Manuals+ — User Manuals Simplified.

E-flite DRACO 2.0m Smart BNF Basic Instruction Manual

Contents

DRACO 2.0m Smart BNF Basic

Product Information

The DRACO 2.0m is a high-performance remote-controlled airplane designed for experienced pilots. It comes equipped with a 5065 Brushless Out runner motor, a Smart 100-Amp ESC, and a Spektrum AR637TA 6-Channel AS3X/SAFE Telemetry Receiver. The airplane has a wingspan of 53 inches (1345mm) and weighs 8.5lbs (3.86kg) without the battery and 10.0lbs (4.53kg) with the recommended 6S 5000mAh 22.2V 30C Smart LiPo Battery. The product is recommended for users aged 14 years and above.

Product Usage Instructions

Before operating the DRACO 2.0m, it is important to read the entire instruction manual to become familiar with the features of the product. Failure to operate the product correctly can result in damage to the product, personal property, and cause serious injury.

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.

Box Contents

- DRACO 2.0m airplane
- 5065 Brushless Outrunner motor
- Smart 100-Amp ESC
- Spektrum AR637TA 6-Channel AS3X/SAFE Telemetry Receiver
- Aileron, Rudder, and Elevator servos
- Flaps servos
- Quick Start Information

Required to Complete

The following items are required to complete the DRACO 2.0m:

- 6S 5000mAh 22.2V 30C Smart LiPo Battery
- Spektrum S1200 G2 AC 1x200W AC Smart Charger

Flight Timer Setting

The recommended flight timer setting for the DRACO 2.0m is 5 minutes.

Center of Gravity (CG)

The CG for the DRACO 2.0m is 100mm +/- 5mm back from the leading edge of the wing slat.

Channels Frequency Compatibility

The channels frequency compatibility for the DRACO 2.0m is not provided.

Receiver Bind Information

The receiver for the DRACO 2.0m is a Spektrum AR637TA 6-Channel AS3X/SAFE Telemetry Receiver. Refer to the instruction manual for receiver bind information.

For additional assistance on regulations and guidance on UAS usage, visit **knowbeforeyoufly.org**/. If you own this product, you may be required to register with the FAA. For up-to-date information on how to register with the FAA, please visit **https://registermyuas.faa.gov**/.

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.

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

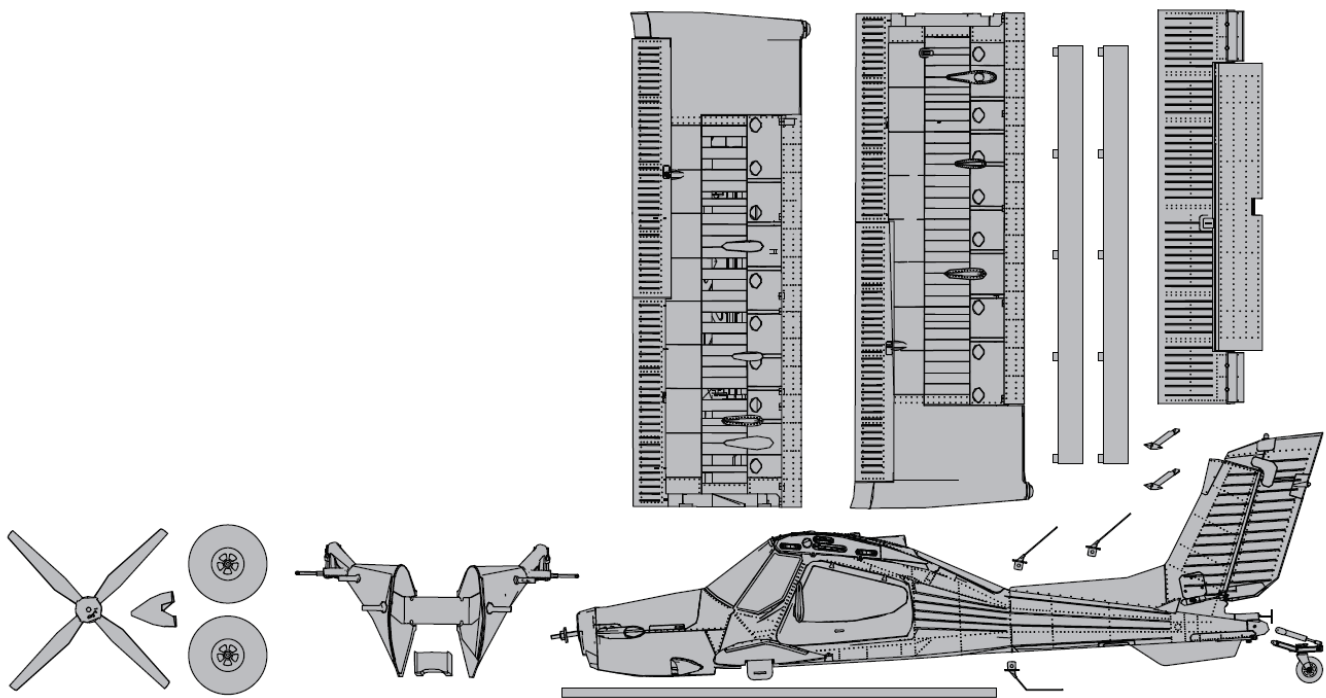## Safety Precautions and Warnings

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.
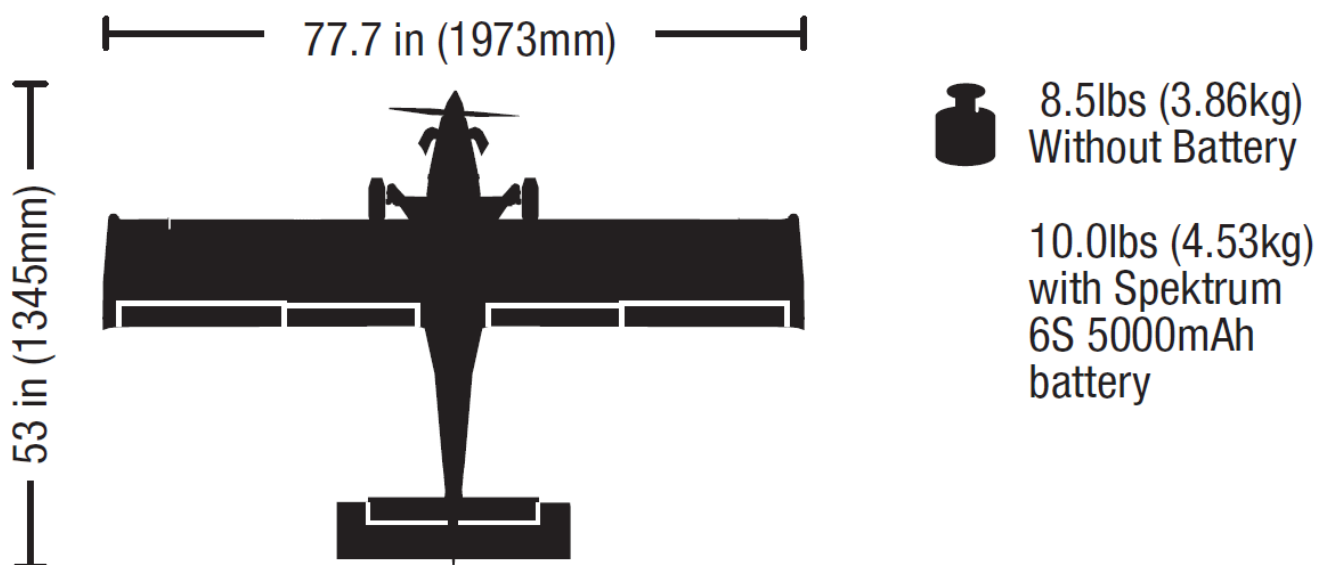
Box Contents

Quick Start Information			
Transmitter Setup	1. Blank (Acro) Model		
	2. Servo Reversing: Set all to normal		
	3. Travel Adjust (All Surfaces): 100%		
Travels/Dual Rates		**High Rate**	**Low Rate**
	Aileron	= 45mm = 25mm	= 30mm = 20mm
	Elevator	= 30mm = 30mm	= 20mm = 20mm
	Rudder	= 40mm = 40mm	= 30mm = 30mm
Flap Travel	**Half** q = 20mm		**Full** q = 40mm
Flap to Elevator Mix	12% down elevator		20% down elevator
Exponential		**High Rate**	**Low Rate**
	Aileron	10%	5%
	Elevator	10%	5%
	Rudder	10%	5%
Center of Gravity (CG)	**100mm** +/- 5mm back from leading edge of wing slat.		
Flight Timer Setting	5 minutes		

Specifications		
Motor: 5065 Brushless Out runner: 12 Pole (EFLM5065D)	**Installed**	**Installed**
ESC: Smart 100-Amp ESC (SPMXAE1100)	**Installed**	**Installed**
Servos: Aileron: A332 9g Sub-Micro MG Servo: 170mm Lead (2) Rudder: A332 9g Sub-Micro MG Servo: 170mm Lead (1) Elevator: A332 9g Sub-Micro MG Servo: 170mm Lead (1) Flaps: A332 9g Sub-Micro MG Servo: 170mm Lead (2)	**Installed**	**Installed**
Receiver: Spektrum™ AR637TA 6-Channel AS3X/SAFE Telemetry Receiver (SPMAR637T)	**Installed**	**Required to Complete**
Recommended Battery: 6S 5000mAh 22.2V 30C Smart LiPo Battery: IC5 (SPMX50006S30)	**Required to Complete**	**Required to Complete**
Recommended Battery Charger: Spektrum S1200 G2 AC 1x200W AC Smart Charger (SPMXC2020)	**Required to Complete**	**Required to Complete**
Recommended Transmitter: Full-Range 2.4GHz 6+ Channel with Spektrum™ DSM2®/ DSMX® technology with programmable mixing and adjustable dual rates	**Required to Complete**	**Required to Complete**

RECEIVER BIND INFORMATION	
Channels	6
Frequency	2404 – 2476 MHz
Compatibility	DSM2 and DSMX

77.7 in (1973mm)

53 in (1345mm)

8.5lbs (3.86kg) Without Battery

10.0lbs (4.53kg) with Spektrum 6S 5000mAh battery

If you own this product, you may be required to register with the FAA. For up-to-date information on how to register with the FAA, please visit **https://registermyuas.faa.gov**/. For additional assistance on regulations and guidance on UAS usage, visit **knowbeforeyoufly.org**/.

Preflight

1	Remove and inspect contents.
2	Read this instruction manual thoroughly.
3	Charge the flight battery.
4	Setup Transmitter using transmitter setup chart.
5	Fully assemble the airplane.
6	Install the flight battery in the aircraft (once it has been fully charged).
7	Check the Center of Gravity (CG).
8	Bind the aircraft to your transmitter.

9	Make sure linkages move freely.
10	Perform the Control Direction Test with the transmitter.
11	Perform the AS3X Control Direction Test with the aircraft.
12	Adjust flight controls and transmitter.
13	Perform a radio system Range Test.
14	Find a safe open area to fly.
15	Plan flight for flying field conditions.

Transmitter Setup

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

WARNING: Never assign Aux 2 to SAFE Select during transmitter setup with any model transmitter. If SAFE Select is assigned to Aux 2, the throttle channel/motor will reverse in flight once SAFE is enabled. Motor reversing is assigned to Aux 2/channel 7 by default in the Smart ESC.

IMPORTANT: After you set up your model, always rebind the transmitter and receiver to set the desired failsafe positions.
The BNF Basic version of this model has a built in aileron to rudder mix, when the ailerons are deflected the rudder will move.
IMPORTANT: The included receiver has been programmed specifically for operation in this aircraft.

Pre-Programmed Transmitter Setup Files
To save time when setting up your transmitter for this model, visit **www.SpektrumRC.com** to download the latest pre-programmed transmitter setup files. The files are found under "SETUPS/UPDATES" and the "AIR

TRANSMITTER SETUPS" link. Select your radio/transmitter, then on the corresponding page under "SETUPS & DOWNLOADS" click the "DOWNLOAD SETUPS" button to view the available files in the drop down list. Locate the file for this model using the item number. Download the correct model file to and install it in your transmitter using an SD card.

