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# USER MANUAL

**ACCESS TO HOBBY CAR**

This manual is applied to Electric/Nitro/Gasoline cars of any scales



In order to understand our company products more expediently, please check it according to the part number.

## Notes:

- ⇒ Read and understand the instructions carefully before operating or assembling your racing model.
  - ⇒ Specifications are subject to change without prior notice, and actual received model may vary from the images and/or descriptions in this manual.
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We 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.

We have 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.

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.

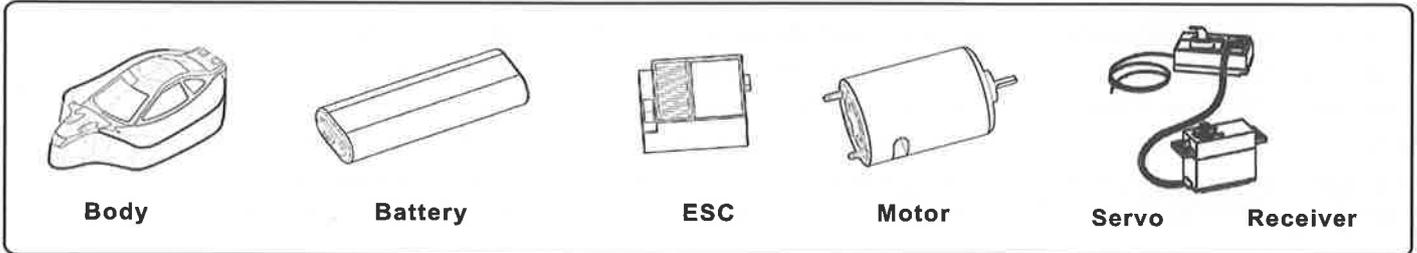
## Warnings

- 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.
- Use replacement parts from the original manufacturer to ensure safe operation.
- Operate this product within your ability. Do not operate under tired condition
- 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.
- 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.

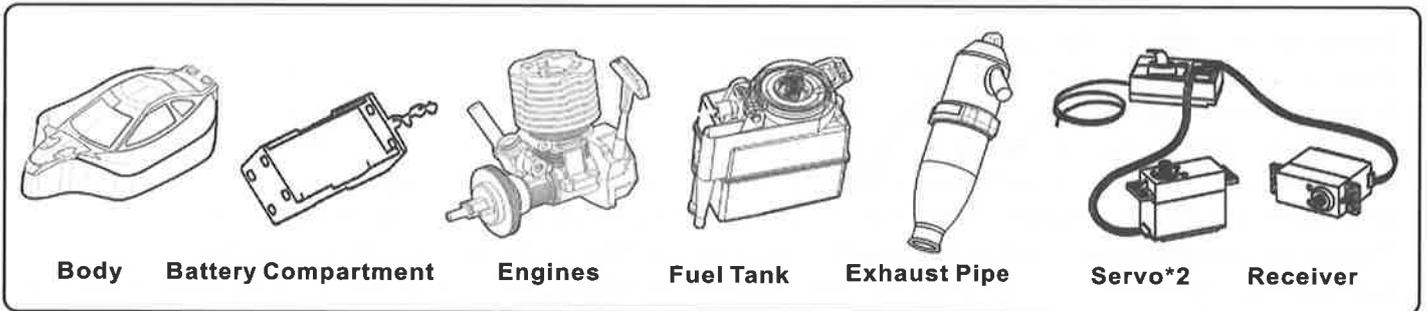
The packaging contains the following when the box is opened.

- 1) One car 2) one radio controller 3) charger 4) manual 5) antenna pipe

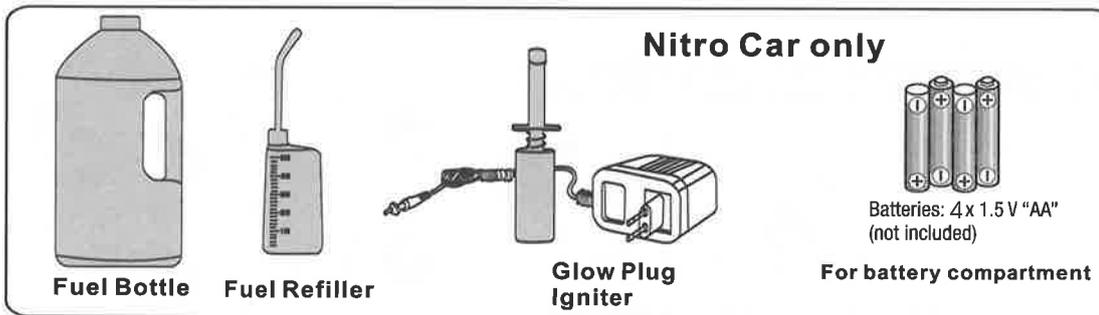
For electric cars, please see if it contains the following:



