

# Instruction Manual

*1/8 SCALE 4WD RADIO CONTROLLED  
NITRO POWERED BUGGY*

Model No.: RH802

## *VRX-2*



**Note:**

- ▶ This radio controlled racing model is not a toy. It is suited for experienced operators.
  - ▶ 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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## Introduce your model...

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Congratulations on your purchase of this racing model. This model represents a new generation of 1/8 scale off-road buggy.

This manual contains all the basic instructions for assembly, operation, and maintenance. Please read and understand all instructions thoroughly before operating and building your model.

Good luck and much enjoyment from running your model.

### Features:

- Easy changeable wheelbase and vehicle body width
- Suspensions provide quick multi-angle changes to permit the vehicle to perform on racing match.
- Easy and quick user serviceable installation
- Four disc brake system
- Powerful shock protection performance
- Machined steel spur gear, crow gear and clutch gear and Solid differential gears
- Three differentials and four wheel drive system
- Blacked universal joint, dogbones and fully ball bearings
- Solid 6061/T6 anodized alum. chassis
- Lightweight engine flywheel & solid universal joint cup
- Good quality wheel rims & cube-nailed tread tyres providing a long period of service
- Flexible plastic parts & high foam element air filter sponge
- Front/rear metal anti roll bar
- Leak proof fuel tank with the long overflowed pipe
- Oil filled shock absorber
- High impact durable lexan body

### Technical Data:

Overall Length.....	505mm	Weight.....	3.5kgs
Overall Width.....	305mm	Gear Ratio.....	1:11.85
Height.....	175mm	Wheel Diameter.....	115mm
Wheelbase.....	330mm	Wheel Width.....	42mm
Front Wheel Track.....	258mm	Ground Clearance.....	35mm
Rear Wheel Track.....	261mm		

These data are subject to change without prior notice as a result of our Product continual improvement.

## Important Safety Precautions

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This is a high performance radio controlled model which needs to be operated with caution and common sense. Failure to follow the safety instructions could result in personal injuries and/or property damage.

- Always run your vehicle after the body shell is mounted.
- Do not abruptly alter the speed during running.
- Do not run your vehicle around crowded people.
- Carefully check whether all screws or nuts are loose or not after running.
- Handle the fuel only OUTDOORS.
- Never measure the fuel close to open fire or any source of heat.
- Never run the vehicle without a clean air filter installed.
- Do not run the model lean and do not allow the engine to overheat.
- Use the special fuel for models.
- Do not drink fuel or allow it to get into your eyes.
- Store fuel in cool, dry and dark places away from CHILD!
- Tight up the cap of the fuel bottle when not used.
- Never throw the empty fuel bottle into fire! Otherwise, it may explode.
- Do not put your finger or any object into the rotating or moving parts.
- To avoid damage of burn, do not touch the engine and muffler immediately as soon as they are stopped running.
- Always check battery power. You may lose of control of your model due to low battery power.
- Never operate your model at the same frequency with someone else. Failure to do so will cause signal confusion or even accidents.
- In the event that the model behaves abnormally, stop running it and check. The model is not allowed to be used until all problems have been settled.
- Use the neutral cleaner and soft clothes to clean the model surface.

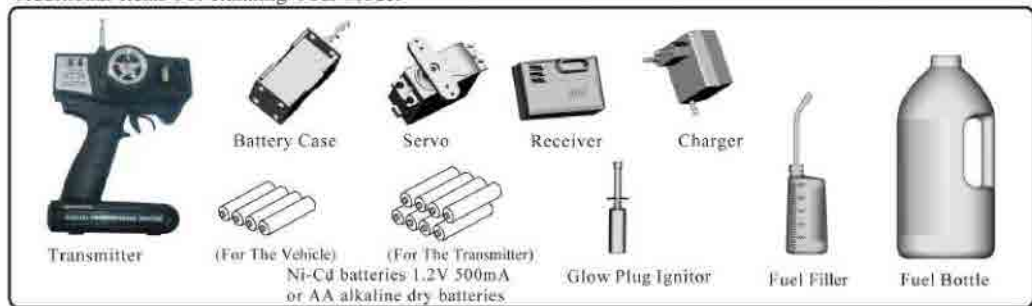
### Before Starting Your Vehicle

- Verify that all retainers are well fastened (screws, nuts, bolts and clips)
- Verify proper function of steering, drive-line and engine/braking control.
- Lubricate appropriately all bearings, bushings and maintain proper shock performance.
- Always run engine with a clean oiled air filter.
- Inspect fuel tank for cracks and/or kinks in silicone tubing. Correct problem if required.
- Inspect tuned-pipe for damage; make sure it is well fastened to engine/chassis.
- Operate radio system with fully charged io frequency/range check.
- Inspect terrain for hard/non-movable objects that may become a hazard for your vehicle.
- Provide adequate clearance between your vehicle and your observers.
- Do not operate in the presence of domestic animals (dogs and/or cats)
- Do not operate vehicle on public roads, or obtain adequate authorisation to permit usage.

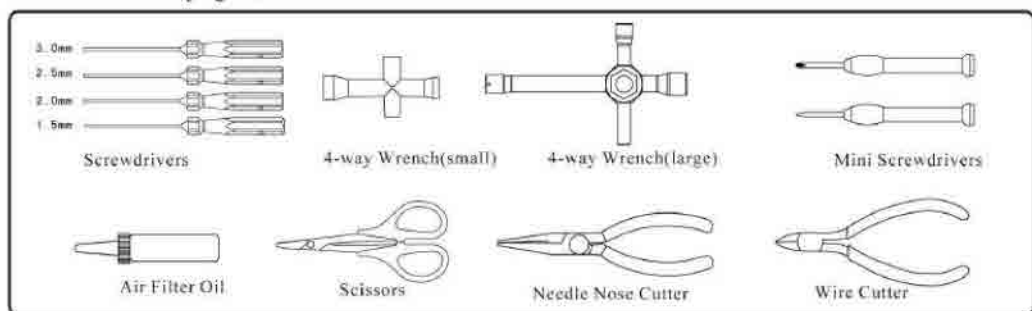
# Before assembling or operating your model...

Carefully read and understand all instructions before operating the vehicle. Correct adjustment of high speed needle and idle adjustment are required before operating your vehicle. Refer to carburetor adjustments before operating vehicle. The following items(not included unless specified) are required to operate your vehicle and are available from your model dealer or the local hobby shop.

## Additional Items For Running Your Model



## Tools For Assembling Your Model



The following accessories available from your model dealer are for optional purchase to facilitate your operations.



# Use of transmitter to control your vehicle...

## Install the batteries to the transmitter

Insert the eight "AA" batteries into the battery compartment on the bottom of the transmitter.



← To open the battery door



To close the battery door →



## Battery Precautions:

1. In order to keep continuous better performance under operations, we strongly recommend you to use the 1.5V alkaline batteries instead of the 1.2 V chargeable batteries.
2. The batteries may leak in the event that they are installed with wrong polarities.
3. Do not use batteries of different types.
4. Do not mix old and new batteries.
5. Do not leave the batteries if not in use for long periods.

## The function switches on the transmitter



1. Antenna
2. Throttle Inching Control (Throttle Trim)
3. Steering Inching Control (Steering Trim)
4. Crystal
5. Throttle Trigger

6. Power Switch
7. Working Indicator
8. Steering Reverse Switch
9. Throttle Reverse Switch
10. Steering Wheel

## Throttle Trigger



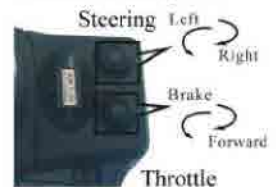
1. Push the trigger forwards to allow the vehicle to speed down to brake.
2. Pull the trigger backwards to allow the vehicle to go forward and speed up.

## Steering Wheel



Turn the steering wheel to the left or right to let the vehicle turn left or right.

## Throttle/Steering Trim



**Throttle Trim**  
Inching adjust it to control brake or forwarding operation at Neutral (Idle) position.

**Steering Trim**  
Inching adjust it to control steering (left/right) operation at Neutral (Idle) position.



If you are a reverse operator, set the steering/throttle switch to REV. Position first.



Throttle Inching Control(TH. Trim) is used to slightly trim the throttle servo when the trigger is at Neutral position.

Steering Inching Control(ST. Trim) is used to slightly trim the front wheels steering.

**Note:**

If the front wheels are not straight when the trigger is set at Neutral position, you can adjust the steering inching control to make them straight.

## 2-Channel Radio System

Please read the following instructions before operating your vehicle.

Servos must be centered before operating. Performance of vehicle will be affected if this procedure is not completed.

To perform initial servo adjustment, rotate both trim controls on transmitter to center position. Power on the transmitter then power on the receiver (switch is located on top cover). Servos are now centered, linkage adjustment can now be completed.

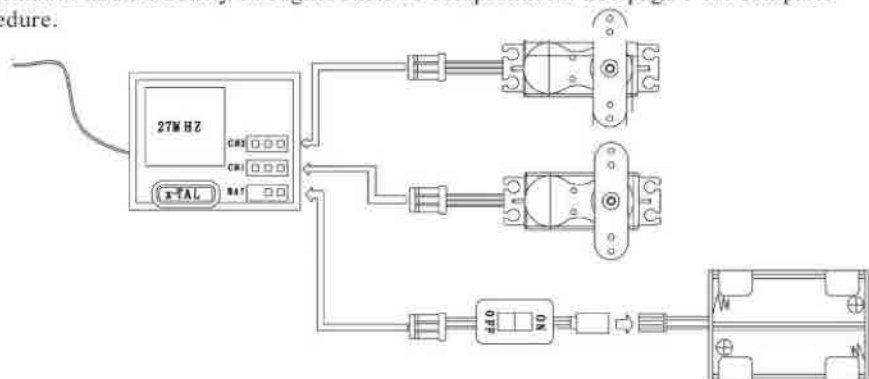
**Steering linkage:** With trim knob at center position front wheels should point in a straight ahead. If wheels point in either direction remove control horn from servo and center the wheels (along drive-line axis) replace control horn and observe corrections and re-adjust if necessary. Trim knob and servo are now centered, fine tuning of steering control can now be adjusted with steering trim knob on transmitter, if necessary.

