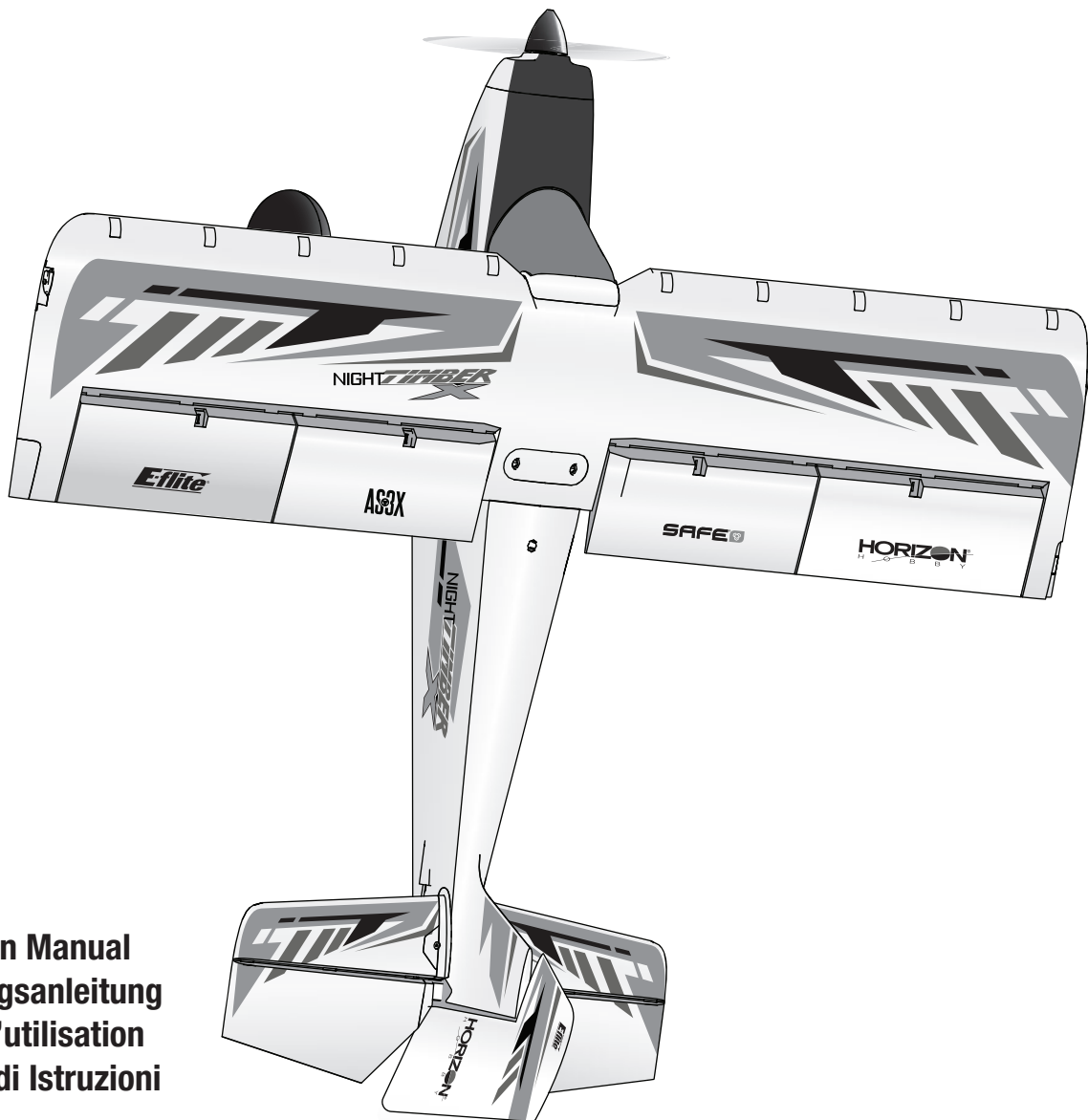HORIZON HOBBY®

E-flite®
ADVANCING ELECTRIC FLIGHT

NIGHT TIMBER X®

Instruction Manual
Bedienungsanleitung
Manuel d'utilisation
Manuale di Istruzioni

SAFE®

SAFE® Select Technology, Optional Flight Envelope Protection

Plug-N-Play®   Bind-N-Fly®
                B A S I C

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.
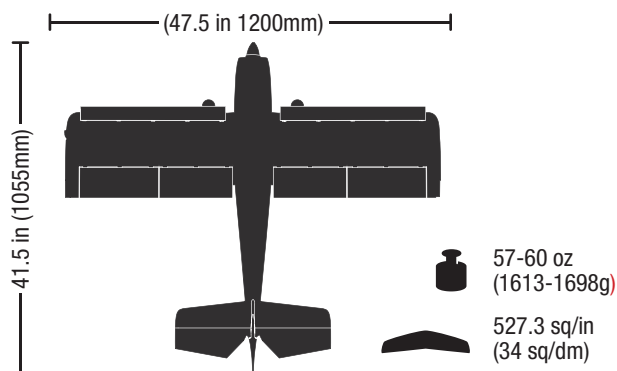
Box Contents

Quick Start Information			
Transmitter Setup	Set up your transmitter using the transmitter setup chart		
Dual Rates (Measure in AS3X mode only)		**Hi Rate**	**Low Rate**
	Ail	▲45mm ▼45mm	▲35mm ▼35mm
	Ele	▲55mm ▼55mm	▲45mm ▼45mm
	Rud	55mm	40mm
	Flaps	Full ▼=55mm	Half ▼=30mm
Center of Gravity (CG)	89mm-102mm back from leading edge of wing at the fuselage.		
Flight Timer Setting	4 minutes		
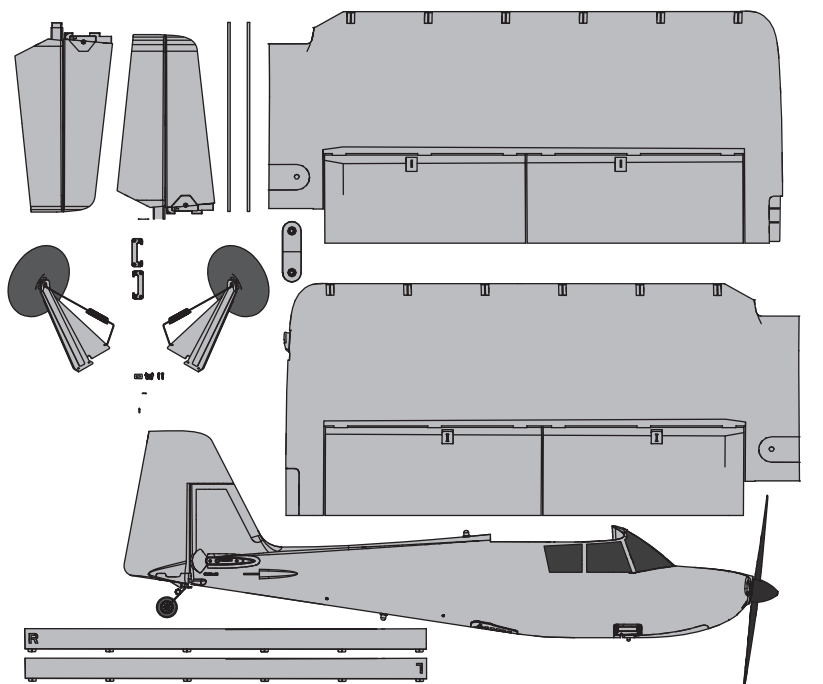
Specifications

	(BNF) BASIC®	PNP PLUG-N-PLAY®
Motor: 10BL Brushless outrunner 900Kv (EFLM17533)	Installed	Installed
ESC: Avian™ smart 60A, (SPMXAE1060)	Installed	Installed
Servo: 9 gram metal geared servo (5 x SPMSA332) (1 x SPMSA332R)	Installed	Installed
Receiver: AR637TA 6CH SAFE and AS3X Telemetry Receiver (SPMAR637T)	Installed	Required to Complete
Recommended Battery: 11.1V–14.8V 3S–4S 2200mAh 30C Li-Po (SPMX22003S30 or SPMX22004S30*)	Required to Complete	Required to Complete
Recommended Battery Charger: 3 or 4-cell SMART Li-Po battery balancing charger (SPMXC1070).	Required to Complete	Required to Complete
Recommended Transmitter: Full-Range 5-7 channel 2.4GHz with Spektrum DSMX® technology with adjustable Dual Rates.	Required to Complete	Required to Complete

RECEIVER BIND INFORMATION	
Channels	6
Frequency	2402 – 2478 MHz
Compatibility	DSM2 and DSMX

(47.5 in 1200mm)

41.5 in (1055mm)

57-60 oz (1613-1698g)

527.3 sq/in (34 sq/dm)

Table of Contents

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/*.

SAFE® Select Technology (BNF Basic)

The evolutionary SAFE® Select technology can offer an extra level of protection so you can perform the first flight with confidence. No complex transmitter programming is required. Just follow the simple bind process to make the SAFE Select system active. When activated, bank and pitch limitations keep you from over-controlling and automatic self-leveling makes recovery from risky or confusing attitudes as simple as releasing the sticks. In fact, with the aileron, elevator and rudder sticks in the neutral position, SAFE Select will automatically keep the airplane in a straight and level attitude.

Expand the advantage of what SAFE® Select technology offers by assigning it to a switch. No transmitter programming is required and you'll be able to turn the system ON and OFF with the flip of a switch. For example, turn SAFE select ON for takeoffs to counter the torque of the propeller. Turn it OFF in flight for unrestricted aerobatic performance, and turn it back ON when a buddy wants to try out your cool aircraft. Turn SAFE Select ON for landings. As you drop the flaps, SAFE Select reduces your workload by compensating for pitch changes automatically, regardless of throttle position. It will help keep the correct pitch attitude and wings level during the final approach. Whether you're a beginner or an expert, SAFE Select can make your flights a great experience.

When the normal bind process is followed, the SAFE Select system is disabled, leaving specially tuned AS3X® technology in place to deliver a pure, unrestricted flight experience.