For nitro cars, please see if it contains the following:



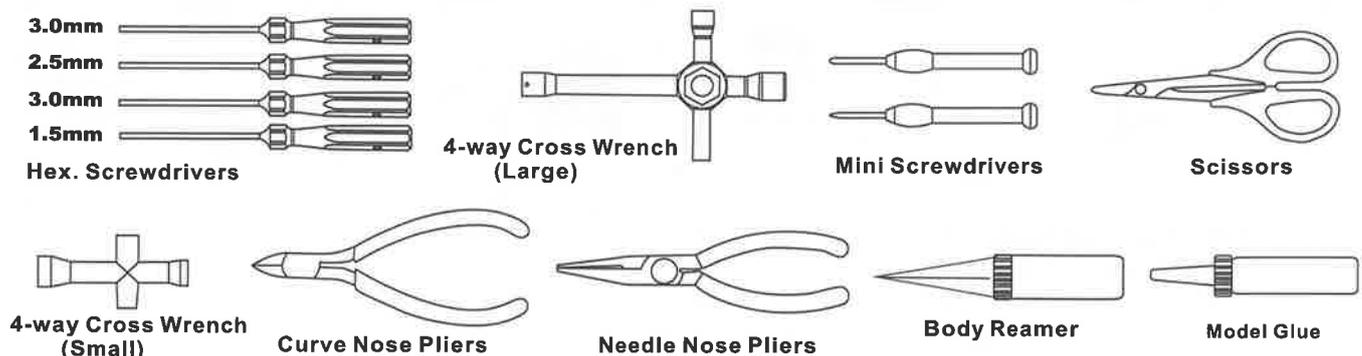
The following are the optional parts that may be important to your car.



**Battery requirements for the controller:**  
 Power supply: ---  
 DC 12 V  
 Batteries: 8 x 1.5 V "AA" (not included)



Items for assembling or disassembling your model:

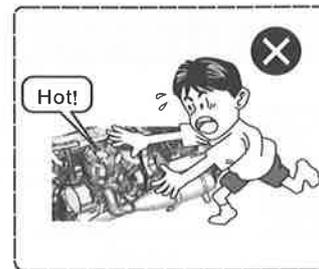
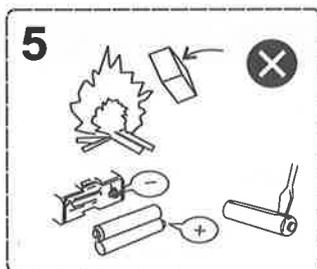


### For Nitro/Electric Models

1. Please open box and check to avoid missing parts. Include a car, transmitter and manual in the box.
2. Take out your car, radio and manual and take off car body.
3. Please Check radio and receiver must be with same frequency, check inching switch must be in neutral position to avoid destroy servo.
4. Check whether shocks leaking oil or not.
5. Check receiver wireless is in good condition or not. Can not control steering and throttle.
6. Take out manual from PE bag and put the antenna into the antenna pipe.
7. Install 1.5v alkaline batteries for radio and for receiver, turn on the switch for radio and then receiver. Turn the steering wheel to check the steering direction, turn right, the car shall turn right, adjust ST reverse switch if the car is running opposite direction. The car shall be gone straight when the steering wheel back Neutral position, adjust ST trim if not. Pull throttle trigger and the car will go forward, and adjust TH reverse switch if not. Push throttle trigger and the car will stop and then backward, and adjust TH reverse switch if not. When the throttle trigger back neutral position, the can shall be at idle speed condition, adjust TH trim if not.
8. Fill in nitro oil into the tank and break in the engine before drive you car.

### Warning Notes:

1. Do not drive your model car when it is raining or thundering to keep safety.
2. Keep your model car in dry normal temperature condition, and keep away from water.
3. Please do not use other optional parts to install our model car if you can not make sure it can match your car or not. And please do not over load or use it to do breaking local law.
4. To make sure nobody is using same frequency as yours to avoid that loose control your car or disturb other driver. Please follow up a experienced person when you drive your car as the beginner.
5. Please keep away from Fire ad the model car come with plastic and electric material
6. Can enlarge collecting area if pull out the receiver antenna, and will enlarge radio area if pull out radio antenna.
7. Must turn on the switch of Radio, then turn on the switch of Receiver
8. Must turn off the switch of Receiver, then turn off the switch of radio and take the connector out for the battery



- \* This product is not a simple toy. It is an authentic R/C model.
- \* For better performance, some adjustment and correct assembly are necessary.
- \* Use the battery properly. Incorrect battery will damage your model and/or radio system.
- \* This product is strongly recommended for the user over 14 ages .

