VOLCANO 18

1/18 SCALE MONSTER TRUCK

USER MANUAL

WWW.REDCATRACING.COM

WARNING!

READ ALL INSTRUCTIONS INCLUDED WITH VEHICLE BEFORE OPERATING

Age warning: This radio controlled vehicle is not a toy! You must be 14yrs of age or older to operate this vehicle. Adult supervision is required.

Risk of runaway vehicle or injury. Never turn on the vehicle or plug in the battery pack without first having the controller turned on.

RISK OF FIRE!
RISK OF EXPLOSION!
There is a risk of fire and explosion when dealing with Batteries.
Rechargeable batteries may become hot and catch fire if left unattended or charged too quickly. Never charge at a rate higher than 1S. {2000Mah pack= 2amps charge rate). Overcharging can lead to fire and explosion. Always store battery packs in a cool dry place.

RISK OF BURNS!
The batteries, electronic speed controller, electric motor, and other areas of the vehicle can get hot. Burns can occur if touched after vehicle operation. Allow adequate time to cool before handling.

RISK OF ELECTRICAL SHOCK!
Use caution when charging batteries. Do not touch positive and negative leads together. Do not lay battery on metal. Use only chargers specified for the battery type being charged. Keep batteries and chargers away from water.

RISK OF INJURY!
Hobby grade RC vehicles can cause serious injury or death if not operated correctly. Never use vehicle in crowds. Never chase people or animals. Drive in safe open areas only. Keep body parts away from moving parts.

RISK OF DAMAGE!
Never operate RC vehicles on public roads. Damage of vehicle and property can occur. Only operate on open private property.

Never charge the battery pack while it is still plugged into the RC vehicle. Always unplug the battery pack from the ESC and remove the battery from the RC vehicle before charging. Failure to do so will result in damage to the vehicle’s electronics.

WELCOME TO HOBBY GRADE R/C VEHICLES

Recommended for ages 14+ (with adult supervision)

Congratulations on your new hobby grade radio control vehicle. Hobby grade RCs offer many advantages over radio controlled vehicles sold in the toy department. One of the greatest advantages to hobby grade RC vehicles is the ability to set up the vehicle the way YOU want it. This includes tuning the motor for top performance, changing gear ratios to better suit your terrain, tuning adjustable suspension components like changing ride height and dampening, as well as customizing the overall appearance of your vehicle. Redcat Racing hobby grade RC vehicles were designed with all these characteristics in mind to provide you with much fun and adjustabil ity.

Your new Redcat hobby grade RC vehicle may be small, but it is still incredibly fast. While this is fun and exciting, it also comes with a great deal of responsibility. The momentum carried by RC vehicles can be painful. Getting hit in the leg at top speed may hurt and serious injury is a possibility. Although these small scale vehicles are very user friendly, property damage as well as damage to your RC vehicle are still possible. Great care must be used while operating an RC vehicle.

This is not a toy and should not be treated as one. Electric motors are powerful and should only be used as directed. Follow the included instructions closely and be sure to keep hands away from the hot surfaces of the motor and ESC. Make sure you read all included manuals completely before attempting to run your RC vehicle or charge your battery pack.

The batteries in this RC vehicle are potentially dangerous. Follow all charging and operating instructions found in this manual as well as the ESC manual. If improperly used, property damage, product damage, and potential injury to the operator may occur.

Redcat radio controlled vehicles are engineered for performance as well as durability. This means shedding weight where ever possible and using complex suspension components. As you may know, any RC vehicle, whether it be hobby or toy grade, can break. How and when it breaks depends solely on your driving style. Unlike toy grade RCs, hobby grade RCs are designed with parts replacement in mind. Spare parts are readily available from Redcat and more durable aluminum parts are available as well. It is recommended to keep spare parts on hand so if you run into that oak tree at full speed, you will have the necessary replacement parts to get you up and running again quickly.

Appearance is just as important as speed and handling. Who wants to go fast and look good doing it? You do! That is why Redcat has also designed their vehicles to look as good as they perform. Accessories may also be added to your vehicle to customize its looks. As mentioned earlier, Redcat hobby grade RC vehicles are completely customizable and that is where the fun is at.

Imagine yourself being on the pit crew of a full scale monster truck. Making suspension adjustments for smoother landings or changing the gearing to get that hole-shot from the start. That is the feeling you will get when adjusting the suspension on your new Redcat. Increase ride height so you can clear the driveway with a single jump or thicken the oil inside the oil filled shocks to make high speed laps around your front yard. The possibilities are endless with Redcat, so put on you favorite pit crew cap, grab your Redcat and have the time of your life!

Features:

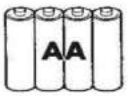
- 370 Brushed Electric Motor
- 2-in-1 ESC/Rec. Li-ION ready
- Forward & Reverse
- 4 Wheel Drive
- Coil-Over Shocks
- LI-ION 800MAh Battery Pack
- LI-ION Battery Charger
- 2.4GHz Radio System

Specifications:

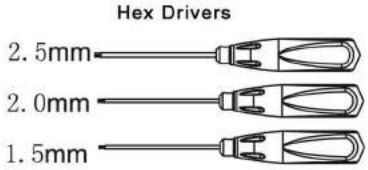
- Scale: 1/18
- Length: 240mm
- Width: 190mm
- Height: 96mm
- Wheel Dia: 68mm
- Wheel Width: 35mm
- Weight: 575g
- ESC: 2 in 1 ESC/Receiver
- Motor: 370/20T Brushed
- Battery: Li-ion 800MAh

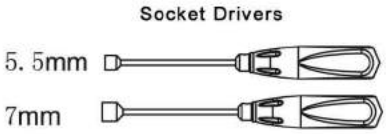
Required equipment for operation

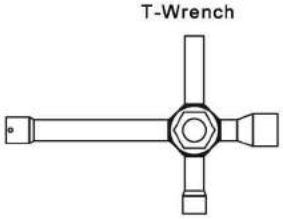
Tools required for maintenance:

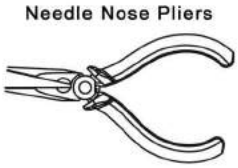


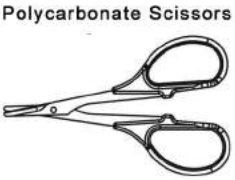
4pcs. AA batteries for transmitter

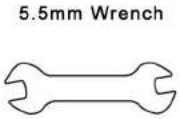


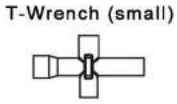


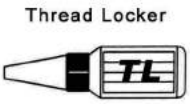


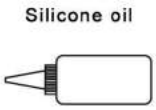






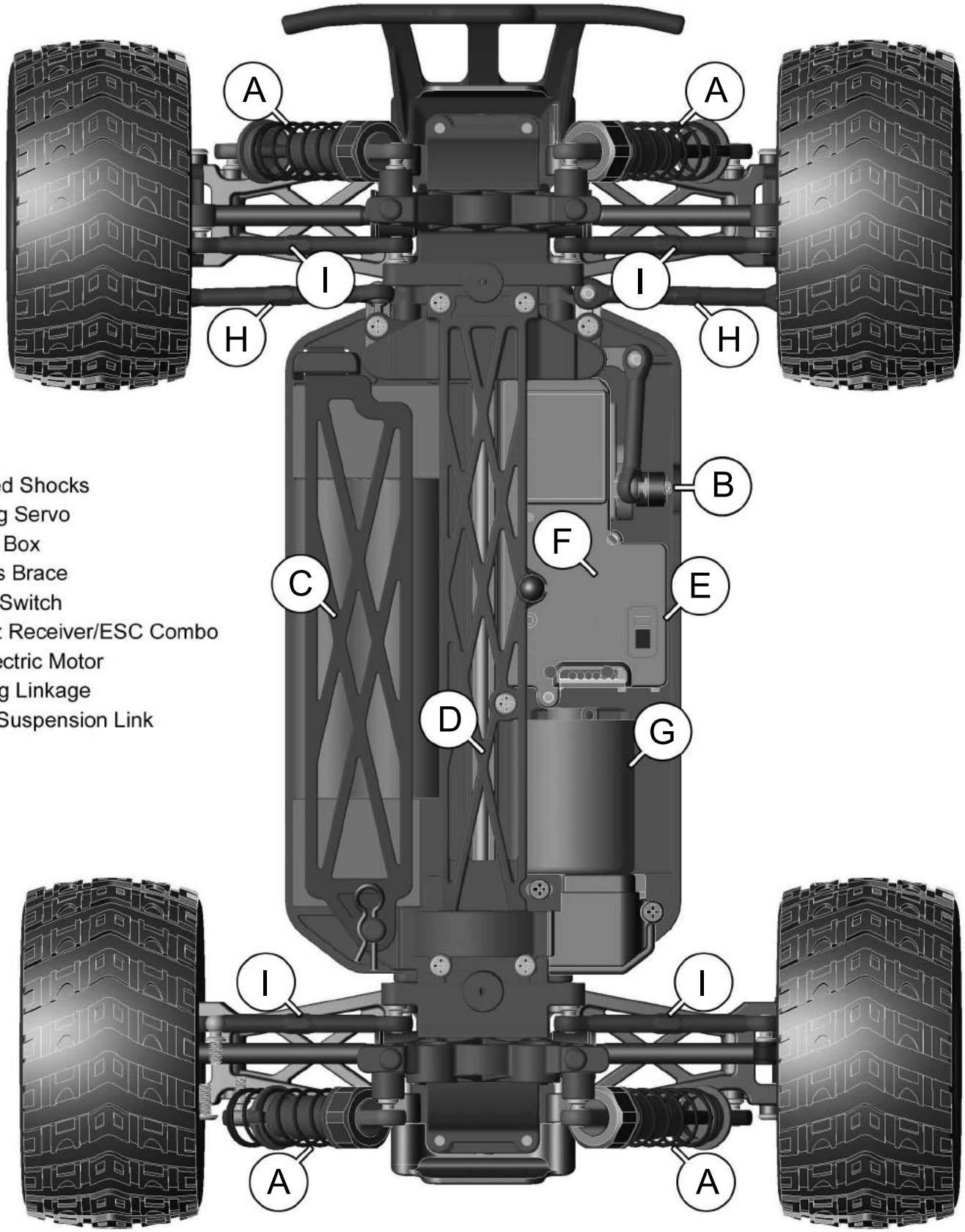






WARNING:

Never use a drill or powered screw driver while working on R/C vehicles. The heat generated from fast turning screws can melt the threads inside the plastic. This can cause loose parts, resulting in poor performance, premature wear, and breakage.



A: Oil Filled Shocks
B: Steering Servo
C: Battery Box
D: Chassis Brace
E: On/Off Switch
F: 2.4GHz Receiver/ESC Combo
G: 370 Electric Motor
H: Steering Linkage
I: Upper Suspension Link

UNPACKING & SET-UP

The moment you've been waiting for is finally here. Your new Redcat package has arrived. Before you go crazy from excitement, let's go over a few simple steps that will aid in success.

Unboxing your Redcat Racing RC vehicle:

Be sure you've removed all parts, equipment, tools, and documentation from the box. It's easy for small parts to get hidden in the packing materials and be overlooked.

Completely read all documents and instructions included with your Redcat Racing vehicle.

Acquire any necessary items such as transmitter batteries, and any additional tools and supplies that may not be included with the kit.

Looking over your new Redcat vehicle:

Be sure to look over your new Redcat RC. If anything looks broken or out of the ordinary, contact Redcat BEFORE using the vehicle. If the vehicle has already been used, we can only assume the damage was caused from that use.

Check all screws to make sure they are tight. Do not over tighten screws nested into plastic as this may damage the plastic threads. Avoid using power tools for this step.

Check all nuts, bolts, and clips to ensure they are tight and secure.

Add medium strength liquid threadlock (like blue Loctite) to any screws threaded into metal parts, especially the motor mounts. Do not apply threadlock to screws threaded into plastic parts, this may damage the plastic threads. Threadlock can be found at auto parts stores. NEVER USE PERMANENT THREADLOCK! Heat is necessary to remove parts secured with permanent threadlock (like red Loctite). This will damage your RC vehicle.

Check all electrical connections. Loose connections create heat that may shorten battery life or worse, cause damage to the vehicle and components.

Perform a radio range check:

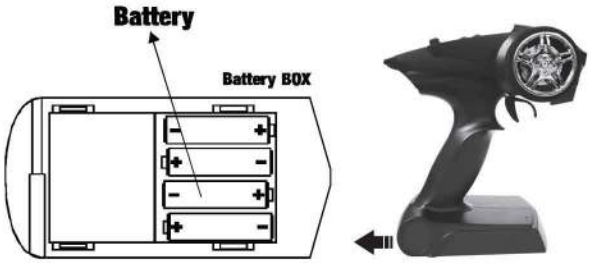
Thread the vehicle's antenna through the plastic antenna tube and turn on the transmitter. Always turn on the transmitter BEFORE turning on the vehicle. This may prevent a runaway vehicle.

Keeping fingers away from potentially moving parts, hold the vehicle off the ground and turn on the ESC switch found in the vehicle.

Check that the controls are working properly. The steering wheel should operate the steering and the trigger should operate the motor. Pulling the trigger should make the vehicle go forward, pushing the trigger should apply brake and set the vehicle into reverse.
You may need to adjust the throttle trim found on the transmitter to keep wheels from spinning while trigger is in neutral position.

Have a buddy hold the vehicle and walk 50 yards away. You and your buddy decide on a routine since it will be difficult to communicate with each other while testing. An example would be....turn wheel left and count to ten, turn wheel right and count to ten, Pull trigger and count to ten, and push brakes and count to ten. You will want to repeat these steps moving further out as you progress until you are beyond the maximum distance you plan to run the vehicle.