Preflight

1. Remove and inspect contents.	9. Make sure linkages move freely.
2. Read this instruction manual thoroughly.	10. Test the flap operation.
3. Charge the flight battery.	11. Perform the Control Direction Test with the transmitter.
4. Setup Transmitter using transmitter setup chart.	12. Perform the AS3X Control Direction Test with the aircraft.
5. Fully assemble the airplane.	13. Adjust flight controls and transmitter.
6. Install the flight battery in the aircraft (once it has been fully charged).	14. Perform a radio system Range Test.
7. Check the Center of Gravity (CG).	15. Find a safe open area to fly.
8. Bind the aircraft to your transmitter.	16. Plan flight for flying field conditions.

Transmitter Setup (BNF Basic)

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

Dual Rates

Take first flights in SAFE Select mode. For landings, use high rate elevator.

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.

Expo

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

To expand the aerobatic capability of the Night Timber X, the flaps can be configured to move with the ailerons for full span ailerons. To keep the SAFE Select functionality with full span ailerons, a 7 channel or more transmitter is required. See the BNF advanced receiver setup page later in this manual for details.

† Some of the terminology and function locations used in the iX12 programming may be slightly different than other Spektrum AirWare™ radios. The names given in parenthesis correspond to the iX12 programming terminology. Consult your transmitter manual for specific information about programming your transmitter.

* Flap programming values may vary slightly. For your initial flights use the recommended flap travel settings provided in the Flaps section and adjust the flap travel to your preference on subsequent flights.

Computerized Transmitter Setup	
Start all transmitter programming with a blank ACRO model (perform a model reset), then name the model.	
Set Dual Rates to	HIGH 100%
	LOW 70%
Set Servo Travel to	100%
Set Throttle Cut to	-100%
DXe	Refer to spektrumrc.com for the appropriate download setup.
DX7S DX8	1. Go to the SYSTEM SETUP
	2. Set MODEL TYPE: AIRPLANE

	3. Go to CHANNEL ASSIGN:
	          CHANNEL INPUT CONFIG
	                    AUX2 Switch A

	4. Set WING TYPE: 1 AIL 1 FLAP

	5. Go to Digital Switch Setup:
	          Switch: Switch A
	                    Pos 0: -100
	                    Pos 1: -100 *no motor reversing*
	                    Pos 1: 100 *motor reversing*

	6. Go to the FUNCTION LIST

	7. Set FLAP SYSTEM: Choose Flap
	          NORM: -0% FLAP
	          MID: 50% FLAP 14% Elevator
	          LAND: 100% FLAP 20% Elevator
	          SPEED 2.0S: SWITCH = FLAP

DX6e DX6 (Gen2) DX7 (Gen2) DX8e DX8 (Gen2) DX9 DX10t DX18 DX20 iX12	1. Go to the SYSTEM SETUP (Model Utilities)†
	2. Set MODEL TYPE: AIRPLANE

	3. Go to CHANNEL ASSIGN: *Not available on DX6 or DX6e transmitters*
	          CHANNEL INPUT CONFIG
	                    AUX2 Switch A

	4. Set AIRCRAFT TYPE (Model Setup, Aircraft Type)†: WING: 1 AIL 1 FLAP

	5. Go to Digital Switch Setup: *Not available on DX6 or DX6e transmitters*
	          Switch: Switch A
	                    Pos 0: -100
	                    Pos 1: -100 *no motor reversing*
	                    Pos 1: 100 *motor reversing*

	6. Go to the FUNCTION LIST (Model Adjust)†

	7. Set FLAP SYSTEM:
	          SELECT SWITCH D:
	          POS 0: 0% FLAP*
	          POS 1: 50% FLAP* 14% Elevator
	          POS 2: 100% FLAP* 20% Elevator
	          SPEED 2.0

Model Assembly

Landing Gear Installation

Mount the Landing Gear to the Fuselage

1. Insert left landing gear assembly into the pocket on the side of the fuselage as shown. The landing gear legs mount to the aluminum block which can pivot in the pocket.

2. Thread the included two 3 x 8mm machine screws through the landing gear leg into the threaded holes in the aluminum pivot block.

3. Repeat the process to install the Right landing gear assembly.

> **3 x 8mm button head machine**
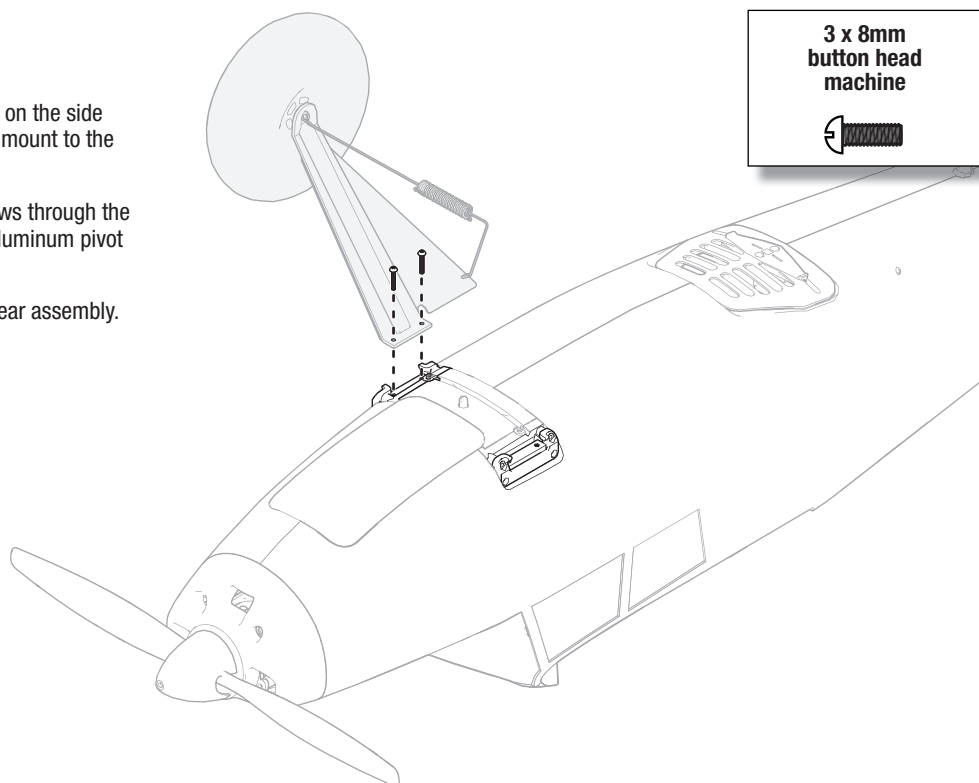
Mount the Spring Assemblies to the Fuselage

1. Align the spring assemblies with the mounting holes in the fuselage. These assemblies mount to the plastic bracket pre-installed in the fuselage between the landing gear.

2. Install the two 3 x 10mm self tapping screws to anchor the spring assemblies in place.

Clamp the Spring Assemblies Together

1. Align the spring assemblies with the joiner bracket

2. Clamp the assembly together with the two 2 x 6mm self tapping screws.

> **3 x 10mm self-tapping button head**

> **2 x 6mm self-tapping button head**
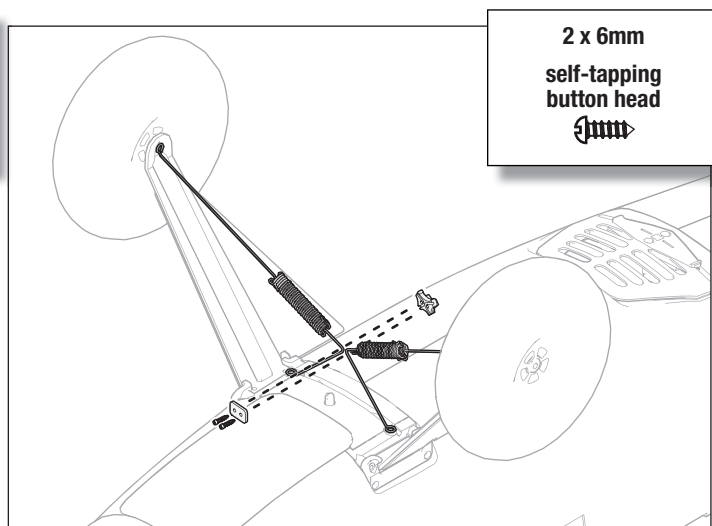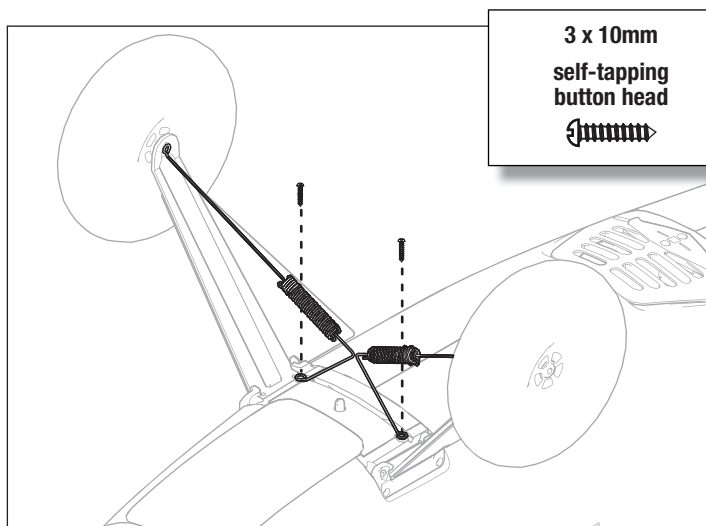
Model Assembly *Continued*

Lightweight and Heavy Stabilizer Joiners

The Night Timber X includes two stabilizer joiners; a lightweight composite joiner, and a heavier steel joiner. For tame flying and maximum stability in general flight, use the lightweight joiner to keep the CG at the front of the recommended CG range. For maximum performance and stability in high alpha maneuvers, use the steel joiner to shift the CG to the rear of the recommended CG range.

Horizontal Tail Installation

1. Slide the horizontal stabilizer joiner (**A**) into the hole in the rear of the fuselage.

2. Install the two piece (left and right) horizontal stabilizer as shown. Ensure the control horn faces down.

3. Connect the internal LED light connector (two pin connector) to the ports where the horizontal stabilizer meets the fuselage.

