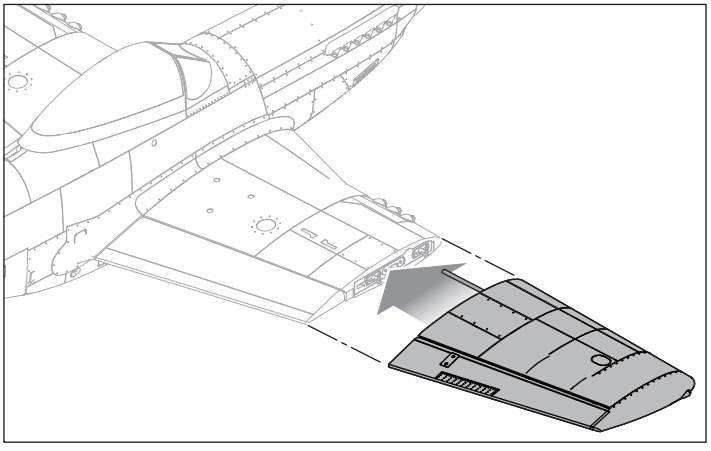
Wing Installation

1. Align the hands-free servo connector, and press the wing into the wing saddle.
2. Use the included four 3 x 40mm screws (**A**) to secure the wing into position.
3. Align the wing tip with the main wing, and press them together until they click.

Disassemble in reverse order.







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Propeller and Spinner Installation

WARNING: Do not install the propeller until all system setups are complete. Failure to heed this warning could result in severe personal injury.

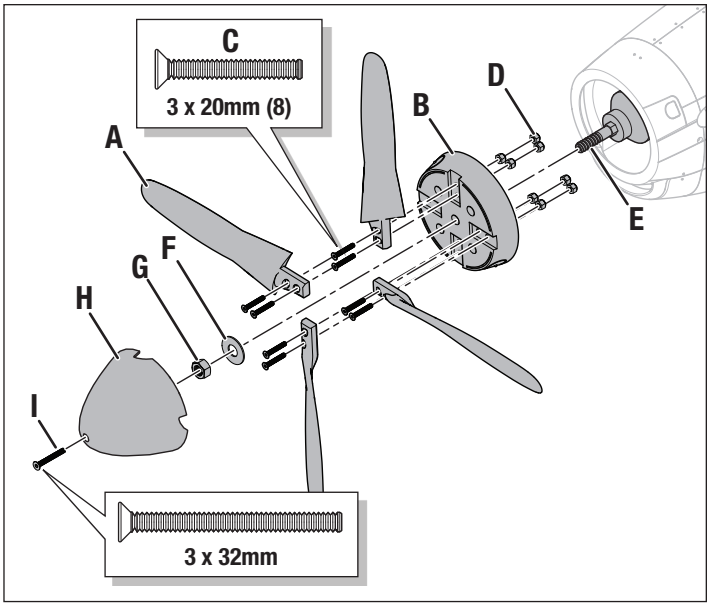
1. Install the 4 propeller blades (**A**) onto the spinner backplate (**B**) using eight M3 x 20mm screws (**C**) and eight nuts (**D**).

TIP: Orient the propeller's yellow tips facing out from the motor.

2. Install the spinner backplate onto the propeller shaft (**E**).

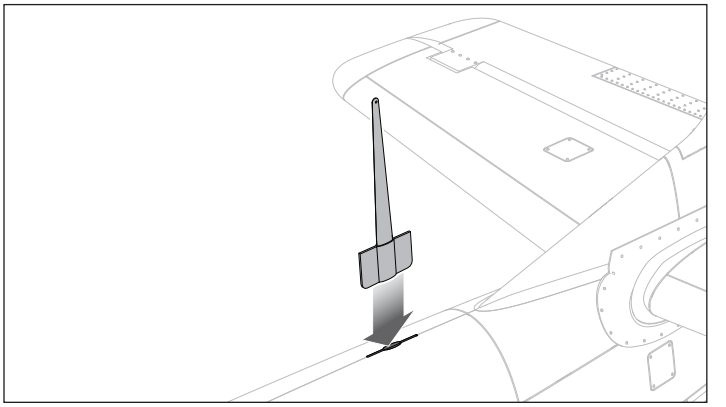
TIP: Seat the spinner backplate hex into the hex at the base of the propeller shaft.

3. Install the propeller washer (**F**) and spinner nut (**G**) onto the propeller shaft. Tighten the spinner nut with a wrench to secure the propeller assembly.
4. Align and install the spinner (**H**) using the M3 x 32mm flathead screw (**I**).



Radio Antenna Installation

Use medium CA to glue the radio antenna into the antenna slot in the top of the fuselage.



Optional Drop Tank Installation

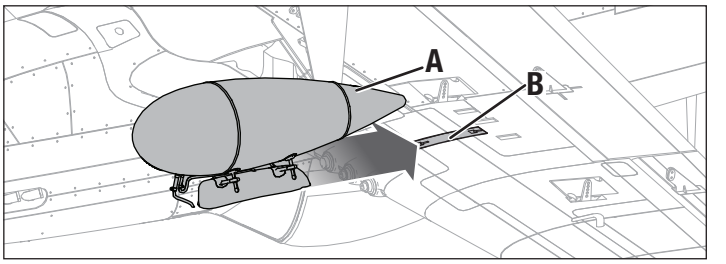
Drop Tank

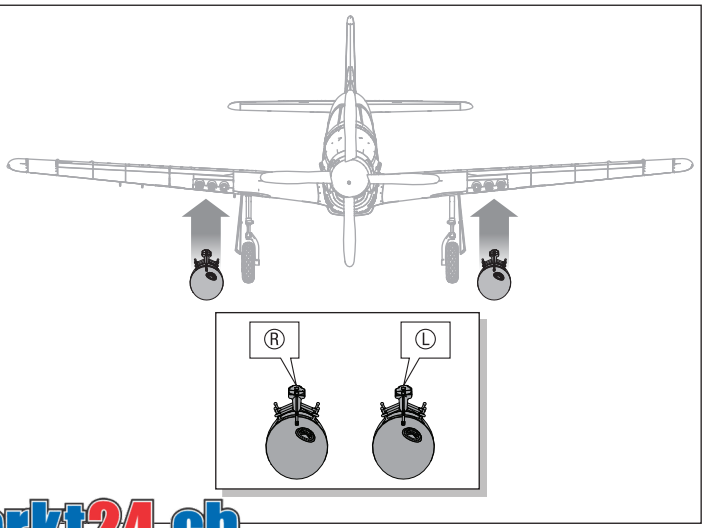
1. Slide the optional drop tanks (**A**) into the rails (**B**) on the bottom outer wing panels.

TIP: The drop tanks are labeled (L) for left and (R) for right.

2. Check the Center of Gravity with the drop tanks installed.

TIP: See Adjusting the Center of Gravity for more information.





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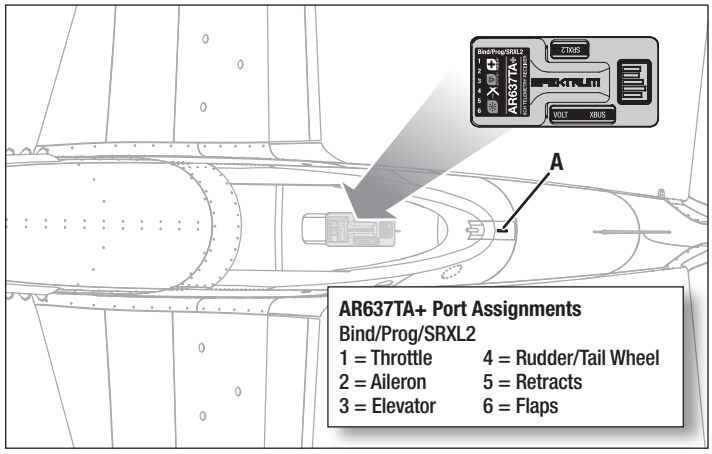
Plug and Play (PNP) Receiver Selection and Installation

We recommend the Spektrum AR637TA+ receiver for this aircraft. If you select a different receiver, ensure that it is at least a 6-channel full range receiver, and refer to that receiver manual for correct installation and operation.

