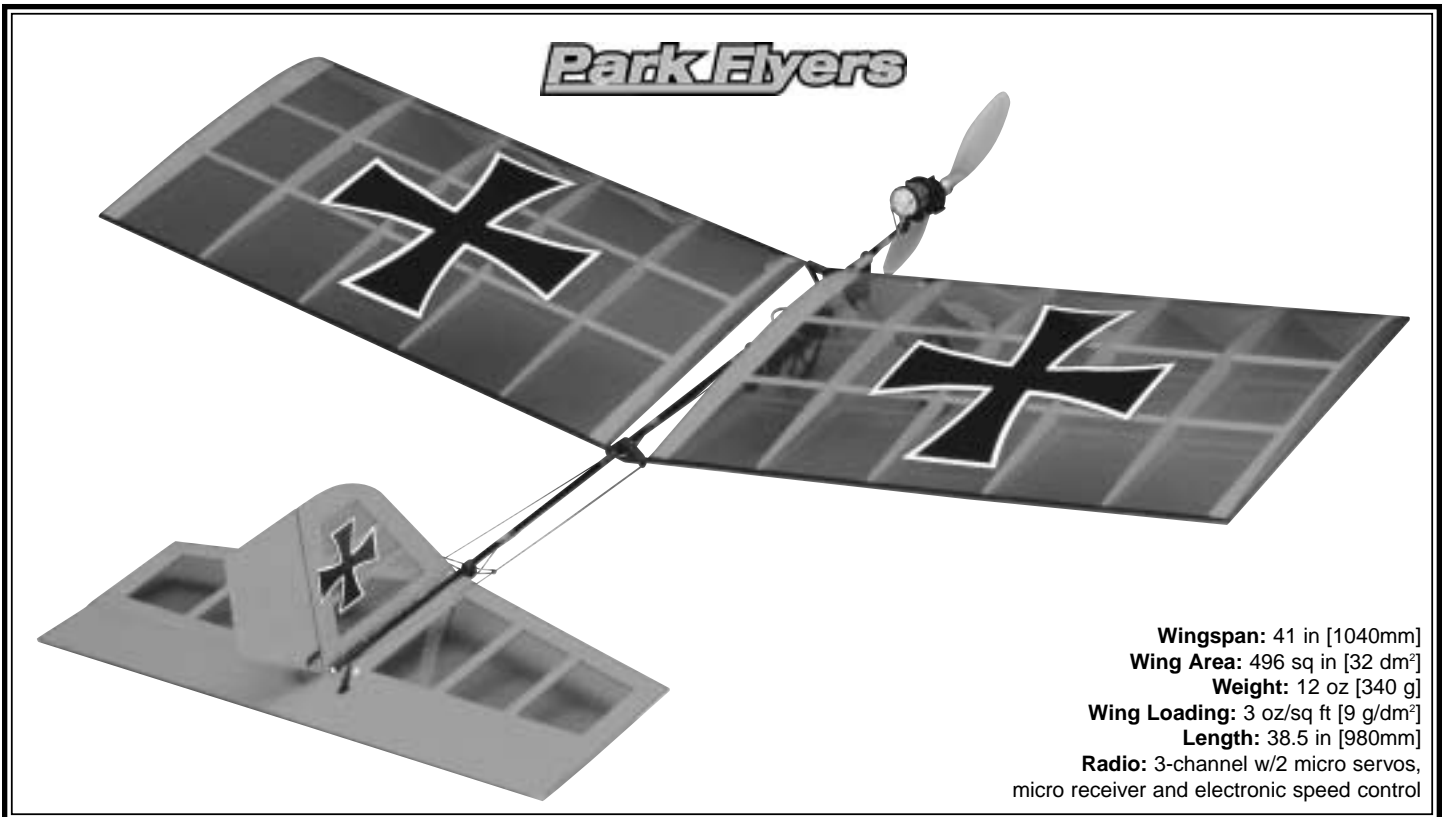


YARD STIK™

ARF

INSTRUCTION MANUAL



WARRANTY

Great Planes® Model Manufacturing Co. guarantees this kit to be free from defects in both material and workmanship at the date of purchase. This warranty does not cover any component parts damaged by use or modification. **In no case shall Great Planes' liability exceed the original cost of the purchased kit.** Further, Great Planes reserves the right to change or modify this warranty without notice.

In that Great Planes has no control over the final assembly or material used for final assembly, no liability shall be assumed nor accepted for any damage resulting from the use by the user of the final user-assembled product. By the act of using the user-assembled product, the user accepts all resulting liability.

If the buyer is not prepared to accept the liability associated with the use of this product, the buyer is advised to return this kit immediately in new and unused condition to the place of purchase.

READ THROUGH THIS MANUAL BEFORE STARTING CONSTRUCTION. IT CONTAINS IMPORTANT WARNINGS AND INSTRUCTIONS CONCERNING THE ASSEMBLY AND USE OF THIS MODEL.



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TABLE OF CONTENTS

INTRODUCTION	2
SAFETY PRECAUTIONS.....	2
DECISIONS YOU MUST MAKE	3
Radio Equipment	3
Speed Controller.....	3
Battery	4
Charger	4
ADDITIONAL ITEMS REQUIRED.....	4
Building Supplies	4
Optional Items.....	4
ORDERING REPLACEMENT PARTS	4
KIT CONTENTS	5
ASSEMBLY	6
Assemble the Tail.....	6
Mount the Fuselage Parts	7
Mount the Motor.....	9
FINAL SET UP	10
Set Up the Radio	10
Set the Control Throws	11
Apply the Decals.....	12
Mount the Wings and Check the C.G.	12
CHECKLIST	13
PREFLIGHT.....	13
Identify the Model	13
Charge the Batteries.....	14
Range Check	14
PERFORMANCE TIPS	14
Balance the Propeller	14
Cycle the Batteries.....	14
MOTOR SAFETY PRECAUTIONS	14
AMA SAFETY CODE.....	15
FIND A SAFE PLACE TO FLY	15
FLYING	15

INTRODUCTION

Congratulations and thank you for purchasing the **Great Planes Yard Stik**. Since park flyers are small and fly slowly, little space is required. In fact, the Yard Stik can be flown both indoors and outdoors. Park flyers are also perfect for those evenings at the field when everybody else is packing up their gear, the wind has died and there is still enough light to fly a small, slow model that can be kept close-in.

The Yard Stik is a slow flying model that is about as simple-to-build as they get. However, if you have never flown an R/C model before, learning to fly the Yard Stik all by yourself is not recommended. As with any trainer airplane, you should find an experienced modeler to help you with your first flights. Information about R/C clubs and instructors is provided later in this manual.

CAUTION: Be aware that the Yard Stik is operated on the same frequency band as larger, "regular" R/C models. If flying your Yard Stik within five miles of an R/C site, there is a **real** possibility that you could be operating your model on the same frequency (channel) as another R/C pilot. If this happens, a crash will result—with the person flying the more expensive model suffering the greater loss (and having greater potential for property damage or injury). The best way to avoid this is to **join an R/C club** and fly at the site where frequency control measures will be in effect. If you do insist on flying elsewhere, **always be aware of your proximity to R/C flying sites.**

PROTECT YOUR MODEL, YOURSELF & OTHERS...FOLLOW THESE IMPORTANT SAFETY PRECAUTIONS



Attention: The product you have purchased is powered by a rechargeable battery. At the end of its useful life, under various state and local laws, it may be illegal to dispose of this battery into the municipal waste system. Check with your local solid waste officials for details in your area for recycling options or proper disposal.

This product contains a chemical known to the state of California to cause cancer and birth defects or other reproductive harm.

1. Even though the **Yard Stik** is small, lightweight and flies slowly, if it is not assembled and operated correctly it could possibly cause injury to yourself or spectators and damage property.
2. Build the plane according to the instructions. Do not alter or modify the model, as doing so may result in an unsafe or unflyable model.
3. Use an R/C radio system that is in first-class condition. This Park Flyer requires micro servos, a micro receiver and a micro speed control able to handle 5 amps.
4. You must properly install all R/C and other components so that the model operates properly on the ground and in the air.
5. You must test the operation of the model before **every** flight to insure that all equipment is operating and that the model has remained structurally sound. Be sure to check connectors often and replace them if they show signs of wear or fatigue.

Note: We, as the kit manufacturer, provide you with a top quality kit and great instructions, but ultimately the quality and flyability of your finished model depends on how you build it; therefore, we cannot in any way guarantee the performance of your completed model and no representations are expressed or implied as to the performance or safety of your completed model.

Remember: Take your time and follow directions to end up with a well-built model that is straight and true.