**Throttle/Brake linkage:** With trim knob at center position, throttle will be closed. If carburetor linkage is open at center position remove control horn from servo and center the linkage, replace control horn and observe corrections and re-adjust if necessary.

Trim knob and servo are now centered, fine tuning of throttle control can now be adjusted with steering trim knob on transmitter.

Brake adjustment is performed via the thumb wheel on the end of the throttle linkage, brakes should not be applied at neutral position (vehicle must free-wheel when trigger is released)

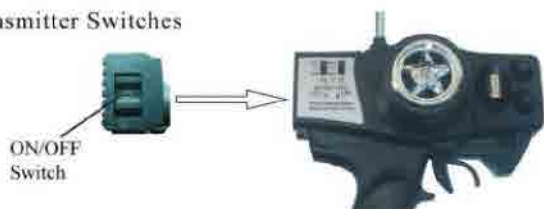
Before operating your new engine please perform required break in procedure otherwise performance and durability of engine shall be compromised. See page 7 for complete procedure.



# Pre-Run Check

Please check your model before each driving.

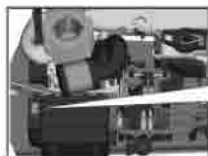
## 1 Transmitter Switches



### Caution!

- ▶ Make sure antenna is properly inserted and screwed in the transmitter. Antenna should be fully extended. Performance and control range of transmitter may be affected.

## 2 Chassis Switch

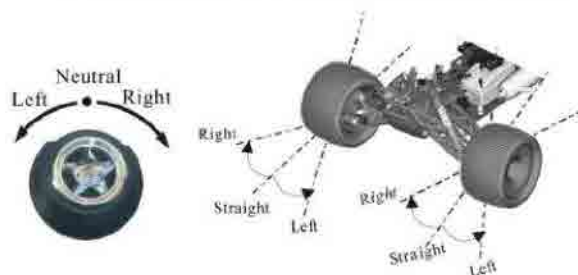


- ▶ Turn on the chassis switch of the receiver.



## 3 Check Steering Performance

Operate the steering wheel to check if the front wheels move correctly



- ▶ The front wheel movement is controlled by the steering wheel. For instance; when moving the steering wheel to the left, the vehicle front wheels will also turn left.
- ▶ If the moving direction of the wheel is opposite to what above mentioned, please change the Steering Reverse Switch position.

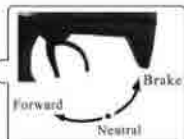
## 4 Steering Trim Setting

Gently liftup the front wheels while adjusting the steering trim.

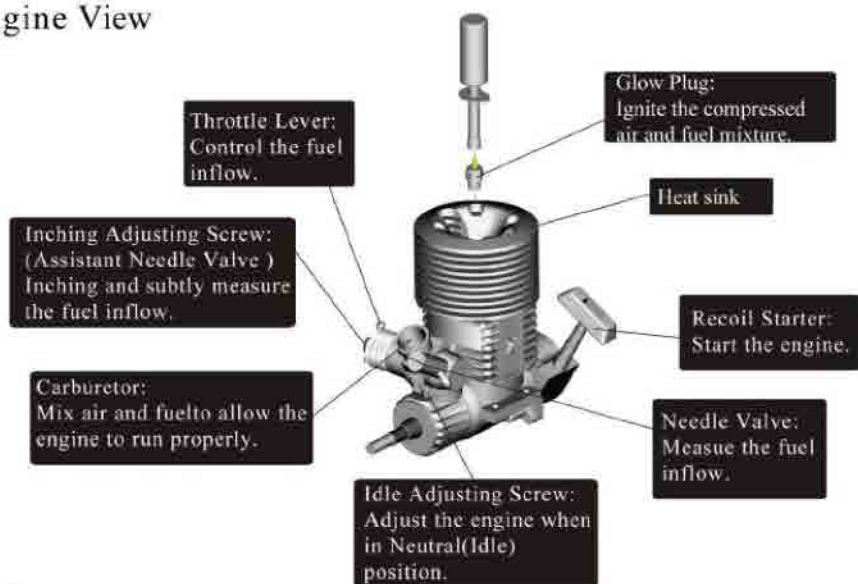


Note:  
Adjust the steering trim to center the front wheels of the vehicle when the steering wheel is at center position.

## 5 Throttle Trim Setting



## Engine View



### Note:

The engine includes many high-precision parts. The original performance may be reduced due to wrong operations or assembly and disassembly.

## Engine Break In

Many hobby type glow engines require a break in period to provide final adjustment of internal parts after manufacturing. 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 your engine break in.

### Very important procedure must be followed !!

Break-in period 2 and 1/2 turns from full closed position (4-5 tanks of 10-15% nitro/20% oil content) must be used to perform break in, do not run engine full throttle for long periods during break-in. Once break-in 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 tune-pipe, if you do not see any smoke **stop immediately** and re-adjust needle valve till smoke is observed.

Always perform needle valve adjustment first, and then perform idle adjustment on a warmed-up engine. Environment conditions may require further adjustments.

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.

We highly recommend replacing the engine " Glow Plug " (part # 70117) after you have completed the break-in.

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

You may also be required to replace your glow plug during your break in procedure.

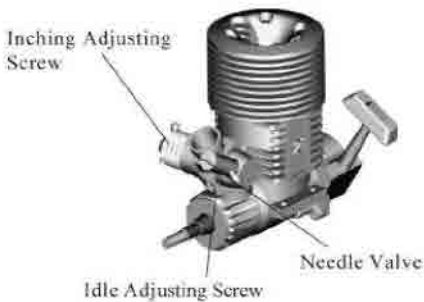
Normal nitro content: Once break-in has been performed 20% - 35%

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.



# Engine Adjustment/Maintenance

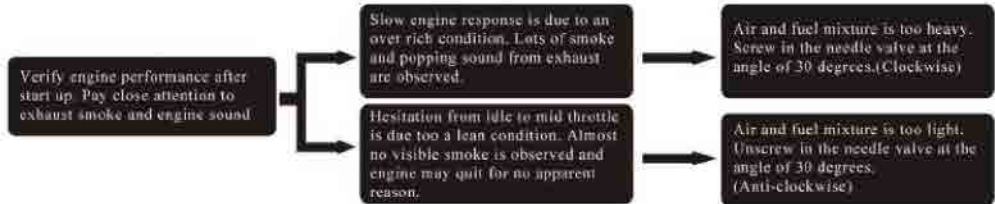
## Engine Adjustment



### 1. Needle Valve Adjustment

- A. Start the engine to run your car
- B. Keep an eye on the current running speed when the car is running straight with the throttle control set to High. The speed will go up when you screw in the needle valve at an angle of 10 or 20 degrees.
- C. When continuing to screw the needle valve further in, the engine will become overheated and subject to damage. In such case, immediately unscrew the needle valve at an angle of 10 or 20 degrees to allow the engine to return to normal running.

Acceleration from idle position.



### 2. Inching Adjusting Screw

Inching adjusting screw is used to inchoingly measure the air and fuel mixture to flow into the carburator.

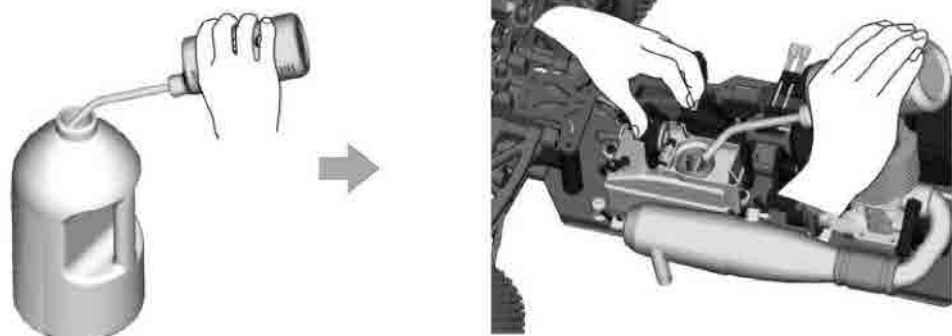
### 3. Idle Adjusting Screw

Idle adjusting screw is used to measure the air and fuel mixture to flow into the carburator when the engine is at Idle position.

## Engine Maintenance

1. Empty fuel tank and fuel lines before storing vehicle.
2. Use premium " After Run Oil" this lubricant is utilised for storing of your engine Observe manufacturers instructions.
3. Remove all dirt and debris from vehicle with small brush (tooth brush) and/or with compressed air (observe proper personal security when operating air equipment)
4. Inspect and adjust all moving parts for excessive play, if adjustment cannot remove all excessive play observe part integrity and replace if required.
5. Proper lubrication of all bearings and moving mechanism is necessary for proper operation.
6. Disconnect and inspect batteries for leakage, recharge as required, do not store vehicle with batteries in unit for prolonged periods.
7. Operating radio controlled devices in wet/damp conditions is not suggested, vehicle may lose traction abruptly, and vehicle may observe water infiltration in receiver compartment or in servos and loss of control of vehicle is imminent

**1** Fill the fuel tank with fuel



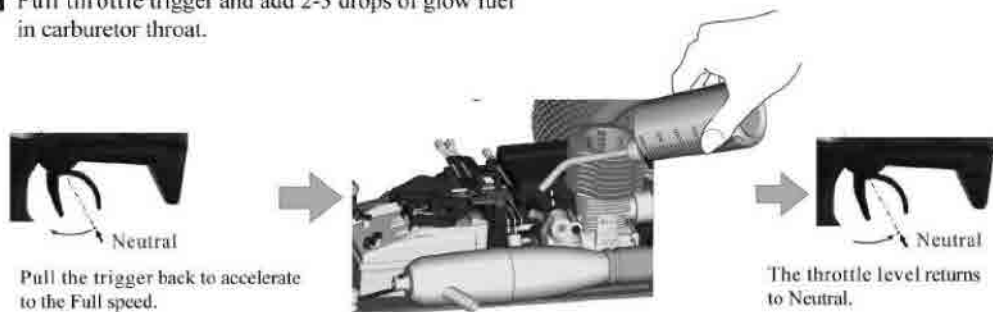
**2** Switch on the transmitter and the receiver.



