



Skynetic

Bison XT STOL

1750mm (68.8") Wingspan - Advanced Model Airplane - Plug and Play (PNP)

Assembly Guide



MOTIONRC
www.motionrc.com



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Introduction

Developed by and available exclusively at Motion RC, our "Skynetic" brand of foam electric RC Airplanes advances our vision of a global audience discovering the fun of RC Flight. Backed by Motion RC's customer support and a full line of spare parts to keep you flying, join the Skynetic revolution!

The Skynetic Bison XT STOL is one of our most versatile and fun to fly RC airplanes. Its large wingspan, high-wing configuration, and durable metal landing gear capture the essence of a full size Short Take Off and Landing ("STOL") aircraft. The Bison XT's versatile powerplant and two included propeller options handle gentle scale flying up to advanced aerobatics with ease. Slotted flaps and functional leading edge slats enable impressively short takeoffs! Advanced FPV flyers looking for a scale aircraft to fly in "First Person View" will enjoy the Bison's clear molded plastic windows and spacious cabin, which has been arranged to accept common aftermarket Pan-And-Tilt camera mounts.

The Bison XT's large inflatable all-terrain tires are perfect for grass, dirt or pavement. An air pump with standard size nozzle is required to tune your Bison's main wheels' firmness to best suit your preferred landing surface conditions, from sand, to gravel, to grass, to pavement.

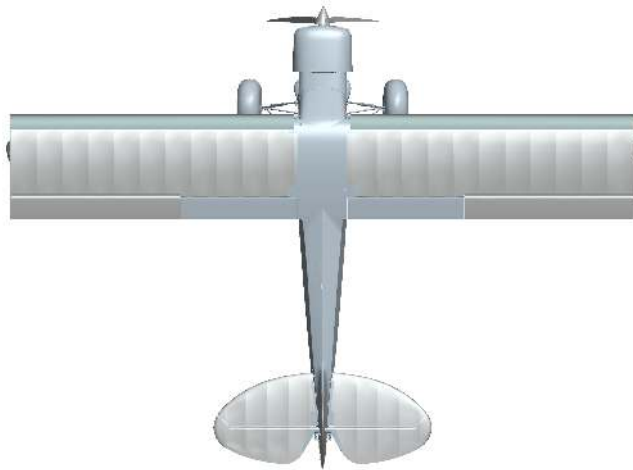
Contents

1. Cover Page
2. Introduction and Contents
3. Warning and Specifications
4. Install Flap/Slat Linkage and Aileron Linkage
5. Install Flap/Slat Linkage and Slat Control Arm
6. Install Aileron Linkage and Main Undercarriage
7. Connect Main Strut to Legs and Install Main Wheels
8. Install Rudder and Install Tail Wheel
9. Install Steering Springs and Horizontal Stabilizer
10. Prepare Wing Strut and Install Wing Strut Hardware
11. Inspect Wing Strut and Install Main Wing
12. Install Main Strut to Fuselage and Complete Assembly
13. Center of Gravity and Throws
14. Support

WARNING:

1. This is not a toy! The Bison XT STOL is intended for RC pilots with intermediate to advanced RC flying experience.
2. Before assembly, please read through the instructions carefully and operate strictly under instructions.
3. Skynetic and its vendors will not be held responsible for any losses caused by user error or incorrect setup/handling.
4. This model is intended for RC pilots at least 16 years of age, with sufficient experience with tail-dragger configurations.
5. Avoid using industrial chemicals on the EPO foam, and avoid direct sunlight exposure, to minimize discoloration.
6. Only fly in areas where RC flying is safe and allowed by law.
7. Avoid flying in wet conditions. Do not land in wet or muddy areas.
8. Position the battery to achieve the initial Centery of Gravity (CG) position of 57mm behind the main wing's leading edge.
9. Only use the recommended flight battery. Check battery condition, health, and state of charge before and after flying.
10. Program the movable slats and flaps for minimum movement, until you are familiar with the model's handling with these features.
11. Use appropriate rubber adhesive when assembling the inflatable main tires. Do not exceed maximum pressure when inflating.
12. Avoid landing without power. As a scale aircraft, the Bison XT STOL is best flown in a scale manner with correct throttle/rudder inputs.