If you're an inexperienced modeler, we recommend that you get assistance from an experienced, knowledgeable modeler to help you with assembly and your first flights. You'll learn faster and avoid risking your model before you're truly ready to solo. Your local hobby shop has information about flying clubs in your area whose membership includes qualified instructors.

You can also contact the national Academy of Model Aeronautics (AMA), which has more than 2,500 chartered clubs across the country. Through any one of them, instructor training programs and insured newcomer training are available. Contact the AMA at the address or toll-free phone number below:



Academy of Model Aeronautics
5151 East Memorial Drive
Muncie, IN 47302-9252
Tele. (800) 435-9262
Fax (765) 741-0057

Or via the Internet at: <http://www.modelaircraft.org>

Please inspect all parts carefully before starting to build. If any parts are missing, broken or defective, or if you have any questions about building or flying this airplane, please give us a call at (217) 398-8970 or e-mail us at productsupport@greatplanes.com and we'll be glad to help. If you are calling for replacement parts, please reference the part numbers and have them ready when calling.

DECISIONS YOU MUST MAKE

Following is a list of items required to finish the Yard Stik that must be purchased separately. For some of these items there is more than one option which will require a bit of decision making ahead of time. Order numbers (in parentheses) are provided for your convenience.

Radio Equipment

The Yard Stik requires a micro receiver and two micro servos. If you already have a transmitter you are going to use to fly the Yard Stik, you can get the receiver and servos

separately. Or, you can purchase a complete system (including transmitter) specially packaged for park flyers. If purchasing a complete system, the Futaba® 3FR *Skysport* single-stick radio is suitable. It comes with a micro receiver and two Futaba S-3106 micro servos. The transmitter also has NiCd's. Following are descriptions and part numbers for suitable radio equipment.

- Futaba 3FR Skysport single-stick radio system including transmitter, receiver and servos (FUTJ52**)

– OR –

- Futaba R114F 4-channel **low band** FM micro receiver w/o crystal (FUTL0442)
- Futaba **low band** receiver crystal for R114F receiver (FUTL62**)

– OR –

- Futaba R114F 4-channel **high band** FM micro receiver w/o crystal (FUTL0443)
- Futaba **high band** receiver crystal R114F receiver (FUTL63**)

– OR –

- Great Planes ElectriFly™ 4-channel FM **low band** mini receiver w/o crystal (shown in this manual) (GPML0044)
- Great Planes ElectriFly 4-channel FM **high band** mini receiver w/o crystal (shown in this manual) (GPML0045)

– AND –

- Futaba S3103 Micro-Mini servo (FUTM0037)
- Futaba S3106 Micro-Mini servo (FUTM0041)
- Hobbico® CS-5 Nano™ servo (HCAM0090)

Note: When purchasing radio sets or receiver crystals, replace the “**” at the end of the part number (FUTL62**) with the desired channel number. Low band receivers must use low band crystals and high band receivers must use high band receivers. Channels 11 through 35 are in the low band and channels 36 through 60 are in the high band. The Great Planes ElectriFly 4-channel receivers use the same crystals listed for the Futaba receivers. Be certain to select a high band or low band crystal to match the receiver.

Speed Control

An electronic speed control with BEC (Battery Eliminator Circuitry) is required. The BEC allows both the motor and the radio system to be powered by the same battery (thus eliminating the on-board receiver battery). The Great Planes ElectriFly C-5 *Nano* High Frequency Electronic Speed Control (GPMM2000) is recommended.

Battery

The Great Planes 7.2v 650 mAh NiMH (nickel-metal hydride) battery (GPMP0068) is recommended. It is the correct size and shape to fit in the battery holder on the Yard Stik.

Charger

The best type of charger to use is a peak charger, because it charges the batteries until they are fully charged, then automatically switches to a trickle charge mode. The Great Planes ElectriFly Peak Charger (GPMM3000) is suitable for charging the nickel-metal hydride battery recommended for the Yard Stik.

To figure out how long it will take to charge the battery, divide its capacity (in mAh) by the charge rate being used. If fully discharged, the 650 mAh battery recommended for the Yard Stik, charged at a rate of 600 mAh (by the ElectriFly Peak Charger), will take about 65 minutes to charge (650 divided by 600 times 60 minutes = 65). **Note:** It is not recommended to charge the battery at a rate any higher than two times its rated capacity.

IMPORTANT: Monitor the temperature of the battery frequently. If the battery becomes warm, disconnect it from the charger.

ADDITIONAL ITEMS REQUIRED

Building Supplies

In addition to the items previously discussed and common building supplies and hobby tools, following is a list of the items required to assemble the Yard Stik. **Great Planes Pro™ CA is recommended.**

- 1/2" [13mm] double-sided foam tape (GPMQ4440)
- 1/2 oz. [15g] Thin Pro CA (GPMR6001)
- 1/2 oz. [15g] Medium Pro CA+ (GPMR6007)
- #1 Hobby knife (HCAR0105)
- #11 blades (5-pack, HCAR0211)
- medium-grit sandpaper
- Propeller balancer (TOPQ5700) (Balancing propellers on Park Flyers is important as it will increase efficiency and improve performance and extend run time.)

Optional Items

- CA applicator tips (HCAR3780)
- Single-edge razor blade
- 2 oz. [57g] spray CA activator (GPMR6035)
- APC 11 x 4.7 Slo-Flyer propeller for more performance outdoors (APCQ5020)
- APC 9 x 4.7 Slo-Flyer propeller for better indoor flying (APCQ5010)

ORDERING REPLACEMENT PARTS

To order replacement parts for the Yard Stik, use the order numbers in the **Replacement Parts List** that follows. Replacement parts are available only as listed. Not all parts are available separately. Replacement parts are not available from Product Support, but can be purchased from hobby shops or mail order/Internet order firms. If you need assistance locating a dealer to purchase parts, visit www.greatplanes.com and click on "Where to Buy." If this kit is missing parts, contact **Great Planes Product Support**.

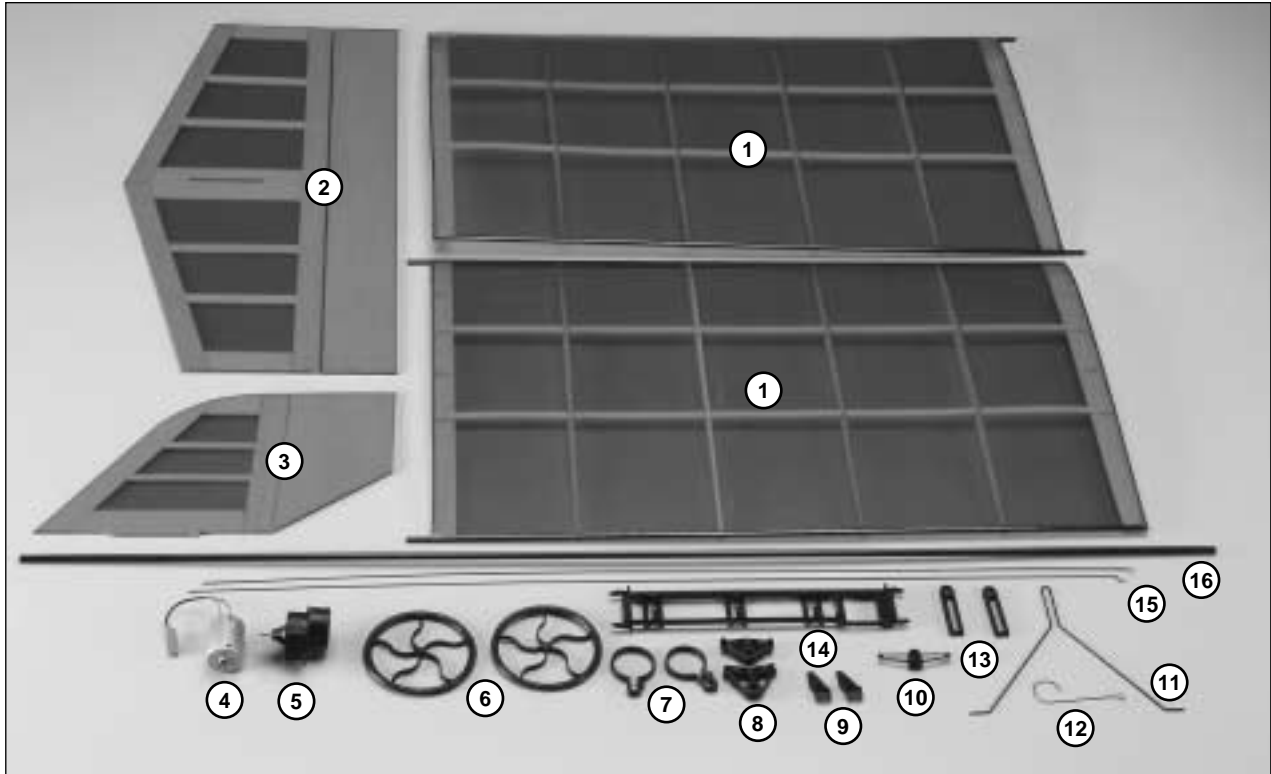
Replacement Parts List

<u>Order Number</u>	<u>Description</u>	<u>How to Purchase</u>
	Missing pieces	Contact Product Support
	Instruction manual.....	Contact Product Support
	Full-size plans	Not available
	Kit parts listed below.....	Hobby Supplier
GPMA2434	Wing Set	
GPMA2435	Fuselage Boom	
GPMA2436	Tail Set	
GPMA2437	Plastic Set	
GPMA2438	Landing Gear	
GPMA2439	Decal	
GPMQ1650	10 x 4.7 Propeller	

KIT INSPECTION

Before starting to build, use the **Kit Contents** list to take an inventory of this kit to make sure it is complete and inspect the parts to make sure they are of acceptable quality. If any parts are missing or are not of acceptable quality, or if you need assistance with assembly, contact **Great Planes Product Support**. When reporting defective or missing parts, use the part names exactly as they are written in the Kit Contents list on this page.

