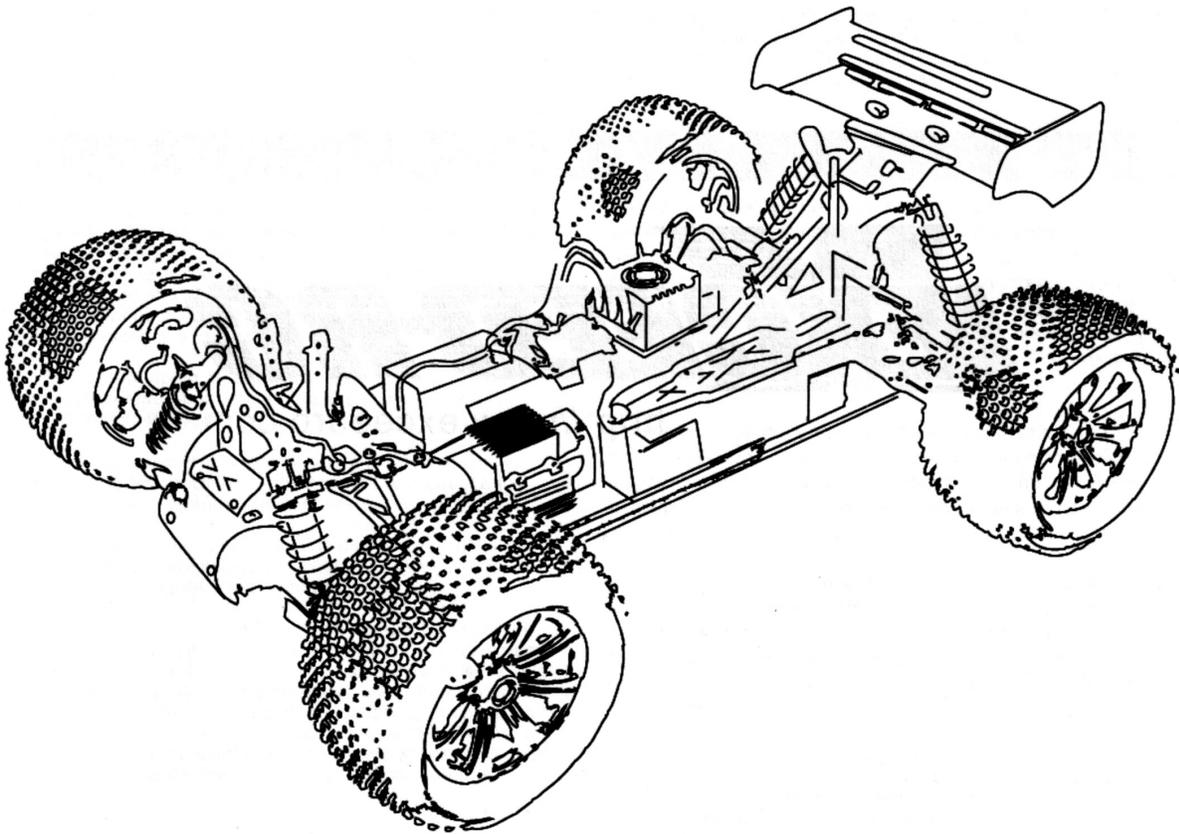


EXCEED-RC

USER MANUAL



<http://www.exceedrc.com>

Specification

1. Input Voltage:
7.2V~8.4V(NI-CD/MH) 7.4V(LI-PO) 6.6V(LI-FE)
2. Output: Rating 15A, Peak: 20A
3. Out max power: 15A/7.2V(MAX 108W)
4. Size/Weight: 28mm×25mm×11mm/17.9g
5. BEC: 5V 2A
6. P.W.M: 9.5KHz
7. MOTOR:
Support 300 Brushless Motor/7.4V under 4000KV

Low power auto-cut table

Battery \ Volt	7.2V	7.4V	6.6V
AUTO	Initial Detected voltage x70%		
NI-CD/NI-MH	5.4V		
LI-PO		6.0V	
LI-FE			4.8V