AR637TA+ Installation

1. Slide the canopy latch (**A**) back, and pull up the rear of the canopy hatch to remove it.
2. Connect the control surface servos to the their respective receiver ports using the table, right.
3. Use double-sided servo tape (not included) to mount the receiver in the receiver compartment, as shown. Mount the receiver in the orientation shown, parallel to the length of the fuselage, with the label facing up and the servo ports facing the front of the aircraft. Receiver orientation is critical for AS3X+ and SAFE technology setups.

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



Smart Transmitter File (STF) Loading Option (For Standard Configuration)

The receiver installed in the aircraft contains a transmitter setup file developed specifically for this aircraft. This Smart Transmitter File allows you to quickly import the transmitter settings directly from the receiver during the binding process.

Load the Smart Transmitter File

1. Turn on the transmitter.
2. Create a new blank model file on the transmitter.
3. Power on the receiver.
4. Press the bind button on the receiver.
5. Put the transmitter into bind mode; the model will bind normally.
6. Once the bind is complete, the download screen appears:
7. Select **LOAD** to continue.

The following screen is a warning that downloading overwrites all current model settings. If this is a new blank model, the file populates the transmitter parameters of the aircraft into the active model and renames it 1.5m P-51D.

NOTICE: Confirming will override any previously saved transmitter setups.

8. Press **CONFIRM** to continue.

The file is installed on the transmitter, and the telemetry information loads automatically when the download is complete. The radio returns to the home screen, and the new model name is displayed.

The transmitter setup is now complete, and the aircraft is ready to fly.

Smart Transmitter File	
The receiver contains a pre-loaded Smart Transmitter File.	
RX Version: BNF EFL-3359	(Firmware version)
Do you want to the load the file from the receiver	
SKIP	**LOAD**

NOTICE	
This WILL overwrite ALL current model settings.	
If stock BNF model hardware has changed, the receiver's file may not work properly- Do not use without checking everything.	
Do you want to the load the file from the receiver	
BACK	**CONFIRM**

Important Notes

Flight Timer

The STF does not populate a flight timer in the transmitter. The voltage monitor provides transmitter alerts when battery voltage drops to just above the LVC, indicating it is time to land. The transmitter alert is set so there is time to land before the ESC begins to surge (pulse) when LVC is reached. This method takes flying style and throttle use into account and is more precise than a timer alone.

If you are not using the STF, set a timer for 5 minutes when using the recommended battery. Monitor the battery usage and adjust the timer after the initial flights to best suit your flying style.

Supported Transmitters, and firmware requirements, include the following:

- All NX Radios (with firmware version 4.0.11+)
- iX14 (with app version 2.0.9+)
- iX20 (with app version 2.0.9+)
- iX12 and DX radios do not currently support Smart Transmitter File transfers.

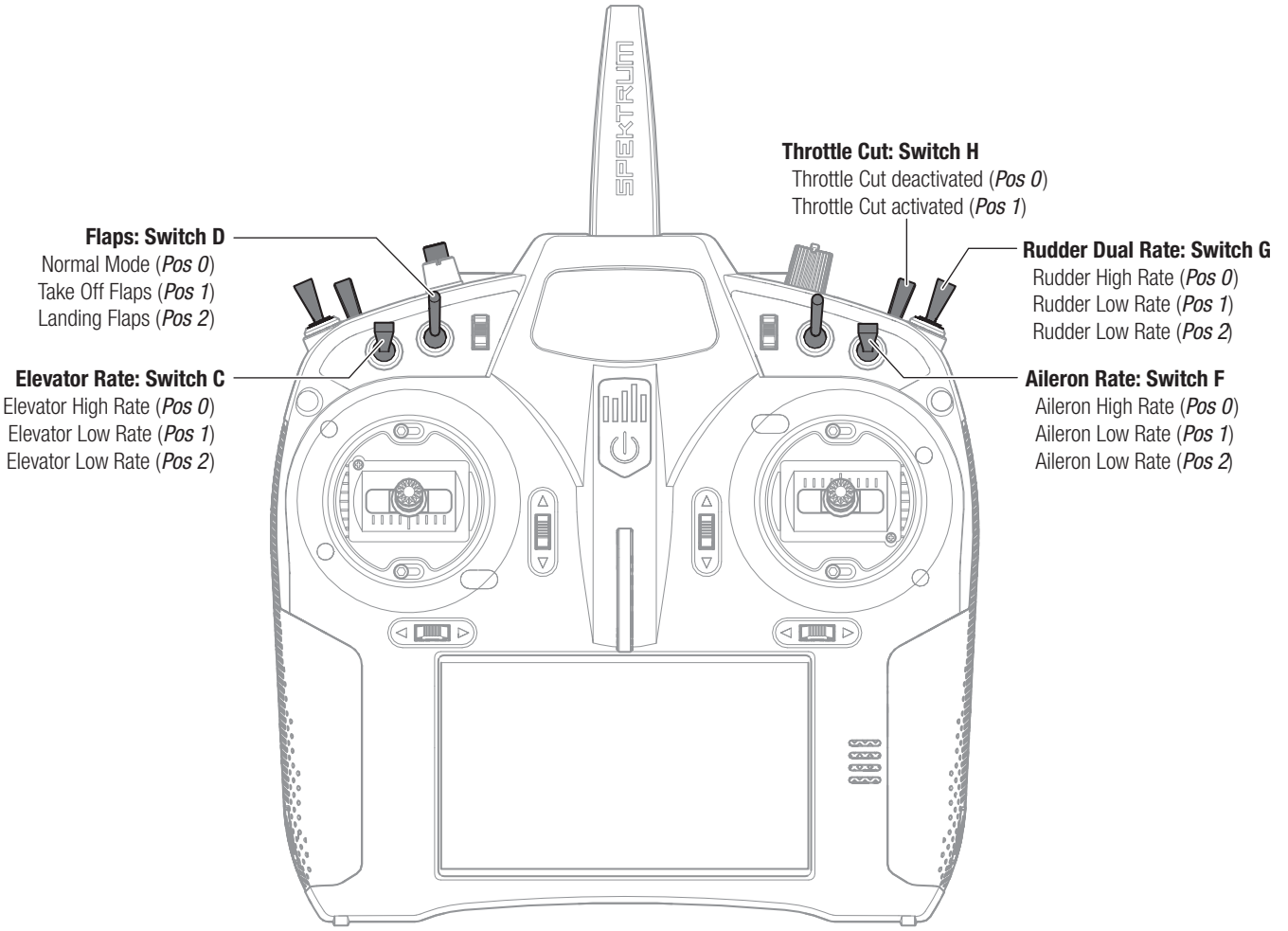
Flight Modes

The STF has Flight Modes enabled. These Flight Modes are separate from AS3X+ and SAFE Select and allow you to trim the aileron, elevator, and rudder channels separately for each flap position (0, 1, 2) as controlled by switch D. This is beneficial because it allows you to trim the aircraft for level flight when the flaps are retracted (normal mode), deployed partially (take off flaps), or fully (landing flaps). Trim the aileron, elevator, and rudder channels separately for each flap position in flight. Once you trim each Flight Mode/flap position the way you prefer, you shouldn't need to trim the aircraft much or at all again in the future.

