



# Magic Bird

**EF1 RACER 40E PNP, 46"**

Code : SEA380PNP

## ASSEMBLY MANUAL

"Graphics and specifications may change without notice".



### Specifications:

Wingspan-----	45.6 in-----	116.0 cm.
Wing area-----	417.9 sq.in-----	27.0 sq.dm.
Weight-----	4.0 lbs-----	1.8 kg.
Length-----	42 in -----	106.8 cm.
Motor-----	power Dualsky 40-size ECO 3520C-V2.	
-----	2200mAh 6S 45C 22.2V LiPo Battery XT60 Plug.	
Radio-----	4 channels with 4 servos.	



**INTRODUCTION**

Thank you for choosing the **Magic Bird EF1 RACER 40E PNP, 46"** ARTF by **SG MODELS**. The Magic Bird **Magic Bird EF1 RACER 40E PNP, 46"** was designed with the intermediate/advanced sport flyer in mind. It is a semi scale airplane which is easy to fly and quick to assemble. The airframe is conventionally built using balsa, plywood to make it stronger than the average ARTF, yet the design allows the aeroplane to be kept light. You will find that most of the work has been done for you already. The motor mount has been fitted and the hinges are pre-installed. Flying the **Magic Bird EF1 RACER 40E PNP, 46"** is simply a joy.

This instruction manual is designed to help you build a great flying aeroplane. Please read this manual throughly before starting assembly of your **Magic Bird EF1 RACER 40E PNP, 46"** Use the parts listing below to indentify all parts.

**WARNING**

*Please be aware that this aeroplane is not a toy and if assembled or used incorrectly it is capable of causing injury to people or property. WHEN YOU FLY THIS AEROPLANE YOU ASSUME ALL RISK & REPONSIBILITY.*

If you are inexperienced with basic R/C flight we strongly recommend you contact your R/C supplier and join your local R/C model Flying Club. R/C Model Flying Clubs offer a variety of training procedures designed to help the new pilot on his way to successful R/C flight. They will also be able to advise on any insurance and safety regulations that may apply.

**KIT CONTENTS**



## KIT CONTENTS

**SEA380PNP Magic Bird EF1 RACER 40E PNP, 46"**

1. Fuselage
2. Wing set (2)
3. Tail set (2)
4. Wing tube
5. Cowling
6. Spinner
7. Electric Propeller, 9 x 6E

## ADDITIONAL ITEMS REQUIRED

- power Dualsky 40-size ECO 3520C-V2.
- Computer radio 4 channel with 4 servos.
- Glow plug to suit engine.
- Propeller to suit engine.
- Protective foam rubber for radio system.

## TOOLS & SUPPLIES NEEDED

- Thin cyanoacrylate glue.
- Medium cyanoacrylate glue.
- 30 minute epoxy.
- 5 minute epoxy.
- Hand or electric drill.
- Assorted drill bits.
- Modelling knife.
- Straight edge ruler.
- 2mm ball driver.
- Phillips head screwdriver.
- 220 grit sandpaper.
- 90° square or builder's triangle.
- Wire cutters.
- Masking tape & T-pins.
- Thread-lock.
- Paper towels.

## RECEIVER INSTALLATION

Make the connections from the rudder and elevator servos to the receiver. Also connect the extensions for the flaps and ailerons..

All servo extensions have been provided when using an eight channel radio. No Y-harnesses will be required. Mixing at the transmitter will be required.

When using a six channel radio, a Y-harness has been included for the flaps. Mixing at the transmitter will be required to operate the ailerons.

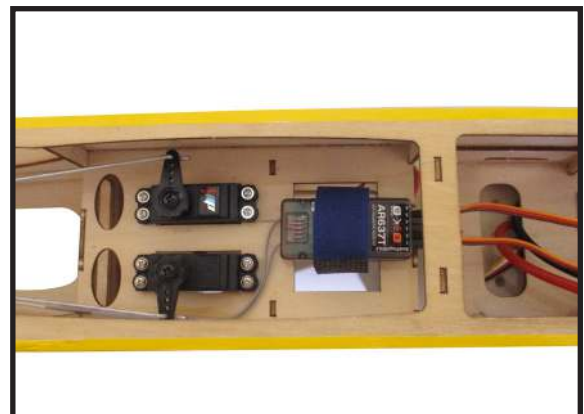
Using a five channel radio will require the use of the included Y-harness for the flaps, and an additional Y-harness (SPMA3058) for the ailerons.