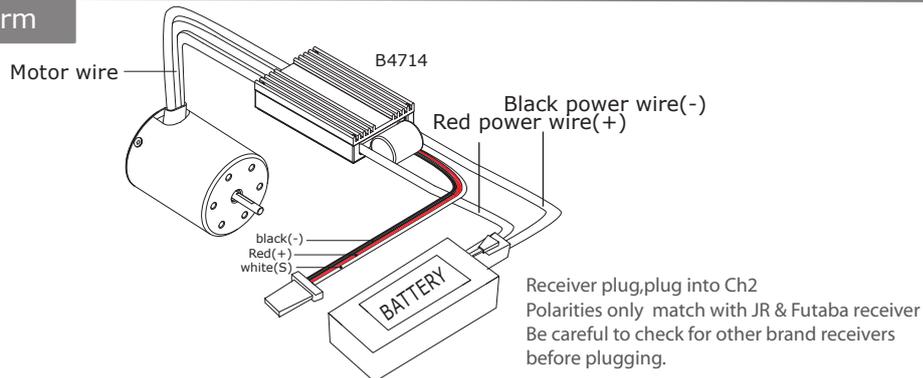
Over temperature protection

The motor will be intermittently turned off when the temperature reaches around 98°C±3~5°C. Optional vent fan is available for selection to enhance the ESC ventilation.

Warning

1. Avoid touching ESC heat sink or motor casing right after operation for not burning your body or skin.
2. To avoid poor contact or overheat melting of connector and power abnormal cut off be sure to always use better current rated connector & wires while replacing the original ESC connector or elongating the connecting wires.
3. Connect the battery pack just before driving, disconnect & take it out of the car immediately after termination. Don't solder ESC wires directly to battery. A proper connector is a must to be used in between.
4. Always make sure connecting the ESC to a proper power source that has the correct voltage & polarity. Incorrect voltages or reversed polarity will damage the ESC. Don't solder ESC wires directly to the battery. A proper connector is a must to be used in between.

ESC wiring diagram



Test of throttle direction coincidence

- 1 Wiring ESC according to above diagram.
- 2 Switch on the transmitter.
- 3 ESC denotes a sound and starts setting neutral.
- 4 Denoted by another confirmation sound after succeed in setting neutral.

Refer to the left test sequence right above setting is completed Push the the throttle trigger forwards, quickly pull the throttle trigger backwards & hold it. If the system keeps braking, the throttle direction test is ok. Otherwise, if it drivers reversely, the throttle and ESC forward direction does not coincide with each other. Change the throttle reversing switch of the transmitter, turn off & then turn on the ESC power again will correct the problem.

Neutral → forward → backward

Safe gear ratio test

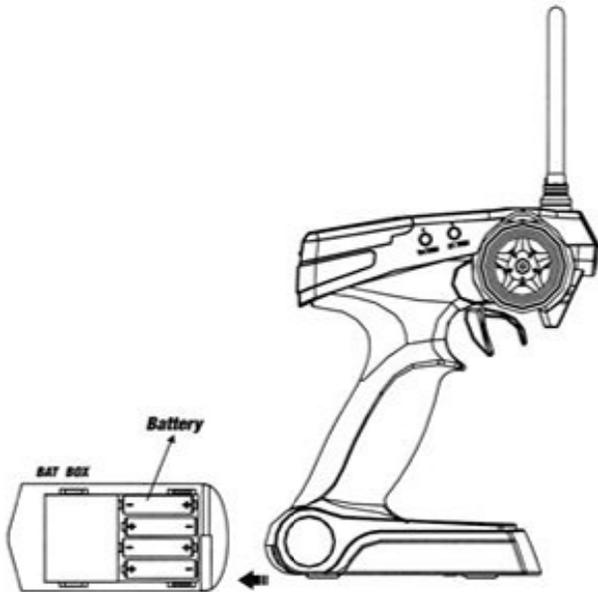
Input voltage	resistance	waste current
7.2V	0.18Ω	40A
11.1V	0.18Ω	61.6A

