SLICK 560 mXs

COMPOSITE PNP

INSTRUCTION MANUAL

NIGHT CRAWLER

Full LED Light System
For Night Flying

gadgetz

Table of Contents

All images below show the SLICK model. This also applies to MXS!

1. Technical Specifications & Schemes

- Technical Specifications

Tech Specs
Length of fuselage: 49 inches
Wingspan: 54 inch
Wing area: 557.2 in2
All up weight: 1.6-1.7 kg (3.5-3.7 lb)

Prop and Spinner :
14x7 recommended for 3s
13x6.5 recommended for 4s

Motor specs:
KV: 1100
Max Continuous Current: 63.8A/10s
Max Continuous Power: 944W
Input cell number (lipo): 3s-4s

Servo:
Metal Gear
Speed(8V): 0.09s
Torque (8V): 3.5kg
Bearing Type: Dual Ball Bearing
Horn Type: 25T

Programable ESC:
2S-4S operation
60A with a burst up to 80A
5Amp/8V Sbec (Deans plug)

2. Introduction

Thank you for choosing the RC Gadgetz PNP Composite Slick 560/MXS. We put great effort and time into making this plane the best model you will ever fly that is truly 3D and XA capable out of the box.

To do this, we took our combined 40 years of experience and the pros of each material to develop a composite model manufactured using the most modern build techniques that incorporates a mix of wood, fiberglass, carbon fiber, EPO and EPP that flies and feels like a 50 – 60cc that is able to take the abuse of XA 3D flight and have the strength and agility to withstand substantial G loads with no structural damage.

Weight was always a priority, as we also wanted a light wing loading that would allow lower stall speeds and great low speed stability and handling. Many prototypes were made with fine tweaking between each one until we reached our end design.
stable flight…..it truly flies and feels like no other.
A 54" Composite model that excels in all regimes of flight, be it 3D, precision or slow

3. Warning

Please note that this **IS NOT A TOY**. An R/C aircraft if misused, can cause serious bodily harm and damage to property. Fly only in open areas, preferably AMA (Academy of Model Aeronautics) approved flying sites. Follow your radio manufacturers instructions carefully. RC Gadgetz will in no way accept or assume responsibility or liability for damages resulting from the use of the product. It is highly recommended that you join the Academy of Model Aeronautics in order to be properly insured, and to operate your model at AMA sanctioned flying fields only.

While we have complete confidence in the workmanship of our factory and have taken every measure to ensure that construction and components have been built and installed to the highest standards with several QC steps along the way and at completion, it is ultimately your responsibility (the buyer) to inspect the overall airworthiness of the aircraft.

All bolts have been either secured with locking nuts, thread lock or both, however please take a few moments to check that all pre-installed components such as servos, motor, esc, ball links, pull pull cables, servo connectors are secure.

RC Gadgetz. guarantees this kit to be free of defects in materials and workmanship for a period of 30 DAYS from the date of purchase. All warranty claims must be accompanied by the original dated receipt. This warranty is extended to the original purchaser of the aircraft only.

4. Kit Contents

All images below show the SLICK model. This also applies to MXS!

- Fuselage including canopy with pre-installed motor, ESC, LED lights, rudder - elevator servo,
  pull-pull cables and elevator pushrod
- Right Wing Panel with pre-installed Aileron, servo, linkages and LED
- Left Wing Panel with pre-installed Aileron, servo, linkages and LED
- One piece Horizontal Stabilizer with pre-installed Elevator and LED
- Rudder with hinges pre-glued
- Carbon Fiber Wing Tube
- ABS Plastic Painted Cowl – pre-drilled and aligned with fuse
- Carbon Fiber pre-assembled Landing Gear with wheels and wheel pants
- Tail wheel – pre-installed on fuselage
- Aluminum back plate cooling spinner with adaptor
- Propeller 14 X 7 with prop adaptors
- 2 pieces SFG with spacers
- 6 inches adhesive backed Velcro
- 2 pcs Velcro strap
- Hardware bag (this includes the screws for the Cowl and SFGs and additional spares)
- 4 packs of servo arms (these are spare and not needed as all servos are pre-fitted with CNC aluminum RCG servo arms)
- 2 X 10cm servo extensions for Aileron – RX connection
- LED one to three lead connector
- Additional stock motor spinner (this is spare)
- C-clamps for motor shaft servicing

5. Items Required For Complition

- Radio Equipment and Battery

- 5ch Receiver
- 3S – 4S (2500 – 3000) high discharge batteries (we recommend 45C or more)

6. Tools and Adhesives needed

Adhesives

- Blue Locktite
- Thin CA (cyanoacrylate) glue

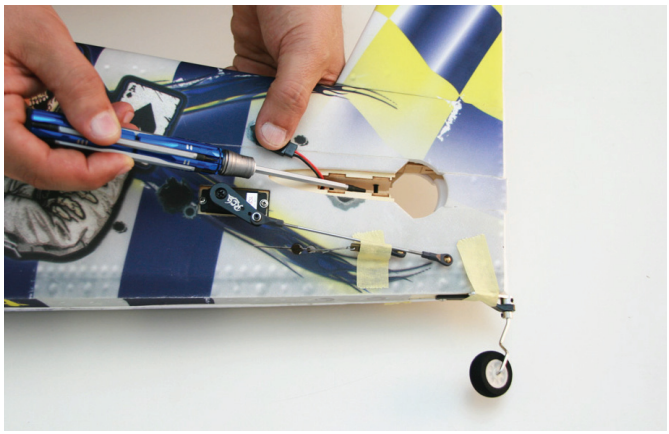
Tools

- Medium and small Phillips screwdriver
- Needle-nose pliers
- Hobby knife with #11 blade (for unpacking)
- Straight edge ruler
- Scissors
- Small adjustable wrench
- M3 L Key

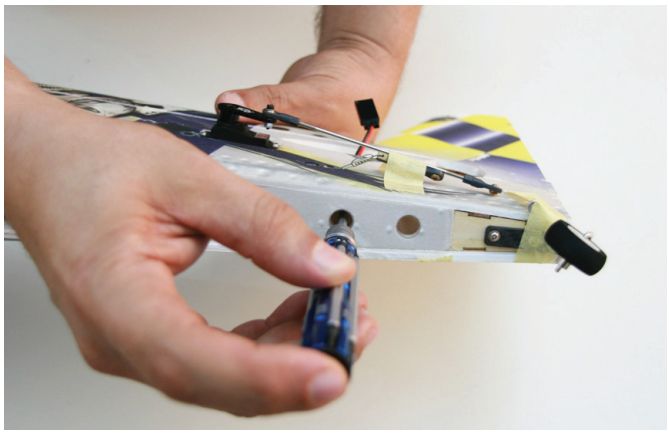
All images below show the SLICK model. This also applies to MXS!

