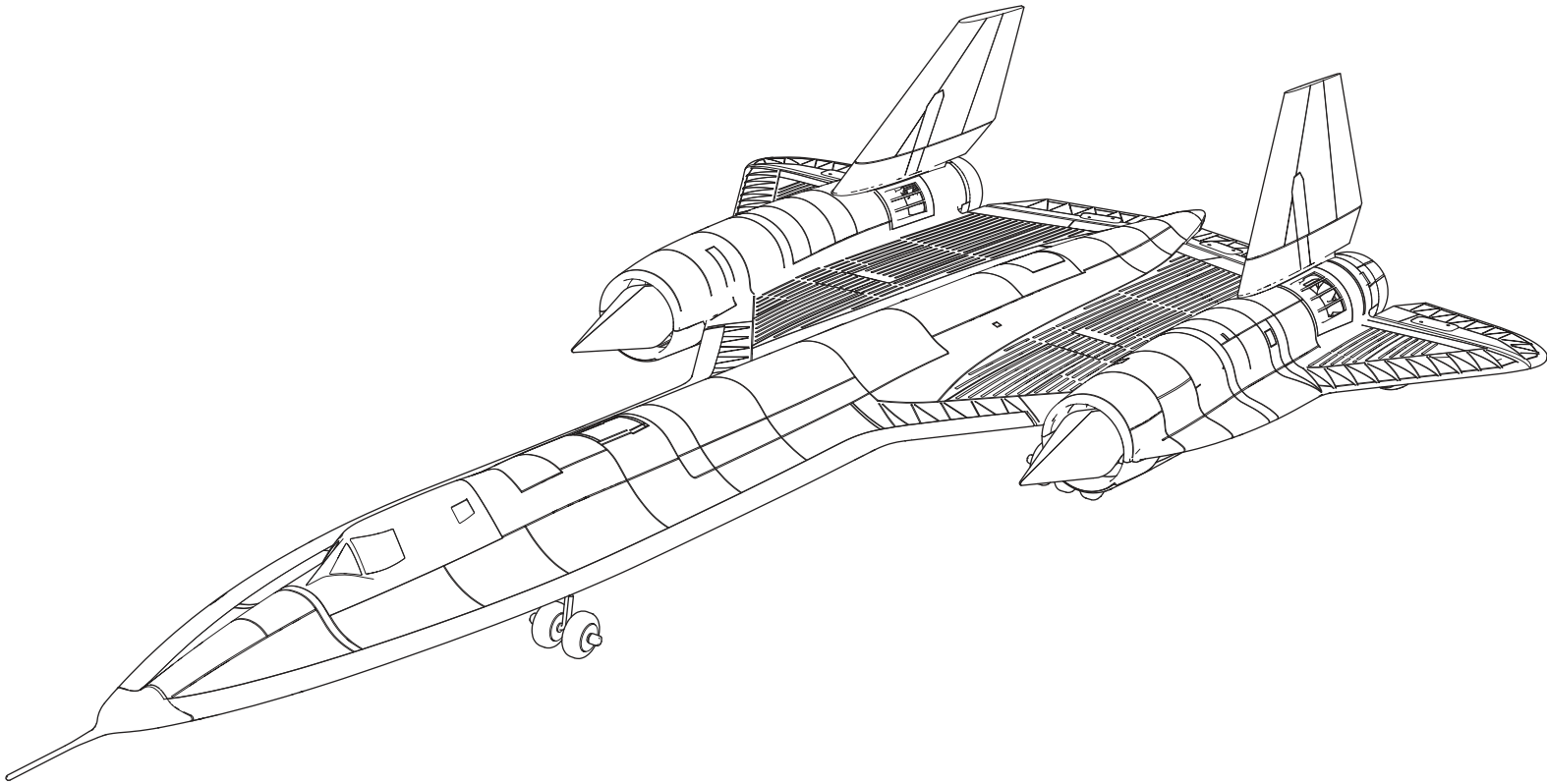


SR-71 Blackbird[®] Twin 40mm EDF



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EFL02050

Instruction Manual
Bedienungsanleitung
Manuel d'utilisation
Manuale di Istruzioni

16536
Created 5/23

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.

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	19.88" (505mm)
Length	37.6" (955mm)
Weight	Without Battery: 21.4oz (606g) With Recommended 4S 2200mAh Flight Battery: 29.4oz (834g)

Included Equipment

Receiver and ESC	Spektrum™ A3240A FC Unit: SR-71® Twin 40mm EDF Receiver and ESC 2 in 1
Motor	1820-6800Kv Brushless Motor, 6-pole Motor (SPMXAM2700)
Servos	(3) A202 2.9g Long-Throw Linear Servo (SPMSA202) Two Elevon, One Elevator (1) A201 2.3g Long-Throw Linear Servo (SPMSA201) Nose Gear

Recommended Equipment

Transmitter	NX6 6 Ch DSMX Transmitter Only (SPMR6775)
Flight Battery	2200mAh 4S 14.8V Smart 30C (SPMX22004S30)
Battery Charger	Smart S155 G2 AC 1x55W Charger; 1x200 (SPMXC2050)

Optional Accessories

SPMXBC100	Smart Battery & Servo Tester
SPMXPSA4	Smart Powerstage Aircraft 4S Bundle
SPMR8200	NX8 8 Ch DSMX Transmitter Only
SPMXC1070	Smart S150 AC/DC Charger, 1x50W
SPMX224S30	2200mAh 4S 14.8V Smart G2 30C;
SPMX224S50	2200mAh 4S 14.8V Smart G2 50C;

Transmitter Setup

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

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%.

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.