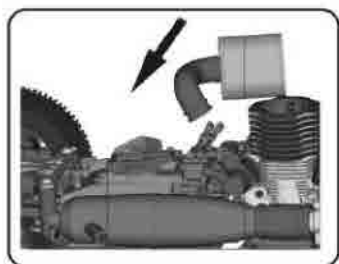
**3** Remove the air filter.



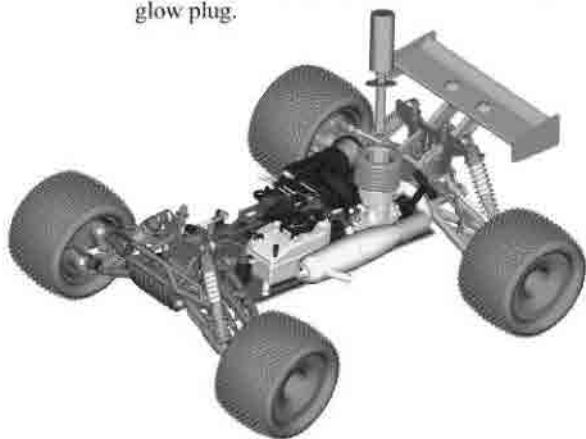
**4** Pull throttle trigger and add 2-3 drops of glow fuel in carburetor throat.



**5** Attach the air filter.



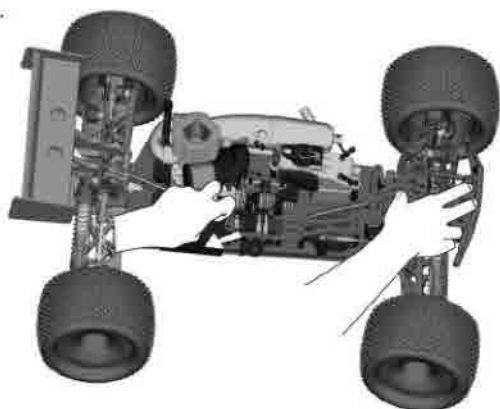
**6** Use the glow plug igniter to warm the engine glow plug.



**7** Hold the car securely and pull the recoil starter cord.

### ⚠ Caution!

- ▶ To avoid engine damage, never force hard to crank engine, remove glow plug and ventilate engine carter by pulling the pull cord a few times. Install glow plug and try starting.



### STOP RUNNING THE ENGINE

1. Pinch fuel line with fingers to starve engine of fuel to have make it stop.



2. Turn off the receiver then the transmitter.



Turn off the chassis switch of the receiver.



### ⚠ WARNING

The engine, exhaust manifold and the tune-pipe are hot after running your vehicle and can burn your fingers. Do not touch any of these components immediately after operating your vehicle; permit them to cool down before.



ON/OFF Switch

## Troubleshooting no-start condition and engine performance.

Probable causes

Solutions

The engine is flooded.

Remove glow plug. Crank flooded engine several times to evacuate excess fuel. Do not place yourself over the glow plug hole, fuel may splash or flow when cranking.

### Engine can be cranked but will not start.

Is glow fuel reaching carburetor?

Add 2-3 drops of glow fuel directly in carburetor.

Is idle adjustment set properly?  
Remove air filter to verify.

Adjust opening with screwdriver. (1mm or 0.33")  
Replace air filter before starting.

Verify if glow plug is working.

If element does not glow verify glow stick.  
If in doubt replace glow plug.

### Miscellaneous

Cold outside temperature.

Screw in the needle valve at 60 degrees, and warm up the engine.

Engine is overheating.

Permit engine to cool down then gently unscrew the needle valve at 60 degrees and re-start up the engine.

Carburetor is blocked dirty.

Clean with automotive parts cleaner.

Air filter is blocking air passage.

Clean air filter element or replace air filter element.

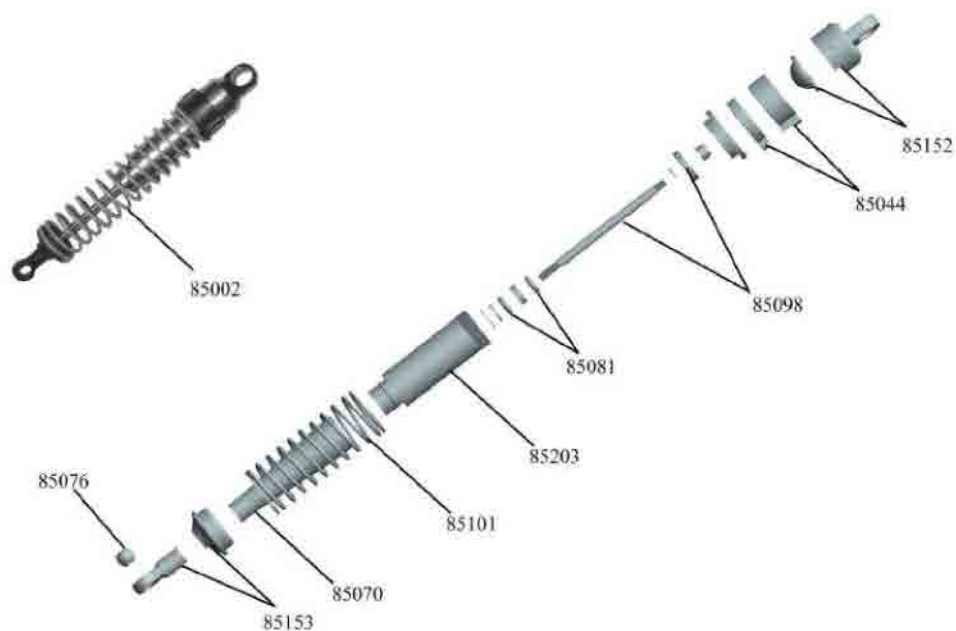
Engine performance is affected,

Verify fuel lines, glow plug, adjustments and correct.

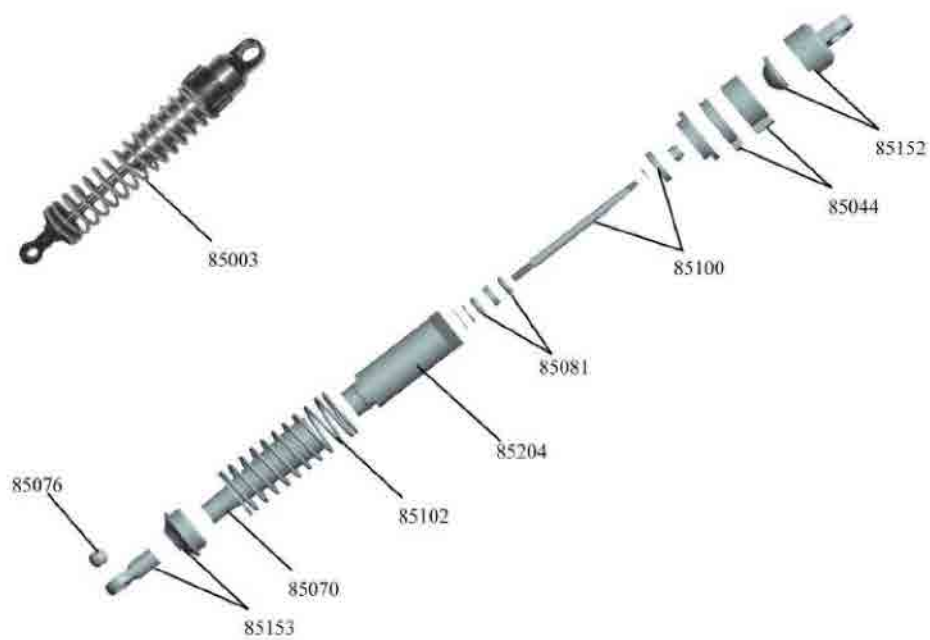
## TROUBLESHOOTING LIST

ISSUES	REASONS	SOLUTIONS
THE ENGINE FAILS TO START.	<ol style="list-style-type: none"> <li>1. The fuel tank is empty or the carburetor is not primed properly.</li> <li>2. The glow plug is bad or the batteries are dead.</li> <li>3. The fuel lines, the air filter, or the muffler is clogged.</li> <li>4. The engine is flooded.</li> <li>5. The carburetor is not adjusted properly.</li> <li>6. The servo linkage is not adjusted properly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fill the fuel tank up or prime the throttle.</li> <li>2. Replace the glow plug or charge the batteries.</li> <li>3. Clean or replace the clogged part(s).</li> <li>4. Remove the glow plug and discharge fuel.</li> <li>5. Set the Needle Valve/Inching Adjusting Screw and the Idle Adjusting Screw to the Original position.</li> <li>6. Set the servo to Neutral then re-adjust it.</li> </ol>
THE ENGINE CAN START BUT STALL IMMEDIATELY.	<ol style="list-style-type: none"> <li>1. The fuel tank is empty.</li> <li>2. The fuel lines, the air filter, or the muffler is clogged.</li> <li>3. The carburetor is not adjusted properly.</li> <li>4. The engine is flooded.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fill up the fuel tank.</li> <li>2. Clean or replace the clogged part(s).</li> <li>3. Re-adjust Idle Adjusting Screw and Needle Valve/Inching Adjusting Screw</li> <li>4. Allow the engine to thoroughly cool down and turn the Needle Valve open at the angle of 30 degrees.</li> </ol>
POOR REACTION RESPONSE ON THE ENGINE.	<ol style="list-style-type: none"> <li>1. The carburetor is not adjusted properly.</li> <li>2. Low fuel pressure level was found on the muffler.</li> </ol>	<ol style="list-style-type: none"> <li>1. Re-adjust Needle Valve/Inching Adjusting Screw.</li> <li>2. Install the pressure line from the muffler to the fuel tank correctly.</li> </ol>
THE VEHICLE BECOMES DIFFICULT TO BE CONTROLLED.	<ol style="list-style-type: none"> <li>1. The batteries on the transmitter/receiver are weak.</li> <li>2. Radio antenna performs bad receptions.</li> <li>3. The servo linkage is not adjusted properly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace or charge the batteries.</li> <li>2. Extend the transmitter antenna fully to obtain better receptions.</li> <li>3. Set the servo to Neutral then re-adjust it.</li> </ol>