7. Horizontal Stabilizer Installation

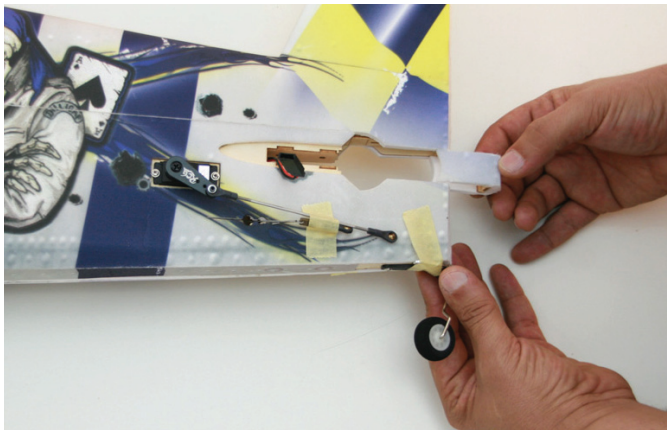
1: Locate the factory pre-installed M3 bolts located in the tail section.



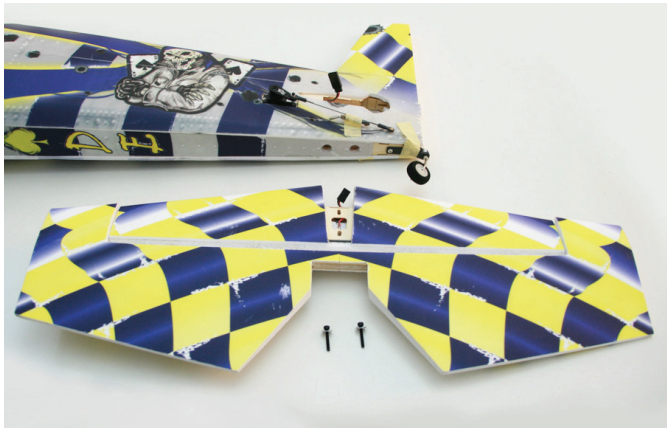
2: Use a M3 L key to remove the bolts and washers and set aside.



3: Remove the precut vertical stab spacer and set aside. This will be glued in position after the horizontal stabilizer has been assembled.

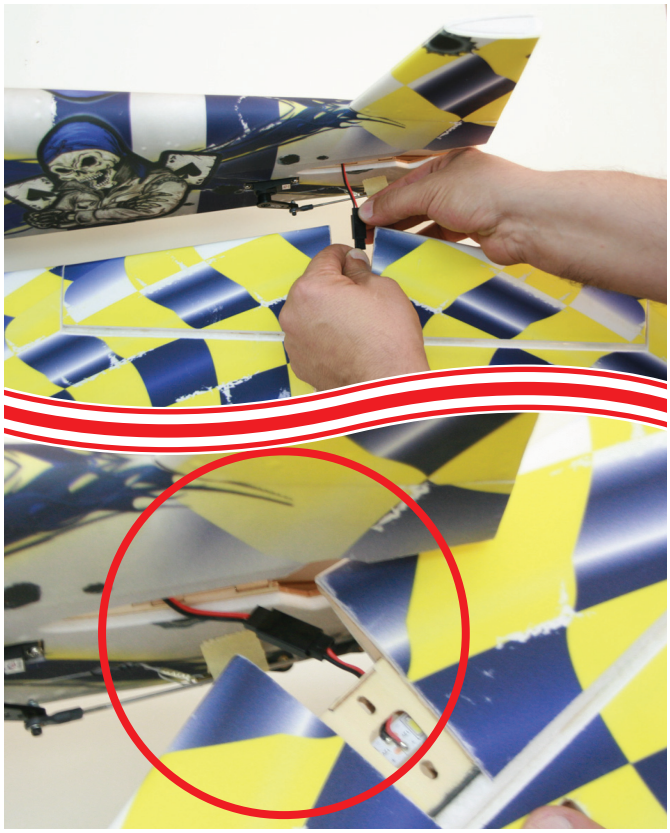


4: Locate and carefully inspect the horizontal stabilizer and elevator hinging. They have pre-glued in the factory and should form a minimal gap and provide maximum deflection.



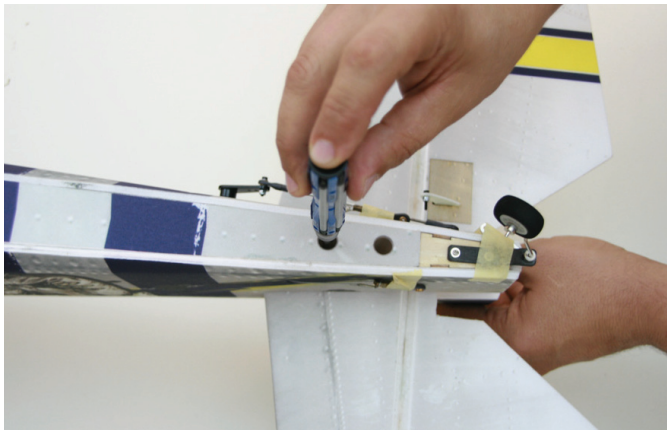
5: With the fuse and horizontal stabilizer parallel to each other as shown in the picture, connect the stab light connectors.

Note: Once the stabilizer is fixed in place you will not have access to the connector so please ensure polarity is correct and that they are fully plugged.



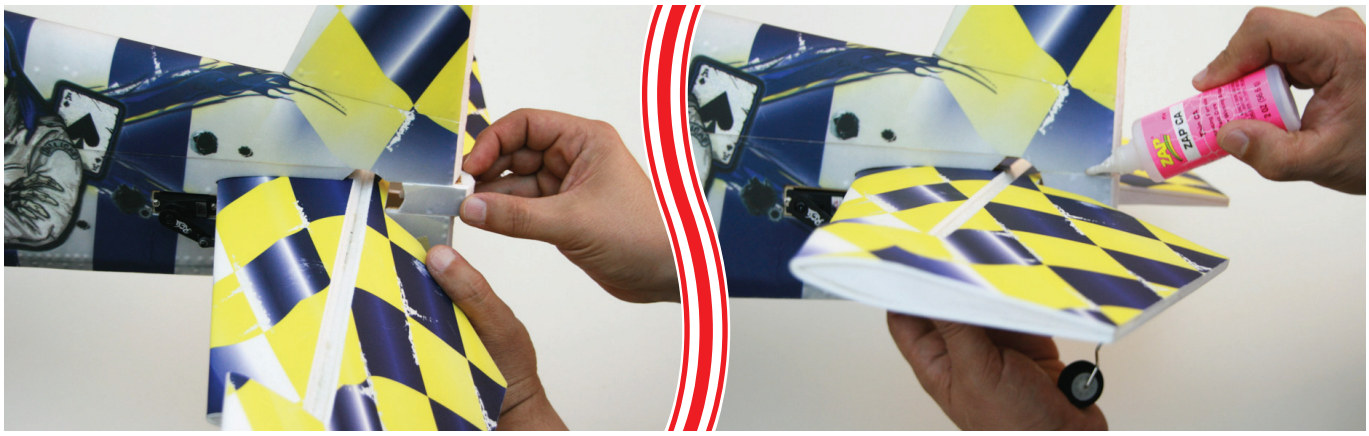
6: Rotate the stabilizer and push into position. It is important to guide the wire connector through the slot from which the wire comes out of the fuse to allow the stabilizer to sit correctly in position. The fuse/stab assembly has been designed for perfect alignment so a firm push of the stabilizer is need to make sure the stabilizer is correctly in place.

