FUN IS ALL THE RAGE
RAGE RC

BRUSHLESS
WARBIRD
SERIES

RAF SPITFIRE
MANUAL



Classic Warbird with Scale Details, a Stability System, and Brushless Power!

Specifications:

Wingspan:	19.7” (500mm)
Length:	15.75" (400mm)
Weight w/ 2S Battery:	3.35oz. (95g)
Weight w/ 3S Battery:	3.84oz. (109g)
Motor:	1806/1900Kv Brushless Outrunner
ESC:	15A Brushless
Included Battery:	2S 7.4V 400mAh LiPo (2.96Wh)
Upgrade Battery:	3S 11.1V 400mAh LiPo (4.44Wh) (not included)
Transmitter:	4-ch, 2.4GHz w/ 3-position PASS switch and stunt button
Airplane Control:	4-Channels - throttle, aileron, rudder, and elevator
On-Board Control:	2.4GHz receiver w/ gyro and integrated 2-gram servos (rudder & elevator)
Aileron Control:	4.3g servo

Safety Precautions

Age Recommendation; 14 years and up. This is not a toy.

As the owner and/or operator of this plane, you are responsible to make sure that injury to others or damage to property is avoided.

Make sure that you are familiar with the entire instruction manual before operation.

Battery Warnings

Important Notice: Mishandling of LiPo batteries can result in fire, personal injury and/or property damage!

- Ensure that batteries are properly charged before flying.
- If at any time that battery begins to balloon or swell, discontinue use immediately.
- Always store batteries at room temperature in a dry environment.
- Do not store or transport your LiPo batteries in direct sunlight or in a hot vehicle.
- Make sure to inspect all batteries before charging and do not charge damaged batteries.
- Always disconnect the battery after charging and allow the charger to cool before the next charge.
- Never leave charging batteries unattended.
- Never charge batteries in extremely hot or cold temperatures, near combustible materials, or in direct sunlight.

Box Contents

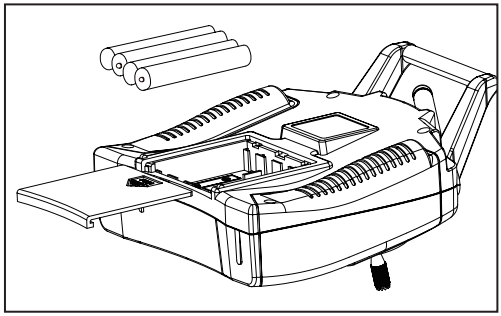


Charging Instructions

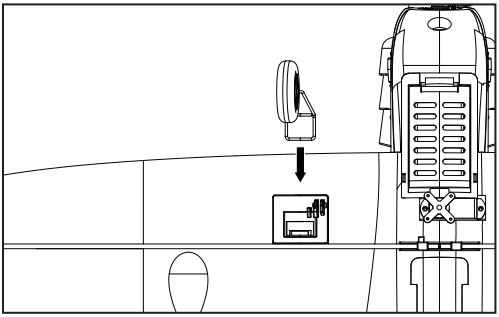


1. Unplug the battery from your plane.
2. Plug the charger into the USB port on your computer or USB adapter.
3. Connect battery to the charger.
4. The charging process may take up to 3 hours. As a safety precaution, never charge the battery for longer than 4 hours. The red LED will light up solid when the charger is plugged into a power source. The LED will flash when a battery is plugged in, indicating it is charging. The LED will turn off when the charging cycle is complete.

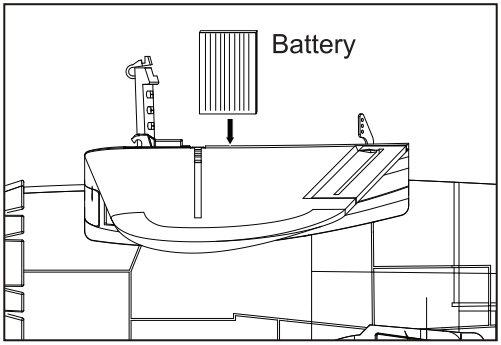
Setup Instructions



1. Install 4 AA batteries (included) in the transmitter.



2. Install the landing gear into the wings as shown above, press until gear clicks into place.



3. Connect the battery to the receiver, then push the battery into the fuselage.

Transmitter Layout

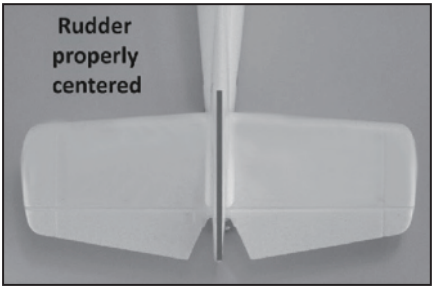


Centering Control Surfaces

NOTE: Turn the PASS switch off (expert mode) before you complete the steps below. See more information in "PASS System" section.