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STF and Manual Transmitter Setup Switch Layout (For Standard Configuration)

The following illustration shows the switch layout and functions on a typical Spektrum transmitter when programmed per the manual transmitter setup tables or utilizing the Smart Transmitter File loaded from the aircraft receiver.



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Manual Transmitter Setup / Programming Option

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

For the first flight, set the flight timer to 5 minutes when using a 6S 5000mAh battery. Adjust the time after the initial flight.

NX Series Transmitter Setup
1. Power ON your transmitter, click on scroll wheel, roll to **System Setup** and click the scroll wheel. The transmitter will display **RF will be disabled!** Scroll to ***Yes*** and click the scroll wheel.
2. Go to **Model Select** and choose ***<Add New Model>*** near the bottom of the list. Select ***Model Type*** click the airplane image, Select ***Create*** and click the scroll wheel.
3. Select **Model Name**: Input a name for your model file.
4. Select **Aircraft Type** and scroll to the wing selection, choose ***1 Ail 1 Flap***.
5. Select **<Main Screen>,** Click the scroll wheel to enter the **Function List**.
6. Select **Rates and Expo**: ***Aileron*** Set **Switch**: ***Switch F*** Set **High Rates:** ***100%,*** **Expo** ***10%*** - **Low Rates:** ***70%,*** **Expo** ***5%***
7. Select **Rates and Expo**: ***Elevator*** Set **Switch**: ***Switch C*** Set **High Rates**: ***100%,*** **Expo** ***10%*** - **Low Rates** ***70%,*** **Expo** ***5%***
8. Select **Rates and Expo**: ***Rudder*** Set **Switch**: ***Switch G*** Set **High Rates**: ***100%,*** **Expo** ***10%*** - **Low Rates** ***70%,*** **Expo** ***5%***
9. Select **Throttle Cut**: **Switch**: ***Switch H,*** **Position:** ***-100%***
10. Select **Flap System** Scroll to and select ***Inhibit***, and then scroll to select ***Switch D*** Set **Pos 0:** ***100%*** **Flap** ***0%*** **Elevator** Set **Pos 1:** ***20%*** **Flap** ***-6%*** **Elevator** Set **Pos 2:** ***-50%*** **Flap** ***-9%*** **Elevator** Set **Speed:** ***2.0s***

DX Series Transmitter Setup
1. Power ON your transmitter, click on scroll wheel, roll to **System Setup** and click the scroll wheel. The transmitter will display **RF will be disabled!** Scroll to ***Yes*** and click the scroll wheel.
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 ***1 Ail 1 Flap***.
6. Select **<Main Screen>,** Click the scroll wheel to enter the **Function List**.
7. Select **Rates and Expo**: ***Aileron*** Set **Switch**: ***Switch F*** Set **High Rates:** ***100%,*** **Expo** ***10%*** - **Low Rates:** ***70%,*** **Expo** ***5%***
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10. Set **Throttle Cut**: **Switch**: ***Switch H,*** **Position:** ***-100%***
11. Select **Flap System** Scroll to and select ***Inhibit***, and then scroll to select ***Switch D*** Set **Pos 0:** ***100%*** **Flap** ***0%*** **Elevator** Set **Pos 1:** ***20%*** **Flap** ***-6%*** **Elevator** Set **Pos 2:** ***-50%*** **Flap** ***-9%*** **Elevator** Set **Speed:** ***2.0s***

‡ The settings provided above for the DX6 and DX6e do not allow for the use of a SAFE® Select switch. To use a SAFE Select switch on these systems see the *SAFE Select Switch Designation* section for transmitter setup and operation information.

Exponential

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

Dual Rates

Low rate is recommended for the initial flights. When landing, use high rate elevator.

NOTICE: To ensure AS3X+ technology functions properly, do not lower rate values below 50%. If less control deflection is 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.

iX Series Transmitter Setup
1. Power ON your transmitter and begin once the Spektrtum Airware app is open. Select the orange pen icon in the upper left corner of the screen, 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. From the **Model Option screen**, select ***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 orange back arrow icon in the upper left corner of the screen to return to the main screen.
6. Select 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 ***1 Ail 1 Flap***.
7. Press and hold the orange 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. Select **Dual Rates and Expo**: Select ***Aileron*** Set **Switch**: ***Switch F*** Set **High Rates:** ***100%,*** **Expo** ***10%*** - **Low Rates:** ***70%,*** **Expo** ***5%***
10. Select **Dual Rates and Expo**: Select ***Elevator*** Set **Switch**: ***Switch C*** Set **High Rates**: ***100%,*** **Expo** ***10%*** - **Low Rates** ***70%,*** **Expo** ***5%***
11. Select **Dual Rates and Expo**: Select ***Rudder*** Set **Switch**: ***Switch G*** Set **High Rates**: ***100%,*** **Expo** ***10%*** - **Low Rates** ***70%,*** **Expo** ***5%***
12. Select **Throttle Cut**: **Switch**: ***Switch H,*** **Position:** ***-100%***
13. Select **Flap System** Touch inhibit, select ***Switch D*** Set **Pos 0:** ***100%*** **Flap** ***0%*** **Elevator** Set **Pos 1:** ***20%*** **Flap** ***-6%*** **Elevator** Set **Pos 2:** ***-50%*** **Flap** ***-9%*** **Elevator** Set **Speed:** ***2.0s***

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General Binding Tips and Failsafe (BNF Basic)

- 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 / Enable or Disable SAFE Select (BNF Basic)

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.

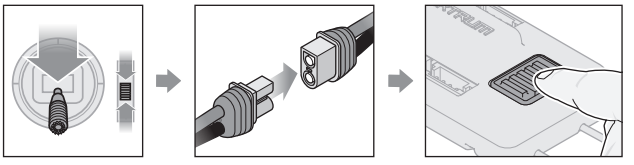
IMPORTANT: Move the transmitter flight controls (rudder, elevators, and ailerons) and the throttle trim to neutral. Move the throttle to low before and during binding. This process defines the failsafe settings.

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

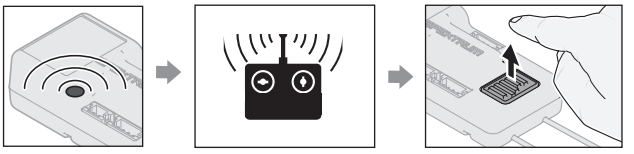
SAFE Select can also be enabled via Forward Programming.

Using The Bind Button...

To Enable SAFE Select



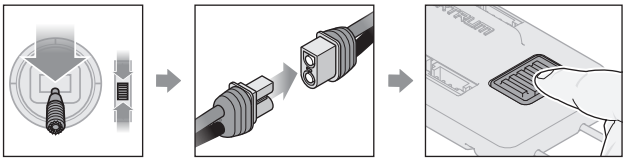
Lower Throttle | Connect Power | Press and Hold Bind Button



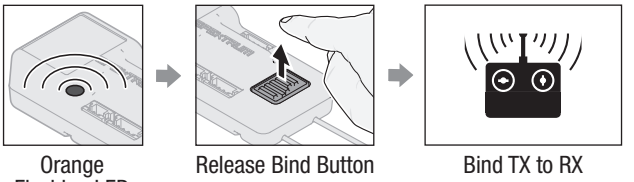
Orange Flashing LED | Bind TX to RX | Release Bind Button

SAFE SELECT ENABLED: The control surfaces cycle back and forth **twice** with a slight pause at neutral position every time the receiver is powered on.