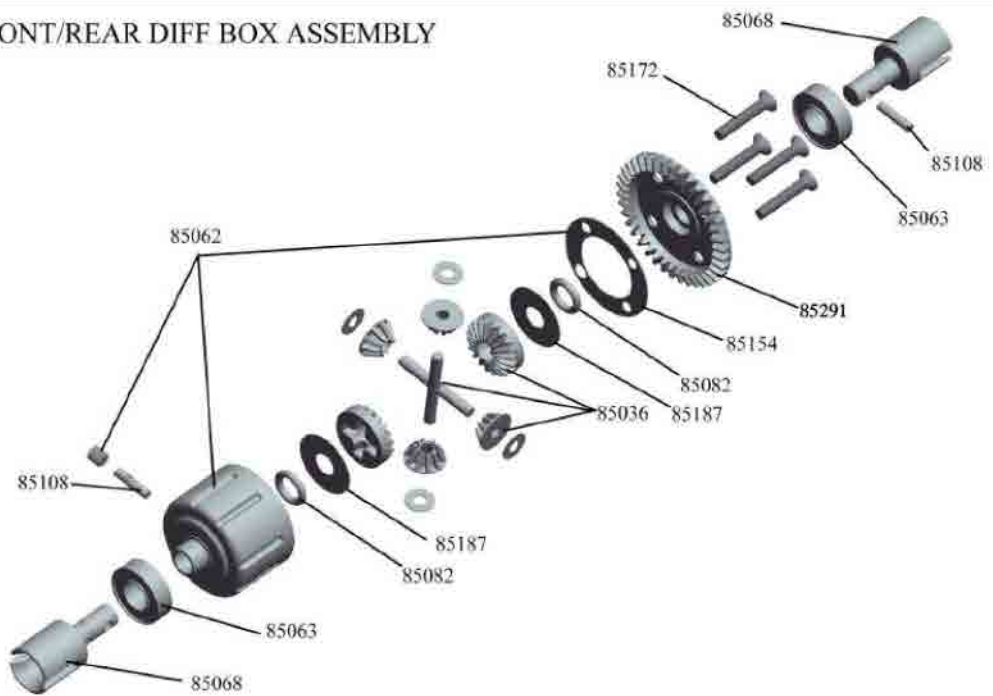
## FRONT SHOCKS ASSEMBLY



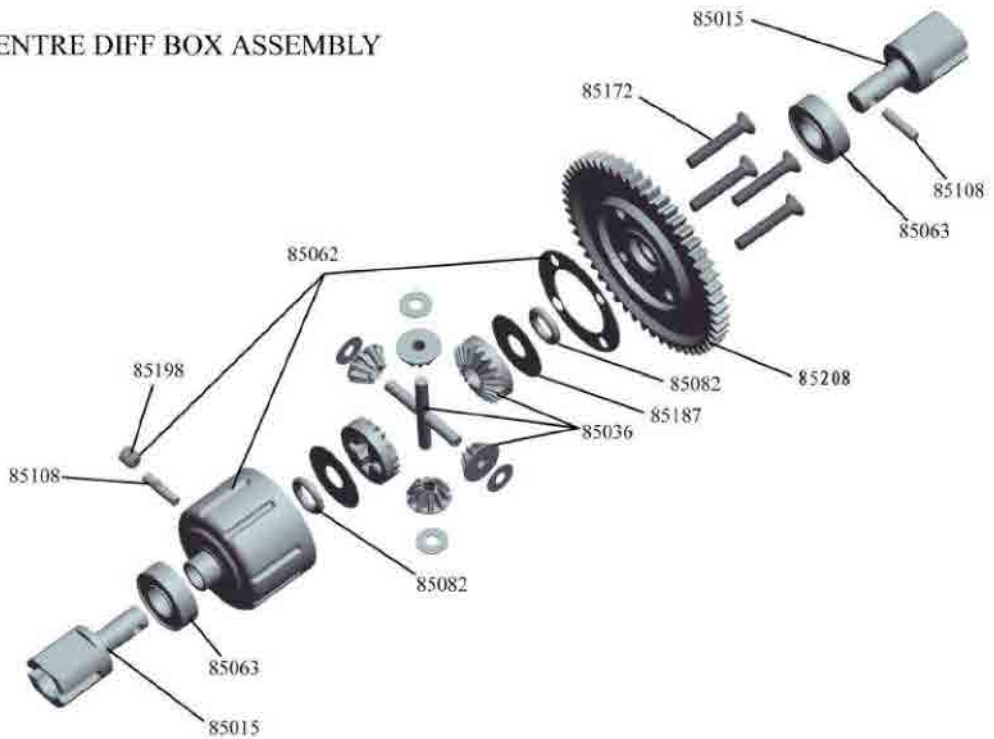
## REAR SHOCKS ASSEMBLY



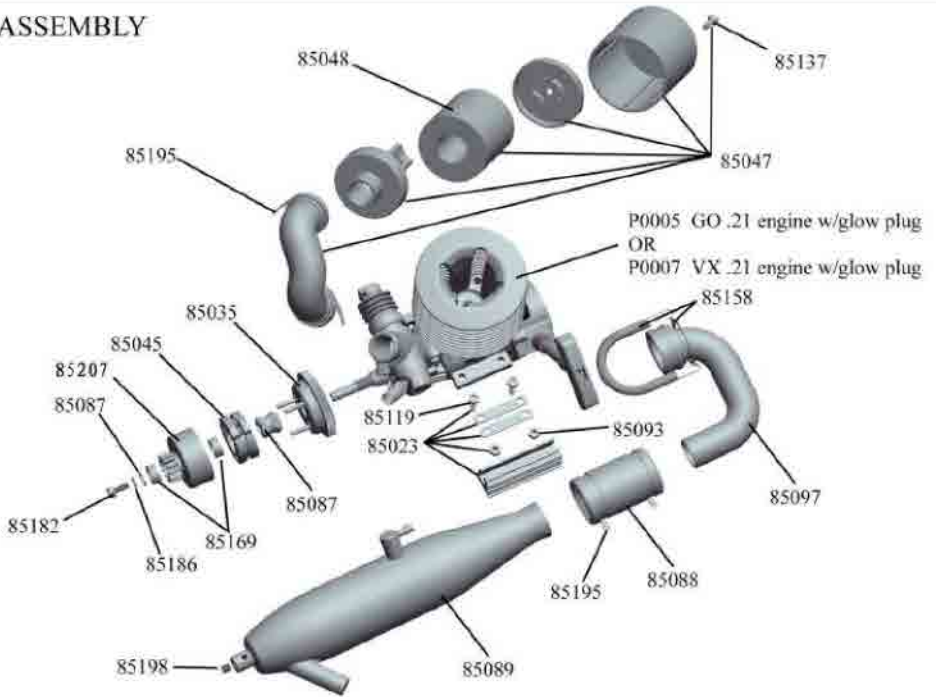
## FRONT/REAR DIFF BOX ASSEMBLY



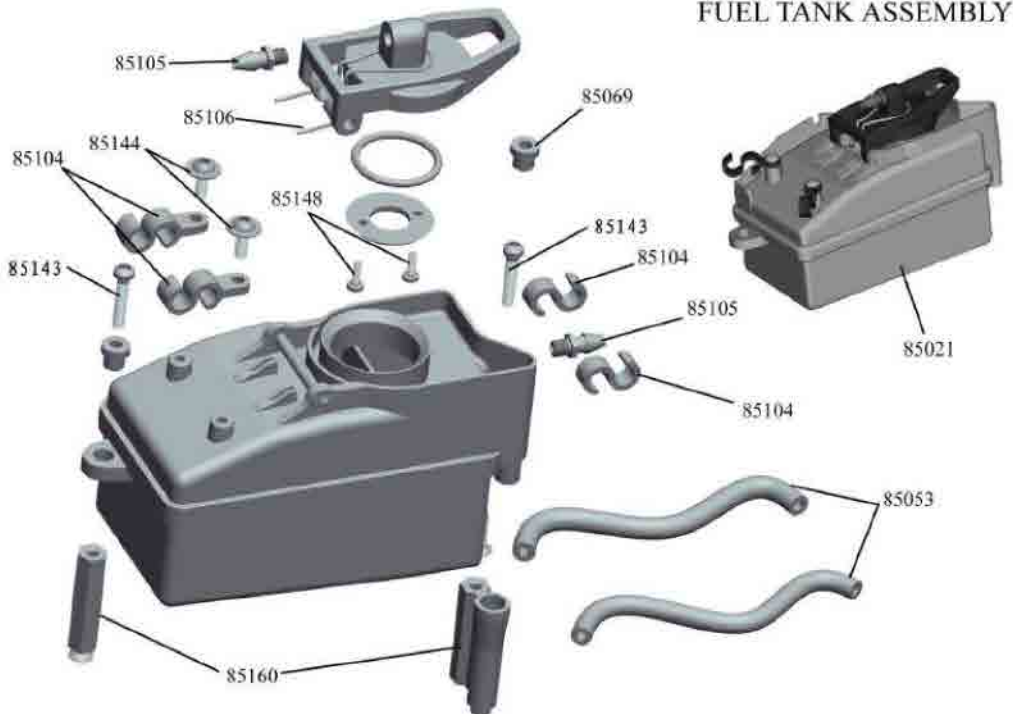
## CENTRE DIFF BOX ASSEMBLY



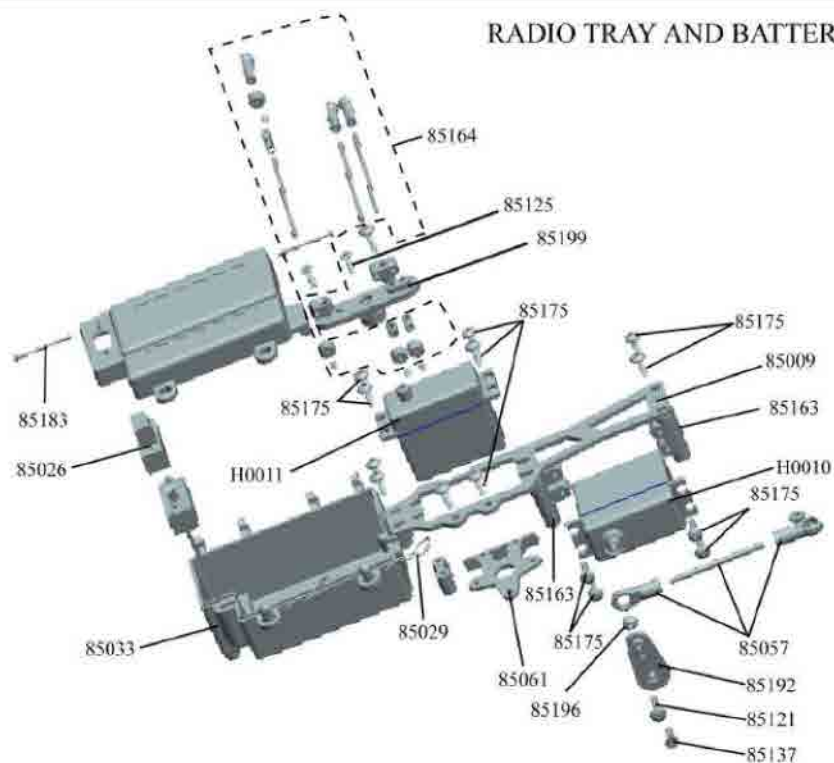
## ENGINE ASSEMBLY



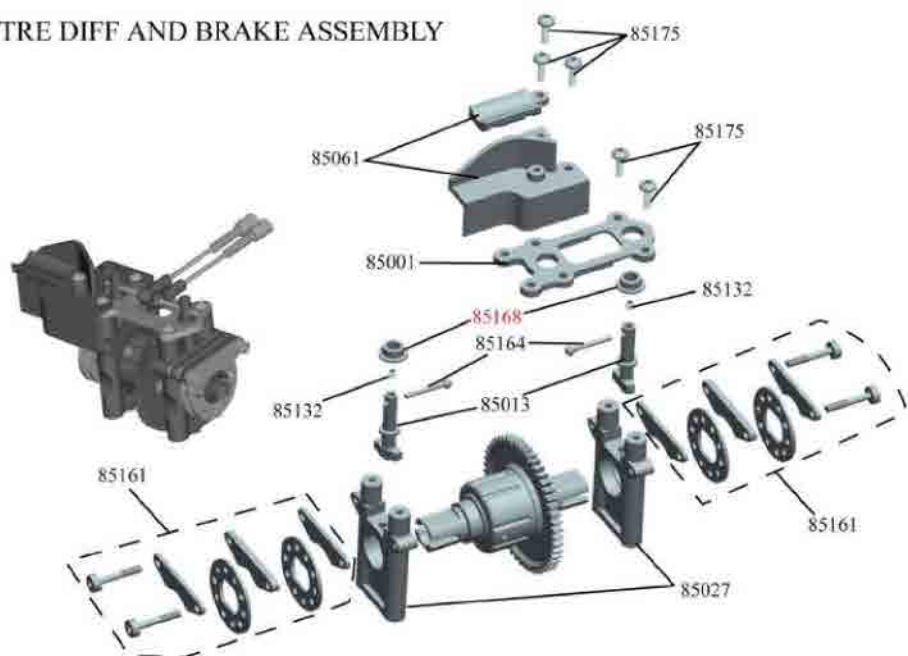
## FUEL TANK ASSEMBLY



## RADIO TRAY AND BATTERY BOX

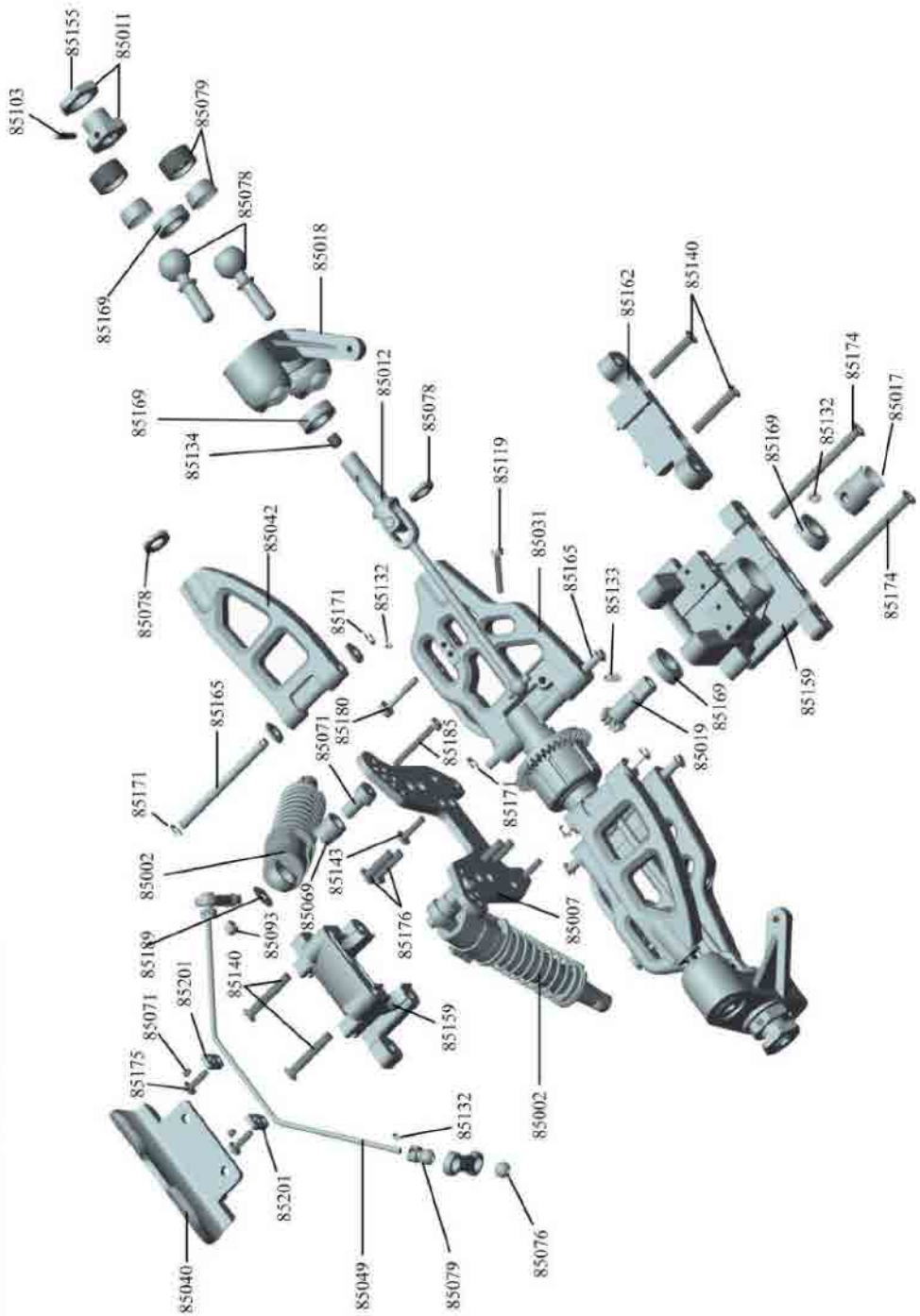


## CENTRE DIFF AND BRAKE ASSEMBLY



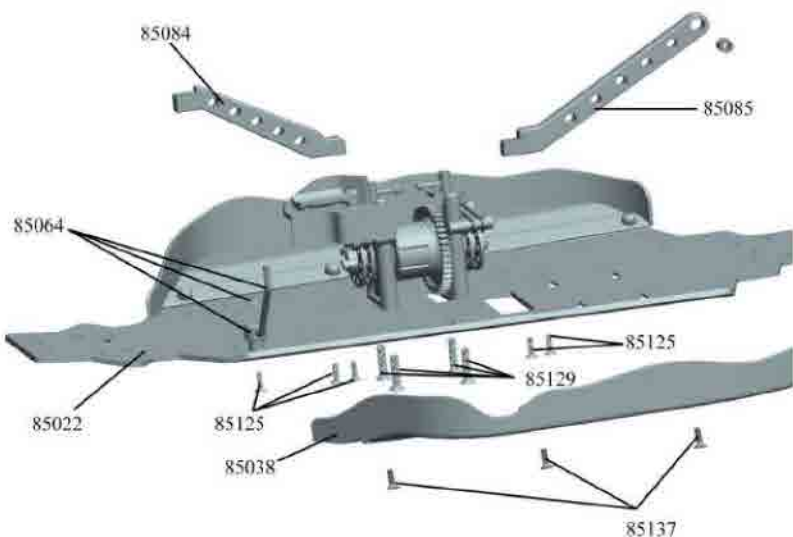


FRONT SUSPENSION ASSEMBLY