SPECIFICATIONS



1750mm (68.8")

Wingspan: 1750mm(68.8")

Length: 1290mm (50.7")

Servo: 17g digital metal gear standard: Left Aileron, Right Aileron, Left Flap, Right Flap

25g Digital Metal Gear standard: Left elevator, Right Elevator

ESC: 80A with 5A BEC (1 pcs)

Weight: 3400g

LiPo Battery*: 6S 3300-5000mAh (1pcs)

*4s Capable when using the included 4s propeller

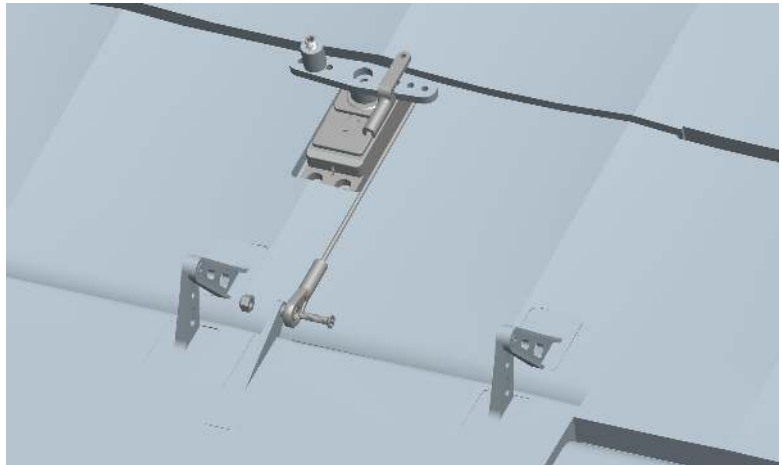
Motor: 5055 420Kv Brushless

Propeller: 16x8 and 15x8

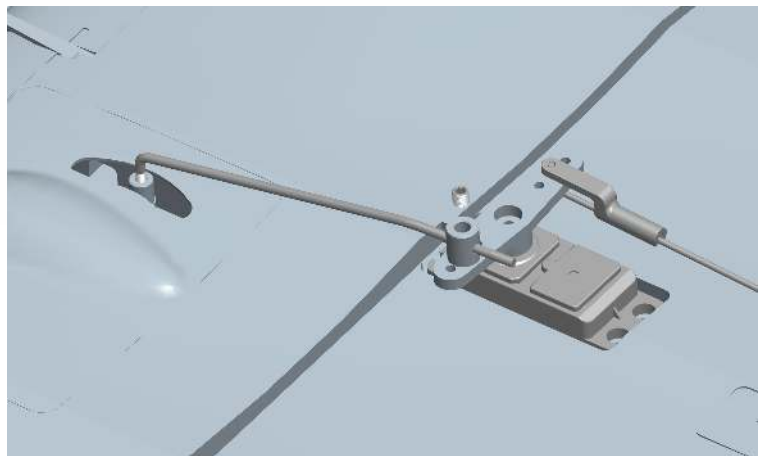
Moving flight surfaces: Elevator, Rudder, Ailerons, Flaps, Slats

Install Flap/Slat Linkage

1. Center servo.
2. Assemble the Flap/Slat linkage as shown. The flap control rod is attached to the flap control horn with a ball link. Secure using a 2x10 machine screw and nut.
3. Install the flap control rod onto the inner hole of the flap/slat servo arm, as shown.
4. Prepare the slat quick link by inserting it into the middle hole, as shown.
5. On subsequent flights, users may experiment with changing the position of these two control rods into the servo arm, which will change the mechanical mix ratio flaps and slats, and change the flight characteristics of the Bison. Adjusting these mechanical mixes, and electronic mixes in the radio, is an advanced function and should only be attempted by skilled pilots wanting to further fine tune the model's handling to their specific preferences.

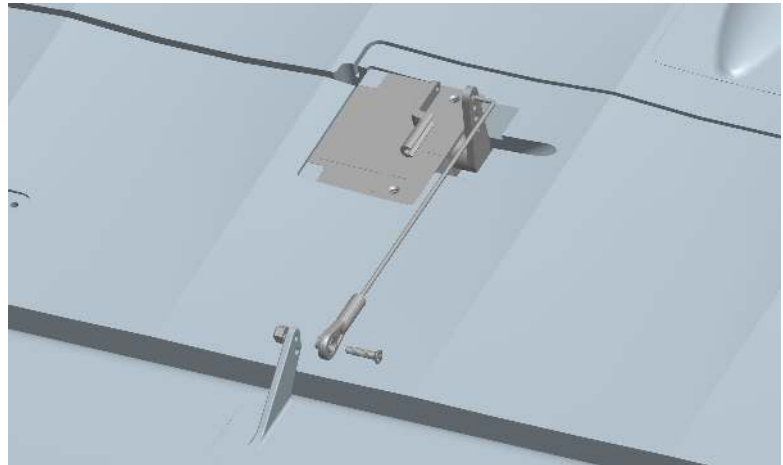
**Install Slat control arm**

1. Install the slat control arm to the concealed quick link as shown in Image 1.
2. Connect the concealed slat horn as shown in Image 2 using tweezers or a small needle nose pliers.