**3002 N. Apollo Drive, Suite 1
Champaign, IL 61822
Telephone: (217) 398-8970
Fax: (217) 398-7721
E-mail: airsupport@greatplanes.com**



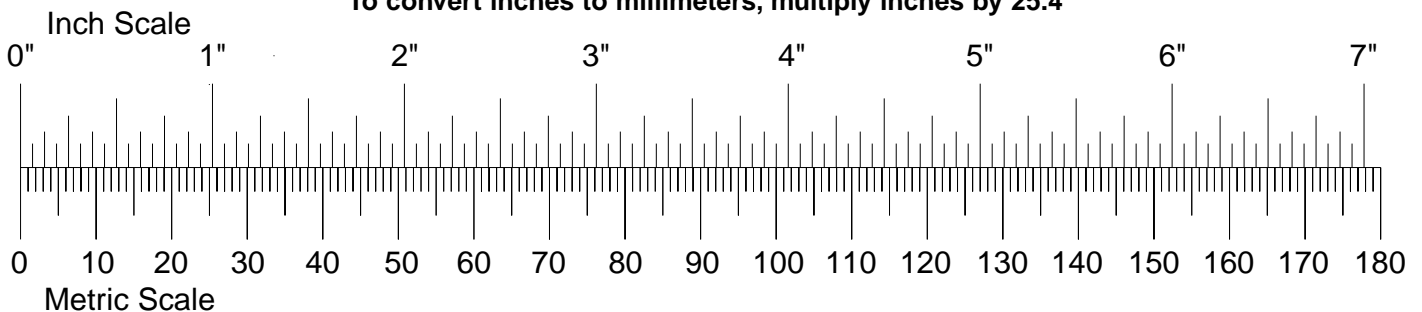
Kit Contents (Photographed)

- | | | | |
|---|---|--|---|
| <ul style="list-style-type: none"> 1 Wings 2 Stabilizer w/Elevator 3 Fin w/Rudder 4 Motor | <ul style="list-style-type: none"> 5 Gearbox 6 Wheels 7 Motor Mounting Straps (F & R) 8 Wing Mounts | <ul style="list-style-type: none"> 9 Control Horns 10 Tail Wire Mount 11 Main Landing Gear Wire 12 Tail Wire | <ul style="list-style-type: none"> 13 Battery Holder Mounts 14 Battery Holder 15 Pushrod Wires 16 Fuselage Boom |
|---|---|--|---|

Kit Contents (Not Photographed)

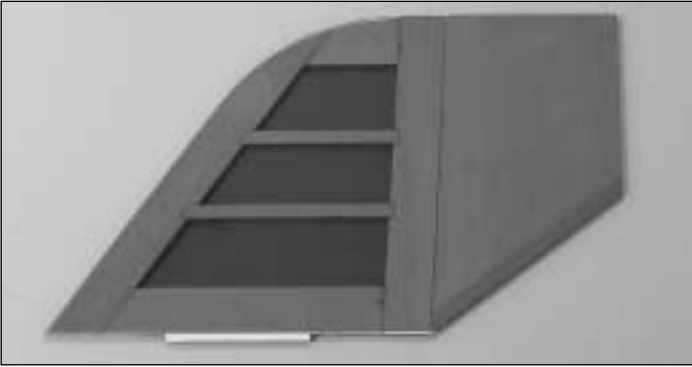
- | | | |
|--|--|--|
| <ul style="list-style-type: none"> Pinion Gear Gear Cement Prop Adapter | <ul style="list-style-type: none"> Propeller (2) Control Horn Retainers (2) Pushrod Retainers | <ul style="list-style-type: none"> (2) #2 x 1/2" Screws (2) Wheel Retainers Decal Sheet |
|--|--|--|

To convert inches to millimeters, multiply inches by 25.4

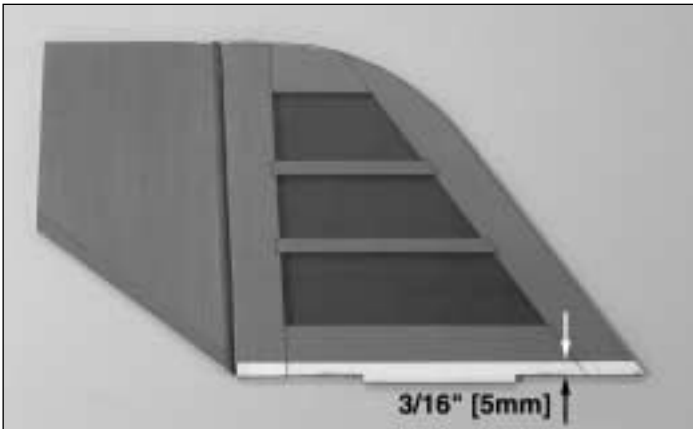


ASSEMBLY

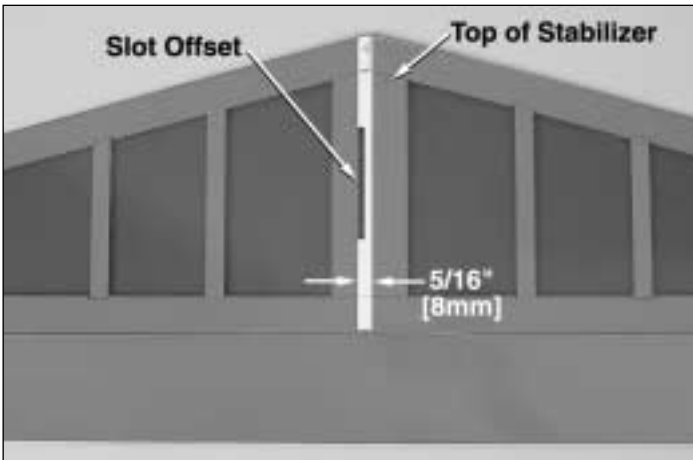
Assemble the Tail



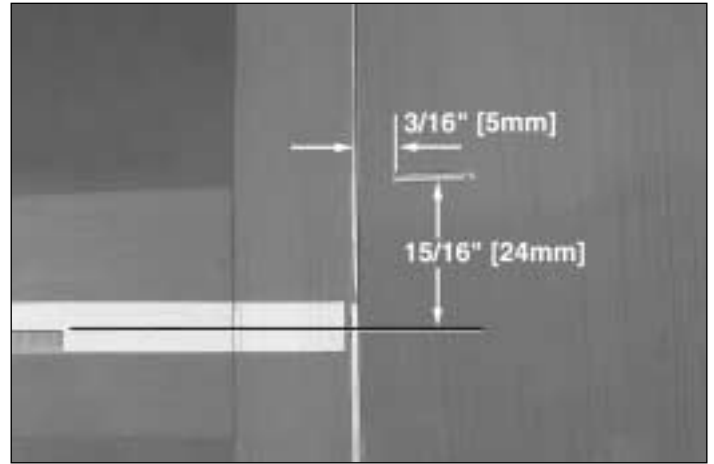
❑ 1. Use a straightedge and a single-edge razor blade or a #11 hobby blade to cut the covering from the **left** side of the **fin** across the top of the tab as shown in the photo. Use a light touch to cut **only into the covering** and not into the wood. Also be sure to use a new blade—if the blade is dull it will cause you to apply more pressure, thus cutting into the wood.