DX Series Transmitter Setup

1. Power ON your transmitter, click on scroll wheel, roll to **System Setup** and click the scroll wheel. Choose 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. Select **<Main Screen>**, Click the scroll wheel to enter the **Function List**
6. Set **D/R (Dual Rate) and Expo; Aileron**
Set **Switch: Switch F**
Set **High Rates: 100%, Expo 10% - Low Rates: 70%, Expo 5%**
7. Set **D/R (Dual Rate) and Expo; Elevator**
Set **Switch: SWITCH C**
Set **High Rates: 100%, Expo 10% - Low Rates 70%, Expo 5%**
8. Set **Throttle Cut; Switch: Switch H, Position: -100%**

NX Series Transmitter Setup

1. Power ON your transmitter, click on scroll wheel, roll to **System Setup** and click the scroll wheel. Choose yes.
2. Go to **Model Select** and choose **<Add New Model>** near the bottom of the list. Select **Airplane Model Type** by choosing the airplane, select **Create**
3. Set **Model Name**: Input a name for your model file
4. Select **<Main Screen>**, Click the scroll wheel to enter the **Function List**
5. Set **Rates and Expo; Aileron**
Set **Switch: Switch F**
Set **High Rates: 100%, Expo 10% - Low Rates: 70%, Expo 5%**
6. Set **Rates and Expo; Elevator**
Set **Switch: SWITCH C**
Set **High Rates: 100%, Expo 10% - Low Rates 70%, Expo 5%**
7. Set **Throttle Cut; Switch: Switch H, Position: -100%**

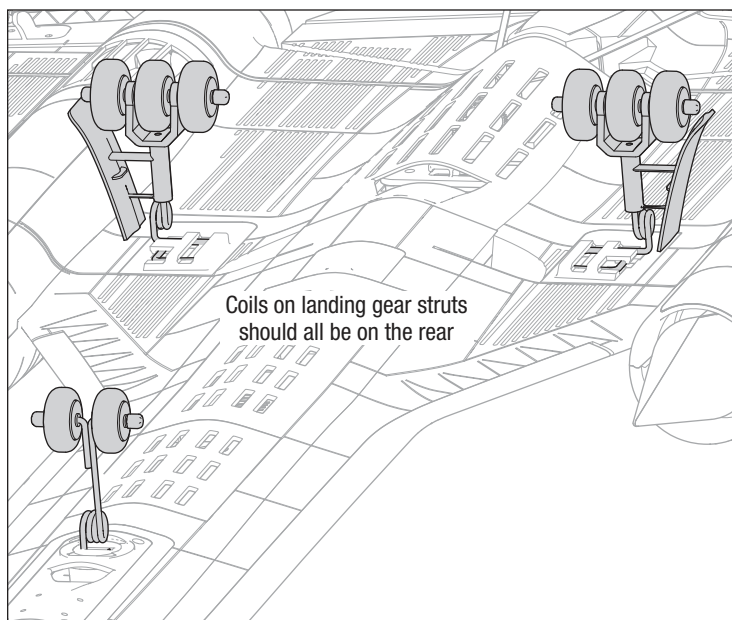
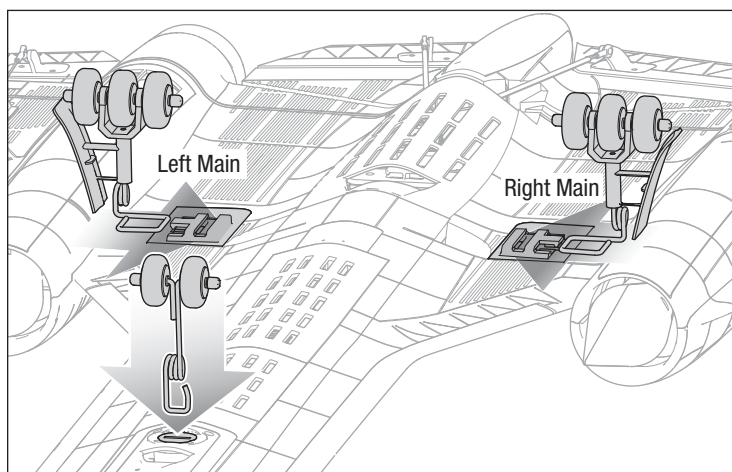
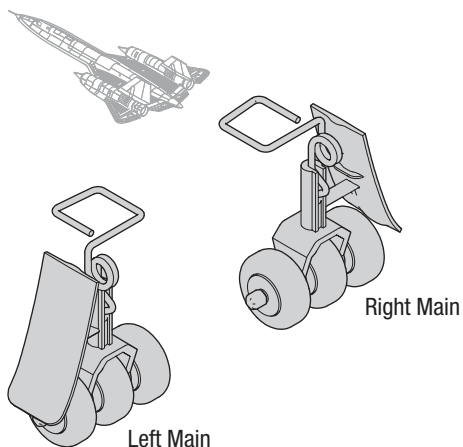
iX Series Transmitter Setup

1. Power ON your transmitter and begin once the Spektrum 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. 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. Tap 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 Adjust** menu
7. Set **Dual Rates and Expo; Select Aileron**
Set **Switch: Switch F**
Set **High Rates: 100%, Expo 10% - Low Rates: 70%, Expo 5%**
8. Set **Dual Rates and Expo; Select Elevator**
Set **Switch: SWITCH C**
Set **High Rates: 100%, Expo 10% - Low Rates 70%, Expo 5%**
9. Set **Throttle Cut; Switch: Switch H, Position: -100%**