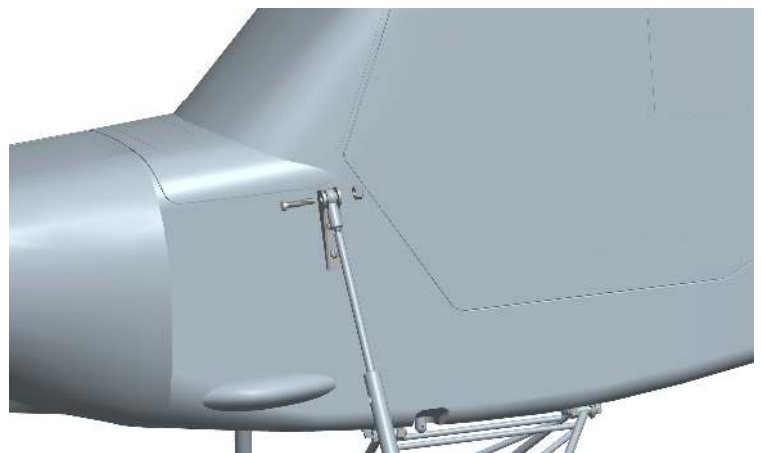
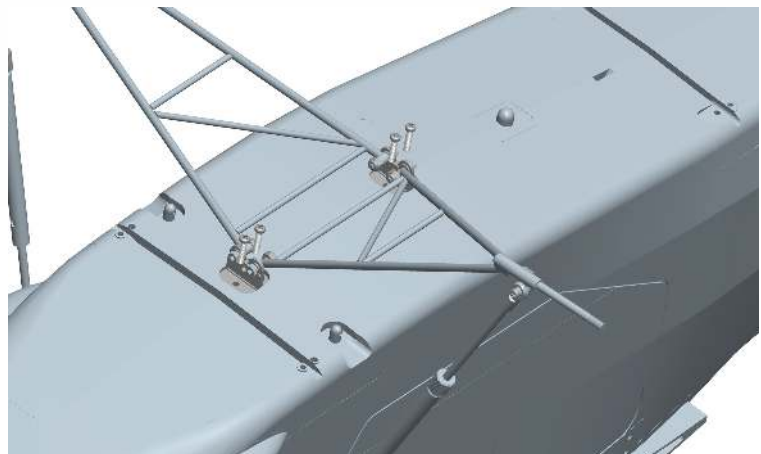


Install Aileron Linkage

1. Center servo.
2. Assemble the aileron linkage as shown. Fasten the ball link using a 2x10 machine screw and nut.
3. NOTE: For all ball-link linkages, avoid contact with glue or threadlocker chemicals.

**Install Main Undercarriage**

1. Install the main undercarriage struts by screwing the metal assembly into the plastic fuselage mounts as shown using 3x 14 machine screws.
2. Screw the Main Strut mount onto the side of the fuselage as shown in Image 2 using two 2.6x12 screws.
3. As shown in Image 2, attach the Main Strut's ball link to the mount and fasten using one 3x14 machine screw and nut.



