

# FOCKE-WULF FW 190

## INSTRUCTION MANUAL



**RX-R**  
RECEIVER-READY

**RTF**  
READY-TO-FLY

**Flyzone**<sup>™</sup>  
how high will you soar

### SPECIFICATIONS

<b>Wingspan:</b>	44.5 in [1130mm]	<b>Wing Loading:</b>	17 oz/ft <sup>2</sup> [52 g/dm <sup>2</sup> ]
<b>Wing Area:</b>	349 in <sup>2</sup> [22.5 dm <sup>2</sup> ]	<b>Length:</b>	39 in [990mm]
<b>RTF Weight:</b>	2.5 lb [1130 g]	<b>Radio:</b>	6-channel (required)
<b>Rx-R Weight:</b>	2.25 – 2.5 lb [1020 – 1130 g]		

### WARRANTY

Hobbico 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 Hobbico's liability exceed the original cost of the purchased kit.** Further, Hobbico reserves the right to change or modify this warranty without notice.

In that Hobbico 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.**

To make a warranty claim send the defective part or item to Hobby Services at the address below:

#### Hobby Services

3002 N. Apollo Dr. Suite 1  
Champaign IL 61822 USA

Include a letter stating your name, return shipping address, as much contact information as possible (daytime telephone number, fax number, e-mail address), a detailed description of the problem and a photocopy of the purchase receipt. Upon receipt of the package the problem will be evaluated as quickly as possible.

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

# TABLE OF CONTENTS

INTRODUCTION .....	2	Adjust the Control Surfaces .....	7
AMA .....	2	Check the Control Throws .....	9
SAFETY PRECAUTIONS .....	2	Mount the Wing .....	10
ADDITIONAL ITEMS REQUIRED .....	3	Install the Propeller .....	10
Radio Control System .....	3	Check the C.G. (Center of Gravity) .....	11
Battery and Charger .....	3	Important ESC Information .....	12
Required Assembly Tool .....	3	<b>GET THE MODEL READY TO FLY</b> .....	12
ORDERING REPLACEMENT PARTS .....	3	Identify Your Model .....	12
KIT INSPECTION .....	3	<b>FLYING THE FOCKE-WULF Fw-190</b> .....	12
KIT CONTENTS .....	4	Find a Suitable Flying Site .....	12
ASSEMBLE THE MODEL .....	4	Know Your Frequency .....	12
Charge the Battery .....	4	Perform a Range Check .....	12
Battery Charging Precautions .....	5	Monitor Your Flight Time .....	12
Battery Recycling .....	5	<b>FLYING</b> .....	13
Install the Receiver .....	5	Takeoff .....	13
Install the Stabilizer .....	5	Flight .....	13
Hook Up the Controls .....	6	Landing .....	13
Check the Radio System .....	6	<b>TACTIC TTX600 2.4 GHz 6-CHANNEL RADIO</b> .....	14

## INTRODUCTION

Thank you for purchasing the Flyzone™ Focke-Wulf Fw-190. The Fw-190 is a very scale looking, but easy to fly warbird. The Fw-190 is forgiving and “friendly” enough for the pilot with some low wing flying experience, but also responsive enough for the experienced scale pilot. The performance of the Fw-190 will give you confidence to perform on-the-deck flybys that will impress you and your flying buddies.

For the latest technical updates or manual corrections to the Fw-190 visit the Hobbico web site at [www.hobbico.com](http://www.hobbico.com). Open the “Airplanes” link, then select “Fw-190”. If there is new technical information or changes to this model a “tech notice” box will appear in the upper left corner of the page.

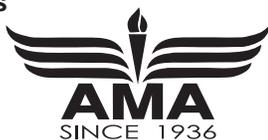
## AMA

If you are not already a member of the AMA, please join! The AMA is the governing body of model aviation and membership provides liability insurance coverage, protects modelers’ rights and interests and is required to fly at most R/C sites.

### Academy of Model Aeronautics

5151 East Memorial Drive  
Muncie, IN 47302-9252

Ph. (800) 435-9262  
Fax (765) 741-0057



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

**IMPORTANT!!!** Two of the most important things you can do to preserve the radio controlled aircraft hobby are to avoid flying near full-scale aircraft and avoid flying near or over groups of people.

## SAFETY PRECAUTIONS

### Protect Your Model, Yourself & Others... Follow These Important Safety Precautions

1. Your Fw-190 should not be considered a toy, but rather a sophisticated, working model that functions very much like a full-size airplane. Because of its performance capabilities, the Fw-190, if not assembled and operated correctly, could possibly cause injury to yourself or spectators and damage to property.
2. You must assemble the model **according to the instructions**. Do not alter or modify the model, as doing so may result in an unsafe or unflyable model. In a few cases the instructions may differ slightly from the photos. In those instances the written instructions should be considered as correct.
3. If you are not an experienced pilot or have not flown this type of model before, we recommend that you get the assistance of an experienced pilot in your R/C club for your first flights. If you’re not a member of a club, your local hobby shop has information about clubs in your area whose membership includes experienced pilots.
4. While this kit has been flight tested to exceed normal use, if the plane will be used for extremely high stress flying, such as racing, or if a more powerful motor is installed, the modeler is responsible for taking steps to reinforce the high stress points and/or substituting hardware more suitable for the increased stress.

We, as the kit manufacturer, provide you with a top quality, thoroughly tested kit and 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.

## ADDITIONAL ITEMS REQUIRED

### Radio Control System

The Fw-190 Rx-R (receiver ready) comes with the servos installed, so all that is required is a 6-channel transmitter and receiver. The Tactic™ TTX600 2.4GHz spread spectrum 6-channel radio control system (TACJ2600) is included with the RTF (ready to fly) version of the Fw-190, so this same radio system is ideal for your Rx-R version, too.

- Tactic TTX600 2.4GHz 6-channel system (TACJ2600)
- (4) AA batteries will be required to operate the recommended transmitter (FUGP7308).

### Battery and Charger

The Fw-190 RTF comes complete with a motor battery and charger. The Fw-190 Rx-R version requires an 1800mAh 11.1V LiPo battery and LiPo Charger. The Fw-190 was designed for the Flyzone 1800mAh 11.1V LiPo battery. Other LiPo batteries similar in size with the same voltage and capacity may also work, but they may not fit properly in the battery compartment or have the same type of battery connector. In addition to a battery, a LiPo battery charger is also required and there are several that will work (depending on your budget and requirements). A safe, economical charger is the ElectriFly® 3S (3-cell/ 11.1V) LiPo Smart Charger (GPMM3318). The Smart Charger includes adapters to charge from a 110V wall outlet or a 12V DC outlet from a car. The Smart Charger will take approximately 2-1/2 to 3 hours to fully charge the battery. Some pilots prefer to have several batteries and charge them faster so they can fly more. For charging up to four batteries faster at the same time, the Great Planes PolyCharge4™ DC-powered LiPo charger (GPMM3015) is recommended. But unlike the Smart Charger, the PolyCharge4 does not have an internal LiPo cell balancer which is a critical component in making sure your LiPo batteries charge efficiently and evenly. So, for each LiPo battery you wish to charge simultaneously, one Great Planes Equinox™ LiPo Cell Balancer (GPMM3160) will also be required. Finally, the PolyCharge4 does not have AC capability, so if wall charging is a priority, a separate AC 12-Volt power source must also be purchased separately. A suitable power supply for the PolyCharge4 is the Great Planes 12V 12A DC power supply (GPMP0901)

### Required Assembly Tool

*Other than common hobby tools this is the list of adhesives and building supplies that are required to finish the Fw-190.*

- Small needle-nose pliers (HCAR0625) or hemostats (BRUR1302)
- #1 Phillips screwdriver (DTXR0174)
- Thread-locking cement (GPMP6060)
- Small crescent wrench
- Great Planes stick-on lead weight (Optional, GPMQ4485)

## ORDERING REPLACEMENT PARTS

Replacement parts for the Hobbico Flyzone Fw-190 are available using the order numbers in the **Replacement Parts List** that follows. The fastest, most economical service can be provided by your hobby dealer or mail-order company.

To locate a hobby dealer, visit the Hobbico web site at [www.hobbico.com](http://www.hobbico.com). Choose "Where to Buy" at the bottom of the menu on the left side of the page. Follow the instructions provided on the page to locate a U.S., Canadian or International dealer.

Parts may also be ordered directly from Hobby Services by calling (217) 398-0007, or fax at (217) 398-7721, but full retail prices and shipping and handling charges will apply. Illinois and Nevada residents will also be charged sales tax. If ordering via fax, include a Visa® or MasterCard® number and expiration date for payment.

Mail parts orders **Hobby Services**  
and payments by 3002 N Apollo Drive, Suite 1  
personal check to: Champaign IL 61822

Be certain to specify the order number exactly as listed in the **Replacement Parts List**. Payment by credit card or personal check only; no C.O.D.

If additional assistance is required for any reason, contact Product Support by telephone at (217) 398-8970, or by e-mail at [productsupport@hobbico.com](mailto:productsupport@hobbico.com).

### REPLACEMENT PARTS LIST

Order No.	Description
HCAA6425	Fuselage Set Fw-190 RTF/Rx-R
HCAA6426	Wing Set Fw-190 RTF/Rx-R
HCAA6427	Stabilizer Fw-190 RTF/Rx-R
HCAA6428	Retract Part Set Fw190 RTF/Rx-R
HCAA6429	30 Amp Esc Fw-190 RTF/Rx-R
HCAA6430	1800mah 20c Lipo Fw-190 RTF
HCAA6431	Hatch Fw-190 RTF/Rx-R
HCAA6432	Motor Fw-190 RTF/Rx-R
HCAA6433	Wheels Fw-190 RTF/Rx-R
HCAA6434	10x6 3-bl Prop Fw190 RTF/Rx-R
HCAA6435	Spinner Fw-190 RTF/Rx-R

### KIT INSPECTION

Before starting to build, 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 **Product Support**. When reporting defective or missing parts, use the part names exactly as they are written in the Kit Contents list.