Aircraft Assembly

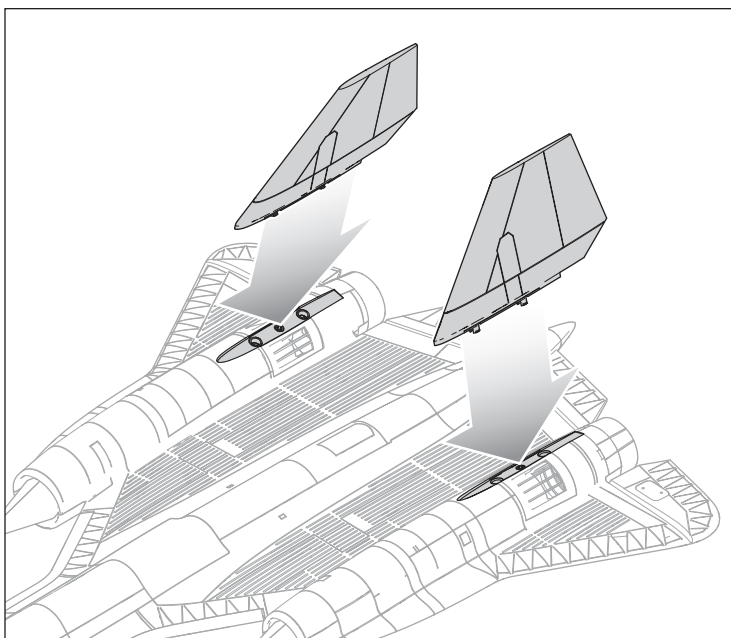
Landing Gear Installation (Optional)

1. Identify the left and right main landing gear, as shown in the diagram. The landing gear struts should have the coil on the back side of the main gear struts, and should extend from the rear side of the mounting bracket.
2. Insert the main landing gear assemblies into the brackets on the bottom of the fuselage from the outside, as shown.
3. Insert the nose wheel assembly into the nose wheel steering block with the coil on the back side of the nosewheel strut, as shown.



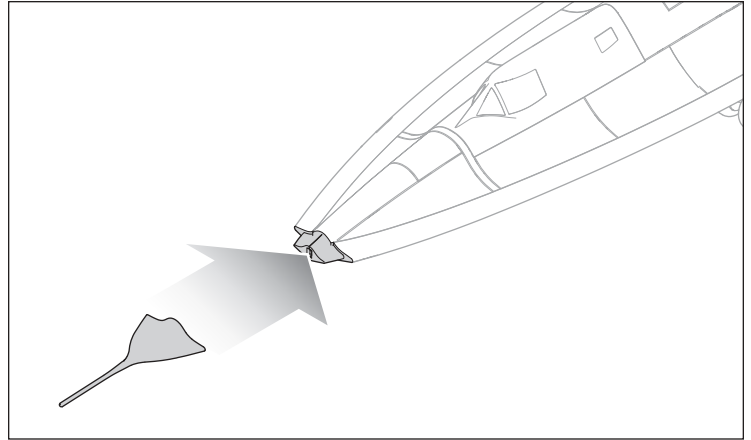
Fin Installation

1. Select the fin set you want to use. The black set is scale, and the red set has been provided for improved visibility.
2. Install the fins at a slight inward angle and press down to ensure they snap into place.



Nose Cone Installation

Install the nose cone on the front of the fuselage. You may choose to remove this for transportation to prevent damage.



Battery Installation and ESC Arming

Battery Selection

A 4S 2200mAh LiPo battery is required. The Spektrum 2200mAh 14.8V 4S 30C LiPo battery (SPMX22004S30) is recommended. Refer to the Optional Parts List for other recommended batteries. If using a battery other than those listed, the battery should be within the range of capacity, dimensions and weight of the Spektrum Li-Po battery packs to fit in the fuselage. Be sure the model balances at the recommended CG before flying.

1. Lower the throttle and throttle trim to the lowest settings. Power ON the transmitter, then wait 5 seconds.
2. With the SR-71® upside down, remove the magnetic battery hatch.
3. Slide the battery into the compartment all the way forward and secure in place with the hook and loop strap.
4. Connect the battery to the ESC. If you have not completed the bind sequence, do so at this time as outlined in this manual.

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

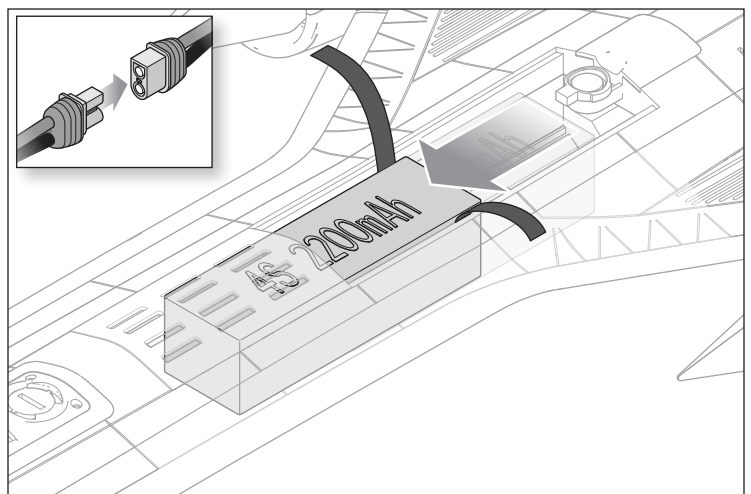
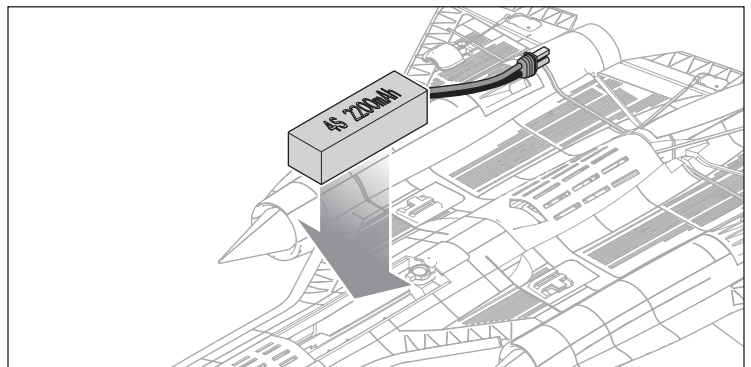
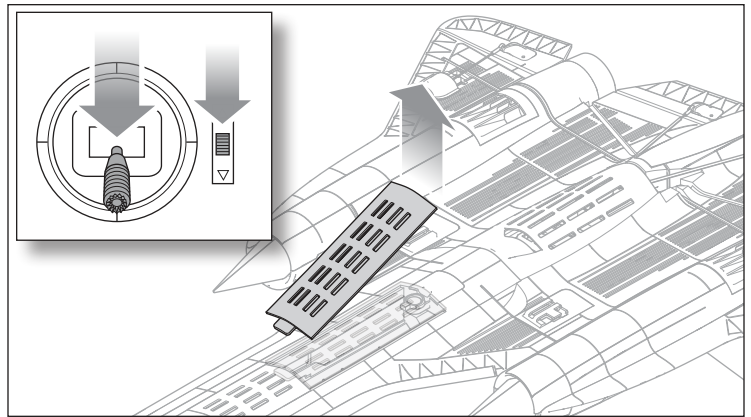
5. Keep the aircraft immobile and away from wind or the system will not initialize.
 - The motor will emit a tone when the battery is connected, then four even tones indicating the number of cells connected.
 - The motor will emit a series of tones after the flight controller is initialized.
 - An LED on the flight controller will indicate the flight mode after initialization. Reinstall the battery hatch.