7: Re-install the M3 Bolts and washers that were previously removed from the tail section.
Note: Add a small amount of thread lock to prevent them from coming loose later.



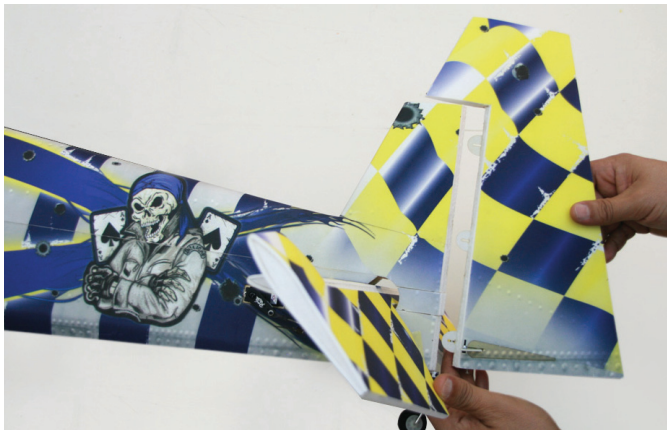
Note: Now would be a good time to test the fuselage and stabilizer lights as the next steps in assembly will not make the stabilizer connector accessible.

8: Re-insert the vertical stab spacer and use some thin CA to glue in place. This is purely for aesthetics and has no structural role.



8. Rudder Installation

9: Locate and inspect the rudder. All CA hinges have been pre-glued in the rudder. Insert the rudder into the pre-slotted vertical fin. Check that the rudder is flush from both sides of the vertical fin and that the rudder counter balance centers with the fin. Everything should line up perfectly but if needed you may re-slot the fin. With the rudder fully inserted check to see that you are achieving maximum throws by flexing the rudder. You should be able to flex the rudder to achieve bevel to bevel.

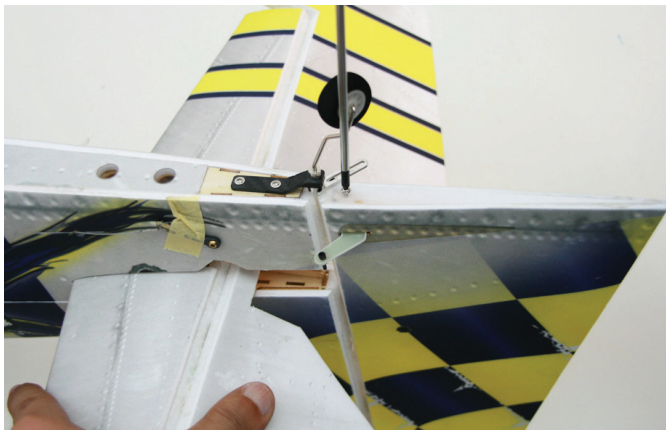


10: Make sure that the rudder is flush with the bottom of the fuse. This is important to allow the tail wheel tiller to sit correctly on the rudder.

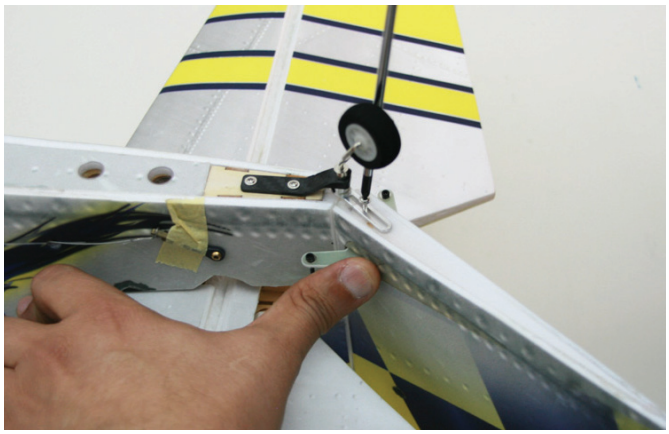
11: CA the rudder in place.

9. Tail Wheel Tiller Assembly

12: Remove the pre-installed tiller screw from the rudder.



13: Screw the tiller down but do not over tighten as the screw needs to slide through the slot as the rudder deflects.

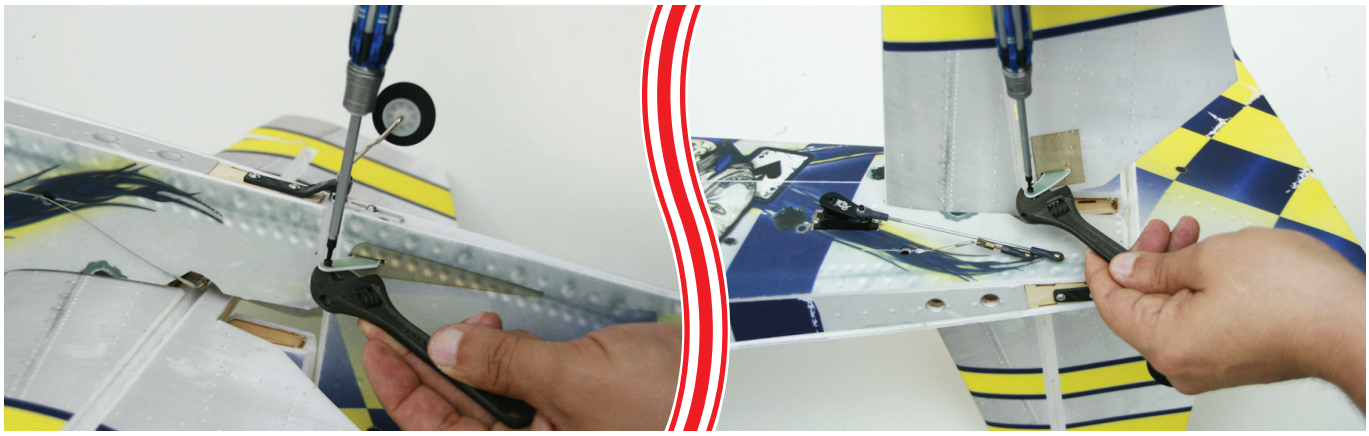


10. Tail section Controls

14: Elevator control rod and rudder pull-pull cables all have factory preinstalled ball links and are set to the correct length. Additionally all servos have been pre-centered so no adjustments should be required. It is advisable that if after connecting your radio you find that the surfaces are not centered then always try to adjust your linkages mechanically first before resorting to sub trim.