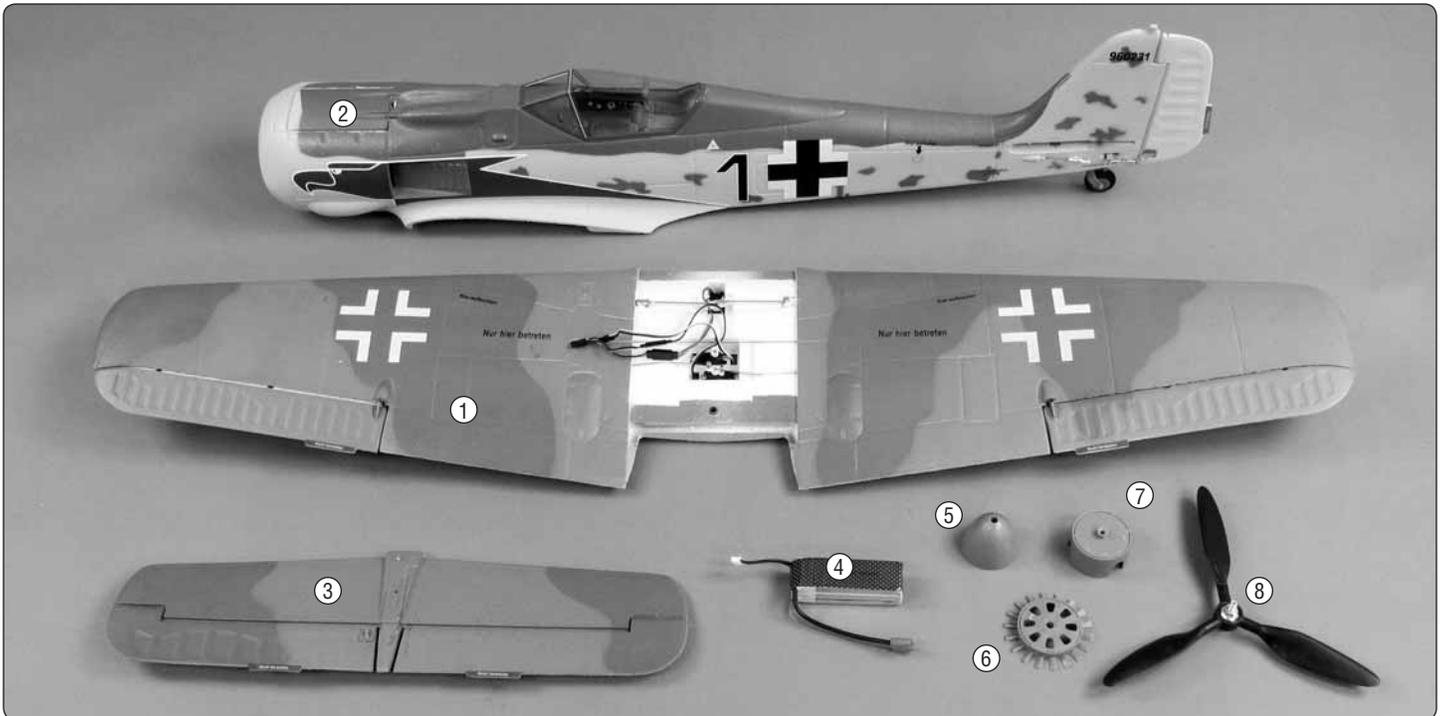
#### Hobbico Product Support

3002 N. Apollo Drive, Suite 1  
Champaign, IL 61822

Ph: (217) 398-8970, ext. 5  
Fax: (217) 398-7721

E-mail: [airsupport@hobbico.com](mailto:airsupport@hobbico.com)

## KIT CONTENTS



### Kit Contents

- |   |   |
|---|---|
| 1. Wing Assembly (aileron, flap & retract servos installed)   | 5. Spinner Cone                         |
| 2. Fuselage Assembly (battery hatch, tail gear, motor, ESC, receiver, elevator servo, rudder servo installed) | 6. Engine Louvers                       |
| 3. Horizontal Stabilizer Assembly (elevator hinged to stab)   | 7. Spinner Cone Back                    |
| 4. Battery  | 8. 3-Bladed Propeller with prop adapter |

## ASSEMBLE THE MODEL

Before starting to assemble the Fw-190, we recommend charging the motor battery. Then, when you are ready to set-up the radio system, the motor battery can be used to power the receiver.

### Charge the Battery

The following is an overview of how to charge your motor battery using the ElectricFly Smart Charger. If you are using a different LiPo charger, carefully follow the instructions included with the charger.

1. Connect the input power to the charger. The GREEN LED will be lit, indicating standby mode. The RED LED will be OFF.
2. Connect the battery to be charged to the balance plug. The RED LED will also be lit, and remain RED during the charging. Both LEDs should be lit solid while charging.
3. If the battery was completely discharged, the RED and GREEN LEDs will start to flash after 2-hours and 40-minutes. The charger has a built in safety timer.

4. Disconnect the battery from the charger, wait for the GREEN LED to be lit, and then reconnect the battery to the charger.
5. It will take approximately 20 minutes more to complete the charge. When the battery is fully charged, the GREEN LED will turn OFF. Remove the battery from the charger at this time.
6. Charging time depends on the level of discharge of the battery and if the battery cells were unbalanced.

### LED SCHEME Use this table to determine charge action.

RED LED	GREEN LED	ACTION
OFF	Solid ON	No battery is connected
OFF	Flashing	Conditioning battery
Solid ON	Solid ON	Battery charging
Solid ON	OFF	Charge complete
Flashing	Flashing	ERROR*

\* Possible sources of battery error may include a highly unbalanced pack, charger timed out, or one cell of the pack which is low voltage. In the case of a battery error, please remove the battery pack from the charger and inspect it carefully for swelling or any other damage, such as broken wires.

## Battery Charging Precautions

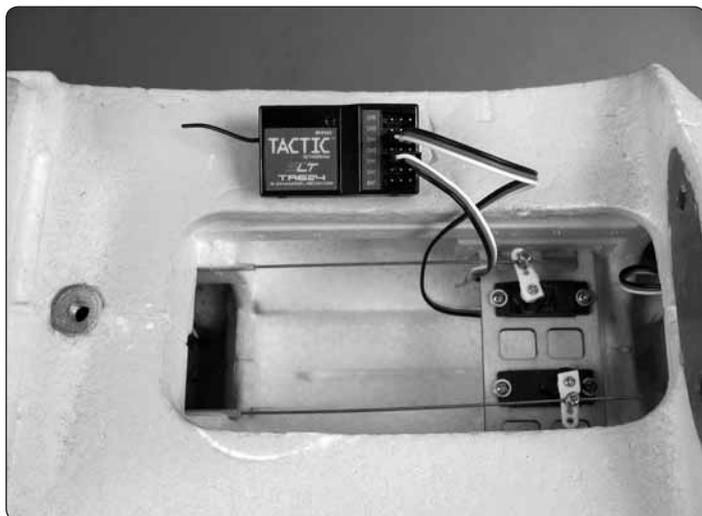
- Be careful to avoid overcharging the battery. Only use a LiPo approved charger. Never use a NiCd/NiMH peak charger.
- Remember to check the temperature of the battery during the charge. The battery should not get hot. If it does, unplug the battery from the charger.
- Charge the battery at a maximum charge rate of 1.8 amps. A higher charge rate will cause the battery to get hot.
- Never place the battery on combustible material or leave it unattended while charging.
- Never charge the battery in the plane.
- We recommend that a balancing charger be used to charge the battery. A properly cared for battery will last a long time. If the battery pack is continually charged without balancing the individual cells, the life of the battery pack will be shortened.

## Battery Recycling

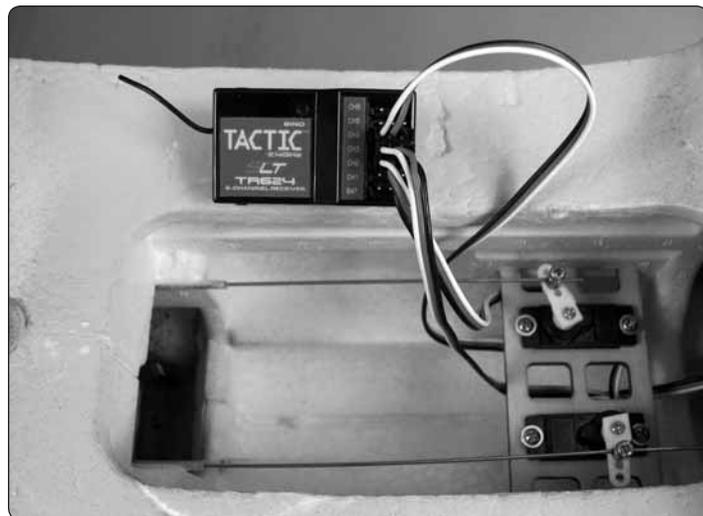
**Attention:** The Focke-Wulf Fw-190 is powered by a rechargeable battery. At the end of the battery's useful life, under various state and local laws, it may be illegal to dispose of the battery into the municipal waste system. Check with your local solid waste officials for details in your area for recycling options or proper disposal. We encourage contacting your local recycling center for more information.

## Install the Receiver

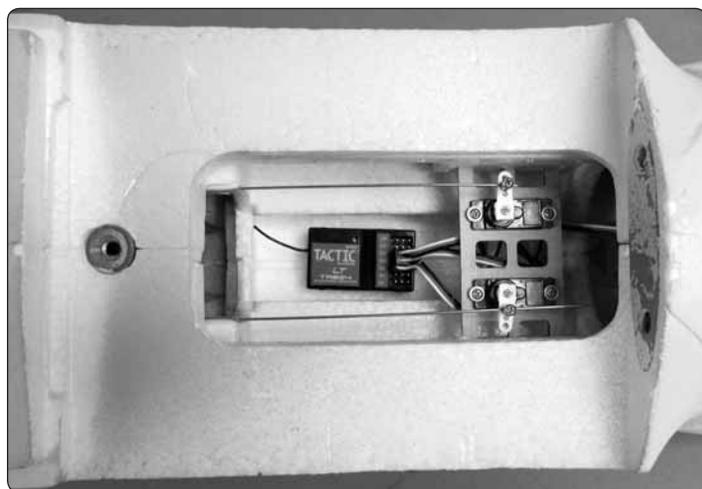
If you are assembling the Fw-190 RTF, skip to the next section and start at **Install the Stabilizer**.



1. Plug the elevator servo into channel-2 on the Tactic receiver. Plug the rudder servo into channel-4 on the Tactic receiver.