To Disable SAFE Select



Lower Throttle | Connect Power | Press and Hold Bind Button

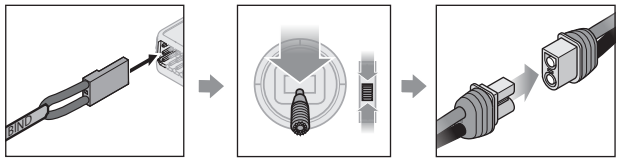


Orange Flashing LED | Release Bind Button | Bind TX to RX

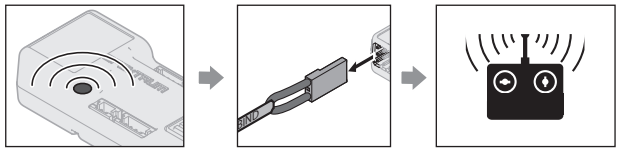
SAFE SELECT DISABLED: The control surfaces cycle back and forth **once** every time the receiver is powered on.

Using The Bind Plug...

To Enable SAFE Select



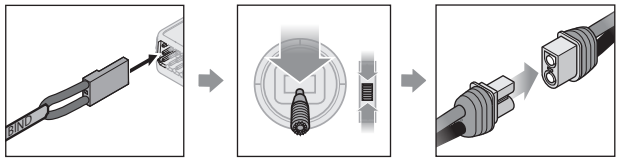
Install Bind Plug | Lower Throttle | Connect Power



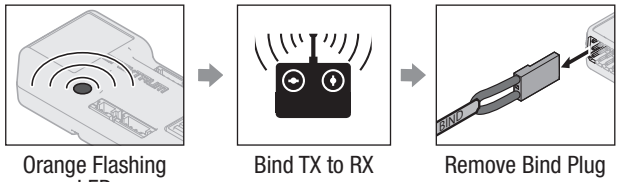
Orange Flashing LED | Remove Bind Plug | Bind TX to RX

SAFE SELECT ENABLED: The control surfaces cycle back and forth **twice** with a slight pause at neutral position every time the receiver is powered on.

To Disable SAFE Select



Install Bind Plug | Lower Throttle | Connect Power



Orange Flashing LED | Bind TX to RX | Remove Bind Plug

SAFE SELECT DISABLED: The control surfaces cycle back and forth **once** every time the receiver is powered on.

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Smart Technology Telemetry

The included receiver has Spektrum Smart Technology, which provides telemetry information (e.g., battery voltage). Smart Technology requires a compatible transmitter. Keep the transmitter firmware up-to-date.

To View Smart Telemetry:

1. Verify the transmitter is bound to the receiver.
2. Power ON the transmitter.
3. Power ON the aircraft.
4. The Smart logo appears under the battery logo on the homepage. A signal bar appears in the top left corner of the screen.
5. Scroll past the servo monitor to view the Smart Technology screens.

For more information about compatible transmitters, firmware updates, and how to use the Smart Technology on your transmitter, visit www.SpektrumRC.com.

SAFE® Select Technology

When flying in SAFE Select, the aircraft returns to level flight any time the aileron and elevator controls are at neutral. Applying aileron or elevator control causes the airplane to bank, climb or dive, and the amount of stick movement determines the aircraft attitude. Holding full control pushes the aircraft to, but not beyond, the pre-determined pitch and roll limits.

When flying through a turn in SAFE Select, it is normal to hold the control stick deflected with moderate aileron input. To fly smoothly in SAFE Select, avoid frequent control changes. Do not attempt to correct for minor deviations. Holding deliberate control inputs in SAFE Select commands the aircraft to fly at a specific angle, and the aircraft makes corrections to maintain that flight attitude.

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

SAFE and AS3X+ Mode Differences

Flight speed and battery charge status may affect aircraft performance.

Control Input	Aircraft in SAFE Select	Aircraft in AS3X+
Neutral	Self levels	Flies at present attitude
Partial	Banks or pitches to a moderate angle; maintains attitude	Pitches or rolls slowly
Full	Banks or pitches to predetermined limits; maintains attitude	Pitches or rolls rapidly

SAFE Select Switch Designation

SAFE Select technology can be assigned to any open switch (2 or 3 position) controlling a channel (5–20) on the transmitter. Once assigned to a switch, SAFE Select ON offers the flexibility to choose SAFE Select or AS3X+ while in flight. If the aircraft is bound with SAFE Select OFF, the aircraft operates in AS3X+.

IMPORTANT: Before assigning a switch, ensure that the travel for that channel is set at 100% in both directions and the aileron, elevator, rudder and throttle are all on high rate with 100% travel.

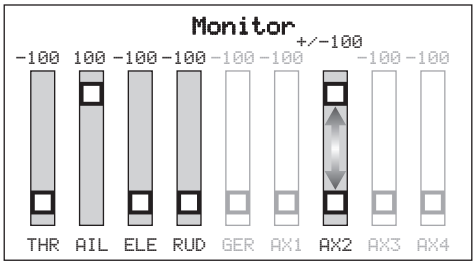
CAUTION: Keep all body parts well clear of the rotor and keep the aircraft securely restrained in case of accidental throttle activation.

TIP: SAFE Select can be assigned to any unused channel from 5 to 20. See the transmitter manual for more information about assigning a switch to a channel.

TIP: While assigning the switch, use a radio channel monitor to confirm that the four primary channels are showing 100% travel.

TIP: Use a radio channel monitor to verify:

1. The assigned switch for SAFE Select is active.
2. The switch is driving a channel between 5–20.
3. The channel travels 100% in each direction.



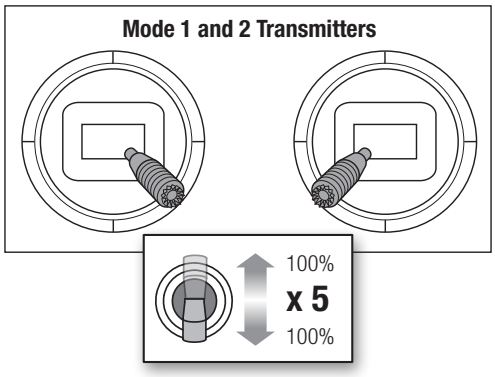
This example of the channel monitor shows the stick positions for switch assignment, the switch selection on Aux2, and ±100% travel on the switch.

TIP: If you have trouble assigning a SAFE Select switch, verify the four primary channels are not reversed.

Assigning a Switch

1. Power ON the transmitter.
2. Power ON the aircraft.
3. Hold both transmitter sticks to the bottom inside corners, and toggle the desired switch 5 times (1 toggle = full up and down). The control surfaces of the aircraft will move, indicating the switch is selected.

Repeat the process to assign a different switch or to deactivate the current switch.



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Forward Programming

Assign the SAFE Select channel through forward programming on your compatible Spektrum transmitter.

For more information about setting SAFE Select and using Forward Programming, please refer to the following link for a detailed video:

https://www.youtube.com/watch?v=o-46P066cik

Forward Programming SAFE Select Setup	
DX series, NX series, iX series	1. Begin with the transmitter bound to the receiver.
	2. Power ON the transmitter.
	3. Assign a switch for SAFE Select that is not already in use for another function. Use any open channel between 5 and 20.
	4. Set switch H (throttle cut) to prevent accidental motor operation.
	5. Power ON the aircraft. A signal bar appears on the transmitter main screen when the telemetry information is received.
	6. Go to the FUNCTION LIST (Model Setup).
	7. Select Forward Programming; Select Gyro Settings, Choose SAFE Select to enter the menu.
	8. Set SAFE Select Ch: To the channel you have chosen for SAFE Select.
	9. Set AS3X+ and SAFE ON or OFF for each switch position.