Binding

1. Power the Aircraft ON.
2. The receiver in the flight controller will automatically enter bind mode if it does not connect to a transmitter. Bind mode is indicated by flashing blue and red lights.
3. Put your transmitter into bind mode, the aircraft will bind and establish a connection with your transmitter.
4. The aircraft must be kept upright and stable to initialize.

Flight controller LED

LED Color	Mode
Red and blue flashing	Bind Mode
Solid red and blue	SAFE
Solid red	AS3X

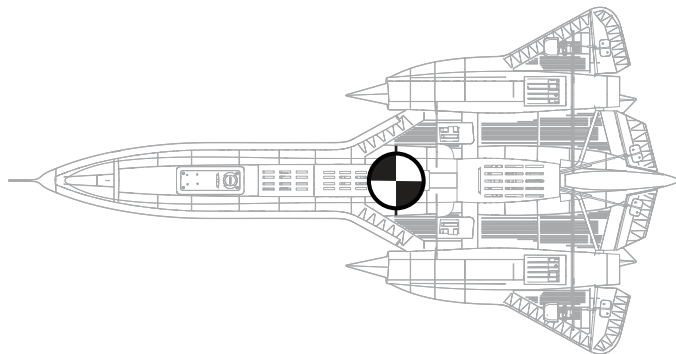


Failsafe

If the receiver loses transmitter communication, the failsafe will activate. When activated, failsafe moves the throttle channel to its preset failsafe position (low throttle) that was set during binding. All other channels move collectively and actively to place the aircraft in a slow descending turn.

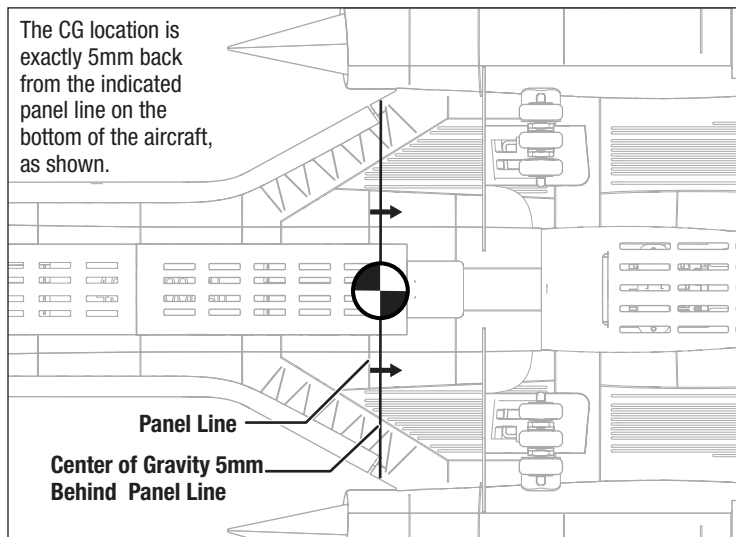
Center of Gravity (CG)

Measure the CG location with the recommended battery (SPMX22004S30) installed, with the model balanced upright. The battery should be located at the front of the battery compartment to achieve the proper CG.



The CG location is exactly 5mm back from the indicated panel line on the bottom of the aircraft, as shown.

Panel Line
Center of Gravity 5mm
Behind Panel Line



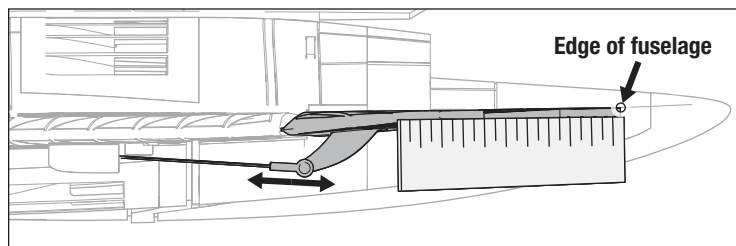
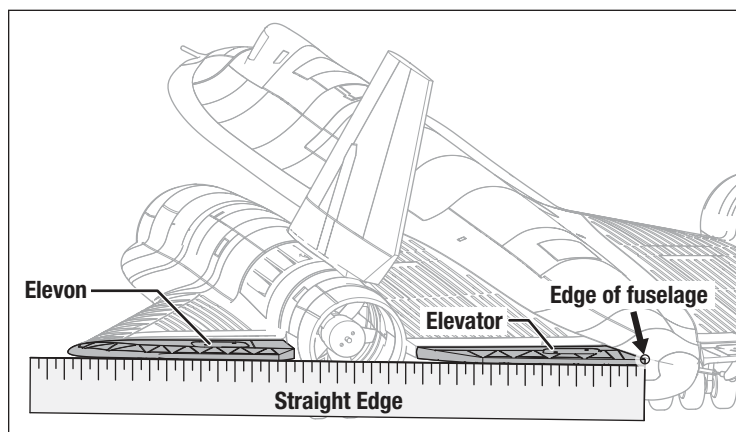
Control Surface Centering