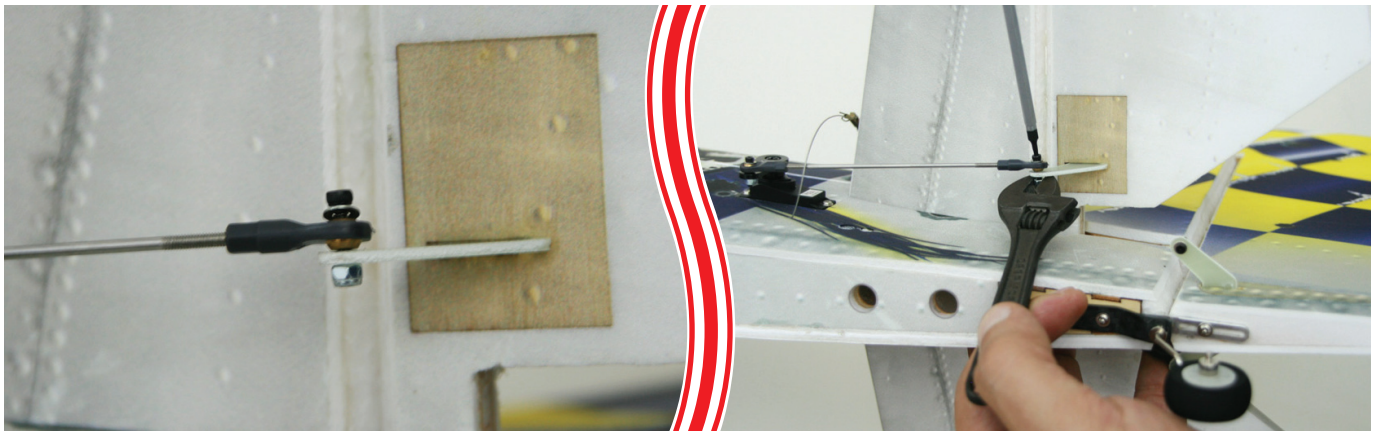
- Rudder & Elevator

15: Remove the pre-installed bolts, washers and locking nuts from both the rudder and elevator horns.



- Elevator

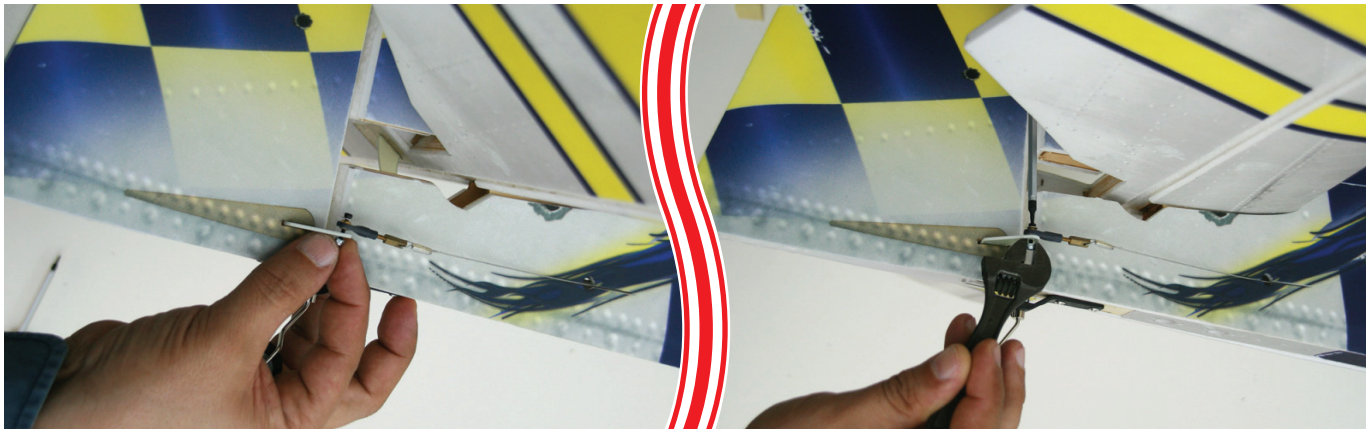
16: Install the elevator ball link as shown. The correct sequence is Bolt – Washer – Ball Link – Elevator Horn – Locking Nut. You need to tighten the bolt/nut to a snug fit but be careful not to over tighten so that you do not damage the elevator horn.

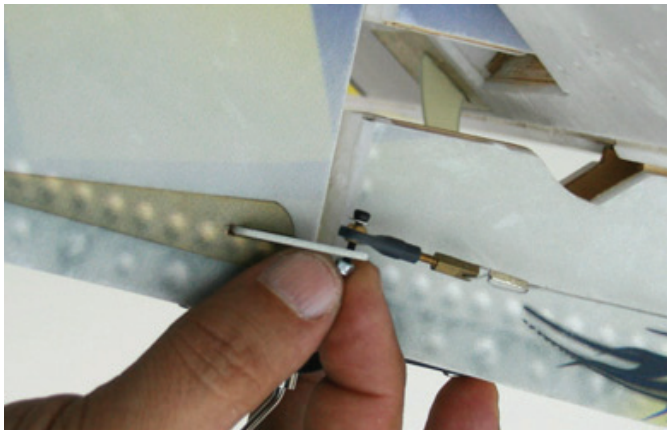


- Rudder

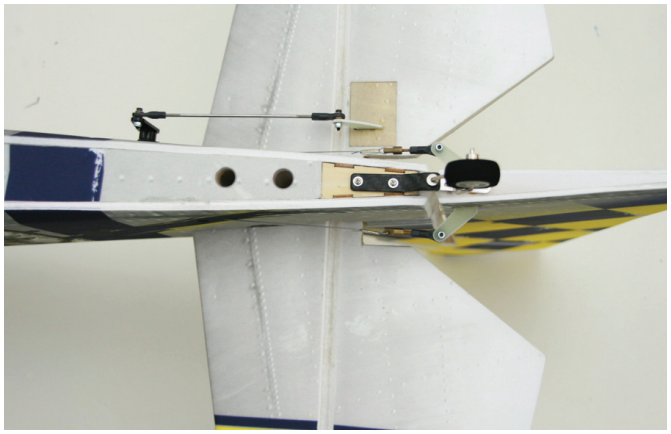
17: Install the rudder pull pull ball links as shown. The correct sequence is Bolt – Washer – Ball Link – Rudder Horn – Locking Nut. You need to tighten the bolt/nut to a snug fit but be careful not to over tighten so that you do not damage the rudder control horn. Repeat the process for the other side of the horn. Your pull pull cables should not have slack.

Note: They do not need to be guitar string tight and it is acceptable for minimal slack at full deflection for the non-pulling cable.



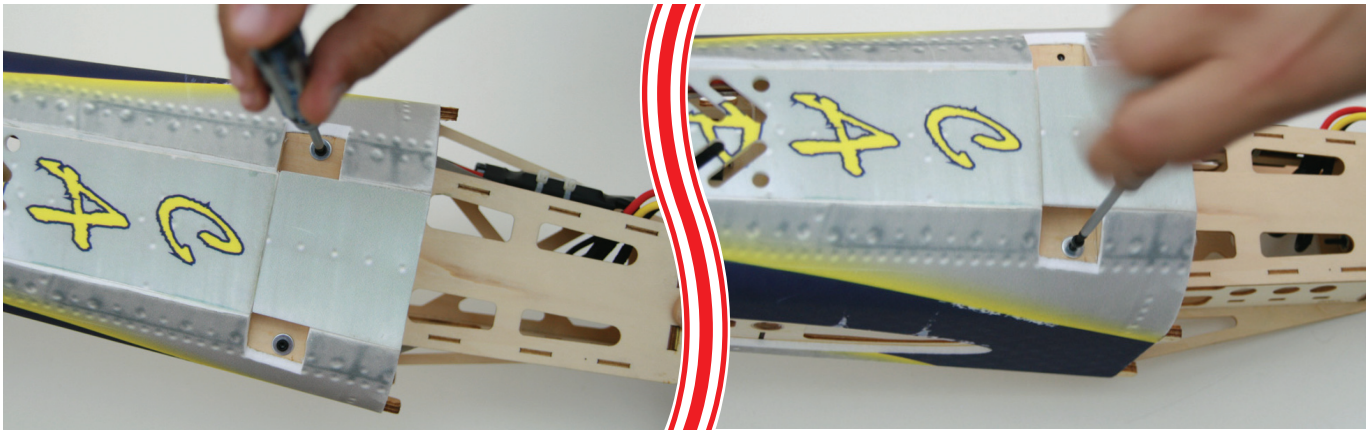


18: Completed tail section assembly with all control surfaces connected should look like this.