2. Plug the throttle into channel-3 on the Tactic receiver.

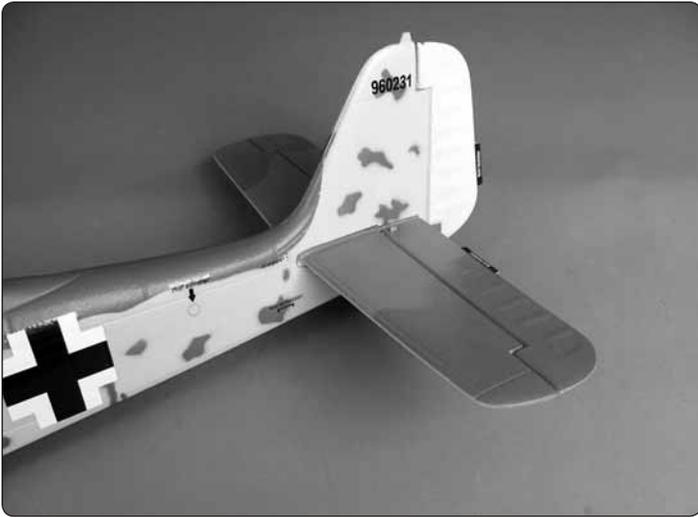


3. Peel the backing from one side of the double-sided tape. Attach it to the back of the receiver. Peel the backing from the other side of the double-sided tape and attach it to the bottom of the servo compartment.

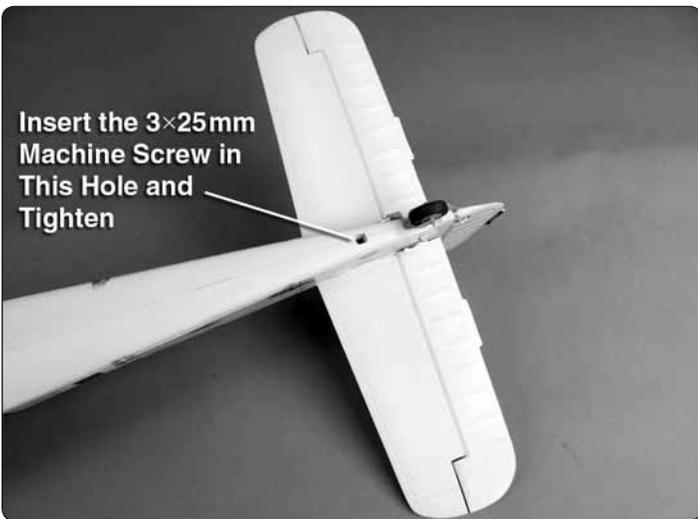
## Install the Stabilizer



1. Remove the foam filler piece from the horizontal stabilizer opening.



☐ 2. Carefully insert the horizontal stabilizer in the fuselage.



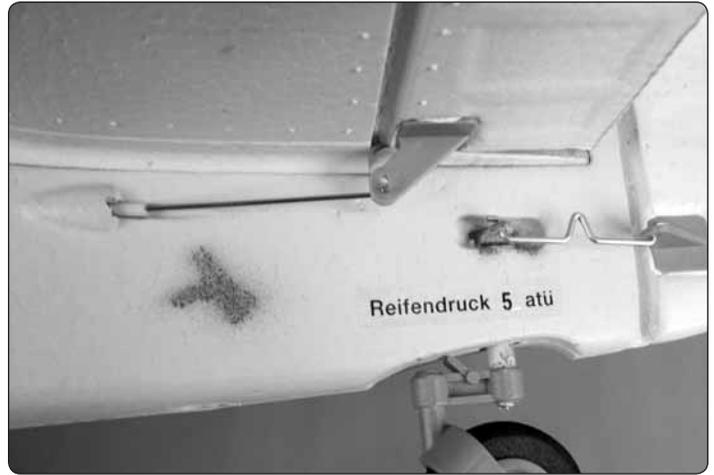
☐ 3. Secure the horizontal stabilizer to the fuselage with a 3 x 25mm machine screw.

### Hook Up the Controls

☐ 1. If you haven't yet done so, familiarize yourself with the Tactic TTX600 radio control system by reading the instructions starting on page 14.



☐ 2. Unclip the Faslink from the elevator pushrod.



☐ 3. Insert the pushrod in the outer hole of the elevator control horn.

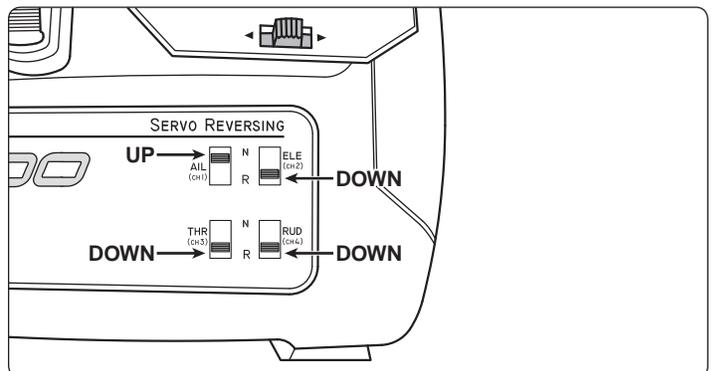


☐ 4. Reinstall the Faslink on the pushrod.

### Check the Radio System

**CAUTION:** Do not install the propeller on the plane until instructed to do so.

☐ 1. If using the Tactic TTX600 radio system read the Radio System Instructions section on page 14 in this manual. Then, install the four AA alkaline batteries in the transmitter with the correct polarity.

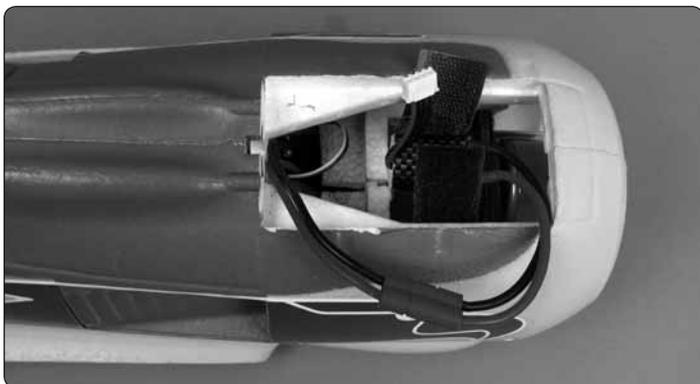


☐ 2. Check that the servo reversing switches are configured as shown.



❑ 3. Position the throttle stick (left stick) to idle (all the way down) and switch on the transmitter. The power indicator light should be glowing a steady red. A flashing red light and an audible tone indicates low voltage. If this happens, replace the batteries before connecting the flight battery.

❑ 4. Center the aileron, elevator, throttle and rudder trims on the transmitter by listening to the beeps. You will hear a low, short beep each time you bump the trim. When you hear one high, short beep the trim is centered. Experiment running the trim to the limits a few times to familiarize yourself with the trims. When finished, return all the trims to center.



❑ 5. With the transmitter still switched on, connect the LiPo motor battery to the electronic speed control. The motor will produce a low tone. Moving the right stick on the transmitter up and down will move the elevator on the plane up and down. If the motor does not beep and the elevator does not move, the receiver will need to be bound to the transmitter.



❑ 6. To bind the receiver to the transmitter, remove the receiver from the plane. Make sure the throttle stick is down in the idle

or off position and the transmitter is switched on. Insert a small screwdriver or paperclip through the hole marked “Bind” and press the pushbutton until the LED on the receiver glows red and then turns off after about one second. Then, release the bind button. If the binding is successful, the LED on the receiver will flash once and then remain ON.

❑ 7. Make sure the motor brake function in the ESC is deactivated. When you advance the throttle stick, the motor should turn. When you bring the throttle stick all the way back down, the motor should come to a coasting stop. If the motor stops quickly, the brake is on. To deactivate the brake, disconnect the motor battery, but leave the transmitter on. Advance the throttle stick and throttle trim all the way up. Reconnect the battery and listen for one beep. Bring the throttle stick and the throttle trim all the way back down and listen for one more beep. Now the motor brake function is disabled.

The procedure for activating the brake is the same, except the motor will beep twice instead of once.

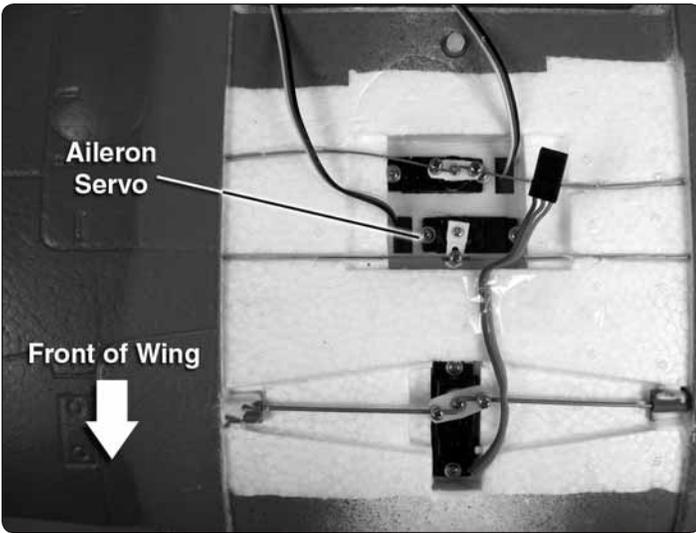
**CAUTION:** Perform the following steps **without** the propeller mounted to the motor. Do not install the propeller until instructed to do so.

## Adjust the Control Surfaces



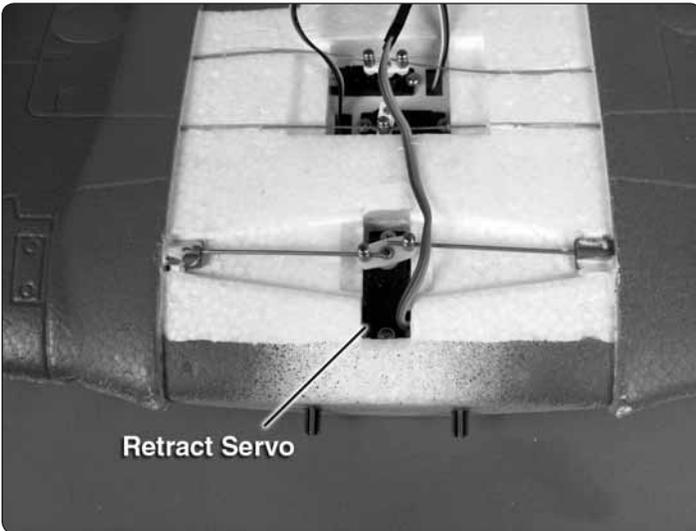
❑ 1. Remove the 2.5 × 5 mm machine screw in the screw lock connector on the elevator servo. Center the elevator and apply a small drop of threadlocker to the threads of the screw. Hold the screw lock connector with a needle nose pliers and reinstall the screw in the screw lock connector, tightening it against the elevator pushrod. Move the elevator stick, checking that the elevator moves in the correct direction.