2.4GHZ RADIO SYSTEM
HTX-243

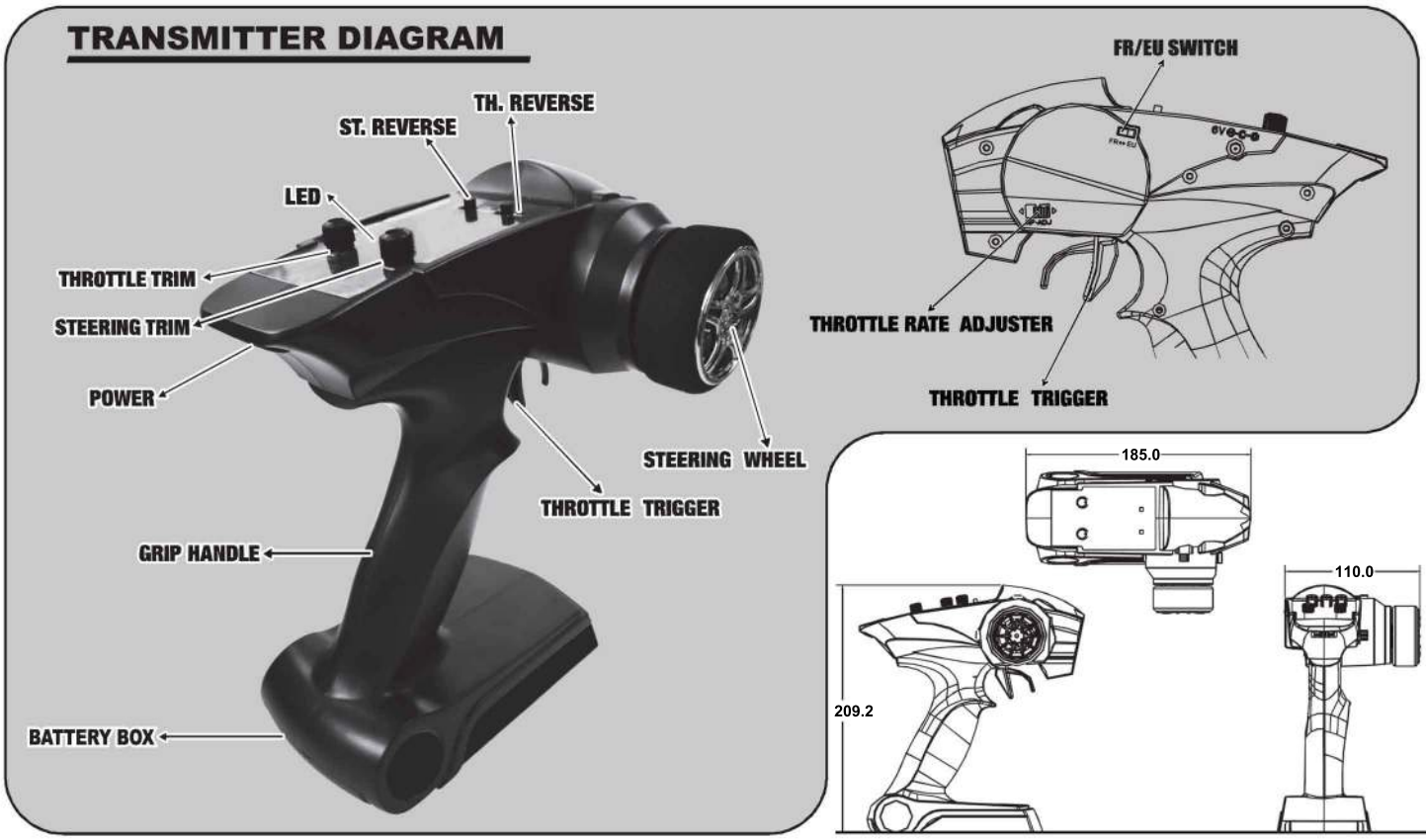


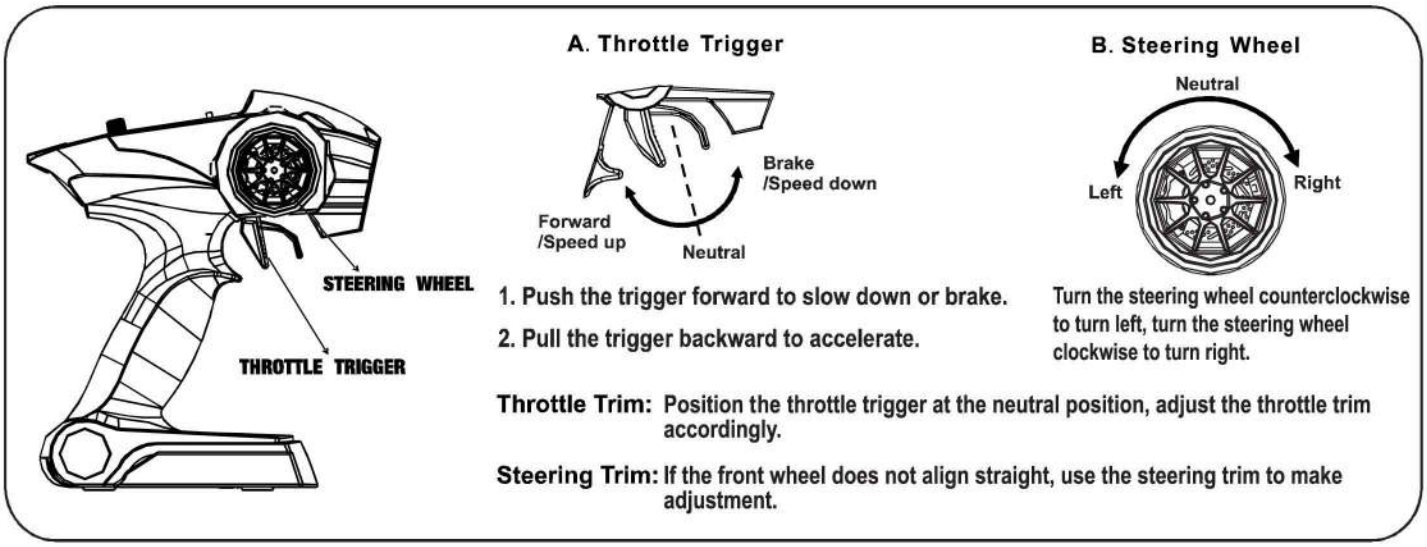
Battery Installation:

1. Remove the battery cover from the bottom of the transmitter
2. Insert batteries lining up Pos. & Neg of the batteries with the markings on the transmitter.

Replace the batteries when the power indicator blinks

TRANSMITTER DIAGRAM





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

Turn the steering wheel counterclockwise to turn left, turn the steering wheel clockwise to turn right.

Throttle Trim: Position the throttle trigger at the neutral position, adjust the throttle trim accordingly.

Steering Trim: If the front wheel does not align straight, use the steering trim to make adjustment.

HTX-243RES

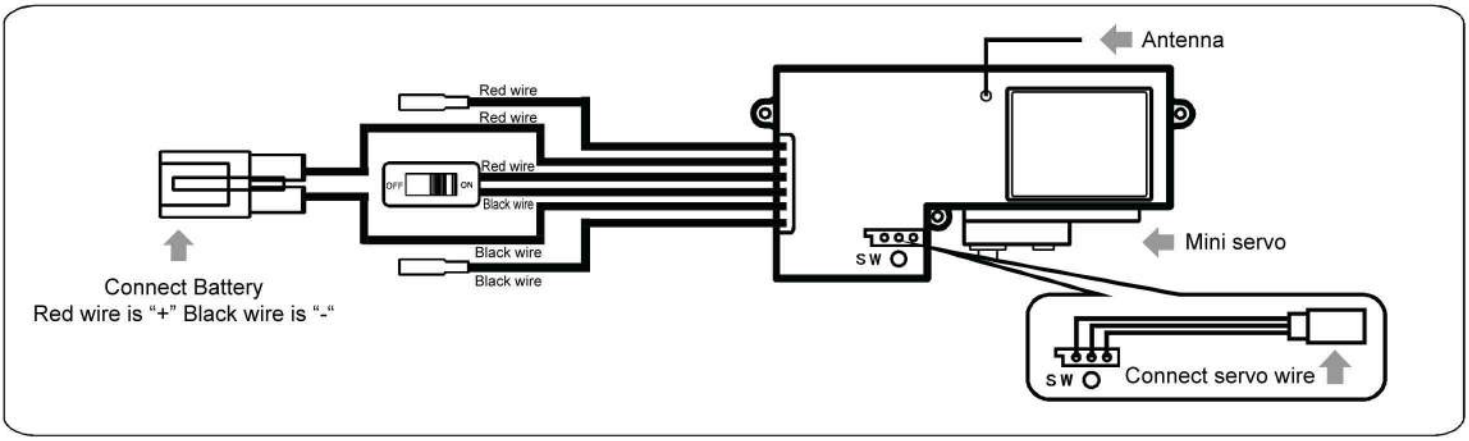
Features

Easy to operate
3ch 2-in-1 receiver/ESC

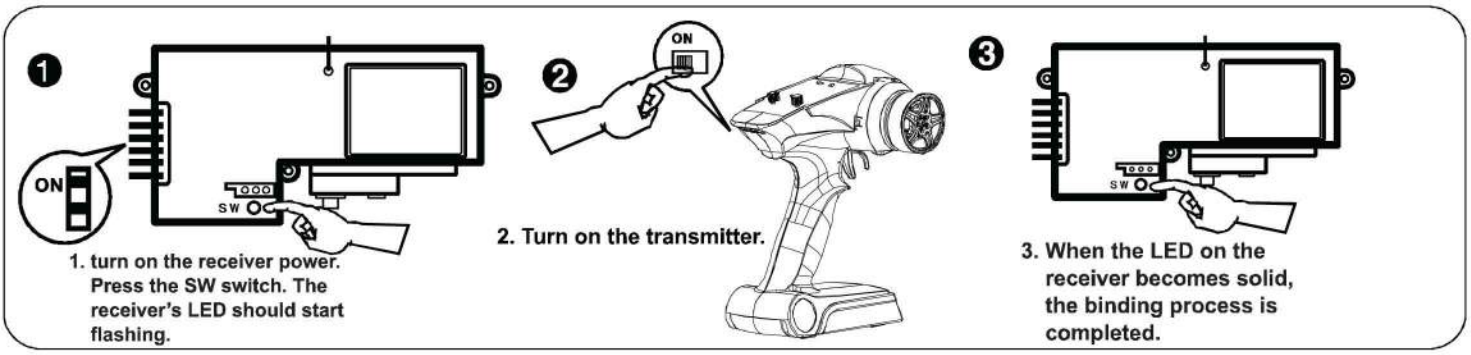
Specifications

- Input voltage : 6-8.4V DC
- BEC : 5V 1A
- Output current : Continuous 20A, Burst 150A
- Size : L=68.5mm (x) W=32.5mm (x) H=22mm
- Motor : High Power 370/20T motor

Wiring diagram



Binding the transmitter and receiver

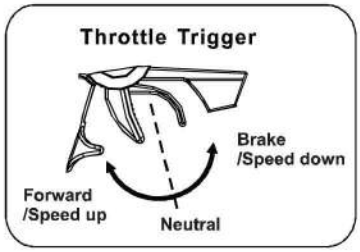


Functional Description

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

Throttle Trim: Position the throttle trigger at the neutral position, adjust the throttle trim accordingly.

