

ADVANCING ELECTRIC FLIGHT

**Assembly Manual** 

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#### Introduction

The Extra 260 3D Profile was designed by Aerodynamicist and E-TOC champ George Hicks to give profile 3D foamie fans a great-looking, lightweight plane with competition-level performance. At the heart of its superb flight characteristics is a rigid, carbon reinforced Depron foam airframe. This unique design eliminates flex so control response is crisp and precise.

The Extra 260 is constructed from 3mm laser-cut Depron foam—the standard for durability and quality for pro 3D foamie pilots everywhere. All pieces come with a sharp-looking factory-applied color scheme.

#### **Carbon Rod Reinforcement**

Much of the Extra 260's exceptional flight performance comes from its carbon-reinforced airframe that eliminates flex so control response is crisp and precise. The leading and trailing edges of the wing come out of the box with factory-applied carbon strips. Carbon rods are also included that further strengthen the fuselage and tail.

Visit our web site at www.horizonhobby.com or www.E-fliteRC.com for George Hicks' flying tips.

### **Specifications**

Wingspan: 32.5 in (825mm) Length: 33 in (840mm)

Wing Area: 260 sq in (16.8 sq dm) Weight w/o Battery: 6.5–7.75 oz (182–220 g) Weight w/ Battery: 7.75–9.5 oz (220–270 g)

## Using the Manual

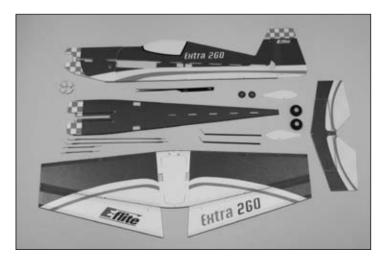
This manual is divided into sections to help make assembly easier to understand, and to provide breaks between each major section. In addition, check boxes have been placed next to each step to keep track of each step completed. Steps with a single circle ( $\bigcirc$ ) are performed once, while steps with two circles ( $\bigcirc$   $\bigcirc$ ) indicate that the step will require repeating, such as for a right or left wing panel, two servos, etc.

Remember to take your time and follow the directions.

# **Contents of Kit/Parts Layout**

### **Small Replacement Parts**

| EFL2305 | Wheel Pants               |
|---------|---------------------------|
| EFL2306 | Firewall Mount w/Hardware |
| EFL2307 | Aileron Rods              |
| EFL2308 | Carbon Fiber Stiffeners   |
| EFL2309 | Landing Gear              |
| EFLA200 | Micro Control Horns       |
| FLA203  | Micro Control Connectors  |
| EFLA221 | Foam Park Wheels, 1.5"    |



### **Outrunner Setup**

| EFLM1150    | Park 300 Brushless Outrunner Motor,<br>1380Kv |
|-------------|---|
| EFLA1010    | 10-Amp Pro Brushless ESC                      |
| APC08038SF  | 8x3.8 Slow Flyer Prop                         |
| THP4803SJPL | 480mAh 3-Céll 11.1V Li-Po, JST                |
| EFLC3005    | Celectra™ 1–3 Cell Li-Po Charger              |

# **Variable Prop Outrunner Setup**

| EFLPVPP100                          | Showtime Variable Pitch Prop  |
|-------------------------------------|---|
| EFLM1210HS                          | Park 370 BL Outrunner, 1200Kv w/4mm   |
| EFLA1010<br>THP7303SJPL<br>EFLC3005 | Hollow Shaft<br>10-Amp Pro Brushless ESC<br>730mAh 3-Cell 11.1V Li-Po, JST<br>Celectra 1–3 Cell Li-Po Charger |

# **Optional Accessories**

EFLA110 Power Meter

# Required Radio Equipment

You will need a minimum 6-channel transmitter (for proper mixing and dual rate capabilities), crystals, micro receiver, and three sub-micro servos. You can choose to purchase a complete radio system that includes all of these items or, if you are using an existing transmitter, just purchase the other required equipment separately. We recommend the crystal-free, interference-free Spektrum® DX6 2.4GHz DSM® 6-channel system, which includes a micro receiver and 4 sub-micro 7.5 gram servos. If using your own transmitter, we recommend the use of a JR SPORT™ 6-channel UltraLite receiver and E-flite® S60 Super Sub-Micro servos.