(V/R=1 7.2V/0.18Ω=40A)
(V/R=1 11.1V/0.18Ω=61.6A)

※ Firstly, trial running starting with a small gear motor for 2~3 minutes, measure the temperatures of both ESC & motor. If both temperatures are close with each other, they are at good match. The gear ratio can then be properly adjusted to optimum according to the features of the courses. However, It's very important to always keep both temperatures under 100 °c, while adjusting the gear ratio. Otherwise the demagnetization of the motor will happen, the motor efficiency will drop dramatically & the temperature will also raise up very quickly. Most battery power is now wasted on heat nothing on motor efficiency.

※ It's ok to replace a higher gear ratio or a higher KV motor while the temperature of the ESC is under 80 °c. But it should be done according to para 6 described, from small to bigger. Unless the KV value of the original motor is very low enough, It should replace a motor with lower KV value when the input battery voltage is changed to a higher level. The ESC will be burnt if the motor doesn't be properly changed while input voltage is changed. See example by the side of left on the current changed inside motor while input voltage is changed.

INSTRUCTION MANUAL

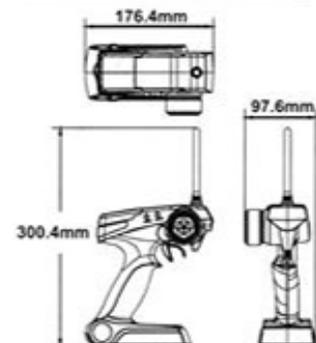
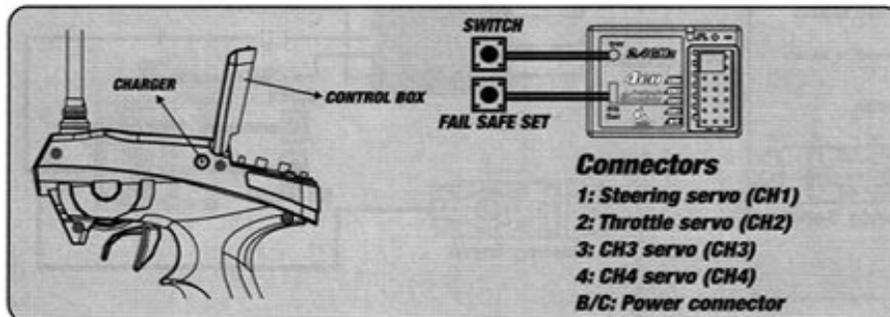
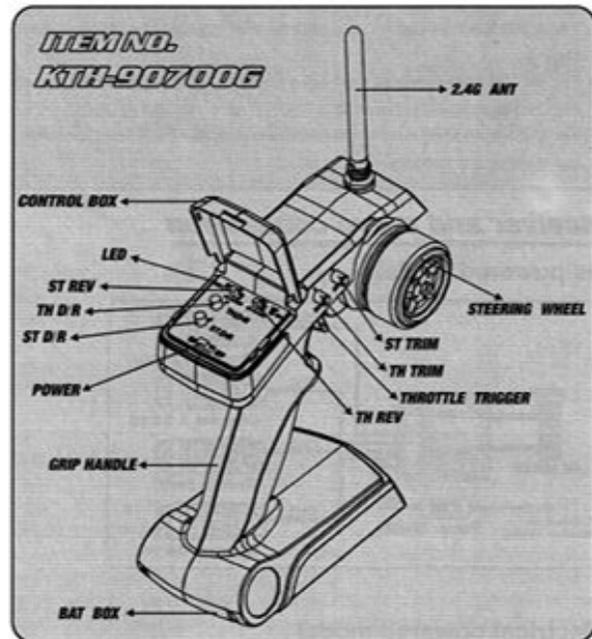
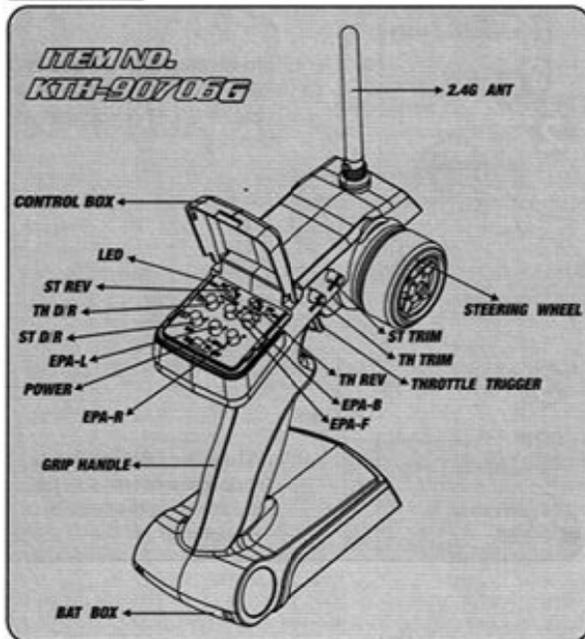