1.



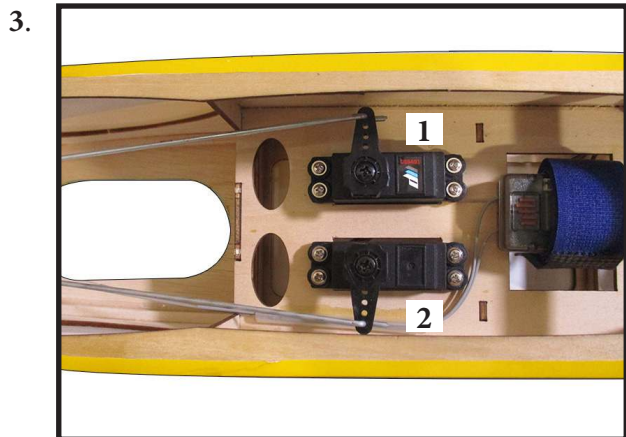
Secure the receiver in the fuselage. Use the instructions included with the receiver for additional mounting details. Make sure none of the wires from the receiver interfere with the operation of the servos.

2.

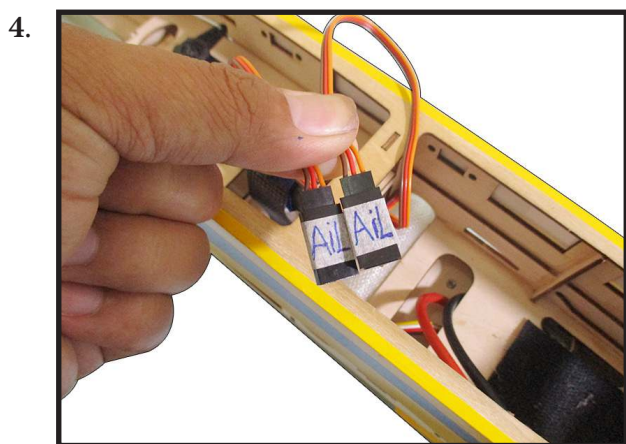




Check that the servo arms for the elevator (1) and rudder (2) are at 90-degrees to the pushrods. Adjust the sub-trim of the radio or reposition the servo arms as necessary.

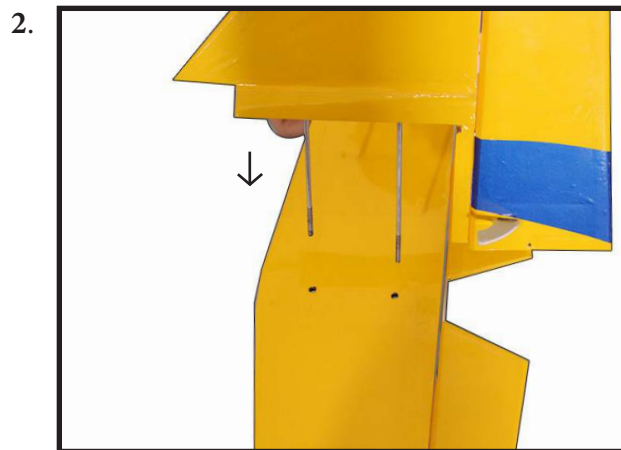
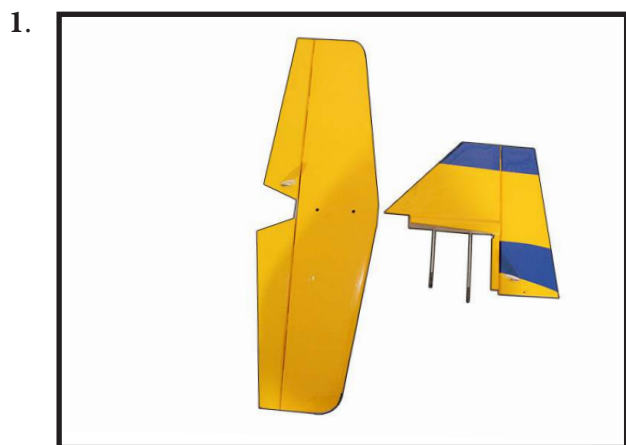


Label the extensions for the ailerons and flaps.