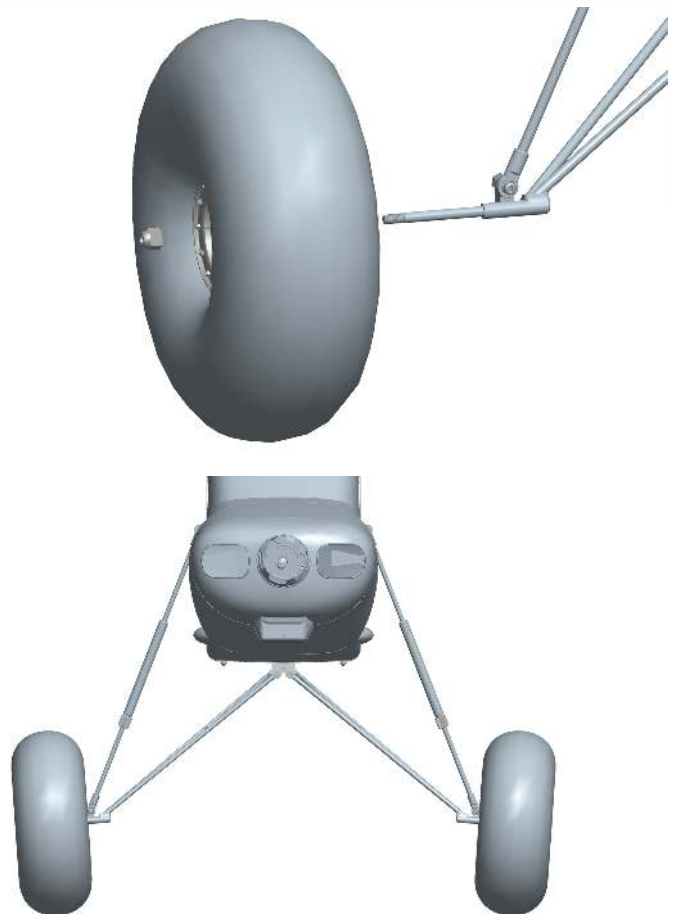
Connect Main Strut to Legs

1. Connect the Main Strut to the leg assembly using the screw and nut as shown with a 3x14 machine screw and nut.



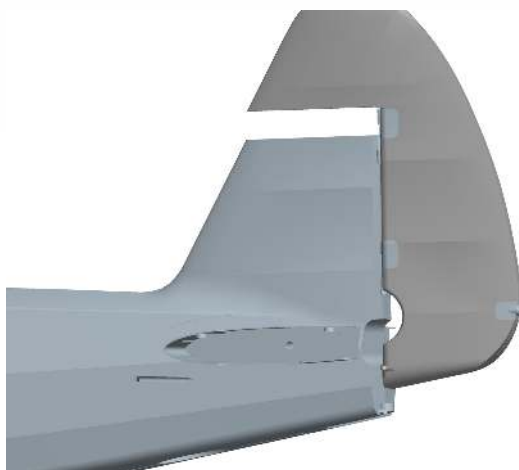
Install Main Wheels

1. Assemble the main wheels by wrapping the rubber tires around the plastic wheel hub itself. Use appropriate rubber cement or RC hobby "tire glue" to adhere the side wall edge of the tire to the edge of the hub. Inflate with minimal air to maintain shape, then allow the glue to fully dry.
2. Attach the main wheels and fasten with the included threaded nut.
3. Inflate the tire using a standard 1.5" inflating needle, commonly used to inflate a sports ball.
4. Inflate to a pressure that allows the model to sit comfortably on the ground without the tire walls bulging outward. Pressure can be reduced to allow rolling over gravel or uneven surfaces. Conversely, pressure can be increased to reduce rolling resistance and bouncing when operating on harder surfaces such as pavement.
5. Depending on a pilot's flying field and landing style, adjust the pressure to the point that it provides good stability and suspension, without excessive drag.
6. Excessive drag or rolling resistance may cause the model to tip over when encountering the sudden resistance of a landing surface. If so, increase air pressure.
7. Inspect the tire pressure during pre-flight inspection, and refill as necessary.

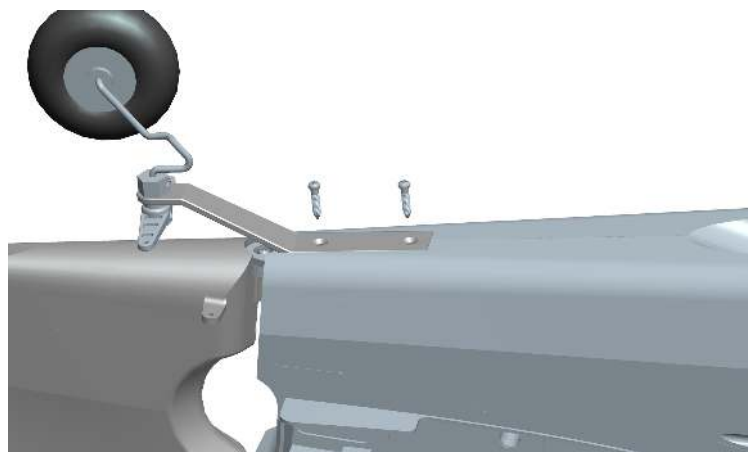
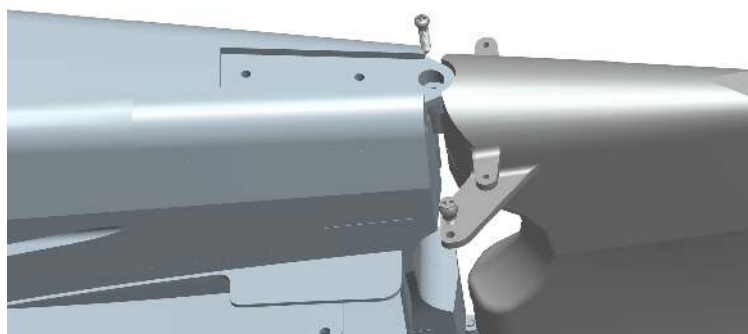