Install the batteries

- (1) Remove the battery compartment cover.
- (2) Replace the used batteries with new AA size batteries.

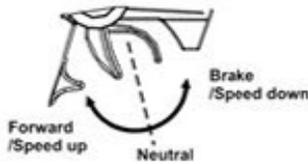
Please replace batteries when the power indicator blinks or the buzzer beeps.

Function



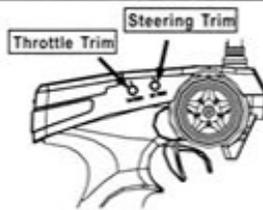
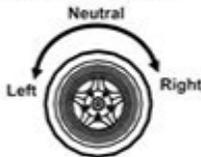
Transmitter Adjustment

A. Throttle Trigger



1. Push the trigger forward to slow down or brake.
2. Pull the trigger backward to accelerate.

B. Steering Wheel



Keep the transmitter and receiver 40cm apart when operating.

Use the REV switches to reverse the steering or throttle operating direction.

Throttle Trim: Trim the throttle servo slightly when the trigger is at the neutral position.

Steering Trim: If the front wheels do not align straight, use the steering trim to adjust.

Low battery alarm

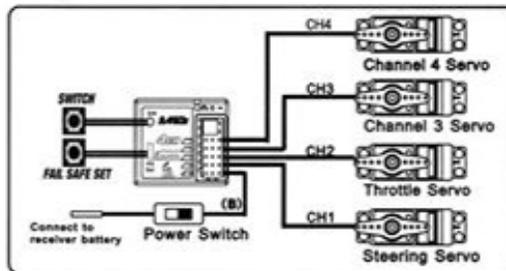
Do not operate the radio system when the battery power is low. The battery power is low.

Fail Safe Function Setting

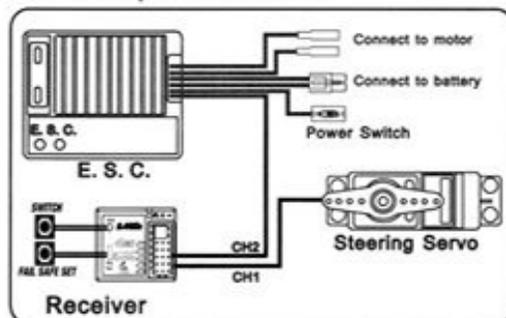
1. Set the TH, ST switches to the normal position.
2. Turn on the transmitter and receiver.
3. Press the F/S SET button, the LED on the receiver should start flashing rapidly.
4. Put the throttle trigger at the brake position, press the F/S SET button, the LED should become solid.
5. For electric model, put the throttle trigger at the stop position when you are making the setting.