❑ 2. Follow the same procedure to center the rudder.

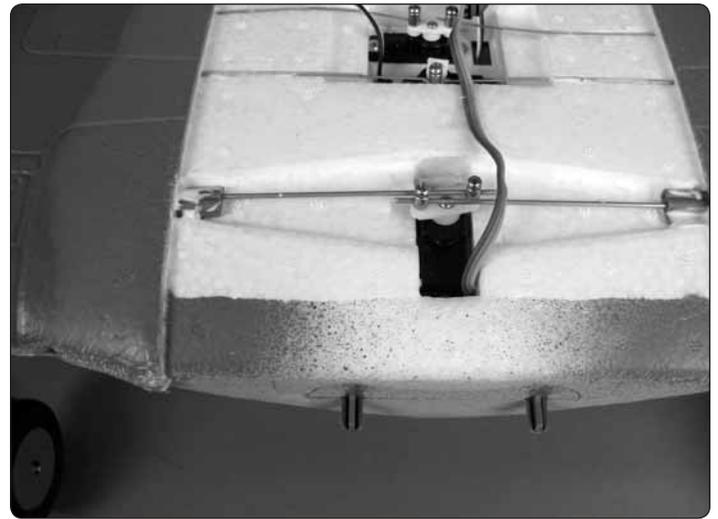
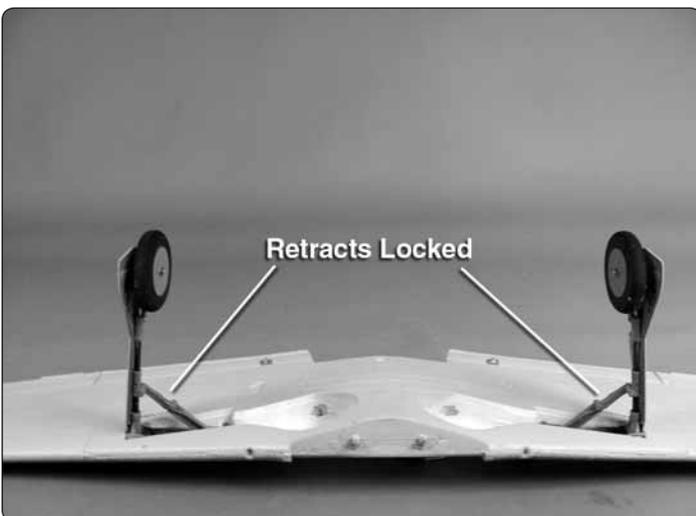


❑ 3. On the Tactic TTX600 the aileron plugs into channel 1.

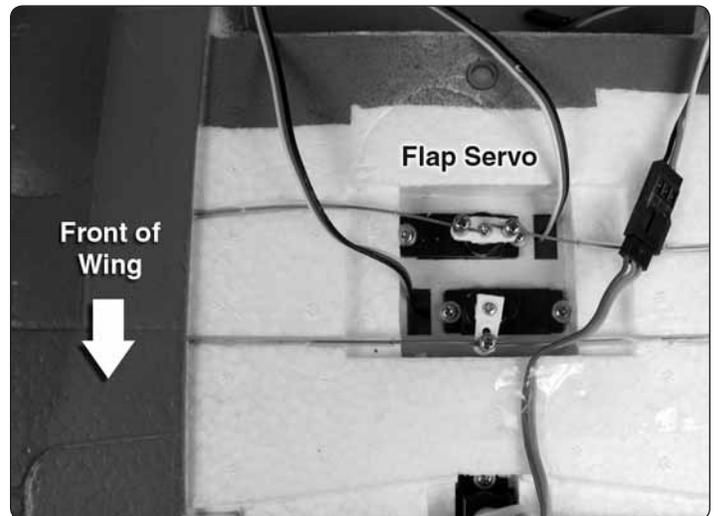
❑ 4. Follow the same procedure used on the elevator to center the ailerons and check the control direction.



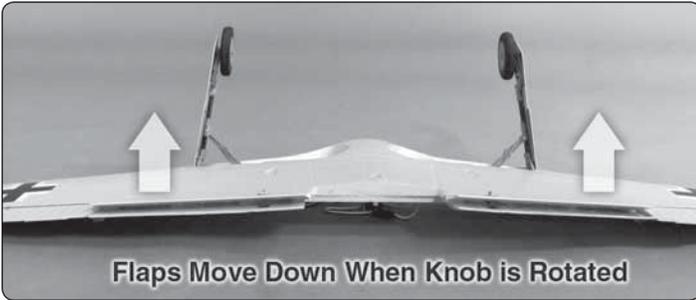
❑ 5. On the Tactic TTX600 the retracts plug into channel 5.



❑ 6. Operate the retracts from the transmitter. On the Tactic TTX600 the retracts are operated from the forward switch. Check that the retracts lock in the down position and do not bind in the up position. If one of the retracts does not lock down or binds when retracted, loosen the screw in the screw lock pushrod connector and adjust the pushrod until the retract operates correctly. Check that all the screws in the screw lock pushrod connectors are tight against the pushrods.



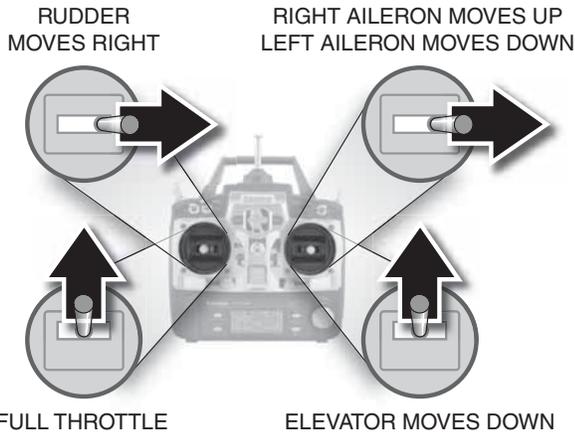
❑ 7. On the Tactic TTX600 the flaps plug into channel 6.



❑ 8 . Operate the flaps from the transmitter. On the Tactic TTX600 the flaps are operated using the dial. Check that the flaps move down the same amount and do not bind in the up position. If one of the flaps moves down more than the other or binds in the up position, loosen the screw in the screw lock pushrod connector and adjust the pushrod until the flaps operate correctly. Check that all the screws in the screw lock pushrod connectors are tight against the pushrods.

### Check the Control Throws

#### 4-Channel Radio Set Up (Standard Mode 2)

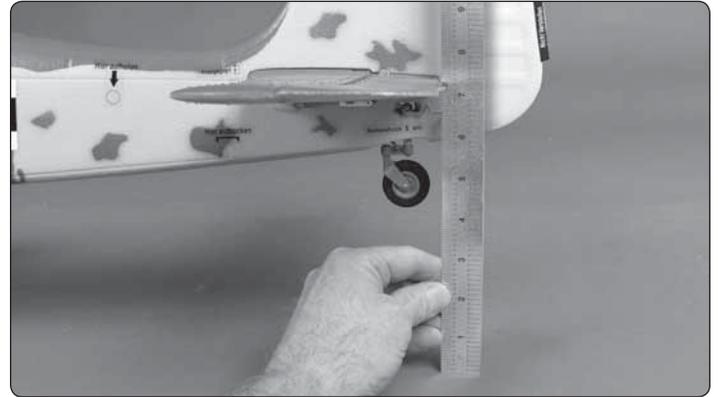


One major factor that determines how an airplane handles in the air is the control surface throw, or how far each control surface (aileron, elevator and rudder) moves up and down or left and right. If the throw is too much, the plane will respond too quickly. If the throw is too little, the plane will respond too slowly. The control throws in the Fw-190 have already been determined by where the pushrods are connected to the servo arms and the control surfaces and by how far the servo arms rotate. But, if you are using a radio control system different than the one recommended, the servo arms could rotate more or less than anticipated, changing the throws. Therefore, it's a good idea to double-check the throws just to make sure they are acceptable. Follow the procedure below to make sure the control throws are properly set.

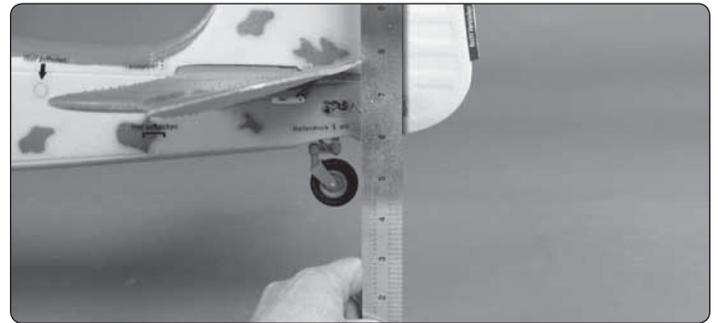
❑ 1. Move the aileron, rudder, elevator and throttle sticks on the transmitter, making sure the controls respond in the correct direction. Use the servo reversing function in the transmitter to reverse any of the controls necessary.

#### Measure the elevator throw first:

❑ 2. Use a small box or something similar to prop up the aft end of the fuselage so the stabilizer will be level (or nearly level).



❑ 3. Still without the propeller mounted on the motor, switch on your transmitter and connect the motor battery. Place a ruler next to the trailing edge of the elevator at the widest part (from front-to-back).

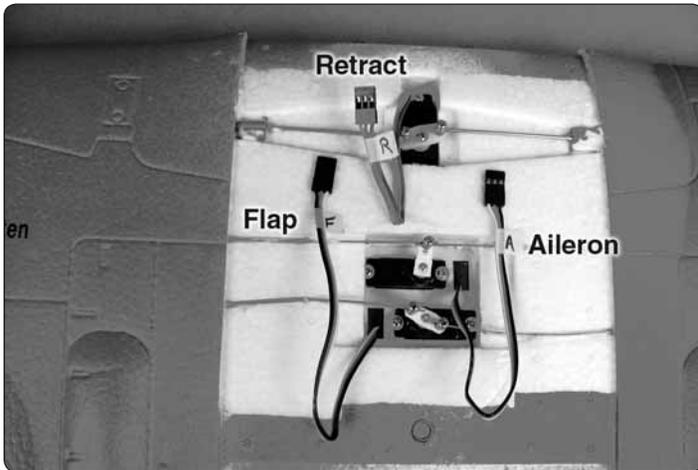


❑ 4. Use the transmitter to move the elevator up and measure the distance it moved from center. This is your "up" control throw. Measure the down elevator control throw following the same procedure. Compare the up and down elevator throw to the recommended elevator throw below. Measure and compare the rudder and aileron throws as well.