Install Rudder

1. Slide the rudder only the pre-installed hinge attachment points.
2. Connect the wire for the rudder's tail LED light.

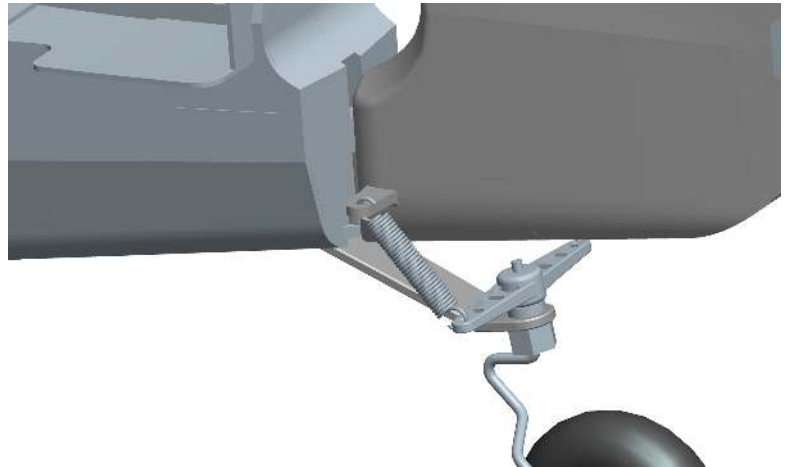
**Install Tail Wheel**

1. The three screws shown in Image 1 and Image 2 are packaged inside bag containing the tailwheel and tailwheel mounting assembly.
2. Secure the rudder as shown in Image 1.
3. Install the tail wheel assembly as shown in Image 2.



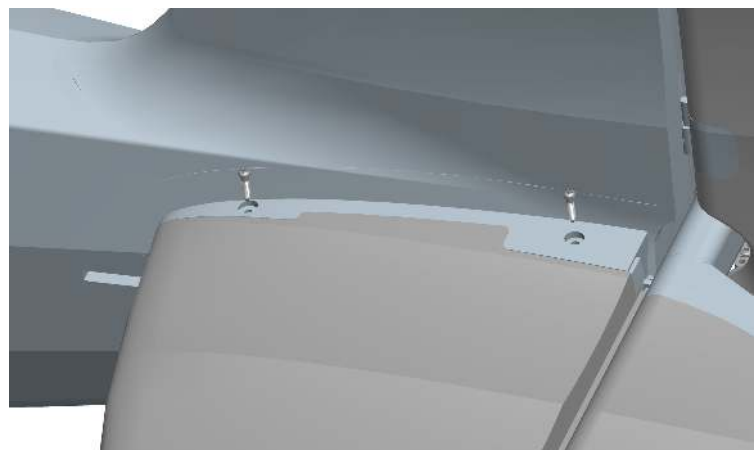
Install Steering Springs

1. Install the steering springs onto both sides of the tailwheel steering arm as shown.
2. Adjust the position of the steering springs to suit your preference for steering throw.
3. Typical STOL aircraft allow for lots of "play" or "looseness" in the tail wheel. This limits the effectiveness of the tail wheel at slow speed, but also reduces the influence that hitting an odd object may have on the aircraft's direction.
4. Generally, a tighter connection is ideal for harder, smoother landing surfaces, while a loose connection is advantageous when operating on gravel, riverbeds, or other unprepared surfaces.



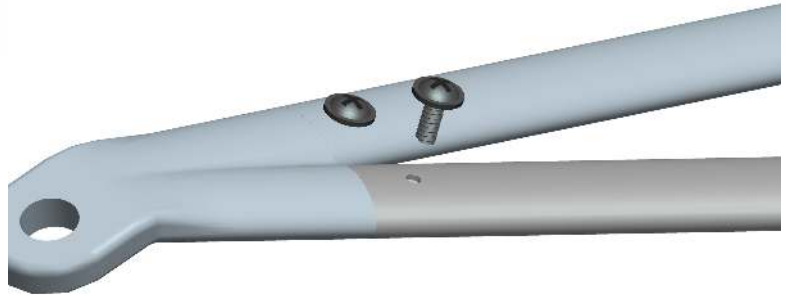
Install Horizontal Stabilizer

1. Slide the horizontal stabilizer onto the fuselage, using the included carbon spar to align the surfaces.
2. Fasten the stabilizer to the fuselage's plastic mount using the included 2.3x10 screws as shown. Do not overtighten or strip the screws.