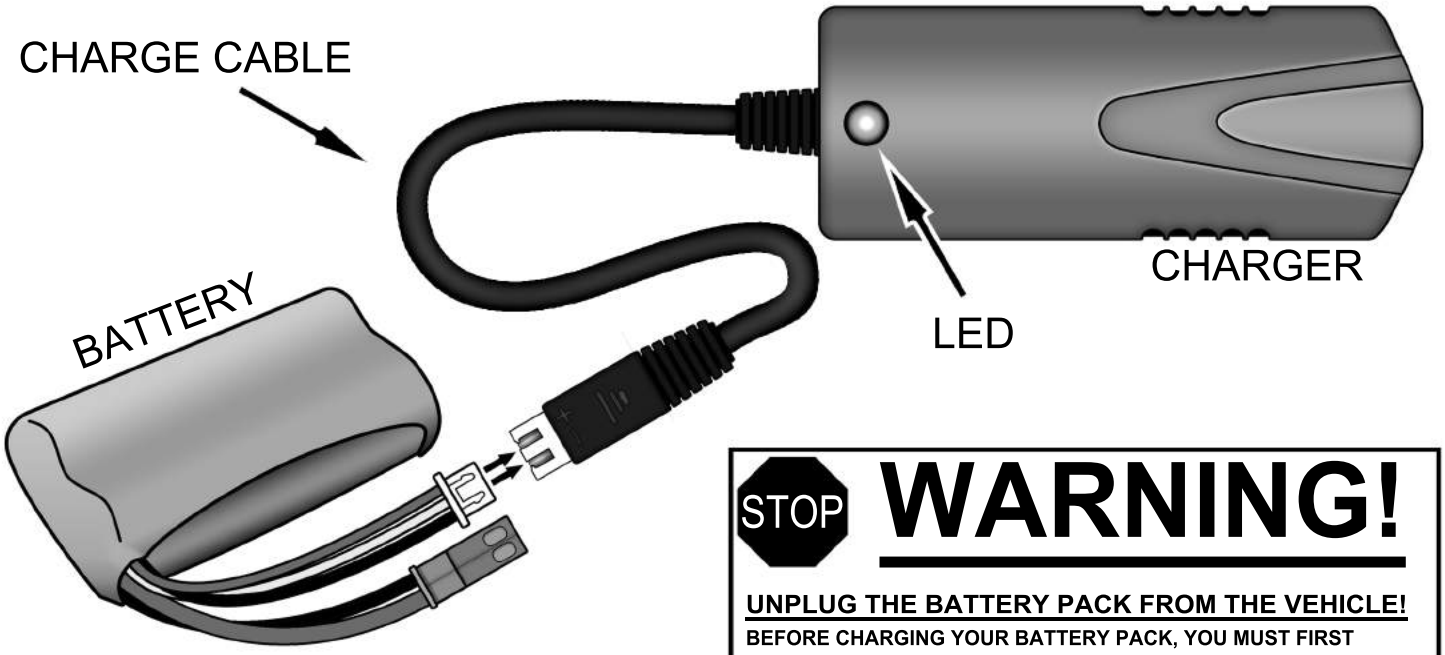
Steering Trim: If the front wheels do not track straight, use the steering trim knob to make the necessary adjustment.



Note

ESC/Receiver combo is water resistant

BATTERY & CHARGER



STOP WARNING!

UNPLUG THE BATTERY PACK FROM THE VEHICLE!

BEFORE CHARGING YOUR BATTERY PACK, YOU MUST FIRST UNPLUG IT FROM THE ESC. FAILURE TO UNPLUG THE BATTERY FROM THE VEHICLE'S ESC BEFORE CHARGING MAY PERMANENTLY DAMAGE SOME OR ALL ELECTRONICS IN THE VEHICLE.

LI-ION: The included balance charger can only charge 7.4v LI-ION batteries like the one included with this kit.

CHARGER: Plugs directly into a 110v wall receptacle.

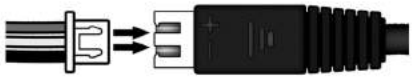
LED: Lights up green when plugged into the wall. Lights up red while charging a battery. Lights up green when battery is completely charged.

CHARGE CABLE: Plugs into the battery balance plug.

CHARGING INSTRUCTIONS:

1. Unplug the battery pack from the ESC and remove the battery from the vehicle.
2. Plug the charger directly into a 110v power receptacle.
   - Power light will be green.
3. Plug the 7.4v LI-ION battery "balance charge plug" into the charge cable. (as seen above)
   - Charge light will turn red while battery is charging.
4. When the charge light turns green, unplug the battery as charging is complete.
5. Unplug charger from the 110v power source.

ATTENTION



Ensure POS+ wire is connected to POS+ & NEG- is connected to NEG-

CAUTION: **Only use the included balance charger to charge the LI-ION battery pack. Over charging may cause injury and/or damage.**

Never attempt to charge the battery through the red power plug. This is only to be used for plugging onto the vehicle and is NOT a BALANCE CHARGE PLUG. LI-ION batteries MUST be balance charged to prevent damage and/or injury.

NOTE: LEAVING BATTERY UNATTENDED WHILE CHARGING MAY RESULT IN FIRE AND DAMAGE/INJURY. NEVER LEAVE UNATTENDED WHILE CHARGING. IF BATTERY GETS "HOT", UNPLUG AND LET COOL.

It's normal for the battery pack to get warm, but it should never get hot!

UNDERSTANDING BATTERY PACKS

We will go over four different types of battery packs in this section. NiCd, NiMH, Li-ion, and LiPo. Although these four types of batteries have their differences, they also have some things in common. Such as, needing to be charged with a charger designed to charge that specific type of battery. Below are some terms used when talking about batteries.

NiCd:

NiCd stands for Nickel-cadmium.

NiCd batteries were used in RC for a long time. They were the first of these four to be developed. NiCd batteries are similar to alkaline batteries, but NiCd batteries can be recharged. A NiCd battery can be discharged at high rates without damage but they are limited in terms of capacity. NiCd packs were the standard for toy department RC cars.

NiMH:

NiMH stands for Nickel-metal hydride.

NiMH batteries have larger capacity capabilities than NiCd batteries but they tend to self discharge quicker. The higher capacity (high mAh rating) allows longer run times.

While a NiCd is preferred in transmitters, the NiMH batteries high capacity makes it a great choice for powering the RC vehicle.

Li-ion:

Li-ion stands for Lithium-ion.

Li-ion batteries are a different chemistry than NiCd and NiMH batteries, but they are still constructed under pressure. That is why each cell has a metal outer case like NiCd and NiMH batteries. Li-ion batteries offer great performance and have a very low self discharge rate when the battery is not in use. Li-ion batteries require more care than NiCd and NiMH when being used, especially while charging. Li-ion specific chargers must be used and slow charging is best. Li-ion batteries are most commonly found in portable electronics and are making their way into the RC hobby because of their high energy density.

LiPo:

LiPo stands for Lithium-ion polymer.

LiPo batteries are a completely different chemistry than both NiCd and NiMH batteries. LiPo batteries don't require pressure as do NiCd, NiMH, and Li-ion which allows them to be constructed without the same metal casings the other cells use. LiPo batteries are superior in performance but require more care when being used. LiPo batteries must be charged with a LiPo specific charger and must be used with a voltage cut off device. If a LiPo battery is completely discharged it will not be usable again. Many of the brushless vehicles come with a LiPo ready ESC which includes a built in voltage cutoff. Most brushless systems work best with LiPo batteries because of their large mAh ratings and lighter weight. LiPo batteries also have a flatter, more consistent, discharge rate. This means you'll have near full power until the low voltage cut-off device kicks in.

UNDERSTANDING BATTERY PACKS

We will go over four different types of battery packs in this section. NiCd, NiMH, LiPo, and Li-ion. Although these four types of batteries have their differences, they also have some things in common. Such as, needing to be charged with a charger designed to charge that specific type of battery. Below are some terms used when talking about batteries.

Cell count:

This is the number of battery cells used to make a battery pack. Usually, the more cells a battery pack contains, the higher the overall pack voltage. This is only true when comparing cell counts of similar batteries. For example: NiCd to NiCd and LiPo to LiPo.

Some typical battery cell counts:
NiCd - 6 cell=7.2v (&) 7 cell=8.4v
NiMH - 6 cell=7.2v (&) 7 cell=8.4v (&) 8 cell=9.6v
LiPo - 2s (2 cell)=7.4v (&) 3s (3 cell)=11.1v

Summary: The higher the cell count (when comparing similar battery types), the more voltage a pack has which causes the vehicle to go faster.

mAh rating:

MAh stands for Milliamp-hour and is used to rate a batteries capacity. The higher the mAh rating, the more capacity a battery can hold allowing longer run times.

It is easiest to think in terms of amp hours (Ah) instead of milliamp-hours (mAh). To get this figure, divide the mAh rating by 1000. If you have a battery rated at 3000 mAh, it is equivalent to a 3 Ah rating. Battery companies use milliamp-hours on battery labels because it looks more impressive than amp-hours do.

