



## OPERATING INSTRUCTIONS & ASSEMBLY MANUAL

Thank you for purchasing a Traxxas Spirit. This manual contains the instructions you will need to set-up, operate, and maintain your new Spirit truck. The assembly portion of this manual also covers Traxxas Tom-Cat. Look over this entire manual and examine the Spirit carefully before running (or assembling) it. If for some reason you think the Spirit is not what you wanted, then do not continue any further. Your hobby dealer *absolutely* cannot accept a Spirit for return or exchange after it has been run, or after any of the kit bags have been opened. Please read all of the Operating Instructions and Precautions before attempting to drive your new Spirit. If you purchased the unassembled version of the Spirit, then begin with the "Tools You Will Need" section. If you have any questions about your new Spirit, then call Traxxas' technical support line at (888) TRAXXAS (888-872-9927) (U.S.A. residents only). Technical support is available Monday through Friday, from 8:30 AM to 9:00 PM Central Time. Questions can be e-mailed 24 hours a day at support@traxxas.com. We hope that you will enjoy your Spirit race truck.

### **THE TQ RADIO SYSTEM (RTR Models only)**

**TWO-CHANNEL RADIO SYSTEM** - The radio system in your model consists of the RECEIVER, the TRANSMITTER, the SERVOS, and the CRYSTALS. It has two channels, one to operate the throttle, and one to operate the steering.

**Note:** Unassembled kits do not include the radio system.

**TRANSMITTER** - The TRANSMITTER is the hand-held radio unit which sends throttle and steering instructions to the model.

**RECEIVER** - The RECEIVER is the radio unit inside the model which receives signals from the TRANSMITTER and relays them to the SERVOS.

**SERVO** - The SERVOS are the small motor units in the model which operate the steering and throttle mechanisms.

**NICAD (Ni-Cd)** - This term stands for rechargeable, nickel cadmium batteries. These batteries are most economical and can be recharged up to 500 times.

**FREQUENCY BAND** - The FREQUENCY band is the radio frequency that the transmitter uses to send signals to the model. The TQ radio system operates on the 27 MHZ FREQUENCY BAND.

**CLEARING YOUR FREQUENCY** - CLEARING your frequency means checking to be sure no one else in the area is operating on the same CHANNEL as you.

**CHANNEL** - The 27 MHZ FREQUENCY BAND is divided into 6 CHANNELS, so that up to six models can be operated simultaneously. These CHANNELS are referred to by their number and flag color. The chart below lists the channels and their flag colors.

27MHZ	FLAG COLOR	CH#	TRAXXAS PART#
26.995	BROWN	1	2031
27.045	RED	2	2032
27.095	ORANGE	3	2033
27.145	YELLOW	4	2034
27.195	GREEN	5	2035
27.255	BLUE	6	2036

**CRYSTAL (X-TAL)** - The CRYSTAL is the plug-in device that determines which channel (1-6) the RADIO SYSTEM will operate on. For each CHANNEL, there are two CRYSTALS, one for the RECEIVER and one for the TRANSMITTER. Of those two CRYSTALS, the one marked with the lower number (.455 MHZ lower) must be inserted in the RECEIVER.

**NEUTRAL POSITION** - The NEUTRAL POSITION is the standing position that the SERVOS seek when the TRANSMITTER controls are at neutral.

**TRIM** - TRIM is the fine-tuning adjustment of the NEUTRAL POSITION of the SERVOS. This adjustment is made by turning the throttle and steering trim knobs on the face of the TRANSMITTER



### **PREPARING TO RUN**

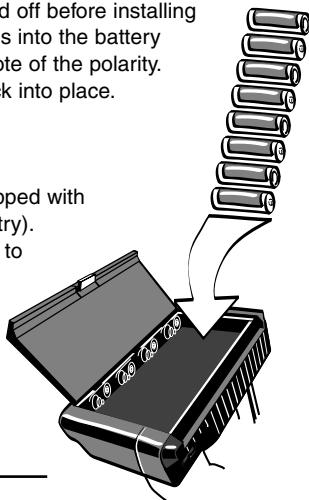
#### **• INSTALLING TRANSMITTER BATTERIES**

Your transmitter uses 8 "AA" size batteries. They should be alkaline dry cells or nicad rechargeable batteries. The battery compartment is located in the bottom of the transmitter. To remove the battery door, push down on the tab and lift open the door.

Be sure that the switch is turned off before installing the batteries. Insert the batteries into the battery compartment making careful note of the polarity. Now, snap the battery door back into place.

#### • RECEIVER BATTERIES

The Traxxas receiver is equipped with B.E.C. (battery eliminator circuitry). This circuit eliminates the need to carry a separate 4-cell battery pack to power the radio system in battery-powered electric models. No extra receiver batteries are required.



#### BATTERIES AND CHARGING

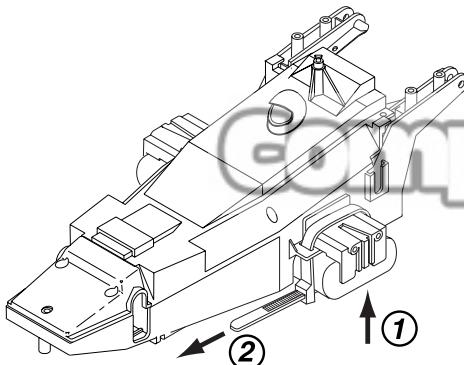
Your Spirit truck requires either a 6 or 7-cell rechargeable nicad battery pack (not included). There are a variety of different battery packs available and you should consult your hobby dealer to determine which is best for your needs. 6-cell packs are 7.2 volts and 7-cell packs are 8.4 volts. 7-cell packs must be "flat packs" in order to fit in the Spirit. To use the seven cell packs, the battery stays on each side of the chassis must be moved to their outer positions by removing the screw, sliding the stay outward, and then replacing the screw.

To install the battery, first install the nylon straps through the slots in the battery stay, as shown (insert the strap up through the front slot and down through the back slot). Place the battery in the chassis (arrow 1), close the straps, and then pull the straps tightly towards the front of the Spirit (arrow 2).

A 7-cell pack will cause your Spirit to go faster however, they take longer to charge, the motor will run hotter, run time will decrease, and stress on the driveline components will increase. A 6-cell pack is recommended for normal, everyday use. The MAH (milliamp-hour) rating of the battery refers to its capacity. For example, a 1500MAH battery should run your Spirit longer than a 1200MAH battery pack.