Dual Rates

Low rate is recommended for the initial flights.

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

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

Exponential

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

Transmitter Telemetry Setup

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

† Some of the terminology and function locations used in the iX12 and iX20 programming may be slightly different than other Spektrum AirWare™ radios.

The names given in parentheses correspond to the iX12 and iX20 programming terminology. Consult your transmitter manual for specific information about programming your transmitter.

‡ For DX6e, DX6, NX6 and DX7 setups, you can combine SAFE Select on channel 5/gear with the light controller (the light mode will change when you switch between SAFE Select on/off). If you use a 2-position switch (such as A) you'll get 2 light modes. If you use a 3-position switch (such as B, as recommended) you'll get 3 light modes.

Computerized Transmitter Setup				
Start all transmitter programming with a blank ACRO model (perform a model reset), then name the model.				
Set Dual Rates to	2 Position switch		3 Position switch	
	HIGH 100%		HIGH 100%	
			MID 70%	
	LOW 70%		LOW 50%	
Set Servo Travel to	100%			
Set Throttle Cut to	-100%			
	1. Go to the SYSTEM SETUP			
	2. Set MODEL TYPE: AIRPLANE			

DX6 e ‡ DX6 ‡ (Gen2)	3. Set AIRCRAFT TYPE – WING: 1 AIL 1 FLAP	
	4. Go to CHANNEL ASSIGN: CHANNEL INPUT CONFIG GEAR Switch B Channel 5/Gear needs to be assigned to Switch B to control the lights, otherwise the lights will also be controlled by the A switch	
	5. Go to the FUNCTION LIST	
	6. Set FLAP SYSTEM: SWITCH D Pos 0: -100% FLAP Pos 1: -20% FLAP Pos 2: 15% FLAP Switch: Switch D Speed: 2.0s	0% Elevator 12% Elevator 20% Elevator

Continue below for DX7 or NX6 with motor reversing setup

DX7 ‡ (Gen2) NX6 ‡	7. Go to the SYSTEM SETUP	
	8. Go to CHANNEL ASSIGN: CHANNEL INPUT CONFIG AUX2 Switch A	
	9. Go to the FUNCTION LIST	
	10. Go to Digital Switch Setup: Switch: Switch A Pos 0: -100 = **no motor reversing** Pos 1: -100 = **no motor reversing OR** Pos 1: 100 = **motor reversing**	

8-channel and higher transmitters

	1. Go to the SYSTEM SETUP (Model Utilities)†
	2. Set MODEL TYPE: AIRPLANE
	3. Set AIRCRAFT TYPE: (Model Setup, Aircraft Type)†: WING: 1 AIL 1 FLAP
	4. Go to CHANNEL ASSIGN: CHANNEL INPUT CONFIG**GEAR RKnb** Channel 5/Gear needs to be assigned to the right knob, a slider or another switch other than A or

DX8 e	B if you prefer to control the lights independently of the A/motor reversing switch and the B/flight mode (AS3X and SAFE Select) switch.	
DX8 (Gen 2) DX9	5. Go to CHANNEL ASSIGN: CHANNEL INPUT CONFIG AUX2 Switch A	
DX10t DX18 DX20	6. Go to CHANNEL ASSIGN: CHANNEL INPUT CONFIG AUX3 Switch B Aux 3/switch B will be used for flight modes (AS3X and SAFE Select) if you choose to use them	
iX12 †	7. Go to the FUNCTION LIST (Model Adjust)†	
iX20 † NX8 NX10	8. Set FLAP SYSTEM: Switch D Pos O: -100% FLAP Pos 1: -20% FLAP Pos 2: 15% FLAP Switch: Switch D Speed: 2.0s	0% Elevator 12% Elevator 20% Elevator

Binding

General Binding Tips and Failsafe

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

Transmitter and Receiver Binding / Enabling SAFE Select
The BNF Basic version of this airplane includes SAFE Select technology, enabling you to choose the level of flight protection. SAFE mode includes angle limits and automatic self leveling. AS3X mode provides the pilot with a direct response to the control sticks. SAFE Select is enabled or disabled during the bind process.
With SAFE Select disabled the aircraft is always in AS3X mode. With SAFE Select enabled the aircraft will be in SAFE Select mode all the time, or you can assign a switch to toggle between SAFE Select and AS3X modes.
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 trims to neutral. Move the throttle to low before and during binding.
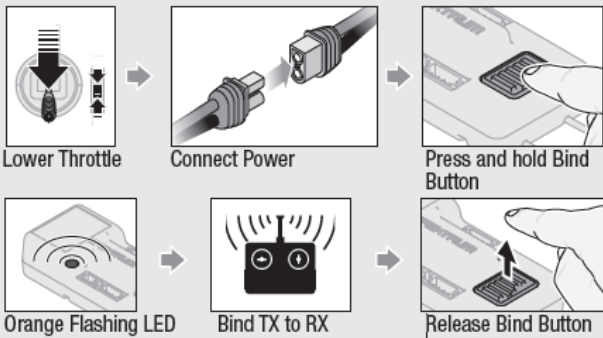You can use either the bind button on the receiver or the conventional bind plug to complete the binding process. A bind plug extension has been provided in BNF Basic version models. It will be labeled and located in the battery

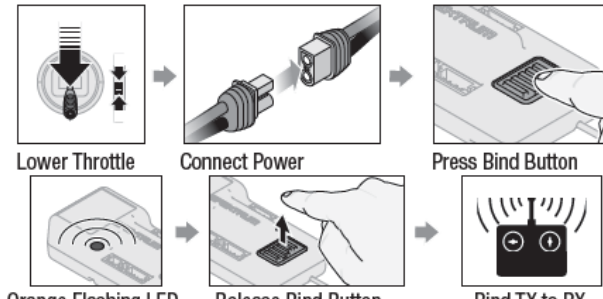or radio compartment for easy access.

Using Bind Button

SAFE Select Enabled

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.
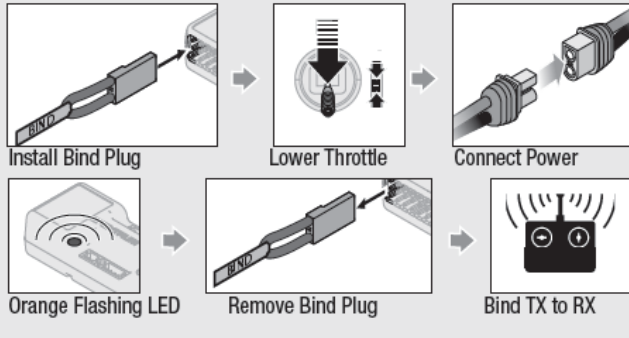
SAFE Select Disabled

Lower Throttle — Connect Power — Press 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 Bind Plug
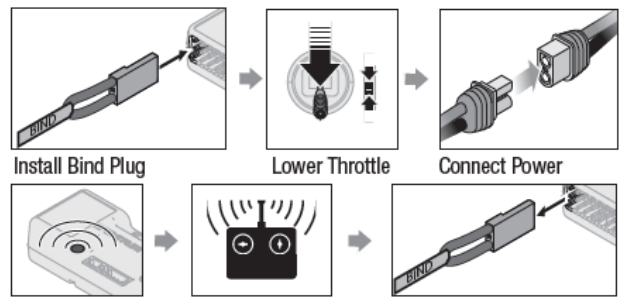
SAFE Select Enabled

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.

SAFE Select Disabled

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.

Model Assembly
Landing Gear Installation

1. Install two 5mm ID washers (A) and one wheel onto each axle.
2. Secure the wheels in place with one 3.5mm ID washer (B) and M3 nylon locknut (C), using a 5.5mm nut driver.
3. Install the landing gear assembly (D) on the fuselage and secure in place using M4 x 20mm screws (E) and a #1 Philips screwdriver.
4. Remove the paper from the double sided tape and install the foam cover (F) onto the center of the main gear assembly.

Disassemble in reverse order. The foam cover will remain attached to the landing gear.

A 5mm washer (2)

B 3.5mm washer

C M3 lock nut

F

E M4 X 20mm (4)

D
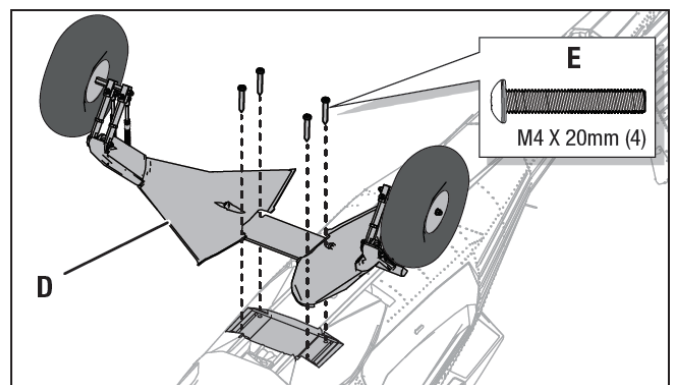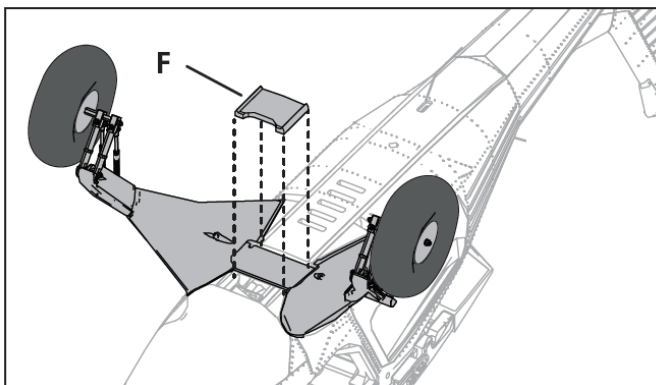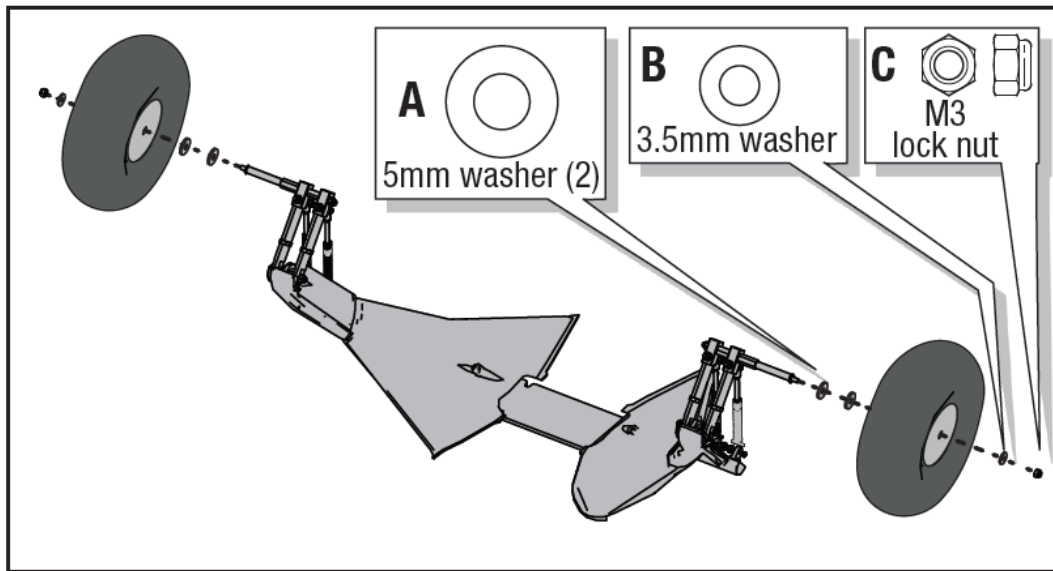
Tail Wheel Installation

1. Install the tailwheel assembly (A) with two M2 screws and M5 nylon locknuts. The M2 x 20mm screw goes through the lower mount and connects the tail wheel bracket. Do not over tighten. Once the nut is snug check for free movement before attaching the shock. The M2 x 13mm screw goes through the upper mount and connects the shock.
   IMPORTANT: Do not over tighten the screws and nuts. Over tightening will prevent the tailwheel from pivoting up and down.
2. Install the plastic covers (B) to the left and right side and secure in place with a 3 x 6mm self tapping screw for each side.
3. Install the tailwheel springs (C) using needle nose pliers. Attach each spring to the tail wheel assembly steering arm first, then attach the other end to the steering arm on the fuselage.