Integrated ESC Telemetry

BNF: This aircraft includes telemetry between the ESC and receiver, which can provide information including RPM, voltage, motor current, throttle setting (%), and FET (speed controller) temperature.

PNP: The ESC in this aircraft is capable of delivering telemetry information over the throttle connection when paired with a Smart compatible Spektrum telemetry receiver. It will function with a normal PWM servo signal for common radio control systems.

For more information about compatible transmitters, firmware updates, and how to use the telemetry technology on your transmitter, visit www.SpektrumRC.com.

Telemetry Setup	
DX series, NX series, iX series	1. Begin with the transmitter bound to the receiver.
	2. Power ON the transmitter.
	3. Set switch H (throttle cut) to prevent accidental motor operation.
	4. Power ON the aircraft. A signal bar appears on the transmitter main screen when the telemetry information is received.
	5. Go to the FUNCTION LIST (Model Setup)
	6. Select TELEMETRY: Smart ESC
	7. Set Total Cells: 3 or 4 based on battery choice
	8. Set LVC Alarm: 3.4V Set Alarm: Voice/Vibe
	9. Set pole count: 14 pole

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Battery Installation and ESC Arming

Battery Selection

We recommend a Spektrum Smart 5000mAh 22.2V 6S 30C LiPo battery (SPMX56S30) for this aircraft. Refer to the **Optional Parts List** for additional batteries. If you select a different battery, ensure that it is within the range of capacity, dimension, and weight to fit in the fuselage. Balance the model at the recommended CG.

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

WARNING: If your transmitter supports it, always engage throttle cut before approaching the aircraft any time a battery is connected.

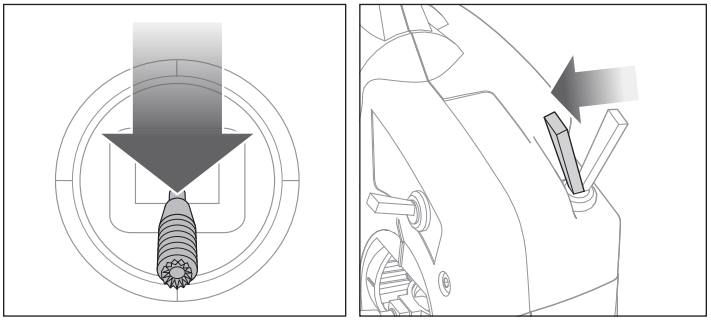
1. Lower the throttle to the lowest settings. Ensure the throttle trim is centered.
2. Power on the transmitter, then wait 5 seconds.
3. Slide the canopy latch back, and lift the back of the canopy (**A**) to remove it.
4. Slide the battery tray (**B**) out of the battery compartment.
5. Apply the loop side (soft side) of the optional hook and loop tape (**C**) to the bottom of the battery. Apply the the hook side to the battery tray.
6. Install a fully charged battery (**D**) on the front edge of the battery tray as shown, and secure it with the hook and loop straps (**E**).
7. Align the battery tray with the tracks in the battery compartment, and slide the tray all the way forward until the tray locks.
8. Connect the battery to the ESC, and complete the bind sequence if you have not already done so.
9. Keep the aircraft level, immobile and away from wind to initialize the system.

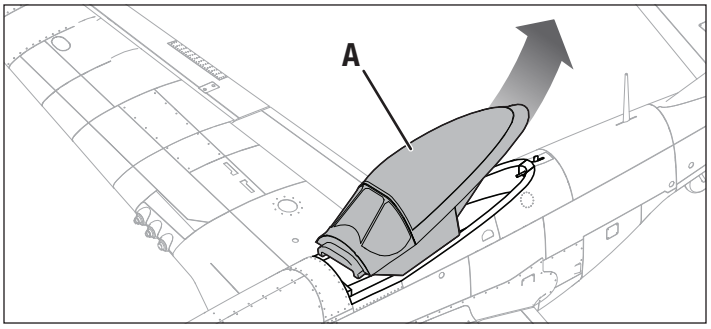
Once armed:

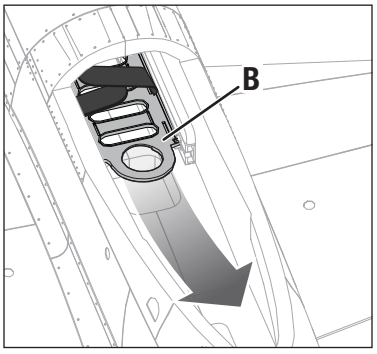
- The ESC sounds a series of tones (number of tones correspond to the battery cell count).
- The control surfaces cycle once for AS3X+ and twice for SAFE Select technology if it is powered ON.
- The receiver LED illuminates.

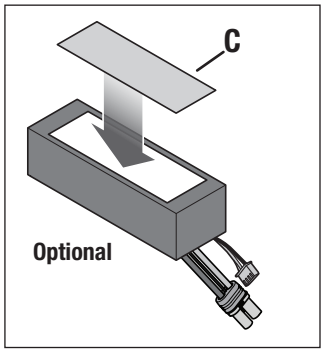
If the ESC sounds a continuous double beep after the flight battery is connected, recharge or replace the battery.

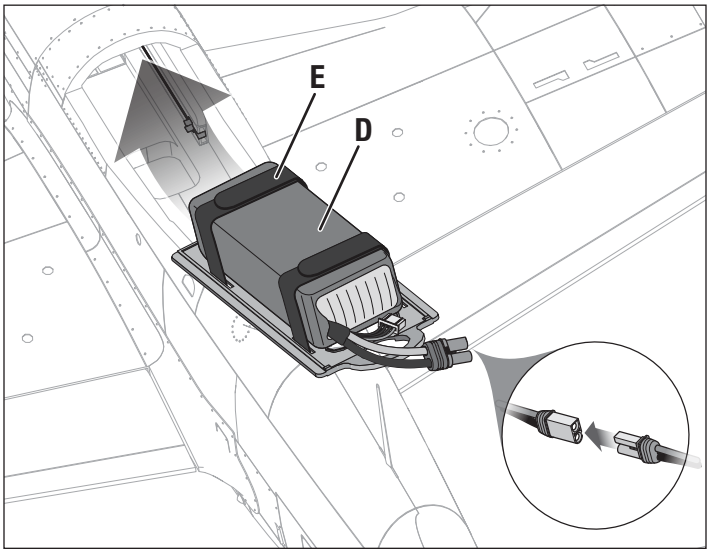
10. Reinstall the canopy hatch.











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Control Direction Test

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.