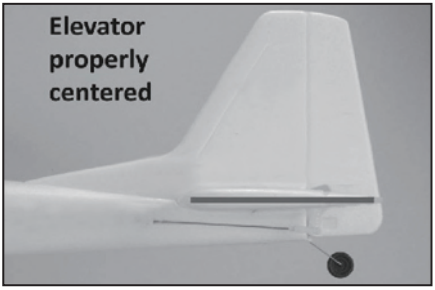
With the transmitter turned on and the battery connected to the ESC (and installed in the battery compartment), it is now possible to check the center of all control surfaces.

NOTE: Make sure that all digital trims on the transmitter are centered before making manual adjustments.





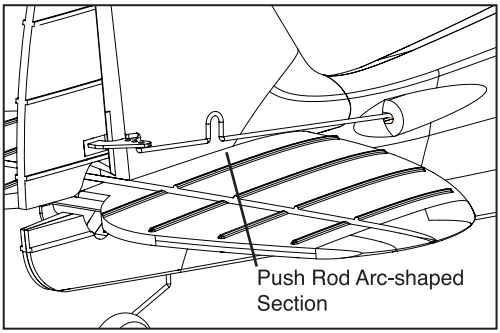
Check that the rudder is properly centered as shown above.



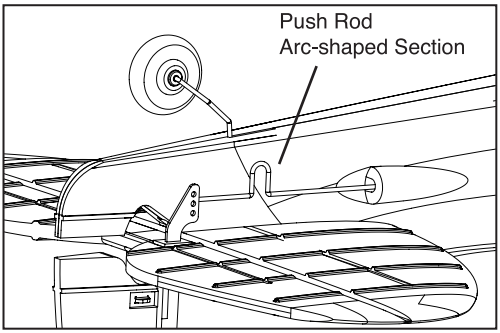


Then check that the elevator is properly centered as shown above.

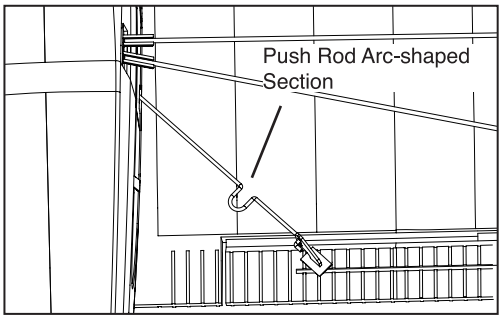
Center Control Surfaces (cont.)



If the rudder is not properly centered, adjust the push rod length by bending the arc-shaped section slightly with needle nose pliers until the rudder is centered.



If the elevator is not properly centered, adjust the push rod length by bending the arc-shaped section slightly with needle nose pliers until the elevator is centered.



If the aileron is not properly centered, adjust the push rod length by bending the arc-shaped section slightly with needle nose pliers until the aileron is centered.

Please Note: It is unlikely that you will need to make these adjustments to your new model.
Any final adjustments can be made with the trim buttons as shown on page 6.

PASS System Control

0 - Away From You- Manual / PASS Off (EXPERT)
1 - In the Middle - Partial Assist (MID)
2 - Towards You - Full Assist (BEGINNER)



The PASS System comes pre-installed in the airplane to help make flying a smoother experience. In either assist mode, the PASS System greatly reduces stress on the pilot and makes the plane easier and even more fun to fly.

The PASS System has 3 levels of control.
Full Assist (switch toward pilot) In this position the bank and dive angles of the airplane are greatly restricted and the plane will return to level flight when the sticks are released.
Partial Assist (switch in middle) In this position the bank and dive angles are increased, but the plane still returns to level flight when the sticks are released.
No Assist (switch away from pilot) In this position the stability system is inactive. This is the expert setting and allows for unaided control. If orientation or control is lost, simply switch to one of the other assist modes to regain control.

Binding Instructions

Binding is the process of programming the receiver to recognize the GUID (Globally Unique Identifier) code of a single specific transmitter. When a receiver is bound to a transmitter, the receiver will only respond to that specific transmitter. If you need to rebind for any reason, please follow the steps below.