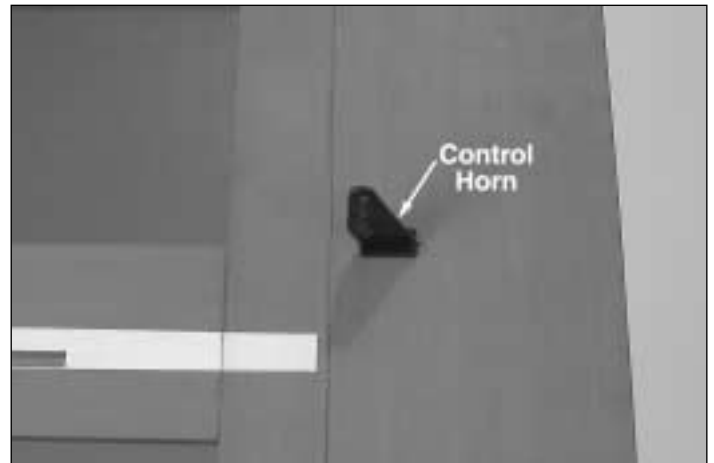
❑ 2. Use the same technique to cut the covering from the right side of the fin as shown.



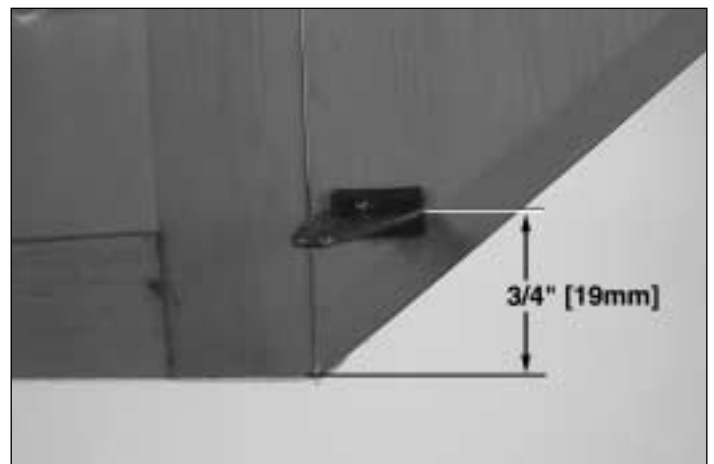
❑ 3. Cut the covering from the top of the **stabilizer** the same way. **Note:** The **top** of the stabilizer has the slot for the fin offset to the left.



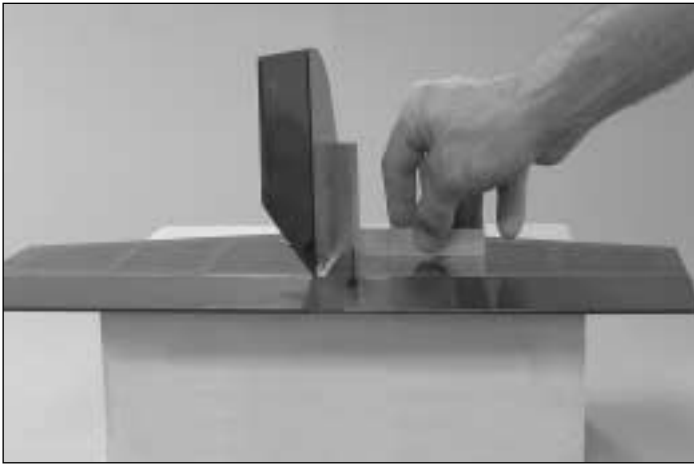
❑ 4. Cut a narrow slot in the elevator to accommodate one of the **control horns** 15/16" [24mm] from the edge of the slot in the stab and 3/16" [5mm] from the leading edge of the elevator.



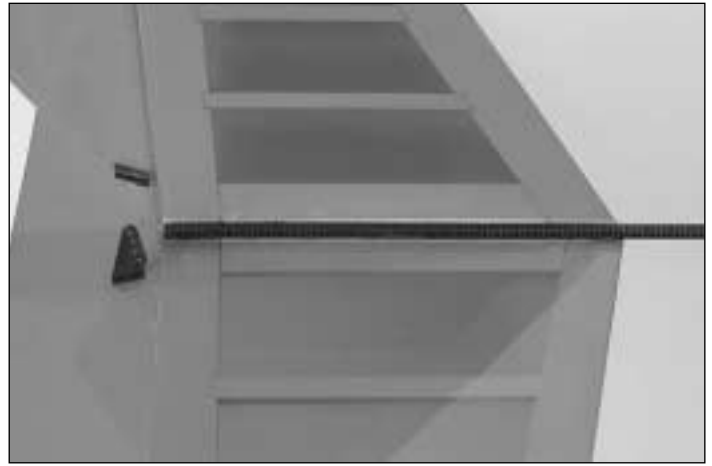
❑ 5. Fit the control horn into the slot in the **top** of the elevator. Add a few drops of thin CA to the bottom of the elevator where the tab comes out of the slot. Install the retainer, followed by another drop or two of thin CA.



❑ 6. Cut a slot and mount the control horn to the left side of the rudder the same way. The slot should be 3/4" [19mm] from the bottom of the rudder and 3/16" [5mm] from the leading edge of the rudder.

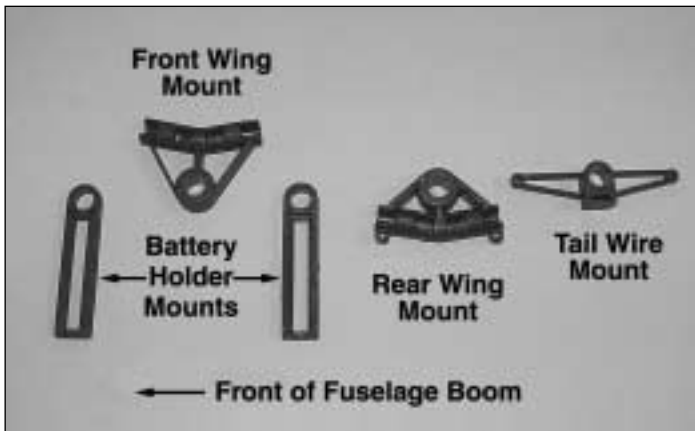


7. Use medium CA to glue the rudder to the stab. Use a small builder's square to make certain the fin is perpendicular to the stabilizer.



3. Use medium CA to glue the fuselage boom to the stabilizer and fin.

Mount the Fuselage Parts

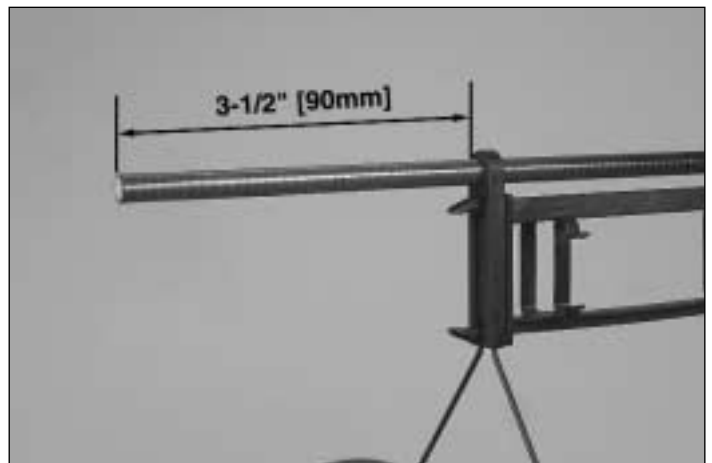


1. Identify the molded plastic mounting parts and lay them out on your workbench as shown in the photo. The **front** of all the parts is facing **upward**.

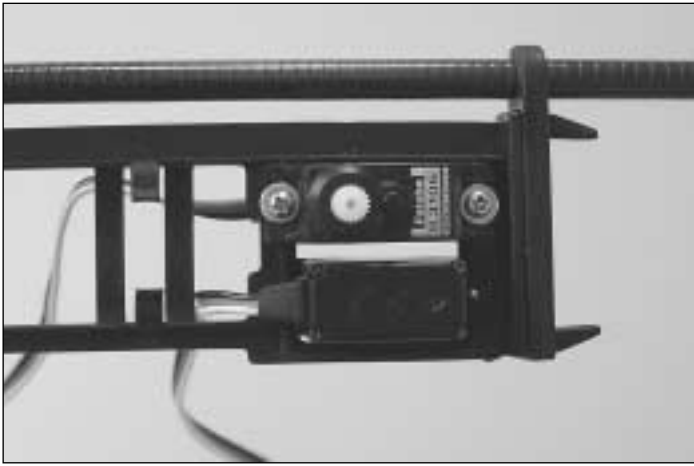
2. Note that the front of the boom is the end with the wood plug. Slip the fuselage parts onto the boom in the order that they are laid out in the photo. Arrange the parts so the front battery holder mount is 3-1/2" [90mm] from the front of the boom (as shown in the photo at step 5) and the front wing mount is approximately 7" [180mm] from the front of the boom. The rear wing mount should be approximately 19" [480mm] from the front of the boom. The exact location of the wing mounts will be determined later when balancing the model and the tail wire mount will be positioned when the pushrod wires are installed.