| Complete Radio  | System   |
|-----------------|--|
| SPM2460         | DX6 DSM 6CH Park Flyer w/4-S75   |
| Or Purchase Sep | parately   |
| JSP30610        | 6-Channel UltraLite Rx w/o Crystal, Positive Shift JR/AIR (72MHz)              |
| JSP30615        | 6-Channel UltraLite Rx w/o Crystal,<br>Negative Shift Fut/HRC (72MHz)          |
| JRPXFR**        | FM Receiver Crystal (JR only, not AR6000)                                      |
| Or              |  |
| SPM6000         | AR6000 DSM 6-Channel Park Flyer<br>Receiver                                    |
| And             |  |
| EFLRS60         | 6.0-Gram Super Sub-Micro Servo (4)<br>(5 with optional Variable Pitch Propelle |

### **Warning**

An RC aircraft is not a toy! If misused, it can cause serious bodily harm and damage to property. Fly only in open areas, preferably at AMA (Academy of Model Aeronautics) approved flying sites, following all instructions included with your radio.

Keep loose items that can get entangled in the propeller away from the prop, including loose clothing, or other objects such as pencils and screwdrivers. Especially keep your hands away from the propeller.

### **Required Tools and Adhesives**

### **Tools & Equipment**

EFLA250 Park Flyer Tool Assortment, 5-piece

#### Or Purchase Separately

EFLA257 Screwdriver, #0 Phillips (or included with

EFLA250)

Drill

Drill bit: 1/16" (1.5mm)

Cardstock

Foam Safe CA, Medium (EFLA209)

Foam Safe Accelerator (EFLA207)

Low Temperature Glue Gun w/Hot Glue

Hobby knife

Felt-tipped pen

Pliers

Square

Sandpaper

## **Note on Lithium Polymer Batteries**



Lithium Polymer batteries are significantly more volatile than alkaline or Ni-Cd/Ni-MH batteries used in RC applications. All manufacturer's instructions and warnings must be followed closely. Mishandling of Li-Po batteries can result in fire. Always follow the manufacturer's instructions when disposing of Lithium Polymer batteries.

### **Limited Warranty Period**

Horizon Hobby, Inc. guarantees this product to be free from defects in both material and workmanship at the date of purchase.

## **Limited Warranty & Limits of Liability**

Pursuant to this Limited Warranty, Horizon Hobby, Inc. will, at its option, (i) repair or (ii) replace, any product determined by Horizon Hobby, Inc. to be defective. In the event of a defect, these are your exclusive remedies.

This warranty does not cover cosmetic damage or damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or modification of or to any part of the product. This warranty does not cover damage due to improper installation, operation, maintenance, or attempted repair by anyone other than an authorized Horizon Hobby, Inc. service center. This warranty is limited to the original purchaser and is not transferable. In no case shall Horizon Hobby's liability exceed the original cost of the purchased product and will not cover consequential, incidental or collateral damage. Horizon Hobby, Inc. reserves the right to inspect any and all equipment involved in a warranty claim. Repair or replacement decisions are at the sole discretion of Horizon Hobby, Inc. Further, Horizon Hobby reserves the right to change or modify this warranty without notice.

REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE CONSUMER. HORIZON HOBBY, INC. SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

As Horizon Hobby, Inc. 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 this product, you are advised to return this product immediately in new and unused condition to the place of purchase.

### **Safety Precautions**

This is a sophisticated hobby product and not a toy. 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.

The product 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 injury.

# Questions, Assistance, and Repairs

Your local hobby store and/or place of purchase cannot provide warranty support or repair. Once assembly, setup or use of the product has been started, you must contact Horizon Hobby, Inc. directly. This will enable Horizon to better answer your questions and service you in the event that you may need any assistance.

### **Questions or Assistance**

For questions or assistance, please direct your email to productsupport@horizonhobby.com, or call 877.504.0233 toll-free to speak to a service technician.

## **Inspection or Repairs**

If your product needs to be inspected or repaired, please call for a Return Merchandise Authorization (RMA). 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 Hobby, Inc. is not responsible for merchandise until it arrives and is accepted at our facility. Include your complete name, address, phone number where you can be reached during business days, RMA number, and a brief summary of the problem. Be sure your name, address, and RMA number are clearly written on the shipping carton.

### Warranty Inspection and Repairs

To receive warranty service, you must include your original sales receipt verifying the proof-of-purchase date. Providing warranty conditions have been met, your product will be repaired or replaced free of charge. Repair or replacement decisions are at the sole discretion of Horizon Hobby.

# **Non-Warranty Repairs**

Should your repair not be covered by warranty and the expense exceeds 50% of the retail purchase cost, you will be provided with an estimate advising you of your options. You will be billed for any return freight for non-warranty repairs. Please advise us of your preferred method of payment. Horizon Hobby accepts money orders and cashiers checks, as well as Visa, MasterCard, American Express, and Discover cards. If you choose to pay by credit card, please include your credit card number and expiration date. Any repair left unpaid or unclaimed after 90 days will be considered abandoned and will be disposed of accordingly.