## Shock Maintenance

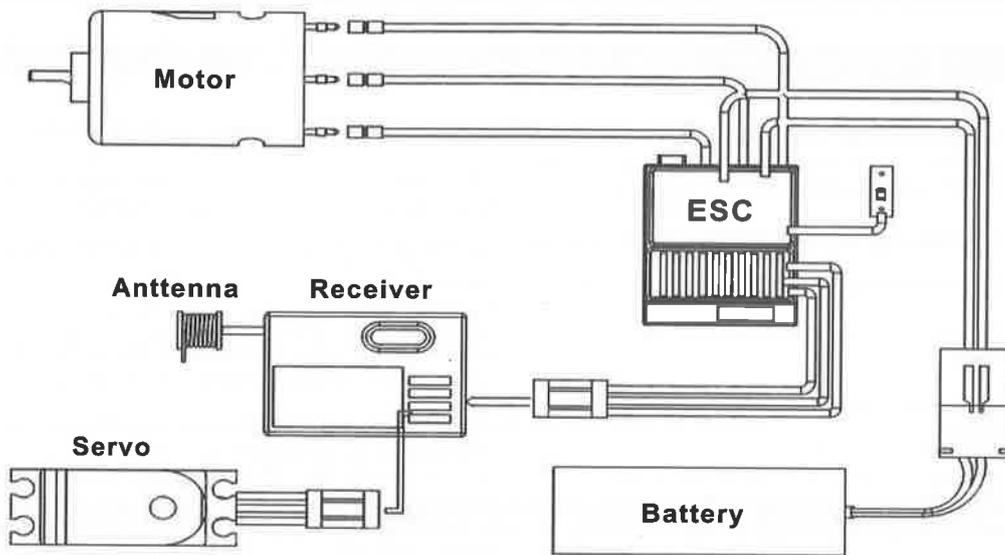
After each day of running, you should check your shocks for adequate fluid. If the fluid is low, or it is getting dirty, you should change the fluid in the shocks. To achieve better performance, you may also want to change the shock fluid and or the pistons.

## 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.

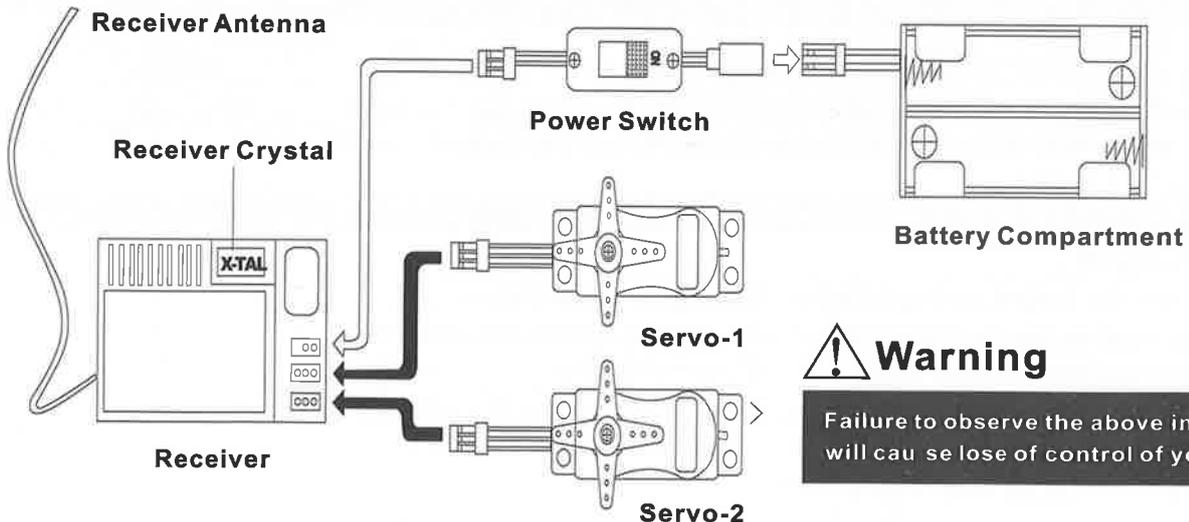


## Scheme Of Installation



## Nitro Radio System

Please read and understand all instructions before switching on your radio system. You should turn on the transmitter and then the receiver to center your servo first. Turn off the receiver and then the transmitter after the servo is centered properly.



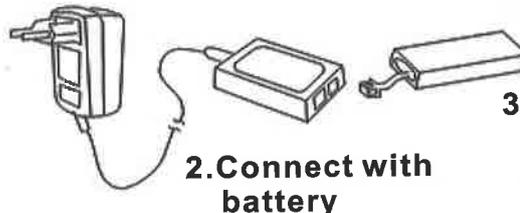
### Warning

Failure to observe the above instruction will cause loss of control of your model.