After assembly and transmitter setup, confirm the control surfaces are centered. Control surface centering must be done with SAFE Select off, and AS3X not active. Keep the throttle at zero after powering on to prevent AS3X from activating.

IMPORTANT: Enable throttle cut to help prevent accidental throttle activation.

1. Verify the trims and subtrims on your transmitter are zero.
2. Connect a battery to the model with SAFE select off and keep throttle at zero.
3. At neutral the top of the elevator should be aligned with the edge of the fuselage, as shown.
4. Align each elevon (outer control surface) with the elevator halves (inner control surface) using a straight edge, as shown.
5. If adjustment is required, remove the lower hatch for access to the servo linkages.
6. Adjustments to the control surfaces may be made individually by disconnecting the ball link from the control horn and adjusting the length of the pushrod.

NOTICE: Be aware of the pushrod bottoming out in the ball linkage. Do not thread the pushrod too far into the ball link or the pushrod will damage the ball link and protrude into the area needed for the control ball. Stop turning if the threads become tight.



SAFE® Select Technology

When SAFE Select is activated, bank and pitch limitations keep you from over-controlling the aircraft. Additionally, by releasing the controls in the event you lose orientation, SAFE Select will keep the aircraft level.

To activate SAFE Select, flip the Gear channel switch (Switch A) to position 0. Return the Gear switch to position 1 to turn OFF SAFE Select and fly with just the assistance of AS3X® technology.

If you become disoriented or the aircraft is in a confusing attitude, flip the Gear switch to position 0 and release the sticks. With the aileron and elevator sticks in the neutral position, SAFE Select will automatically keep the airplane in a straight and level attitude.

Disabling and Enabling SAFE Select

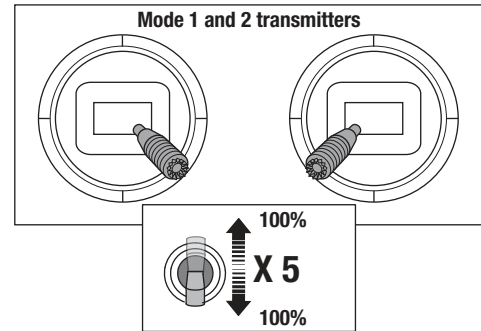
By default, the SAFE Select function of your aircraft is enabled and assigned to the Gear channel switch (channel 5). If you do not wish to have access to SAFE Select while flying, you can choose to disable SAFE Select functionality. AS3X will still be active when SAFE Select is disabled.

SAFE Select cannot be assigned to another channel in this aircraft. Choose to fly with SAFE Select ON or OFF using switch A (by default) when using the suggested transmitter setup.

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 rotor, intake and exhaust tube 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.



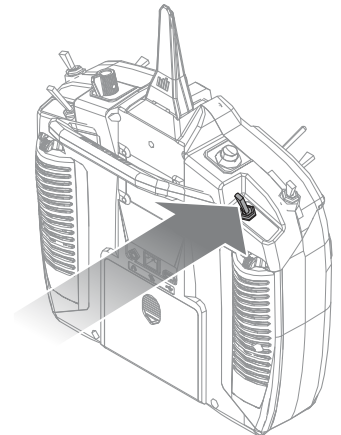
Repeat the process to re-enable or disable SAFE Select.

Switch A is used for SAFE Select as shown below on the NX8

TIP: If you prefer to use a different switch to control SAFE Select, you can assign it to another switch in your transmitter by changing the switch assigned to gear/channel 5.

IMPORTANT: We recommend using high rates when flying with SAFE Select ON

Low rates with SAFE Select ON will reduce the pitch and bank angle limits resulting in less control and wider turns in particular.



Smart™ Technology Telemetry

Smart Technology Electronic Speed Control (ESC)

This aircraft is equipped with an exclusive Smart technology electronic speed control that can provide a variety of real-time power system related telemetry data while you fly, including motor RPM, current, battery voltage and more to compatible Spektrum AirWare™ equipped transmitters.

When powered on, the ESC will send the below information to the flight controller and the information will be displayed on the transmitter telemetry screen.

- RPM*
- Voltage
- Current
- Throttle
- FET Temperature
- BEC Temperature

* During binding the transmitter will perform an auto configuration which will populate the telemetry page. You may need to change the telemetry values on those pages to suit this aircraft and your needs.

To enter the telemetry values:

(For iX series transmitters, you must select Save on each page)

1. Power on your transmitter.
2. Set the throttle cut to on.
3. Power on the aircraft and allow it to initialize.
4. In your transmitter, go to the **Function List (Model Setup** in iX series transmitters).
5. Select the **Telemetry** menu option.
6. Go to the **Smart Battery** menu option.
7. Scroll down to **Startup Volts**, enter **4.0V/cell**.
8. Return to the **Telemetry** menu.
9. Go to the **Smart ESC** menu option.
10. Scroll down to **Low Voltage Alarm**, enter **3.4V/cell**.
11. Scroll down to **Poles**, enter **6**.
12. Return to the main screen.