Electronics and engines requiring inspection or repair should be shipped to the following address (freight prepaid):

> Horizon Service Center 4105 Fieldstone Road Champaign, Illinois 61822

All other products requiring inspection or repair should be shipped to the following address (freight prepaid):

Horizon Product Support 4105 Fieldstone Road Champaign, Illinois 61822

## Safety, Precautions, and Warnings

As the user of this product, you are solely responsible for operating it in a manner that does not endanger yourself and others or result in damage to the product or the property of others.

Carefully follow the directions and warnings for this and any optional support equipment (chargers, rechargeable battery packs, etc.) that you use.

This model is controlled by a radio signal that is subject to interference from many sources outside your control. This interference can cause momentary loss of control so it is necessary to always keep a safe distance in all directions around your model, as this margin will help to avoid collisions or injury.

 Always operate your model in an open area away from cars, traffic, or people.

- Avoid operating your model in the street where injury or damage can occur.
- Never operate the model out into the street or populated areas for any reason.
- Never operate your model with low transmitter batteries.
- Carefully follow the directions and warnings for this and any optional support equipment (chargers, rechargeable battery packs, etc.) that you use.
- Keep all chemicals, small parts and anything electrical out of the reach of children.
- Moisture causes damage to electronics. Avoid water exposure to all equipment not specifically designed and protected for this purpose.

## Airframe Assembly

#### **Required Parts**

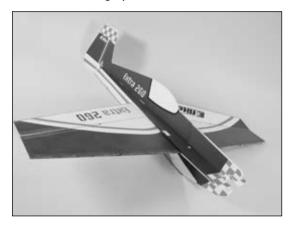
Vertical fuselage Horizontal fuselage Wing w/ailerons Stabilizer w/elevators Motor mount

### Required Tools and Adhesives

Foam-safe CA, Medium Foam-safe accelerator (can be used to speed up cure time) Square 1. Locate the vertical and horizontal fuselage pieces. Slide the horizontal fuselage into the vertical fuselage starting at the opening for the wing/radio equipment. Use care not to damage any of the alignment tabs on the vertical fuselage.

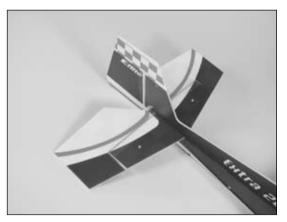


2. Locate the wing and slide it into the vertical fuselage underneath the horizontal fuselage. Use care not to damage either the vertical or horizontal fuselage pieces.

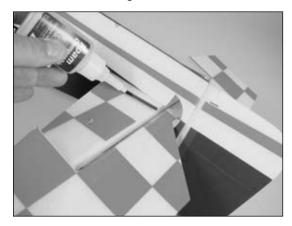


*Hint*: Fold one of the ailerons up and onto the wing to make it a little narrower to install into the fuselage. Push the wing past center to move the aileron back into position, then center the wing.

3. Slide the horizontal stabilizer into the fuselage, being careful not to damage any of the alignment tabs. You may need to move the horizontal fuselage out of the vertical fuselage slightly to get the stabilizer into position.



Q 4. Align the stabilizer with the horizontal fuselage. Use foam-safe CA to glue the stabilizer to ONLY the horizontal fuselage.



O 5. Align the wing with the horizontal fuselage. Use foam-safe CA to glue the wing to ONLY the horizontal fuselage.

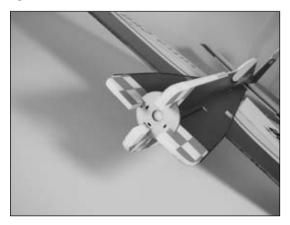


*Hint*: Use the holes for the aileron servos to aid in the alignment between the horizontal fuselage and wing.

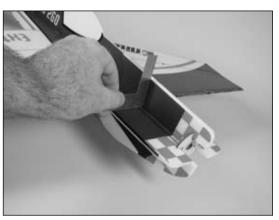
**Note**: There are slots at the front and rear of the wing. Lightly lift the area and apply CA underneath for a greater gluing area.

*Important*: If you plan on using CA accelerator, make sure it is foam compatible. Many accelerators will destroy the foam used on this model.

O 6. Place the motor mount in position to aid in the alignment of the vertical and horizontal fuselage pieces. DO NOT glue the mount until instructed to do so. Position the horizontal and vertical fuselage pieces until the mount rests flush against both.