Disassemble in reverse order.
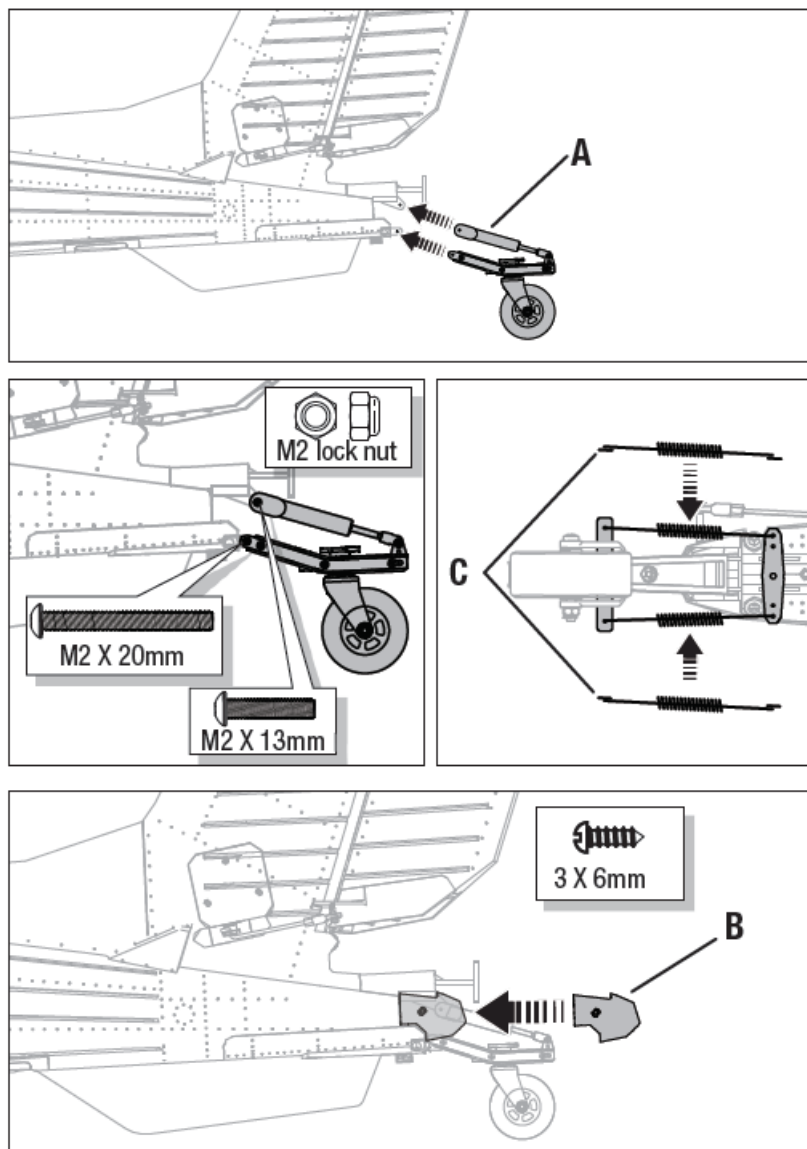
Horizontal Stabilizer Installation

1. Slide the horizontal tail (A) into the slot at the rear of the fuselage until the retaining clip clicks. Ensure the control horn and the two support struts are facing down.
2. Snap the left and right support struts (B) onto the ball links (C).
3. Bind your receiver to the transmitter and power on the aircraft to ensure the elevator servo is centered before adjusting and connecting the elevator linkage.
   IMPORTANT: SAFE Select must be off to check the elevator and all control surfaces for proper neutral. If SAFE Select is ON the surface will not be level/neutral.
4. Snap the elevator control linkage (D) on the ball link (E).
5. Ensure the elevator and rudder servo arms are in the correct position, then adjust the linkage to center the elevator if needed.

Disassemble in reverse order.

NOTICE: Never lift or carry the aircraft by the horizontal stabilizer. Damage to the horizontal stabilizer may occur or it may be disconnected from the retaining clip.
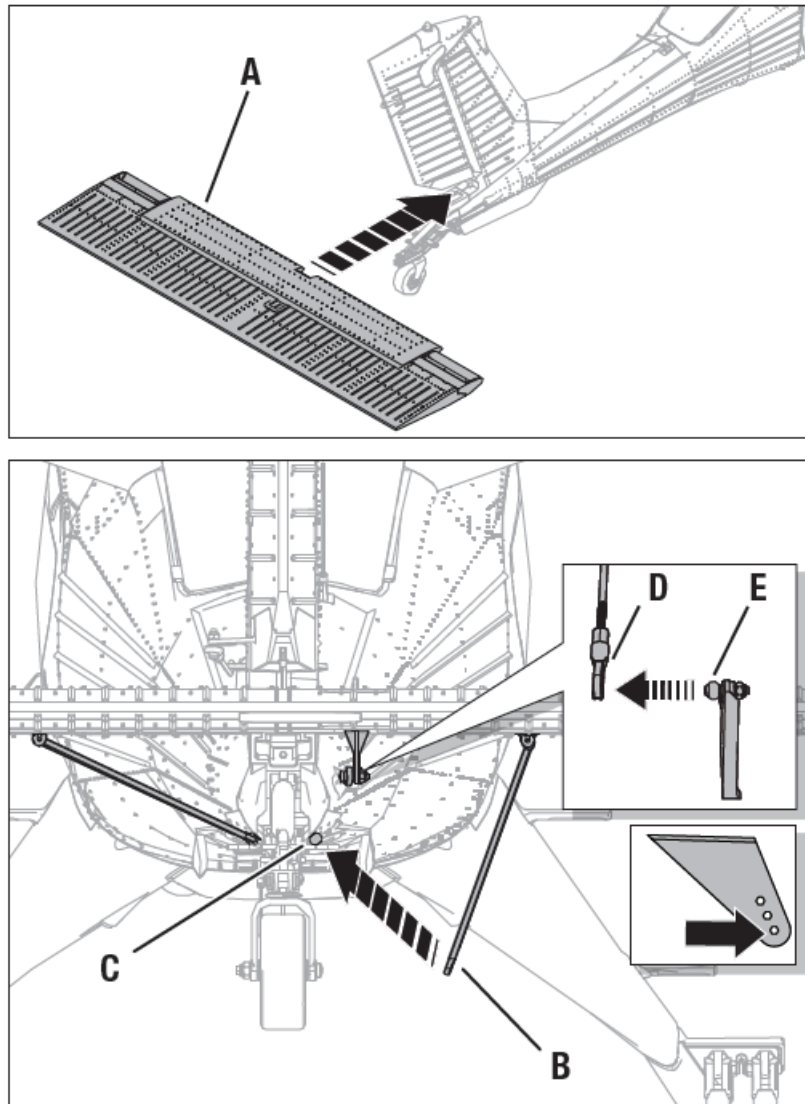
Aileron Counterbalance and Wing Tip Guard Installation

1. Carefully press the included wing tip guard (A) into the wing slot until it is fully seated.
2. Carefully align the counterbalance (B) and seat it into the recess.
3. Secure the counterbalance into place with the included 2.5 x 6mm screw (C).
4. Repeat aileron counterbalance and wing tip guard installation for the opposite wing.

Disassemble in reverse order.
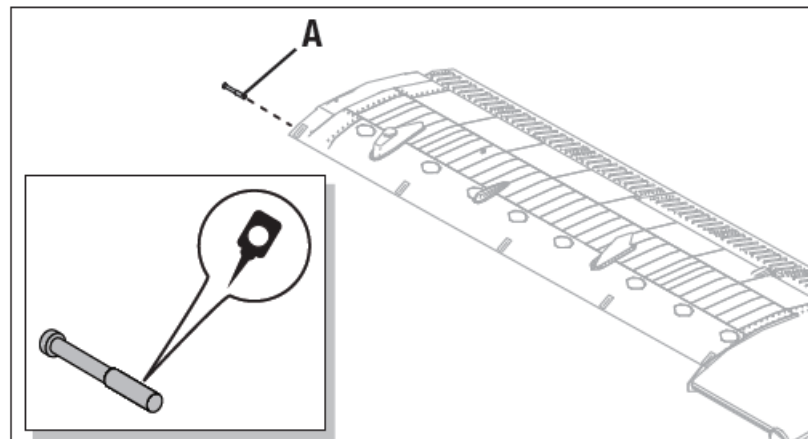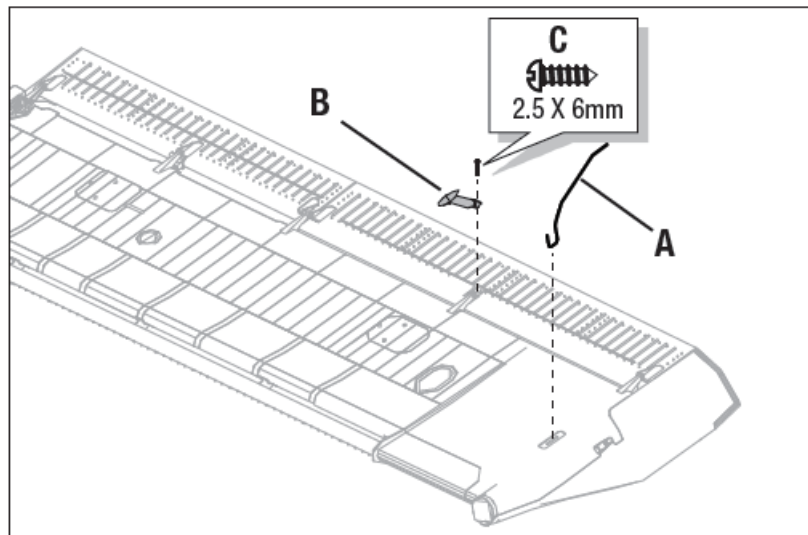
Handle Installation

1. Carefully apply medium CA to the handle. Use only one or two drops to prevent CA glue from running.
2. Carefully press the handle (A) into the recess in the wing until the handle is fully seated.
3. Place the wing vertically while the adhesive cures.

Leading Edge Slat Installation

1. Carefully apply medium CA (or another suitable adhesive) to each slat pocket. Use only one or two drops and hold the wing to prevent the glue from running.
2. Mount the slat onto the wing with the rounded edge facing forward. Also ensure the slats are installed with the Horizon Hobby logo near the wing root.