**RUDDER AND ELEVATOR  
INSTALLATION**

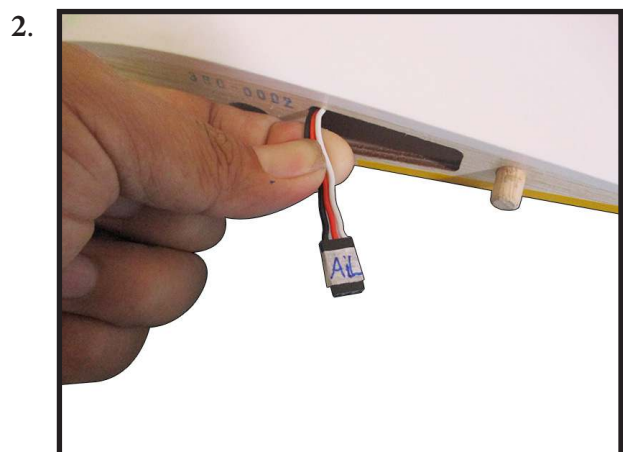
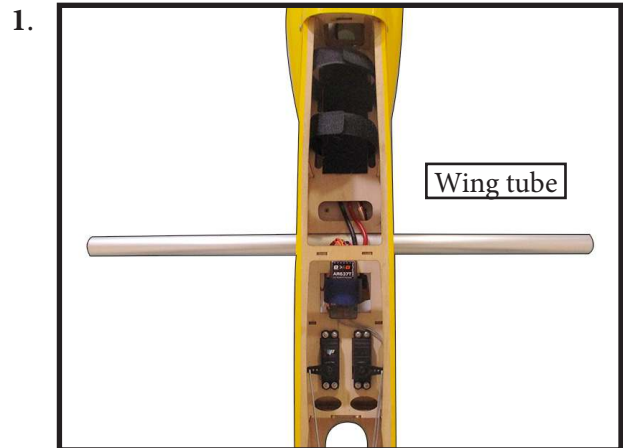
Please see below pictures.