7. Apply foam-safe CA to the joint between the vertical and horizontal fuselage pieces from the leading edge of the wing to the front of the fuselage. Use a square to make sure the two pieces are aligned. Apply CA to both the top and bottom of the vertical fuselage.



O 8. Complete gluing the vertical and horizontal fuselage pieces together. Continue to use a square to keep both pieces in alignment.



## Installing the Bracing

#### **Required Parts**

Assembled airframe

Carbon rod,  $9^{7}/_{8}$ " (250mm) (2)

Carbon rod,  $9^{1}/_{2}$ " (240mm) (2)

Carbon rod,  $4^{3}/_{4}$ " (120mm) (2)

Carbon rod,  $4^{1}/_{2}$ " (113mm) (4)

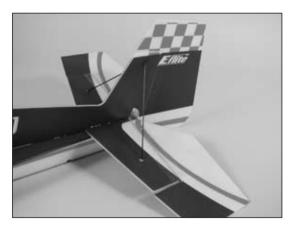
Carbon rod, 4<sup>1</sup>/<sub>8</sub>" (105mm) (4)

### Required Tools and Adhesives

Foam-safe CA, Medium Sandpaper Hobby knife

**Note**: It is important that each carbon rod attaches to the next, and to the carbon blade spars on the edges of the foam. This is necessary to provide the stiffest airframe possible.

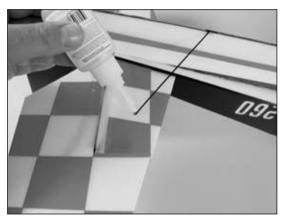
Locate the two 4<sup>3</sup>/<sub>4</sub>" (120mm) carbon rods.
 Pass the rods through the fin and stabilizer.
 Use foam-safe CA to glue the rods to the fin ONLY at this time.



2. Place the 4 <sup>1</sup>/<sub>2</sub>" (113mm) carbon rods on the bottom of the stabilizer to the bottom of the vertical fuselage. There is a notch in the fuselage for the rods to rest in. Make sure the rods are touching each other as well as the carbon blade spar. Use foam-safe CA to glue the rods at the fuselage ONLY.



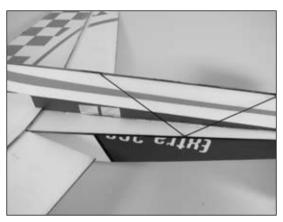
3. Check the alignment of the fin to the stabilizer. They should be perpendicular to each other. Check that the rods in the stabilizer are touching. Use foam-safe CA to glue the rods into position after checking alignment and that the rods are touching.



4. Locate two of the 4 1/8" (105mm) carbon rods. Install these rods, like the rods installed in Step 3, to the horizontal fuselage. Again, there are notches for the carbon rods. Make sure the rods are touching the previously installed rods and the pre-installed carbon blade spars on the edges of the foam.



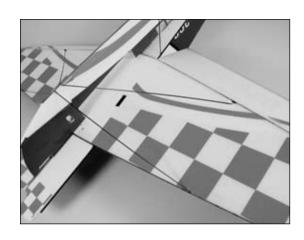
O 5. The next rod to install is the 4<sup>1</sup>/<sub>2</sub>" (113mm) rod from the rod in Step 4 to the bottom of the vertical fuselage.



O 6. To complete the fuselage bracing, install a 4 <sup>1</sup>/<sub>8</sub>" (105mm) rod from the previous rod back down to the horizontal fuselage. You will need to trim the fuselage to expose the carbon support so the rod can be glued securely to the brace.



O 7. Check the joints in Steps 1 through 6 to ensure you have a nice fillet of CA at every junction where you have glued the carbon rods to each other and the fuselage. Apply additional CA if necessary to create this fillet. O 8. Installing the wing bracing is similar to installing the fuselage bracing, as you want the rods to be glued to the carbon bracing that has been preinstalled on the wing and fuselage. The longer  $9^{7}/_{8}$ " (250mm) rod is positioned toward the aileron, while the shorter  $9^{1}/_{2}$ " (240mm) rod is toward the leading edge. The rods are staggered and fit into notches in the fuselage. Make sure the rods are straight and are not flexing the wing. Use foam-safe CA to glue the rods in position. The wing should be flat and parallel to the horizontal stabilizer, while also being perpendicular to the vertical fuselage.