Elevators

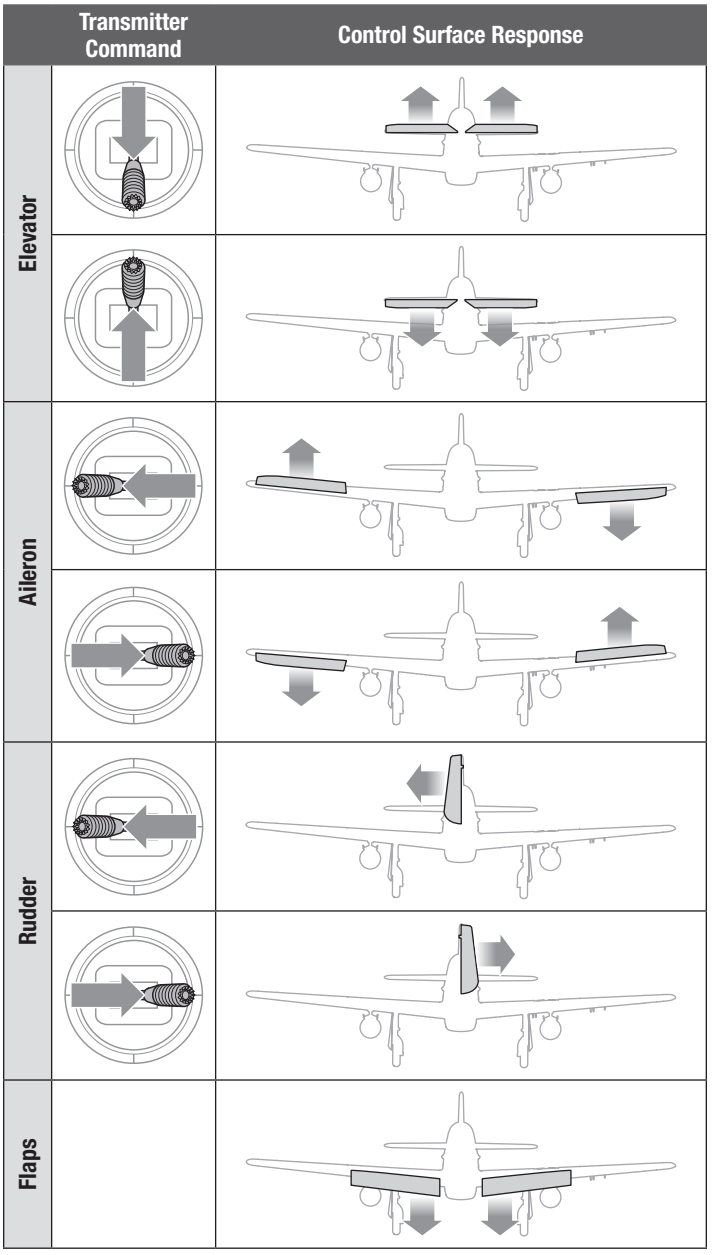
1. Pull the elevator stick back. The elevators should move up, which will cause the aircraft to pitch up.
2. Push the elevator stick forward. The elevators should move down, which will cause the aircraft to pitch down.

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.

Rudder

1. Move the rudder stick to the left. The rudders should move to the left, which will cause the aircraft to yaw left.
2. Move the rudder stick to the right. The rudders should move to the right, which will cause the aircraft to yaw right.



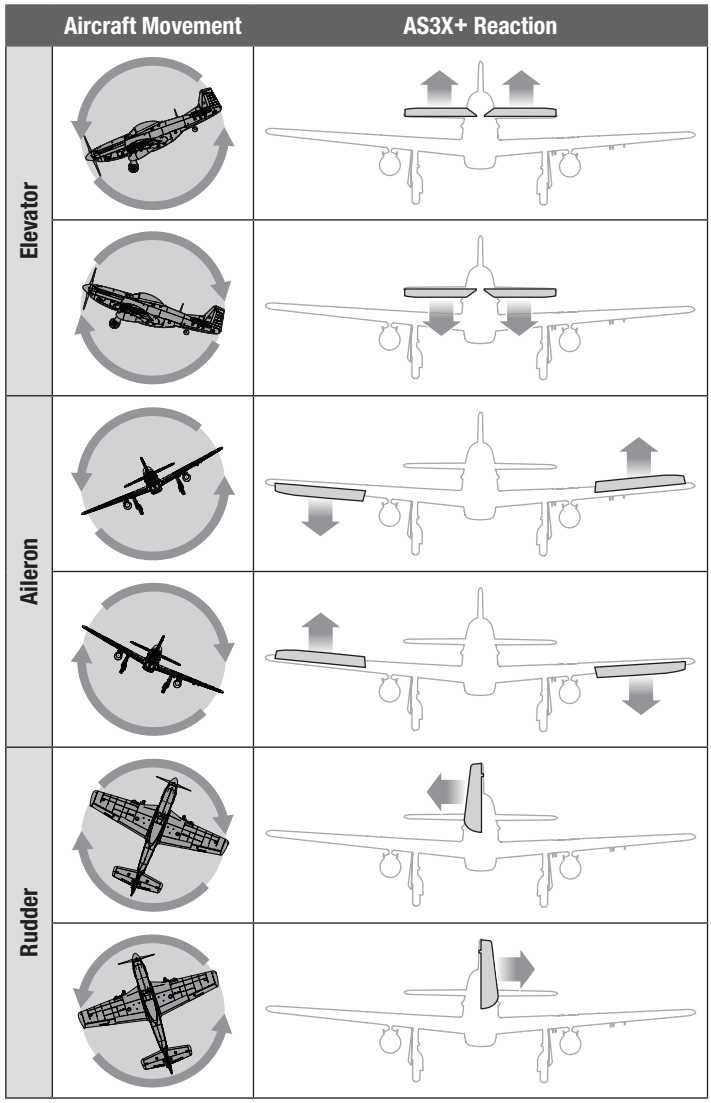
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AS3X+ Control Response Test (BNF Basic)

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

1. Raise the throttle just above 25%, then lower the throttle to activate AS3X+ technology.
2. 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.



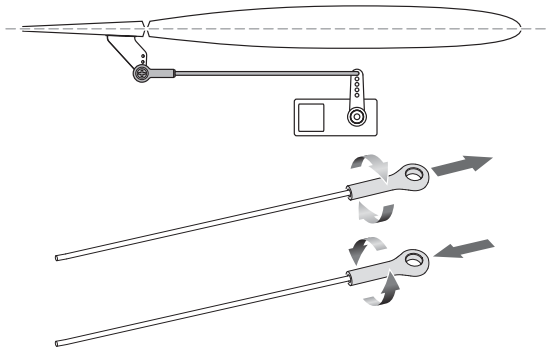
Control Surface Centering

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

1. Make sure the control surfaces are neutral with the transmitter controls and trims are centered. Always set the transmitter sub-trim to zero.
2. Power on the aircraft in AS3X+ mode, and leave the throttle at zero.
3. Look at the tip of each control surface and verify they are mechanically centered.
4. To adjust control surfaces, rotate the ball link on the linkage to change the linkage length between the servo arm and the control horn.

Centering Controls After First Flights

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



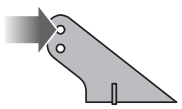
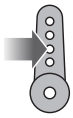
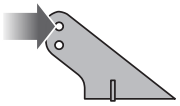
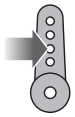
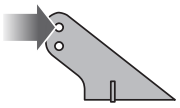
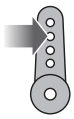
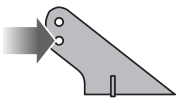
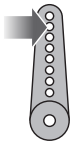
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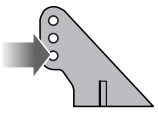
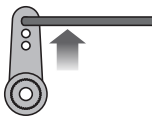
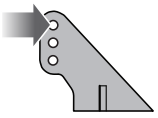
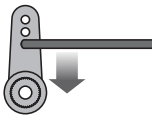
Control Horn and Servo Arm Settings

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

NOTICE: If control throws are changed from the factory settings, the AR637TA+ gain values may need to be adjusted. Refer to the Spektrum AR637TA+ manual for adjustment of gain values.

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

Factory Setting	Control Horns	Servo Arms
Elevator		
Ailerons		
Flaps		
Rudder		
Main Gear Doors		

Tuning	Control Horns	Servo Arms
More Control Throw		
Less Control Throw		

Dual Rates and Control Throws

Program the transmitter to set the rates and control throws based on your experience level. These values have been tested and are a good starting point to achieve a successful first flight.

After flying, adjust the values for the desired control response.