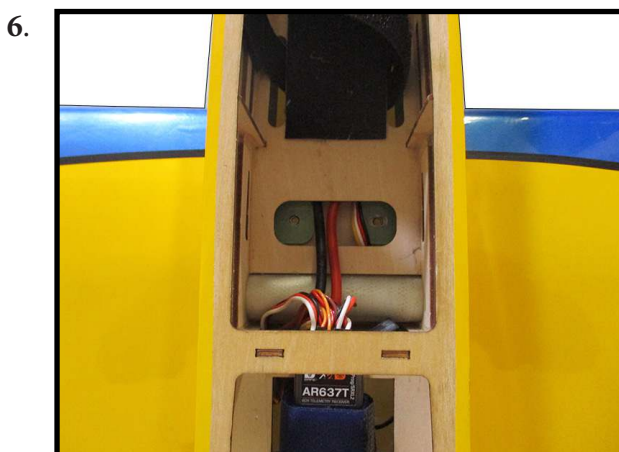
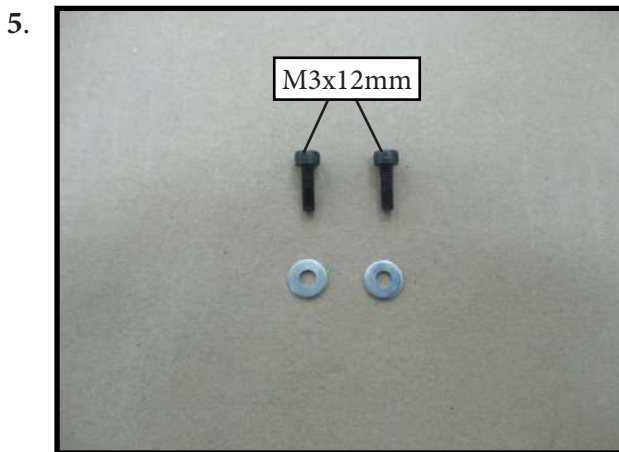
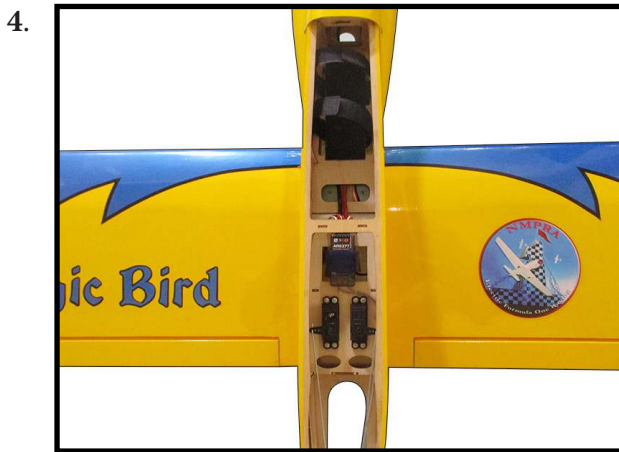
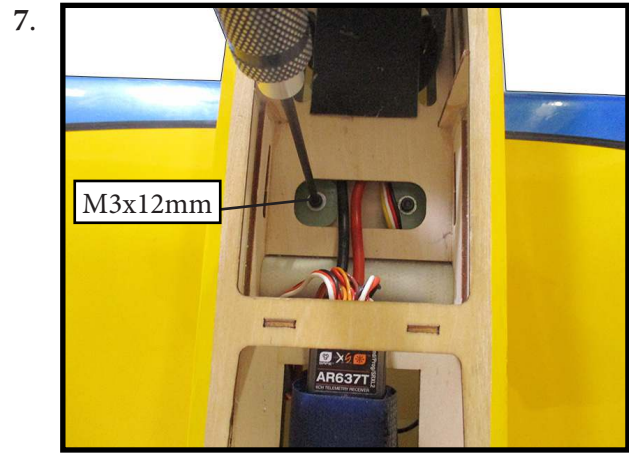
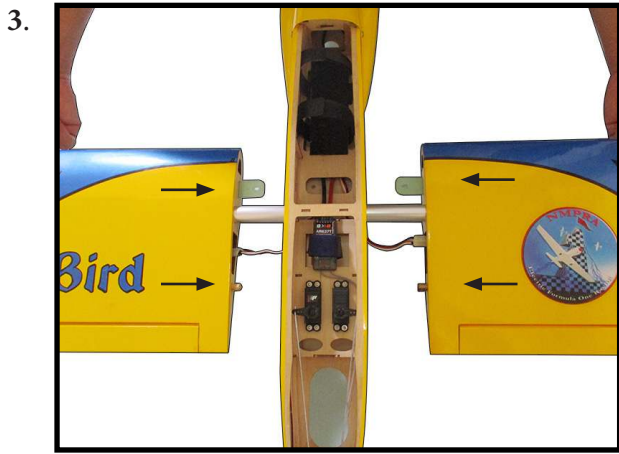


### ATTACHMENT WING- FUSELAGE

Attach the aluminium tube into fuselage.



Insert two wing panels as pictures below.





11.



### MOTOR BATTERY AND PROPELLER INSTALLATION

The photo shows the order of the items as installed on the motor.

Use caution around the motor once the propeller has been installed. The propeller can cause injury if the motor starts when the battery is connected.

1.



2.