#### **Radio Installation**

#### **Required Parts**

Airframe

Servos (4)

Micro control connector (4)

Control connector backplate (4)

Micro control horn (4)

Control horn backplate (4)

2mm x 4mm screw (4)

Aileron pushrods,  $4^{1}/_{2}$ " (115mm) (2)

Rudder pushrod, 12" (305mm)

Elevator pushrod, 12<sup>1</sup>/<sub>2</sub>" (320mm)

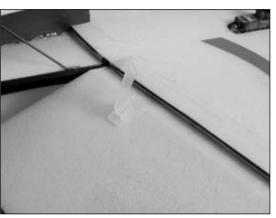
Hook and loop material

### Required Tools and Adhesives

Foam-safe CA, Medium Low-temperature hot glue Drill bit: 1/16" (1.5mm)

Screwdriver, #0 Phillips

1. Install the micro control horn on the aileron using the control horn backplate. Use a couple drops of foam-safe CA to keep the backplate in position.

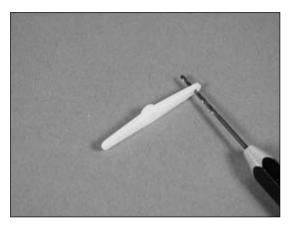


2. Install the rudder and elevator micro control horns at this time as well. Make sure the rudder horn extends opposite of the elevator horn.



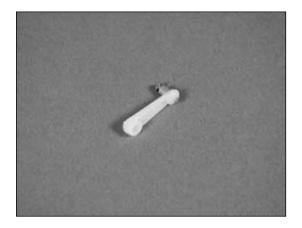
O 3. Remove the servo arms from the four servos.

Drill a 1/16" (1.5mm) hole in the end of all four of the servo arms.



**Note**: We then suggest using the longest servo arms available for your servo to help achieve maximum control throws for 3D flying.

• 4. Slide a micro control connector into the hole drilled in the previous step. Secure the connector using a control connector backplate from the opposite side of the connector. Repeat for all four servo arms.



**Note**: The connectors will face out away from the servo when installed. Remove any unused sides or portions of the servo arms.

O 5. Plug the servos into the receiver. Turn on the transmitter and receiver and check the operation of the servos. After centering the trims and subtrims, attach the servo arms as shown. Note the direction of the arms on the servos creates two pairs of servos: one for ailerons, and one for rudder/elevator.

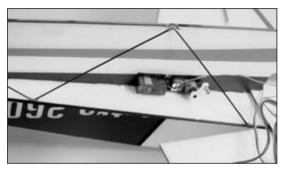


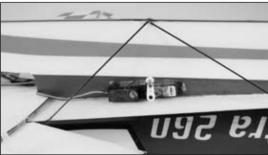
O 6. Use hot glue to install the aileron servos.

**Note**: The servo arms face toward the tips of the wing and the output shaft of the servo is toward the leading edge of the wing.



7. Install the rudder and elevator servos using hot glue. The output shafts of both servos face the front of the aircraft.



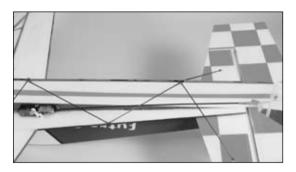


○ 8. Locate the 4 ¹/₂" (115mm) pushrod. Install the "Z" bend into the hole of the control horn that is one away from the aileron. This will provide for 3D throws of the aileron. Pass the pushrod through the connector. Check that the aileron servo is centered using the radio. Hold the aileron parallel to the wing and use the 2mm x 4mm screw in the connector to secure the pushrod wire. Repeat this for the other aileron pushrod.



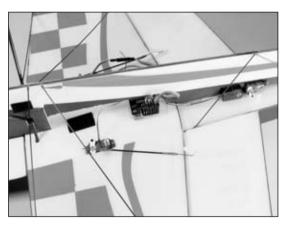
**Note**: Use the hole in the control horn closest to the aileron for the greatest amount of throw. Moving the pushrod outward, away from the aileron, will result in gradually decreasing the control throws.

9. Install the 12" (305mm) pushrod for the rudder, and the 12<sup>1</sup>/<sub>2</sub>" (320mm) pushrod for the elevator. Don't forget to check to make sure the servos and control surfaces are centered before tightening the 2mm x 4mm screws.





10. Install the receiver using hook and loop material. The exact position of the receiver may change, depending on how your aircraft balances.