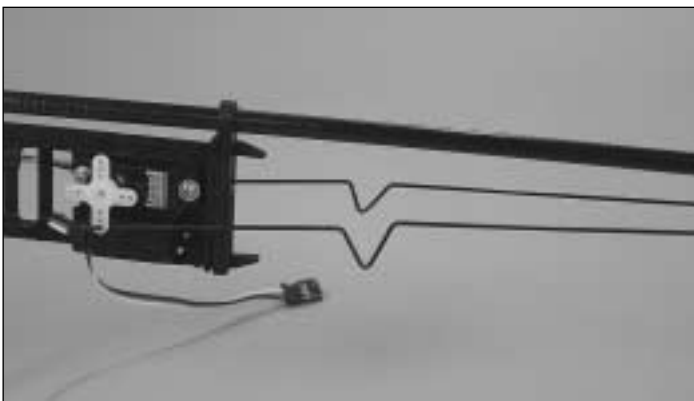
4. Fit the main landing gear wire onto the **front** of the **battery holder**. Then, mount the battery holder to the battery holder mounts previously installed on the fuselage.



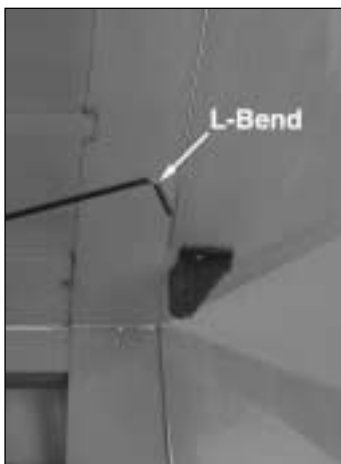
5. Position the battery holder and battery holder mounts so the front battery holder is 3-1/2" [90mm] from the front of the fuselage boom. Make sure the battery holder and battery holder mounts are vertical. Then, use a few drops of thin CA to permanently glue the mounts to the fuselage boom.



6. Mount the servos to the **battery holder** as shown using the screws and rubber grommets that came with the servos.

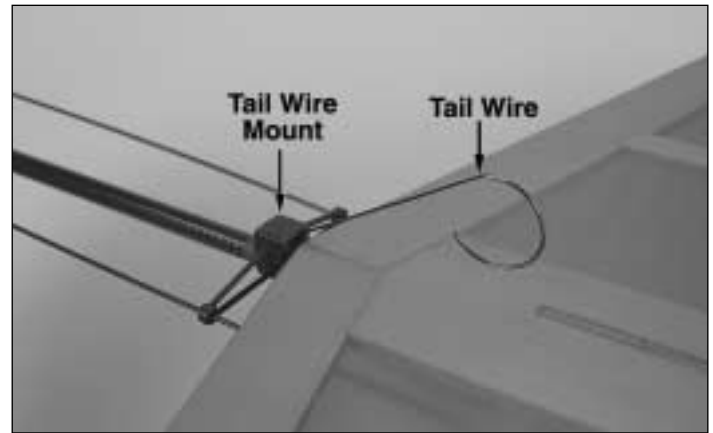


7. Make an approximately 1/2" [13mm] deep V-bend in both **pushrod wires** as shown (the precise location and depth of the bends isn't critical). Guide the pushrods through the tail wire mount and the aft wing mount. Then, if necessary, slightly enlarge the holes in the servo arms to accommodate the wires and mount the wires to the servo arms. **Note:** The elevator pushrod (on the right side of the model—not visible in the photograph) goes in the servo arm on the **top** of the servo.

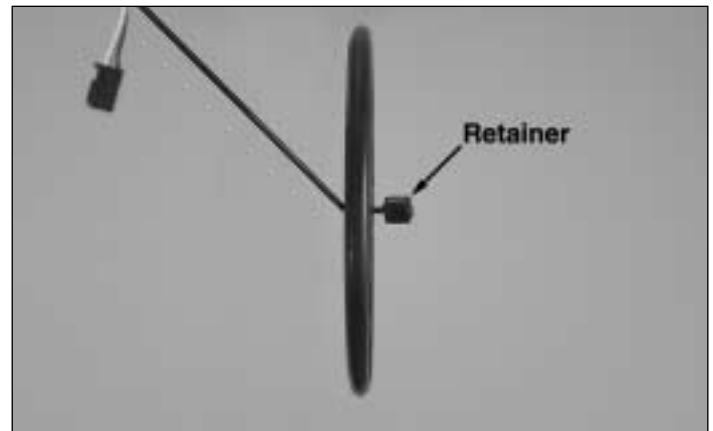


8. Center the servo arms on the servos. Make an L-bend in the end of both wires where they fit into the control horns so the rudder and elevator will be centered. Cut off any excess wire so approximately 1/4" [6mm] of the "L" remains.

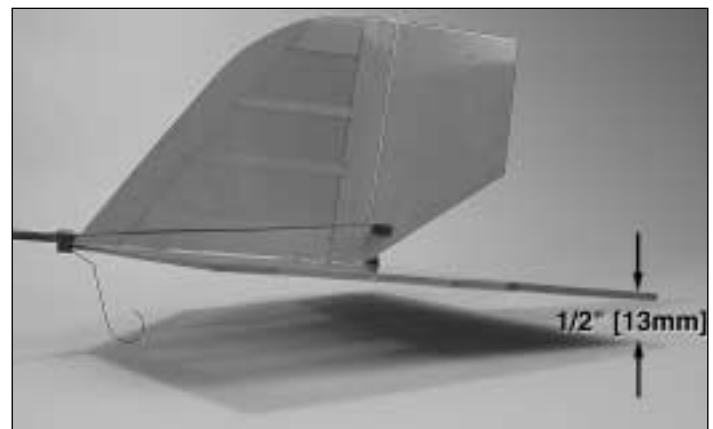
Connect the pushrods to the second-from-the-outer holes in the control horns. Later, after the elevator and rudder have been centered and the control throws have been set, retainers will be installed on the wires so they cannot come out of the control horns.



9. Fit the **tail wire** into the slot in the bottom of the tail wire mount. Use a few drops of thin CA followed by a few drops of medium CA to glue the tail wire into the mount and to glue the mount onto the fuselage boom.



10. Use medium-grit sandpaper to roughen the ends of the landing gear wire where the **retainers** go. Slip on the wheels, and then glue on the retainers with a drop of medium CA. Be careful not to inadvertently get any glue on the wheels.



11. Bend the tail wire as necessary to raise the elevator approximately 1/2" [13mm] from the ground when it is level.

Mount the Motor

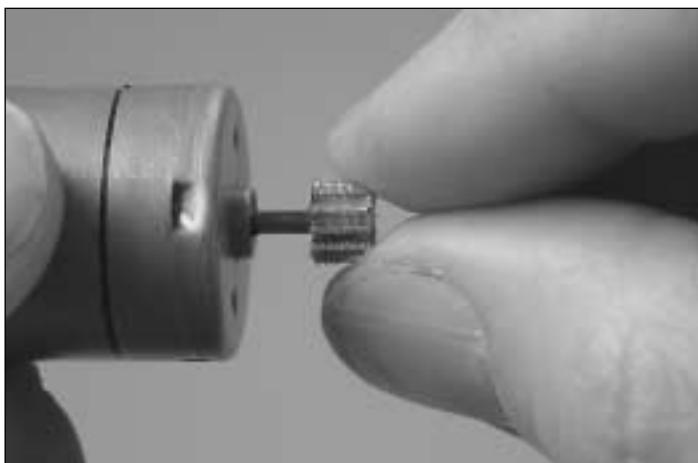


❑ 1. Without using any tools, use your fingers to press the motor all the way into the gearbox. Spin the shaft on the gearbox. If the shaft does not spin freely, back the motor out just enough to allow the shaft to spin freely. Use a fine-point felt-tip pen to mark the end of the gearbox onto the motor so you will know how far to reinstall the motor after the pinion gear has been fitted.

❑ 2. Remove the motor from the gearbox.



❑ 3. Use denatured alcohol or other solvent to clean the motor shaft. Roughen the shaft with medium-grit sandpaper so the included gear cement will adhere.



❑ 4. Test fit the pinion gear onto the motor shaft to see which way it goes on easiest. The hole in the pinion gear is

tapered slightly and the “easy way” is the way the gear is to be permanently installed.



❑ 5. Remove the pinion gear from the motor. Add a small drop of gear cement to the hole in the end of the gear that goes on the shaft. Install the gear until the end is even with the end of the shaft. Allow the cement to harden for a few minutes.