NOTICE: Never lift or carry the aircraft by the by the leading edge of the wing or slats. Damage to the slats may occur.
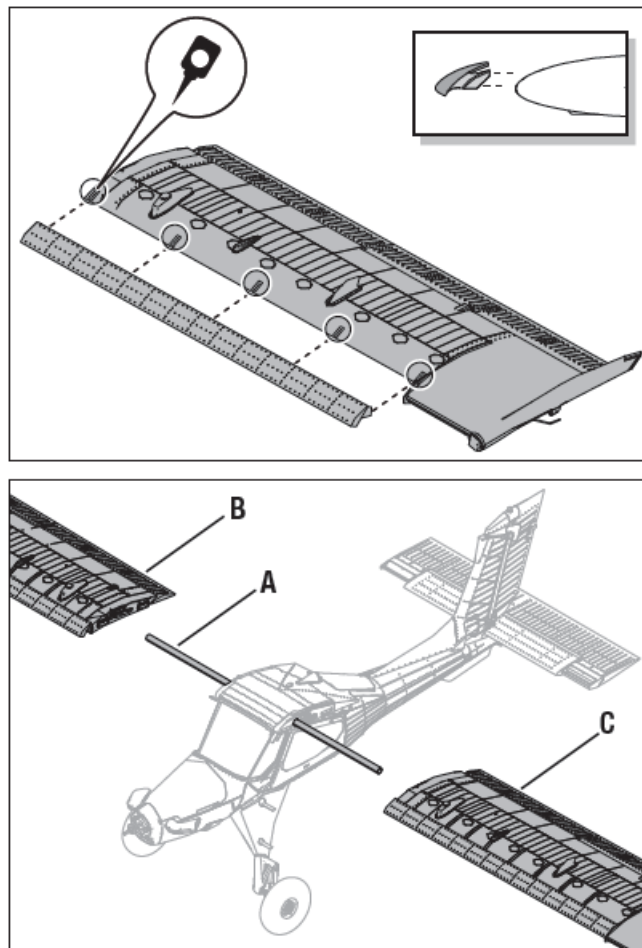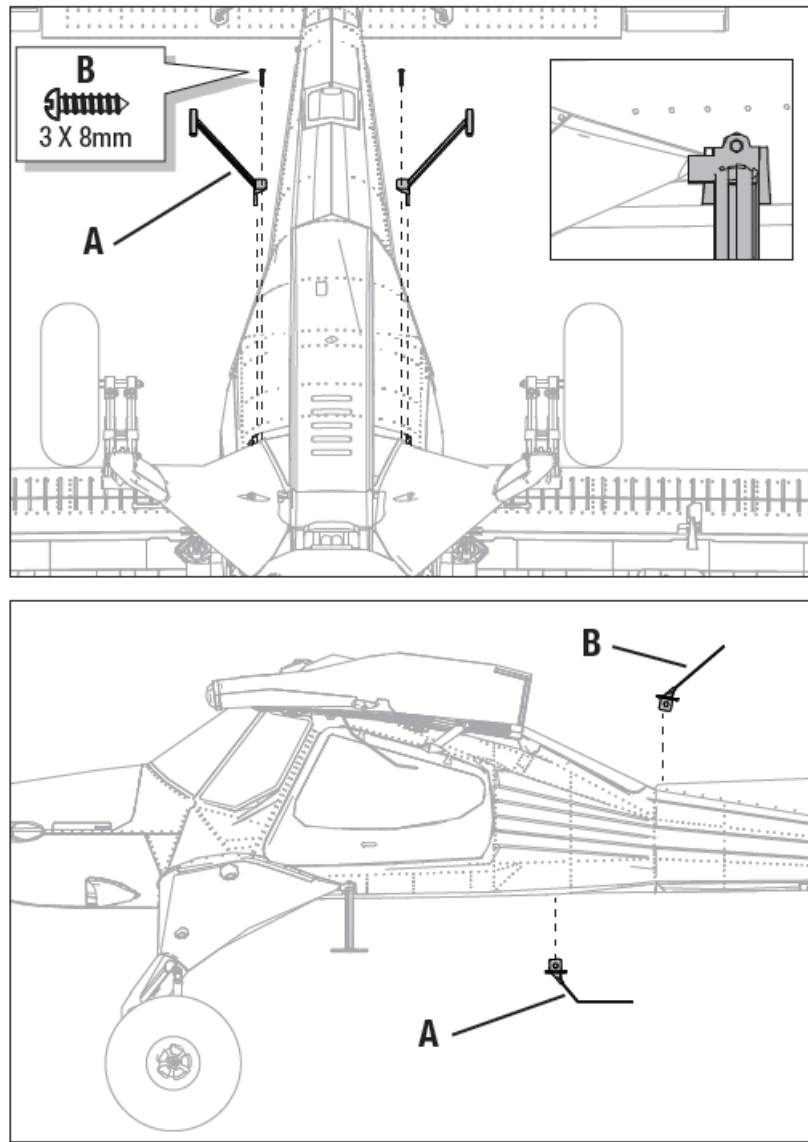
Wing Installation

1. Slide the wing tube (A) into the fuselage.
2. Install the right and left wing (B and C) onto the wing tube and into the wing pocket of the fuselage.
3. Secure the left and right wings to the fuselage using the four nylon locking pins (D). Turn the pin 90 degrees to lock in place.

Disassemble in reverse order.
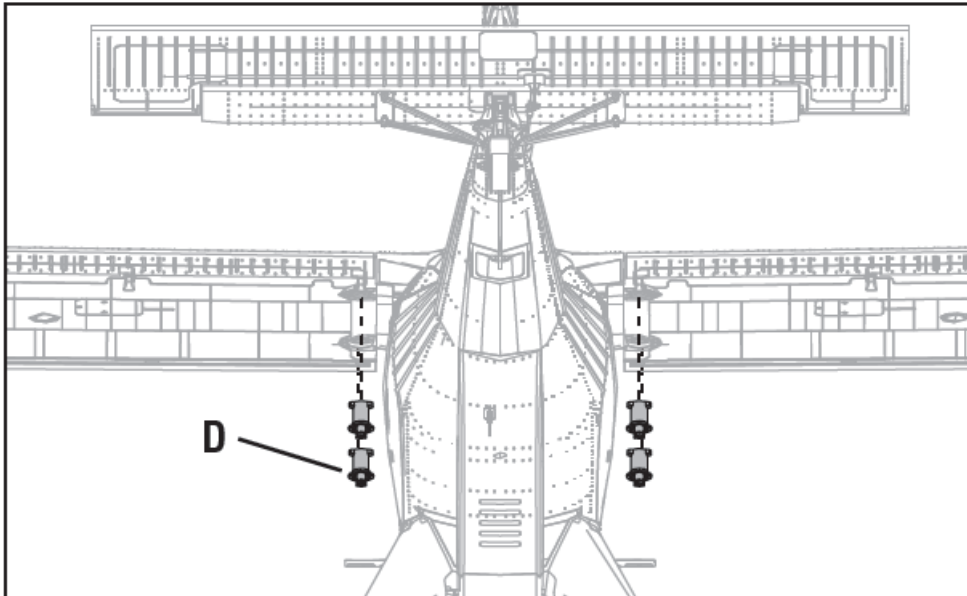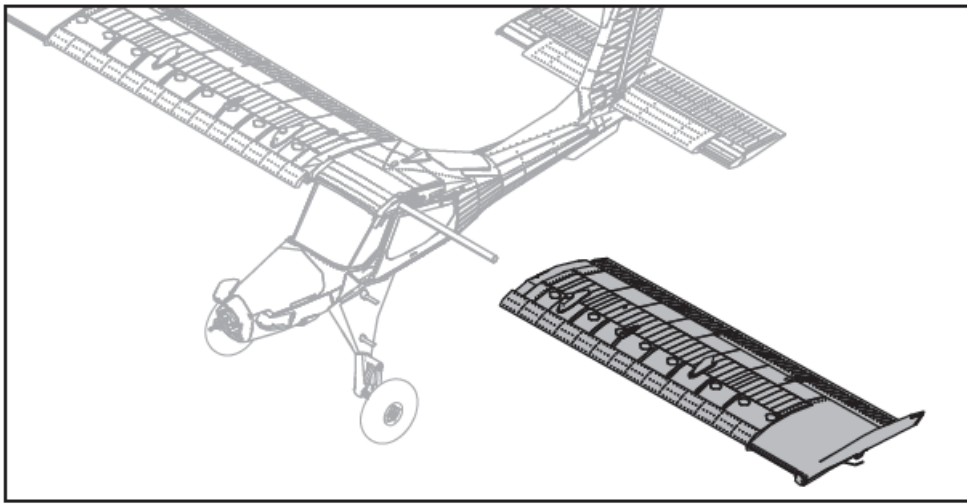
Foot Step Installation

1. Press the right and left foot steps (A) into the slots in the fuselage with the tab facing to the front of the aircraft.
2. Secure the right and left foot steps into place with 3 x 8mm self tapping screws (B). Disassemble in reverse order.

Antenna Installation

1. Apply medium CA to the base of the bottom fuselage antenna (A) and press it into the slot on the bottom of the fuselage.

2. Apply medium CA to the base of the top fuselage antenna (B) and press it into the respective slot in the top of the fuselage.

3. Apply medium CA to the base of the wing antenna (C) and press it into the respective slot in the right wing.
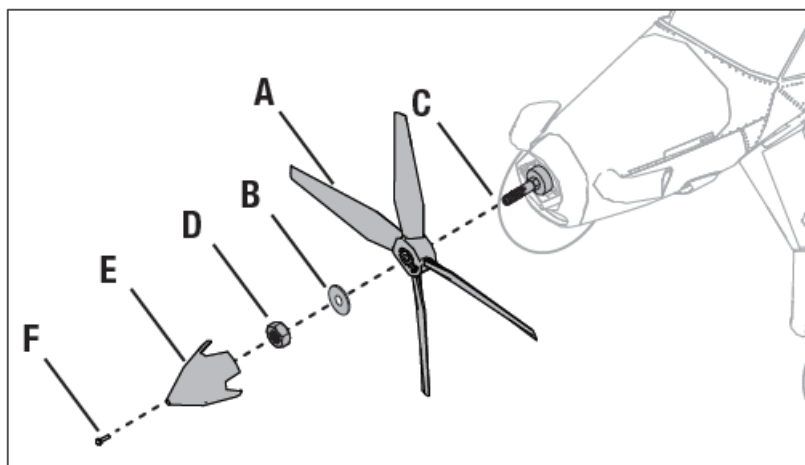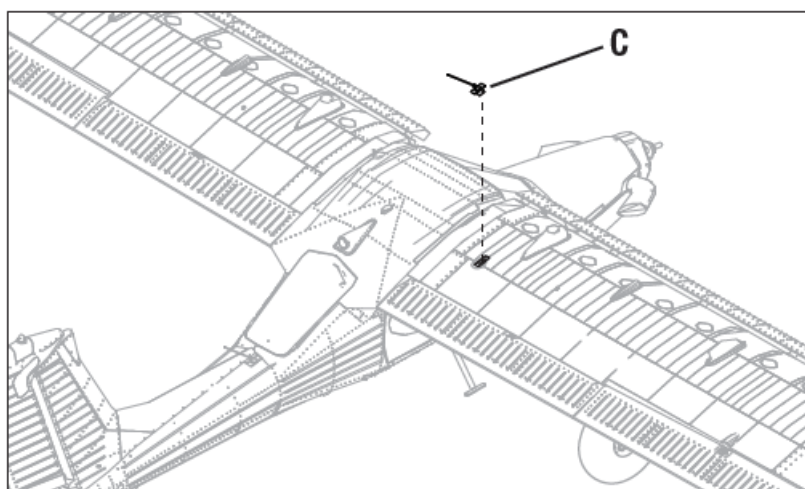
Propeller Installation

1. Remove spinner nut and washer from propeller shaft. (Remove this)
2. Slide the propeller (A), and washer (B) onto the motor shaft (C).
3. Install and tighten the propeller nut (D) using an adjustable wrench (13mm).
4. Slide the spinner (E) on to the propeller shaft.
5. Secure the spinner with the M3 x 10mm spinner screw (F) using a phillips screwdriver.

Disassemble in reverse order.

LED Light Controller Settings and Options

1. Plug the light controller into the gear channel (Port 5). This is already done on BNF Basic version models.
2. Assign the gear (port 5) to a rotary knob of your transmitter to give full control of all 7 light modes.

If your transmitter doesn't have a rotary knob option, the light module can still function and be assigned to any 2 or 3 position switch, however not all light modes will be available. Travel adjust and sub trim can be used to change modes for the 2 or 3 position switch.
The light module can also be Y-harnessed with any channel like flaps but you will only get the light groups in the position the channel is in.