4. Secure the horizontal stabilizer pieces in place using the two included 3 x 12 mm self tapping screws (**B**).

5. Attach the pushrod keeper to the elevator control horn.

Tip: For maximum 3D performance, attach the elevator pushrod to the inner hole of the elevator control horn.

A

3 x 12mm
**self-tapping
button head**

B
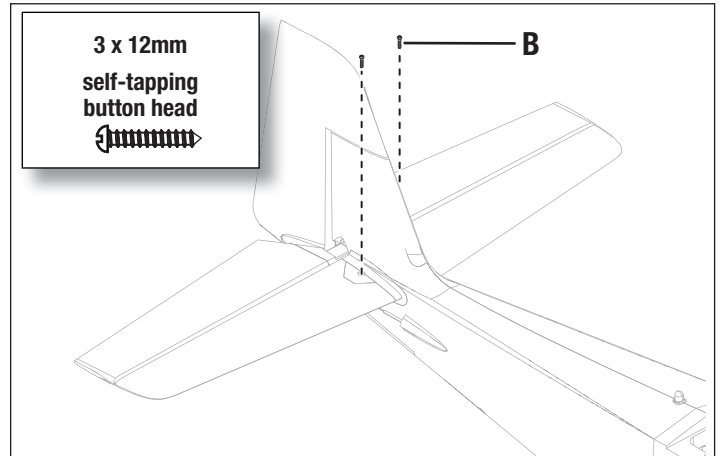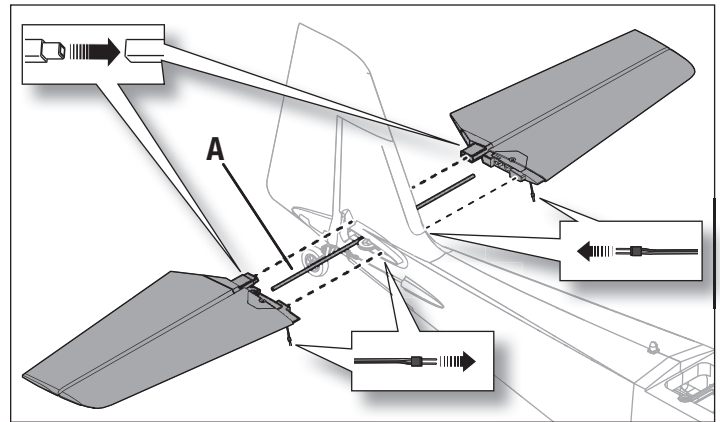
Pushrod Keeper Installation

1. Insert the end of the pushrod with the 90˚ bend into the control horn and Insert the pushrod into the hole in the pushrod keeper.

2. Rotate the pushrod keeper and press into place on the pushrod until it clicks into position.


1

2
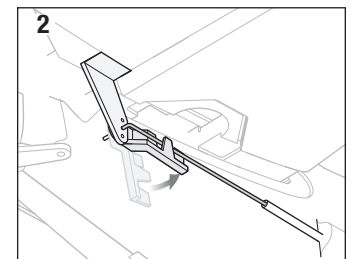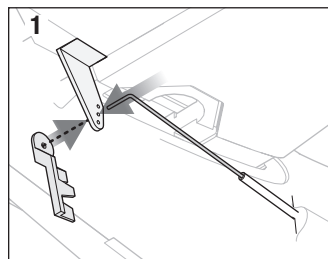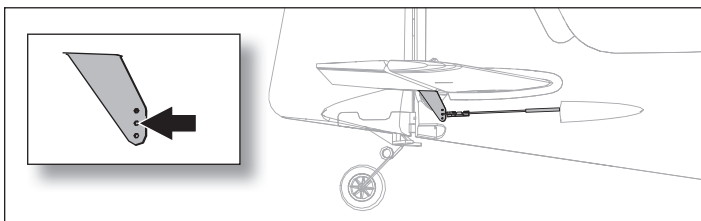
Model Assembly *Continued*

Propeller Installation

1. Remove the spinner screw (**A**) from the spinner (**B**).

2. Slide the propeller (**C**) propeller backplate (**D**) and collet (**E**) onto the motor shaft.

3. Tighten the spinner nut (**F**) using an adjustable wrench.

4. Slide the spinner onto the shaft in front of the propeller.

5. Secure the spinner with the spinner screw.

Disassemble in reverse order.
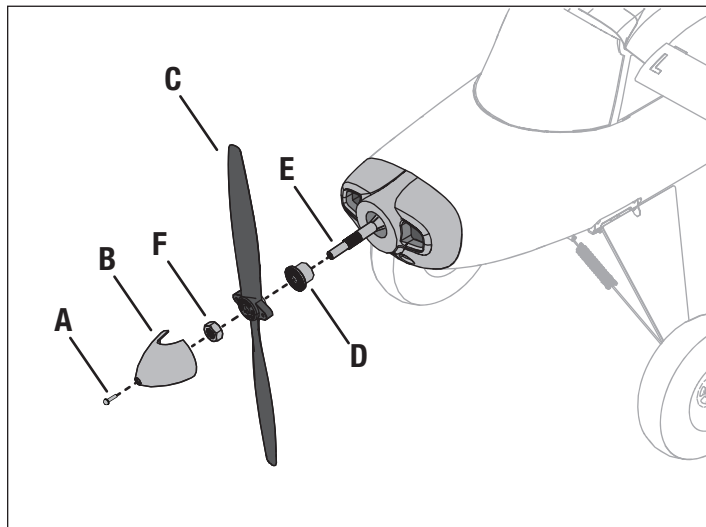
Wing Assembly

1. Insert the wing joiner tube and slide the left and right wing halves together, as shown.

2. Secure the wing together using the wing bracket (**A**).

3. Connect the flap, and aileron connectors to respective Y-harnesses. The left and right servos can be connected to either side of a Y-harness.

   IMPORTANT: The ailerons must be connected to the receiver's aileron port (channel 2) with a Y-harness (included) for the AS3X® system to function properly.

4. Connect the two navigation light connectors (Servo style connector with exposed pins) to the light harness of the AR637TA.

5. Connect the internal LED light connectors from the wings (two pin connector) to the LED light harness (**D**) as shown. The LED connectors can be installed in any port of the harness.

6. Guide the flaps, navigation lights, internal LED lights and aileron servo connectors (**B**) into the top of the fuselage as shown.

7. Connect the flaps, lights, and ailerons as shown to their respective receiver port. Flaps slot 6, lights slot 5, and ailerons slot 2.

8. Align the wing with the fuselage and secure into position using the included 2 nylon wing bolts (**C**).

   ⚠ **CAUTION:** DO NOT crush or otherwise damage the wiring when attaching the wing to the fuselage.

Disassemble in reverse order.

Flaps

Lights

Ailerons

Internal LEDs

Wings
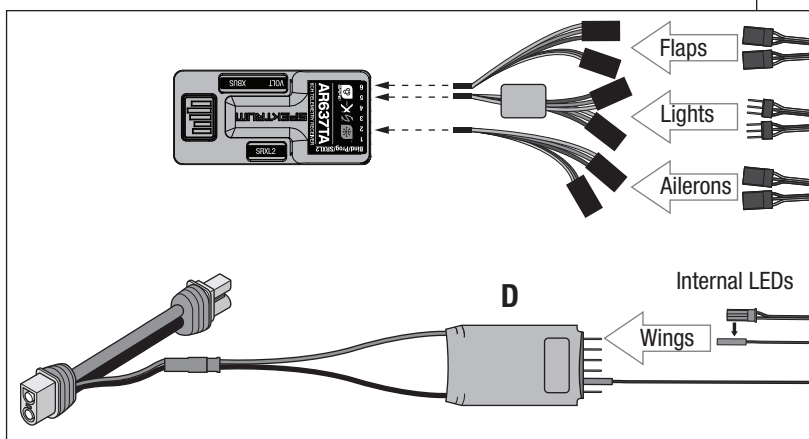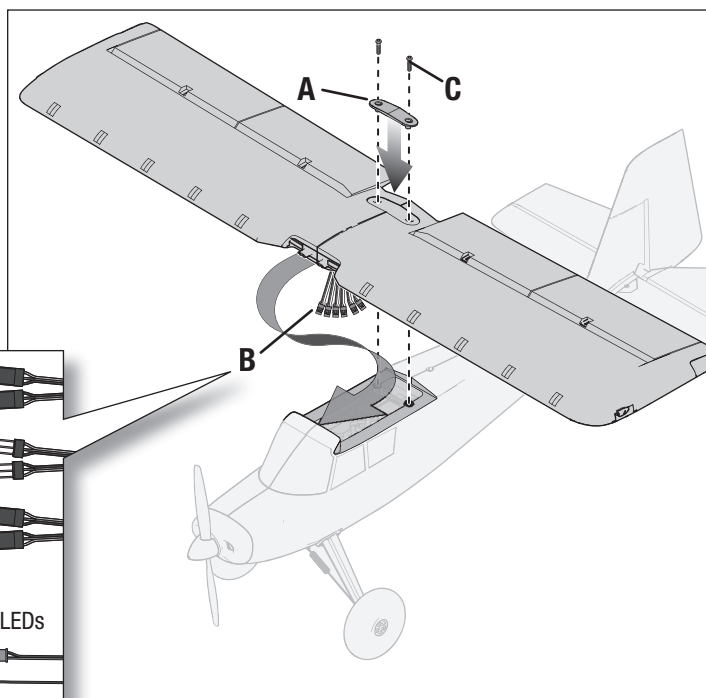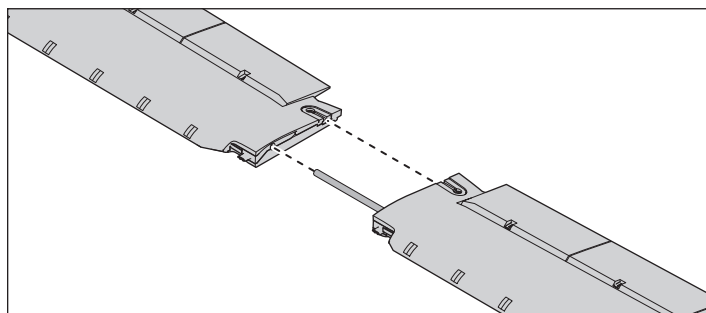
Battery Installation and ESC Arming

Battery Selection

The Spektrum 2200mAh 14.8V 4S 30C Li-Po battery (SPMX22004S30) is recommended. The SPMX22003S30 battery may also be used. For maximum performance with 3 cells, a 13 X 6.5 electric propeller may be utilized. 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.