You will need a charger (not included) to charge your battery pack. There are a wide variety of chargers available in all different price ranges. Have your hobby dealer recommend a charger based on the type of battery packs you are using, how often you will be charging, and your budget. Do not charge the battery pack while it is installed in the Spirit, and **never leave a charging battery unattended.**

Because of the many types of batteries and chargers, it is impossible to provide exact time amounts to expect for charging and running. On average, it takes about 15-20 minutes to charge a battery pack. A typical, fully-charged "sport" battery pack will last about 6-10 minutes in the Spirit. This number can vary greatly depending upon how you drive.

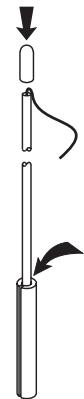


#### ANTENNA SETUP

Locate the plastic tube and the antenna tip (supplied in the bag with your instructions). Insert the black antenna wire, extending from the receiver housing, into one end of the tube and push it all the way through. Spray the wire with glass cleaner to make it easier to insert.

Insert the tube into the antenna mount in the side of the chassis (see step 41 on page 10). Fold the remaining antenna wire over the top of the antenna tube and secure it with the vinyl antenna tip.

Under no circumstances should you ever cut your antenna wire. Its length is specially tuned to the frequency band, and cutting it could severely shorten the radio's range.



#### SETTING UP TO DRIVE

The TQ radio system installed in your RTR model was pre-adjusted before it left the factory; however, the adjustment should be checked prior to running the model. These instructions are for Traxxas radio systems only.

- 1) Before you ever turn your radio system on, you must "clear" your frequency. Clearing your frequency means checking to be sure that no one else in the area is operating on the same channel as you. There are six different channels numbered 1 through 6. Each of the six channels is represented by a color. Look at the crystal on the back of the transmitter to determine which of the channels your model is operating on.
- 2) Always turn the transmitter on first, before you plug the battery pack into the model. **Fully extend** the chrome telescopic antenna. Slide the transmitter switch to the "on" position. The red light should be on and not flashing. A flashing red light indicates weak batteries. Do not operate your model with weak or discharged batteries. Weak batteries will cause the range of your model to be limited, and you could lose control.
- 3) Plug the nicad battery pack into the mechanical speed control. The servos should jump and move to their idle (neutral) positions. **Note: Traxxas models with mechanical speed controls do not use an on/off switch. Plugging the battery in turns the system on, unplugging the battery turns it off.**

**CAUTION:** When nicad batteries begin to lose their charge, they will fade much faster than alkaline dry cells. Stop immediately at the first sign of weak batteries. Never turn the transmitter off when the battery pack is plugged in. The model could run out of control.
- 4) Operate the steering control on the transmitter (channel 1). Check for rapid operation of the steering servo and that none of the steering mechanism is loose or binding. If the servo operates slowly, check for weak batteries. Turn the "steering trim" control on the transmitter to adjust the servo so that the front wheels are pointing straight ahead. Check to be sure that the wheels do not turn more in one direction than in the other. If you cannot align the front wheels, you will have to re-center your steering servo (see "centering your servos").
- 5) If the motor started running when you plugged in the battery pack, then slowly adjust the throttle trim on the transmitter until the motor stops running. Now operate the throttle trigger to ensure that you have full forward and reverse operation, and that the motor stops when the throttle trigger is at neutral.

6) The radio system should be range-tested before each session of running. With the radio system on, have a friend carry the model away from you a distance equal to the maximum range you plan to operate the model. Make sure your friend avoids contact with the wheels while holding the model. At distance, once again test for complete radio control. Never attempt to run the model if the radio appears to be malfunctioning in any way. The model could run out of control.

## **DRIVING:**

- 1) Slide the on/off switch on the transmitter to the "on" position. Check for a solid red light.
- 2) Install a freshly-charged battery in the Spirit. Set the rear of the Spirit on a block so that the rear tires are not touching the ground. Now plug the battery in.
- 3) If the motor started running when you plugged in the battery pack, then slowly adjust the throttle trim on the transmitter until the motor stops running. Now operate the throttle trigger to ensure that you have full forward and reverse operation, and that the motor stops when the throttle trigger is at neutral.
- 4) Adjust the steering trim on the transmitter so that the front wheels are pointing straight ahead. Now operate the steering wheel to ensure that the steering works properly with no binding.
- 5) Drive the Spirit slowly at first, until you become accustomed to the controls on the transmitter.
- 6) Each shock absorber may be adjusted by pushing down on the upper spring collar and twisting it to a new locking position.

## **DRIVING PRECAUTIONS:**

- **Always unplug the battery pack when the Spirit is not in use.**
- The radio system is not waterproof. Avoid driving through puddles, wet grass, or mud. If water gets into the electronics it could damage them.
- Do not continue to operate The Spirit with low batteries or you could lose control of it. After the battery power drops below a certain point, the Spirit will continue with the last command it had from the transmitter. Indications of low battery power include slow operation, sluggish servos and, for the transmitter, a flashing red power light. When using nicad batteries, be especially alert for signs of weak batteries. Stop immediately at the first sign of weak batteries.
- Do not drive the Spirit at night, on public streets, or in large crowds of people.
- If the Spirit becomes stuck in sand or against an object, do not continue to run the motor. Remove the obstruction before continuing to drive.
- Vary your speed. If you drive at low speeds for long periods of time, the speed control resistors will become very hot and the run time will decrease. ***Do not touch the hot resistors.***
- Do not attempt to jump the Spirit over any type of ramp.
- Do not attempt to push objects or tow objects with the Spirit.
- Because the Spirit is controlled by radio, it is subject to radio interference from many sources beyond your control. Since radio interference can cause momentary losses of control, allow a safety margin of space in all directions around the Spirit in order to prevent collisions.
- Use good, common sense whenever you are driving your Spirit. Intentionally driving in an abusive and rough manner will only result in poor performance and broken parts. Take care of your Spirit so that you can enjoy it for a long time.