These are the recommended control surface throws:		
	LOW RATE	HIGH RATE
ELEVATOR	Up & Down 5/16" [8mm]	Up & Down 7/16" [11mm]
RUDDER	Right & Left 3/4" [19mm]	Right & Left 1" [25.4mm]
AILERONS	Up & Down 3/8" [10mm]	Up & Down 1/2" [13mm]
FLAP	Down 1/2" [13mm]	

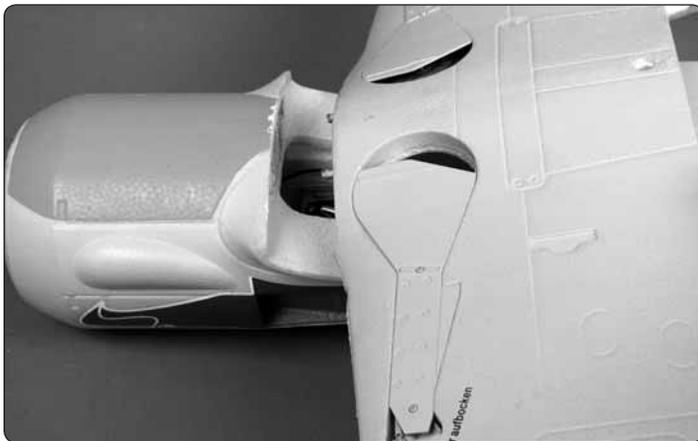
**Note:** If you ever install different servos in the plane or use a different radio control system, make sure you check that you still have the recommended control throws.

## Mount the Wing



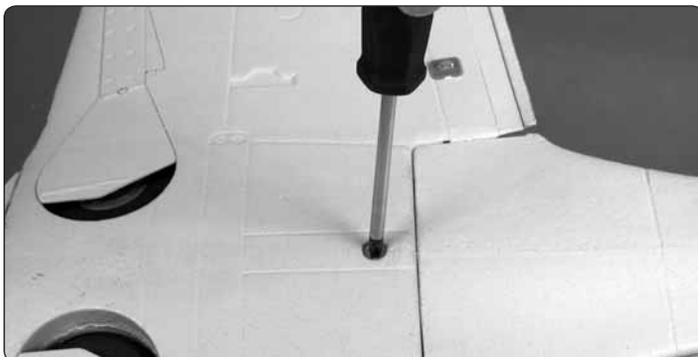
Before mounting the wing, we have found it is helpful to label the servo wires for the ailerons, flaps and retracts. This takes the guesswork out of reconnecting the servo wires to the receiver. We use a small piece of masking tape on each wire and label the ailerons 'A', the flaps 'F', and the retracts 'R'.

- ❑ 1. Connect the aileron, flap and retract servos to the receiver.



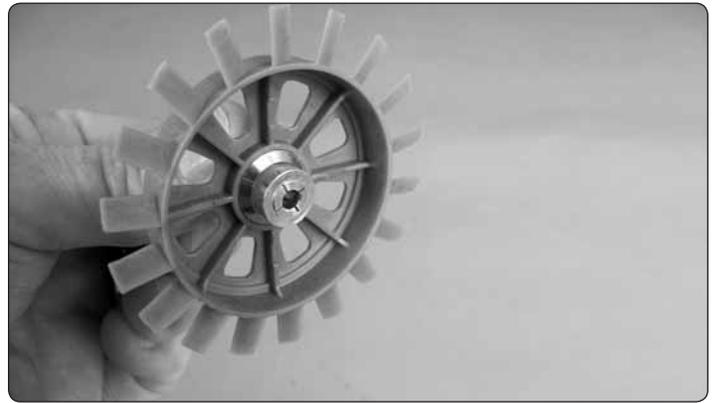
- ❑ 2. Insert the two wing dowels in the leading edge of the wing into the two holes at the front of the wing saddle.

- ❑ 3. Make sure that the servo wires do not interfere with the rudder and elevator servos or get caught between the wing and the wing saddle as the wing is seated on the fuselage.

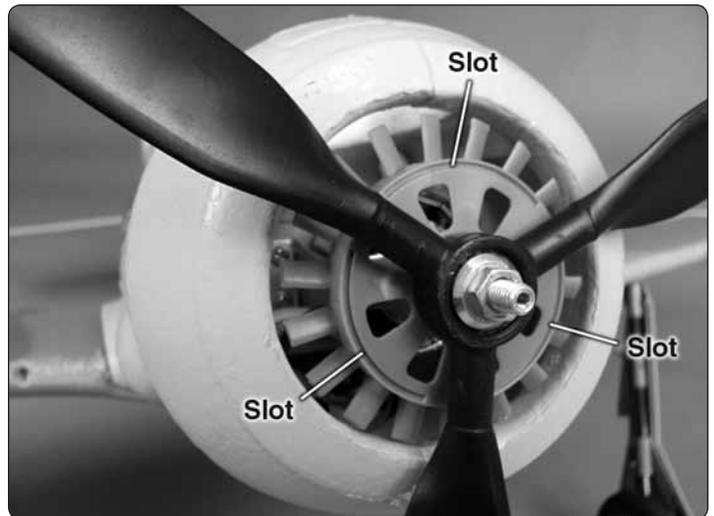


- ❑ 4. Secure the wing to the fuselage with a 6×25mm nylon wing bolt.

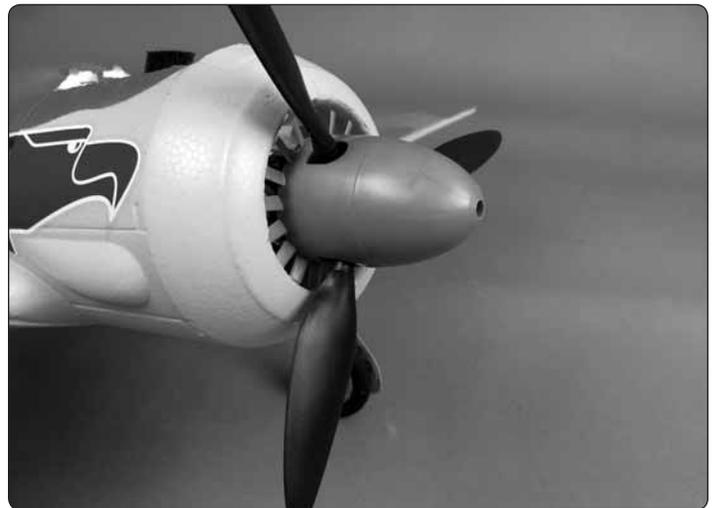
## Install the Propeller



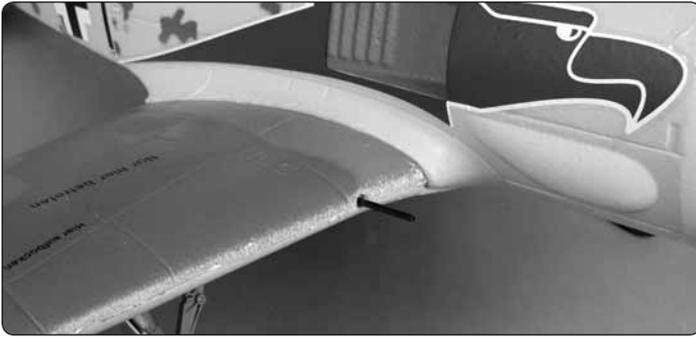
- ❑ 1. Insert the collet prop adapter through the engine louvers.



- ❑ 2. Install the collet prop adapter on the motor shaft. Slide the propeller on the prop adapter and secure it with the prop washer and prop nut. Align the propeller so that the slots in the engine louver are between the propeller blades. Then, tighten the prop nut with a wrench.



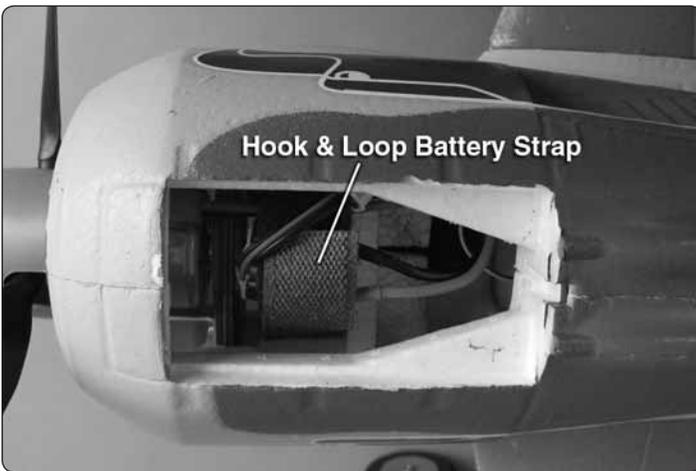
- ❑ 3. Position the spinner back plate over the propeller. Then, secure the spinner cone and back plate to the prop adapter with a 3×25mm machine screw.



- ❑ 4. Insert the two guns in the holes in the wing. Check that the guns do not interfere with the retracts.