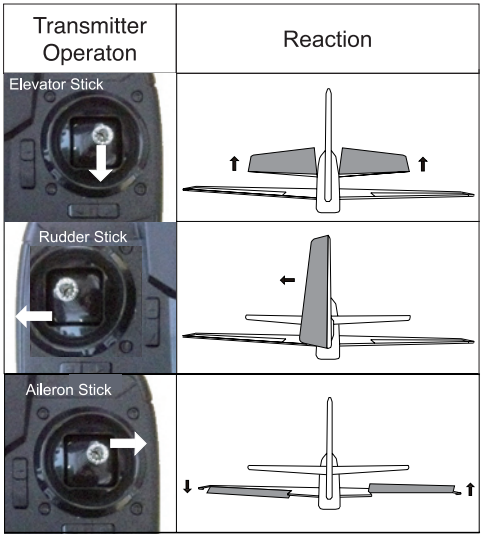
1. Keep the transmitter switched OFF with the throttle stick at bottom position.
   NOTICE: Keep PASS switch at Partial or Full assist position.
   NOTICE: Make sure you keep the plane still in a calm, stable position when initializing the PASS system.
2. Connect the battery to the plane, then turn on the transmitter within 5 seconds.
3. The receiver LED will flash for 3 to 8 seconds before binding automatically.
4. After the receiver LED stops flashing, the binding process is complete and you are ready to fly.

Digital Trim

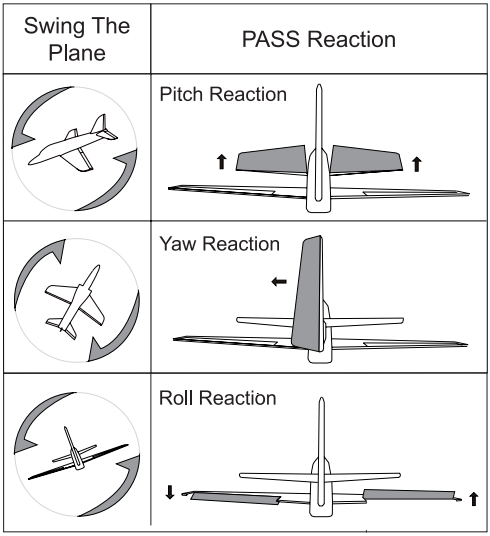
Digital trims allow you to adjust the center position of the ailerons, rudder, or elevator. Each time the trim button is pressed, the servo output will change slightly. If the trim button is held, the output will scroll in that direction until the trim button is released or the output reaches its end. When you hear a longer "beep" sound, the trim is centered.



Checking Control Movement



With the aircraft power on and the PASS system in Expert, check the elevator, rudder and aileron response as shown above.



With the aircraft power on and the PASS system in Partial or Full Assist, check the elevator, rudder and aileron response as shown above.

Pass System Calibration

1. Make sure the airplane is set in level flying position. Note that the tail of the airplane needs to be propped up to make the wings level.
2. Lower the throttle stick to min (low) position.
3. Turn on the transmitter and plug in the battery to power on the airplane
4. Do NOT unlock the throttle at this point.
5. Hold the sticks as shown for several seconds.
6. When you hear a “beep” sound, it means the PASS system is calibrated based on the position of the airplane.



NOTE: This process is only required if the model is not performing properly when in PASS mode. Perform this with the airplane held in a level flying position.

Flight Checklist

IMPORTANT NOTE: Although this section can be used as a quick start guide, we strongly suggest that you read the entire manual before proceeding. This checklist is NOT intended to replace the content included in this instruction manual.

- Always turn the transmitter on first.
- Ensure the throttle control stick is at bottom position before connecting the battery.
- Fly the model (hand-launch or take off from a flat/level surface).
- Land the model (on a flat/level surface).
- Unplug the battery from airplane.
- Always turn off the transmitter last.

Arming the Motor

To prevent damage to the aircraft and surroundings, the throttle channel is locked each time the transmitter is turned on. Follow the instructions below to unlock the throttle and arm the motor.

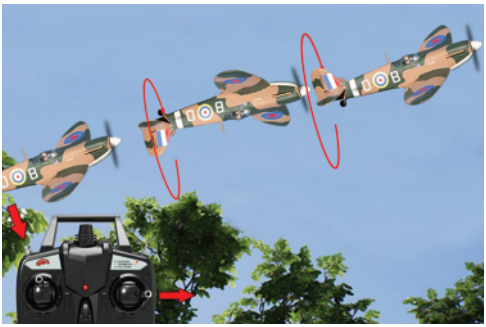
CAUTION: Keep your fingers and other foreign objects away from the prop while arming the motor. Raise the throttle stick up to max position until you hear a "beep" sound. Then pull the throttle stick down to min position until you hear a second "beep" sound. The motor is now armed. When the throttle stick is raised again the motor will start.