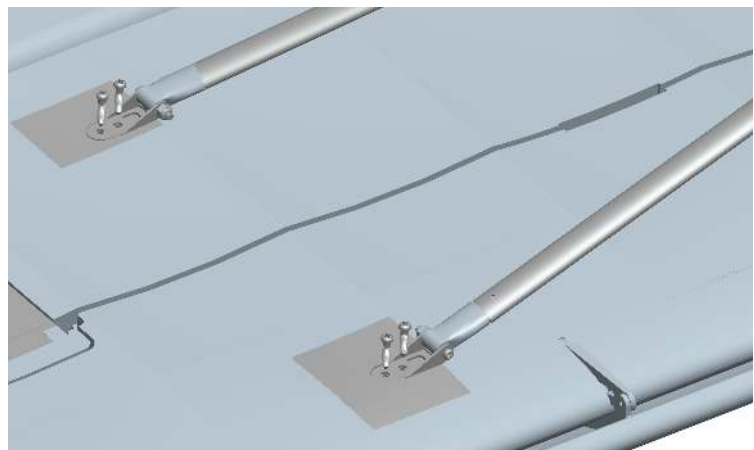
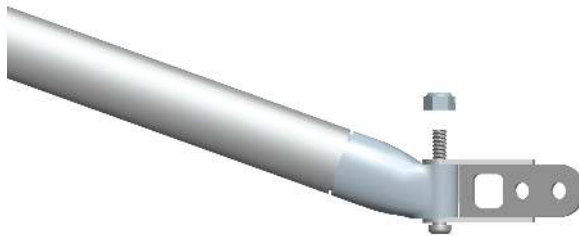
Prepare Wing Strut

1. Attach the wing strut arms to the mount. Use the correct screws as shown.
2. This mount will connect to the underside of the fuselage.



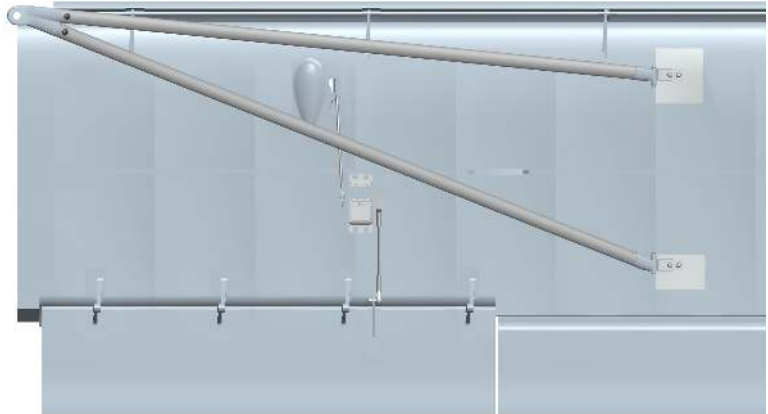
Install Wing Strut Hardware

1. On the wing-side of the Wing Strut assembly, prepare the hardware as shown using 2x14 machine screws and nuts.
2. Orient the nuts facing inward toward each other as shown in Image 1.
3. Using 2.3x10 screws, attach the Wing Strut mounts to the pre-installed mounts in the main wing as shown in Image 2.