Light mode	Light activated during each mode	Approximate % travel for each mode

Mode 1	Instrument panel light in the fuselage (Always ON when Light Module is connected) All other lights off.	-100 to -75
Mode 2	- Red and green navigation lights - Wingtip strobes - Lights on the trailing edge of rudder	-74 to -45
Mode 3	- Red and green navigation lights - Wingtip strobes - Lights on the trailing edge of rudder - Flashing light on top of rudder	-44 to -15
Mode 4	- Red and green navigation lights - Wingtip strobes - Lights on the trailing edge of rudder - Flashing light on top of rudder 45º wing light - Wingtip landing lights	-14 to 15
Mode 5	- Red and green navigation lights - Wingtip strobes - Lights on the trailing edge of rudder - Flashing light on top of rudder 45º wing light - Wingtip landing lights - Nose flashing light 90º down flashing wing light	16 to 45
Mode 6	- Red and green navigation lights - Wingtip strobes - Lights on the trailing edge of rudder - Flashing light on top of rudder 45º wing light, - Wingtip landing lights - Nose flashing light 90º down flashing wing light - Backup light	46 to 75

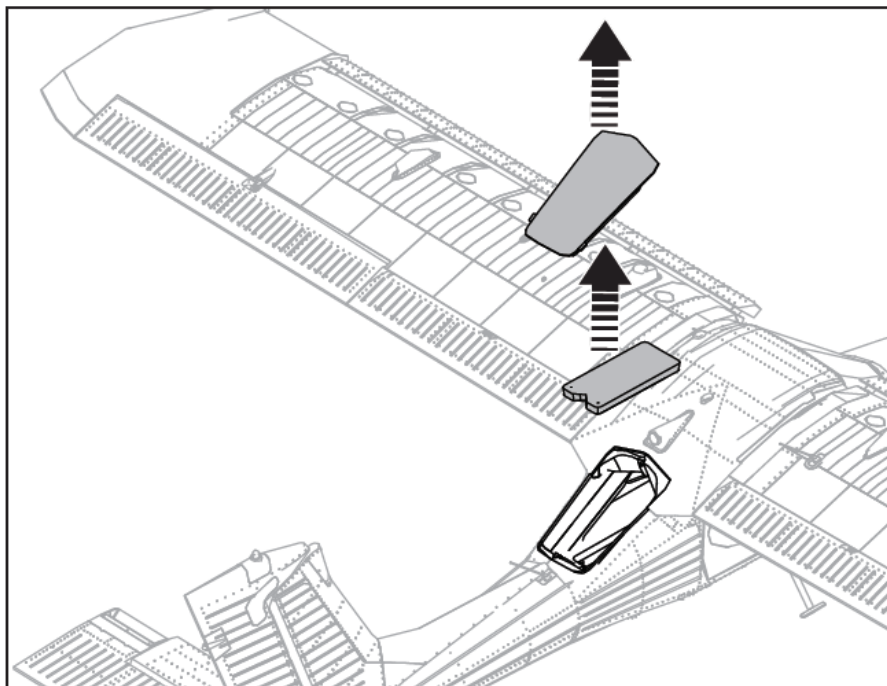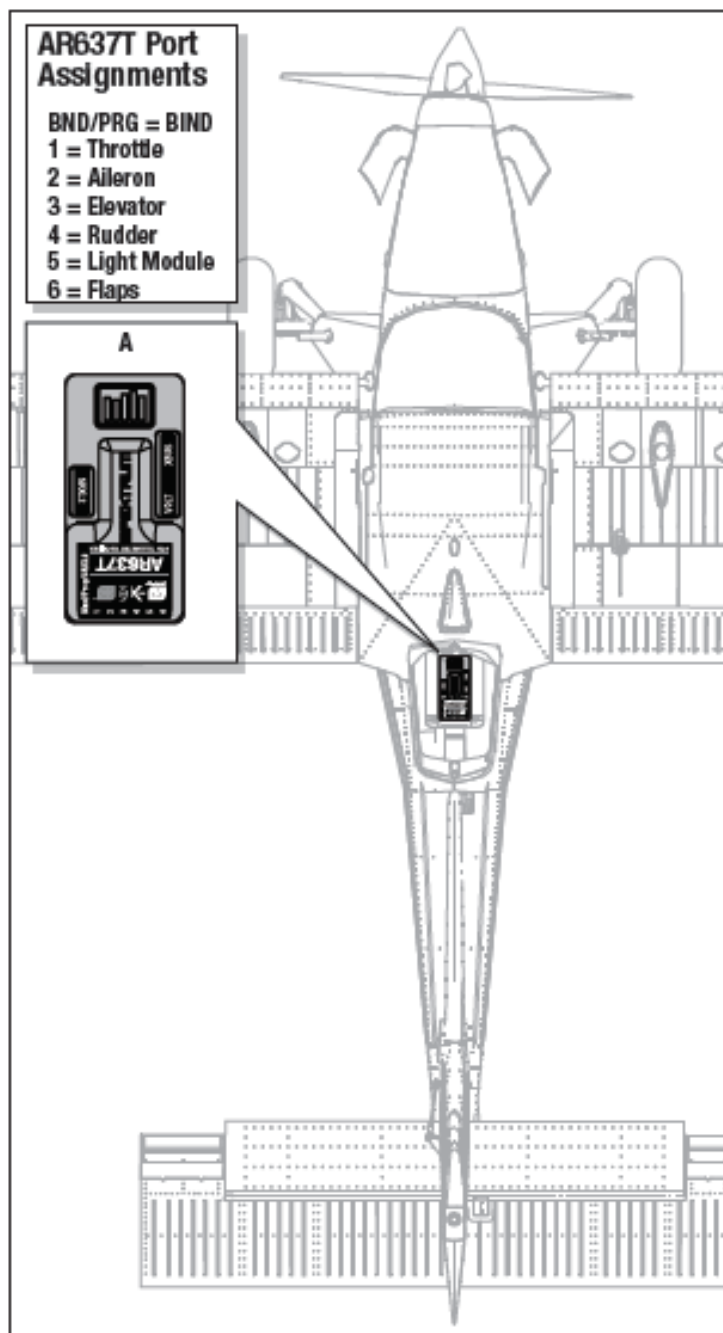|		
Mode 7	- Wingtip strobes - Lights on the trailing edge of rudder 45º wing light - Wingtip landing lights - Backup light	76 to 100

PNP Receiver Selection and Installation

The recommended receiver for this aircraft is the Spektrum AR637T. If you choose to install a different receiver, ensure that it is at least a 6-channel full range receiver. Refer to the manual of your chosen receiver for correct installation and operation instructions.

AR637T Installation

1. Remove the rear window of the aircraft by pulling up on the side tabs.
2. Remove the receiver hatch by pulling up on the hatch tabs, to expose the receiver compartment.
3. Connect the appropriate control surfaces to the their respective ports on the receiver using the table at the right.
4. Using double-sided servo tape (not included) mount the receiver to

   the flat area of the receiver compartment, as shown. The receiver (A) should be mounted in the orientation shown, parallel to the length of the fuselage, with the label facing up and the servo ports facing the rear of the aircraft. The orientation of the receiver is critical for all AS3X® and SAFE® technology setups.

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

AR637T Port Assignments

BND/PRG = BIND
1 = Throttle
2 = Aileron
3 = Elevator
4 = Rudder
5 = Light Module
6 = Flaps

A

Battery Installation and ESC Arming
Battery Selection
We recommend a 5000mAh 22.2V 6S 30C Li-Po battery (SPMX50006S30). 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 Smart Li-Po battery packs to fit in the fuselage. Be sure the model balances at the recommended CG.

1. Lower the throttle to the lowest setting. Power on the transmitter, then wait 5 seconds.
2. For added security apply the loop side (soft side) of the optional hook and loop tape (A) to the bottom of your battery and the hook side to the battery tray.
3. Install the fully charged battery (B) in the battery compartment as shown. See the Adjusting the Center of Gravity instructions for more information.
4. Make sure the flight battery is secured using the hook and loop straps (C).
5. Connect the battery to the ESC.
6. Keep the aircraft immobile on its landing gear and away from wind or the system will not initialize.
   - An LED will light on the receiver.

- The ESC will sound single tones until the receiver and transmitter connect. Once connected, the ESC will sound the cell count and then a double ascending tone. The ESC is now armed.

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

7. Reinstall the canopy hatch.

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.

A starting point for battery placement, the batteries should be placed as noted below.

- 6S 5000mAh in the middle of the battery tray.
- 4S 5000mAh all the way forward on the battery tray.
- 6S 7000mAh all the way rearward on the battery tray.

Adjust the placement of the battery as needed to achieve proper CG.

WARNING: After flight, the motor may be hot. Avoid touching the motor when removing or installing a battery.
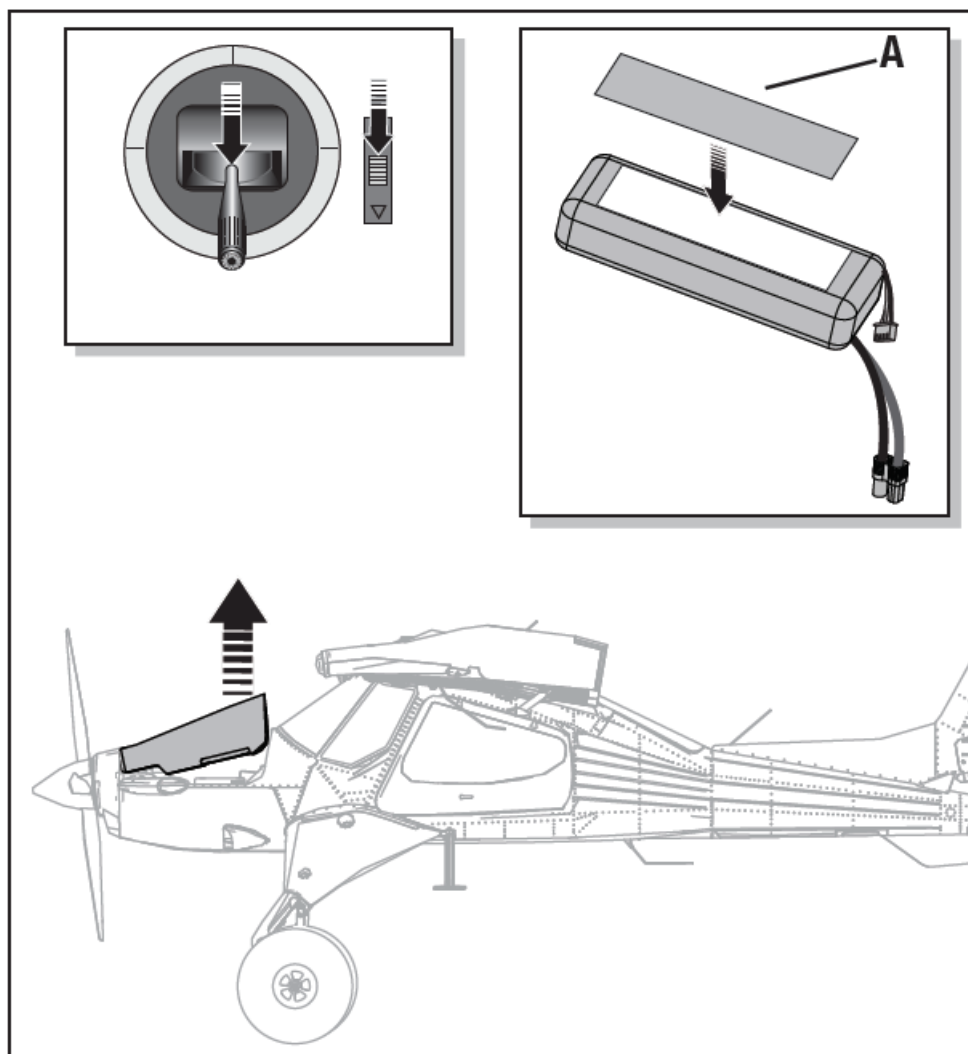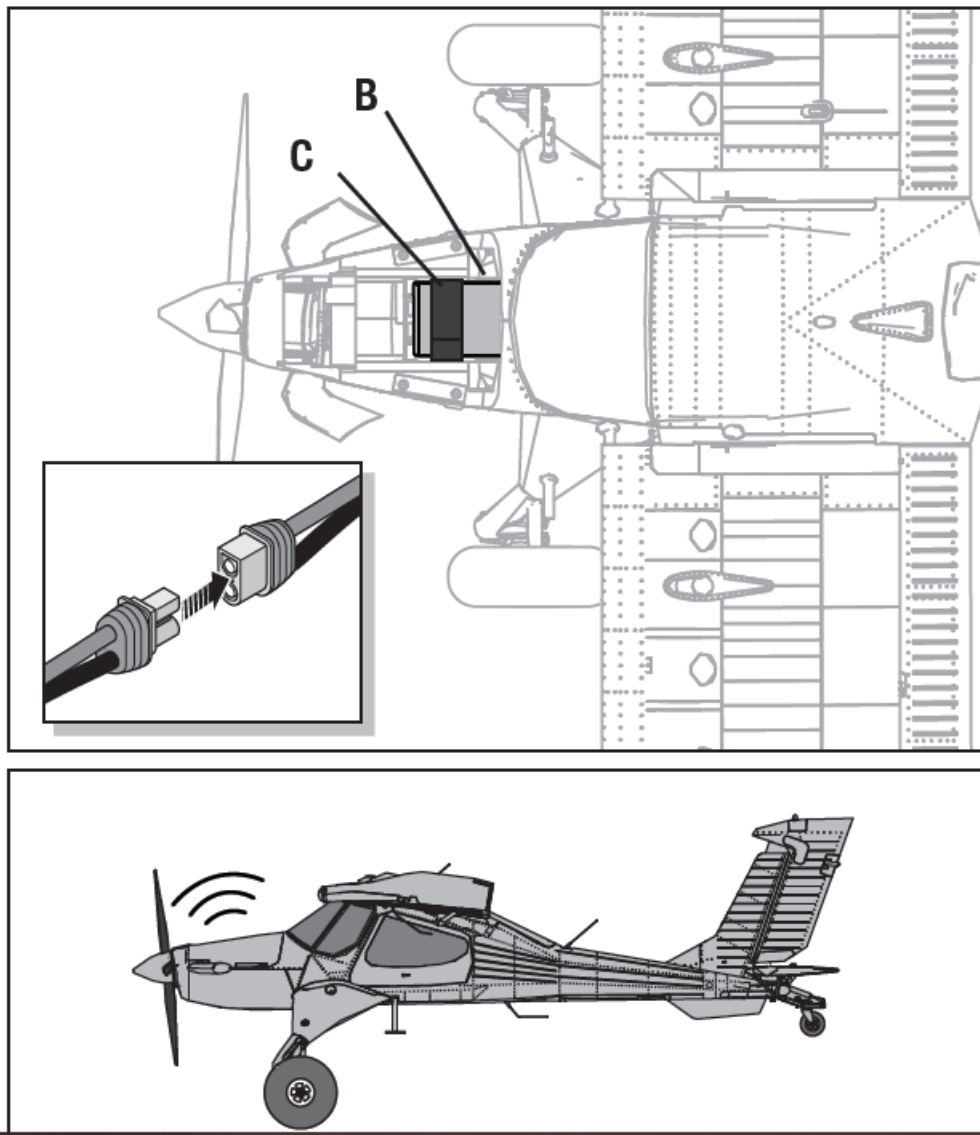
**Control Surface Centering and Adjusting a Ball Link**