## **MAINTENANCE:**

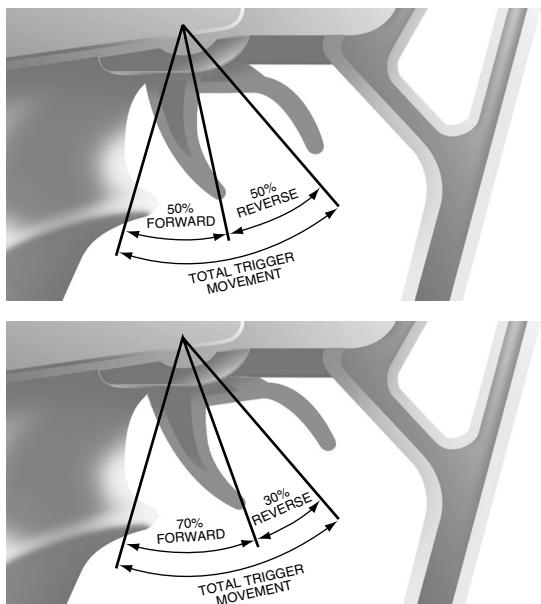
The Spirit requires maintenance for top performance.

- Keep the Spirit clean of accumulated dirt and oil, especially around the shock absorbers and the bushings in the wheels.
- Clean and re-oil the bushings whenever the wheels are not rolling freely. Lightly oil the bushings with a lightweight electric motor oil. If the wheels are wobbly and loose, then the bushings should be replaced.
- The steering servo saver will wear out over time. If the steering becomes loose, then the servo saver should be replaced. Refer to the assembly steps to change the servo saver.

## **RADIO SYSTEM ADJUSTMENTS**

### **• THROTTLE NEUTRAL ADJUST**

The throttle neutral adjustment is located on the transmitter face and controls the amount of desired forward and reverse travel of the throttle trigger. There are two settings. 50/50 gives you the same amount of throttle travel in both forward and reverse. 70/30 gives you more travel for throttle and less for reverse. Change the adjustment by pressing the button and sliding it to the desired position. The drawings below show how the settings are arranged. Always use the 50/50 setting when using a mechanical speed control or forward/reverse electronic speed control. Use the 70/30 setting with a forward/brake electronic speed control or Traxxas fuel-powered models. This setting provides more proportional control over your forward speed. If you change this adjustment, your transmitter throttle trim will have to be reset. In some cases, the throttle servo may have to be re-centered with the throttle trim adjustment reset at "zero" (see "centering your servos").



### **• SERVO REVERSING SWITCHES**

On the front of the transmitter there are two switches, labeled channel 1 and channel 2. Moving the switches reverses the direction of the servo. Channel 1 controls the steering servo. Channel 2 controls the throttle servo. For example, if you turn your steering wheel right and the model moves left, then switch the steering servo (channel 1) reversing switch to correct the servo direction. The corresponding trim knob on the transmitter may need readjustment after reversing the direction of the servo.

## ASSEMBLING THE KIT:

### TOOLS YOU WILL NEED:

In addition to the tools which have been provided (Kit version), you will need the following:

- A no. 1 and a no. 2 Philips screwdrivers.
- A pair of needlenose pliers.
- A hobby knife

Paint and other chemicals needed to finish the body are not included. There is a section in the back of this manual which provides tips for painting and detailing the body.

### ASSEMBLY HINTS:

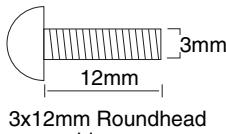
- Find a large flat working area where you can spread out and have plenty of room to build.
- Allow yourself plenty of time to build the kit. Build time will vary with each individual. You should feel comfortable with taking as much time as you need to properly build and set up this kit.
- There are many bags of small parts in your kit. Label some paper plates and pour the contents of the bags onto them. This gets the parts out where you can see them.
- While it is possible to assemble the Spirit just by looking at the pictures and the drawings, do read the text which accompanies each step.

The kit version does not include the radio system. The photos in this manual do show the installation of a typical radio system. Before installing the radio system, find the center neutral position of the steering and throttle servos.

With the radio components out of the car, connect the steering servo to channel 1 on the receiver. Connect the throttle servo to channel 2. Connect the red and black cable from the mechanical speed control to the "BATT" terminal on the receiver. (Note: Your mechanical speed control is compatible with Traxxas, Futaba, and most other brands of radio equipment. The red wire is positive and the black wire is negative. Some Sanwa, Airtronics, and Novak brand receivers have reversed positive and negative input terminals. Always check your radio system's instructions to ensure that the polarity is correct.)

Place fresh "AA" batteries in the transmitter and turn the power switch on. Turn the throttle and steering trim adjustments to the center position. Plug a freshly-charged battery pack into the speed control. The servos will jump to their centered position. Now, unplug the battery pack and turn off the transmitter. Be careful not to move the servo shafts when installing the servo horns later on.

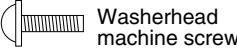
### HARDWARE IDENTIFICATION:



3x12mm Roundhead machine screw



Roundhead machine screw



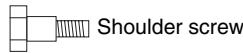
Washerhead machine screw



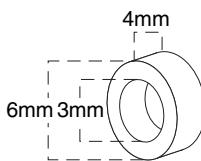
Roundhead self-tapping screw



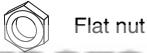
Washerhead self-tapping screw



Shoulder screw



3x6x4mm Spacer



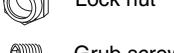
Flat nut



Flange nut



Lock nut



Grub screw

## LIMITED WARRANTY INFORMATION

Every effort has been made in component design and material selection to make your model as durable as possible. Because the model is intended to be a hobby-class model and operate at a much higher level of performance than a "toy," no warranties can be expressed or implied relating to the longevity of the parts. Parts will wear out and require replacement. If any part of the model appears to be defective or incorrectly assembled when it is new (before it is used), it will be repaired or replaced at Traxxas' discretion. This warranty will not cover damage from wear, abuse, neglect, crashes, or water.

The TQ radio system installed on Ready-To-Run models is covered by a separate warranty (included in your documentation package). The radio system warranty does not cover water damage.

This model is not intended for use by children without the supervision of a responsible adult. Every precaution outlined in this manual should be followed to help ensure safe operation. Traxxas Corporation shall not be liable for any loss or damages, whether direct, indirect, special, incidental, or consequential, arising from the use, misuse, or abuse of this product and any accessory or chemical required to operate this product. Traxxas Corporation reserves the right to make changes, modifications, and improvements to this product without notification, which may not be reflected in these documents. Upgrades and improvements are not necessarily retroactive. Traxxas may not provide improved or updated components free of charge for models built prior to any change in specification.