A battery rated at 3000 mAh = 3 Ah. That means if this battery was being discharged at a constant 1 amp, it would last for 3 hours before completely discharging, hence 3 amp-hours.

Summary: The higher the mAh rating, the longer the run times.

C rating:

The C rating is basically the capacity at which a battery can safely discharge without damaging it's cells. C ratings are multiplied by the pack's Ah to give you the safe amp discharge rate of a battery.

For example: A 3000mAh , 20C pack will safely discharge at 60 amps.

3000 mAh = 3 Ah. 3 Ah x 20C = 60 amps.

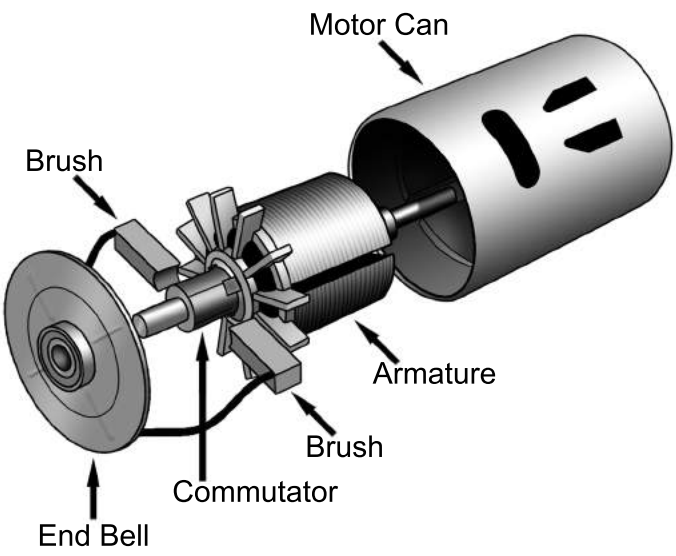
Summary: The higher the C-rating, the higher the ESC & motor amp draw can be used.

ELECTRIC MOTORS

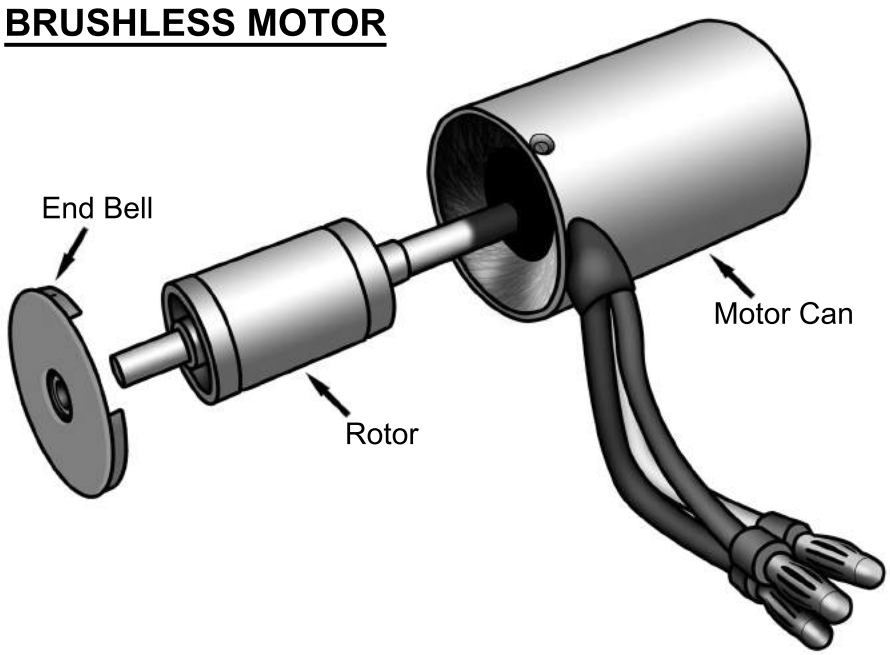
There are two types of electric motors used in RC vehicles, brushed and brushless. Redcat offers vehicles with brushed motors as well as vehicles with brushless motors. In this section we will compare the two.

BRUSHED MOTOR

Brushed motors use magnets mounted to the inside walls of the motor can. The center shaft, called an armature, contains wire coils used to create positive and negative charges. In order for these coils to work, they must have power supplied to them. Brushed motors use brushes to transfer power to the center shaft through the commutator, located toward the top of the shaft. A typical motor uses two brushes as seen to the right. These brushes must keep constant contact to the commutator in order to charge the coils and keep the motor running. As you can imagine, lots of heat and friction are created between the brushes and commutator. Keeping this part of the motor clean is important to having a good running motor. Motor cleaning sprays are sold at hobby stores and come in easy to use spray cans. Spray the end of the motor that contains the brushes with motor spray every couple of runs to keep it working properly. Thin bearing oil can be used to lubricate the bearings or bushings after cleaning.

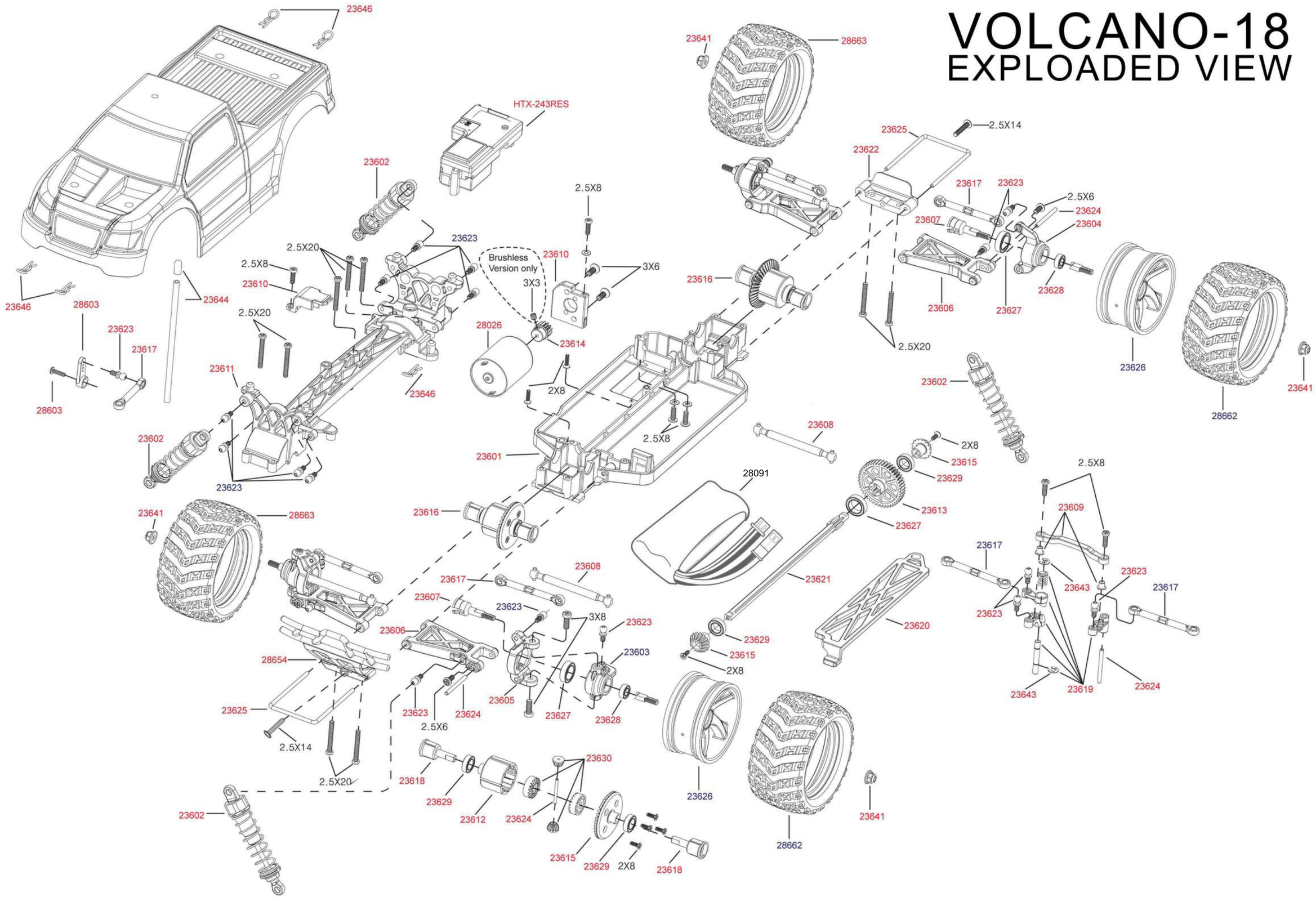


BRUSHLESS MOTOR



Brushless motors need an electrical supply to the coils as well, but the coils are mounted to the inside of the motor can instead of the shaft. This allows a direct wire connection. The magnets are mounted to the center shaft, called a rotor, and no brushes are needed. Brushless motors run more efficiently than brushed motors because there's no friction and loss of current from brushes rubbing against a commutator. This means more power and longer run times. Although brushless motors are efficient, they still create heat and over heating any electric motor can cause failure.