IMPORTANT: Perform the Control Direction Test before performing control surface centering.
While SAFE is inactive, mechanically center the control surfaces.
IMPORTANT: Correct operation of the SAFE system requires sub-trim and trim at 0.
After binding a transmitter to the receiver, set the trims and sub-trims to 0, ensure the servo arms are in the correct positions, then adjust the linkages to center the control surfaces.
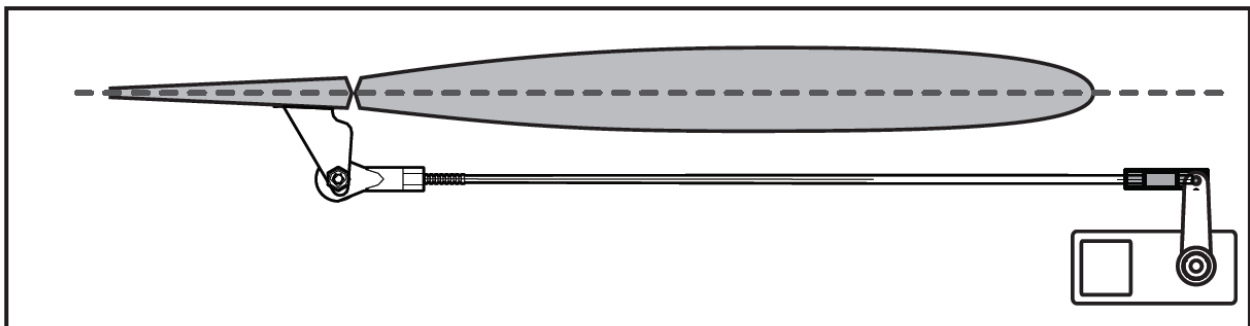
- Turn the linkage clockwise or counterclockwise until the control surface is centered.
- Attach the linkage to the servo arm or control horn after adjustment
- To adjust ailerons and flaps, find the openings in the servo covers. A small section of decal may need to be removed to access hole. Use a Phillips screwdriver to loosen the keeper screw, adjust surface and re-tighten screw.
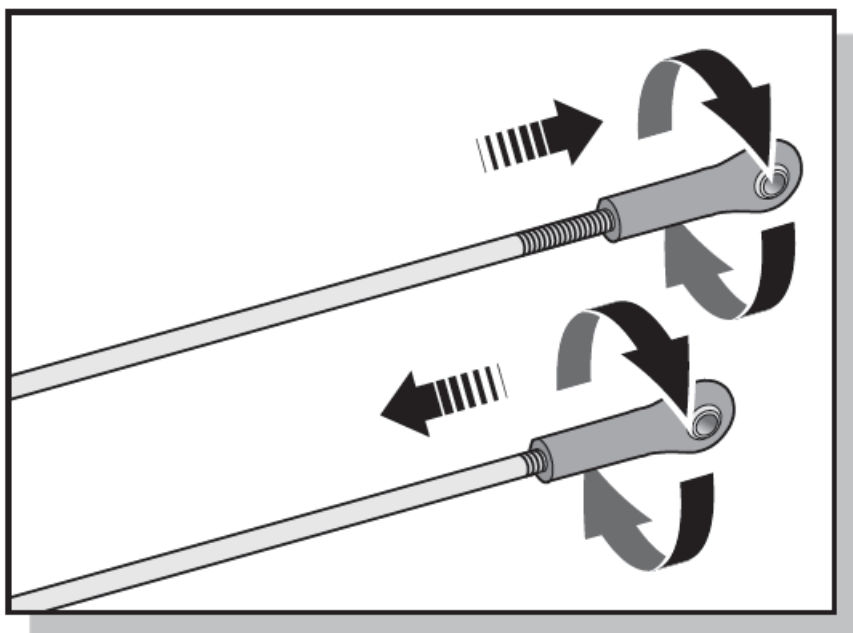
Control Horn and Servo Arm Settings
The table to the right shows the factory settings for the control horns and servo arms. Fly the aircraft at factory settings before making changes.

NOTICE: If control throws are changed from the factory settings, the AR637T gain values may need to be adjusted. Refer to the Spektrum AR637T manual for adjustment of gain values.

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

	Horns	Arms
Elevator		
Ailerons		
Rudder		
Flaps		

More control throw	Less control throw
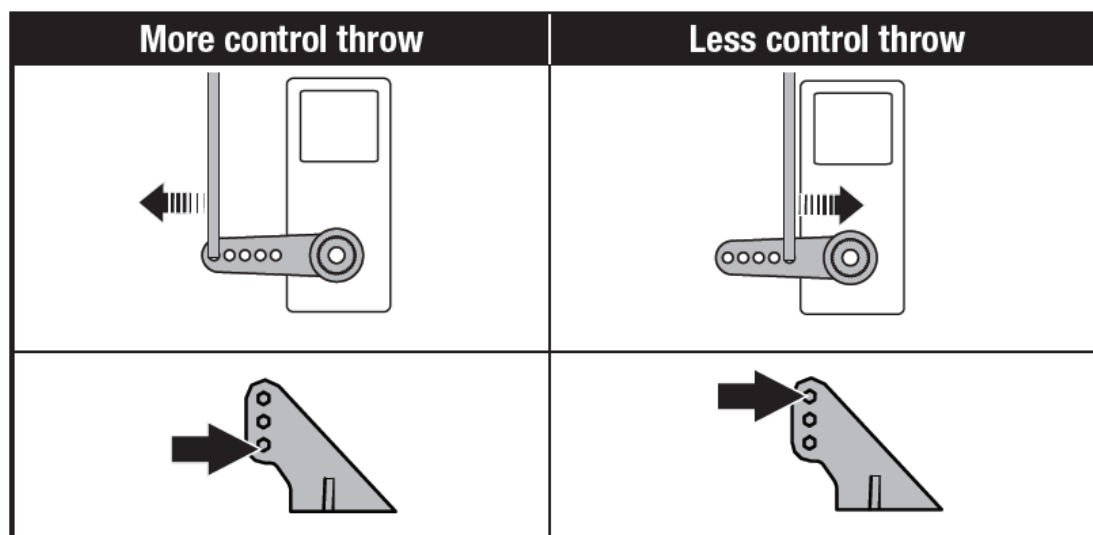
SAFE® Select Switch Designation

Once SAFE Select is enabled, you can choose to fly in SAFE mode full-time, or assign a switch. Any switch on any channel between 5 and 9 can be used on your transmitter.

WARNING: Do not assign Aux 2 to SAFE Select during transmitter setup. If SAFE Select is assigned to Aux 2, the throttle channel will reverse in flight once SAFE is enabled.

If the aircraft is bound with SAFE Select disabled, the aircraft will be in AS3X mode exclusively.

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

IMPORTANT: To be able to assign a switch, first verify:

- The aircraft was bound with SAFE Select enabled.
- Your choice for the SAFE Select switch is assigned to a channel between 5 and 9 (Gear, Aux1-4), and travel is set at 100% in each direction.
- The aileron, elevator, rudder and throttle direction are set to normal, not reverse.
- The aileron, elevator, rudder and throttle are set to 100% travel. If dual rates are in use, the switches need to be in the 100% position.

See your transmitter manual for more information about assigning a switch to a channel.