If it has been determined that your model is somehow defective, return it to Traxxas with a note describing the problem and a copy of the purchase receipt or invoice. Remove all batteries. Remember that the warranty only covers brand-new products which are defective right out of the box. All other service will be estimated on an individual basis.

**Be sure to include a return address and a daytime phone number.**

### MAIL OR SHIP TO:

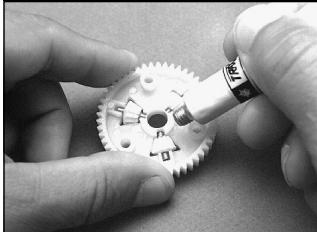
TRAXXAS CORPORATION  
12150 SHILOH ROAD  
DALLAS, TEXAS 75228

For technical assistance regarding your model,  
call (888) TRAXXAS (888-872-9927) U.S. residents only.  
For orders, calls outside the U.S., and other information,  
call (972) 613-3300, or fax (972) 613-3599.

Find Traxxas on the internet at [www.traxxas.com](http://www.traxxas.com)

You can E-mail us with questions 24 hours a day at  
[support@traxxas.com](mailto:support@traxxas.com)

# CompetitionX

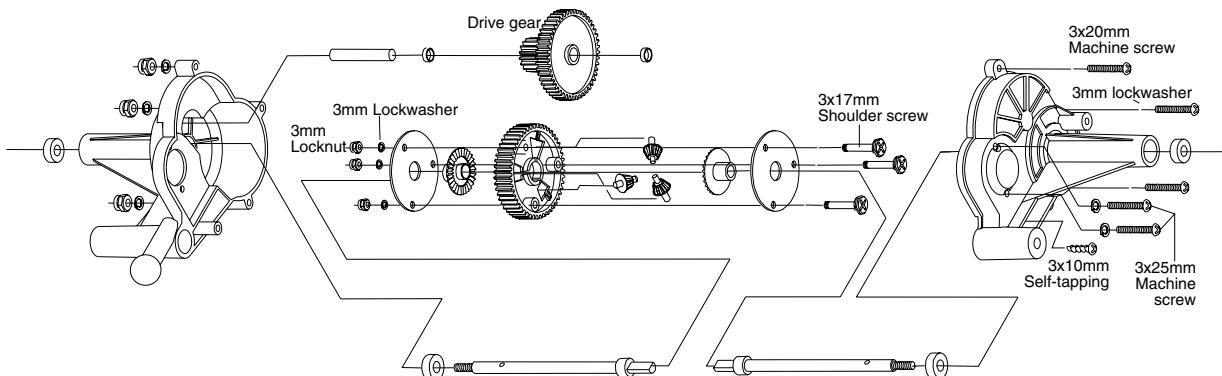
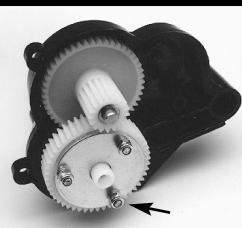
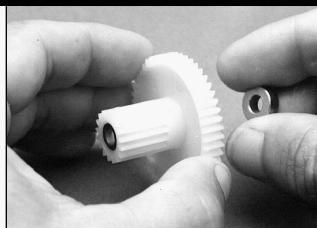
**STEP 1****STEP 2****STEP 3****STEP 4**

Place the three (3) spider gears inside the differential spur gear and heavily lubricate all sides with grease.

Place a large bevel gear on top of the three spider gears on both sides of the differential spur gear. Lubricate each large bevel gear on both the gear side and then the back side as shown.

Place a metal bevel gear stay plate over each large bevel gear. Line up the three holes and insert three (3) 3x17mm shoulder screws. Secure with 3mm lock washers and 3mm lock nuts. Install all three screws from the same side. Make sure to assemble the diff so that all of the nuts are on one side of the diff and the screw heads on the other side.

First press a 5x11mm bushing into the inside of the right gearbox half (they are marked with "L" and "R" on the inside). Then press a 5x11mm bushing into the outside end of the axle housing. Lubricate the axle shaft and slide it through the bushings (arrow). There may be some resistance where the hole is drilled near the end of the shaft, but it will snap through the bushing.

**STEP 5****STEP 6****STEP 7****STEP 8**

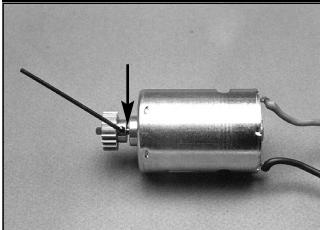
Press 5x11mm bushings into the left gearbox half the same way that you did it in the previous step for the right side. Lubricate the axle shaft and insert it through the bushings. Insert the drive gear shaft next to it as shown (arrow).

Insert a 5x8mm bushing in one end of the drive gear and a 5x11mm bushing in the opposite end.

Lubricate the bushings in the drive gear with the silicon grease and slide the drive gear onto the drive gear shaft. Lubricate the teeth of the drive gear. Slide the differential assembly onto the axle shaft in the left gearbox half. Make sure the 3mm locknuts are facing out as shown (arrow). Rotate the gears to check your installation.

Put the gearbox halves together. You may need to rotate the axle shafts to align the shaft with the large bevel gears in the differential assembly. Secure the gearbox halves with three (3) 3x20mm round head screws, washers, and 3mm locknuts. Finish the assembly with a 3x10mm self-tapping screw in the remaining hole in the left gearbox half as shown.