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

1. Lower the throttle and throttle trim to the lowest settings. Power on the transmitter, then wait 5 seconds.

2. Press the latch button (**B**) and remove the battery hatch.

3. 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.

4. Install the fully charged battery (**C**) in the center of the battery compartment as shown. Position battery forward or aft for your desired CG. Secure using the hook and loop straps (**D**).

5. Connect the battery to the ESC (the ESC is now armed).

6. Keep the aircraft immobile, upright, and away from wind or the system will not initialize.

   • The Avian Smart ESC will sound a single tone every two seconds until the receiver initializes. it will then sound either 3 or 4 tones in quick succession indicating the battery cellcount, and a double tone indicating it is initialized.

   • An LED will illuminate on the receiver when it is initialized

If the ESC sounds a continuous beep after the receiver is initialized, recharge or replace the battery.

7. Reinstall the battery hatch.
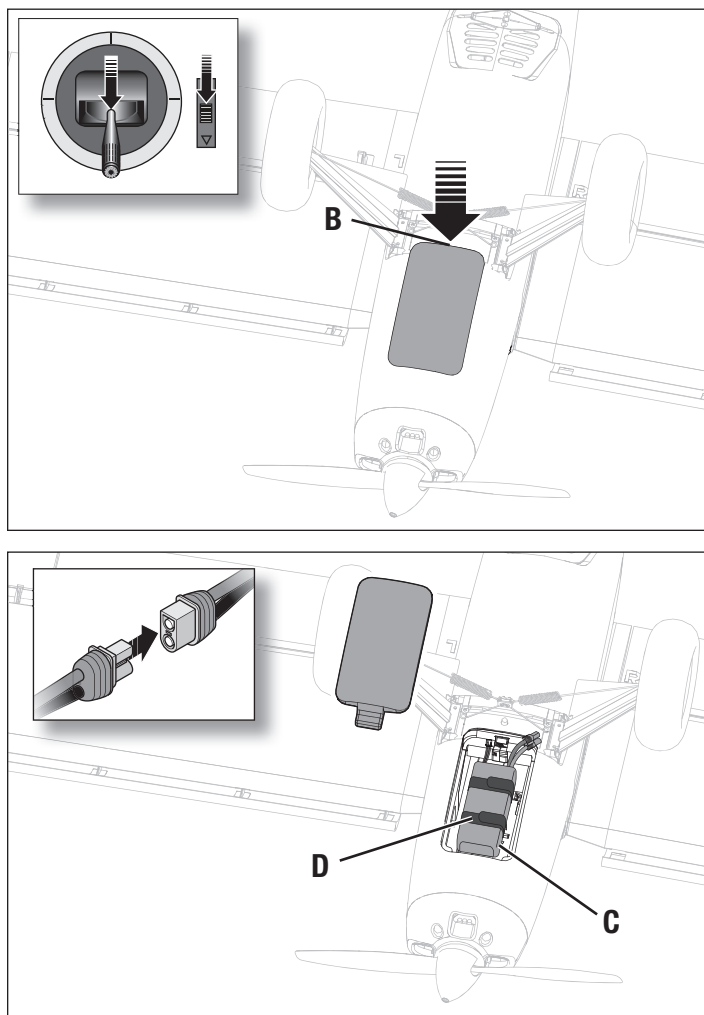
Center of Gravity (CG)

⚠ **WARNING:** If your transmitter allows it, always engage throttle cut before approaching the aircraft.

⚠ **CAUTION:** Install the battery but leave it disconnected while checking the CG. Personal injury may result if battery is connected while checking CG.

The CG location is measured from the leading edge of the wing at the root. This CG location has been determined with the recommended Li-Po battery (SPMX22004S30).
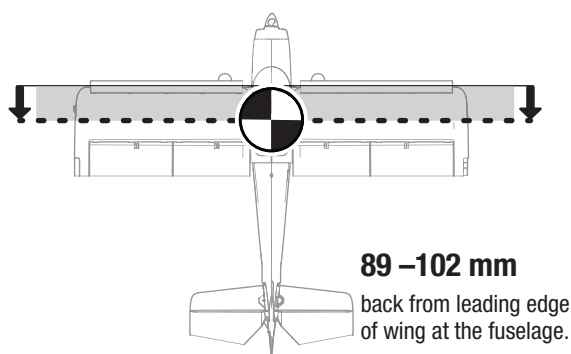
A pocket in the tail provides a space for extra tail weight for pilots wanting to push the 3D capabilities to the limit. Extra tail weight is not included.

(without slats installed)

   • 89mm +/- 3mm back from the leading edge with the carbon joiner

OR

   • 102mm +/- 3mm back from the leading edge with the steel joiner for maximum 3D performance

89 –102 mm
back from leading edge of wing at the fuselage.

Night Timber X 1.2m

Binding

General Binding Tips

- 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 level the aircraft in flight.

- If problems occur, refer to the troubleshooting guide or if needed, contact the appropriate Horizon Product Support office.

SAFE® Select Technology, Optional Flight Envelope Protection

The BNF Basic version of this airplane includes SAFE Select technology, enabling you to choose the level of flight protection. SAFE mode includes angle limits and automatic self leveling. AS3X mode provides the pilot with a direct response to the control sticks. SAFE Select is enabled or disabled during the bind process.

With SAFE Select disabled the aircraft is always in AS3X mode. With SAFE Select enabled the aircraft will be in SAFE Select mode all the time, or you can assign a switch to toggle between SAFE Select and AS3X modes.

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

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

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

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

Note: When using the auxiliary BEC from an ESC installed in the bind port of the receiver, unplug it to use bind plug.

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.

*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.

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.

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

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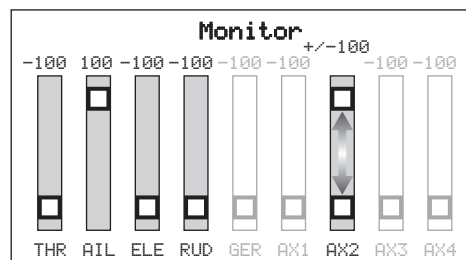
Assigning a Switch
1. Power on the transmitter.
2. Power on the aircraft.
3. Hold both transmitter sticks to the inside bottom corners, and toggle the desired switch 5 times quickly (1 toggle = full up and down).
4. The control surfaces of the aircraft will move, indicating the switch has been selected.

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

SAFE Select Switch Assignment Stick Positions

Mode 1 and 2 transmitters

Assigned Switch
100%
X 5
100%
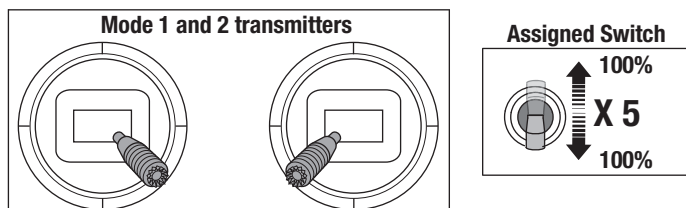
TIP: Use the channel monitor to verify channel movement.

This example of the channel monitor shows the stick positions for assigning a switch, the switch selection on Aux2, 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 like battery voltage and 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 of 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.*
5. Scroll past the servo monitor to view SMART technology screens.

For more information about compatible transmitters, firmware updates, and how to use the SMART Technology on your transmitter, visit www.SpektrumRC.com.
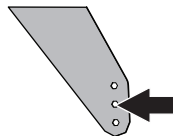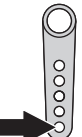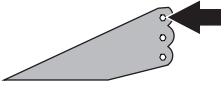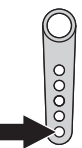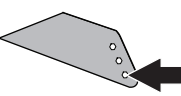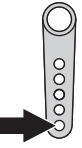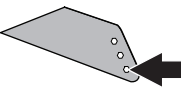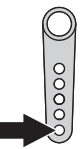
* If the SMART logo dose not appear under the battery logo on the home page, perform a firmware update to view SMART Telemetry.

Control Horn and Servo Arm Settings

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

NOTICE: If control throws are changed from the factory settings, the AR637TA gain values may need to be adjusted. Refer to the Spektrum AR637TA manual for adjustment of gain values.
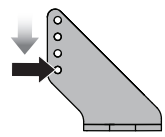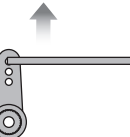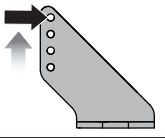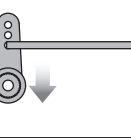
After flying, you may choose to adjust the linkage positions for the desired control response. See the table to the right.

Factory Setting	Horns	Arms
Elevator		
Rudder		
Aileron		
Flaps		

Tuning	Horns	Arms
More control throw		
Less control throw		

- -

Control Surface Centering

After assembly and transmitter setup, confirm that the control surfaces are centered. If the control surfaces afre not centered, mechanically center the control surfaces before flying.

NOTICE: The model must be powered up and bound to the transmitter in AS3X mode, with the throttle left at zero. When enabled, SAFE mode is active at power up. AS3X mode is activated when the throttle is raised above 25% for the first time after being powered on.

It is normal for the control surfaces to respond to aircraft movement if the aircraft is in AS3X or SAFE modes.

1. Verify the trims and subtrims on your transmitter are zero.

2. Power up the model in AS3X mode and leave the throttle at zero

3. **Rudder-** Center the rudder in line with the vertical stabilizer. If adjustment is required, loosen the screw lock connector to change the length between the z-bend and the servo arm for the rudder.

4. **Ailerons-** Center the ailerons by aligning the outboard end of the aileron with the trailing edge of the wing tip. If adjustment is required, loosen the clevis to change the length between the z-bend and the servo arm for the aileron.

5. **Flaps-** Center the flaps by aligning the outboard end of the flap with the inboard end of the aileron. If adjustment is required, loosen the clevis to change the length between the z-bend and the servo arm for the flap.