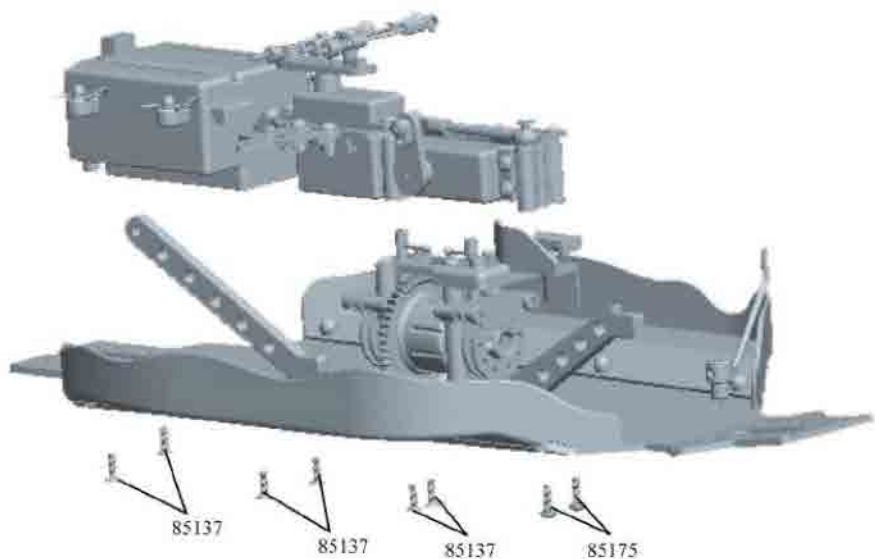




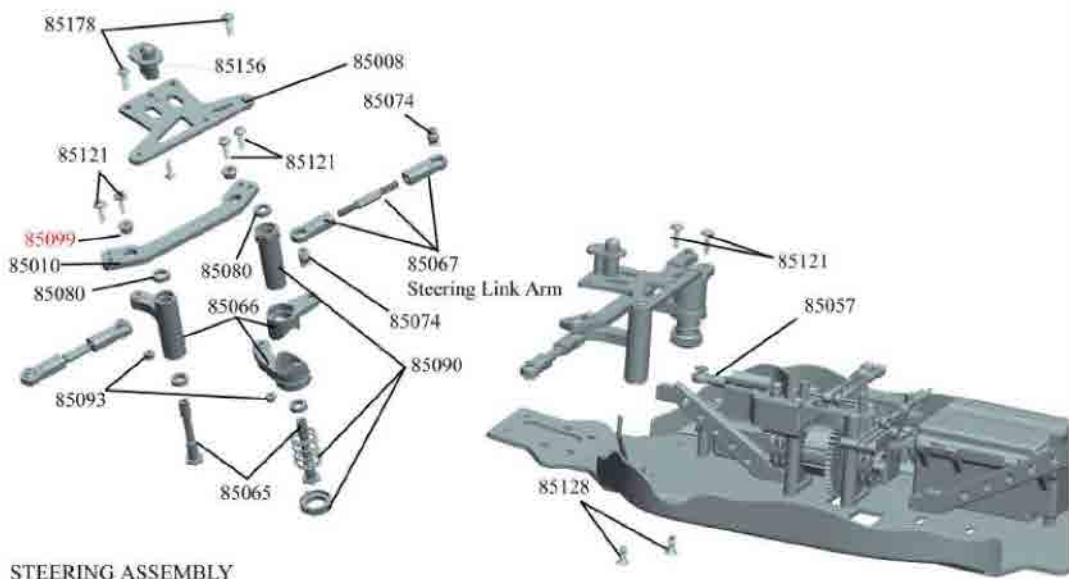
1. Install the Side Guards, Centre Diff Assembly and Front/Rear Braces to the chassis. And attach the exhaust Pipe holder.



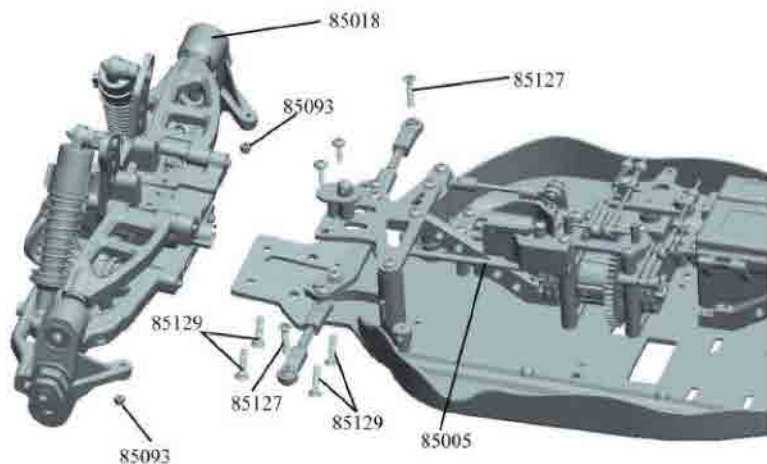
2. Install the servo and battery/receiver box assembly to the chassis with screws.



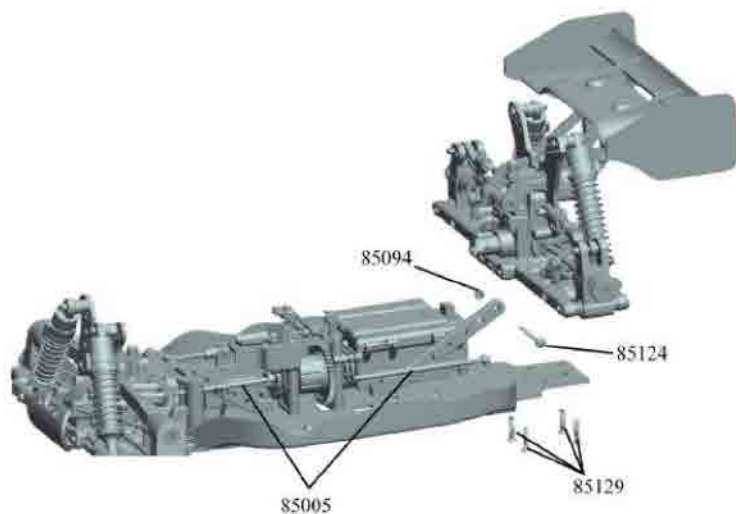
3. Install the steering arm assembly to the chassis with screws and attach the steering arm.



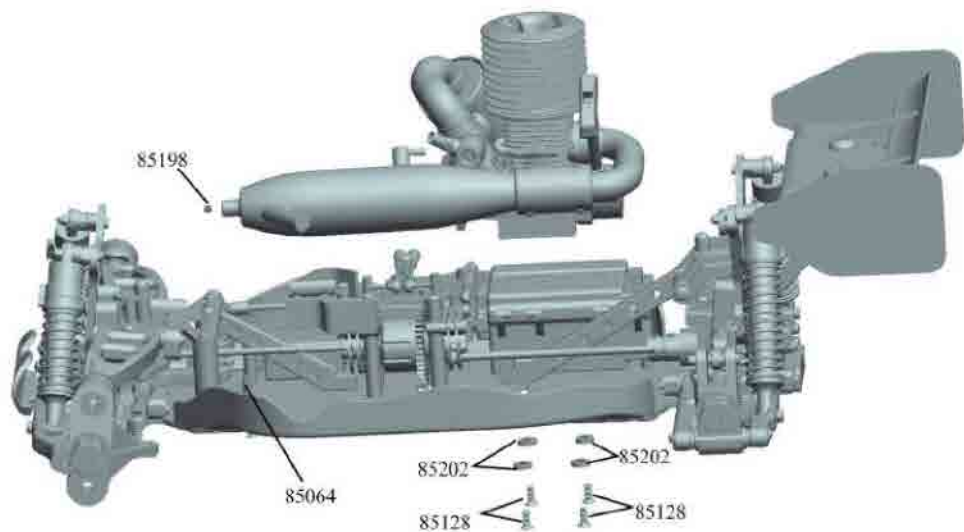
4. Install the front suspension assembly to the chassis with screws and attach the front center