Receiver and servo connection

Gas powered model

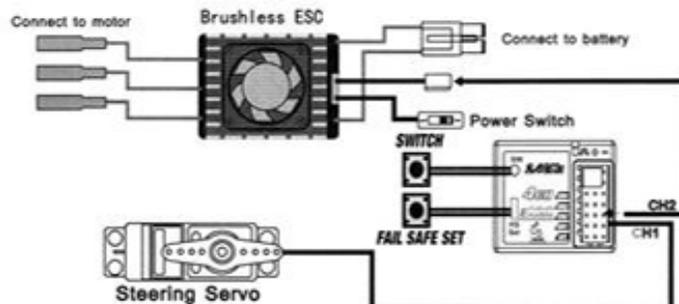


Electrical powered model



Binding the transmitter and receiver

1. turn on the receiver power. Press the SW switch. The receiver's LED should start flashing.
2. Turn on the transmitter.
3. When the LED on the receiver becomes solid, the binding process is completed.



Introduction

Exceed-RC would like to welcome you to the world of remote control cars. What are RC cars? The simple answer is that they are radio controlled cars that respond precisely to your command. The more complete answer is that they can be a great addition to your lifestyle. RC car building and racing teach valuable mechanical and electrical skills, promote teamwork and encourage racers to test their skills with other racers from around the world. Whether you are just having fun racing your car in your backyard or racing at the world competition contest, radio controlled car racing is a great hobby.

Exceed-RC has been making RC products aimed at making our hobby fun and exciting with an affordable price. We are confident that your experience with our products will be positive. Of all the radio controlled models out there, no question about it, RC cars are the hardest to operate. This user manual covers a wide range of topics from nitro powered remote control cars to electrical powered remote control cars. We highly recommend that you read this user manual thoroughly and carefully before assembling and operating. Please follow all precautions and recommendations located within the manual. Be sure to retain the manual for future reference, routine maintenance, and tuning.

Exceed-RC guarantees this product to be free of manufacturing faults and material defects. This product has been checked and fine tuned individually by professional staff and quality control staff. The warranty does not cover any component parts damaged by use and modification. Please visit <http://www.exceedrc.com> for updated product information.

This product is not a toy. It is not recommended for children under 14 years old and any minor should be accompanied by an adult when operating. This product is a precision machine that requires proper assembly and setup to avoid accidents. Failure to take caution when operating this product may result in serious injury or property damage. It is the owner's responsibility to operate this product in a safe manner. Manufacturer and its distributors are not responsible in any way for any and all bodily injury(s) and/or property damage that may occur from the use of or caused by in any way or this product.

Warnings

- The product is not intended for those under 14 years of age without proper adult supervision. The product is not a toy. It is a precision machine requiring proper assembly and setup to avoid accidents and it is the responsibility of the owner to operate this product in a safe manner as it can cause serious personal injury and damage to property due to carelessness or misuse.
- Do not attempt to disassemble or modify any of the product components without the assistance of an experienced RC user.
- Only use the correct type of battery to operate. Using any wrong type of battery will damage the product and possibly make it dangerous to operate.
- The motor(s) may get hot during use. Always allow 10-15 minutes between each operation for the motor to cool down. This will prolong the life of your product.
- Choose an appropriate operating site consisting of flat, smooth ground, and clear open field. Do not operate near buildings, high voltage cable lines, or trees to ensure safety operation. Operate in safe area only, away from other people. RC models are prone to accidents, failures, and crashes due to a variety of reasons including, lack of maintenance, user error, and radio interference. Users are responsible for their actions and damage or injury occurring during the operation.
- Do not operate in inclement weather, such as rain, wind, snow or darkness.
- The product is composed of precision electrical components. It is critical to keep the product away from moisture and other contaminants. Do not allow them to get wet. Electrical damage may occur that could affect safe operation.
- You should complete a successful pre-run check of your radio equipment and model prior to each run.
- After each use, always allow the battery to cool down before recharging. When charging the battery pack, do not overcharge! If batteries get hot during charging, discontinue charging immediately and disconnect the battery from the charger. Never leave battery unattended while charging. If you are unsure of how to charge this battery, please seek the advice of experienced RC users. Never let children charge the battery without adult supervision.
- Always turn on the transmitter before connecting the battery on the model. When turning off the model, always disconnect the battery first, and then turn off the transmitter. If the order is reversed, the model may become uncontrollable and cause serious damage.
- If you are in doubt of your ability to operate the model, we strongly recommend that you seek assistance from experienced RC users or join your local modeling club to gain the required knowledge and skill. As the manufacturer and distributor, we assume no liability for the use of this product.
- Before turning on your model and transmitter, please check to make sure no one else is operating under the same frequency. Frequency interference can cause your model, or other's models to crash. The guidance provided by experienced RC users will be valuable for the assembly, tuning, trimming, and actual first flight.
- Never allow batteries to run low or you might lose control of the model.
- Plastic is very susceptible to damage or deformation due to extreme heat and cold climate. Do not store the model near any source of heat such as oven or heater. Store the model indoors, in a climate-controlled, room temperature environment.