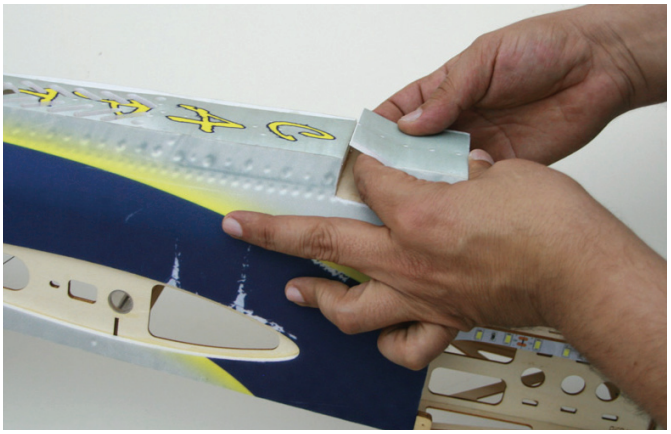


11. Landing Gear Assembly

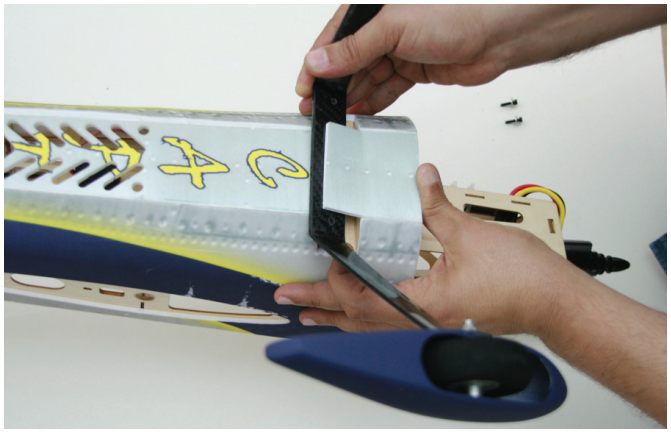
19: locate and remove the M3 hex bolts and washers from the gear plate located on the bottom of the fuselage.



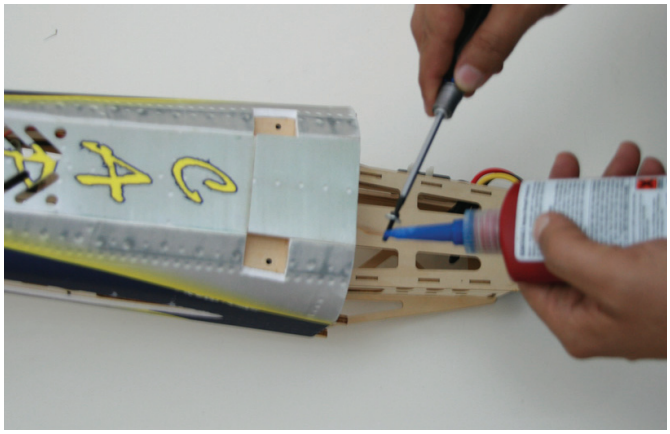
20: Familiarize your self with the landing gear plate cover. It is designed to be a flap so that you can gently lift and slide the main carbon gear into position.



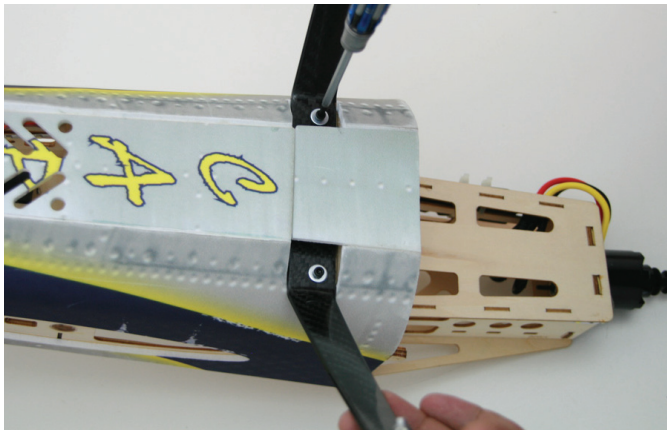
21: Locate the main landing gear assembly. This has been fully pre-assembled in the factory. Slide the gear under the gear plate flap.



22: Apply thread lock to the M3 hex bolt.

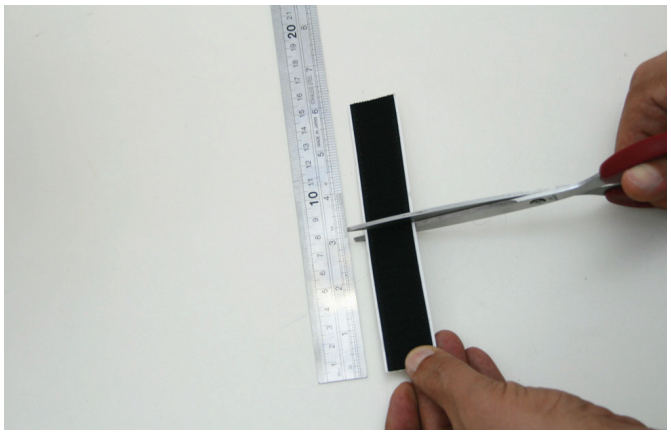


23: Fix the gear into position and bolt on as shown in the picture. Make sure that the screws are nicely tightened.

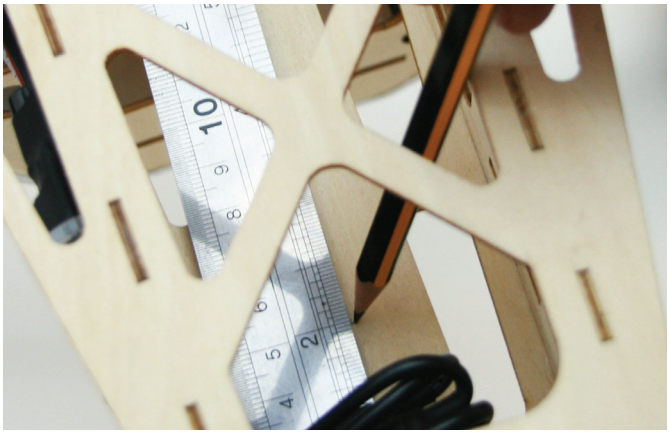


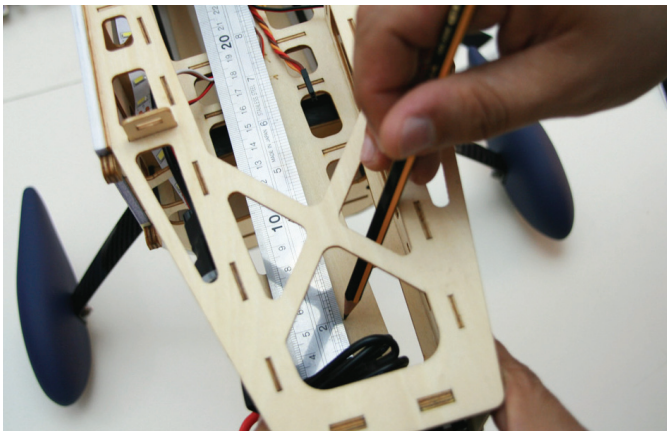
12. Battery Location

24: The supplied Velcro is intended to be sufficient for 2 batteries. Cut a piece that is 3” long from the harder non-fuzzy side. The fuzzy side will be used for your batteries and can be cut to the desired length later.