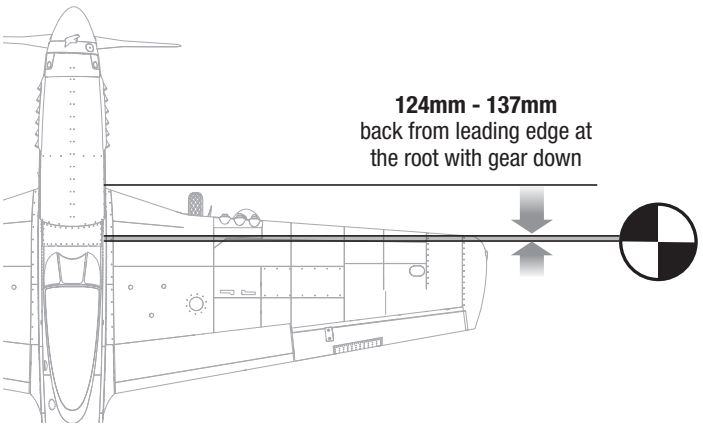
	High Rate	Low Rate
Aileron	▲ = 15mm ▼ = 15mm	▲ = 12mm ▼ = 12mm
Elevator	▲ = 13mm ▼ = 10mm	▲ = 13mm ▼ = 10mm
Rudder	▶ = 22mm ◀ = 22mm	▶ = 15mm ◀ = 15mm

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 5000mAh 22.2V 6S 30C LiPo battery (SPMX56S30) installed in the center of the battery tray.

TIP: Measure the CG with the landing gear down and the aircraft inverted.

CAUTION: Install the battery but do not arm the ESC while checking the CG. Personal injury may result.



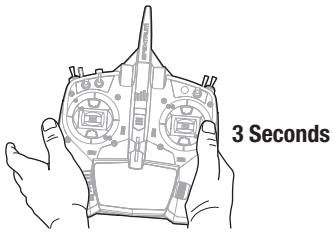
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In Flight Trimming

During your first flight, trim the aircraft for level flight at 3/4 throttle with flaps and gear up. 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.

Range Check the Radio System

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

Oscillation

Once the AS3X+ system is active (after advancing the throttle for the first time), you will observe the control surfaces correcting for aircraft movement. If the aircraft begins to oscillate or over-correct, see the Troubleshooting Guide for solutions.

Takeoff

Place the aircraft facing into the wind. Set the transmitter in low rate, and use the flaps switch to drop the flaps to takeoff or "half position." Gradually increase the throttle to ¾, and steer with the rudder. **Flaps make takeoffs shorter**. As the tail comes off the ground, pull back on the elevator. When the aircraft is airborne, flip the gear switch to raise the landing gear. Climb to a comfortable altitude, then flip the flaps switch to level the flaps.

Flying

For the first flights with the recommended 5000mAh 22.2V 6S 30C LiPo battery (SPMX56S30), set the transmitter timer or a stopwatch for five minutes. After five minutes, land the aircraft. Adjust the timer for longer or shorter flights after flying the model. If at any time the motor pulses, land the aircraft immediately to recharge the flight battery. See **Low Voltage Cutoff (LVC)** for more details on maximizing battery health and run time.

Landing

Use high rate elevator to land the aircraft into the wind. Use minimal throttle for the entire descent. Lower the throttle to ¼, and flip the flaps switch to deploy the flaps to the landing or "full down position." **Flaps make the landing approach steeper and slower, allowing for a smoother landing.** Flip the gear switch to lower the landing gear. The aircraft slows further.

Maintain throttle 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.

When landing on grass, hold full up elevator after touchdown and during taxi to prevent nosing over.

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

⚠ **WARNING:** Always decrease throttle at propeller strike.

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 aircraft in direct sunlight or in a hot, enclosed area such as a car. Doing so can damage the aircraft.

TIP: Use a LiPo Cell Voltage Checker (SPMXBC100, sold separately) to monitor the aircraft battery voltage before and after flight.

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 irreparable, refer to the replacement and optional parts lists at the end of this manual.

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

Post Flight

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.

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Motor Service

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

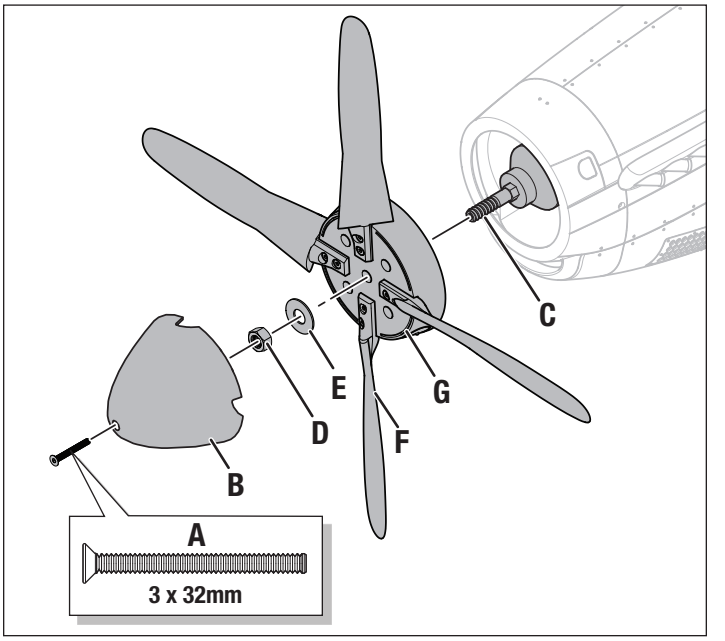
Disassembly

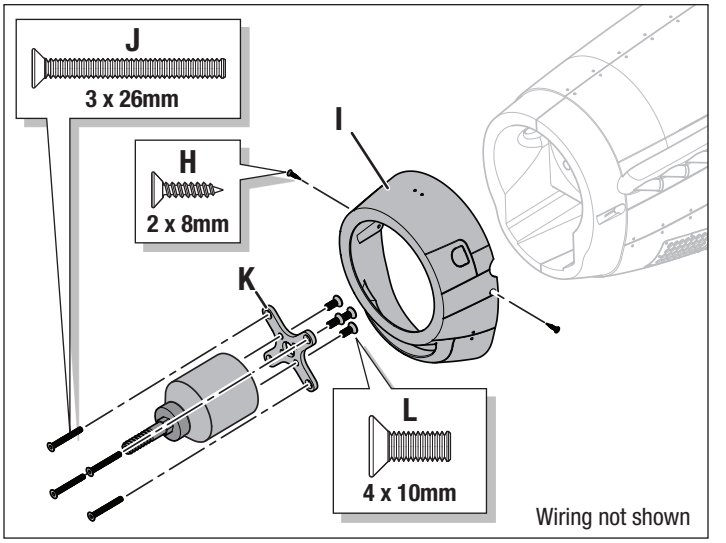
1. Remove the M3 x 32mm flathead screw (**A**) and spinner (**B**) from the propeller adapter (**C**).
2. Remove the propeller nut (**D**) and propeller washer (**E**).
3. Remove the propeller blades (**F**) and spinner backplate (**G**) from the propeller adapter (**C**).
4. Remove the two M2 x 8mm screws (**H**) from the cowl, then remove cowl (**I**) from fuselage.
5. Disconnect the motor wires from the ESC wires.
6. Remove the four M3 x 26mm flathead screws (**J**) to remove the X-mount (**K**) from the motor mount.
7. Remove the four M4 x 10mm flathead screws (**L**) to remove the X-mount mount from the motor.

Assembly

Assemble in reverse order.

- Correctly align and connect the motor and ESC wires by color.
- Use a wrench to tighten the propeller nut.
- Orient the propeller's yellow tips facing out from the motor.