**CompetitorX**

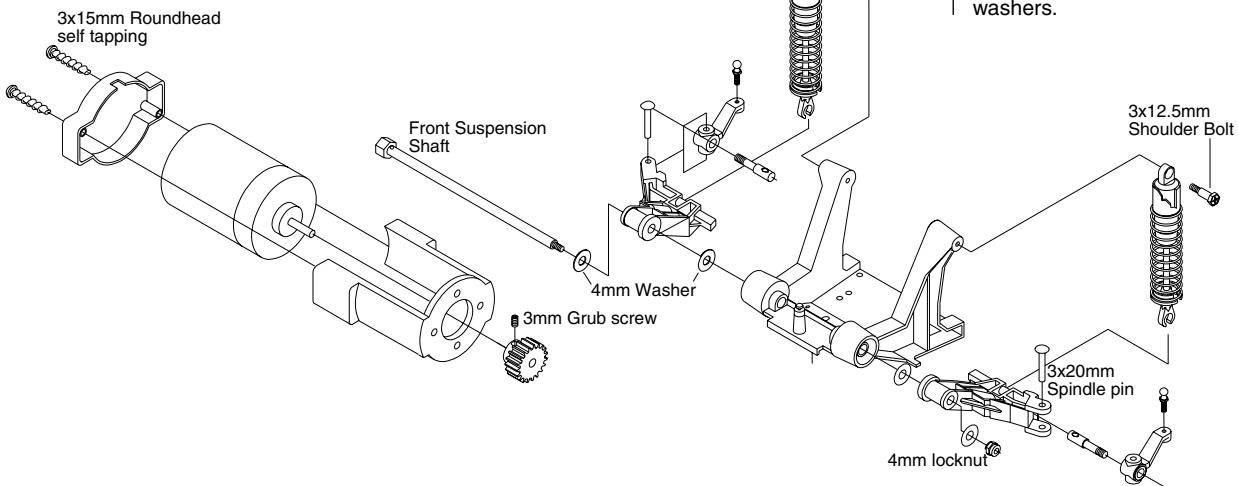
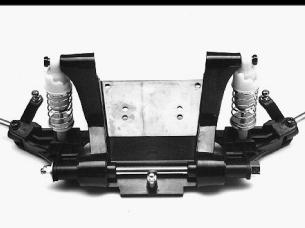
**STEP 9****STEP 10****STEP 11****STEP 12**

Slide the pinion gear onto the motor shaft. Secure it with a 3mm grub screw tightened against the flat side of the motor shaft. Make sure that the pinion gear has 1-2mm clearance from the motor (arrow).

Slide the motor cover over the motor making sure that the threaded holes in the motor align properly with the holes in the motor cover.

Route the motor wires through the end of the motor cover and attach the top of the motor cover with two (2) 3x15mm self-tapping screws.

Attach the motor assembly to the rear end assembly by inserting the pinion gear into the large hole in the gearbox and aligning the two small posts on the gearbox with the holes in the motor cover. Align the holes for the motor mounting screws with the holes in the motor cover and attach with two (2) 3x25mm round head screws and 3mm washers.

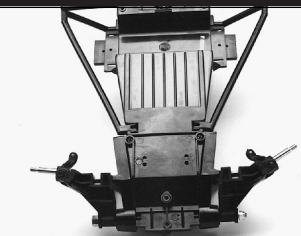
**STEP 13****STEP 14****STEP 15****STEP 16**

Locate the steering spindles and the suspension arms. Notice that there are left and right parts (These parts are marked with "L" and "R"). Attach ball connectors to both steering spindles and then connect each steering spindle to the matching front suspension arm with a 3x20mm spindle pin.

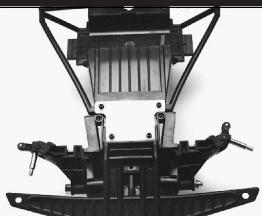
Mount the front suspension arms to the front suspension bracket using the front suspension shaft, four (4) 4mm washers, and a 4mm locknut. Make sure to put a washer on each side of both suspension arms.

Mount the front (smaller) front shocks by snapping the bottom onto the front suspension arm and then attaching the top of the shock to the front suspension bracket with a 3x12.5mm shoulder screw. Do not over-tighten the screw pin.

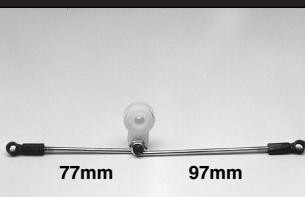
Locate the chassis and side nerf bars. Slide the nerf bars into the chassis as shown.

**STEP 17**

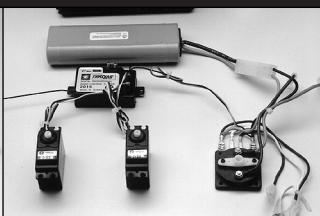
Align the front suspension assembly on the front of the chassis and attach with two (2) 3x15mm self-tapping screws as shown.

**STEP 18**

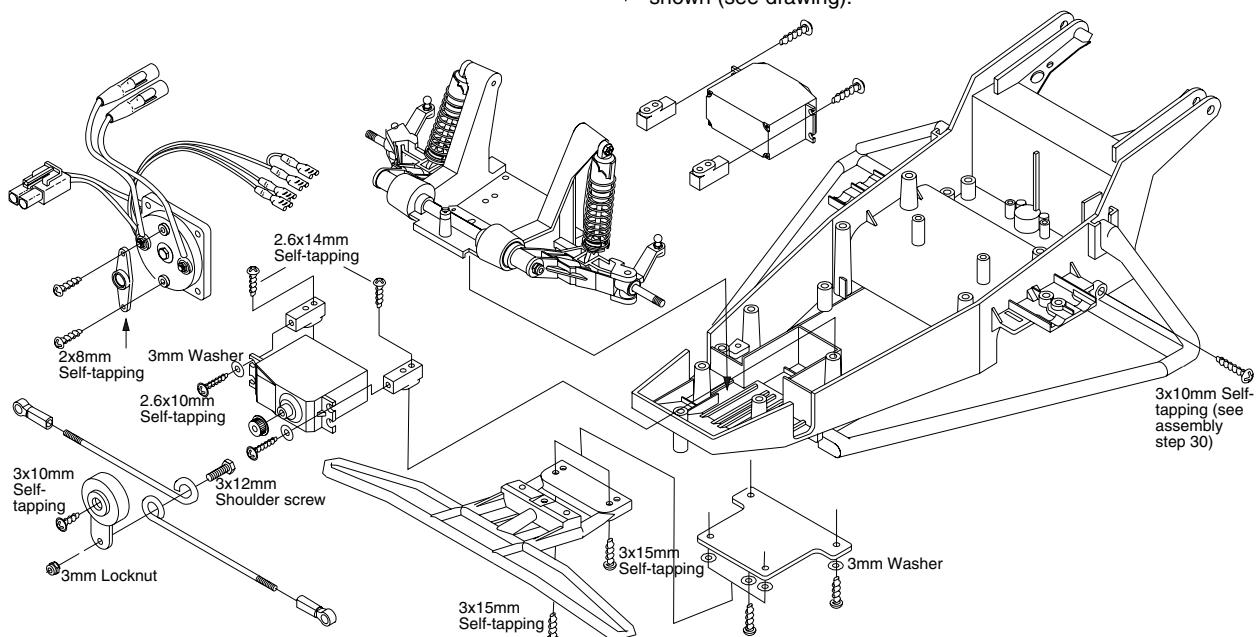
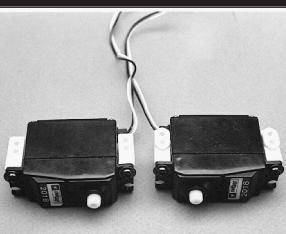
Position the front bumper on the suspension assembly. Now install the front bumper stay plate and align. Secure using four (4) 3x15mm self-tapping screws with 3mm washers.