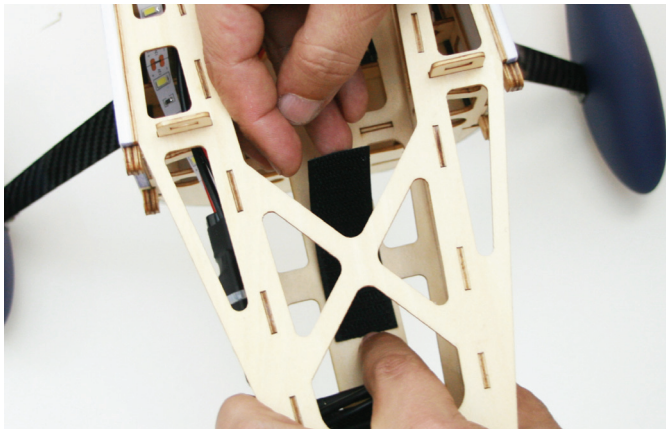


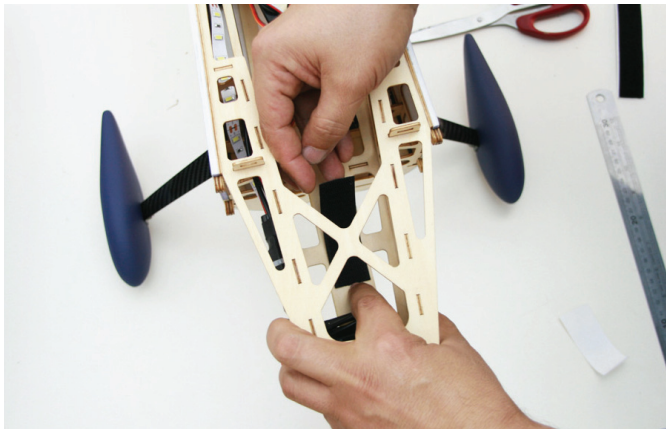
25: Using a scale placed against the fire wall, measure 2” or 3” back and place a mark. This is the starting point at which you will stick your Velcro.





26: Remove the backing from the sticky side and stick in place as shown in the picture.



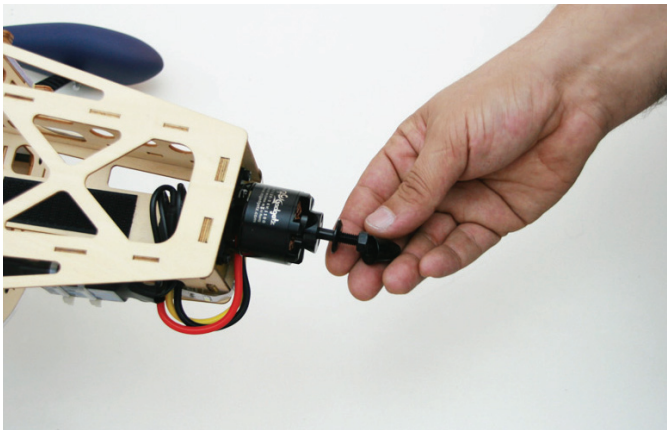


Note: This location is based on our testing and is suitable for a 2300-3000 mAmp 3S battery. It is only a guide and you should adjust the battery location as required to achieve the correct CG and to allow the model to fly appropriate to your style of flying.

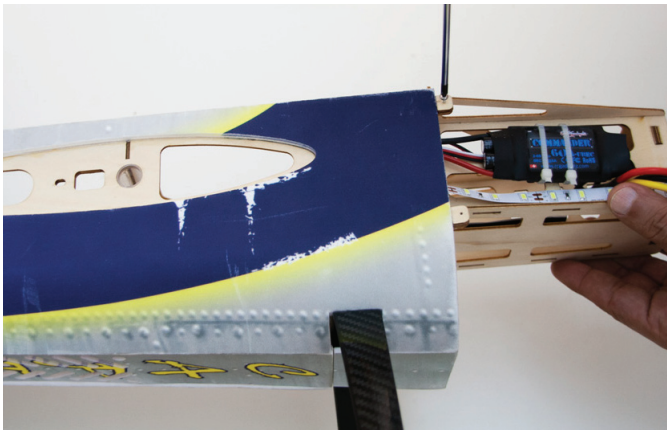
13. Cowl – Prop – Spinner Installation

27: locate your hardware bag and remove the sheet metal self tapping screws from the bag. There are 2 sizes that look fairly similar. The larger ones are for the SFGs and the smaller ones are for the cowl.

28: Remove the mini spinner, nut and washer.



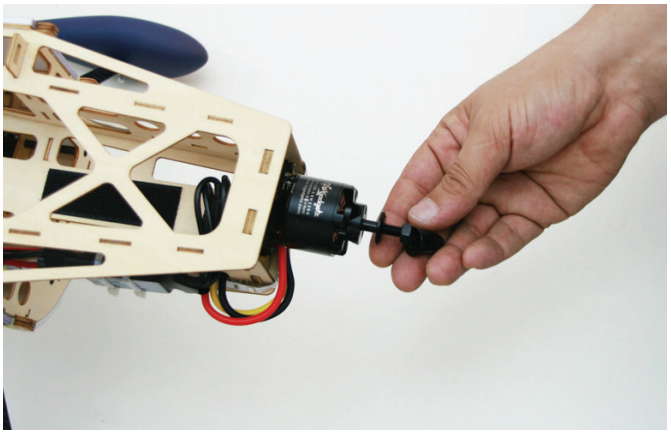
29: All cowl-mounting tabs have been predrilled to allow perfect alignment of the cowl, however we recommend you bore the screw through the tabs before fixing the cowl.



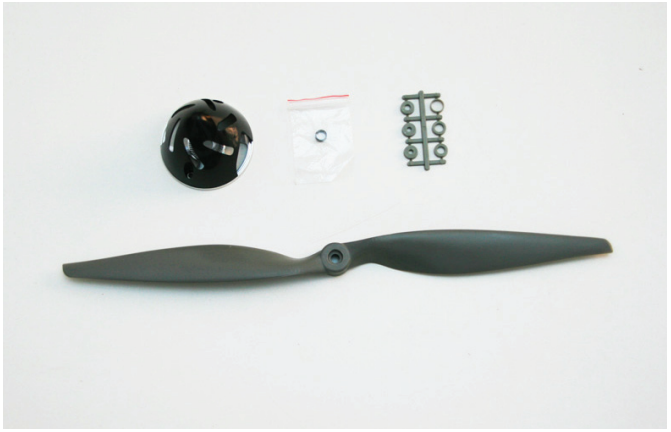
30: Locate and align your predrilled cowl holes with the holes in the tabs and secure in place using the 4 sheet metal screws.