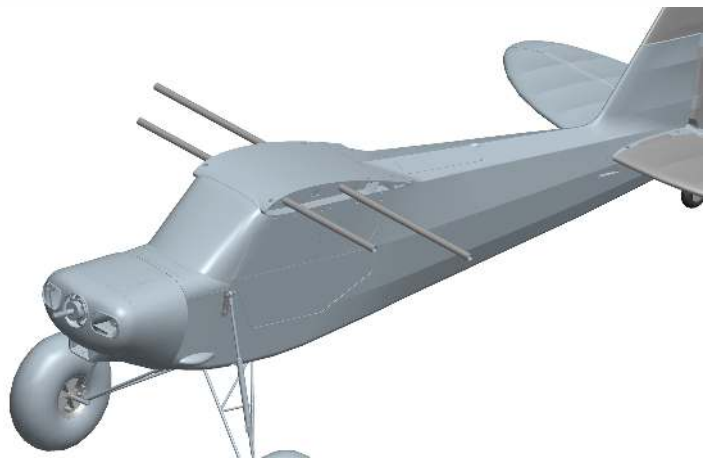
Inspect Wing Strut

1. Refer to this image to ensure the wing strut is assembled and installed correctly.



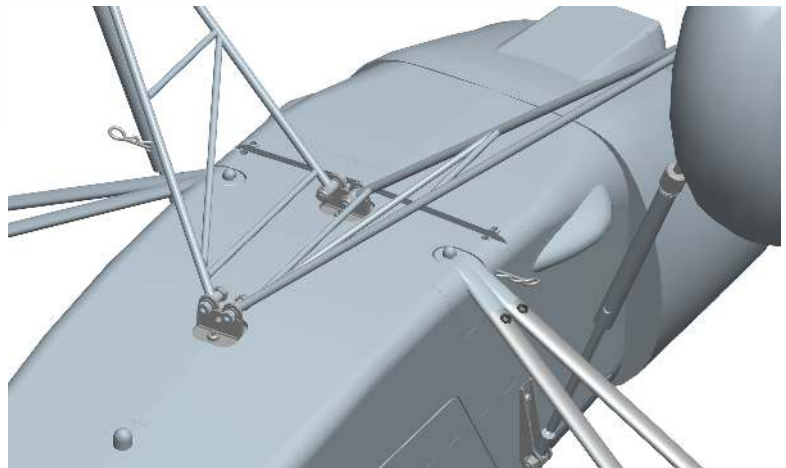
Install Main Wing

1. Insert the main wing spars, orienting them as shown. Note the different lengths of spar. The longer spar is placed aft, while the shorter spar is placed forward.
2. Connect the wire connector carefully, ensuring the connection is straight and secure.
3. Fasten the main wing using the four included 3x8 screws as shown.



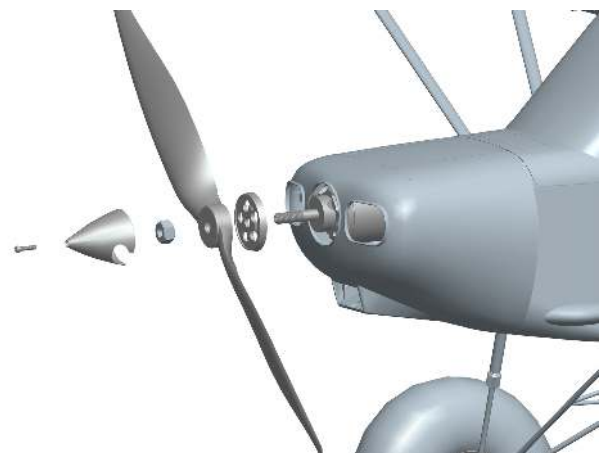
Main Strut to Fuselage

1. Slide the Main Strut's mounting hole over the pre-installed mounting post located on the underside of the fuselage as shown in Image 1.
2. Insert the included clip as shown in Image 1, to securely fasten the main strut to the mounting post.
3. To rapidly disassemble the model's main wing, remove these clips, and unscrew the main wing from the top of the aircraft as shown in the previous step.
4. The Bison XT STOL features as "wire-free" main wing connection, so users do not need to manually connect/disconnect any wires when connecting/disconnecting the main wing assembly.