❑ 6. Use a toothpick to apply a small dab of lubricating oil to both ends of the motor shaft where it exits the motor. Do not apply oil directly from the container because you may apply too much.



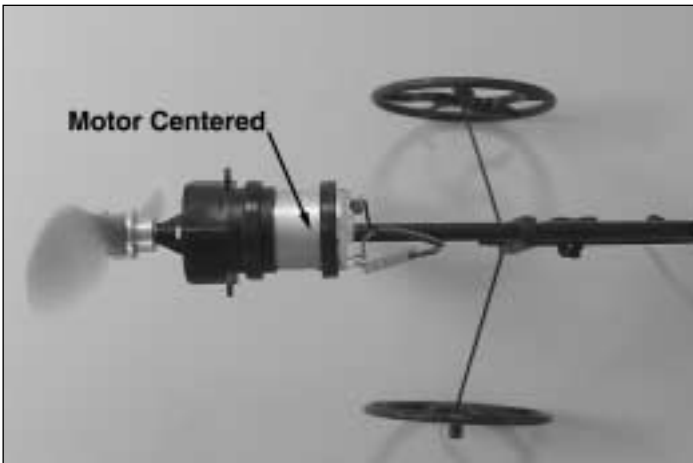
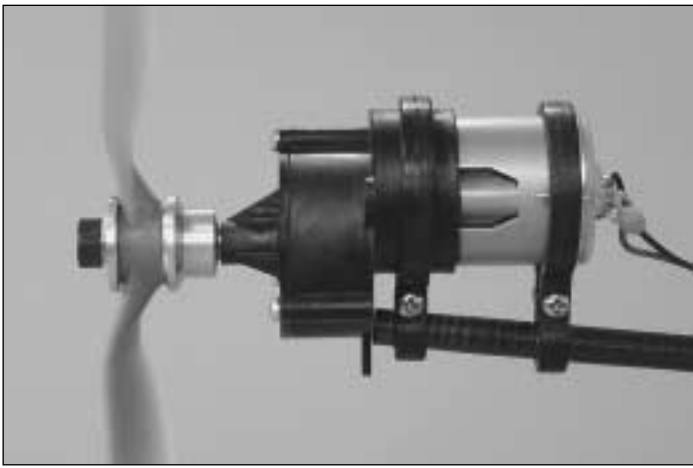
❑ 7. Reinstall the motor into the gearbox up to the line. Fit the prop adapter to the gearbox. Mount the prop to the adapter using the appropriate **spacer ring** and the prop washer and prop nut. Tighten the prop nut with an 8mm wrench. If necessary, protecting the drive washer with a cloth, use pliers to hold the drive washer while tightening the nut.

❑ 8. Spin the propeller by hand. The magnets in the motor should provide slight resistance. If more resistance can be felt than just the motor, back the motor out of the gearbox slightly until the propeller turns as it should.

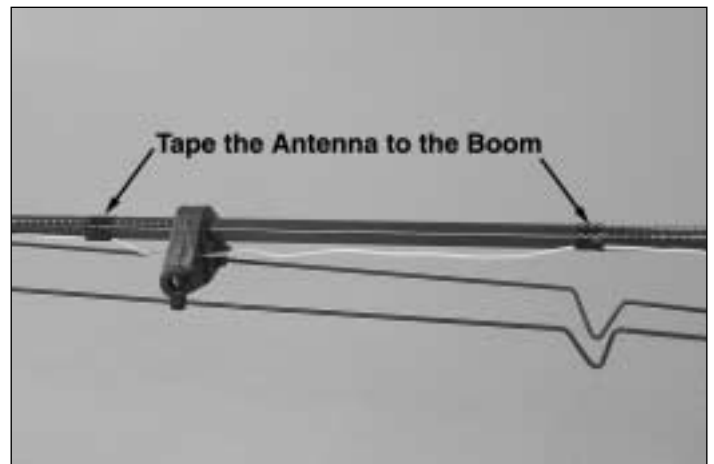
FINAL SET UP

Set Up the Radio

It will be a little easier to set up the radio before mounting the wings.



□ 9. Mount the motor to the fuselage with the **front and rear mounting straps** and two #2 x 1/2" [13mm] screws (the larger strap goes in front). The straps should also be arranged so the screws go in from the **left** side. Tighten the screws enough to secure the motor, but do not strip out the plastic. When viewing the motor from above, the motor should be centered on the fuselage.



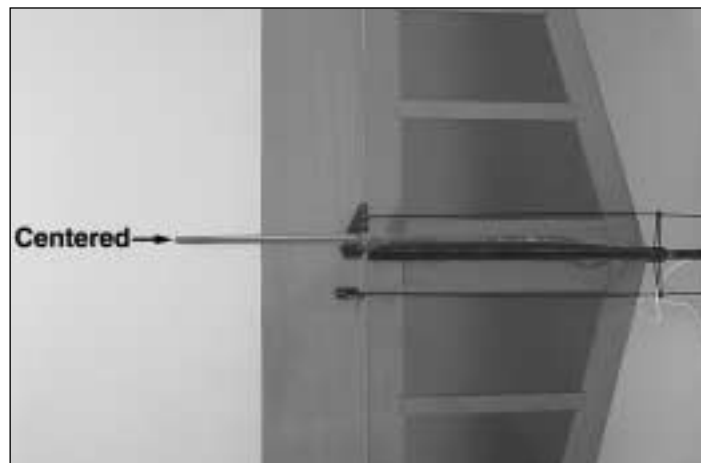
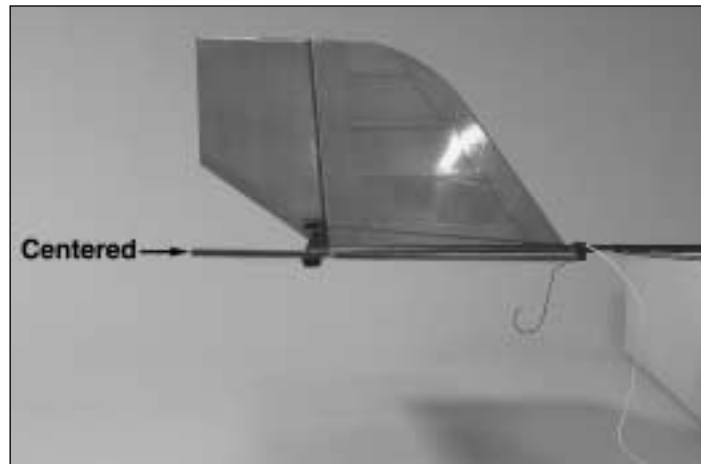
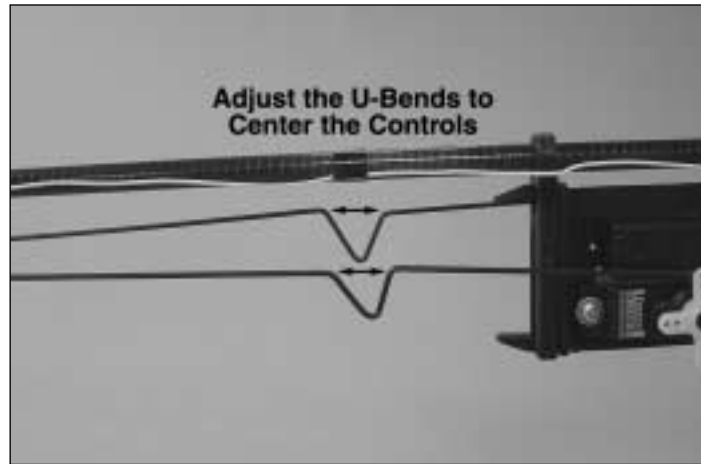
□ 1. Determine how the receiver and speed controller will be positioned. Make sure all the wires will reach their connections. Mount the speed controller to the receiver and mount the receiver to the battery holder using double-sided foam mounting tape. Connect all the wires. Use the black strips provided on the decal sheet to tape the receiver antenna to a few locations along the fuselage boom. **Hint:** Use small pieces of fuel tubing (not supplied) to neatly hold the servo wires together.

Caution: Do not connect the motor wire to the speed controller unless flying the model or setting up the radio on the workbench. Otherwise, the motor could unintentionally and unexpectedly turn on.