31: Remove the washer, nut and mini spinner. We will only need the washer and nut.

Note: Keep the mini spinner aside as it will not be needed as we have provided a full cooling spinner. The mini spinner may be used in place of the standard nut if the full sized aluminum spinner is not used.

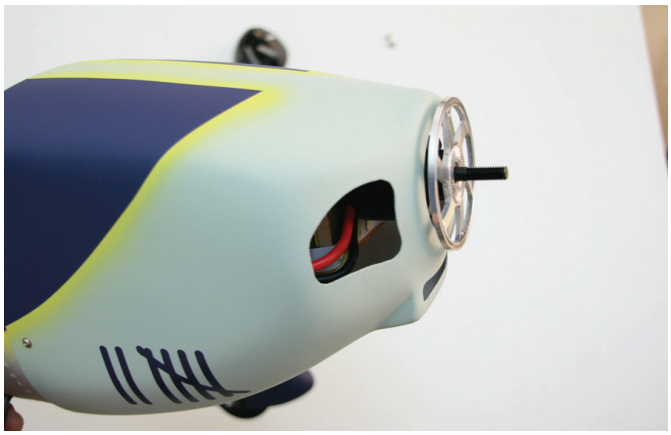


32: Locate the spinner, spinner shaft adaptor and prop.

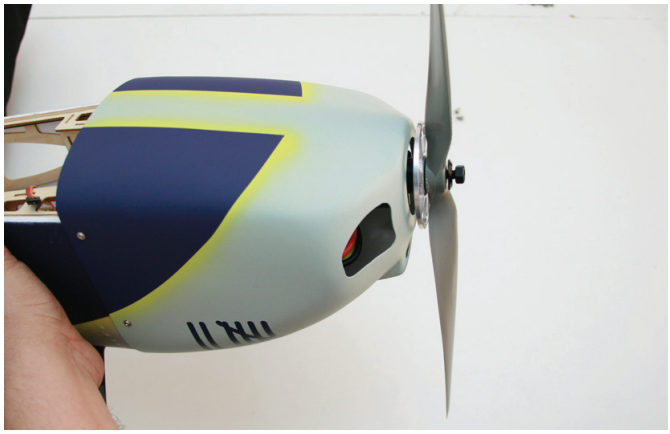


33: Insert the spinner shaft adaptor.

34: Insert the spinner back plate.

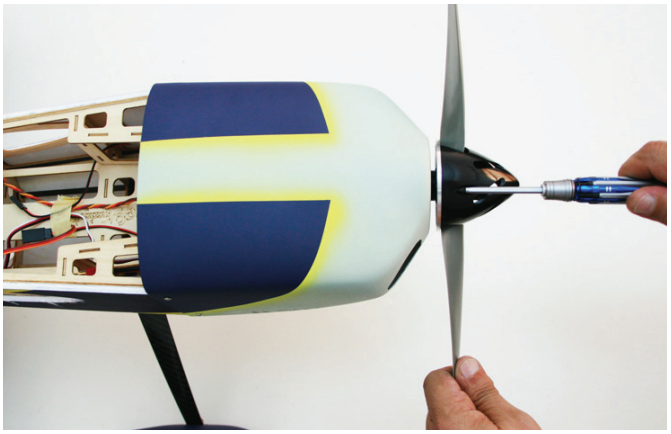


35: Insert the prop – washer – nut in that order as shown in the picture.

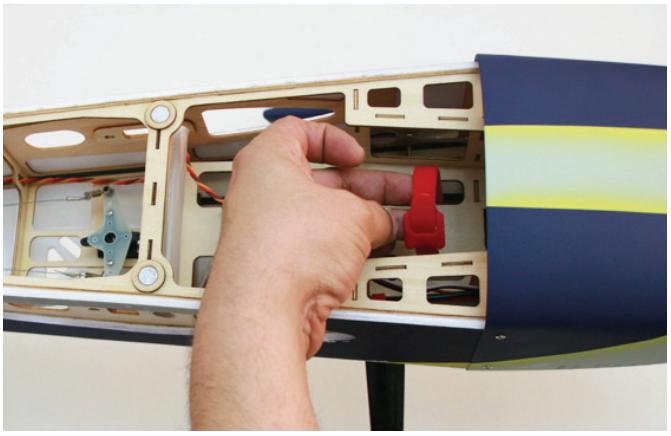


36: Make sure that the aluminum back plate threads are perpendicular to the prop so that you can screw the spinner onto the aluminum back plate and have equal spacing around the prop cutout of the spinner.

37: Place and align the spinner on to the aluminum back plate and make sure that the spinner holes align with the back plate threads. Secure the spinner in place using the M3 bolts.



38: Now would be a good time to place the supplied hook and loop in the location shown in the picture. This will be used to secure the rear end of the battery.



14. Wing and Side Force Generator (SFG) Installation

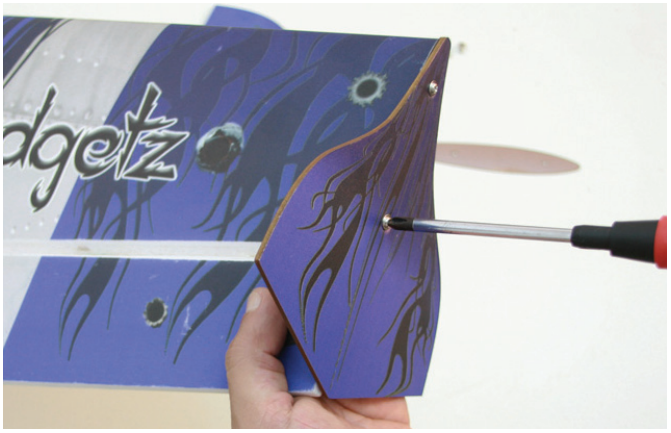
The wings come 100% ready and require no further work. You will only need to fix the SFGs to the wing. This is an optional step as the plane can be flown with or without the SFGs. We have found that the plane tracks better in Knife-edge and has zero wing rock in high alpha maneuvers with the SFGs installed.

39: Locate your wing panels, SFGs, SFG spacers and SFG screws (these are the larger screws indicated previously).

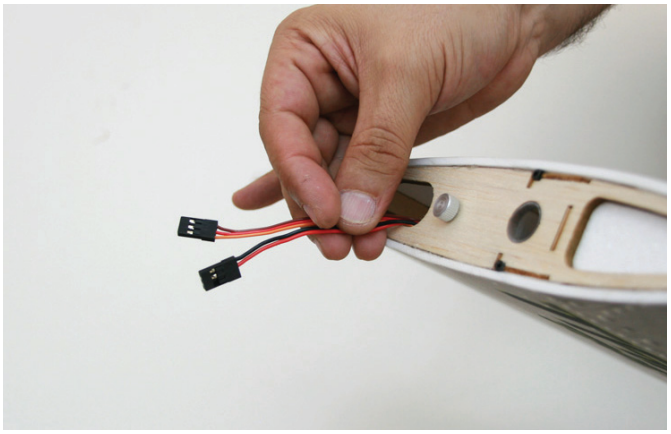
40: Align the SFG spacer to the wing end. The holes should align perfectly with the pre-drilled holes in the wing tips.