drive shaft(the short one). And then attach the steering link arms to the steering knuckles(85018) on both sides with screws and nuts.



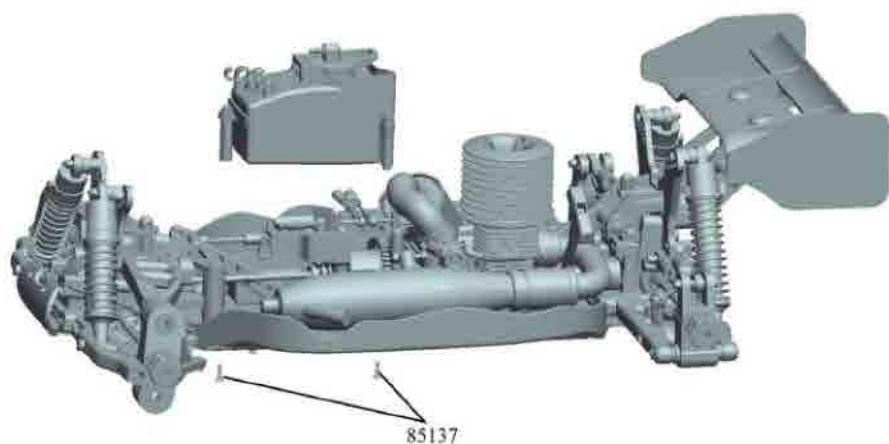
5. Install the rear suspension assembly to ensure free suspension arm movement and attach the rear center drive shaft(the long one).



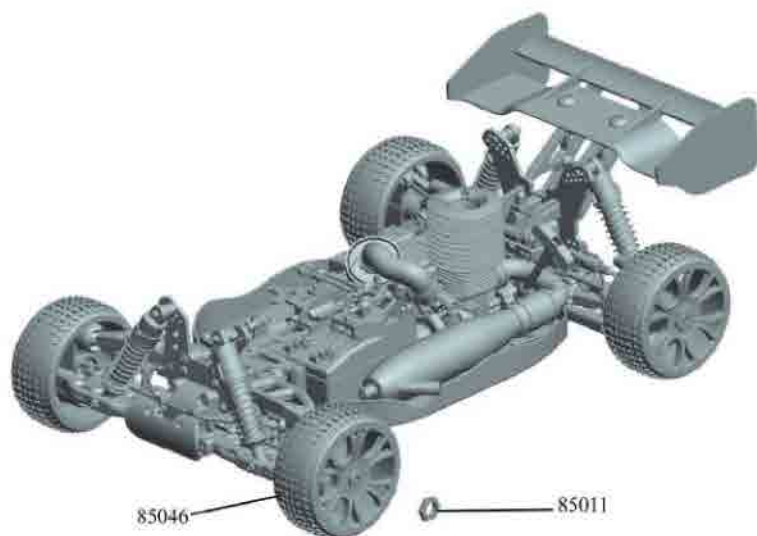
6. Install the engine assembly to the chassis with screws and screw spacers properly to make sure the clutch bell and spur gear works smoothly. And attach the exhaust pipe end to the engine exhaust pipe holder(85064) with M4 grub screw(85198).