## Charge Battery

1. Connect charger plug with mains jack and then connect with connector of battery.
2. Please be care of safety while charging, please remove charger plug from the mains jack once finish charging. Will be over heat if it is too long to be charging or incorrect charging way. must stop charging if over 45 degree for the battery temperature.
3. Do not charge for battery at once when you take it away from your car. Please make sure battery in cool condition before recharge battery to keep battery performance running well and get a longer use life.

**1. Connect with manins jack**



**2. Connect with battery**

**3. Remove charger plug out**

## 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).

## The vehicle is equipped with an nimh battery.always follow these safety instructions

- Never dispose of NiMH batteries in a fire or store near sources of heat.
- Only use the supplied NiMH charger to charge the NiMH battery. Using another charger may permanently damage the battery and surrounding components and may also lead to injury.
- Batteries should only be charged on a fireproof surface, away from any flammable materials.
- Never leave the battery unattended when charging or discharging.
- Batteries must be discharged or fully exhausted before being disposed of. Cover exposed poles with adhesive tape to prevent short-circuiting!
- Never disassemble or alter the battery contacts. Do not damage or puncture battery cells. Doing so would result in an explosion hazard!
- Keep the NiMH battery away from children.

### Care And Maintenance

- Always use clean,damp cloth to wipe the vehicle clean.
- Keep the vehicle and batteries away from direct sunlight and/or direct heat sources.
- Never let the vehicle come into contact with water,as this may damage the electronics.

### Safety Advice

- Structural repairs or modifications to the product are only permitted using approved original replacement or tuning parts. Otherwise the vehicle could be damaged or could be dangerous.
- In order to avoid danger,always operate the vehicle in position you can escape from quickly if necessary.
- Always turn the vehicle and controller off after use.
- Insert new batteries in the controller or recharge as soon as any function becomes diminished.

### Controller Battery Safety Advice

- Do not charge non-rechargeable batteries.
- Rechargeable batteries must be removed from the controller before charging.
- Rechargeable batteries must only be charged under adult supervision.
- Do not use different types of batteries or mix old and new batteries.
- Only use the recommended batteries or batteries of an equivalent type.
- We recommend using new alkaline-manganese batteries for the controller. To help the environment, consider replacing the disposable batteries for this controller and for other household electronic items with rechargeable batteries. We recommend eneloop batteries (Sanyo).
- Insert batteries following the correct polarity (+ and -).
- Remove dead batteries from the controller.
- Do not short-circuit the supply terminals. Remove batteries from the controller when they are not used for a long period of time.

### Warning

(1/10th scale)

The electronic speed controller(ESC) on this model is designed to operate with 7.2v 1800mAh - 3600mAh Ni-MH battery only. Operating beyond the ESC's recommended specification(using the incorrect type of battery or higher Voltage battery) might damage the ESC.

(1/10th scale) Brushless power

The electronic speed controller(ESC) on this model is designed to operate with 7.2v Ni-MH battery, 8.4V Ni-MH battery or 7.4v lithium polymer battery only. Operating beyond the ESC's recommended specification(using the incorrect type of battery or higher Voltage battery) might damage the ESC.

(1/16th scale)

The electronic speed controller(ESC) on this model is designed to operate with 7.2v 1100mAh - 1500mAh Ni-MH battery only. Operating beyond the ESC's recommended specification(using the incorrect type of battery or higher Voltage battery) might damage the ESC.

(1/16th scale) Brushless power

The electronic speed controller(ESC) on this model is designed to operate with 7.2v1500-2000mAh Ni-MH/8.4v1100mAh Ni-MH or 7.4v2000mAh Li-Po. battery only. Operating beyond the ESC's recommended specification(using the incorrect type of battery or higher Voltage battery) might damage the ESC.

### 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.

## Engine Adjustment

### High end mixture valve

To measure the fuel inflow and provide high end mixture. If screwing it further in, the high end mixture volume will decrease. Once you unscrew it in, the high end mixture volume will increase.

### Low end mixture valve

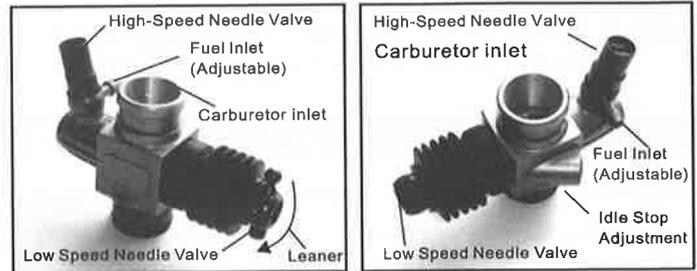
To measure the fuel inflow and provide low end mixture. You are required to adjust low end mixture valve to provide an even process for running your engine from low speed to high speed.

### Idle adjustment screw:

To control the air and fuel mixture which flows into the carburetor while the engine is at Idle. It will be an essential adjustment that prevents your engine from stalling at an extremely low

### Carburetor inlet:

To mix the air and fuel to permit a proper running of your engine. After attached with an air filter, it is used to ensure a good proportion.