41: Secure the SFG using 2 sheet metal screws. Do not over tighten these screws as they could crush the SFG. You only need to tighten so that the spacer and SFG sit nicely against the wing tip and then an extra ½ - ¾ of the screw would be sufficient.

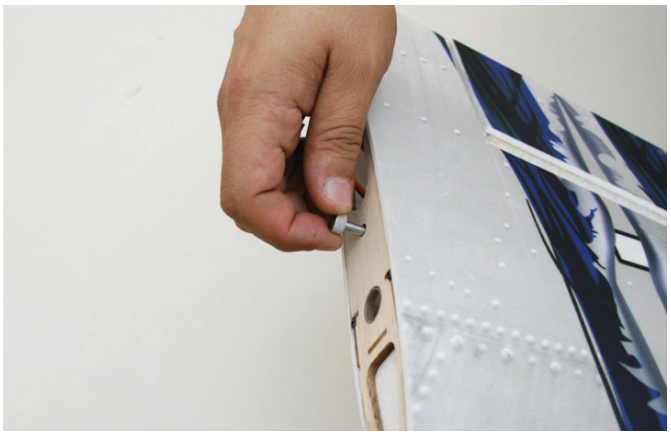
Note: repeat the above steps for both wings.



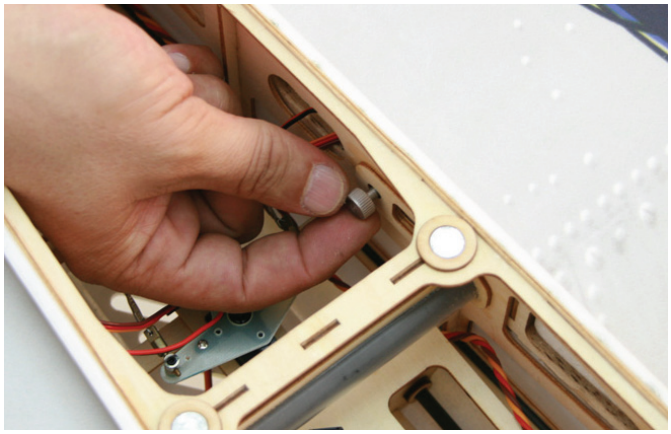
42: You will find 2 connectors coming out of each wing panel. One is the servo connector (the one with 3 wires) and the other is the LED light connector (only 2 wires, a black and a red).



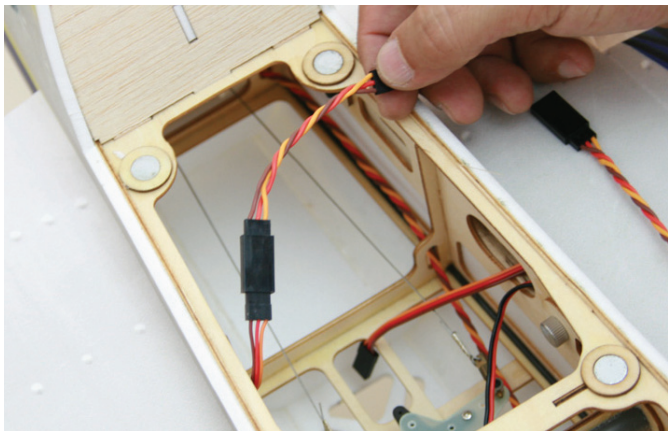
43: Remove the aluminum wing securing bolt from both wing panels (always keep them in the wings when the wings are not secured to the fuselage so you don't loose them).



44: Insert the wing tube into the fuse and slide both wing panels on. Pass the wing wires through the opening in the side of the fuselage and make sure the rear wing anti rotation pin fits in place. You should achieve a snug fit between the wing and fuselage. Secure the wings on using the aluminum wing securing bolts.



45: Connect the included 10cm servo extensions to both the wing servo wire as they will be needed to reach the receiver.



15. LED and ESC wiring

The Commander ESC has been designed specifically for the Night Crawler line of RC Gadgetz PNP aircrafts.

It provides the following outputs

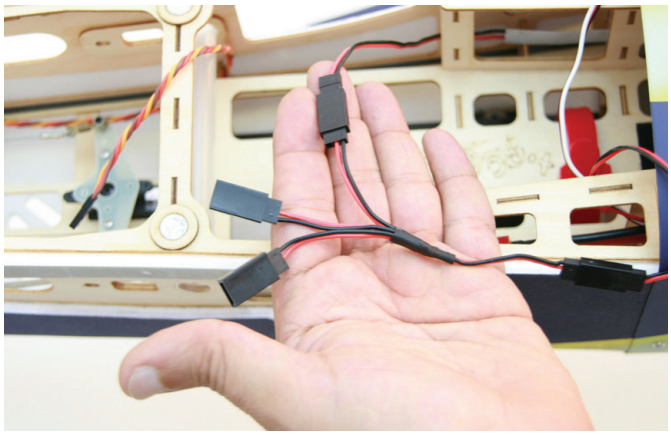
A- Motor control (this plugs into the throttle receiver port)
B- LED output – this provides the LED lights with the same voltage supplied to the ESC. If using 3S it will provide 11.1V and if using 4S will provide 14.8V
C- Speed controlled Motor output

It has the following input :

D- Deans connector – Can handle 3S and 4S batteries.

- LED Connection

Locate and install the 3-1 light connector. The single side goes into the ESC light output wire (red and black) and the remaining 3 are plugged into the fuse and wing LED leads.
Note: You do not need to plug these in if the lights are not required or if you are flying during the daytime.



16. CG and Balancing

Correctly balancing an aerobatic model is critical to its performance and flight characteristics.

1. The recommended starting center of gravity (C.G.) is at the wing tube. This is a safe place to start. You will find that depending on your style of flying, you can move the CG ½ " forward or backwards.
2. Fully assemble the model. Lift your airplane with your index fingers and find the balance point. The balance point (C.G.) should lie within the range stated above. If not, move the battery slightly forward or backward to obtain the correct balance.

17. Recommended Control Throws

Low Rates:
Aileron: 15-22 Degrees with Expo 25-30 %
Elevator: 15-20 Degrees with Expo 25-30 %
Rudder: 24 Degrees with Expo 25-30 %

High Rates:
Aileron: 38 Degrees with Expo 35-45 %
Elevator: 45 Degrees with Expo 45-55 %
Rudder: Bevel to Bevel with Expo 35-45 %

18. Pre-Flight Checks

1. Select the correct model on the TX and before powering up make sure the throttle stick is on idle (if the throttle stick is on max this will enter you into the ESC programing mode)
2. Before each flying session, be sure to range check your radio. Please follow your TX/RX manufacturer instructions on pre-flight range checks
3. Double-check that all controls (aileron, elevator, rudder, and throttle) move in the correct direction.
4. Be sure that your battery is fully charged

This completes the assemble of your RC Gadgetz Composite Slick 560/MXS. Fly safe and enjoy hours of fun.

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