## **Motor and Battery Installation**

#### **Required Parts**

Airframe

Plywood motor mount

Motor w/hardware

Electronic speed control

Propeller

#2 x 8mm or #3 x 8mm wood screw (included with motor) Hook and loop material

#### Required Tools and Adhesives

Foam-safe CA, Medium

Drill bit: 1/16" (1.5mm)

Cardstock

Felt-tip pen

Hobby Knife

Screwdriver, #0 Phillips

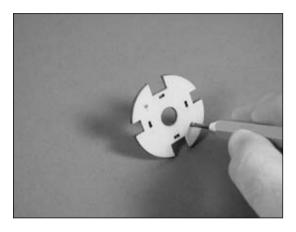
#### Optional

Variable pitch prop Sub-micro servo (1) 1. Locate the plywood motor mount and aluminum X-mount for your particular motor. Center the motor mount on the plywood and mark the holes for the mounting screws using a felt-tipped pen making sure the holes you mark do not interfere with the carbon spars the mount will glue into.



**Hint:** If the hole in your mount matches the diameter of the hole in the plywood mount, use a rolled-up piece of cardstock placed through the two holes to center the motor mount on the plywood mount.

2. Drill pilot holes for the mounting holes marked on the plywood mount using a 1/16" (1.5mm) drill bit.



**Note**: If you are using a variable pitch propeller for your Extra, you should prepare the motor as instructed in the instructions included with your propeller system.

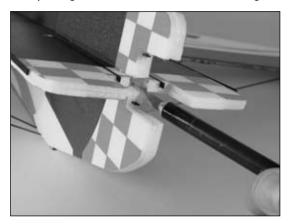
**Q** 3. Attach the mount to your particular motor.



• 4. Attach the motor to the plywood mount using two #2 x 8mm wood screws or two #3 x 8mm wood screws.



O 5. Use a hobby knife to remove the fuselage material from the variable pitch servo pushrod slot opening mount to the front of the fuselage.



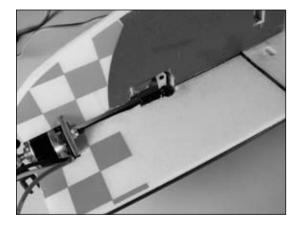
O 6. Use foam-safe CA to glue the plywood mount to the fuselage. Make sure the mount is pressed fully against the fuselage, with each carbon support in each slot, to make sure it is aligned properly.

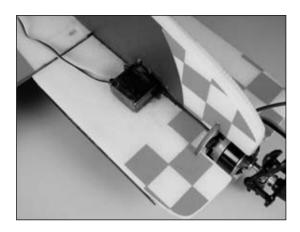


**Note**: Steps 7 and 8 cover the installation of the servo and linkage for a variable pitch propeller. Skip to Step 9 if you are not using a variable pitch propeller.

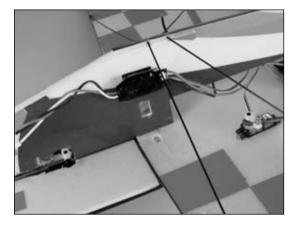
**Note**: Be sure to consult the manual for your chosen variable pitch prop unit before proceeding with installation of the pitch servo and linkage. Due to the variety of VPP systems available, there may be some variation in how the servo and linkage can be installed.

7. Check that the linkage for your variable pitch prop unit can move freely without binding on the fuselage. Trim away any material necessary if any binding is noticed. O 8. Install the pitch servo as shown. Take your time to make sure the servo horn and linkage does not bind against the fuselage. Also check that the linkage is not being put under a load when connected. Use a hobby knife to remove any portions of the fuselage that cause binding. Use foam-safe CA or hot glue to secure the servo to the fuselage.



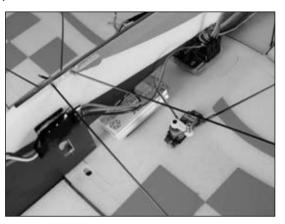


9. Solder any necessary connectors to your speed control. Plug the speed control into the throttle channel of the receiver and to the motor. Use hook and loop to secure the speed control to the fuselage.

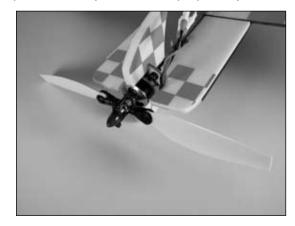


**Note**: It is suggested to secure the motor wires to the fuselage to prevent them from coming in contact with the propeller or servos when performing extreme maneuvers.

O 10. Attach the battery under the wing using hook and loop material. The location shown is an approximate location and can be repositioned as necessary to achieve the correct balance for your Extra.



- 11. Turn on the transmitter and bring the throttle trim and stick to the low throttle position. Plug the battery into the speed control and check the operation of the motor. It should rotate counterclockwise when viewed from the front of the aircraft. Use the instructions provided with your ESC to make corrections to the direction of rotation of the motor if necessary.
- 12. Install the propeller using the instructions provided with your motor or propeller system.