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.

Engine image is represented for reference only. It may vary from the actual received engine.

The engine includes many high precision parts. Incorrect operation or rash assembly and disassembly will compromise the proper performance of your engine.

## Engine Break In Period

New engines require a break in period to exercise a final adjustment of internal parts after manufacturing. For our models, we have already perform this procedure before putting them on the market. However, you will use your own engine to drive our models. This procedure is required and must be completed by you/the user. To prevent excessive initial wear on internal engine parts a rich air/glow fuel mixture is required to perform a break in procedure for your engine.

### Important notes:

Break-in period 2 and 1/2 turns from full closed position(4-5 tanks of 10-15% fuel/ 20% oil content) must be used to perform break in.

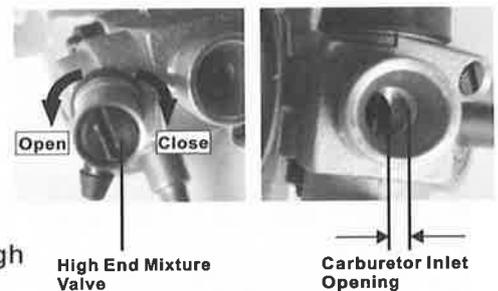
Please do not run engine full throttle for long periods during break-in. Once break-in procedure has been performed lean out engine to best performance (2 turns to 1 and 1/2 turns from full closed position) you must always observe a trace amount of oil smoke from exhaust pipe, if you hardly see any smoke please stop immediately and re-adjust high end mixture valve till smoke is observed.

Always perform high end mixture valve adjustment firstly, and then perform idle adjustment on a warmed-up engine.

Clean-out engine and exhaust system by applying high throttle(3/4 throttle) for 2 seconds after adjustment to permit effectiveness of adjustment to be observed.

It is of normal occurrence during the break-in procedure that minuscule particles of metal adhere to the glow element. The particles of metal isolate the glow element and affect overall engine performance.

Lubrication: We highly recommend a Premium glow fuel with a Synthetic/Castor blend of a minimum of 16% and maximum of 20% combined lubricant content.



## 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.

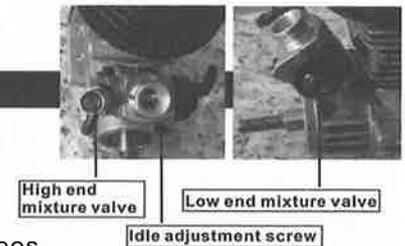
## Engine Maintenance

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.

## Checking After Start

- Verify engine performance after start up. Pay close attention to exhaust smoke and engine sound.
- Observe the speed of your running car with throttle set to high. Your car will still speed up when you screw in the high end mixture valve at an angle of 10 or 20 degrees.
- If you screw in the high end mixture valve further, the engine will become overheated and subject to damage.
- Slow engine response is due to an over rich condition. When air and fuel mixture is too rich, lots of smoke and popping sound from exhaust will be observed. You should screw in the high end mixture valve at an angle of approx. 30 degrees (turning clockwise)
- Hesitation from idle to mid throttle is due to a lean condition. When air and fuel mixture is too light, almost no visible smoke is observed and engine may quit for no apparent reason. If it is the case, you should also unscrew in the high end mixture valve at an angle of approx. 30 degrees (turning anti-clockwise)



## 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.

## 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.

## Maintenance after driving

- Proper maintenance is very important. Make sure to always perform appropriate maintenance after driving so that you can enjoy driving without problems next time.
- Completely remove all dirt and debris from the vehicle, especially in the suspension, drive shafts and steering parts. Inspect each part and screw for loosening, missing or damages.
- Use premium "After Run Oil". This lubricant is perfect for maintenance of your engine.
- Correct lubrication of all bearings and moving mechanism is necessary for proper operation.
- You should always make sure your wheels are tight and parts move freely after and before use.

## Troubleshooting

Please read the section if you have any fault trying to operate the vehicle.

The engine fails to start.

Check if fuel tank is empty or the carburetor is not primed correctly.

-Fill the fuel tank up or prime the throttle.

The glow plug is bad or batteries are dead.

-Replace the glow plug or charge the batteries.

Carburetor is not adjusted properly.

-Set the high /slow end mixture valve and idle adjustment screw to original position.

The fuel lines, the air filter, or the exhaust pipe is clogged.

-Clean or replace the clogged parts.

The engine is flooded.

-Remove the glow plug and discharge excessive fuel.

Servo linkage is not adjustment properly.

-Set the servo to neutral then re-adjust it.

The engine can start but stall immediately.

Fuel tank may run out of fuel.

-Fill up the fuel tank.

The fuel lines, the air filter, or the exhaust pipe is clogged.

-Clean or replace the clogged parts.

The carburetor is not adjusted properly.