DX/NX screenshots shown below

Telemetry		LIST
Auto-Config	6: Empty	
1: Smart Battery	7: Empty	
2: Empty	8: Empty	
3: GForce	9: Empty	
4: Gyroscope	10: Rx V	
5: Smart ESC	11: Flight Log	

Smart Battery		BACK
Display: Act	Alarm	
Startup Volts Min: 4.00V/cell	Tone	
Overcharge Max: 4.20V/cell	Tone	
Imbalance Max: 200mV	Tone	

Smart ESC		BACK
Display: Act	Alarm	
Total Cells: 4		
Low Voltage Alarm: 3.40V/Cell	Voice	
Amps Max: 4A	Inh	
FET Temp Max: 199F	Voice	
Poles: 6		
Ratio: 1.00:1		
Status Reports: Inh		
Warning Reports: Inh		

Telemetry Alarms

Smart Battery : Startup Voltage Minimum	4.0V
Smart ESC : Low Voltage Alarm	3.4V
Smart ESC : Motor Poles	6

Control Direction Test

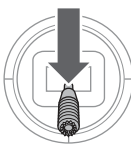
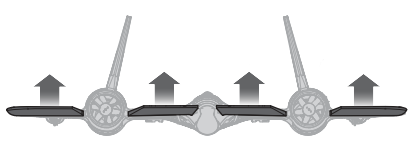

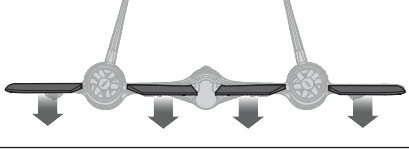
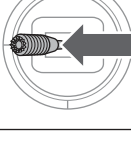
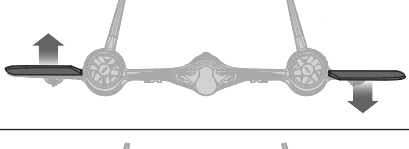
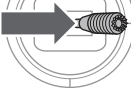

Switch on the transmitter and connect the battery. Use the transmitter to operate the aileron, and elevator control. View the aircraft from the rear when checking the control directions.

Elevator

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

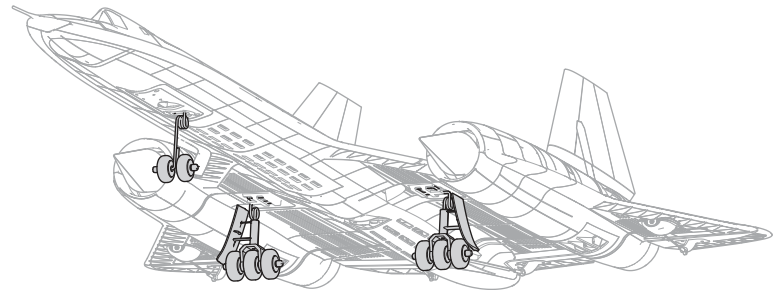
Ailerons

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

	Transmitter command	Control Surface Response
Elevator		
		
Ailerons		
		

Landing Gear

The landing gear may be left installed or removed to suit your flying area. We recommend using the landing gear when you can take off and land from a smooth surface. If you are flying from long grass you may choose to remove the landing gear, in which case you will need to hand launch the aircraft and belly land.



Hand Launching

NOTICE: Hand launching in AS3X mode is not recommended as it may result in a crash. Always hand launch in SAFE mode.

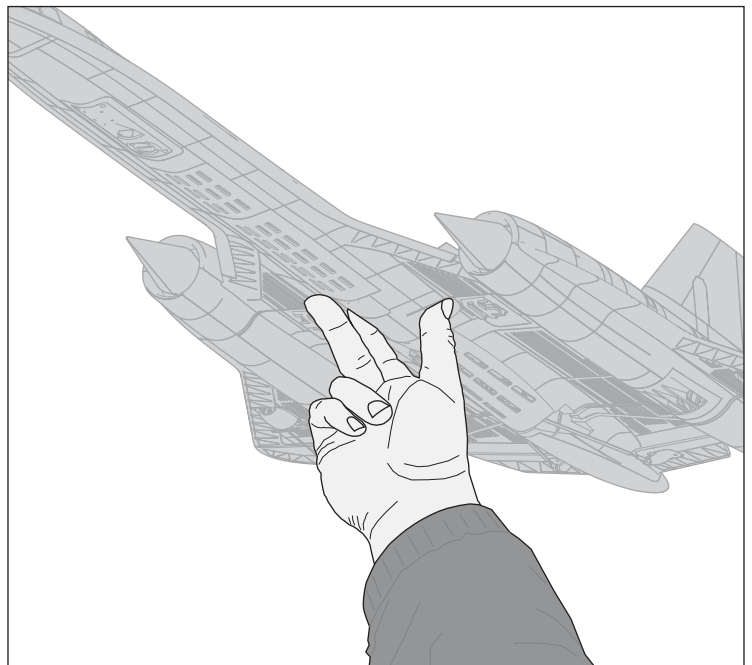
- We recommend flying without landing gear when hand launching.
 - Always hand launch in SAFE mode, into the wind, at 100% power, in high rates.
- When hand launching in SAFE mode, the flight controller will immediately sense the force of the launch and will automatically enable the SAFE hand launch mode. In this mode the flight controller will add up elevator automatically so the aircraft climbs at a higher angle for a few seconds. It will return to standard SAFE mode shortly after launch.

Grip

Hold the aircraft using the molded-in finger holes, as shown.

Follow Through

Using an overhand throw, launch the aircraft with the wings level and the nose pointed slightly upwards. Follow through with your hand launch by pointing your fingers at the airplane after the throw. Avoid an arching throw which can pull the nose down at release.