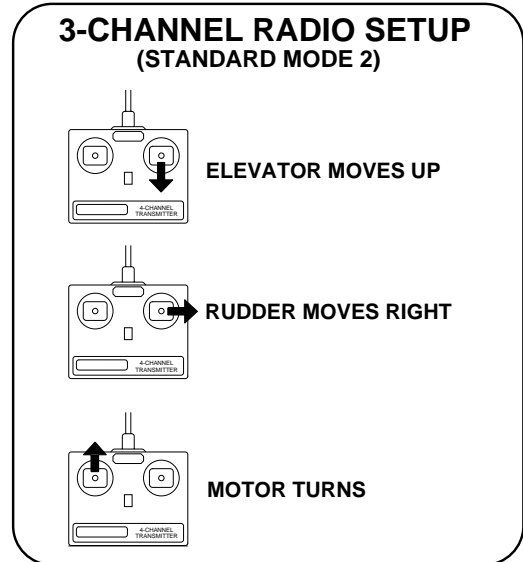
□ 2. For safety, remove the propeller from the motor. This will prevent potential injury in case the motor unexpectedly turns on while setting up the radio.

❑ 3. If you haven't already done so, plug the receiver crystal into the receiver. Be certain the crystal matches the band (high or low) for the receiver you are using.

❑ 4. Make certain the throttle control on the transmitter is all the way down. Connect the servos and speed controller to the receiver. Turn on the transmitter, and then connect the battery to the receiver. Center the trims on the transmitter. If the servo arms aren't already centered, take the arms off the servos and center the arms. Remount the arms with the screws.



❑ 5. If necessary, use pliers to open or close the V-bends in the pushrods to get the rudder and elevator centered.



❑ 6. Use the control sticks on the transmitter to operate the elevator and rudder. Make certain they respond in the correct direction. If they do not, use the servo reversing switches in the transmitter to change the direction.

❑ 7. **Reminder:** The propeller should be removed from the motor while performing setup operations in the shop. Follow the instructions included with whatever speed controller you have selected to turn on the motor. If necessary, reverse the throttle servo reversing switch to get the motor to turn on when the throttle is advanced.

Set the Control Throws

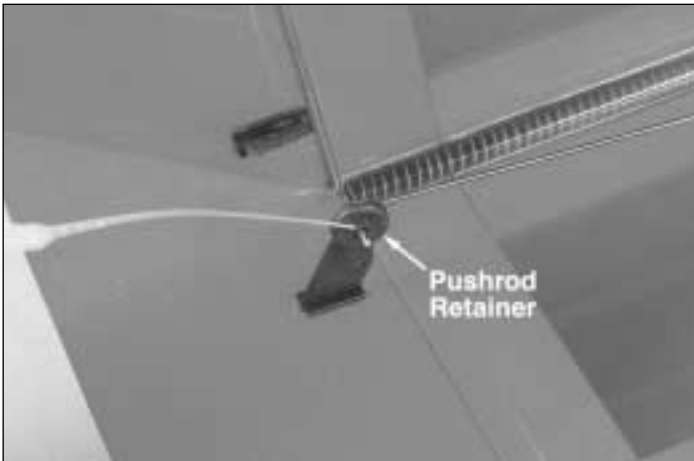
IMPORTANT: Do not overlook this important procedure. The control throws have a great effect on how a model flies and may determine whether or not your first flight is a success.



❑ 1. Use the transmitter to move the elevator all the way up and down and measure the distance the trailing edge moves (throw). The distance should be 3/4" [19mm] up and 3/4" [19mm] down. If necessary, move the elevator pushrod to another hole in the control horn to change the throw. Moving

the pushrod to a hole closer in (to the elevator) will increase the throw. Moving the pushrod to a hole farther out will decrease the throw. Moving the pushrod on the servo arms has the opposite effect.

- ❑ 2. Set the rudder control throw the same way. Rudder throw should be 1" [25mm] right and 1" [25mm] left.



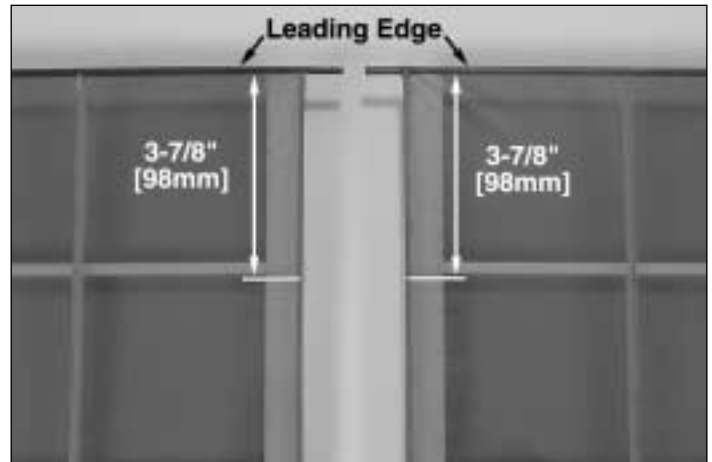
- ❑ 3. After the control throws have been set, use medium-grit sandpaper to thoroughly roughen the ends of the pushrods where they go through the control horns. Add a **pushrod retainer** to each control rod and secure with a drop of medium CA.

Apply the Decals

Use scissors or a sharp hobby knife to cut out the decals. You can apply the decals dry, or spray the surface where the decal is to be applied with window cleaner. Then, apply the decal and squeegee out the cleaner with a soft sheet of balsa. This will remove air bubbles from under the decals for the best appearance.

Mount the Wings and Check the C.G.

IMPORTANT: Do not overlook this important procedure. Failure to balance the model at the specified C.G. (center of gravity) may result in an unflyable model.



- ❑ 1. Use narrow strips of tape to mark the C.G. (center of gravity) on the **bottom** of both wings 3-7/8" [98mm] from the leading edge of the wing.



- ❑ 2. Mount the wings to the fuselage boom by fitting them into the wing mounts.

- ❑ 3. If you haven't done so already, mount the propeller to the motor. At this stage the model should be in ready-to-fly condition with all of the components installed, including the wheels, battery, receiver, speed controller, etc.



4. Lift the model with your fingertips placed on the tape lines. If the model is level as shown in the photo the wing is in the correct position. Proceed to the next step. If the nose of the model drops, the C.G. is too far forward and the wing will have to be moved forward. If the tail of the model drops, the C.G. is too far back and the wing must be moved back. Move the wing forward or back as necessary by sliding the wing mounts. Continue to adjust the position of the wing and lift the model with your fingers on the tape lines until you can get it to balance. **Note:** Even though the decals are not on the model in the photo, they should be on your model at this time.



5. View the model from the rear. Using the stab as an alignment cue, make sure both wings are at the same angle when compared to the stab. If necessary, adjust the wing mounts to get both wings the same.



6. Once you have achieved the correct C.G. and leveled the wings, use a few drops of thin CA to permanently glue the wing mounts to the fuselage boom.

CHECKLIST

Before taking your Yard Stik out to the flying field for the first time (or to your back yard or the park), review the check list to make sure it is truly ready to fly.

- 1. Make sure all the controls move in the correct direction.
- 2. Be sure the control throws match the measurements provided.
- 3. Make sure the elevator and rudder are centered by adjusting the V-bends in the pushrods.
- 4. Make sure the model balances at the recommended C.G.
- 5. Check the servo arms to make sure the servo arm screws are installed.
- 6. Make sure the pushrod retainers are on the back of the pushrods on the control horns.

PREFLIGHT

Identify Your Model

No matter if you fly at an AMA sanctioned R/C club site or if you fly somewhere on your own, you should always have your name, address, telephone number and AMA number on or inside your model. It is **required** at all AMA R/C club flying sites and AMA sanctioned flying events. Fill out the identification tag on the decal sheet and place it on the bottom of the wing.

Charge the Batteries

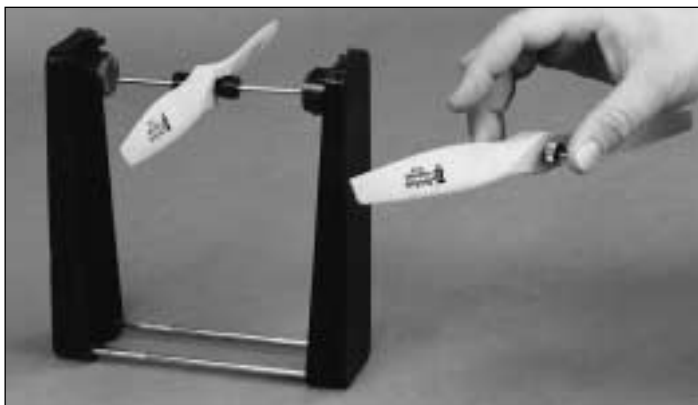
Follow the battery charging instructions that came with your radio control system to charge the batteries in the transmitter. You should always charge the batteries the night before you go flying and at other times as recommended by the radio manufacturer.

Range Check

Ground check the operational range of your radio before the first flight of the day. With the transmitter antenna collapsed and the receiver and transmitter on, you should be able to walk at least 100 feet away from the model and still have control. Have an assistant stand by your model and, while you work the controls, tell you what the control surfaces are doing. **IMPORTANT!** Repeat this test **with the motor running** at various speeds with an assistant holding the model, using hand signals to show you what is happening. If the control surfaces do not respond correctly, **do not fly!** Find and correct the problem first. Look for loose servo connections or broken wires, corroded wires on old servo connectors, or a damaged receiver crystal from a previous crash.