-Re-adjust the high /slow end mixture valve and idle adjustment screw.

The engine is flooded.

-Allow the engine to thoroughly cool down and turn the high end mixture valve open at an angle of approx.30 degrees.

Weak response of engine

Carburetor is not adjusted properly.

-Re-adjust high/low end mixture valve

Low fuel pressure level is observed

-Install the pressure line from the exhaust pipe to fuel tank correctly.

Model becomes tough to control.

Batteries are weak.

-Replace or charge them.

Radio antenna is installed incorrectly.

-Extend the transmitter antenna fully to obtain better reception.

Servo linkage is weak to control.

-Centre the servo and perform a due adjustment again.

## Maintenance after driving

1. Do not forget to turn off power and remove male plug and cut off power.
2. Cleaning your car.
3. Do not use Chemical cleanser to clean chassis to avoid electronic device getting damp and wire, weld and plastic part to be corrosive. Please use soft brush to cleaning you car.

## Troubleshooting

Please read the section if you have any fault trying to operate the vehicle.

Question	Reason	Solution
Car can not running	ESC getting over heat or getting slow	Cool down and try again.
No Performance	Power problem	Check wire loose or not
Motor over heat	Motor drive gear too tight	Cool the motor and adjust drive gear
No electric power	Battery without power or wire getting loose	Recharge and check wire
No driver power	Motor wire loose, Motor damaged Do not turn on switch for your radio while the motor is running.	Check motor wire connecting Change new motor, Check TH trim in neutral position or not
Out of control	Steering servo is not connect with ESC Steering servo is locked or no performance	Connect with ESC Check each part around the steering servo
Steering/Reverse	Pull throttle trigger the car go backward Steering wheel right but car going left or turns left and car going right.	Check TH trim/ST Rev switch.

### Turning on the R/C Unit

Turn on the transmitter first followed by the receiver or speed control. Always check you have control of the servos and electronic speed control if applicable. Check the range of operation before starting your engine running.

### Turning off the R/C Unit

Only turn off the R/C Unit once you have stopped the car and stopped the engine if applicable. Turn off receiver first and then turn off transmitter. Always disconnect the battery connector from the receiver/speed control after driving.

### Trim Setup

You need to check that your trims are correctly set before you start the engine or use the car. Once you have turned the R/C unit on adjust the steering trim to make sure the front wheels are pointing straight. You also need to check that you have correct settings on the throttle and brake linkage. The carburettor should be fully closed at neutral and the brake should not be engaged. Check that the carburettor opens fully on acceleration and that the brake engages when you pull on the brake.

You should re-set the electronic speed control if you notice any lag in the throttle or brakes. This will set up the throttle and brakes on your electric car.

### Fail Safe Operation and Setup

The Receiver has a built in failsafe. The failsafe will automatically go to a pre set position if

- \* You lose radio signal/power runs out in transmitter
- \* If you suffer any interference
- \* If your receiver battery runs out of power

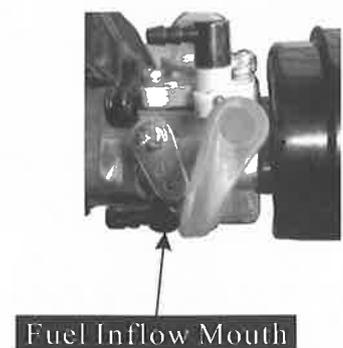
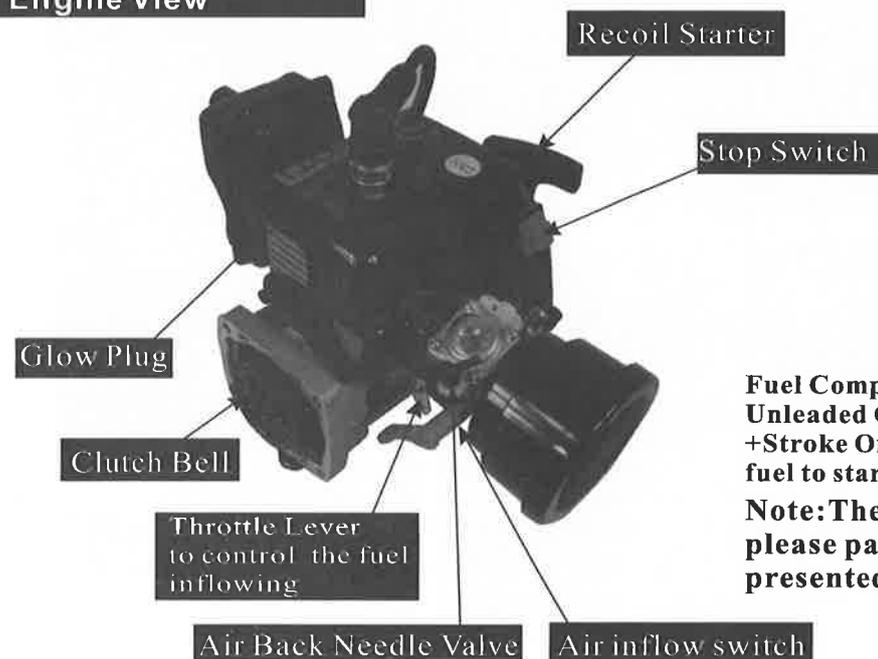
It is advised that you should set the failsafe so that in the event of any of the above situations the throttle servo should apply brakes to your car or the throttle disengages on a speed control.