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

Takeoff (from ground/using landing gear)

Place the aircraft in position for takeoff (facing into the wind). Set your transmitter in low rate and gradually increase the throttle from $\frac{3}{4}$ to full and steer with the rudder control stick. As the airplane gains speed, gently pull back on the elevator and climb to a comfortable altitude

Flying

Fly the airplane and trim it for level flight at full throttle. 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

Make sure to land the aircraft into the wind. Start to slow the model down to an approach speed. Fly the aircraft to approximately 3 feet (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.

Post Flight Checklist

Disconnect the flight battery from the ESC
Power OFF the transmitter
Remove the flight battery from the aircraft
Recharge the flight battery

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

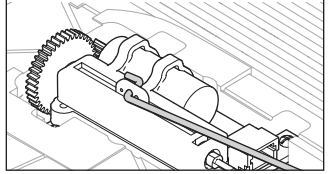
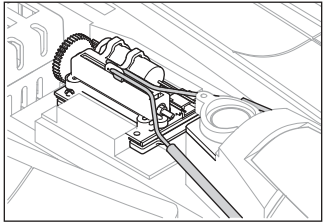
Thanks to the EPO foam material in this aircraft, repairs to the foam can be made using virtually any adhesive (hot glue, regular CA, epoxy, etc). When parts are not repairable, see the Replacement Parts List for ordering by item number. For a listing of all replacement and optional parts, refer to the 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.

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

Control Horn and Servo Arm Factory Settings

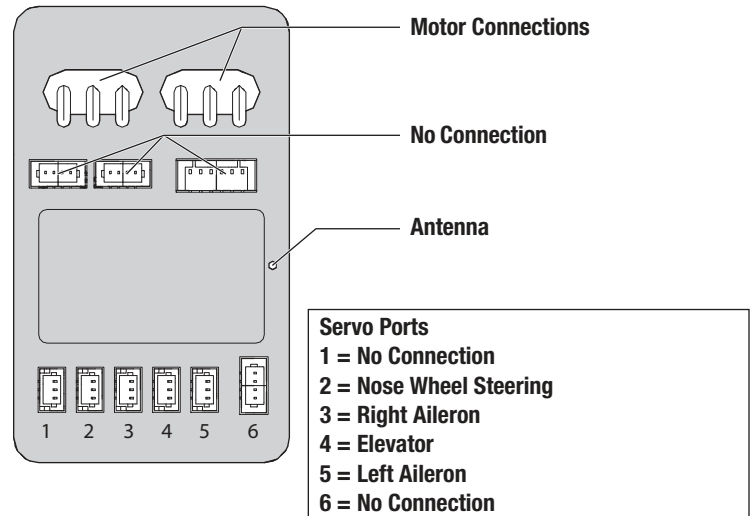
The table to the right shows the factory settings for the control horns and servo arms. Fly the aircraft at factory settings before making changes.

		Factory Settings	
		Control Horns	Servo
Elevator			<p>The Z bend for the pushrod going to the Aileron servos goes through the center hole on the servo output.</p> 
			<p>The elevator linkage includes two pushrods which both operate from the sliding tab on the servo. The right elevator has a Z bend and goes in the middle hole. The left elevator has a U bend and goes in the rear hole.</p> 
Ailerons			
		<p>The control horns all feature a single mounting point for the ball link. There is no adjustability in these linkages because the SR-71® has been finely tuned and we do not recommend changing the control configuration.</p>	

Flight Controller Wiring

All the functions of this aircraft are handled in the flight controller. If you need to remove the flight controller it needs to be reinstalled in the same orientation as originally mounted. The servo connectors should be at the rear of the receiver, facing down.

Reference the following diagram for servo and motor connections.

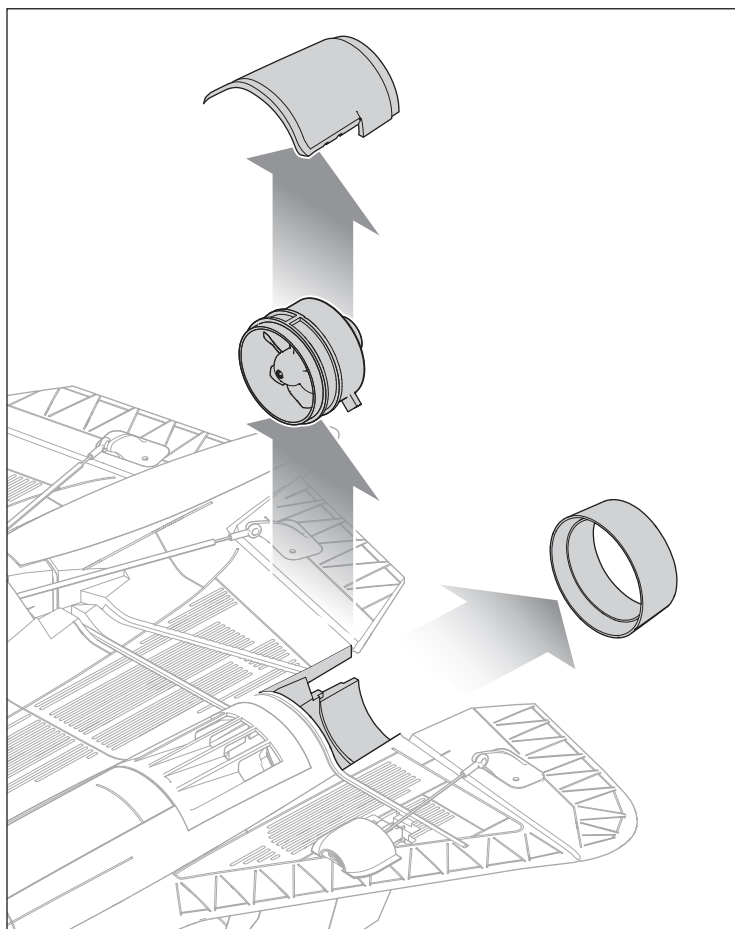
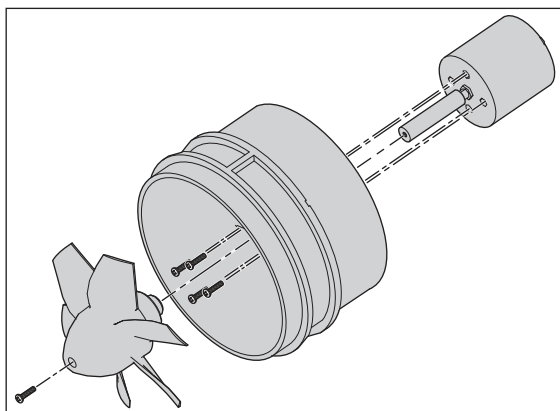