7. Install the fuel tank to the chassis with screws, link the fuel lines from the fuel tank to the engine and exhaust pipe, and guide the fuel lines guide onto the fuel tank.






8. Install the premounted tyres set and tighten with wheel nuts. Mount the precut polycarbonate body onto the chassis body mounts and use body clips(85034) to fix the body.





## VRX-2 Nitro Buggy Parts



<p>85005-Center Drive Shaft F/R 2P</p> 	<p>85013-Brake Cam 2P</p> 	<p>85021-Fuel Tank 125cc</p> 	<p>85022-Chassis Plate</p> 
<p>85023-Engine Mount Set</p> 	<p>85009-Radio Tray</p> 	<p>85024-Clutch Bell 14T 1p 85207-Clutch Bell 14T 1p Powder Metallurgy</p> 	<p>85026-Switch Switch Cover 2P</p> 
<p>85033-Battery/Receiver Box</p> 	<p>85035-Flywheel</p> 	<p>85038-Side Guard Set</p> 	<p>85045-Clutch Shoes &amp; Springs</p> 
<p>85047-Airfilter Assembly</p> 	<p>85048-Air Filter Sponge 2P</p> 	<p>85053-Fuel Line</p> 	<p>85061-Fuel Filter, Transponder Mount, Fuel Line Mount Set</p> 
<p>85064-Exhaust Pipe Set</p> 	<p>85087-Clutch nut w/shim 2P</p> 	<p>85088-Silicone Exhaust Coupler</p> 	<p>85089-Tuned Exhaust Pipe</p> 
<p>85097-Manifold</p> 	<p>85104-Fuel line guide set</p> 	<p>85105-Pressure fitting set 2P</p> 	<p>85106- Fuel tank spring</p> 



## VRX-2 Nitro Buggy Parts

<p>85158-Manifold Spring and Fix Plate</p> 	<p>85160-Fuel Tank Post Set</p> 	<p>85161-Disc Brake Sets</p> 	<p>85164-Servo Linkage Set</p> 
<p>85168-Steering Plate Bushing 4P</p> 	<p>85182-Cap Head Hex. Mechanical Screws 3*10 6P</p> 	<p>85183-Ball head self Tapping screw set 2*24mm 6P</p> 	<p>85186-Washer 6*3.1*0.5 6P</p> 
<p>85190-Washer 6*2.6*0.5 6P</p> 	<p>H0011-3kg/cm Throttle Servo Unit</p> 	<p>85197-Battery Case</p> 	<p>85199-Throttle Servo Horns</p> 

## VRX-2 (E) Common Parts

<p>85076-Shock End/Sway Bar Ball 6pcs</p> 	<p>85077-Sway Sar Mount Ball Stud 6sets</p> 	<p>85078-Pivot Ball Set 4P</p> 	<p>85079-Pivot Ball Nut Set 4P</p> 
<p>85080-Steering Bellcrank Bushing 4P</p> 	<p>85081-Shock O-Ring Set 8P</p> 	<p>85082-Diff Case O-Ring Set 6P</p> 	<p>85084-Front Chassis Brace</p> 
<p>85085-Rear Chassis Brace</p> 	<p>85090-Servo Saver Assembly</p> 	<p>85091-Antenna Tube 4P</p> 	<p>85093-3mm Locknut set 6P</p> 
<p>85094-4mm Locknut set 8P</p> 	<p>85096-Ball End Set</p> 	<p>85098-Front Shock Shaft and Piston Set 2P</p> 	<p>85099-Steering Plate Bushing 2P</p> 
<p>85100-Rear Shock Shaft and Piston Set 2P</p> 	<p>85101-Front Shock Spring Set 2P</p> 	<p>85102-Rear Shock Spring Set 2P</p> 	<p>85103-Wheelhub Pin Set 2P</p> 
<p>85107-Upper Wing Mount Set</p> 	<p>85108-Diff bevel gear pin 3P</p> 	<p>85118-Cap head screw set 3*14mm 8P</p> 	<p>85119-Cap head sere set 3*16mm 6P</p> 


## VRX-2 (E) Common Parts

<p>85121-Button Head Scw sdt 3*12mm (10)</p> 	<p>85124-Button head screw set 4*40mm 4P</p> 	<p>85125-Flat head screw set 3*10mm 5P</p> 	<p>85128-Flat head screw set 4*10mm 4P</p> 
<p>85129-Flat Head Self Tapping Screw Set 4*18mm 12P</p> 	<p>85132-Set screws 3*3mm 12P</p> 	<p>85133-Set screws 4*10mm 4P</p> 	<p>85134-Set screws 5*4mm 6P</p> 
<p>85137-Flat Head Self Tapping Screw Set 3*10mm 12P</p> 	<p>85140-Flat Head Screw Set 4*26mm 4P</p> 	<p>85143-Button Head Self Tapping screw set 3*12mm 4P</p> 	<p>85144-Ring Self Tapping Screw Set 3*8mm 4P</p> 
<p>85152-Front/rear Shock Cap with Bladder Set</p> 	<p>85153-Shock Ball End, Ball, Cup set</p> 	<p>85154-Diff. Gasket sets 3P</p> 	<p>85155-Wheel Nut Set 2P</p> 
<p>85156-Buggy body mount 2P</p> 	<p>85157-Chassis Brace Mount</p> 	<p>85159-Gearbox Housing Set</p> 	<p>85162-Suspension Holders</p> 
<p>85163-Radio Tray Post</p> 	<p>85165-Front Upper Outside Pins 2pcs+ Front/rear Lower Outside Pins 2sets</p> 	<p>85166-Spacers for Rear Lower Outside Pins 8P</p> 	<p>85167-Spacers for Front Upper/lower Outside Pins 8P</p> 




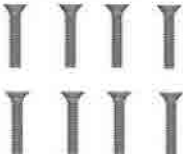









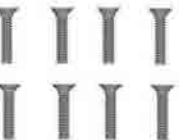







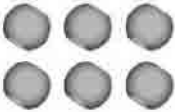


## VRX-2 (E) Common Parts

<p>85121-Button Head Scw sdt 3*12mm (10)</p> 	<p>85124-Button head screw set 4*40mm 4P</p> 	<p>85125-Flat head screw set 3*10mm 5P</p> 	<p>85128-Flat head screw set 4*10mm 4P</p> 
<p>85129-Flat Head Self Tapping Screw Set 4*18mm 12P</p> 	<p>85132-Set screws 3*3mm 12P</p> 	<p>85133-Set screws 4*10mm 4P</p> 	<p>85134-Set screws 5*4mm 6P</p> 
<p>85137-Flat Head Self Tapping Screw Set 3*10mm 12P</p> 	<p>85140-Flat Head Screw Set 4*26mm 4P</p> 	<p>85143-Button Head Self Tapping screw set 3*12mm 4P</p> 	<p>85144-Ring Self Tapping Screw Set 3*8mm 4P</p> 
<p>85152-Front/rear Shock Cap with Bladder Set</p> 	<p>85153-Shock Ball End, Ball, Cup set</p> 	<p>85154-Diff. Gasket sets 3P</p> 	<p>85155-Wheel Nut Set 2P</p> 
<p>85156-Buggy body mount 2P</p> 	<p>85157-Chassis Brace Mount</p> 	<p>85159-Gearbox Housing Set</p> 	<p>85162-Suspension Holders</p> 
<p>85163-Radio Tray Post</p> 	<p>85165-Front Upper Outside Pins 2pcs+ Front/rear Lower Outside Pins 2sets</p> 	<p>85166-Spacers for Rear Lower Outside Pins 8P</p> 	<p>85167-Spacers for Front Upper/lower Outside Pins 8P</p> 

## VRX-2 (E) Common Parts

<p>85037- Buggy Tail Wing</p> 	<p>85039-Rear Hub Carrier Set 2P</p> 	<p>85040-Front Bumper</p> 	<p>85041-Rear Lower Suspension Arms. 2P</p> 
<p>85042-Front Upper Suspension Arms 2P</p> 	<p>85043-Rear Upper arm set</p> 	<p>85044-Shock Tension Shims</p>  <p style="text-align: center;">Thick: 4mm*4pcs Thin: 8mm*4pcs</p>	<p>85046-Pre-Mounted Tires 2pcs</p> 
<p>85049-Front Sway Bar</p> 	<p>85050-Rear Sway Bar</p> 	<p>85057-Steering Servo Linkage</p> 	<p>85058-Wing mounts 2P</p> 
<p>85059-Wing Mounts Posts</p> 	<p>85062-Differential Case +Set Screw</p> 	<p>85063-Bearings. 16*8*5 8P</p> 	<p>85065-Servo Saver Shaft 2P</p> 
<p>85066-Bellcrank Set</p> 	<p>85067-Steering Link Set 2P</p> 	<p>85068-F/R Diff. Outdrive 2P</p> 	<p>85069-Fuel Tank Mount Grommets</p> 
<p>85070-Shock Boot 2P</p> 	<p>85071-Shock Mount Studs 4P</p> 	<p>85073-Rear Upper Arm Outer Ball 6pcs</p> 	<p>85074-Steering Linkage Ball Studs 6pcs</p> 