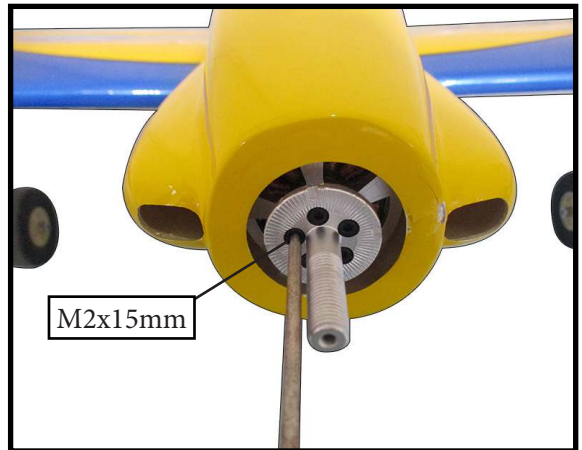
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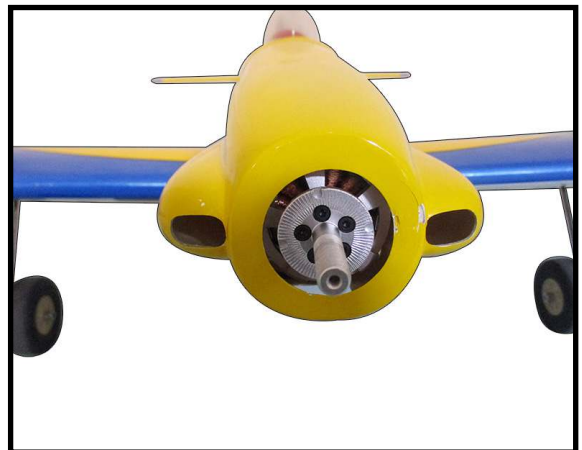
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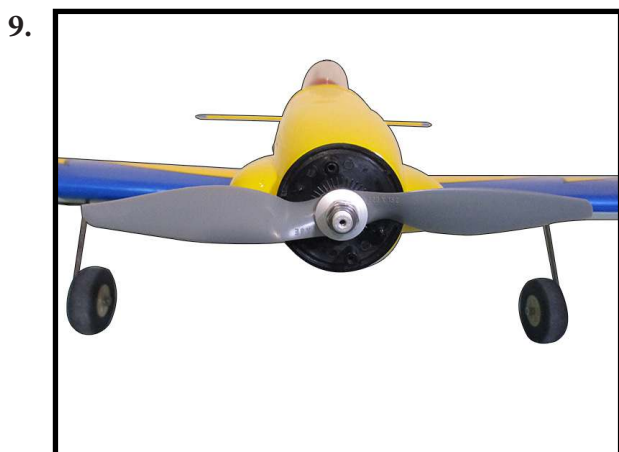
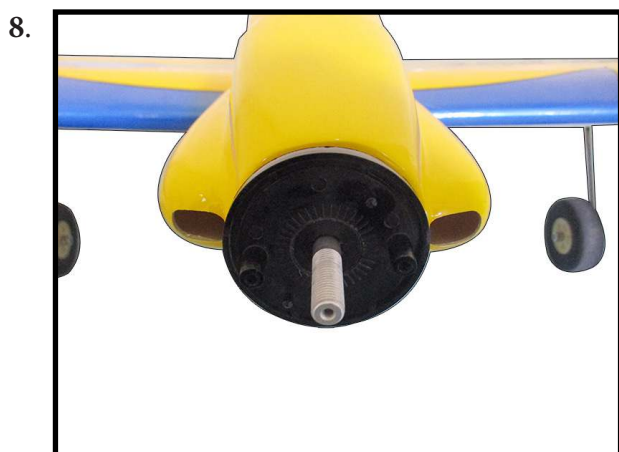


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6.



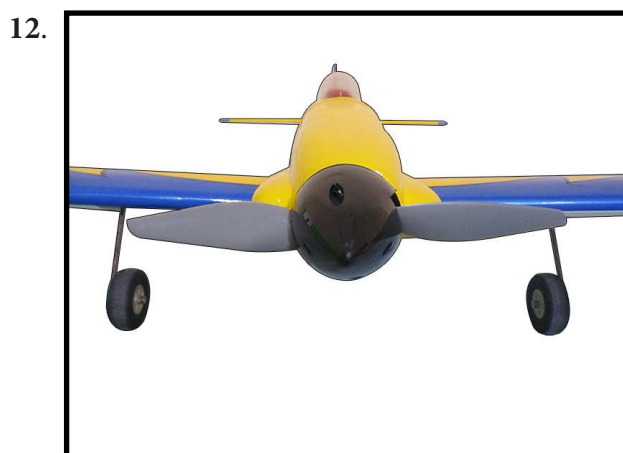


Fit the propeller on the adapter. Thread the propeller nut on the adapter and tighten the nut using a 7/8-inch socket or box end wrench.

Do not use pliers to tighten the nut, as they will damage the aluminum nut over time.