### Check the C.G. (Center of Gravity)

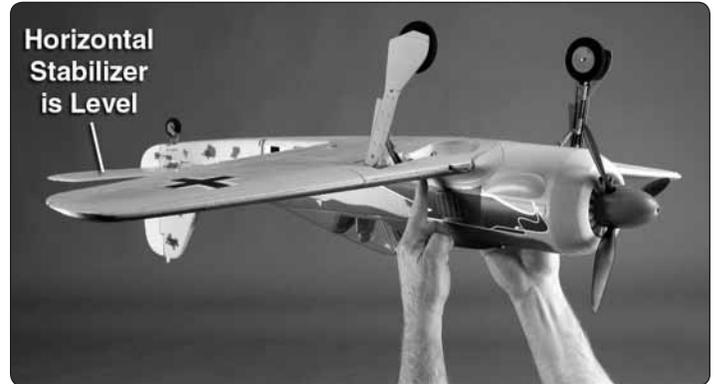
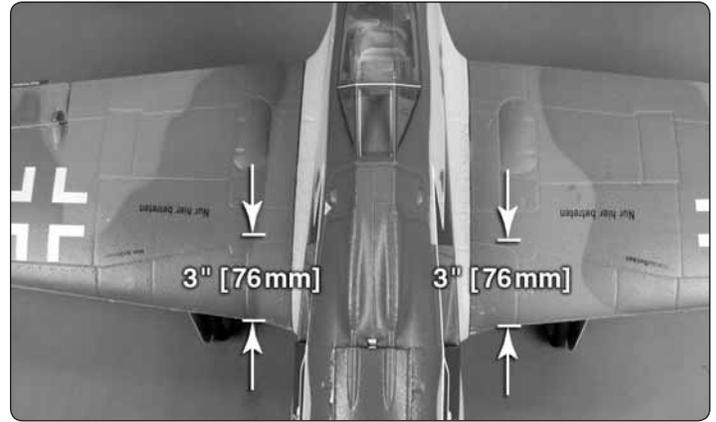
The C.G. (Center of Gravity) is the location on the wing where the model balances and has a great effect on how the plane will fly. If the C.G. is too far aft (tail heavy), the model will be too responsive. If the C.G. is too far forward (nose heavy), the model will not be responsive enough. As provided to you, your Focke-Wulf Fw-190 should already be properly balanced, or very nearly properly balanced, but it's a good idea to check the balance just in case. Follow the instructions to make sure the model is balanced properly and the C.G. is in the correct location.



- ❑ 1. Insert the motor battery in the fuselage and secure it with the hook and loop strap, but do not connect it to the ESC.



- ❑ 2. Install the battery hatch.



- ❑ 3. On the top of the wing, next to the wing fillets, place a mark 3" (76mm) from the leading edge or use the panel line. Place your fingers on these marks and lift the plane upside down. The fuselage should remain level – it may be helpful to have an assistant view the plane from the side. If the fuselage does not rest level, try moving your fingers under the wing. Your fingers can be moved forward or aft up to 5mm each way. As long as the fuselage is level with your fingers within the 5mm range, the balance range is acceptable, and the plane is ready to fly. However, even if after moving your fingers the acceptable 5mm forward, the nose remains low, tail weight will be required. Or, even if after moving your fingers the acceptable 5mm aft, the tail remains low, nose weight will be required. Balance the plane as instructed below.

**Note:** Even if your Fw-190 balances perfectly on the recommended balance point, later you may wish to change its flying characteristics by moving the C.G. forward or aft. Moving the C.G. forward (nose heavy) will make the plane more stable which may be better for windier days, but this will also make it less maneuverable. Moving the C.G. back (tail heavy) will make the plane more maneuverable which is good for experienced pilots who wish to perform aerobatics. In any regard, start at the recommended balance point and never fly the model with the C.G. outside the recommended range.

- ❑ 4. Determine the amount of weight required by placing segments of Great Planes stick-on lead (GPMQ4485) or similar weight, over the cowl or tail, but do not attach it yet.
- ❑ 5. Once the plane balances and you know how much lead will be required, permanently stick it into position. The best place to add nose weight is to remove the propeller and engine louvers and place the weight inside the cowl. If tail weight is required, simply attach it to the side of the fuselage, under the horizontal stabilizer.

❑ 6. Once the weight is attached, recheck the C.G. to make certain the plane still balances at the correct C.G. Once finished, remove the battery. Never charge the battery while it is installed in the model.

### Important ESC Information

- The ESC included with the Fw-190 has a safe start. If the motor battery is connected to the ESC and the throttle stick is not in the low throttle or off position, the motor will not start until the throttle stick is moved to the low throttle or off position. Once the throttle stick is moved to the low throttle or off position, the motor will give a short beep. The motor is now armed and will start when the throttle stick is moved.
- The motor and ESC come already connected and the motor rotation should be correct. However, if you disconnected the ESC from the motor and when you reconnected it, the motor is rotating in the wrong direction, reverse two of the three motor wires.
- The motor has an optional brake setting. The ESC comes with the brake switched off and we recommend that the Fw-190 be flown with the brake off. However, the brake could be accidentally switch on if the motor battery is connected to the ESC while the throttle stick is set at full throttle. To switch the brake off, move the throttle stick to full throttle and plug in the motor battery. The motor will beep one time. Move the throttle stick to low throttle or the off position. The motor is now ready to run and the brake will be switched off.
- The ESC in the Fw-190 can only be used with an 11.1V LiPo battery. The ESC has a set cutoff voltage and if a higher or lower voltage battery is used, the battery could be damaged.
- The ESC has a soft cutoff. At 8.77 volts the rpm of the motor will slowly be reduced until the voltage reaches 8.72 volts. At this point the motor will stop.

## GET THE MODEL READY TO FLY

### 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 and simply a “good idea” even if flying somewhere else. Write this information on a strip of masking tape and place it on the inside of the battery hatch (or simply write the information directly on the battery hatch).

## FLYING THE FOCKE-WULF Fw-190

The Fw-190 is not intended for beginners. It is however, easy to fly even for pilots with moderate experience. If you have not previously flown a trainer it is strongly suggested that you learn to fly with one first. Or, get the assistance of an experienced pilot to help you with the first few flights.

### Find a Suitable Flying Site

Find a flying site clear of buildings, trees, power lines and other obstructions. Until you know how much area will be required and have mastered flying your Fw-190 in confined spaces, a site at

least the size of two or three football fields should be adequate—a flying field specifically intended for R/C planes is best. Never fly near people—especially children who can wander unpredictably.

### Know Your Frequency

**CAUTION:** This applies only to pilots flying their Fw-190 with a radio control system that broadcasts on 72MHz. **This caution does not apply to pilots flying their Fw-190 on 2.4GHz.**

Transmitters operating on 72MHz operate on one of several frequencies available. To find your frequency (or “channel”), look at the label on the transmitter. If your channel happens to be the same as another model that is being flown nearby (even within a few miles), one or both models will crash. Know your frequency and be aware of the frequency of other models that are flying nearby—especially if you are flying at a radio control flying site. All flying sites have some sort of frequency control system to avoid this kind of interference, so learn how to use their frequency control system. **Never** turn on your transmitter until you are certain that you will be the only one operating on your frequency.

### Perform a Range Check

As a precaution, an operational *ground range test* should be performed before the first flight each time you go out. Performing a range test is a good way to detect problems that could cause loss of control such as low batteries, defective or damaged radio components or radio interference. This usually requires an assistant and should be done at the actual flying site you will be using.

First turn on the transmitter, then install the fully-charged battery into the fuselage. Connect the battery and install the hatch.

**Remember, use care not to “bump” the throttle stick. Otherwise, the propeller will turn and possibly cause damage or injury.**

To range check the Tactic TTX600 radio control system, switch on the transmitter and connect the motor battery to the ESC. Set the model on the ground and have an assistant hold the model. Walk 100’ (90m) from the model and while pointing the transmitter at the plane, operate the controls ensuring that the plane’s surfaces operate according to the transmitter inputs. Operate the motor at different rpm. Have your assistant alert you if the controls quit responding or move suddenly or erratically. If you are using a different radio control system, follow the instructions that came with your radio control system to perform a ground range check.

If the controls aren’t working correctly or if anything seems wrong, don’t fly the model until you find and correct the problem. Make certain all the servo wires are securely connected to the receiver and the transmitter batteries are in good condition.

### Monitor Your Flight Time

Monitor and limit your flight time using a timer (such as one on a wrist watch or in your transmitter if yours has one). When the

batteries are getting low you will usually notice a performance drop before the ESC cuts off motor power, so when the plane starts flying slower you should land. Often (but not always), power can be briefly restored after the motor cuts off by holding the throttle stick all the way down for a few seconds.

To avoid an unexpected dead-stick landing on your first flight, set your timer to a conservative 4 minutes (in most conditions the Fw-190 will usually fly for approximately 5 minutes, but this can vary). When your alarm sounds you can either land right away, or if you are an experienced pilot you may continue to fly until the motor finally quits. Then, glide it in for a landing. If planning a “dead-stick,” circle your Fw-190 upwind of the landing area until the motor quits and note the run time.

When you learn how much flight time you are getting you can adjust your timer accordingly. Always be conservative so the motor won't quit unexpectedly and you will have enough battery to land under power.

## FLYING

The Fw-190 is a great-flying model that flies smoothly and predictably. The Fw-190 does not, however, possess the self-recovery characteristics of a primary R/C trainer and should be flown only by experienced R/C pilots.

**CAUTION (THIS APPLIES TO ALL R/C AIRPLANES):** If, while flying, you notice an alarming or unusual sound such as a low-pitched “buzz,” this may indicate control surface *flutter*. Flutter occurs when a control surface (such as an aileron or elevator) or a flying surface (such as a wing or stab) rapidly vibrates up and down (thus causing the noise). In extreme cases, if not detected immediately, flutter can actually cause the control surface to detach or the flying surface to fail, thus causing loss of control followed by an impending crash. The best thing to do when flutter is detected is to slow the model **immediately** by reducing power, then land as soon as safely possible. Identify which surface fluttered (so the problem may be resolved) by checking all the servo grommets for deterioration or signs of vibration. Make certain all pushrod linkages are secure and free of play. If it fluttered once, under similar circumstances it will probably flutter again unless the problem is fixed. Some things which can cause flutter are; Excessive hinge gap; Not mounting control horns solidly; Poor fit of clevis pin in horn; Side-play of wire pushrods caused by large bends; Excessive free play in servo gears; Insecure servo mounting; and one of the most prevalent causes of flutter; Flying an over-powered model at excessive speeds.

## Takeoff

Before you get ready to takeoff, see how the model handles on the ground by doing a few practice runs at **low speeds** on the runway. Note the amount of rudder steering required to turn the plane. If you need to calm your nerves before the maiden flight, bring the model back into the pits, unplug the battery and peak charge it.

Remember to takeoff into the wind. When you're ready, point the model straight down the runway and gradually advance the throttle. Gain as much speed as your runway and flying site will practically allow before gently applying up elevator, lifting the model into the air. Be smooth on the elevator stick, allowing the

model to establish a **gentle** climb to a safe altitude before turning into the traffic pattern.

## Flight

For reassurance and to keep an eye on other traffic, it is a good idea to have an assistant on the flight line with you. Assistants are great for helping make trim adjustments on the transmitter if excessive trim is required.