6. **Elevator-** Center the elevator with the horizontal stabilizer. Ensuring that each elevator is aligned with one another. If adjustment is required, loosen the screw lock connector to change the length between the z-bend and the servo arm for the elevator.

Rudder, Elevator
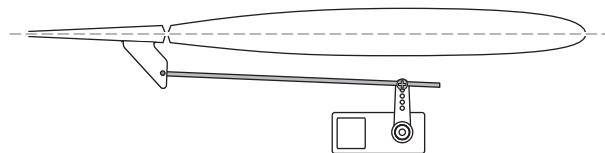
Ailerons, Flaps
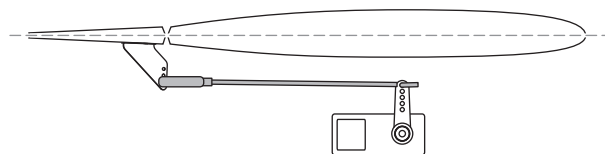
Control Direction Test

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

Elevators

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

2. Push the elevator stick forward. The elevators should move down, which will cause the aircraft to pitch down.
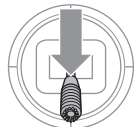
Ailerons
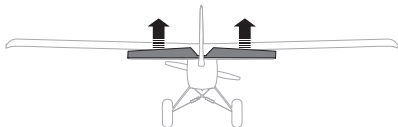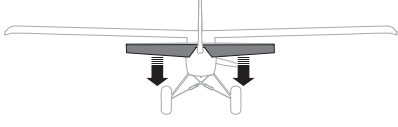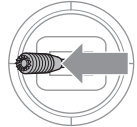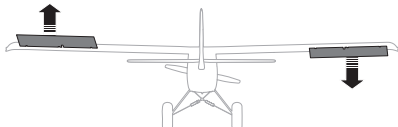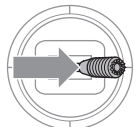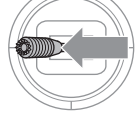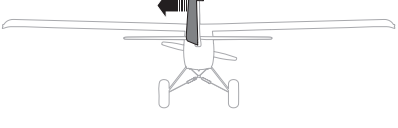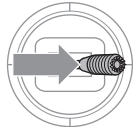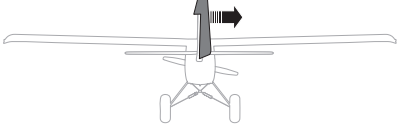
1. Move the aileron stick to the left. The left aileron should move up and the right aileron down, which will cause the aircraft to bank left.

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

Rudder

1. Move the rudder stick to the left. The 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 "full flaps" position.

2. Confirm that the wing flaps move down.

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

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

	Transmitter command	Control Surface Response
Elevator		
Aileron		
Rudder		
Flaps		

Night Timber X 1.2m

AS3X Control Direction Test (BNF Basic)
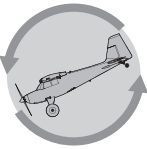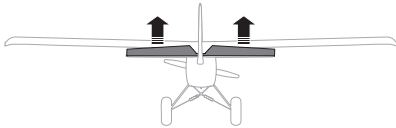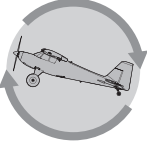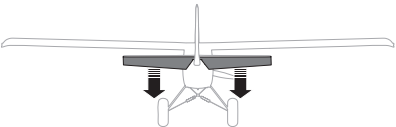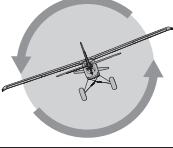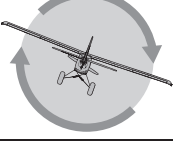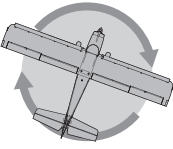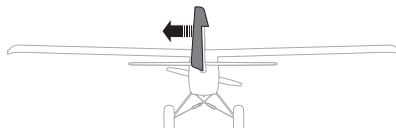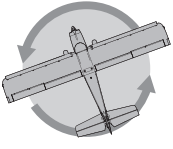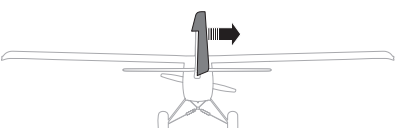
This test ensures that the AS3X® control system is functioning properly. Assemble the aircraft and bind your transmitter to the receiver in AS3X mode before performing this test.

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

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

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.

	Aircraft movement	AS3X Reaction
Elevator		
Elevator		
Aileron		
Aileron		
Rudder		
Rudder		

In Flight Trimming (BNF Basic)

During your first flight, trim the aircraft for level flight at 1/2 throttle with flaps up. Make small trim adjustments with your transmitter's trim switches to straighten the aircraft's flight path.

After adjusting the 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.
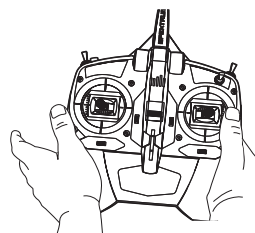
3 Seconds

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 facing into the wind. Set your transmitter in low rate and use your flaps switch to drop the flaps to takeoff or "half position". Gradually increase the throttle to ¾ and steer with the rudder. **Flaps make takeoffs shorter**. As the plane reaches flying speed, pull back gently on the elevator. When airborne, climb to a comfortable altitude and then flip your flaps switch to level the flaps.

Flying

For your first flights with the recommended battery pack (SPMX22004S30), set your transmitter timer or a stopwatch to 4 minutes. After four minutes, land the aircraft. Adjust your timer for longer or shorter flights once you have flown the model. If at any time the motor power reduces, land the aircraft immediately to recharge the flight battery. See the Low Voltage Cutoff (LVC) section for more details on maximizing battery health and run time.

Landing

Land the aircraft into the wind. Use a small amount of throttle for the entire descent. Lower the throttle to ¼ and flip your flaps switch to deploy the flaps to the landing or "full down position". **Flaps will make the landing approach steeper and slower, and allow for a smoother landing.**

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.

If landing on grass, it is best to hold full up elevator after touchdown and when taxiing to prevent the nose from digging in.

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

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.

WARNING: Always decrease throttle at propeller strike.

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.

Water Takeoff and Landing Using the Optional Float Set

Only use the floats if you are comfortable flying your aircraft and have repeatedly taken off, flown and landed with success. Flying off water poses a higher risk to the airplane because the electronics can fail if fully immersed in water.

Always ensure the optional floats are secure on the fuselage and that the float dual rudder system is correctly connected and moves freely before putting the aircraft in water.

To take off on water, steer with the rudder and slowly increase the throttle. Keep the wings level on takeoff. Hold a small amount (1/4–1/3) of up elevator and the aircraft will lift off once flying speed is reached.

To land this aircraft on water, fly the aircraft to a couple of feet off the surface of the water. Reduce throttle and add up elevator to flare the aircraft.

When taxiing, you must use throttle to move the aircraft forward, but steer with the rudder stick. The stick will turn both the aircraft rudder and the small rudders attached to the floats.

Avoid taxiing cross wind if there is a breeze, as this can cause the aircraft to flip over if wind gets under the upwind wing. Taxi 45 degrees into the direction of the wind (not perpendicular to the wind) and use aileron to hold the upwind wing down. The aircraft will naturally try to face into the wind when taxiing.

Always fully dry the aircraft after landing on water.

⚠ **CAUTION:** Never go alone to get a downed model in the water.

⚠ **CAUTION:** If at any time water splashes in the fuselage while flying from water, bring the airplane to shore, open the battery hatch and immediately remove any water that may have gotten in the fuselage. Leave the battery hatch open overnight to let the inside dry out and to prevent moisture damage to the electronic components. Failure to do so could cause the electronic components to fail, which could result in a crash.

Up Aileron

Wind

45º

Down Aileron
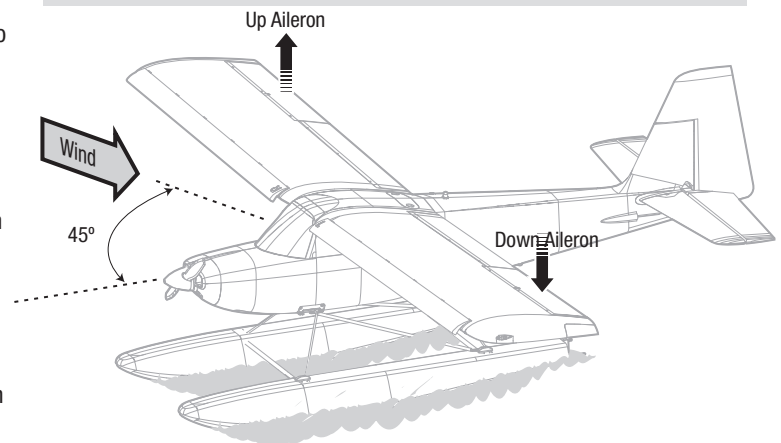
Taxi 45 degrees into the direction of the wind.

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 reduces, 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 Li-Po Cell Voltage Checker (EFLA111, 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.

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SAFE Select Flying

NOTICE: If SAFE Select is active, a flap to elevator compensation can be used to minimize pitch up when flaps are deployed. However, do not use throttle to elevator mix to reduce pitch up with flaps deployed as the mix will effect the high and low speed angles with flaps deployed.

For a short takeoff, apply full throttle and hold up elevator until the desired pitch attitude is reached. Continue holding up elevator until the appropriate altitude is reached. Once the elevator stick is returned to center, the aircraft will automatically resume level flight.

Alternatively, apply 1/2 to 3/4 throttle and let the tail come off the ground naturally. Gently apply up elevator and allow the plane to approach the desired altitude.

To land the aircraft, gradually decrease throttle and apply up elevator to adjust your glideslope to the desired landing point. Just before you approach the ground, reduce throttle to zero and flare the aircraft.

PNP Receiver Selection and Installation

The Spektrum AR637TA receiver is recommended for ths airplane. If you choose to install another receiver, ensure that it is at least a 5-channel full range (sport) receiver. Refer to your receiver manual for correct installation and operation instructions.

Installation (AR637TA shown)

1. Remove the wing from the fuselage.

2. Mount the receiver parallel to the length of the fuselage as shown. Use double-sided servo tape.

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

3. Attach the appropriate control surfaces to the their respective ports on the receiver using the chart in the illustration.