- Use replacement parts from the original manufacturer to ensure safe operation.
- Operate this product within your ability. Do not operate under tired condition
- Never shorten the receiver antenna; or this might affect the transmitting range of the radio system.
- This product is a RC hobby model, do not use for other purpose.

Lithium Polymer (LiPo) Battery Warnings

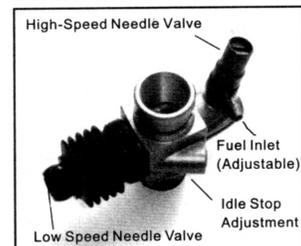
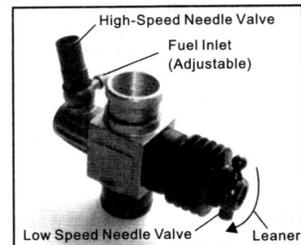
- Never charge a lithium polymer battery with a charger designed for NiCd, NiMH, or any other type of battery chemistry. Use ONLY charger designed for LiPo battery.
- Do not leave LiPo battery unattended during charging.
- Do not overcharge the battery.
- Always place the battery on a heat resistant surface alone when charging.
- Always put the LiPo battery inside a charging protection container while charging.
- Do not allow LiPo cells to overheat at any time. Cells which reach greater than 140 Fahrenheit (60C) will usually become damaged and will catch fire.
- Do not charge LiPo cells on or near combustible materials including paper, plastic, carpets, vinyl, leather, and wood. inside an R/C model or full size automobile.
- Do not discharge LiPo; doing so will damage the battery.
- Do not expose LiPo cell to water or moisture at any time.
- Do not store battery near open flame or heater.
- Do not assemble LiPo cells or pre-assembled packs together with other LiPo cells or packs.
- Always store LiPo battery in a secure location away from children.
- Always remove the LiPo battery if model is involved in any kind of crash. Carefully inspect the battery and connectors for even the smallest damage. CAUTION: cells may be hot!
- Do not allow the electrolyte to get into eyes or on skin. Wash affected areas immediately if they come into contact with electrolyte. Do not alter or modify connectors or wires of a LiPo battery pack.
- Always inspect the condition of the battery before charging and operating.
- Do not short circuit the LiPo battery.
- Do not have contact with a leaky/damaged battery directly.
- Do not charge battery out of recommended temperature range (0C - 45C).

Using The Proper Fuel And Glow Plug

Using the proper fuel and glow plug is important to achieve maximum performance and reliability. You must use fuel, glow plugs and air filters that are specifically designed for remote control model car. The engine is brand new, it must go through proper break-in procedure to perform reliable and achieve maximum performance. During the break-in procedure, it is common to go through one or two glow plugs failure. All car engines must use a properly oiled air filter to keep dirt out of the engine. Any dirt that enters the carburetor can immediately damage your engine. Clean the air filter after every hour of running. You can wash the foam filter with warm water. Dry the filter then re-apply air filter oil to the foam filter. (Please check out www.exceedrc.com for detail instructional video)

Engine Adjustments

Take a moment to review the figures on the right to familiarize yourself with the various functions of the engine. Although preset at the factory, some changes in the needle setting can occur during shipping. (Please check out www.exceedrc.com for detail instructional video)