Take it easy with the Fw-190 for the first few flights, gradually getting acquainted with it as you gain confidence. Adjust the trims to maintain straight and level flight. After flying around for a while, and while still at a safe altitude with plenty of battery power remaining, practice slow flight and execute practice landing approaches with the flaps, checking how the model handles at slower speeds. Add power to see how she climbs as well. Continue to fly around, executing various maneuvers and making mental notes (or having your assistant write them down) of what trim or C.G. changes may be required to fine tune the model so it flies the way you like. Mind your battery power. We recommend setting the timer on your transmitter or using a separate timer with an alarm to alert you when it is time to land. Electric motors are very reliable, but if you fly until the battery cutoff on the ESC stops the motor, it's still a dead stick landing, the same as with a glow engine.

## Landing

To initiate a landing approach, lower the throttle while on the downwind leg. Lower the landing gear and the flaps. Adjust the throttle to allow the nose of the plane to pitch downward to gradually bleed off altitude. Continue to lose altitude, but maintain airspeed by keeping the nose down as you turn into the crosswind leg. Make your final turn toward the runway (into the wind) keeping the nose down to maintain airspeed and control. Level the attitude when the plane reaches the runway threshold, adjusting the throttle as needed to maintain your glide path and airspeed. The Fw-190 slows down nicely. Use the throttle to adjust the plane's altitude. It may require a couple of landing attempts to get the “feel” of how the plane slows down. If you are going to be long on the landing, slowly increase the throttle, gently applying up elevator. When the plane is a foot above the runway, smoothly increase up elevator until the plane gently touches down.

One final note about flying your Fw-190. Have a goal or flight plan in mind for **every** flight. This can be learning a new maneuver(s), improving a maneuver(s) you already know, or learning how the model behaves in certain conditions (such as on high or low rates). This is not necessarily to improve your skills (*though it is never a bad idea!*), but more importantly so you do not surprise yourself by impulsively attempting a maneuver and suddenly finding that you've run out of time, altitude or airspeed. Every maneuver should be deliberate, not impulsive. For example, if you're going to do a loop, check your altitude, mind the wind direction (anticipating rudder corrections that will be required to maintain heading), remember to throttle back at the top, and make certain you are on the desired rates (high/low rates). A flight plan greatly reduces the chances of crashing your model just because of poor planning and impulsive moves. **Remember to think.**

**Have a ball! But always stay in control  
and fly in a safe manner.**

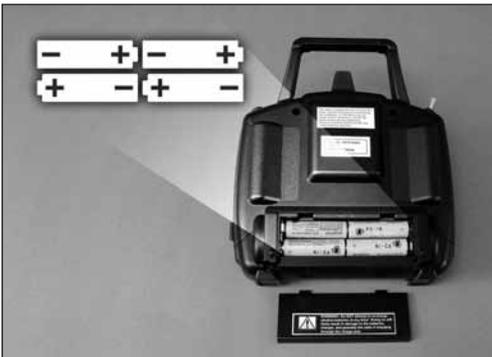
**GOOD LUCK AND GREAT FLYING!**

## TACTIC TTX600 2.4 GHz 6-CHANNEL RADIO



### Transmitter Batteries

Four "AA" batteries are required to power the Tx (not included). Non-rechargeable 1.5V alkaline, or 1.2V rechargeable nickel-cadmium (NiCd) or nickel-metal hydride (NiMH) cells, can be used. Do not mix cell types, or old and new cells, etc.



To install the batteries, slide the battery door down. Insert the cells as shown in the diagram, making sure to note proper polarity for each cell. Close the battery door.

### POWER SWITCH, LED, and LOW BATTERY ALARM

The red power LED should light when the power switch is moved upwards to the "ON" position. The Tx should have adequate power for flight when the LED is on constantly. Anytime the LED begins to flash, accompanied by the sounding of an audible tone, the Tx battery voltage has dropped too low and operation of the model should NOT be attempted!



**WARNING!** Never operate an R/C model with weak Tx batteries! Reduced operational range and/or possible loss of control of the aircraft could result. Replace weak alkaline batteries, or re-charge NiCd or NiMH batteries, before attempting a flight!

If during a flight the Tx LED starts to flash, accompanied by the sounding of audible tones, it's a warning that the Tx batteries have become weak and the aircraft should be landed as soon as possible!

### Adjustable Sticks



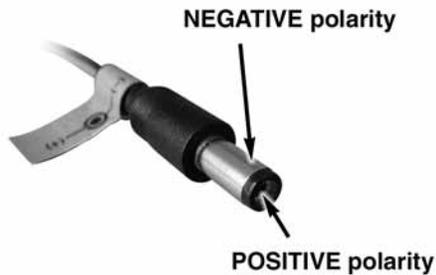
The length of both gimbal sticks can be adjusted as desired. Loosen the set screw inside the center of the stick with a 2mm hex wrench. Rotate the stick end counter-clockwise to lengthen the stick, or clockwise to shorten the stick. Once the desired stick length is found, tighten the set screw with the hex wrench.

## Charge Jack



**WARNING!!** Do NOT attempt to recharge alkaline batteries! The charge jack should ONLY be used if rechargeable cells are used in the transmitter.

The TTX600 includes a built-in charge jack for convenient recharging of NiCd or NiMH batteries, and is compatible with charge leads designed for Futaba® brand transmitters (HCAP0101). This jack is NOT compatible with charge leads for Hitec®, Airtronics®, JR® or Spektrum® radios.



To use the charge jack with optional rechargeable batteries, first remove the sticker that covers the charge jack on the side of the Tx – making sure not to allow any object to be inserted inside the jack itself. Next, insert the cells inside the Tx's battery compartment noting proper polarity. Make sure the transmitter's power switch is in the OFF position. Connect a compatible charge lead to the jack and follow the instructions included with the charger for charging of NiCd or NiMH batteries that are rated at 4.8V.

Tactic's optional TACP1000 rechargeable battery and wall charger kit includes eight "AA" size rechargeable NiMH cells and 110V AC wall charger, which is compatible with this Tx and can be found at local retailers. Make sure to follow the instructions included with the charge kit.



**WARNING!!** It's not recommended to charge batteries at greater than 1 amp through this charge jack. Fast charging of NiCd and NiMH batteries should ONLY be done with chargers that are specifically designed to include the peak-detection function which can automatically stop charge when full charge is detected. Misuse, improper charging, or over-charging of rechargeable cells can result in damage to the cells that could include cell rupture, explosion, or fire!!

## Trainer Function

The TTX600 Tx includes a built-in **wireless** trainer function – no trainer cable required! This trainer system connects a teacher's Tactic Tx to a student's Tactic Tx by wireless connection. Tactic's wireless trainer function is not compatible with trainer systems in any other brand radios.



**IMPORTANT!** Before attempting to fly the airplane, it's very important to make sure all reversing switches and trim lever adjustments on the student's Tx match the settings on the teacher's Tx! Otherwise, the airplane could suddenly veer off in an unwanted manner when the teacher's trainer switch is pressed. Proper matching of the student and teacher's Tx settings should ensure that no unexpected movements occur when the trainer switch is pressed. This is especially true of the throttle control!

1. The Tx that was used to set up the controls on the aircraft must be used by the TEACHER.
2. The student must use a separate Tactic Tx with wireless trainer function.
3. Place the teacher and student's transmitters within 1 meter of each other, and make sure the throttle stick for each Tx is set to idle.
4. Turn ON the power switch for the Tx being held by the student.
5. Pull and hold the trainer switch on the teacher's Tx, and then turn ON the teacher's Tx power switch.
6. The LED on the teacher's Tx will flash 3 times to indicate it has become bound with the student's Tx.
7. The teacher can then release his trainer switch.
8. Once both transmitters are bound together, power can be applied to the receiver to prepare for flight.

When the training session has ended, with the model on the ground and all power removed from the model, place both transmitters within 1 meter of each other and simply turn the power switch for both transmitters to the OFF position. This will terminate the wireless link between both transmitters. If additional training will be performed again, return to step 1 above to re-establish the wireless link between the teacher and student's transmitters.

## Failsafe Function

The included TR624 receiver has a failsafe feature which engages in the event that the radio signal from the transmitter somehow becomes interrupted. If radio contact is broken, this safety feature causes the servos to automatically move either to a certain position, or hold their last position to prevent the model from moving in an erratic manner. Channels 1, 2, 4, 5, and 6 will enter a “hold” mode, whereby the servos will lock in their last recognized position.

The servo connected to channel 3, normally being the throttle control, will move to a pre-set position. The factory default failsafe position for channel 3 is to move to **0% throttle**. Motor/prop movement should stop if the receiver loses signal from the transmitter. The throttle servo’s failsafe position can be manually re-set to any other position if desired, as follows:

**IMPORTANT NOTE:** Before manually resetting the failsafe, make sure the servo reversing switches are in the correct position for the application.

1. Apply power to the Tx and Rx.
- 2a. If using an ESC, do NOT arm the ESC. Do NOT attempt to adjust the throttle’s failsafe position if the ESC is armed.
- 2b. If using a gas or glow powered engine, do NOT attempt to adjust the throttle’s failsafe position while the engine is operating.
3. Move the Tx throttle stick to the desired position for the throttle control to move if the Rx goes to failsafe.
4. Press and hold the “Bind” button on the receiver, and the Rx’s LED should blink twice. Release the Bind button, and the receiver’s LED should turn on (stop flashing). The Tx and Rx should now be bound, with the throttle failsafe in the new position as set above.

**NOTE:** If you’re using an ESC which has a signal loss feature, the pre-set failsafe position is irrelevant as the signal loss feature will cease the throttle operation if the signal is lost.

## System Check and Operation

**WARNING!** During all pre-flight preparations with the aircraft on the ground, make sure the throttle stick remains at the minimum position and do not stand the Tx upright on the ground. Carefully lay the Tx on its back on the ground to prevent it from falling over and possibly dislodging the throttle stick from the low position which would create a safety hazard. Make sure all devices are properly mounted inside the model, and all wiring connections are solid to prevent them from easily becoming dislodged during normal flight. It’s best to check the system with the propeller removed from the aircraft.