VOLCANO-18
EXPLOADED VIEW

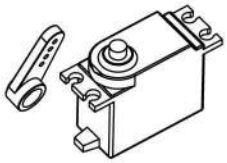
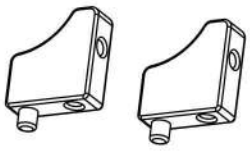
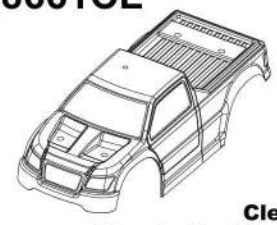
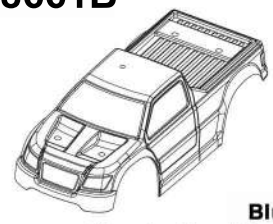
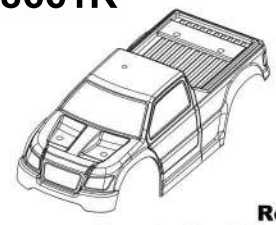


Volcano-18 Parts

23601 Chassis	**23602** (Not suitable for On Road) Shock Absorbers	**23603** Knuckle Arms	**23604** Rear Hub	**23605** Front Hub
23606 (Not suitable for On Road) Lower Susp Arm	**23607** Wheel Axle	**23608** (Not suitable for On Road) Dogbones	**23609** Steering Joint	**23610** Motor Mount 1 Set
23611 (Not suitable for Desert Buggy) Upper Deck	**23612** Diff Case	**23613** Main Gear 45T	**23614** Plastic Motor Gear 13T	**23615** Diff Gear
23616 F/R Diff Gear 1 Set	**23617** (Not suitable for On Road) Servo Link 1 Set	**23618** Diff Outdrives	**23619** Servo Saver 1 Set	**23620** Battery Cover
23621 Center Driveshaft	**23622** Bumper	**23623** Ball Head Screws	**23624** 2X22 1. 5X16 Pins	**23625** Lower Hinge Pin
23627 Ball Bearings 8X12X3.5	**23628** Ball Bearings 4X8X3	**23629** Ball Bearings 10X6X3	**23630** Diff Gear	**23631** Button Head Screws 2.5X20

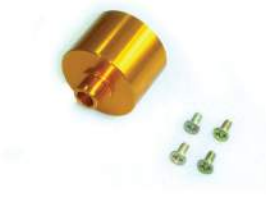
Volcano-18 Parts

23632 Cap Head Screws 2.5x14	**23633** Button Head Screws 2.5X10	**23634** Button Head Screws 2.5X8	**23635** Button Head Screws 2.5X6	**23636** Button Head Screws 3X8
23637 Flat Head Screw 3X6	**23638** Cap Screws 2X6	**23639** Flat Head Screw 2X8	**23640** Grub Screws M3X3	**23641** Lock Nuts M3
23642 Lock Nuts M2.5	**23643** E Clips 2.5	**28676** Shims 2.6X6X0.5	**28603** Servo Horn And Screw	**28673** Motor Heat Sink
23644 Antenna Pipes	**23645** Plastic Cable Ties	**23646** Body Clips	**28654** (Not suitable for Buggy/ On Road) Front Bumper	**28681** New Battery Cover
28663 Monster Truck Tires & Rims	**28662** Monster Truck Tires	**23626** Truggy / Short Course / Buggy / Monster Truck Rims	**23626V** Truggy / Short Course / Buggy / Monster Truck Chrome Rims	**HTX-243** 2.4GHz Transmitter & 2in1 ESC/Rec Set
HTX-243T 2.4GHz Transmitter	**HTX-243RES** 3in1 Servo/ESC/Receiver	**28026** High Power RC 370 Motor	**28091** 7.4v LI-ION Battery	**E020SM** 7.4v LI-ION Battery Charger

HTX-243S  Mini Servo	**28605**  Servo Mounts	**28674**  Flat Head Screw 2.6X7	**28675**  Flat Head Screw 2X6
28661CL  **Clear** Monster Truck Body	**28661B**  **Blue** Monster Truck Body	**28661R**  **Red** Monster Truck Body	

Optional Volcano-18 Parts

M601



Front or Rear
Alum Diff Housing 1pc.

M602

Alum Shock Absorbers

M603

Alum Knuckle Arms

M604

Alum Rear Uprights

M605

Alum Front Hub Carrier (L/R)

M606

Alum Lower Susp Arm

M607

Alum Front Bumper

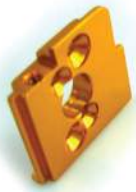
M608

Alum Dogbones

M609

Alum Center Driveshaft

M610



Alum Motor Mount

M611

Alum Servo Saver

M612

Alum Servo Mount

M613

Alum Diff Outdrives

M614

Alum Steering Joint

M615

Carbon Fiber Battery Cover

M616

Alum Rims

28600 (Parts of 23615)

Alum Diff Gear

28601

Pinion Gear 14T

28602

Pinion Gear 13T

E18MST

M602
Alum Shock Absorbers 4P

M603
Alum Knuckle Arms 2P

M604
Alum Rear Uprights 2P

M605
Alum Front Hub Carrier (L/R) 2P

M606
Alum Lower Susp Arm 4P

DRIVING TIPS

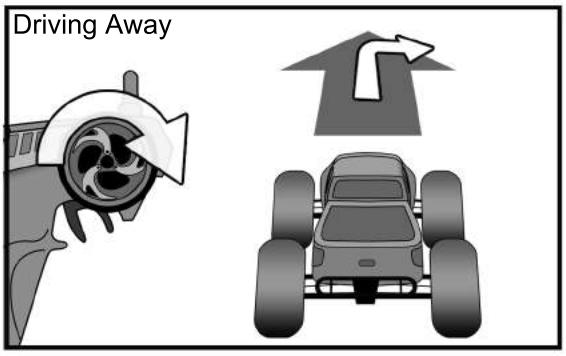
Perspective:

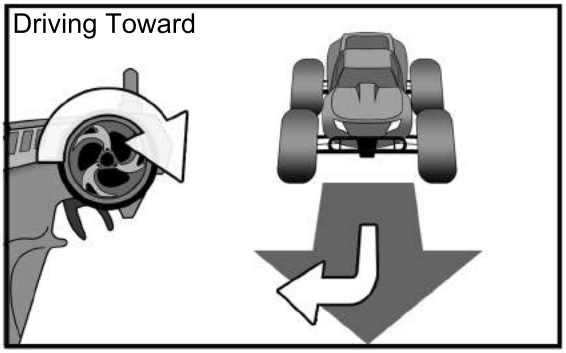
The single most difficult aspect of driving RC vehicles is perspective. Perspective involves your relation to the vehicle. Are you behind the vehicle, in front of the vehicle, or beside it?

Driving an RC vehicle while standing behind it is like driving a full size car or go-cart. When you turn left, it goes to the left and when you turn right, it goes to the right. Simple.

What if the vehicle is coming toward you? When to turn the wheel to the left, will it go toward your left? No! Because the vehicle is coming toward you, the controls seem reversed. The controller doesn't actually change, it just seems like it does because of perspective.

Always imagine yourself sitting inside the vehicle, not standing outside with a remote. Imagine you are driving and the wheel on the remote is the actual steering wheel inside the car. Keeping this mind set will help you make the correct steering decisions no matter which direction the RC vehicle is pointed.





Steering and Throttle Control:

The steering and throttle inputs are both proportional. This means slightly pulling the trigger will make the RC vehicle move slowly. Pulling the trigger all the way back will cause the RC vehicle to go fast. The same applies to the steering.

The most common mistake with new RC enthusiasts is over correction. Over correction is when a slight amount of steering or throttle is needed and full throttle or steering is applied causing "crazy driving".
It's a good time to learn how to control your movements. This may sound silly, but nerves and adrenaline have a lot to do with over correction. It is sometimes difficult to control our movements when we are over excited. I promise you, when your Redcat vehicle blasts across your yard and the grass starts flying, you will get excited.
As you become more familiar with your RC vehicle, you will tend to relax a little more making it easier to concentrate on small control inputs instead of great big ones.