## **Landing Gear Installation**

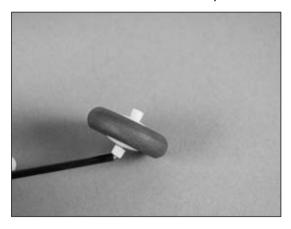
#### **Required Parts**

Airframe
Landing gear strut (2)
Wheel retainer (4)
Wheel pant (2)
1 1/2" (38mm) foam wheel (2)
Landing gear support disk (2)

#### Required Tools and Adhesives

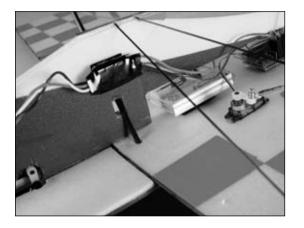
Foam-safe CA

The landing gear is optional. If you plan on saving weight, or flying from very rough surfaces, it is suggested to skip this section. O 1. Locate the landing gear strut, two wheel retainers and the wheel. Use foam-safe CA to install the wheel retainer onto the strut. The retainers will sandwich the wheel in position.



**Note**: Use care not to get CA on the wheel, preventing it from rotating on the strut.

• 2. Pass the landing gear through the opening in the fuselage and wing. DO NOT use glue until instructed to do so.



O 3. Repeat Steps 1 and 2 for the remaining strut.

4. The struts should extend roughly 3/32" (2.5mm) through the top of the wing. This will give the landing gear support disks plenty of strut to attach to.



**Hint**: You can just drop the disks into position and check to make sure the strut extends beyond the disk instead of measuring it.

- O 5. Check that the wheels are parallel or have slight toe-in. Use foam-safe CA to glue the struts to the fuselage and each other. Make sure the wing is sitting parallel to the ground so the wheels are located at the same height.
- O 6. Install the landing gear support disks using foam-safe CA. Make sure to glue the disks securely to both the horizontal fuselage and landing gear struts.



7. Use foam-safe CA to glue the wheel pants to the wheel retainers. Make sure the pants are positioned so they won't drag on the ground during takeoff and landing before applying the CA.



#### **Control Throws**

Turn on the transmitter and receiver of your Extra 260. Check the movement of the rudder, elevator and ailerons using the transmitter. Reverse the direction of the servos at the transmitter if necessary.

Use a ruler to adjust the throw of the elevator, ailerons and rudder. Adjust the position of the pushrod at the control horn to achieve the following measurements when moving the sticks to their endpoints.

Measurements are taken at the widest point on the surface.

| Ailerons:            | Low Rate                               | High Rate                              |
|----------------------|--|--|
| Up/Down<br>Elevator: | 1 <sup>1</sup> / <sub>2</sub> " (38mm) | 2 <sup>1</sup> / <sub>4</sub> " (57mm) |
| Up/Down<br>Rudder:   | 1 1/4" (32mm)                          | 2 <sup>1</sup> / <sub>2</sub> " (63mm) |
| Right/Left           | 2" (51mm)                              | 3" (76mm)                              |

These are general guidelines measured from our own flight tests. You can experiment with higher rates to match your preferred style of flying. The following are the control throws suggested by George Hicks:

Ailerons:

Up/Down 3" (76mm) (55 degrees)

Rudder:

Right/Left 3 1/8" (79mm) (55 degrees)

Elevator:

Up/Down 2 1/2" (63mm) (55 degrees)

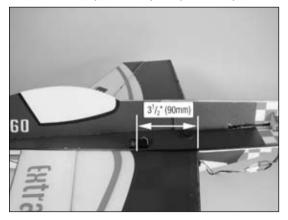
**Note**: George Hicks' recommended throws should be considered for advanced pilots only.

Visit our web site at www.horizonhobby.com or www.E-fliteRC.com for George Hicks' flying tips.

## **Center of Gravity**

#### Caution: Do not inadvertently skip this step!

The recommended Center of Gravity (CG) location for the Extra 260 is  $3^{1}/2^{11}$  (90mm) behind the leading edge of the wing against the fuselage. After the first flights, the CG position can be adjusted for your personal preference.



### Range Testing the Radio

- O 1. Be sure to range check your radio before each flying session. This is accomplished by turning on your transmitter with the antenna collapsed. Turn on the receiver in your airplane. With your airplane on the ground and the engine running, you should be able to walk 30 paces (approximately 100 feet) away from your airplane and still have complete control of all functions. If not, don't attempt to fly! Have your radio equipment checked out by the manufacturer.
- 2. Double-check that all controls (aileron, elevator, rudder and throttle) move in the correct direction.
- 3. Be sure that your transmitter batteries are fully charged, per the instructions included with your radio.