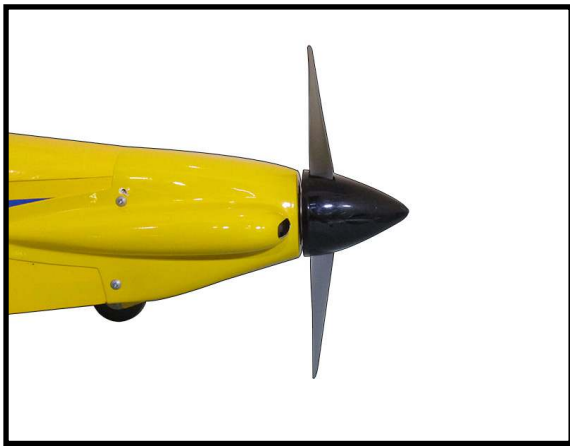


Fit the spinner cone in position. Position the spinner cone so it does not contact the propeller, Secure the spinner cone using the provided screw and 1.5mm hex wrench.





13.



### APPLY THE DECALS

1) If all the decals are precut and ready to stick. Please be certain the model is clean and free from oily fingerprints and dust. Position decal on the model where desired, using the photos on the box and aid in their location.

2) If all the decals are not precut, please use scissors or a sharp hobby knife to cut the decals from the sheet. Please be certain the model is clean and free from oily fingerprints and dust. Position decal on the model where desired, using the photos on the box and aid in their location.

### BALANCING

1) It is critical that your airplane be balanced correctly. Improper balance will cause your plane to lose control and crash. THE CENTER OF GRAVITY IS LOCATED **70MM** BACK FROM THE LEADING EDGE OF THE WING AT THE WING ROOT.

2) Mount the wing to the fuselage. Place a piece of masking tape on the top of each wing 88mm back from the leading edge at the wing root.

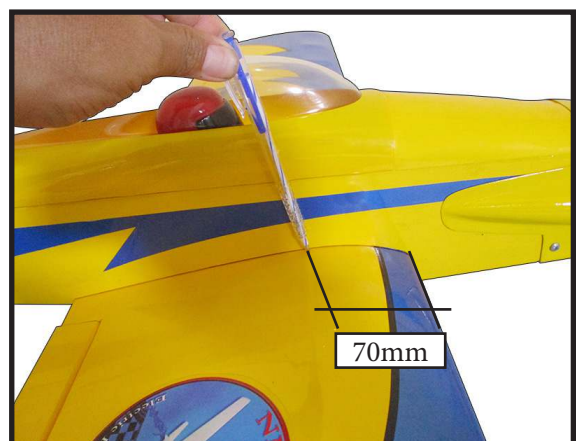
3) With the model inverted, place your fingers on the masking tape and carefully lift the plane. This is the point at which your model should balance for your first flights. Later, you may wish to experiment by shifting the balance up to 70mm forward or back to change the flying characteristics. Moving the balance forward may improve the smoothness and arrow-like tracking, but it may then require more speed for take off and make it more difficult to slow down for landing. Moving the balance aft makes the model more agile with a lighter and snappier "feel". In any case, please start at the location we recommend.

\*If possible, first attempt to balance the model by changing the position of the receiver battery and receiver. If you are unable to obtain good balance by doing so, then it will be necessary to add weight to the nose or tail to achieve the proper balance point.

With the wings attached to the fuselage, all parts of the model installed ( ready to fly), and empty fuel tanks, hold the model at the marked balance point with the stabilizer level.