AR637TA Port Assignments

BND/PRG = BIND

1 = Throttle

2 = Y-harness: Ailerons

3 = Elevator

4 = Rudder

5 = Lights

6 = Y-harness: Flaps
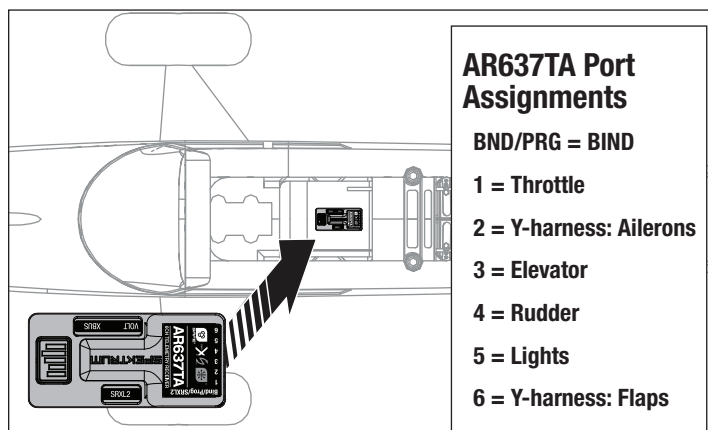
Post Flight

1. Disconnect the flight battery from the ESC (Required for Safety and battery life).	5. Repair or replace all damaged parts.
2. Power OFF the transmitter.	6. Store the flight battery apart from the aircraft and monitor the battery charge.
3. Remove the flight battery from the aircraft.	7. Make note of the flight conditions and flight plan results, planning for future flights.
4. Recharge the flight battery.	

Motor Service

⚠ **WARNING:** Always disconnect the flight battery before performing motor service.

Disassembly

1. Remove the spinner screw (**A**) and spinner (**B**) from the propeller shaft (**C**).

2. Remove the spinner nut (**D**) by using an adjustable wrench.

3. Remove the propeller (**E**), back hub (**F**) and the propeller shaft from the motor shaft.

4. Remove 2 screws (**G**) from inside the front cowling (**H**) and remove the cowling from the fuselage.

5. Remove the 4 screws (**I**) and the motor (**J**) with the X-mount from the fuselage.

6. Disconnect the motor wires from the ESC wires.

7. Remove the 4 screws (**K**) and motor from the X-mount (**L**).

Assembly

Assemble in reverse order.

• Correctly align and connect the motor wire colors with the ESC wires.

• Install the propeller with the size numbers (13 x 4) facing out from the motor.

• Tighten the spinner nut to secure the propeller into place.

Wiring not shown

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, linkage, horn and control surface)
	Worn parts	Replace worn parts (especially propeller, spinner or servo)
	Irregular servo movement	Replace servo
Inconsistent flight performance	Trim is not at neutral	If you adjust trim more than 8 clicks, adjust the clevis to remove trim
	Sub-Trim is not at neutral	No Sub-Trim is allowed. Adjust the servo linkage
	Aircraft was not kept immobile for 5 seconds after battery connection	With the throttle stick in lowest position. Disconnect battery, then reconnect battery and keep the aircraft still for 5 seconds
Incorrect response to the AS3X Control Direction Test	Incorrect direction settings in the receiver, which can cause a crash	DO NOT fly. Correct the direction settings (refer to the receiver manual), then fly

Troubleshooting Guide

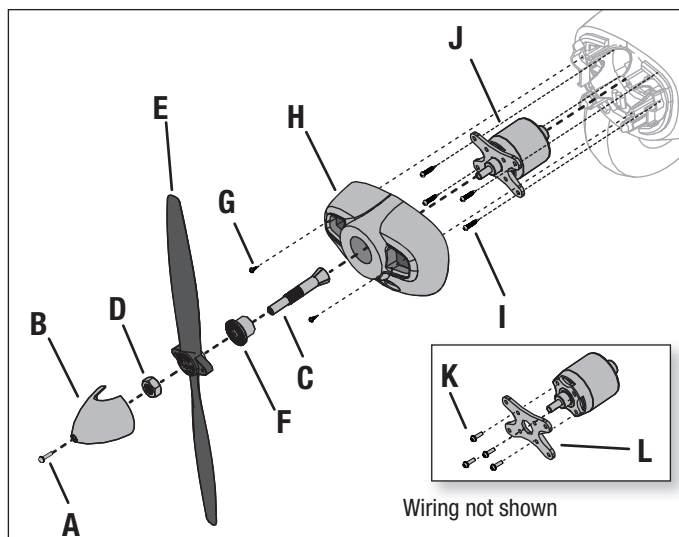| Problem	Possible Cause	Solution
Aircraft will not respond to throttle but responds to other controls	Throttle not at idle and/or throttle trim too high	Reset controls with throttle stick and throttle trim at lowest setting
	Throttle servo travel is lower than 100%	Make sure throttle servo travel is 100% or greater
	Throttle channel is reversed	Reverse throttle channel on transmitter
	Motor disconnected from ESC	Make sure motor is connected to the ESC
Extra propeller noise or extra vibration	Damaged propeller and spinner, collet or motor	Replace damaged parts
	Propeller is out of balance	Balance or replace propeller
	Prop nut is too loose	Tighten the prop nut
Reduced flight time or aircraft underpowered	Flight battery charge is low	Completely recharge flight battery
	Propeller installed backwards	Install propeller with numbers facing forward
	Flight battery damaged	Replace flight battery and follow flight battery instructions
	Flight conditions may be too cold	Make sure battery is warm before use
	Battery capacity too low for flight conditions	Replace battery or use a larger capacity battery
Aircraft will not Bind (during binding) to transmitter	Transmitter too near aircraft during binding process	Move powered transmitter a few feet from aircraft, disconnect and reconnect flight battery to aircraft
	Aircraft or transmitter is too close to large metal object, wireless source or another transmitter	Move aircraft and transmitter to another location and attempt binding again
	The bind plug is not installed correctly in the bind port	Install bind plug in bind port and bind the aircraft to the transmitter
	Flight battery/transmitter battery charge is too low	Replace/recharge batteries
	Bind switch or button not held long enough during bind process	Power off transmitter and repeat bind process. Hold transmitter bind button or switch until receiver is bound
Aircraft will not connect (after binding) to transmitter	Transmitter too near aircraft during connecting process	Move powered transmitter a few feet from aircraft, disconnect and reconnect flight battery to aircraft
	Aircraft or transmitter is too close to large metal object, wireless source or another transmitter	Move aircraft and transmitter to another location and attempt connecting again
	Bind plug left installed in bind port	Rebind transmitter to the aircraft and remove the bind plug before cycling power
	Aircraft bound to different model memory (ModelMatch™ radios only)	Select correct model memory on transmitter
	Flight battery/Transmitter battery charge is too low	Replace/recharge batteries
	Transmitter may have been bound to a different aircraft using different DSM protocol	Bind aircraft to transmitter
Control surface does not move	Control surface, control horn, linkage or servo damage	Replace or repair damaged parts and adjust controls
	Wire damaged or connections loose	Do a check of wires and connections, connect or replace as needed
	Transmitter is not bound correctly or the incorrect airplanes was selected	Re-bind or select correct airplanes in transmitter
	Flight battery charge is low	Fully recharge flight battery
	BEC (Battery Elimination Circuit) of the ESC is damaged	Replace ESC
Controls reversed	Transmitter settings are reversed	Perform the Control Direction Test and adjust the controls on transmitter appropriately
Motor power pulses then motor loses power	ESC uses default soft Low Voltage Cutoff (LVC)	Recharge flight battery or replace battery that is no longer performing
	Weather conditions might be too cold	Postpone flight until weather is warmer
	Battery is old, worn out, or damaged	Replace battery
	Battery C rating might be too small	Use recommended battery

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Slat Installation *(optional)*

Required Adhesives

Medium CA

Slats are beneficial for STOL performance but can decrease roll authority and inverted flight performance. If your Night Timber X will be primarily flown in a STOL manner, rather than for aerobatics, you may want to install them.

1. Carefully remove all the foam slat pocket covers (**A**) from the wing.

2. When the pocket is exposed, carefully apply medium CA to each slat pocket.

3. Mount the slat onto the wing with the rounded edge facing forward. Ensure that the left and right slats are on the correct wing half. The slat and wing halves are labeled with "L" and "R" indicators.
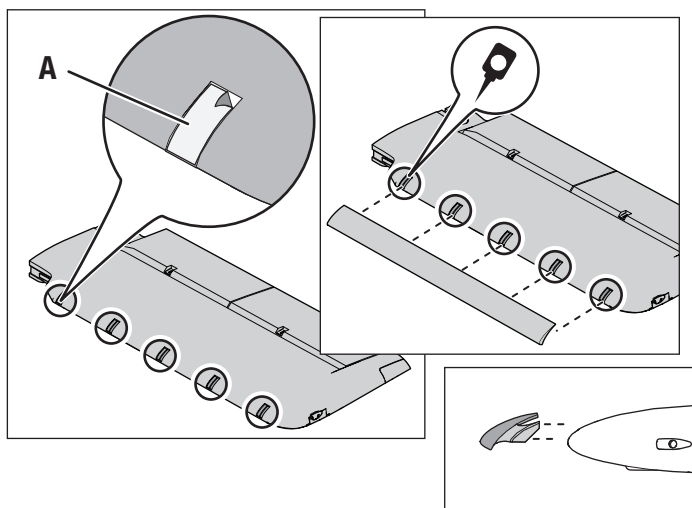
Thrust Reversing *(optional)*

The Night Timber X is equipped with the Avian 60 amp smart ESC with reversing. This 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. Simply assign a switch to channel 7 (aux2) to reverse the direction of rotation of the motor. Activate the switch to reverse direction and the motor will operate in the opposite direction. The SRXL connection of the smart ESC, when combined with a AR637TA receiver allows the ESC to use input from channel 7 in addition to channel 1 (throttle).

Reversing the motor can be helpful when taxying, or using floats when water flying. It can also be helpful for shortening ground roll after a landing.

IMPORTANT: The motor will draw more current when spinning the propeller in the reverse direction as the propeller is less efficient and creates more drag which can reduce flight time.