Look Ahead:

While controlling an RC vehicle it's important to look where it's going instead of where it's been. Looking a good five-to-fifteen feet in front of the vehicle will give you time to react to uncertain obstacles. It also prevents trees from jumping out in front of you.

STOP

BEFORE JUMPING YOUR VEHICLE READ THIS!

Jumping RC vehicles does not usually yield the same results found in online videos. It may have taken many tries and broken parts to nail that huge jump on camera. You assume full responsibility for any damage that results from jumping your Redcat Racing RC vehicle. Redcat assumes no responsibility if you decide to jump or stunt your Redcat RC vehicle.

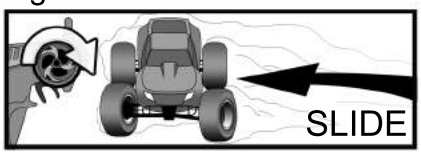
STOP

ADVANCED DRIVING TIPS

As you become comfortable driving your Redcat RC vehicle, you may want to drive smoother and with more precision so you can go faster. Here are a few driving tips that are sure to add some excitement.

Drifting:

Driving on loose surfaces like dirt or gravel can be fun, but how do you keep from spinning out? Counter steering is the answer to that question. Here is a rule of thumb to go by. Always keep the front tires pointed in the direction you want the car to go. This is true regardless which direction the vehicle itself is pointed.



Here is an example: Let's say you are driving in loose dirt. You are traveling at full speed and you want to make a left hand turn while maintaining most of your speed. You turn the wheel left spinning the vehicle 360 degrees resulting in a complete loss of speed.

Try this! Get the RC up to full speed again, only this time, turn left and when the vehicle starts to spin, turn right keeping the front tires pointed where you want the car to go. When done correctly, the vehicle will enter into a slide or "drift" allowing you to turn while maintaining most of your speed. Practice this many times in both directions and you'll be drifting like a pro.

STOP

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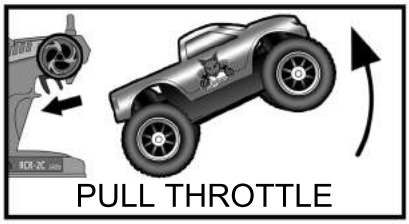
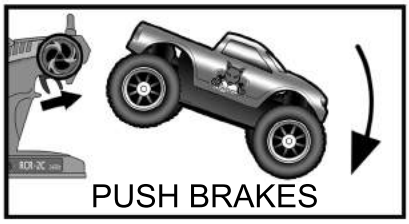
STOP

Jumping:

When done correctly, jumping is by far the most impressive maneuver done with RC vehicles. All RC's can go up, but how they land determines whether it was a successful jump. Anyone can hit a jump at full speed, I'm going to teach you how to land on all four tires.



The wheels on an RC vehicle act as gyroscopes. All this really means is, you can drive the vehicle while it's in the air. The amount of throttle or brake applied while in mid flight will control whether the nose is up or down. Applying throttle will raise the nose and applying brake will lower the nose.



This is good to know if you hit a jump and your vehicle's nose is pointed at the ground. Hit the gas! Hitting the gas will raise the nose to help level out the landing. The amount of throttle used is in direct relation to the amount of correction needed. Be careful, landing while on the throttle can strip gears.

Adding steering input in conjunction with throttle inputs will cause a whole new outcome.

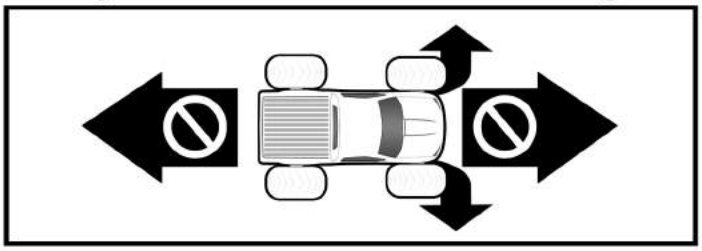
Let's say you are in mid flight, your left front tire is closest to the ground, and you want to level the vehicle out. In this case you would steer left and apply throttle. This will raise the left front tire. Applying too much throttle will raise the left front tire too high.

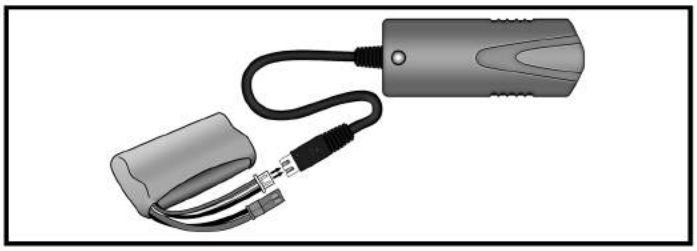
Here is a good rule of thumb. Steer into the front corner of the vehicle you want to correct and apply the appropriate trigger response. Remember, applying throttle raises the nose and applying the brake lowers it.

This will take much practice so be sure to have some spare parts on hand. Bad landings can do lots of damage.

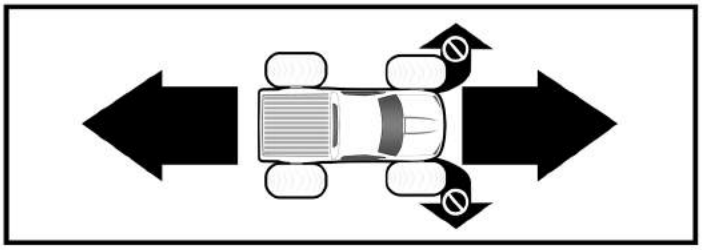
TROUBLE SHOOTING ELECTRIC

Vehicle steers left/right but won't drive forward/backward:
Battery is too low and needs to be charged.

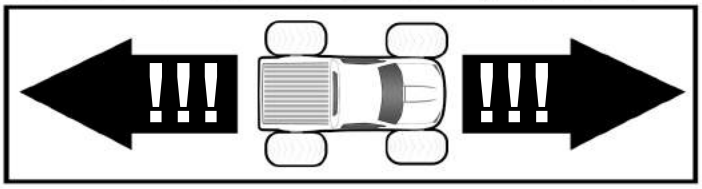


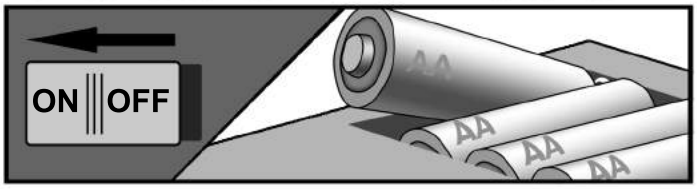


Vehicle veers left/right while trying to drive straight:
Adjust steering trim. Turn the steering trim knob opposite way vehicle is veering till the vehicle drives straight.



Vehicle suddenly loses control:
Turn off vehicle!
Make sure the transmitter is turned on.
If the transmitter was turned on, replace the transmitter batteries with new AA batteries.





For all other questions, check out some of our many help resorces:

WEBSITE FACEBOOK BLOG YOUTUBE

www.redcatracing.com

VEHICLE MAINTENANCE

There is much fun to be had running RC vehicles. To ensure continued fun throughout the years, here are some maintenance tips to follow.

Chassis Cleaning:

Many substances such as dirt, grass, & grime can find its way onto your RC chassis. It's a good idea to clean this off after each days use. There are many ways to clean an RC vehicle. Here are a few examples.

One of the most effective ways to clean the chassis is with an old tooth brush, cotton swab, old paint brush, and rag. These four tools work well for removing dirt and debris.

Pay close attention to areas with moving parts such as suspension components, steering components, and drive train. It is important to get these areas clean to help prevent wear.

Bearings:

Running your vehicle through water is never recommended, but moisture may still make its way into the vehicles bearings. Here are some tips on drying, cleaning, and oiling the bearings.

Your Redcat Racing vehicle may have bearings in various locations like wheel hubs, steering linkages, gear supports, and drive shaft supports. First you must have access to all the bearings. Remove all four wheels and any other parts blocking bearing access.

Spray the bearings with a water displacer such as WD40 or Wire Dryer. This will flush out moisture, dirt, and grime.

After a good spraying with a water displacer, the bearing will be in need of oil. Use a light bearing oil found at the hobby shop or auto parts store. *This step is important* Failing to re-oil the bearing will cause them to wear prematurely and replacements will be necessary. A few drops of oil per bearing should be fine. Spin the bearing to work the oil into the inner race.

Screws and Moving Parts:

It's a good idea to quickly go over the entire vehicle after each run to ensure all screws remain tight. Make sure there isn't any excess slop in moving parts.

Medium thread lock (like blue Loctite) should be used on any screws that fasten into metal parts, especially the motor mount. Never use permanent thread locker on any part of you RC vehicle. Permanent thread locker (like red Loctite) can only be removed with heat, which will cause damage to the vehicle.