Stunt Function Button

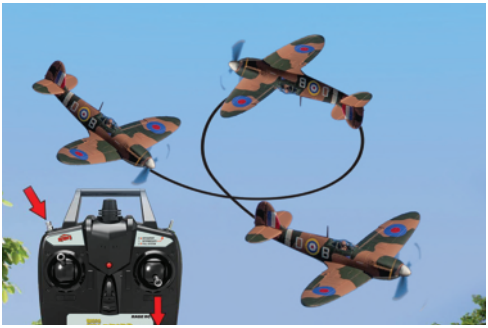
The stunt button allows the pilot to perform a roll or loop automatically when flying in either PASS assist mode. As shown in the below diagrams, while flying in either mode, press the stunt button on the left shoulder of the transmitter and you will hear several beeps. While the transmitter is beeping, simply move the aileron stick either direction for auto-roll or move the elevator stick to "up elevator" (stick down) to perform a loop.

NOTE: the Stunt function will not be enabled when flying in No Assist or the off position.



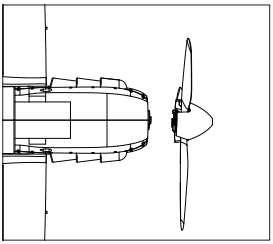


Press the Stunt Function Button then move the aileron stick in either direction to auto-roll the aircraft. After completing the roll the aircraft will return to level flight.



Press the Stunt Function Button then move the elevator stick down (up elevator) to auto-loop the aircraft. After completing the loop the aircraft will return to level flight.

Prop Saver Instructions



Each Prop/Spinner set includes the propeller, spinner and prop adapter.

See page 11 for specific part numbers for your airplane.

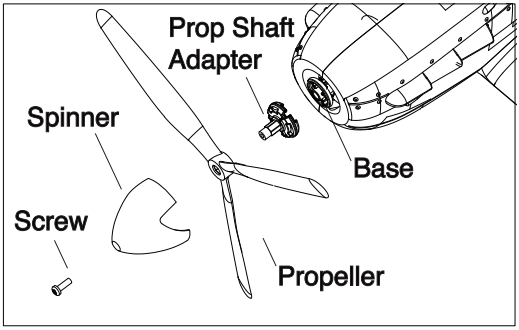
The prop saver keeps the propeller and prop shaft from damage, along with preventing the electronic components from over current. When the airplane hits any obstacle,

the prop will pop loose and fall from the base. To reinstall the prop, center the prop adapter(see diagram) on the motor shaft, and press until you hear a "click" that indicates that the prop has been reinstalled.

Propeller Replacement

Follow below steps to replace broken propeller and propeller saver / shaft adaptor. You will need a Phillips screwdriver and pliers (not included).

1. Loosen the screw with a Phillips screw driver to take off the spinner and propeller.
2. Replace any part broken.
3. Install all parts back by inverted orders to finish replacement.



Important Signal Alerts

Signal Loss Alert

When the airplane begins to fly out of the range of the transmitter signal, or there is signal interference in the area, the transmitter will beep 4 times together as an alert and continue that pattern. When that pattern of beeps is heard, return the airplane back into range of the signal as soon as possible.

Flight Battery Alert

When the flight battery is low on power, both the transmitter and receiver will beep continuously to alert the pilot. Return the airplane as soon as possible to replace or charge the flight battery before the next flight.

Transmitter Battery Alert

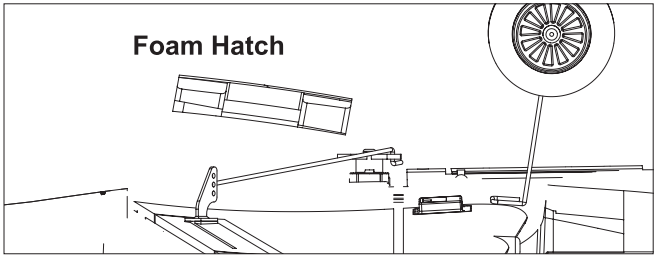
When the transmitter batteries are low on power, the transmitter LED will begin flashing and beep once at a time in a pattern. When you hear a pattern of one beep at a time, return and land the airplane as soon as possible to replace the transmitter batteries.