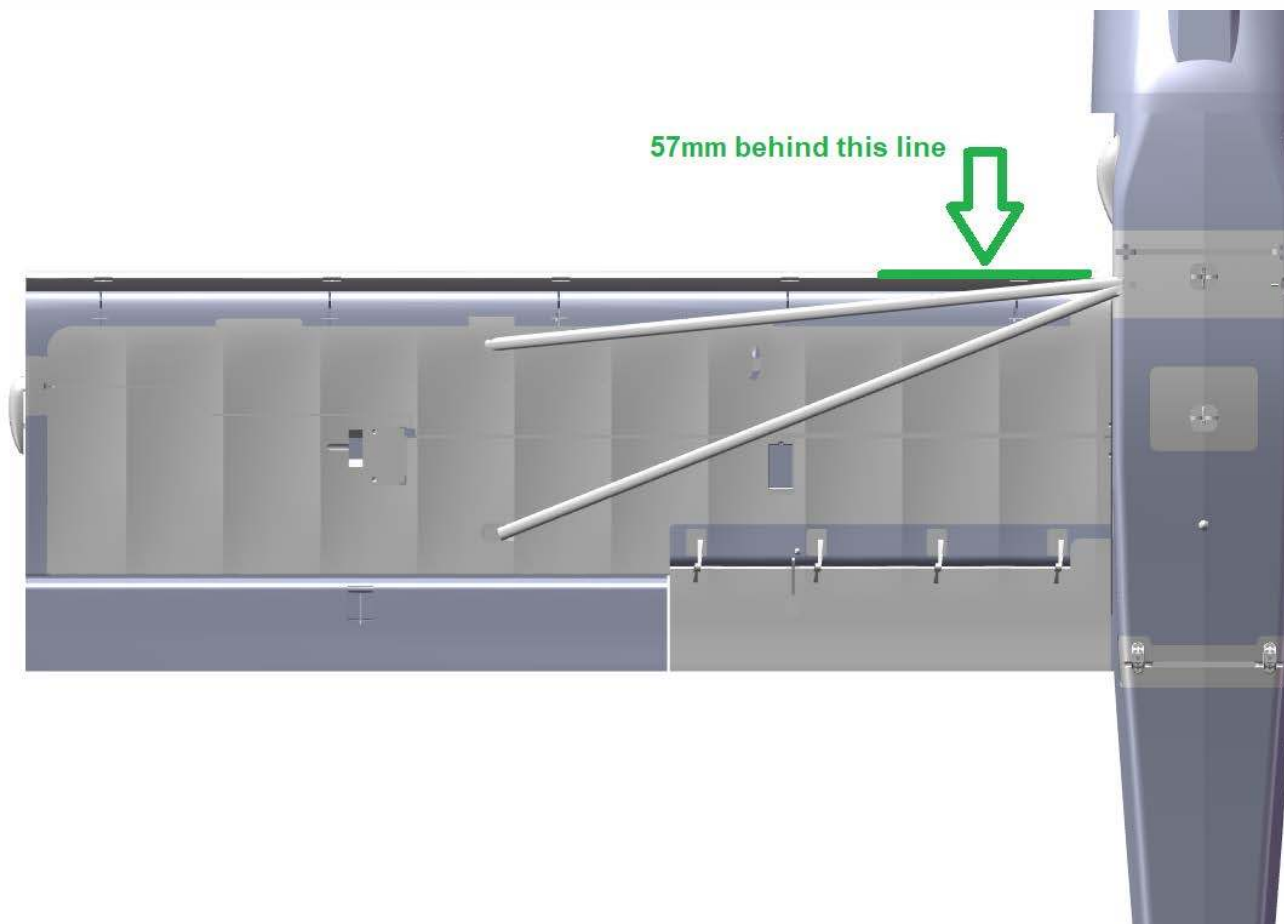
Complete Assembly

1. Install the included wingtip LED module, if desired.
2. If the connection is loose, slightly bend the metal pins away from each other, to create more tension within the mounting socket. Alternatively, users may use thin double-stick tape or a semi-permanent adhesive like canopy glue.
3. Finally, after completing an electronics setup and programming a Throttle Cut in your radio transmitter's settings, assemble the propeller as shown.
4. NOTE: Two propellers are included in the box. These are intended for 4s and 6s use. Only the propeller is required to be changed, when changing the flight battery from 4s to 6s. Do not attempt to fly the 6s propeller with a 4s battery.



CG and Throws

The recommended initial balance point to achieve the model's Center of Gravity ("CG") is 57mm aft of the leading edge of the main wing. Position your flight battery to achieve a balance at this CG point, while the aircraft is upright (not inverted).



Control Throws

According to our testing experience, use the following parameters to set Aileron/Elevator Rate percentage, when using the servo horn positions described during the Assembly Steps of this manual. Program your preferred Exponential % in your radio transmitter.

We recommend between 20%-30% Expo. We recommend using High Rate for the first flight, and switching to Low Rate if you desire a lower sensitivity. On successive flights, adjust the Rates and Expo to suit your preference.

	Aileron (~20% Exponential)	Elevator (~20% Exponential)	Rudder (~20% Exponential)	Flaps
Low Rate	Rate : 80%	Rate : 80%	Rate : 80%	10-15 degrees
High Rate	Rate : 100%	Rate : 125%	Rate : 100%	20-30 degrees

Contact us

For any assistance regarding your Skynetic Bison XT STOL model aircraft, please visit Motion RC at www.MotionRC.com and www.MotionRC.eu.

Visit the product page [HERE](#)

Visit the Hobby Squawk discussion thread [HERE](#)