Checking for cracks and excess wear is also a good way to save yourself some headaches down the road.

VEHICLE MAINTENANCE

Electronics:

Be sure to check your electronics after each use. The electronics are the life line of the vehicle and if they aren't working properly, a crash is almost certain.

Periodically range check your radio system to ensure proper operation.

Check batteries regularly. It is important to have fresh batteries in the transmitter.

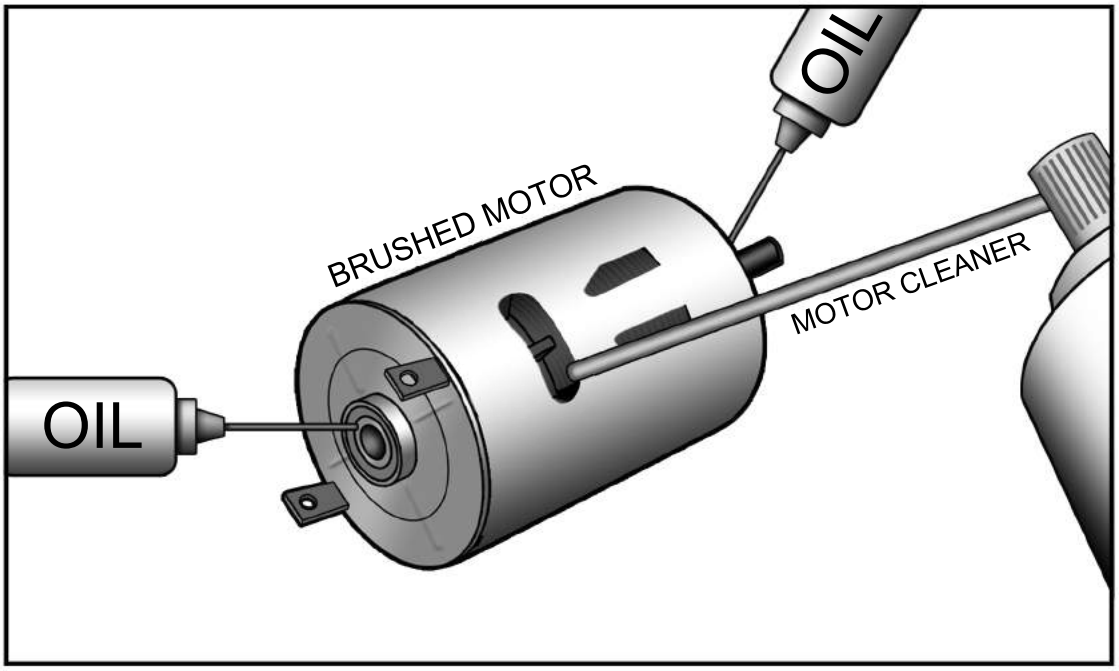
Check the antenna on both the receiver and the transmitter. Make sure there are no cuts or breaks in the receiver antenna. This will cause glitches and possible signal loss.

Using the transmitter, check the steering servo by turning the wheel back and forth. Check that it is operating smoothly and no clicking noises can be heard.

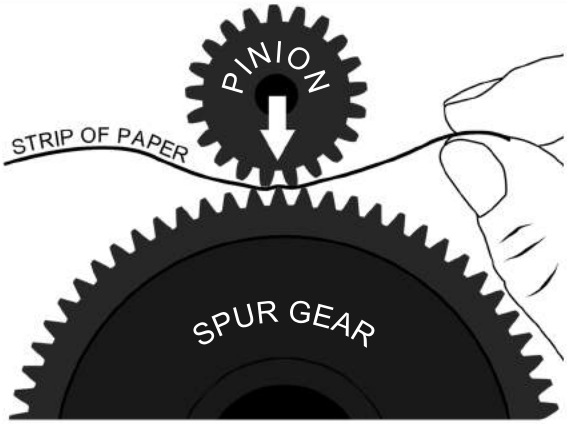
Make sure all electronics stay dry. Water can short out the circuit boards inside the electronics causing failure.

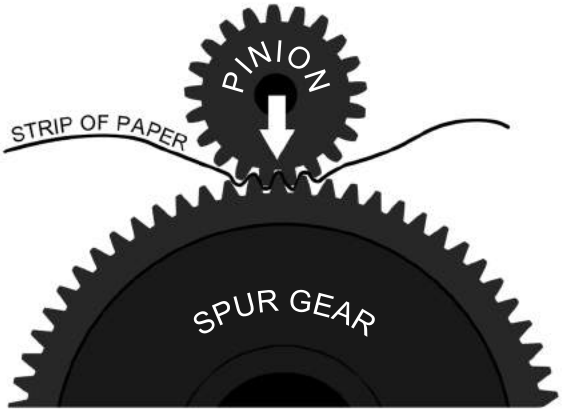
The electronic speed controller should be inspected after each use. Make sure all connections are tight and no wires are in harm's way. Make sure the ESC stays dry and never store with a battery pack plugged in.

Brushed motors should be sprayed with electric motor spray found at your local hobby shop. This will prolong the motor's life by keeping the commutator and brushes clean. Remember to re-oil the bearings or bushings with a light bearing oil. Brushless motors do not need cleaning.



SETTING GEAR MESH





Proper gear mesh is very important. Improperly meshed gears will result in gear and/or motor, ESC, and battery failure.

1. Loosen the motor mount screws, allowing the motor to slide, opening the gap between the pinion and spur gear.
2. Place a strip of paper between the pinion and spur gears.

3. Firmly press the pinion to the spur gear.
4. Ensure blue thread lock is on the motor mounting screws & lightly tighten each screw.
5. Check for movement between the two gears (fig.1) (fig.2) (fig.3) and tighten the motor mount screws completely. Alternate between screws as tightening.
6. Remove paper and check gear mesh.
See (fig.1) (fig.2) (fig.3) below.

TESTING GEAR MESH

TOO LOOSE

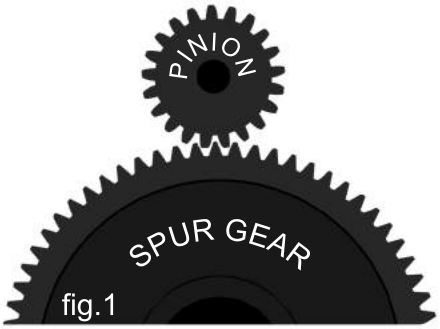


fig.1

Gears Are Too Loose:

There is too much movement between the two gears. (fig.1)

RESULT: Stripped gears.t

GOOD

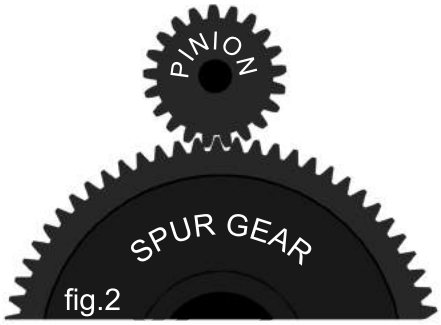


fig.2

Gears Are Spaced Correctly:

TEST: Hold the pinion gear completely still. Place a finger nail on the spur gear and try to rock it back and forth. There should be a very small (almost no) amount of movement in the spur gear. (fig.2)

TOO TIGHT

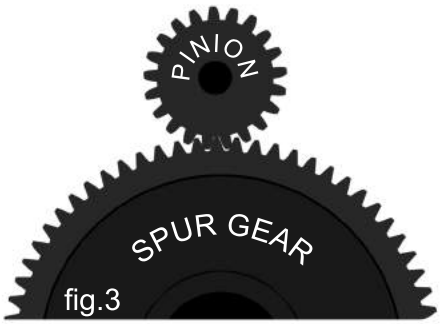


fig.3

Gears Are Too Tight:

There is no movement between the pinion and spur gear. (fig.3)

RESULT: Overheated and damaged motor, ESC, and/or battery.

PERFORMANCE UPGRADES

Redcat Racing offers many parts upgrade options that are geared toward hardcore performance. Performance that makes your hair stand on end and your blood boil. Hardcore Redcat performance! Performance that allows you to blast around the back yard or track while leaving everyone else in the dust! Performance that allows you to take that big jump you *USED TO* break parts on! I'm talking aluminum! Redcat offers many aluminum performance upgrades that not only add durability, but precision. The kind of precision and added tune-ability impossible to achieve with stock plastic parts. I'm talking hardcore performance aluminum upgrades from Redcat.

To see which hardcore performance upgrades are available for your model, go to:

www.redcatracing.com

FAST AFFORDABLE FUN

www.redcatracing.com