Starting Your Engine For The First Time

The first start of your engine is the most important time of the engine's life, dictating how well it will perform. Do not skip the break-in process of a new engine! Without proper break-in procedures, you risk damaging your engine during the first tank of fuel. Your patience during these procedures will be rewarded by an engine that performs reliably and to its maximum power potential. Patient and knowledge are the key for a successful break-in process. Glow plug failure is a common occurrence when breaking in a new engine. When tuning the needle valves for maximum performance, adjust them in small increments, 1/16 turn at a time. An engine should not be run too lean; doing so severely shortens the life of the engine. It is better to run a little rich than too lean. (Please check out www.exceedrc.com for detail instructional video)

Engine Maintenance

You need to perform periodic maintenance in order to keep your engine in proper operating condition. After each day of running, it's important to do the following steps:

- 1) Empty all fuel from the tank and fuel lines.
- 2) Remove the glow plug and air filter and add 5 to 6 drops of a quality after-run oil into the carburetor and cylinder head openings.
- 3) Turn the engine over a few times to distribute the oil throughout the engine.
- 3) Clean and inspect the engine, air cleaner and fuel system.

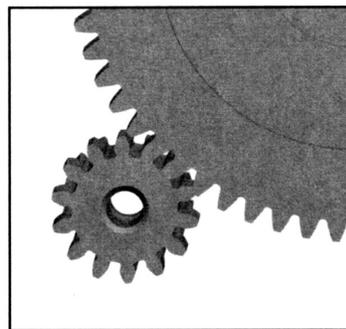
(Please check out www.exceedrc.com for detail instructional video)

Shock Maintenance

After each day of running, you should check your shocks for adequate fluid. If the fluid is low, or it is getting dirty, you should change the fluid in the shocks. To achieve better performance, you may also want to change the shock fluid and or the pistons. (Please check out www.exceedrc.com for detail instructional video)

Setting The Gear Mesh

Gear mesh is the clearance between the pinion and spur in an electric car or clutch bell and spur in a nitro car. It has impact on the vehicles performance. If the gear mesh is not set properly you may also damage the clutch bell and spur or the pinion gear and spur gear as soon as the vehicle starts running. (Please check out www.exceedrc.com for detail instructional video)



Electronic Speed Controller Caution

Always turn on the transmitter first then the ESC to prevent an out-of-control vehicle. Disconnect the battery from the ESC after use. Never leave the vehicle unsupervised while it is switched on, in use or connected to a power source. If there are exposed wires, do not use the ESC until you have installed shrink-wrap or replaced the wire. If there is a short-circuit or product defect, it could result in fire. When programming your ESC or calibration function, disconnect motor or remove the pinion gear. The Electronics in this vehicle are not waterproof and you must avoid running the vehicle in or through standing water, wet grass, mud or snow. If your vehicle gets caught or stuck, do not pull the throttle in either forward or reverse. This will overload the ESC and/or motor, resulting in damage to one or possibly both, and is not covered by your warranty. After running a battery pack, allow the electronics several minutes to cool, before running the next battery pack. (Please check out www.exceedrc.com for detail instructional video)

Pre-run Check

- Keep your vehicle clean by using a brush to remove dirt and dust.
- Check for cracks in the suspension arms and other molded parts.
- Check the tires are still glued to the wheels.
- Check all the wheel bearings are clean and lubricated.
- Check all the screws and nuts are tightened.
- Check all the camber links and steering linkage are not bent.
- Check all the toe and camber settings are as desired and equal.
- Check the spur gear.
- Check the pinion gear.
- Check the slipper pads.
- Check the shocks, if they appear leaking, rebuild them.
- Check all the wiring and connections for bare wire or any place which could lead to a short circuit.
- Check all the electronic components are securely mounted to the chassis.
- Check the receiver is still securely mounted to the chassis.
- Turn on the radio. If the battery LED is off or dim, replace the batteries in the transmitter.
- Keep safe distance from your vehicle while you are making adjustment.

(Please check out www.exceedrc.com for detail instructional video)