**STEP 19**

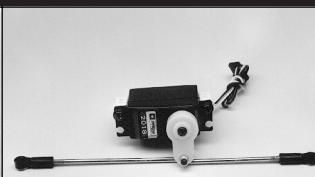
Screw rod ends onto both the long and short tie rods. The overall length of the long one should be about 97mm and the short one should be about 77mm. Connect both rods to the servo saver with a 3x12mm shoulder screw and a 3mm lock nut as shown (see drawing).

**STEP 20**

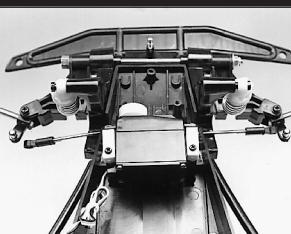
Connect your radio system as described in your operating manual (not included with kit) and center both servos.

**STEP 21**

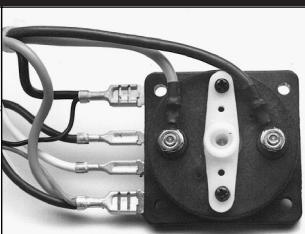
Attach servo mounts with 2.6x10mm self-tapping screws and 3mm washers to each servo as shown. Notice that the mounts are positioned differently on each servo. Be sure that your servos match the photo and drawings.

**STEP 22**

Attach the servo saver & tie-rod assembly to the steering servo (Channel 1) as shown with a 3x10mm self-tapping screw.

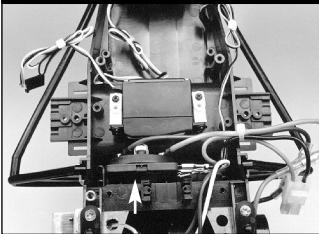
**STEP 23**

Mount the steering servo to the chassis with two 2.6x14mm self-tapping screws.

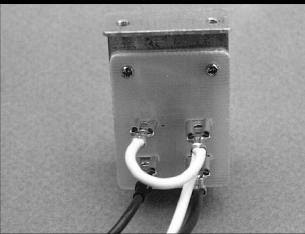
**STEP 24**

Attach the servo horn to the rotary speed control with 2x8mm self-tapping screws. (In some kits it may already be attached.) NOTE: The servo horn provided will work with TRAXXAS and FUTABA radio systems. If you have a different radio system, use a servo horn which came with your radio and looks like the one in the photo.

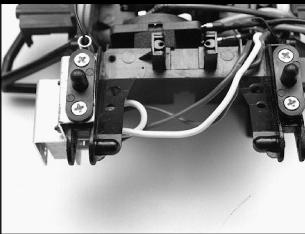
**competitionX**

**STEP 25**

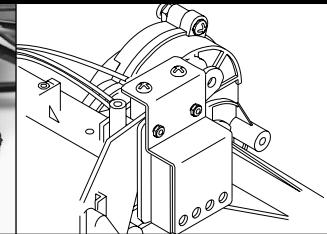
Attach the adhesive foam pad to the rear of the chassis as shown (arrow and drawing). Align the servo horn on the speed control pointing straight up. Study the drawing carefully. Press the servo horn onto the throttle servo. Be careful not to move the servo shaft from its neutral position. Mount the speed control assembly in the chassis with two (2) 2.6x14mm self-tapping screws. To align the mounting holes in the servo mounts with the posts in the chassis, you will have to press hard against the foam pad.

**STEP 26**

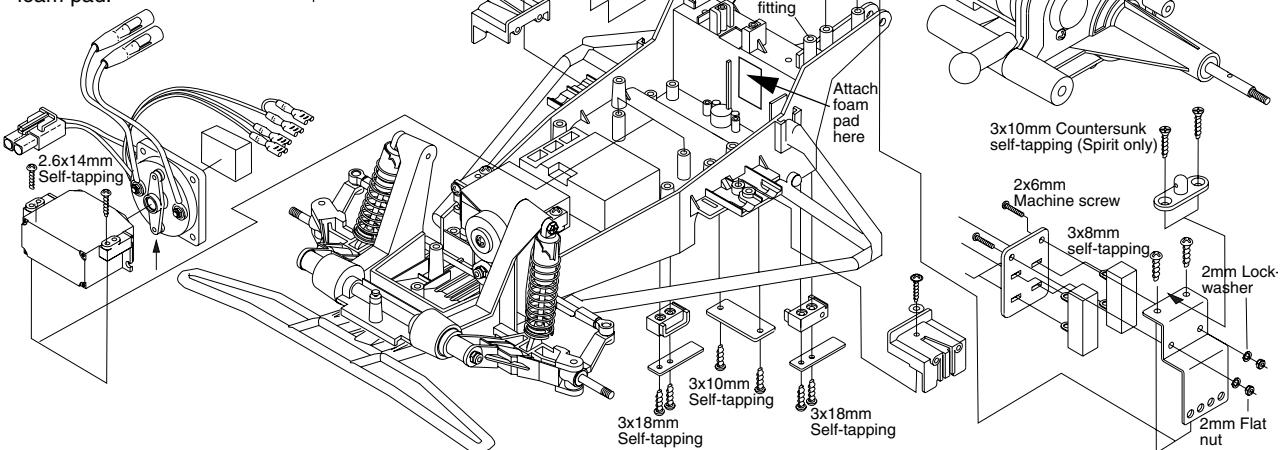
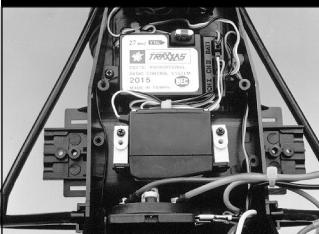
Assemble the resistor pack by first pushing the terminals from each resistor through the fiber-glass stay plate. While holding the stay plate with the screws holes on the top, connect one white wire and one blue wire from the speed control to the terminals of each resistor. Secure the resistor pack assembly with two (2) 2x6mm screws and 2mm lockwashers and nuts.