Float Installation *(optional)*

Float Assembly

Install the 2 cross members (**A**) to the left and right floats as shown.

1. Install the front and rear float struts to the floats and secure the assembly together using the included 4 float plates (**B**) and screws (**C**). The front strut has slightly more of an angle than the rear strut (Figure 1).

2. Install the front support members (**D**) as shown using the included screws (**E**).

Figure 1

Front Strut
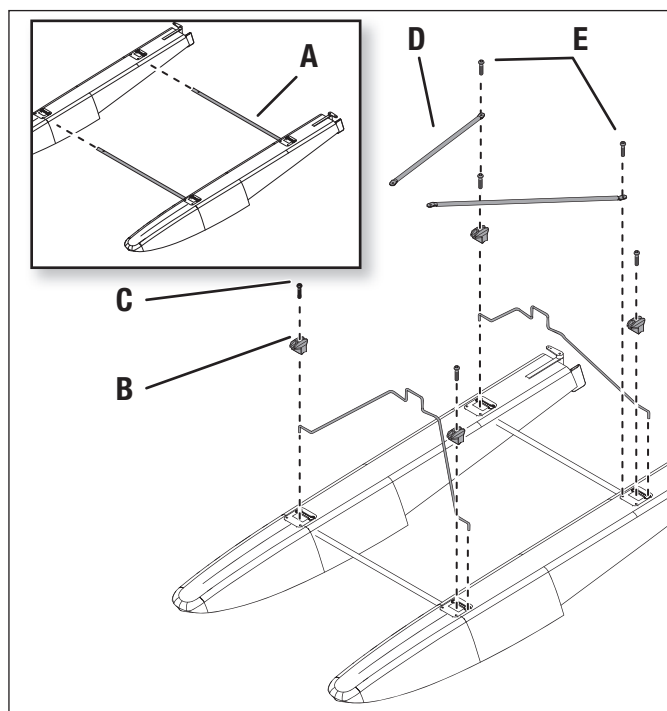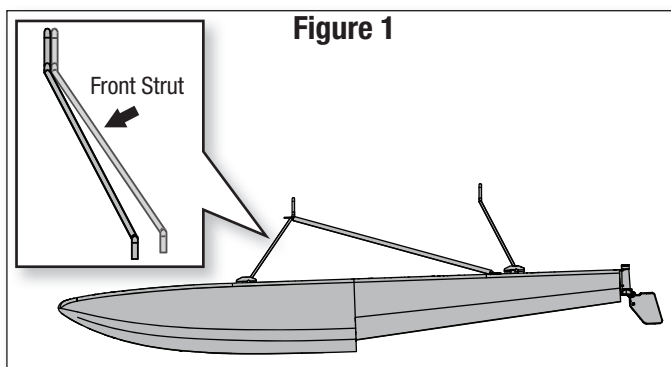
Float Installation

1. Align and mount the float set assembly to the bottom of the fuselage.

2. Secure the back section of the floats to the fuselage using the included bracket (**F**) and 2 screws (**G**).

3. Secure the front section of the floats using the two included screws (**H**) to secure the front support members to the bottom of the fuselage.

4. Attach the included wire from each float rudder (**I**) to the pull–pull horn (**J**) using the two included pins (**K**).

Disassemble in reverse order.
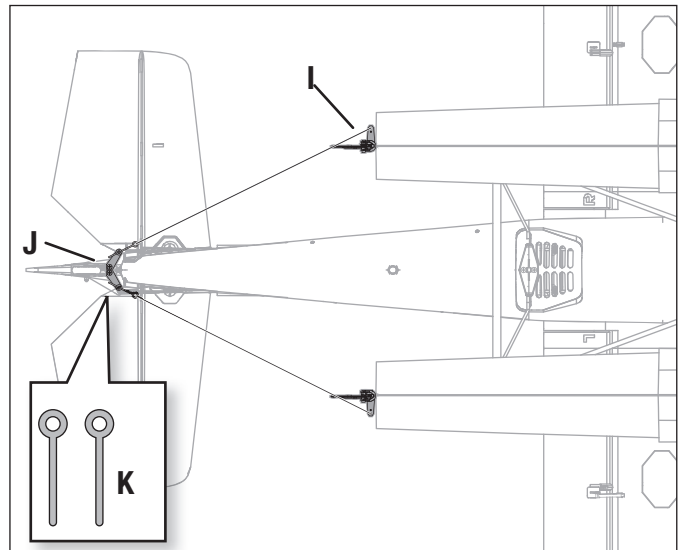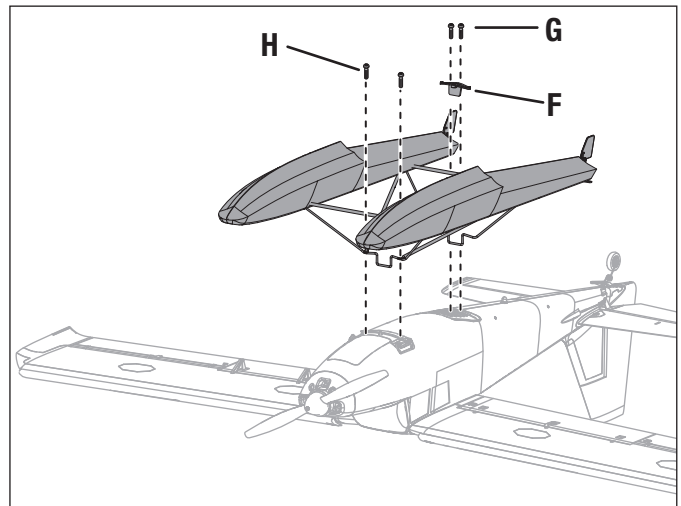
BNF advanced receiver setup *(optional)*

With the basic transmitter setup, the ailerons and flaps will operate separately. For increased aileron authority, the AR637TA receiver included in the BNF version may be configured so the flaps can operate as both flaps and ailerons.

Servo Plug Order Change

1. Remove the Y-harnessed lights from Ch-5 port on the AR637TA

2. Remove the Y-harness plugged into the Ch-6 port on the AR637TA.

3. Insert two servo extensions (EFLREX9L) into the receiver ports; one in Ch-5 and one in Ch-6.

4. The left flap plugs into the Ch-5 extension. The right flap plugs into the Ch-6 extension. We recommend labeling the wires to help identify the correct ports when mounting the wing.

5. Insert the Y-harness into the BIND port. The lights plug into one side of the Y-harness, and the other side serves as a BIND port.

⚠ **CAUTION:** Connecting servos to the wrong port on the receiver could cause a crash.

IMPORTANT: A 7-channel or higher transmitter is required for the advanced BNF receiver setup plus the ability to select between AS3X and SAFE with SAFE Select. If using a 6 channel transmitter for the advanced receiver setup, only AS3X is available.

AR637TA advanced receiver setup port assignments

BND/PRG = Y-Harness: Lights/BIND

1 = Throttle	4 = Rudder
2 = Y-harness: Ailerons	5 = Left flap
3 = Elevator	6 = Right flap

Right Flap
Left Flap
Ailerons
Lights
Bind Port
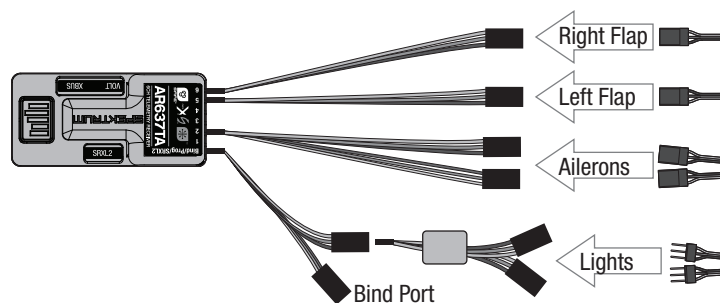
DX8e, DX8 (Gen2), DX9, DX18, DX20, iX12 and iX20

TIP: It is possible to enable or disable the four servo aileron mix by assigning a switch to the P-Mix instead of setting the switch to ON during setup in steps 8 and 9.

TIP: If you want to use SAFE select with the Advanced model setup, you can assign a switch to any channel 7-9 for SAFE select. Even though the AR637TA only has 6 servo ports, it can use up to channel 9 to key SAFE Select.

Advanced Transmitter Setup	
Start all transmitter programming with a blank ACRO model (perform a model reset), then name the model.	
Set Dual Rates to	HIGH 100%
	LOW 70%
Set Servo Travel to	100%
Set Throttle Cut to	-100%
DX6e DX6G2	1. Go to the SYSTEM SETUP
	2. Set MODEL TYPE: AIRPLANE
	3. Set AIRCRAFT TYPE: WING: 1 AIL 1 FLAP
	4. Go to the Channel Assign Channel Input Config: GEAR (channel 5): INH
	5. Optional: Select a switch for channel 7 in Channel Assign if you wish to use the reversing feature of the Avian Smart ESC
	6. Set FLAP SYSTEM: SELECT SWITCH D: POS 0: 0% FLAP* POS 1: 50% FLAP* 14% Elevator POS 2: 100% FLAP* 20% Elevator SPEED 2.0
	7. Go to the FUNCTION LIST
	8. Set MIXING: P-MIX 1 Select; NORMAL Set INH > INH to read FL > GEAR RATE: 100% 0% OFFSET: 0% TRIM: INH Switch: ON
	9. Set MIXING: P-MIX 2** Select; NORMAL Set INH > INH to read AIL > GEAR RATE: -100% -100% OFFSET: 0% TRIM: INH Switch: ON
	10. Set MIXING: P-MIX 3** Select; NORMAL Set INH > INH to read AIL > FL RATE: 100% 100% OFFSET: 0% TRIM: INH Switch: ON