Troubleshooting Guide AS3X+

Problem	Possible Cause	Solution
Oscillation	Damaged propeller or spinner	Replace propeller or spinner
	Imbalanced propeller	Balance the propeller. For more information, view John Redman's propeller balancing video at www.horizonhobby.com
	Motor vibration	Replace parts or correctly align all parts and tighten fasteners as needed
	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
Inconsistent flight performance	Trim is not at neutral	If you adjust trim more than 8 clicks, adjust the clevis to remove trim
	Sub-Trim is not at neutral	No Sub-Trim is allowed. Adjust the servo linkage
	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

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Troubleshooting Guide

Problem	Possible Cause	Solution
Aircraft will not respond to throttle but responds to other controls	Throttle not at idle and/or throttle trim too high	Reset controls with throttle stick and throttle trim at lowest setting
	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
Extra propeller noise or extra vibration	Damaged propeller and spinner, collet or motor	Replace damaged parts
	Propeller is out of balance	Balance or replace propeller
	Prop nut is too loose	Tighten the prop nut
Reduced flight time or aircraft underpowered	Flight battery charge is low	Completely recharge flight battery
	Propeller installed backwards	Install propeller with numbers facing forward
	Flight battery damaged	Replace flight battery and follow flight battery instructions
	Flight conditions may be too cold	Make sure battery is warm before use
	Battery capacity too low for flight conditions	Replace battery or use a larger capacity battery
Aircraft will not Bind (during binding) to transmitter	Transmitter 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, wireless source or another transmitter	Move aircraft and transmitter to another location and attempt binding again
	The bind plug is not installed correctly in the bind port	Install bind plug in bind port and bind the aircraft to the transmitter
	Flight battery/transmitter battery charge is too low	Replace/recharge batteries
	Bind switch or button not held long enough during bind process	Power off transmitter and repeat bind process. Hold transmitter bind button or switch until receiver is bound
Aircraft will not connect (after binding) to transmitter	Transmitter too near aircraft during connecting process	Move powered transmitter a few feet from aircraft, disconnect and reconnect flight battery to aircraft
	Aircraft or transmitter is too close to large metal object, wireless source or another transmitter	Move aircraft and transmitter to another location and attempt connecting again
	Bind plug left installed in bind port	Rebind transmitter to the aircraft and remove the bind plug before cycling power
	Aircraft bound to different model memory (ModelMatch™ radios only)	Select correct model memory on transmitter
	Flight battery/Transmitter battery charge is too low	Replace/recharge batteries
	Transmitter may have been bound to a different aircraft using different DSM protocol	Bind aircraft to transmitter
Control surface does not move	Control surface, control horn, linkage or servo damage	Replace or repair damaged parts and adjust controls
	Wire damaged or connections loose	Do a check of wires and connections, connect or replace as needed
	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 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 battery

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Replacement Parts

Part #	Description
EFL-4353	Canopy/Hatch with Pilot
EFL-4354	Spinner with Backplate
EFL-4355	Propeller Set (4)
EFL-4356	Horizontal Tail
EFL-4357	Left Wing Panel
EFL-4359	Retract Strut Covers
EFL-4360	Right Wing Panel
EFL-4361	Servo Covers
EFL-4362	Fuselage
EFL-4363	Center Wing Wire Cover
EFL-4364	Landing Gear Doors
EFL-4365	Cowl
EFL-4366	Center Main Wing
EFL-4367	Decal Set
EFL-4368	Scale Accessories
EFL-4883	Soft Wheel Set
EFL01252	Fuselage Hatch Pin Assembly
EFL01255	Battery Tray with Straps
EFL01262	Screw and Bolt Hardware Set
EFL01264	C-Clip, Pins and Retract Hinge Set
EFL01268	Pushrod Set with Clevises
EFL01271	Motor Propeller Adaptor, 4258–460kV
EFL01272	Motor Mount Set
EFL01274	Retract Gear Door Sequencer
EFL01276	Wing Panel Plugs
EFL01277	Hands Free Servo Plug Holder Set
EFLG01251	Main Landing Gear Retract Set
EFLG01252	Retract Strut Pin
EFLG01253	Left Retract Strut Assembly
EFLG01254	Right Retract Strut Assembly
EFLG01255	Retract Motor Unit
EFLG01256	Tailwheel Retract Set
EFLG01257	Tailwheel Axle
SPM-1032	AR637T+ 6 Channel AS3X+ & SAFE Telemetry Receiver
SPMA380R	9 Gram Servo Metal Gear Reverse
SPMSA430	17g Analog Servo
SPMSA450	Servo: 13g Digital Metal Gear
SPMXAM1000	4258-460kV 14-Pole Brushless Motor
SPMXAE1100A	Avian 100Amp Brushless Smart ESC, 3-6S Ver. A
SPMSA334	Sub-Micro Digital 9g Plastic Gear Servo

Recommended Parts

Part #	Description
SPMXC2080	Smart S1100 AC Charger, 1 x 100W
SPMX56S30	5000mAh 6S 22.2V Smart G2 LiPo 30C; IC5
SPMR8210	NX8+ 20 Channel DSMX Transmitter Only

Optional Parts

Part #	Description
EFL01263	Wheel Set, Hard
SPMX326S30	3200mAh 6S 22.2V Smart G2 LiPo 30C; IC5
SPMXC2020	Smart S1200 G2 AC Charger; 1 x 200W
SPMX56S100	5000mAh 6S 22.2V Smart G2 LiPo 100C; IC5
SPMX46S50	4000mAh 6S 22.2V Smart G2 LiPo 50C; IC5
SPMXBC200	XBC200 Smart Battery Checker & Servo Tester
SPMR7120	NX7e+ Black Edition 14 Channel Transmitter Only

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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. Use the QR code to learn more about registering with the FAA.

According to FAA regulation, all unmanned aircraft flying in United States airspace are required to either fly within an FAA-Recognized Identification Area (FRIA) or continually transmit an FAA-registered remote identification from a Remote ID broadcast module, such as the Spektrum™ Sky™ Remote ID module (SPMA9500). Use the QR code to learn more about the FAA Remote ID regulations.

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.

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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 carton.

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

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

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

ATTENTION: Horizon service is limited to Product compliant in the country of use and ownership. If received, a non-compliant Product will not be serviced. Further, the sender will be responsible for arranging return shipment of the un-serviced Product, through a carrier of the sender's choice and at the sender's expense. Horizon will hold non-compliant Product for a period of 60 days from notification, after which it will be discarded.

10/15

Contact Information

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

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FCC Information

Contains: FCC ID: BRWTIARLGTNG1
Supplier's Declaration of Conformity
EFL P-51D 1.5m PNP (EFL-3360) and EFL P-51D 1.5m BNF-Basic (EFL-3359): 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

Contains: CAN ICES-3 (B)/NMB-3(B)
Contains IC: 6157A-TIARLGTNG1

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.
2. 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 P-51D 1.5m PNP (EFL-3360): 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.

EFL P-51D 1.5m BNF-Basic (EFL-3359): 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.

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 Range and Wireless Output Power:
2404–2476MHz
19.95dBm

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.

E328

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E-flite, Bind-N-Fly, BNF, the BNF logo, DSM, DSM2, DSMX, Spektrum AirWare, IC2, IC3, AS3X, SAFE, the SAFE logo, ModelMatch, and the Horizon Hobby logo are trademarks or registered trademarks of Horizon Hobby, LLC.
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All other trademarks, service marks and logos are property of their respective owners.
US 8,672,726 US 9,056,667 US 9,753,457. US 10,078,329. US 9,930,567. US 10,419,970. Other patents pending.

http://www.horizonhobby.com/

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EFL-3359, EFL-3360