### To set up your failsafe you must do the following.

- \* Turn on the transmitter and the receiver
- \* Apply the desired amount of brakes on the transmitter (brakes for engine, neutral for speed control)
- \* Press the binding button on the transmitter twice in quick succession

To check the failsafe is working you must turn on the R/C unit and then apply throttle with the transmitter. Whilst holding throttle turn off the transmitter. The throttle servo should return to the pre-set position. This means the failsafe is working correctly. If your servo does not return to the pre-set position then you must try to re-set your failsafe.

### Engine View



### Fuel Composition:

Unleaded Gasoline+Stroke Oil(Gasoline about 75% +Stroke Oil about 25%),Please mix the two different fuel to start your engine.

**Note:**The engine is sticked with warning labels, please pay special attention on it . The image is presented for your reference only.

**Engine Starting**

You must mix your petrol fuel with 2-stroke oil with a mixture of 25:1

The Fuel Tank is 700CC on the MT which should give around 40 minutes duration on atank of fuel.

To fill the fuel tank remove the lid and use a nozzle to help with pouring the fuel. Once full replacethe lid and make sure it is tight.

You need to prime the engine by pressing the priming bubble on the carburettor until you get fuel in the bubble and fuel tube.

Make sure the choke lever is in the horizontal position before pulling the starter cord.

Pull the starter cord in short pulls (50cm/20" MAX) until the engine fires up.

Petrol	2-stroke oil
4 Litres	160 ml
1 Gallon	5.4 fl. Oz.
2 Litres	80 ml
1/2 Gallon	2.6 fl. Oz.
1 Litres	40 ml
1/4 Gallon	1.3 fl. Oz.

**IF YOU HAVE ANY PROBLEMS PRESS THE ENGINE STOP BUTTON IMMEDIATELY****If your engine does not start after 10 pulls**

- \* Set the choke to the vertical position
- \* Pull the starter cord for upto 5 pulls until you hear the engine try to start. Be careful not to flood the engine
- \* Return the choke to the horizontal position
- \* Pull the starter cord and your engine should start within 5 pulls

Only use the choke in the vertical if the engine does not start normally. Using the choke in the vertical position can easily flood the engine.

**Tips: Engine Break In and Running**

Break-in procedure is essential for you to maintain performance of a brand-new engine. Break-in procedure normally requires you to perform a trial running consuming a full gas tank slowly with a Half throttle. It is not recommended that you adjust the carburettor during break-in procedure.

Only after break-in procedure is performed, your engine is ready for normal running and can be adjusted. To stop your engine , press the engine STOP button. Do not touch the engine and exhaust pipe immediately unless they totally cool down

**Driving**

Driving an R/C car can be very difficult to master but here are some basic tips to help you to understand how to use it before you have your first attempt

- \* Drive the vehicle in a very large space, especially until you get the feel of driving the product.
- \* Do not run on public streets or highways. This could cause serious accidents, personal injuries and/or property damage.
- \* Do not run in water or sand.
- \* Make sure everyone is using different frequencies when driving together in the same area.
- \* If you keep pulling the throttle trigger on the transmitter, the vehicle will keep accelerating and run very fast. It is difficult to steer thevehicle running at high speed until you become used to driving. Drive the vehicle slowly by pulling the throttle trigger to the fullest and quickly releasing it.

**You can turn the vehicle right or left while it is running.**

When the vehicle is running toward you, you need to operate the steering wheel in the opposite direction to the operation when the vehicle is running away from you.

**Practice turning the vehicle, referring to the following:**

Rather than just paying attention to the direction of the steering wheel, imagine that you are at the centre of the steering wheel, looking ahead of the vehicle, to turn in the direction you like.

Once you become conformable driving the vehicle, practice driving on a track with cones.

Keep practising until you feel comfortable with the steering, throttle and brake at low speeds.

Once you are feeling comfortable try using reverse.

When you have mastered the basics you will be able to drive at higher speeds in a more controlled fashion.

### **Engine Optional Tuning**

It is a good idea to make sure your air filter is clean before attempting any engine tuning. Before tuning your engine you must make sure that you have fully warmed it up. Do this by driving for a good 5 minutes or so.

You have 2 needles on the carburettor that you can adjust. The Top End needle and Bottom end needle.