Advanced Transmitter Setup	
Start all transmitter programming with a blank ACRO model (perform a model reset), then name the model.	
Set Dual Rates to	HIGH 100%
	LOW 70%
Set Servo Travel to	100%
Set Throttle Cut to	-100%
DX8e DX8 (Gen2) DX9 DX18 DX20 iX12 iX20	1. Go to the SYSTEM SETUP (Model Setup)†
	2. Set MODEL TYPE: AIRPLANE
	3. Go to CHANNEL ASSIGN: CHANNEL INPUT CONFIG AUX2 Switch A
	4. Set AIRCRAFT TYPE (Model Setup, Aircraft Type)†: WING: 1 AIL 1 FLAP
	5. Go to the SYSTEM SETUP Digital Switch Setup: Switch A Pos 0: -100 Pos 1: -100 (NO MOTOR REVERSING) Pos 1: 100 (MOTOR REVERSING)
	6. Go to the Channel Assign SELECT GEAR: INH
	7. Optional: Select a switch for channel 7 in Channel Assign if you wish to use the reversing feature of the Avian Smart ESC
	8. Go to the FUNCTION LIST (Model Adjust)†
	9. Set FLAP SYSTEM: SELECT SWITCH D: POS 0: 0% FLAP* POS 1: 50% FLAP* 14% Elevator POS 2: 100% FLAP* 20% Elevator SPEED 2.0
	10. Set MIXING: P-MIX 1 Select; NORMAL Set INH > INH to read Normal FL > GEAR RATE: 100% 0% OFFSET: 0% TRIM: INH Switch: ON
	11. Set MIXING: P-MIX 2** Select; NORMAL Set INH > INH to read Normal AIL > GEAR RATE: -100% -100% OFFSET: 0% TRIM: INH Switch: ON (for constant) or select switch for activation 4-aileron mode ON/OFF.
	12. Set MIXING: P-MIX 3** Select; NORMAL Set INH > INH to read Normal AIL > FL RATE: 100% 100% OFFSET: 0% TRIM: INH Switch: ON (for constant) or select the same switch as choosen for P-MIX 2 for activation 4-aileron mode ON/OFF.

† 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 parenthesis correspond to the and iX20 programming terminology. Consult your transmitter manual for specific information about programming your transmitter.

* Flap programming values may vary slightly. For your initial flights use the recommended flap travel settings provided in the Flaps section and adjust the flap travel to your preference on subsequent flights.

** Adjust the percentages in P-Mix 2 and 3 to match the flap travel to aileron travel at full aileron right and left.

Replacement Parts

Part #	Description
EFL13851	Fuselage set :Night Timber X
EFL13852	Wing set : Night Timber X
EFL13853	Horizontal stab: Night timber X
EFL13854	LED regulator : Night timber X
EFL13856	Decal Sheet: Night Timber X
EFL3854	Steel Stab Joiner: Timber X
EFL3855	Leading Edge Slat: Timber X
EFL5253	Battery Hatch: Timber
EFL5254	Cowl: Timber
EFL5256	Hardware Set: Timber
EFL5257	Landing Gear Set: Timber
EFL5258	Wheel Set: Timber
EFL5262	Spinner: Timber
EFL5263	Prop Adapter: Timber
EFL5264	Motor Mount: Timber
EFL5265	Plastic Parts Set: Timber
EFL5267	Landing Gear Retainer: Timber
EFL5268	Landing Gear Springs: Timber
EFL5269	Wing and Stab Tube: Timber
EFLM17553	Motor 10: 900kv
SPMAR637T	AR637T 6CH SAFE and AS3X TelemRX
SPMSA332	9g servo MG
SPMSA332R	9g servo MG Reversed
SPMXAE1060	Avian 60 Amp Brushless Smart ES

Recommended Parts

Part #	Description
SPMR8000	DX8 Transmitter Only MD2
SPMX22003S100	2200mAh 3S 11.1V 100C Smart IC3
SPMX22003S30	2200mAh 3S 11.1V Smart 30C; IC3
SPMX22003S50	2200mAh 3S 11.1V Smart 50C; IC3
SPMX22004S100	2200mAh 4S 14.8V 100C Smart IC3
SPMX22004S30	2200mAh 4S 14.8V Smart 30C; IC3
SPMX22004S50	2200mAh 4S 14.8V50CSmartLiPo IC
SPMXCA507	IC3 Batt to IC5 Device 4 10AWG
SPMXC1000	Smart S1200 DC Charger, 1x200W
SPMXC1010	Smart S2100 AC Charger, 2x100W
SPMXC1050	Smart S1500 DC Charger, 1x500W

Optional Parts

Part #	Description
EFLA111	LiPo Cell Voltage Checker
SPM6716	Spektrum DSMR Transmitter Case
SPM6722	Spektrum Single Aircraft TX Case
SPMAR9350	AR9350 9 Channel AS3X RX
SPMR12000	iX12 12 Channel Transmitter Only
SPMXBC100	SMART Battery & Servo Tester
SPMX32003S30	3200mah 3S 11.1V Smart 30C; IC3
SPMXC1000	Smart S1200 DC Charger, 1x200W
SPMXC10201	30A 540W Power Supply
EFLB22003S30	2200mAh 3S 11.1V 30C; EC3
EFLB22004S30	2200mAh 4S 14.8V 30C; EC3

AMA National Model Aircraft Safety Code

Effective January 1, 2014

A. GENERAL

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

1. Model aircraft will not be flown:
   (a) In a careless or reckless manner.
   (b) At a location where model aircraft activities are prohibited.

2. Model aircraft pilots will:
   (a) Yield the right of way to all man carrying aircraft.
   (b) See and avoid all aircraft and a spotter must be used when appropriate. (AMA Document #540-D.)
   (c) Not fly higher than approximately 400 feet above ground level within three (3) miles of an airport, without notifying the airport operator.
   (d) Not interfere with operations and traffic patterns at any airport, heliport or seaplane base except where there is a mixed use agreement.
   (e) Not exceed a takeoff weight, including fuel, of 55 pounds unless in compliance with the AMA Large Model Aircraft program. (AMA Document 520-A.)
   (f) Ensure the aircraft is identified with the name and address or AMA number of the owner on the inside or affixed to the outside of the model aircraft. (This does not apply to model aircraft flown indoors).
   (g) Not operate aircraft with metal-blade propellers or with gaseous boosts except for helicopters operated under the provisions of AMA Document #555.
   (h) Not operate model aircraft while under the influence of alcohol or while using any drug which could adversely affect the pilot's ability to safely control the model.
   (i) Not operate model aircraft carrying pyrotechnic devices which explode or burn, or any device which propels a projectile or drops any object that creates a hazard to persons or property.

   Exceptions:

   • Free Flight fuses or devices that burn producing smoke and are securely attached to the model aircraft during flight.

   • Rocket motors (using solid propellant) up to a G-series size may be used provided they remain attached to the model during flight. Model rockets may be flown in accordance with the National Model Rocketry Safety Code but may not be launched from model aircraft.

   • Officially designated AMA Air Show Teams (AST) are authorized to use devices and practices as defined within the Team AMA Program Document (AMA Document #718).
   (j) Not operate a turbine-powered aircraft, unless in compliance with the AMA turbine regulations. (AMA Document #510-A).

3. Model aircraft will not be flown in AMA sanctioned events, air shows or model demonstrations unless:

   (a) The aircraft, control system and pilot skills have successfully demonstrated all maneuvers intended or anticipated prior to the specific event.

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

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

B. RADIO CONTROL

1. All pilots shall avoid flying directly over unprotected people, vessels, vehicles or structures and shall avoid endangerment of life and property of others.

2. A successful radio equipment ground-range check in accordance with manufacturer's recommendations will be completed before the first flight of a new or repaired model aircraft.

3. At all flying sites a safety line(s) must be established in front of which all flying takes place (AMA Document #706.)

   (a) Only personnel associated with flying the model aircraft are allowed at or in front of the safety line.

   (b) At air shows or demonstrations, a straight safety line must be established.

   (c) An area away from the safety line must be maintained for spectators.

   (d) Intentional flying behind the safety line is prohibited.

4. RC model aircraft must use the radio-control frequencies currently allowed by the Federal Communications Commission (FCC). Only individuals properly licensed by the FCC are authorized to operate equipment on Amateur Band frequencies.

5. RC model aircraft will not operate within three (3) miles of any pre-existing flying site without a frequency-management agreement (AMA Documents #922 and #923.)

6. With the exception of events flown under official AMA Competition Regulations, excluding takeoff and landing, no powered model may be flown outdoors closer than 25 feet to any individual, except for the pilot and the pilot's helper(s) located at the flight line.

7. Under no circumstances may a pilot or other person touch a model aircraft in flight while it is still under power, except to divert it from striking an individual.

8. RC night flying requires a lighting system providing the pilot with a clear view of the model's attitude and orientation at all times. Hand-held illumi-nation systems are inadequate for night flying operations.

9. The pilot of a RC model aircraft shall:

   (a) Maintain control during the entire flight, maintaining visual contact without enhancement other than by corrective lenses prescribed for the pilot.

   (b) Fly using the assistance of a camera or First-Person View (FPV) only in accordance with the procedures outlined in AMA Document #550.

   (C) Fly using the assistance of autopilot or stabilization system only in accordance with the procedures outlined in AMA Document #560.

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

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.**

10/15

Contact Information

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

FCC Information

FCC ID: BRWTIARLGTNG1

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.

This product contains a radio transmitter with wireless technology which has been tested and found to be compliant with the applicable regulations governing a radio transmitter in the 2.400GHz to 2.4835GHz frequency range.

Supplier's Declaration of Conformity
EFL Night Timber X 1.2M a BNF Basic and PNP (EFL13850 and EFL13875)

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-TIARLGTNG1

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Compliance Information for the European Union

EU Compliance Statement:

EFL Night Timber X 1.2M BNF Basic (EFL13850)

Horizon Hobby, LLC hereby declares that this product is in compliance with the essential requirements and other relevant provisions of the RED and EMC Directives.

A copy of the EU Declaration of Conformity is available online at: http://www.horizonhobby.com/content/support-render-compliance.

Frequency Band: 2402-2478 MHz
Max EIRP: 20dBm

EFL Night Timber X 1.2M PNP (EFL13875)

Horizon Hobby, LLC hereby declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive.

A copy of the EU Declaration of Conformity is available online at: http://www.horizonhobby.com/content/support-render-compliance.

Instructions for disposal of WEEE by users in the European Union

This product must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of their waste equipment by handing it over to a designated collections point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or where you purchased the product.

E328

E-flite

ADVANCING ELECTRIC FLIGHT