Power System Service

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

To access the power system for service, a fresh hobby knife is required to separate the parts holding the ducted fan in place.

1. Cut along the seam around the perimeter of the tail cone and remove the tail cone.
2. Cut along the glue seam for the lower rear fan ducting. Avoid cutting the motor wires.
3. The fan unit is glued in place, remove it by gently twisting the fan enclosure.
4. Repair or replace the fan parts as necessary.
5. Reinstall the fan with a small dab of medium or thick CA glue; the fan enclosure is captured in the foam which provides most of the mounting strength.
6. Reinstall the fan enclosure with small dabs of medium or thick CA glue along the fore/aft seam and along the leading edge of the part.
7. Reinstall the tail cone with small dabs of medium or thick CA glue.



Troubleshooting Guide AS3X

Problem	Possible Cause	Solution
Oscillation	Damaged rotor or nose cone	Replace rotor or nose cone
	Imbalanced rotor	Balance the rotor
	Motor vibration	Replace parts or correctly align fan unit or other 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 rotor, nose cone, 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 ball link 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

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
Excessive fan noise or excessive vibration	Damaged fan, nose cone, collet or motor	Replace damaged parts
	Fan is out of balance	Balance or replace fan
	Fan screw is loose	Tighten the fan screw
Reduced flight time or aircraft underpowered	Flight battery charge is low	Completely recharge flight battery
	Flight battery damaged	Replace flight battery and follow flight battery instructions
	Flight conditions may be too cold	Make sure battery is not cold before use (Do not apply heat to the battery)
	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
	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
	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 low	Use recommended battery

Replacement Parts

Part #	Description
EFL01459	Rotor Fan: 40mm EDF
EFL01460	Fan Unit w/Rotor: 40mm EDF
EFL02051	Fuselage: SR-71® Twin 40mm EDF
EFL02052	EDF Duct Covers: SR-71® Twin 40mm EDF
EFL02053	Nose Gear Cover w/ Servo arm: SR-71® Twin 40mm EDF
EFL02054	Battery Hatch: SR-71® Twin 40mm EDF
EFL02055	Flight Controller Hatch: SR-71® Twin 40mm EDF
EFL02056	Nose Cone: SR-71® Twin 40mm EDF
EFL02057	Tail Cones: SR-71® Twin 40mm EDF
EFL02058	Fin Set, Black: SR-71® Twin 40mm EDF
EFL02059	Fin Set, Red: SR-71® Twin 40mm EDF
EFL02060	Landing Gear Set: SR-71® Twin 40mm EDF
EFL02061	Servo Covers: SR-71® Twin 40mm EDF
EFL02062	Pushrod, Hardware Set: SR-71® Twin 40mm EDF
EFL02063	Nacelle Cones: SR-71® Twin 40mm EDF
EFL02064	Decal Sheet: SR-71® Twin 40mm EDF
EFL02065	Screw Set: SR-71® Twin 40mm EDF
EFL02066	FC Rubber Isolation Mounts: SR-71® Twin 40mm EDF
SPMA3240A	FC Unit: SR-71® Twin 40mm EDF
SPMSA201	A201 2.3g Long-Throw Linear Servo
SPMSA202	A202 2.9g Long-Throw Linear Servo
SPMXAM2700	1820-6800Kv Brushless Motor, 6-pole

Recommended Parts

Part #	Description
SPMR6775	NX6 6 Ch Transmitter Only
SPMX22004S30	2200mAh 4S 14.8V Smart 30C; IC3
SPMXC2050	Smart S155 G2 AC 1x55W Charger

Optional Parts

Part #	Description
SPMA2005	UMX Linear Servo Extensions; Multi-Pack
SPMXBC100	Smart Battery & Servo Tester
SPMXPSA4	Smart Powerstage Aircraft 4S Bundle
SPMR8200	NX8 8 Ch DSMX Transmitter Only
SPMXC1070	Smart S150 AC/DC Charger, 1x50W
SPMX224S30	2200mAh 4S 14.8V Smart G2 30C;
SPMX224S50	2200mAh 4S 14.8V Smart G2 50C;

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.



Recreational UAS Safety Test

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.



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 aircraft using 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 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 Sales: Horizon Hobby GmbH	service@horizonhobby.eu +49 (0) 4121 2655 100	Hanskampring 9 D 22885 Barsbüttel, Germany

FCC Information

FCC ID: BRWWAC01T

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 co-located or operating in conjunction with any other antenna or transmitter.

Supplier's Declaration of Conformity

FC SR-71 Blackbird® Twin 40mm EDF BNF Basic (EFL02050):

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-WAC01T

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

CE EU Compliance Statement:

SR-71 Blackbird® Twin 40mm EDF BNF Basic (EFL02050):

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 and output:

Receiver:

2404-2476 MHz

1.43 dBm

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



Officially Licensed By



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US 8,201,776. Other patents pending.

<http://www.horizonhobby.com/>