Find My Plane

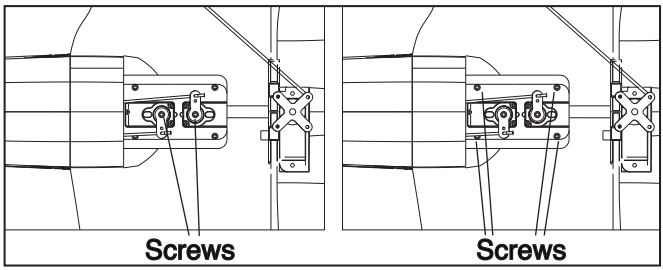
When the airplane has crashed and cannot be found, press and hold the Find My Airplane button for 3 seconds until there is a beeping sound. The beeping indicates that Find My Airplane has been activated and the airplane will continue to beep 4 times repeatedly. Follow the sound to locate the airplane. **Note that the airplane power must be on for this function to work.**



Replacing Motor or Control Board

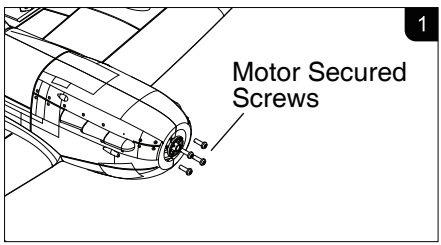


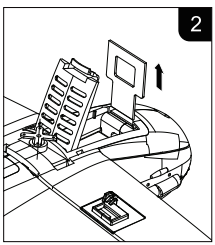
The control board and ESC can be accessed by removing the hatch on the bottom of the fuselage. No tools are required. Gently pry the hatch open with your fingers.

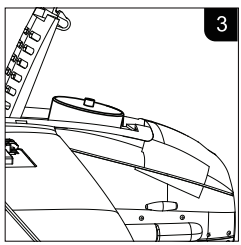


Use the following steps to replace the Control Board.

1. Remove the screws on the servo arms as shown above and remove the arms.
2. As shown in the above diagram to the right, remove the screws holding the Control Board in place.
3. Unplug the connections to both the ESC and main wing servo making note of the orientation of the plugs.
4. Install the new control board by reversing the above 3 steps.







Replacement Parts

Item Number	Description
RGRA1606	RAF Spitfire BL 500mm RTF Warbird
RGRA1607	RAF Spitfire BL 500mm RFRT (Rage) Warbird
RGRA1648	Painted and Printed Fuselage
RGRA1649	Painted Main Wing and Tail Set
RGRA1650	3-Blade Prop Assembly with Spinner (2)
RGRA1651	Push Rod Set
RGRA1652	Servo Horns (Set of 4)
RGRA1653	Main Landing Gear Set
RGRA1154	2S LiPo USB Charger
RGRB1242	2-3S 800mA Balancing Charger (optional upgrade)
RGRA1317	2.4GHz Transmitter
RGRA1624	Tailwheel Set
RGRA1628	15A Brushless ESC with JST plug
RGRA1629	2.4GHz Receiver with Gyro & 2g Servos
RGRA1630	4.3g Aileron Servo
RGRA1631	2S 7.4V 400mAh LiPo w/ JST Plug
RGRA1632	3S 11.1V 400mAh LiPo w/ JST plug (optional upgrade)
RGRA1637	Brushless Motor
RGRA1640	Base for Prop Shaft Adapter (2) (motor side)

See your local hobby shop or place of purchase first. If unavailable, parts can be ordered direct at www.ragerc.com or call 1-866-724-3811 M-F 9:00-5:00PM Mountain Time.

Limited Warranty

Warranty Period: Rage R/C warrants that the Brushless Warbird Series (“Product”) will be free from original factory defects in materials and workmanship upon purchase (“Warranty Period”). What is Not Covered - This warranty is not transferable and does not cover (a) cosmetic damage, (b) damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or due to improper use, installation, operation or maintenance, (c) modification to any part of the Product, (d) attempted service by anyone other than a Rage R/C authorized service center, or (e) Product not purchased from an authorized Rage R/C dealer.
OTHER THAN THE EXPRESS WARRANTY ABOVE, RAGE R/C MAKES NO OTHER WARRANTY OR REPRESENTATION, AND THREFORE DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY AND SUITABILITY FOR A PARTICULAR PURPOSE. THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL MEET THE REQUIREMENTS OF THEIR INTENDED USE.

Purchaser’s Remedy - Rage R/C’s sole obligation and purchaser’s sole and exclusive remedy shall be that Rage R/C will, at its option, either (a) service, or (b) replace, any Product determined by Rage R/C to be defective. Rage R/C 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 Rage R/C. 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 - RAGE R/C 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 RAGE R/C HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.
Further, in no event shall the liability of Rage R/C exceed the individual price of the Product on which liability is asserted. As Rage R/C 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 Utah 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. Rage R/C reserves the right to change or modify this warranty at any time without notice.

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