If your Top Speed is slow then you can adjust the Top End needle.

To increase the top speed

you need to turn the Top End needle clockwise by no more than 1/16th increments at a time. **NEVER GO MORE THAN 1/4 TURN FROM STD SETTINGS.** If you go more than that it will damage your engine.

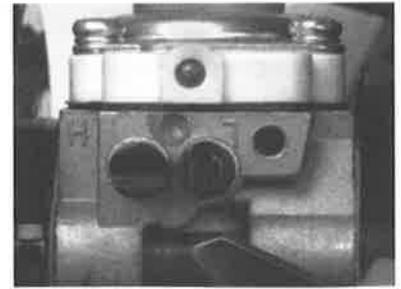
If your car accelerates slowly you can adjust the Bottom End needle. To increase acceleration you need to turn the Bottom End needle clockwise by no more than 1/16th increments at a time.

**NEVER GO MORE THAN 1/4 TURN FROM STD SETTINGS.** If you go more than that it will damage your engine.

A possible cause for slow acceleration is a damaged clutch. If you do not get the performance you require please check the clutch and replace any damaged parts.

You can also adjust the Idle Speed of the engine by adjusting the Idle Speed needle clockwise for higher idle and anti clockwise for a lower idle.

If you are not sure if the tuning you have made is correct then you can re-set the engine to factory settings.



### **Engine Factory settings**

**Make sure the Top End and Bottom End needles are fully tightened clockwise.**

**Top End needle is then opened anti clockwise 1 and 1/4 turns.**

**Bottom End needle is the opened anti clockwise 1 and 1/2 turns.**

### **Maintenance after driving**

**Proper maintenance is very important. Make sure to always perform appropriate maintenance after driving so that you can enjoy driving without problems next time.**

**Completely remove all dirt and debris from the vehicle, especially in the suspension, drive shafts and steering parts. Inspect each part and screw for loosening, missing or damages.**

**You should always make sure your wheels are tight and parts move freely after and before use.**

**Every tank of fuel you should check chassis maintenance, charge the receiver battery and also check the pull starter cord.**

**Every 5 tanks you should check the air filter and transmission. If you run in dirty conditions this should be done every 2-3 tanks.**

**Every 10 tanks you should check the wheel beadlocks/tyres, clutch, brakes, shocks, differentials, fuel tank, spark plug and engine.**

**These are recommended guidelines for checking your components.**

## Trouble Shooting

Please read this section if you have any fault trying to operate the vehicle

Problem	Cause	Remedy
Engine Does Not Start	Out of fuel	Fill the tank with fuel and prime engine
	Air Filter is blocked	Check air filter, clean or replace if necessary
	Throttle isn't adjusted properly	Adjust the carburettor back to factory settings
	Throttle servo is not setup correctly	Set throttle to neutral and adjust the throttle linkage
	Pullstart is not working	Check Pull Starter and repair if necessary
	Choke lever position?	Make sure choke lever is in the correct position
	Spark plug not working correctly?	Check Spark plug and ignition coil and replace if necessary
	Is the plug wire in good condition?	Replace plug wire if it is damaged
	is the engine stop switch working correctly?	Check and replace engine stop switch if it is broken
	Are the piston and cylinder in good condition	Check piston and cylinder for wear and damage and replace if necessary
Fuel mixture is too old?	Make new fuel mixture	
Engine starts then stalls	Out of fuel	Fill the tank with fuel and prime engine
	Air Filter is blocked	Check air filter, clean or replace if necessary
	Throttle isn't adjusted properly	Adjust the carburettor back to factory settings
	Throttle servo is not setup correctly	Set throttle to neutral and adjust the throttle linkage
	Do you have a clutch problem?	Check clutch for damage
	Engine is overheated	Allow engine to cool and then restart
	Idle speed is set too low	Adjust the idle speed
	Do you have a drivetrain problem?	Check drivetrain for damage
	Fuel mixture is too old?	Make new fuel mixture
Engine running but car doesn't move	Are the brakes stuck?	Make sure there is no brake drag at neutral
	Do you have a clutch problem?	Check clutch for damage
	Receiver battery capacity is low	Charge receiver battery
	Do you have a drivetrain problem?	Check drivetrain for damage
	Is the failsafe system working?	Make sure failsafe system is working properly
Erratic control	Weak batteries in transmitter and receiver	Install fresh batteries
	Transmitter or receiver is off	Turn on both transmitter and receiver
	Transmitter reverse switches are set incorrectly	Check the reverse switch settings
	Transmitter End Point Adjustments (EPA) are set incorrectly	Check your EPA Dials on your transmitter
	Brake does not work	Set throttle to neutral and adjust the brake linkage

If you encounter any other fault whilst operating the vehicle please contact your local hobby shop or alternatively contact your local distributor.