**STEP 27****SPIRIT**

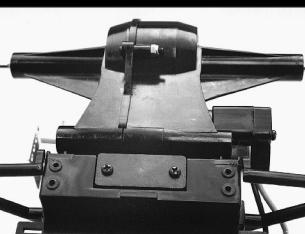
Route the white and blue wires as shown. Position the resistor pack on the chassis and place the left rear body mount on top of it. Attach these to the chassis using two (2) 3x10mm countersunk self-tapping screws. Attach the rear body mount for the right side of the chassis with (2) 3x10mm countersunk self-tapping screws.

**STEP 28****TOM CAT**

Route the white and blue wires as shown and attach the resistor pack to the chassis with two (2) 3x8mm self-tapping screws.

**STEP 28**

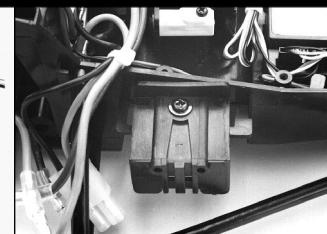
Mount the receiver with two (2) 2.6x10mm self-tapping screws. Take the time to coil the excess servo wires and arrange them neatly in the chassis. Thread the antenna wire through the chassis and back up through the chrome fitting at the left rear of the chassis.

**STEP 29**

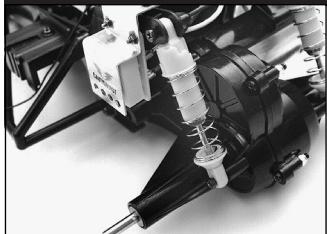
Attach the gearbox assembly by first putting the ball into the socket in the chassis. Place the ball joint stay plate on top it and secure it using two (2) 3x10mm self-tapping screws.

**STEP 30**

Mount the nerf bar stays and metal stops to the chassis with four (4) 3x18mm self-tapping screws. Next attach the rear of the nerf bars with two (2) 3x10mm self-tapping screws.

**STEP 31**

Attach the battery stay brackets using two (2) 3x8mm self-tapping screws and 3mm washers. Notice that there may be an L or K stamped on these parts, this does not indicate which side to install them to, they can mount to either side. For six cell (7.2 volt) stick packs mount these in the holes closest to the chassis. For seven cell (8.4 volt) stick packs mount these in the holes farthest from the chassis.

**STEP 32**

Mount the rear shocks using four (4) 3x12.5mm shoulder screws.

**STEP 33**

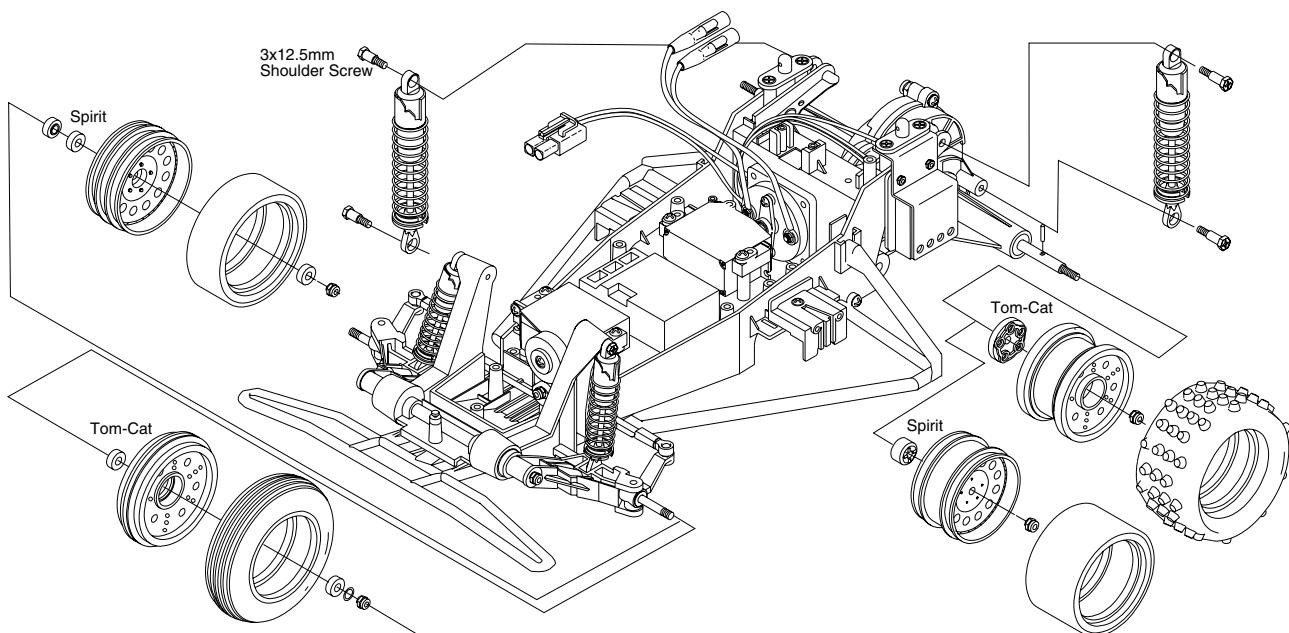
Mount the front tires (rubber) onto the front wheels (plastic). Mount the rear tires (rubber) onto the rear wheels (plastic). TOM CAT (Shown) Since the rear Spirit tires are so soft for great traction, use a few drops of SuperGlue between the tire and wheel to help keep the tires on.

**STEP 34**

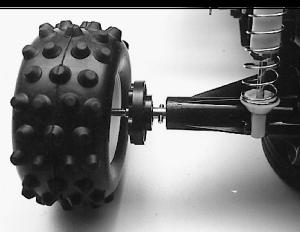
Press two (2) 5x11mm bushings into each front wheel.