TIP: If a SAFE Select switch is desired for your 6-function aircraft, and you are using a 6 channel transmitter, the SAFE Select switch channel will have to be shared with either channel 5 or 6 of the transmitter.
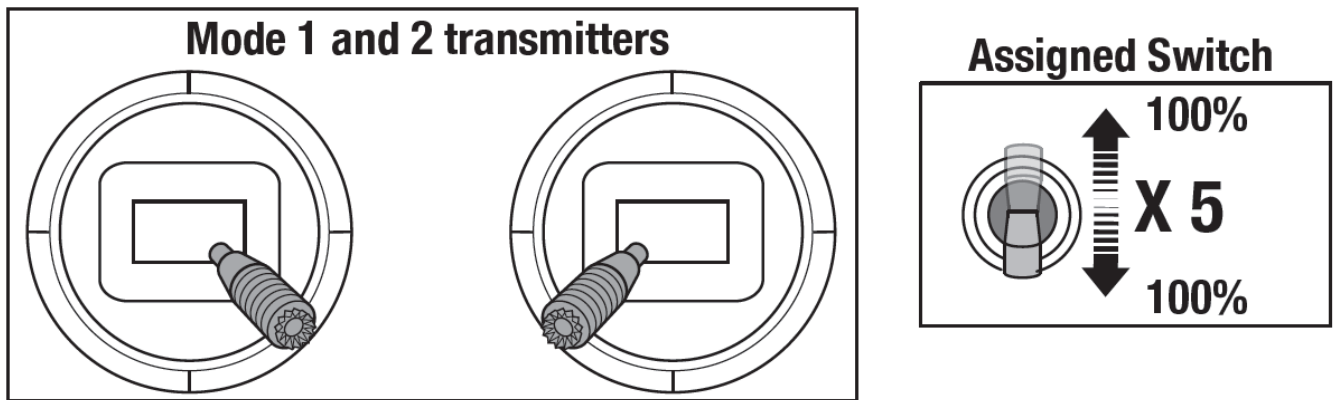
Assigning a Switch

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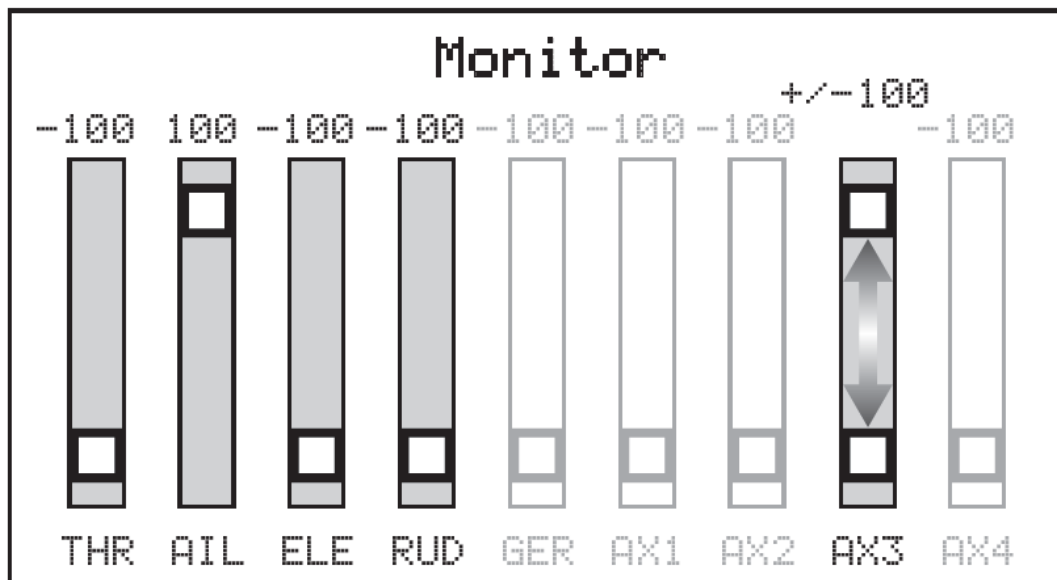
4. The control surfaces of the aircraft will move, indicating the switch has been selected.

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

SAFE Select Switch Assignment Stick Positions

TIP: Use the channel monitor to verify channel movement.

This example of the channel monitor shows the stick positions for assigning a switch, the switch selection on Aux3, and +/- 100% travel on the switch.

Smart Technology Telemetry
This aircraft includes Spektrum Smart Technology in the ESC and receiver, which can provide telemetry information such as battery voltage and ESC temperature. To take advantage of Smart Technology, you will need a compatible transmitter. A firmware update for your transmitter may be required.

To access all the available features of Smart Technology, use Spektrum Smart batteries to power this aircraft. In addition to ESC data, Spektrum Smart batteries can communicate detailed battery data through the Smart Technology system.
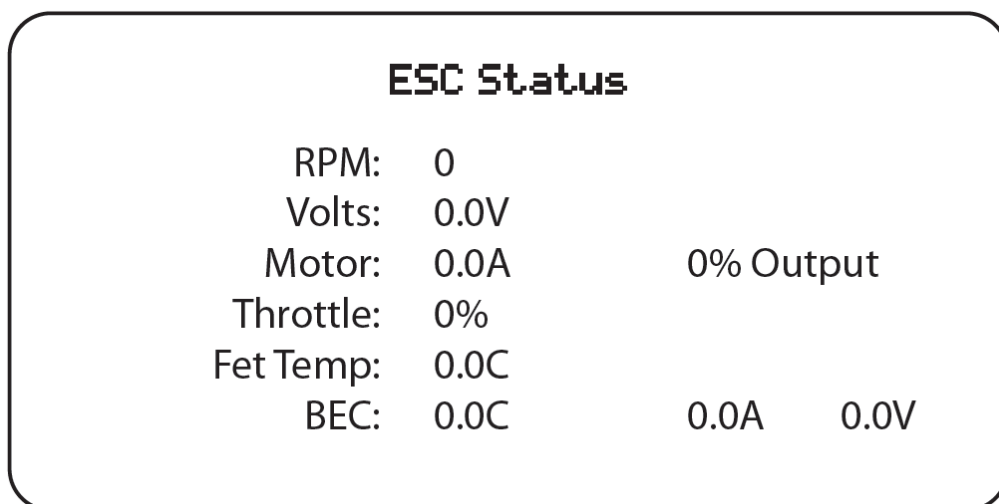
To View Smart Telemetry:

1. Begin with the transmitter 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 home page. A signal bar appears in the top left corner of the screen.*

* 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.

For more information about compatible transmitters, firmware updates, and how to use the Smart Technology on your transmitter, visit **spektrumrc.com**. Scroll past the servo monitor to view Smart technology screens.

```
                    ESC Status

        RPM:    0
       Volts:   0.0V
      Motor:    0.0A            0% Output
    Throttle:   0%
   Fet Temp:    0.0C
         BEC:   0.0C         0.0A     0.0V
```

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.
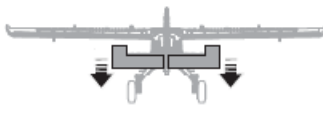
The BNF Basic version of this model has a built in aileron to rudder mix, when the ailerons are deflected the rudder will move.

Elevator

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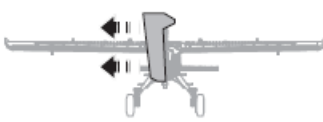2. Move the aileron stick to the right. The right aileron should move up and the left aileron down, which will cause the aircraft to bank right.

	Transmitter Command	Control Surface Response
Elevator		
Aileron		
Rudder		
Flaps		

Rudder

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

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

Flaps

1. Move your flap control switch down to the "half flaps" position.

2. Confirm that the flaps move down.

3. Move flap control switch to the full flaps position.

4. Confirm the flaps move farther down than in step two.

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

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

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

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.

   Due to different effects of torque, lift, and drag some aircraft require trim changes with different speeds and throttle settings. Mixes are pre-loaded into the receiver to compensate for these changes. The mixes become active the first time the throttle is raised above 25%. The control surfaces may be offset slightly at different throttle settings after the first time throttle is raised.

   Trimming the plane in flight should be done at 80-100% throttle for best results.

Center of Gravity (CG)
The CG location is measured from the leading edge of the wing slat. This CG location has been determined with the recommended 6S 5000mAh Li-Po battery (SPMX50006S30) installed in the center of the battery tray.

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

100mm +/- 5mm back
from leading edge
of wing slat.
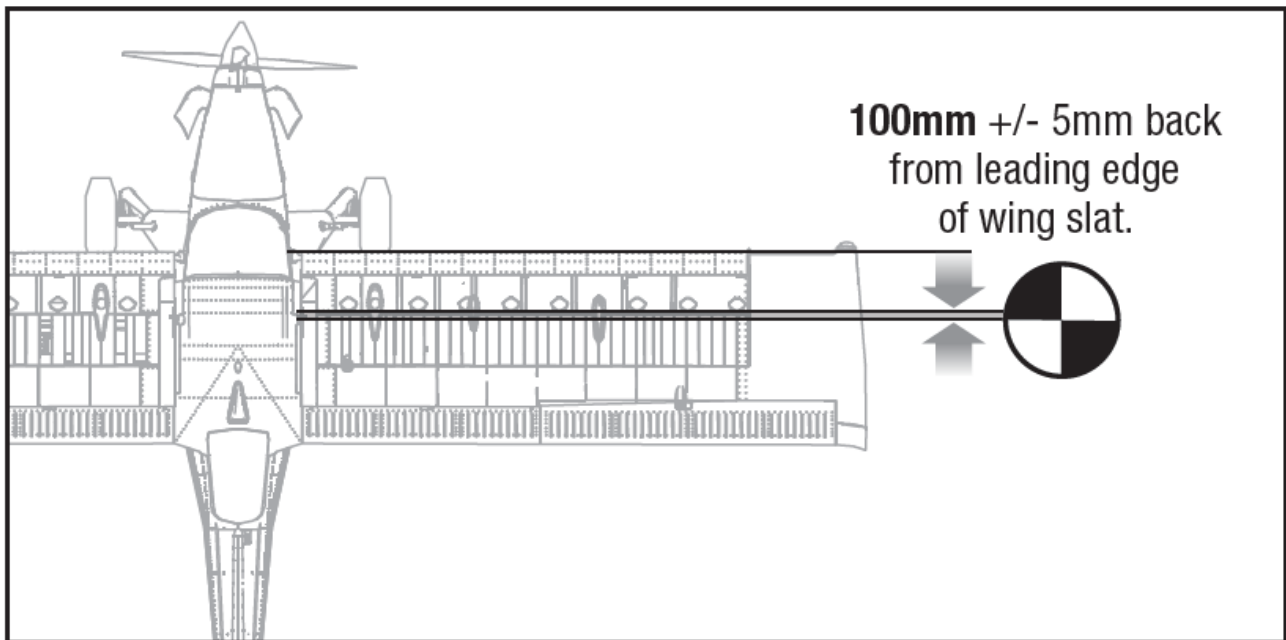
In-Flight Trimming

During your first flight, trim the aircraft for level flight at 80-100% throttle.

Make small trim adjustments with your transmitter's trim switches to achieve straight and level flight.

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.

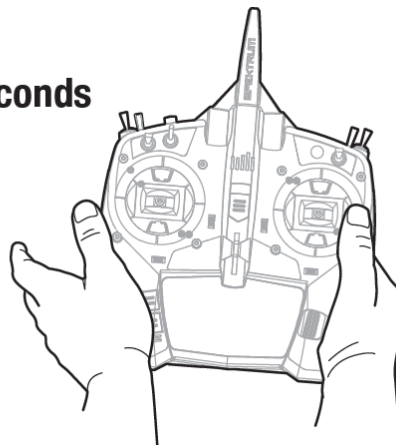Failure to do so could affect flight performance.

3 Seconds

Flying Tips and Repairs

Consult local laws and ordinances before choosing a flying location.

Range Check your Radio System

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

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 may see oscillation (the aircraft rocks back and forth on one axis due to overcontrol). If oscillation occurs, refer to the Troubleshooting Guide for more information.

Takeoff

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

Flying

For your first flights with the recommended battery pack (SPMX50006S30), set your transmitter timer or a stopwatch to 5 minutes. After five minutes, land the aircraft. Adjust your timer for longer or shorter flights once you have flown the model.

Fly the aircraft and trim it for level flight in AS3X Mode at 80-100% throttle. After landing, adjust the linkages mechanically to account for trim changes and then reset the trims to neutral. Ensure the aircraft will fly straight and level with no trim or sub-trim.

Landing

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

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

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

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.

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

NOTICE: Repeated flying to LVC will damage the battery.

Tip: Monitor your aircraft battery's voltage before and after flying by using a Li-Po Cell Voltage Checker (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 accelerant on your aircraft can damage paint. DO NOT handle the aircraft until accelerant fully dries.

SAFE® Select Flying Tips

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

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

When flying with SAFE Select, throttle will make the aircraft climb or descend. Full throttle will cause the aircraft to pitch up and climb slightly. Mid throttle will keep the airplane flying level. Low throttle will cause the airplane to descend slightly nose-down.

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

Differences between SAFE Select and AS3X modes
This section is generally accurate but does not take into account flight speed, battery charge status, and other limiting factors.

		SAFE Select	AS3X
Control Input	Control stick is neutralized	Aircraft will self level	Aircraft will continue to fly at its present attitude
	Holding a small amount of control	Aircraft will bank or pitch to a moderate angle and maintain the attitude	Aircraft will continue to pitch or roll slowly
	Holding full control	Aircraft will bank or pitch to the predetermined limits and maintain the attitude	Aircraft will continue to roll or pitch rapidly
	Throttle	Full throttle: Climb Neutral: Level flight Low throttle: Descend	Throttle will not affect flight response.