## **Preflight**

#### **Check Your Radio**

Before going to the field, be sure that your batteries are fully charged per the instructions included with your radio. Charge both the transmitter and receiver pack for your airplane. Use the recommended charger supplied with your particular radio system, following the instructions provided with the radio. In most cases, the radio should be charged the night before going out flying.

Before each flying session, be sure to range check your radio. See your radio manual for the recommended range and instructions for your radio system. Each radio manufacturer specifies different procedures for their radio systems. Next, start the motor. With the model securely anchored, check the range again. The range test should not be significantly affected. If it is, don't attempt to fly! Have your radio equipment checked out by the manufacturer.

**Note**: Keep loose items that can get entangled in the propeller away from the prop. These include loose clothing, or other objects such as pencils and screwdrivers. Especially keep your hands away from the propeller.

Double-check that all controls (aileron, elevator, rudder and throttle) move in the correct direction.

Check the radio installation and make sure all the control surfaces are moving correctly (i.e. the correct direction and with the recommended throws). Test run the motor and make sure it transitions smoothly from off to full throttle and back. Also ensure the engine is installed according to the manufacturer's instructions, and it will operate consistently.

Check all the control horns, servo horns, and clevises to make sure they are secure and in good condition. Replace any items that would be considered questionable. Failure of any of these components in flight would mean the loss of your aircraft.

| Notes |   |  |  |
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## 2006 Official AMA National Model Aircraft Safety Code

#### **GENERAL**

- 1) I will not fly my model aircraft in sanctioned events, air shows or model flying demonstrations until it has been proven to be airworthy by having been previously, successfully flight tested.
- 2) I will not fly my model higher than approximately 400 feet within 3 miles of an airport without notifying the airport operator. I will give right-of-way and avoid flying in the proximity of full-scale aircraft. Where necessary, an observer shall be utilized to supervise flying to avoid having models fly in the proximity of full-scale aircraft.
- 3) Where established, I will abide by the safety rules for the flying site I use, and I will not willfully or deliberately fly my models in a careless, reckless and/or dangerous manner.
- 4) The maximum takeoff weight of a model is 55 pounds, except models flown under Experimental Aircraft rules.
- 5) I will not fly my model unless it is identified with my name and address or AMA number on or in the model. (This does not apply to models while being flown indoors.)

6) I will not operate models with metal-bladed propellers or with gaseous boosts, in which gases other than air enter their internal combustion engine(s); nor will I operate models with extremely hazardous fuels such as those containing tetranitromethane or hydrazine.

#### RADIO CONTROL

- 1) I will have completed a successful radio equipment ground range check before the first flight of a new or repaired model.
- 2) I will not fly my model aircraft in the presence of spectators until I become a qualified flier, unless assisted by an experienced helper.
- 3) At all flying sites a straight or curved line(s) must be established in front of which all flying takes place with the other side for spectators. Only personnel involved with flying the aircraft are allowed at or in front of the flight line. Intentional flying behind the flight line is prohibited.

# 2006 Official AMA National Model Aircraft Safety Code

- 4) I will operate my model using only radio control frequencies currently allowed by the Federal Communications Commission. (Only properly licensed Amateurs are authorized to operate equipment on Amateur Band frequencies.)
- 5) Flying sites separated by three miles or more are considered safe from site-to-site interference, even when both sites use the same frequencies. Any circumstances under three miles separation require a frequency management arrangement, which may be either an allocation of specific frequencies for each site or testing to determine that freedom from interference exists. Allocation plans or interference test reports shall be signed by the parties involved and provided to AMA Headquarters.

Documents of agreement and reports may exist between (1) two or more AMA Chartered Clubs, (2) AMA clubs and individual AMA members not associated with AMA Clubs, or (3) two or more individual AMA members.

- 6) For Combat, distance between combat engagement line and spectator line will be 500 feet per cubic inch of engine displacement. (Example: .40 engine = 200 feet.); electric motors will be based on equivalent combustion engine size. Additional safety requirements will be per the RC Combat section of the current Competition Regulations.
- 7) At air shows or model flying demonstrations, a single straight line must be established, one side of which is for flying, with the other side for spectators.
- 8) With the exception of events flown under AMA Competition rules, after launch, except for pilots or helpers being used, no powered model may be flown closer than 25 feet to any person.
- 9) Under no circumstances may a pilot or other person touch a powered model in flight.





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