**STEP 35A****SPIRIT**

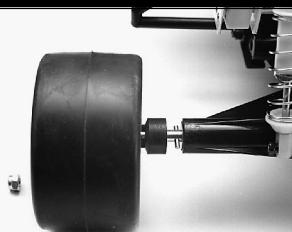
Lubricate the front axle and wheel bushings with 3-in-1 oil™. Mount the front wheels by first sliding the spacer on the axle, followed by a wheel, a 5x10mm fiber washer, and a 4mm lock nut. Do not over-tighten.

**STEP 35B****TOM CAT**

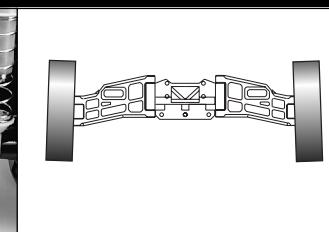
Slide the front wheel onto the axle followed by a 5x10mm fiber washer. Secure with a 4mm locknut. Do not over tighten.

**STEP 36A****TOM CAT**

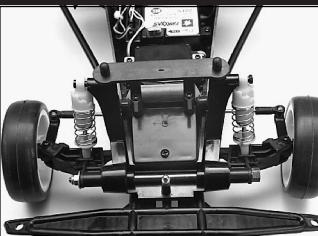
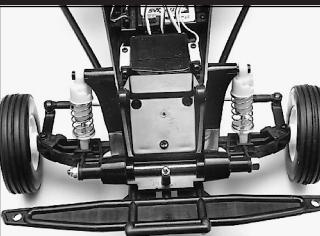
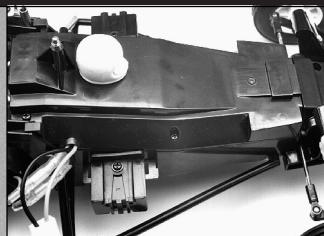
Mount the rear wheels by first inserting the axle pin into the rear axle. Slide the adapter onto the the axle and onto the pin. Next install the wheel onto the axle. Push the wheel on until it fits correctly on the adapter.

**STEP 36B****SPIRIT**

You may have to turn the wheel slightly in order to get the proper alignment between the wheel and the adapter. Secure the wheel with a 4mm lock nut.

**STEP 37**

Align the front end so that the front wheels are pointing straight or even 1 or 2 degrees inward (toed-in). Make this adjustment by turning the ball end connector on each of the front tie rods. Snap the connectors onto the balls of each of the steering spindles to check the adjustment.

**STEP 38A****STEP 38B****STEP 39****STEP 40****SPIRIT**

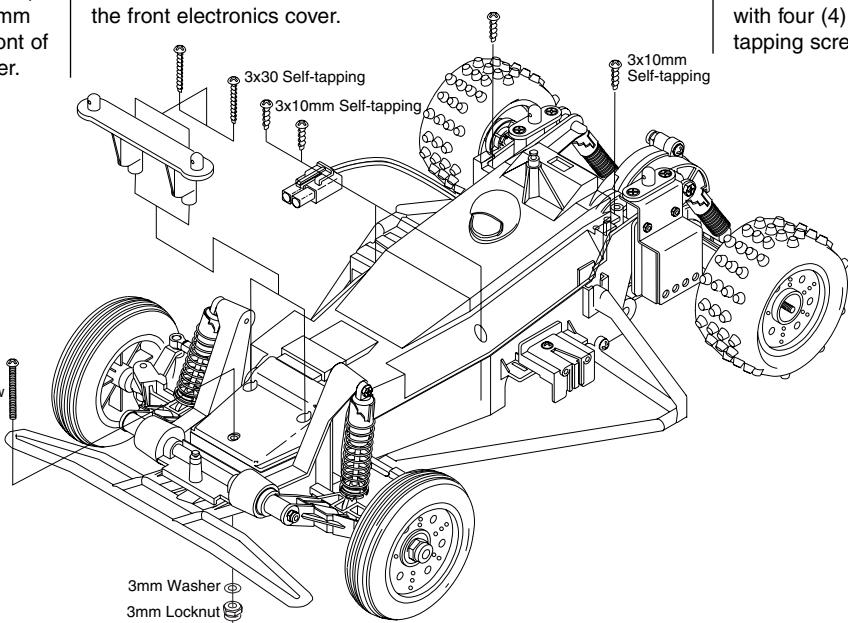
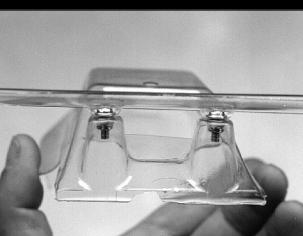
Position the front electrics cover with the front body mount as shown on the front of the chassis. Use two (2) 3x30mm self-tapping screws to attach the body mount and secure the rear of the front electronics cover. Complete the installation with a 3x30mm round head screw, a 3mm washer, and a 3mm lock nut to secure the front of the front electronics cover.

**TOM CAT**

Position the front electrics cover as shown on the front of the chassis. Use two (2) 3x10 self-tapping screws to secure the rear part of the front electrics cover. Complete the installation with a 3x30mm round head screw, a 3mm washer, and a 3mm lock nut to secure the front of the front electronics cover.

Assemble the drivers head as shown using a 3x8mm self-tapping screw. Mount the assembled head to the rear electrics cover with a 3x8mm self-tapping screw. (See photograph in the next step for the mounting location.)

Attach the motor wires (black-to-black and red-to-red) and route them through the channel in the side of the chassis. As you position the electronics cover, check the blue and white wires that go to the resistor pack to make sure that they exit through the channel at the top rear of the cover. Secure the cover with four (4) 3x10mm self-tapping screws.

**STEP 41****STEP 42****STEP 43****STEP 44**

Locate the plastic tube and the antenna tip. Insert the black antenna wire, extending from the receiver housing, into one end of the tube and push it all the way through. Insert the tube into the antenna mount in the side of the chassis. Fold the remaining antenna wire over the top of the antenna tube and secure it with the vinyl antenna tip.

Insert the nylon bands into position for securing the battery pack.

Trim the body as shown. Mount the TOM CAT wing to the body with two (2) 3x8mm washerhead screws, 3mm washers, and 3mm locknuts. (The wing for the SPIRIT is molded into the body.)

Mount the body using body clips ("R" pins) to hold it in place.

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**CompetitionX**



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