Thrust Reversing (optional)

This aircraft is equipped with the Avian™ 100 Amp Smart ESC with reversing. Reversing the motor can be helpful when taxiing or for shortening ground roll after a landing.
Simply assign a switch to channel 7 (Aux 2) of your transmitter. Flip the switch to reverse the direction of the motor. (The SRXL2 connection of the Smart ESC to the AR637TA receiver allows the ESC to receive combined input from both channel 7 and channel 1 (throttle).

IMPORTANT: The motor will draw more current in reverse as the propeller is less efficient and creates more drag. This can reduce flight time.
IMPORTANT: Thrust reversing requires a Spektrum receiver with Smart Throttle such as the AR637TA and a

Spektrum transmitter with a minimum of 7 channels. The Avian ESC is also backwards compatible with receivers that only provide a PWM output.

Post Flight

| 1	Disconnect the flight battery from the ESC (Required for Safety and battery life).
2	Power OFF the transmitter.
3	Remove the flight battery from the aircraft.
4	Recharge the flight battery.

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

Motor Service

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

Disassembly

1. Remove the screw (A), spinner (B), propeller nut (C) and washer (D).
2. Remove the propeller (E) from the motor shaft.
3. Remove the 4 screws (G) from the motor mount (H), and remove the motor and motor mount from the fuselage.
4. Remove the 4 screws (I) from the prop adapter and remove from motor.
5. Disconnect the motor wires from the ESC wires.
6. Remove the 4 screws (J) and motor (K) from the motor mount.
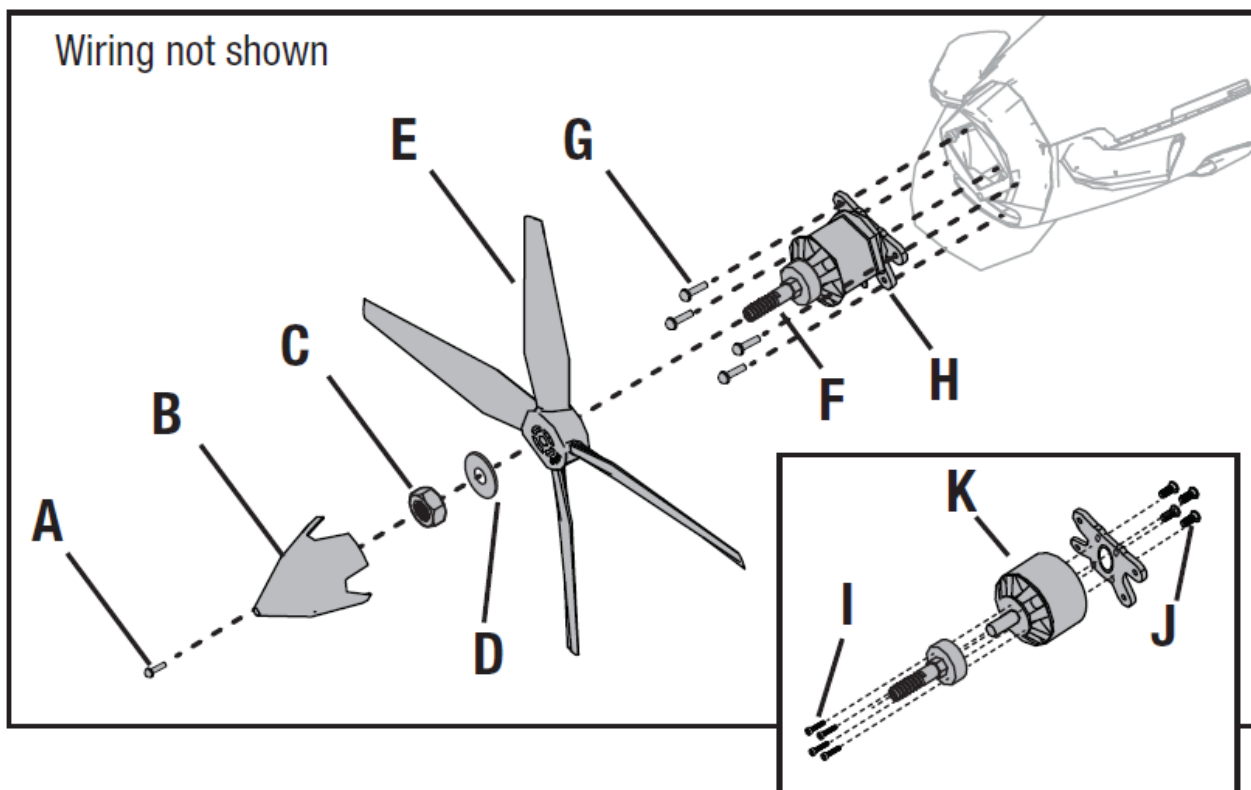
Assembly

Assemble in reverse order.

- Correctly align and connect the motor wire colors with the ESC wires.
- Tighten the prop nut by using a 13mm wrench.

Servo Service

Control Surface	Replacement Servo	Description	Extension Lead Length
Aileron	SPMSA332	9g Sub-Micro Servo, 170mm Lead	610mm (24 inches)
Elevator	SPMSA332	9g Sub-Micro Servo, 170mm Lead	460mm (18 inches)
Rudder	SPMSA332	9g Sub-Micro Servo, 170mm Lead	305mm (12 inches)
Flaps	SPMSA332	9g Sub-Micro Servo, 170mm Lead	230mm (9 inches)

IMPORTANT: An extension lead may be required to replace servos in some locations.

Troubleshooting Guide AS3X

Problem	Possible Cause	Solution
Oscillation	Damaged propeller or spinner	Replace propeller or spinner
	Imbalanced propeller	Balance the propeller.
	Motor vibration	Replace parts or correctly align all parts and tighten fasteners as needed
	Loose receiver	Align and secure receiver in fuselage
	Loose aircraft controls	Tighten or otherwise secure parts (servo, arm, clevis, 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

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 (ModelMatchTM radios only)	Select correct model memory on transmitter
	Flight battery/Transmitter battery charge is too low	Replace/recharge batteries
	Transmitter may have been bound to a different aircraft using different DSM protocol	Bind aircraft to transmitter
	Control surface, control horn, linkage or servo damage	Replace or repair damaged parts and adjust controls

Control surface does not move	Wire damaged or connections loose	Do a check of wires and connections, connect or replace as needed
	Transmitter is not bound correctly or the incorrect 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
EFL12551	Painted Fuselage: DRACO 2.0m
EFL12552	Painted Right Wing: DRACO 2.0m
EFL12553	Painted Left Wing: DRACO 2.0m
EFL12554	Painted Stabilizer with Struts: DRACO 2.0m
EFL12555	Painted Cowl: DRACO 2.0m
EFL12556	Decal Sheet: DRACO 2.0m
EFL12557	Prop Adapter: DRACO 2.0m
EFL12558	Servo Covers: DRACO 2.0m

EFL12559	Flat Aluminum Landing Gear: DRACO 2.0m
EFL12560	Hatch Set: DRACO 2.0m
EFL12561	Wheel Set: DRACO 2.0m
EFL12562	Landing Gear Axles:DRACO 2.0m
EFL12563	Aluminum Landing Gear Arms: DRACO 2.0m
EFL12564	Landing Gear Fairings: DRACO 2.0m
EFL12565	Motor Mount: DRACO 2.0m
EFLP145904B	14.5 x 9 4-Blade Propeller: DRACO 2.0m
EFL12567	Spinner: DRACO 2.0m
EFLM5065D	5065 Brushless Outrunner Motor : DRACO 2.0m
EFLA520D	Light Controller: DRACO 2.0m
EFL12568	Shocks: DRACO 2.0m
EFL12569	Tailwheel Unit: DRACO 2.0m
EFL12570	Plastic Detail Set: DRACO 2.0m
EFL12571	Carbon Wing Tube: DRACO 2.0m
EFL12572	Hardware Set: DRACO 2.0m

EFL12573	Pushrod Set: DRACO 2.0m
EFL12574	Wing Screws and Hoops: DRACO 2.0m
EFL12576	Pilot: DRACO 2.0m
EFL12578	Window Set: Draco 2.0m
EFL12581	Slats (pr): DRACO 2.0m
SPMAR637T	AR637T 6CH SAFE and AS3X TelemRX
SPMSA332	9g Sub-Micro MG Servo: 170mm Lead
SPMXAE1100	Avian 100 Amp Brushless Smart ESC, 3S-6S

Recommended Parts

Part #	Description
SPMR8105	DX8e 8-Channel Transmitter Only
SPMX50006S30	5000mAh 6S 22.2V Smart 30C; IC5
SPMXC2020	Spektrum S1200 G2 AC 1x200W AC Smart Charger

Optional Parts

Part #	Description
SPMXBC100	LiPo Battery Checker & Servo Driver
SPM6722	Spektrum Single Aircraft TX Case

SPMA9574	Aircraft Telemetry Airspeed Indicator
SPMA9589	Aircraft Telemetry Altitude and Variometer Sensor
SPMXC2020	Smart S1200 DC Charger, 1x200W
SPMXC10201	30A 540W Power Supply
SPMR6775	NX6 6-Channel Transmitter Only
SPMR8200	NX8 8-Channel DSMX Transmitter Only
AR8360T	AR8360T DSMX 8-Channel AS3X & SAFE Telemetry Receiver
SPMR6655	DX6e 6-Channel Transmitter Only
SPMXC2010	S2200 G2 AC Smart Charger, 2x200W
SPMXC1050	S1500 DC Smart Charger, 1x500W
SPMXC1000	S1200 DC Smart Charger, 1x200W
SPMXCA507	Adapter: IC3 Battery / IC5 Device
SPMX70006S30	22.2V 7000mAh 6S 30C Smart LiPo: IC5
SPMX40006S30	22.2V 4000mAh 6S 30C Smart LiPo: IC5
SPMX50004S30	14.8V 5000mAh 4S 30C Smart LiPo: IC5
SPMX76S30	22.2V 7000mAh 6S 30C G2 Smart LiPo: IC5
SPMX56S100	22.2V 5000mAh 6S 100C G2 Smart LiPo: IC5

SPMX56S50	22.2V 5000mAh 6S 50C G2 Smart LiPo: IC5
SPMX56S30	22.2V 5000mAh 6S 30C G2 Smart LiPo: IC5
SPMX46S50	22.2V 4000mAh 6S 50C Smart LiPo: IC5

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 flighting, 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, or (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.

Contact Information

Country of Purchase	Horizon Hobby	Phone Number/Email Address	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.de +49 (0) 4121 2655 100	Hanskampring 9 D 22885 Barsbüttel, Germany

FCC Information

FCC ID: BRWTIARLGTNG1
"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
EFL Draco 2.0M BNF Basic and PNP (EFL12550 and EFL12575)

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.

IC Information

Compliance Information for the European Union

Documents / Resources

	[**E-flite DRACO 2.0m Smart BNF Basic**](#) [pdf] Instruction Manual DRACO 2.0m Smart BNF Basic, DRACO 2.0m, Smart BNF Basic, BNF Basic

References

- 🔵 [**RC Airplanes and Helicopters, RC Cars and Trucks, RC Boats, RC Radios | Horizon Hobby**](#)
- 🌐 [**Product Serivce Center**](#)
- 🔴 [**RC Cars, RC Trucks, RC Airplanes, Model Trains, and Slot Cars at Tower Hobbies**](#)
- 🔵 [**RC Airplanes and Helicopters, RC Cars and Trucks, RC Boats, RC Radios | Horizon Hobby**](#)
- 🔵 [**RC Airplanes and Helicopters, RC Cars and Trucks, RC Boats, RC Radios | Horizon Hobby**](#)
- 📶 [**Spektrum RC Transmitters and RC Electronics | Spektrum**](#)