PERFORMANCE TIPS

Balance the Propeller



Use fine sandpaper to remove imperfections along the edges of the propeller. Carefully balance the propeller and spare propellers before flying. A balanced propeller on a lightweight model such as this will improve efficiency and extend run time and improve performance. A high-performance, sensitive prop balancer such as the Top Flite® Precision Magnetic Prop Balancer™ (TOPQ5700) is recommended.

Cycle the Batteries

For optimum battery performance the battery should be cycled occasionally. "Cycling" means to fully charge ("peak" charge) the battery, then to discharge it. Many battery chargers have peak charging and automatic discharging capabilities. If you do not have a charger that is able to discharge batteries, you can discharge the battery yourself by running the motor with the propeller attached until the propeller barely continues to turn. Be sure to allow the battery to cool before recharging.

MOTOR SAFETY PRECAUTIONS

Note: Failure to follow these safety precautions may result in severe injury to yourself and others.

- Get help from an experienced pilot when learning to operate motors.
- Use safety glasses when running motors.
- Do not run the motor in an area of loose gravel or sand; the propeller may throw such material in your face or eyes.
- Keep your face and body as well as all spectators away from the path of the propeller as you start and run the motor.
- Keep items such as these away from the prop: loose clothing, shirt sleeves, ties, scarfs, long hair or loose objects (pencils, screw drivers) that may fall out of shirt or jacket pockets into the prop.
- The electric motor and motor battery used in the Yard Stik are very powerful. The spinning propeller has a lot of momentum; therefore, if you touch the propeller while it is spinning it may inflict severe injury. Respect the motor and propeller for the damage it is capable of and take whatever precautions are necessary to avoid injury. Always disconnect the battery until you are ready to fly again.
- Using multiple battery packs for successive flights may cause the motor to become excessively hot, thus causing damage. Allow the motor to cool for at least 10 minutes between flights.

AMA SAFETY CODE (EXCERPTS)

Read and abide by the following Academy of Model Aeronautics Official Safety Code:

General

1. I will not fly my model aircraft in competition or in the presence of spectators until it has been proven to be airworthy by having been previously successfully flight tested.
2. I will not fly my model aircraft higher than approximately 400 feet within 3 miles of an airport without notifying the airport operator. I will give right of way to 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 and deliberately fly my models in a careless, reckless and/or dangerous manner.
7. I will not fly my model unless it is identified with my name and address or AMA number, on or in the model.

Radio Control

1. I will have completed a successful radio equipment ground 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 flyer, unless assisted by an experienced helper.
3. I will perform my initial turn after takeoff away from the pit, spectator and parking areas and I will not thereafter perform maneuvers, flights of any sort or landing approaches over a pit, spectator or parking area.
4. I will operate my model using only radio control frequencies currently allowed by the Federal Communications Commission.

FIND A SAFE PLACE TO FLY

Though the Yard Stik is a "Park Flyer," the **best** place to fly **any** model is at an AMA chartered club field. Club fields are set up for R/C flying, making your outing safer and more enjoyable. We recommend that you join the AMA and a local club so you can have a safe place to fly and have insurance to cover you in case of a flying accident. The AMA address and telephone number are in the front of this manual.

If there is no club or R/C flying field in your area, find a suitable site that is clear of trees, telephone poles, buildings, towers, busy streets and other obstacles. Since you are not flying at a sanctioned AMA site, be aware that there may be

others like yourself who could be flying nearby. If both of your models happen to be on the same frequency, interference will likely cause one or both of the models to crash. An acceptable minimum distance between flying models is five miles, so keep this in mind when searching for a flying site.

In addition to obstacles, it is important to be aware of people who may wander into the area once you begin flying. At AMA club flying sites it is a severe rule infraction to fly over others and this is a good practice if flying elsewhere. R/C models tend to attract onlookers who may pose two main problems; First is the danger of actually crashing your model into a person, causing injury. Second is the distraction by those who ask you questions while you are trying to concentrate on flying. To minimize or avoid this problem, have an assistant standing by who can spot people who wander into your flying site (so you can avoid flying over them) and who can perform "crowd control" if people start to gather.

FLYING

IMPORTANT: If you are an inexperienced modeler we strongly urge you to seek the assistance of a competent, experienced R/C pilot to check your model for airworthiness AND to teach you how to fly. No matter how stable or "forgiving" the Yard Stik is, attempting to learn to fly on your own is dangerous and may result in destruction of your model or even injury to yourself and others. Therefore, find an instructor and fly only under his or her guidance and supervision until you have acquired the skills necessary for safe and fully controlled operation of your model.

The Yard Stik may be hand launched or it can R.O.G. (rise off ground). It is best to hand launch the Yard Stik for the first flight and if flying over rough fields outdoors. The model should be tossed directly into the wind in a controlled manner with the wings level and the fuselage in a level or slightly nose-high attitude. Apply full power, then launch the model. Allow the Yard Stik to settle into a gentle climb as you turn it away from the pits or spectators.

Adjust the trims to get the model to fly straight and level. When at a comfortable altitude reduce power and see how the model handles. This will be a reference as to how it will land if the battery quits.

It is best to allow the model to build up speed before performing tight turns or other aerobatic maneuvers. Continue to fly around until you are ready to land or until there is not enough power to keep the model airborne. Just the same as taking off, always land into the wind. Choose your landing spot and then make the landing flair by gently applying full up elevator when the Yard Stik is about 6" to 1' off the ground.

Retrieve the model and make a post-flight inspection, looking for loose connections or fasteners. Allow the battery and motor to cool before recharging.

Best of luck and happy flying!

ACCESSORIES AVAILABLE FROM GREAT PLANES

Receiver: R114F
 Servos: S3106 (2)
 Tx NiCd: 600mAh
 Rx NiCd: 250mAh
 Band: 72MHz

Futaba® 3FR FM Radio

*Single-stick simplicity,
 FM clarity and NiCd
 convenience, all in one!*



Great for economy, ease and efficiency, the 3FR offers a whole new angle on park flyer systems. Elevator and aileron (or rudder) control is centered on a single stick, the same way it is on 4-channel systems. Learn on the 3FR today and you're acquiring skills for future flights, too. Case design supports correct thumb placement with an "S" curve on the right, while a thumb recess on the left provides a better grip. A slide switch offers easy, proportional control of throttle, flap or spoiler. The on-board package includes an R114F receiver, two S3106 micro servos and a 250mAh NiCd for the receiver. There's also a 600mAh NiCd for the transmitter and an AC charger that can recharge both at once! 1-year warranty. **Note:** Should not be used on low-band channels 11-15. (FUTJ52**)

Great Planes® ElectriFly™ 650mAh NiMH Battery Pack

Among the special requirements of park flyers such as the Yard Stik is an on-board receiver/motor battery that adds little weight and needs minimal space -- but doesn't skimp on power. Designed by ElectriFly specifically for such applications, this rechargeable 6-cell, 7.2V, nickel-metal hydride pack measures less than 5.5" long and only 0.75" wide... but offers 650mAh of capacity to bring out the best in your model! (GPMP0068)

Great Planes® ElectriFly™ Mini FM Receivers



GPML0044 Low Band
 GPML0045 High Band

Worried about receiver-transmitter compatibility? Hook up an economical ElectriFly 4-Channel Mini FM receiver and it will automatically select the circuitry compatible with your Futaba®, JR®, Hitec®, or Airtronics® "Z" radios. Innovative circuitry makes them a match for most popular systems—their size, weight (just 10g!) and range* make them perfect for the Yard Stik and other small electrics. Designed for park, slow and indoor flyers, Mini FM Receivers feature SMT components for maximum dependability in an ultralight, compact unit. Available in high- and low-band versions on 72MHz. Require a short, single-conversion Futaba FM crystal, available separately. 1-year warranty.

***Note:** ElectriFly Receivers are suitable for use with Park Flyers and other aircraft that require a ground reception range of 900 feet (max.).

Great Planes® ElectriFly™ Peak Charger



*Peak charging convenience
 for Park Flyers!*

Designed for small, lightweight electrics and transmitter batteries, this charger can also be used with any 6-8 cell NiCd or NiMH pack. It plugs into a power supply or cigarette lighter for fast charges. Pulsed current charging protects small packs from overheating. Charge rate adjusts to 200mAh or 600mAh. A 15mA trickle charge keeps packs topped off for use anytime. Includes 2-pin connector for ElectriFly packs; adapters available separately. 1-year warranty. (GPMM3000)