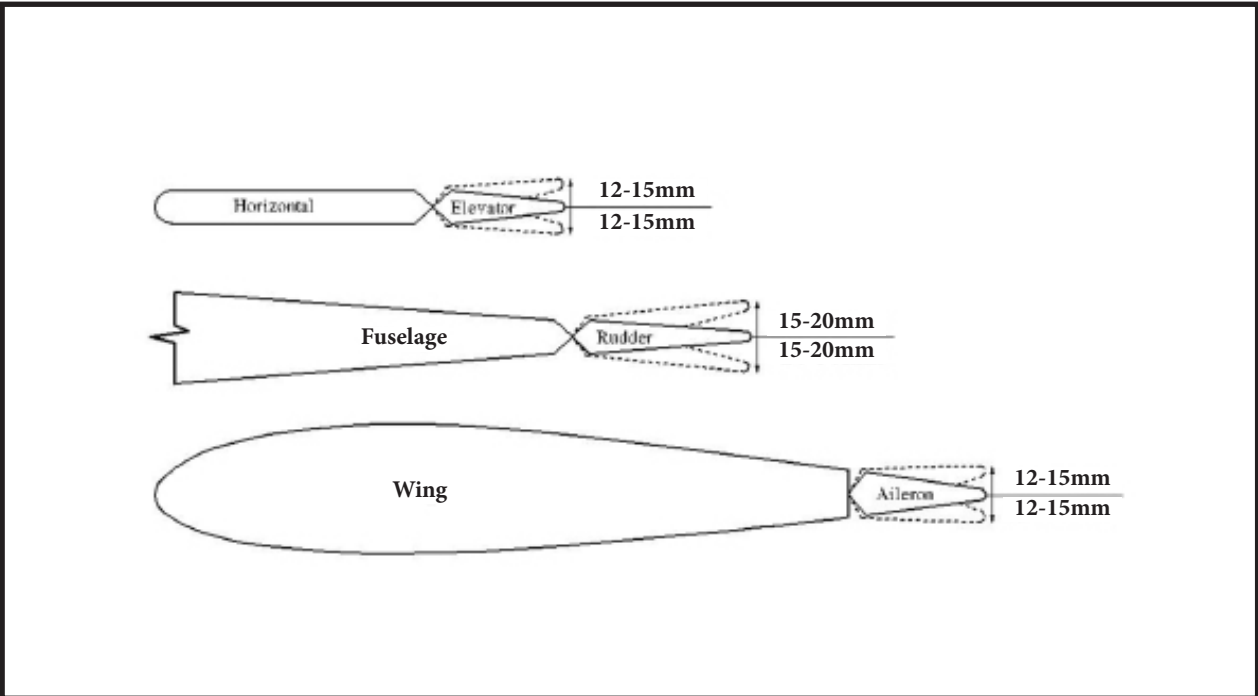
Lift the model. If the tail drops when you lift, the model is "tail heavy" and you must add weight\* to the nose. If the nose drops, it is "nose heavy" and you must add weight\* to the tail to balance.

1.



**CONTROL THROWS**

<b>Ailerons:</b>	<b>Rudder:</b>
High Rate :	High Rate :
Up : 15 mm	Right : 20 mm
Down : 15 mm	Left : 20 mm
Low Rate :	Low Rate :
Up : 12 mm	Right : 15 mm
Down : 12 mm	Left : 15 mm
<b>Elevator:</b>	
High Rate :	
Up : 15 mm	
Down : 15 mm	
Low Rate :	
Up : 12 mm	
Down : 12 mm	



## FLIGHT PREPARATION

Check the operation and direction of the elevator, rudder, ailerons and throttle.

□ A) Plug in your radio system per the manufacturer's instructions and turn everything on.

□ B) Check the elevator first. Pull back on the elevator stick. The elevator halves should move up. If they do not, flip the servo reversing switch on your transmitter to change the direction.

□ C) Check the rudder. Looking from behind the airplane, move the rudder stick to the right. The rudder should move to the right. If it does not, flip the servo reversing switch on your transmitter to change the direction.

□ D) Check the throttle. Moving the throttle stick forward should open the carburetor barrel. If it does not, flip the servo reversing switch on your transmitter to change the direction.

□ E) From behind the airplane, look at the aileron on the right wing half. Move the aileron stick to the right. The right aileron should move up and the other aileron should move down. If it does not, flip the servo reversing switch on your transmitter to change the direction.

## PREFLIGHT CHECK

□ 1) Completely charge your transmitter and receiver batteries before your first day of flying.

□ 2) Check every bolt and every glue joint in the **Magic Bird EF1 RACER 40E PNP, 46"** to ensure that everything is tight and well bonded.

□ 3) Double check the balance of the airplane. Do this with the fuel tank empty.

□ 4) Check the control surfaces. All should move in the correct direction and not bind in any way.

□ 5) If your radio transmitter is equipped with dual rate switches double check that they are on the low rate setting for your first few flights.

□ 6) Check to ensure the control surfaces are moving the proper amount for both low and high rate settings.

□ 7) Check the receiver antenna. It should be fully extended and not coiled up inside the fuselage.

□ 8) Properly balance the propeller. An out of balance propeller will cause excessive vibration which could lead to engine and/or airframe failure.

*We wish you many safe and enjoyable flights  
with your Magic Bird EF1 RACER 40E PNP, 46".*



*If you have any queries, or are interested in our products,  
please feel free to contact us*

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