1. Once all connections are made, check the general operation of the radio and all other components before attempting a flight.
2. Move the Tx throttle stick to the minimum (idle) position.
3. Turn on the Tx, and then the Rx.
4. Make sure all controls are operating in the proper direction. If any servo is turning in the wrong direction, change the position of the reversing switch for that particular channel.
5. With both sticks at center position, move the trim levers for the aileron, elevator, and rudder channels so each respective control surface is perfectly aligned with the main surface. For example: When the aileron trim lever is in the center position, it’s best that the trailing edge of the aileron is aligned with the trailing edge of the wing itself (not above or below the wing’s trailing edge).
6. Make sure that movements of the throttle stick result in an equal adjustment of the throttle in the model. Confirm that when the throttle stick is at maximum position the electronic speed control gives the appropriate indications (LED and/or audible indicators) for full forward flight. When the throttle stick is at minimum position, the electronic speed control should give the appropriate indications for “off” or no motor rotation.
7. Anytime power is to be removed from the radio system, it’s important to shut down power in the aircraft **first**. Otherwise, the aircraft could become out of control and cause a safety hazard! Move the throttle stick and throttle trim lever to minimum position to stop the glow engine or shut down the ESC. Once the propeller has stopped rotating, shut off the ON/OFF power switch in the model, and disconnect the power battery from the ESC in electric airplanes. Then turn off the power switch in the Tx.

## AMA Safety Code (Excerpts)

Read and abide by the following excerpts from the Academy of Model Aeronautics Safety Code. For the complete Safety Code refer to Model Aviation magazine, the AMA web site or the Code that came with your AMA license.

### 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 aircraft 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 and deliberately fly my models in a careless, reckless and/or dangerous manner.
5. I will not fly my model unless it is identified with my name and address or AMA number, on or in the model. **Note:** This does not apply to models while being flown indoors.
7. I will not operate models with pyrotechnics (any device that explodes, burns, or propels a projectile of any kind).

### 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 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 the front of the flight line. Intentional flying behind the flight line is prohibited.
4. I will operate my model using only radio control frequencies currently allowed by the Federal Communications Commission.
5. **I will not knowingly operate my model within three miles of any pre-existing flying site except in accordance with the frequency sharing agreement listed [in the complete AMA Safety Code].**
9. Under no circumstances may a pilot or other person touch a powered model in flight; **nor should any part of the model other than the landing gear, intentionally touch the ground, except while landing.**

## Specifications

TTX600 6-Channel Transmitter	
<b>Channels</b>	6
<b>Frequencies</b>	2.403 – 2.480GHz
<b>Modulation</b>	FHSS spread spectrum
<b>Input power</b>	Four “AA” alkaline, NiCd, or NiMH cells (3.8 – 8.0V, not included)
<b>Output power</b>	< 0.1W
<b>Power indicators</b>	LED, with low voltage alarm
<b>Reversing switches</b>	Slide switches, four channels
<b>Trims</b>	Analog for throttle, digital for aileron, elevator, rudder
<b>Antenna</b>	Built-in non-removable
<b>Charge jack</b>	Built-in (Futaba® compatible, for use with optional NiCd or NiMH cells)
<b>Trainer function</b>	Wireless (compatible with Tactic brand transmitters only)
<b>Optional mixes</b>	Elevon, V-Tail
<b>Dual rates</b>	100/60 % for aileron/elevator/rudder
<b>Channel 5</b>	Non-proportional on/off
<b>Channel 6</b>	Proportional

Tactic TR624 Receiver	
<b>Channels</b>	6
<b>Frequencies</b>	2.403 – 2.480GHz
<b>Modulation</b>	FHSS spread spectrum
<b>Input power</b>	Four “AA” alkaline, NiCd or NiMH cells (4.0 – 6.0V, not included)
<b>Failsafe</b>	Programmable throttle, all other channels hold
<b>Dimensions</b>	1.77 × 0.98 × 0.5" (45 × 25 × 13mm)
<b>Weight</b>	0.28 oz (8g)

## Important Warnings and Precautions



- **NEVER** allow water or moisture to make contact with the electronic components inside the transmitter, receiver, servos, switch harness, etc.! This could lead to failure or improper functionality of components and poor control of aircraft which could pose a safety hazard.
- **NEVER** operate R/C model aircraft near power lines, radio or cell phone towers, roads or automobiles, buildings, or pedestrians. Be very careful in locations where many R/C aircraft are being used simultaneously.
- **NEVER** operate R/C equipment if you are physically impaired as it could pose a safety hazard to yourself or others in the area.
- **NEVER** allow small children to operate/control model R/C equipment without the supervision of an adult.
- **NEVER** allow the transmitter's throttle stick to accidentally be moved away from the "off" or minimum position while the model's engine/motor is moving.
- **ALWAYS** range check the radio system before use.
- **ALWAYS** make sure that all transmitter stick movements operate all servos properly in the model. Check the proper operation of control surfaces before and after starting the engine/motor.
- **ALWAYS** make sure the transmitter antenna is unfolded entirely so that it's pointing upright to ensure max. range and control of the aircraft.
- Do not store your radio equipment in extremely hot or cold locations, in direct sunlight, or in locations with high humidity. Store R/C equipment in cool and dry locations.
- Do not allow chemicals to come in contact with any parts of the radio system. Substances such as glow fuel, gasoline, CA glue, etc. could permanently damage plastic parts of the radio system.
- If NiCd batteries were installed in the transmitter, remove the batteries before placing the radio in long-term storage.

## Troubleshooting

### **RANGE IS SHORT**

Interference – check Rx installation and servo connections.  
Low Tx or Rx battery – replace the batteries or recharge if applicable. Rx may need to be located to a different position in the model for better reception. Crash damage – send the radio to Hobby Services for repair.

### **RUN TIME IS SHORT**

Low Tx or Rx batteries – replace or recharge the batteries.  
Obstructed servo linkages causing excess battery drain – free the linkages / pushrods.

### **Tx POWER SWITCH ON BUT SERVOS DO NOT FUNCTION**

Tx or Rx batteries are low – replace or recharge the batteries. Rx switch is in the off position – turn on the ESC or switch harness. Switch harness or ESC is connected incorrectly – check all connections and the ESC instruction manual. Rx is not binded to the Tx properly – perform binding process again. Check Tx or Rx battery polarity.

### **INTERFERENCE OR SERVOS GLITCHING**

Out of range – operate the model more closely to the transmitter. Outside radio interference from pagers, strong industrial or other commercial transmitters in the area - check your local R/C club regarding local operation. Rx located too closely to engine, motor, or servos or other moving mechanical parts which might be creating unwanted electrical noise – relocate the Rx inside the model or relocate the ESC.

### **CONTROL SURFACE MOVES IN THE WRONG DIRECTION**

Reverse the position of the reversing switch for the appropriate channel.

### **ONLY ONE SERVO GLITCHES**

Servo is bad – replace the servo or send to Hobby Services for repair.

### **FAILSAFE NOT WORKING CORRECTLY**

Receiver is not properly binded to the transmitter – bind the Rx to the Tx and re-try. Contact Hobby Services for further details.

### **WIRELESS TRAINING FUNCTION NOT BINDING**

Check to see that another Tactic 2.4GHz system is not on in your area. The teacher's and student's transmitters were not powered in the proper sequence. Carefully follow the instructions on page 15 for proper binding and operation for training.

### **RECHARGEABLE BATTERIES WON'T ACCEPT CHARGE THROUGH THE TRANSMITTER**

Check the charger for proper setup and operation. Make sure the charge plug is inserted fully into the charge jack. Make sure the transmitter's power switch is in the OFF position. Make sure the cells are inserted inside the battery compartment in the proper direction.

## FCC Statement

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions.

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

**FCC Rf Radiated Exposure Statement:** The equipment complies with FCC Rf radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

**Note:** The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC ID: IYFTTX600

## CE Compliance Information for the European Union

### Instructions for Disposal of Waste Equipment by Private Users in the European Union:



This symbol on the product or its packaging indicates this product must not be disposed of with other household waste. Instead, it is the user's responsibility to dispose of their waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or location where you purchased the product.

### Declaration of Conformity:

**Product:** Tactic TTX600 2.4GHz 6-Channel Tx Rx  
**Item number:** TACJ2600  
**Equipment class:** 1



### Tactic TTX600 transmitter and Tactic TR624 receiver:

The objects of the declaration described here are in conformity with the requirements of the specifications listed below, following the provisions of the European 2006/95/EC Low Voltage Directive:

*EN 60950-1:2006*                      *Safety*

The objects of the declaration described here are in conformity with the requirements of the specifications listed below, following the provisions of the European R&TTE directive 1995/5/EC:

*ETSI EN 300 328 V1.7.1*              *Technical requirements for radio equipment*  
*ETSI EN 301 489-1 V1.8.1,*        *General EMC requirements for radio equipment*  
*301 489-17 V1.3.2*

### Tactic

c/o Hobbico, Inc.  
2904 Research Road  
Champaign, IL USA 61826

### CE COMPLIANCE INFORMATION FOR THE EUROPEAN UNION

The associated regulatory agencies of the following countries recognize the noted certifications for this product as authorized for sale and use.

UK	DE	DK	BG	SE	FI	
EE	LV	LT	PL	CZ	SK	HU
RO	SI	AT	IT	ES	PT	IE
NL	LU	MT	CY	GR		

## TTX600 One Year Limited Warranty \*U.S.A and Canada

Tactic warrants this product to be free from defects in materials and workmanship for a period of one (1) year from the date of purchase. During that period, Tactic will, at its option, repair or replace without service charge any product deemed defective due to those causes. You will be required to provide proof of purchase (invoice or receipt). This warranty does not cover damage caused by abuse, misuse, alteration or accident. If there is damage stemming from these causes within the stated warranty period, Tactic will, at its option, repair or replace it for a service charge not greater than 50% of its then current retail list price. Be sure to include your daytime telephone number in case we need to contact you about your repair. This warranty gives you specific rights. You may have other rights, which vary from state to state.

For service on your Tactic product, send it post paid and insured to:

**HOBBY SERVICES** Ph: (217) 398-0007  
3002 N. Apollo Dr., Suite 1 (9:00am–5:00pm CST, M–F)  
Champaign, IL 61822

E-mail: [hobbyservices@hobbico.com](mailto:hobbyservices@hobbico.com)  
[tacticrc.com](http://tacticrc.com)

- This product is suitable only for people of 14 years and older. This is not a toy!
- **WARNING: CHOKING HAZARD** - May contain small parts. Keep away from children under 3 years. Please retain packaging for future reference.
- No part of this manual may be reproduced in any form without prior permission.
- The contents of this manual are subject to change without prior notice.
- Tactic is not responsible for the use of this product.