## VRX-2 (E) Common Parts

<p>85169-ball bearings 8pcs 16*8*5 6pcs 10*5*4 2pcs</p> 	<p>85170-E-clips 2.0 10P</p> 	<p>85171-E-Clip 3.0 10P</p> 	<p>85172-Flat Head Hex. Tapping Screws 3*16 8P</p> 
<p>85173-Flat Head Hex. Tapping Screws 4*11 8P</p> 	<p>85174-Flat Head Hex. Tapping Screws 4*55 4P</p> 	<p>85175-Button Head Hex. Tapping Screws 3*10 8P</p> 	<p>85176-Button Head Hex. Tapping Screws 4*14 8P</p> 
<p>85177-Cap Head Hex. Mechanical Screws 4*10 8P</p> 	<p>85178-Button Head Self Mechanical screw set 4*10mm 8P</p> 	<p>85179-Button Head Hex. Tapping Screws 3*15 8P</p> 	<p>85180-Cap Head Hex. Mechanical Screws 3*18 6P</p> 
<p>85181-Cap Head Hex. Mechanical Screws 3*18 6P</p> 	<p>85184-Cap Head Hex. Mechanical Screws 3*12 6P</p> 	<p>85185-Cap Head Hex. Mechanical Screws 3*25 6P</p> 	<p>85187-Washer 17*6.1*0.3 6P</p> 
<p>85188-Washer 7.8*3.0*0.3 6P</p> 	<p>85189-Washer 11*3.1*0.5 6P</p> 	<p>85192-Steering Servo Horns</p> 	<p>H0067-6kg/cm Throttle Servo Unit</p> 
<p>85195-Zip Ties</p> 	<p>85196-Steering Linkage Ball Studs 6pcs</p> 	<p>85198-Set screws 4*4mm 6P</p> 	<p>85200-Rear Outer Susp. Pin 2P</p> 

## VRX-2 (E) Common Parts




<p>85201-Sway bar fix plate 4P</p> 	<p>85203-Front Shock body 2P</p> 	<p>85204-Rear Shock body 2P</p> 	<p>R0027-VRX-2 Printed body (Blue)</p> 
<p>R0028-VRX-2 Printed body (Black)</p> 	<p>R0029-VRX-2 Printed body (Yellow)</p> 	<p>R0031-VRX-2 Printed body (Flame Blue)</p> 	<p>R0032-VRX-2 Clear body</p> 
<p>85205-Reinforce Plate 1set</p> 	<p>85211-Reinforce Plate 1set</p> 	<p>85202-Engine screw spacer 4P</p> 	

## VRX-2 (E) Common Parts

<p>85901-Centre Differentials Plate(Carbon Fibre)</p>  <p style="text-align: center;">VRX-2 (E)</p>	<p>85902-Front Top Plate (Carbon Fibre)</p>  <p style="text-align: center;">VRX-2 (E)</p>	<p>85903-Radio Plate (Carbon Fibre)</p>  <p style="text-align: center;">VRX-2</p>	<p>85904-Rear Shock Plate(Al.)</p>  <p style="text-align: center;">VRX-2 (E)</p>
<p>85905-Front Shock Plate (Al.)</p>  <p style="text-align: center;">VRX-2(E)</p>	<p>85909-Front Chassis Brace (Al.)</p>  <p style="text-align: center;">VRX-2 (E)</p>	<p>85912-Rear Chassis Brace (Al.)</p>  <p style="text-align: center;">VRX-2 (E)</p>	<p>85913-Centre Diff. Mount 2P</p>  <p style="text-align: center;">VRX-2 (E)</p>
<p>85915-Rear Hub Carrier Set 2P</p>  <p style="text-align: center;">VRX-2 (E)</p>	<p>85916-Front Upper Suspension Arms 2P</p>  <p style="text-align: center;">VRX-2 (E)</p>	<p>85917-Front Lower Suspension Arms 2P</p>  <p style="text-align: center;">VRX-2 (E)</p>	<p>85918-Rear Lower Suspension Arms 2P</p>  <p style="text-align: center;">VRX-2 (E)</p>
<p>85922-Rear Universal Joint Shafts 2P</p>  <p style="text-align: center;">VRX-2 (E)</p>	<p>85923-Rear Universal Joint Shafts 2P</p>  <p style="text-align: center;">VRX-2 (E)</p>	<p>85924-Rear Universal Joint Shafts 2P</p>  <p style="text-align: center;">VRX-2 (E)</p>	<p>85925-Steering Knuckles (L/R)</p>  <p style="text-align: center;">VRX-2 (E)</p>

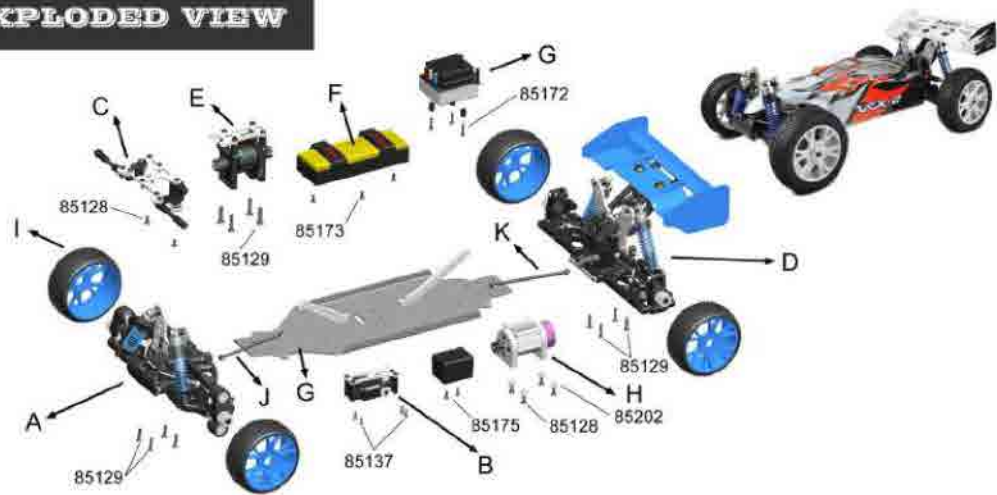


## VRX-2E Buggy Parts

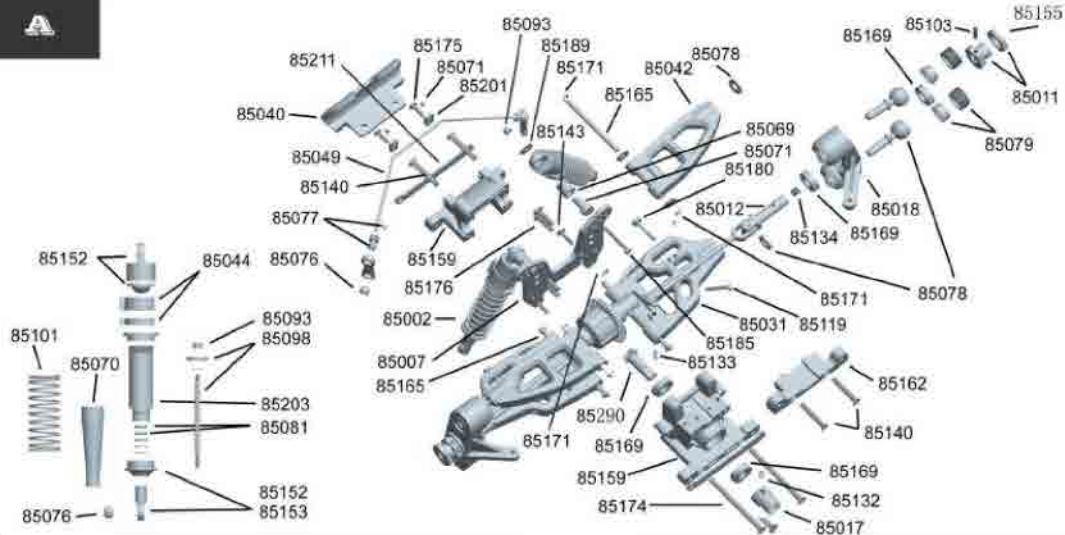
<p>85252-Upper plate 1P</p> 	<p>85284-Motor mounts 1P</p> 	<p>85287-Pinion Gear 13T</p> 	<p>85257-Button head screw set 3*8 6P</p> 
<p>85284-Battery tray 1P</p> 	<p>85265-Motor heatsink 1P</p> 	<p>85256-Chassis plate 1P</p> 	<p>85269-Front center drive shaft 1P</p> 
<p>85289-Front center drive shaft 1pc</p> 	<p>85285-Receiver box 1set</p> 	<p>85262-Brushless motor 1P</p> 	<p>85260-11.1V 3250mAh Lipo battery pack</p> 
<p>85286-Hoop and loop 2P</p> 	<p>85261-ZTW Brushless Speed control 80A 1pc</p> 	<p>85288-ESC Post 3P</p> 	



# EXPLODED VIEW



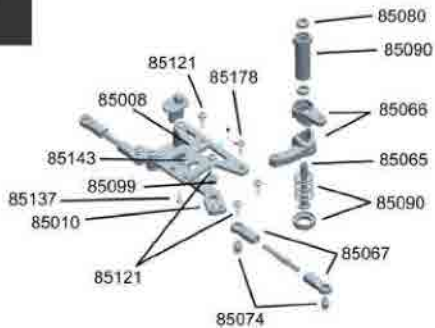
## A



## B



## C



## Battery Life

Batteries that lose 20% of their capacity must be removed from service. Discharge the battery to 3.0V/cell and make sure the output wires are insulated, and then wrap the battery in a bag for proper disposal.

## Before Starting Your Vehicle

- Verify that all retainers are well fastened (screws, nuts, bolts and clips)
- Verify proper function of steering, drive-line and motor/braking control.
- Lubricate appropriately all bearings, bushings and maintain proper shock performance.
- Operate radio system with fully charged io frequency/range check.
- Inspect terrain for hard/non-movable objects that may become a hazard for your vehicle.
- Provide adequate clearance between your vehicle and your observers.
- Do not operate in the presence of domestic animals (dogs and/or cats)
- Do not operate vehicle on public roads, or obtain adequate authorisation to permit usage.

## Before assembling or operating your model...

Carefully read and understand all instructions before operating the vehicle.

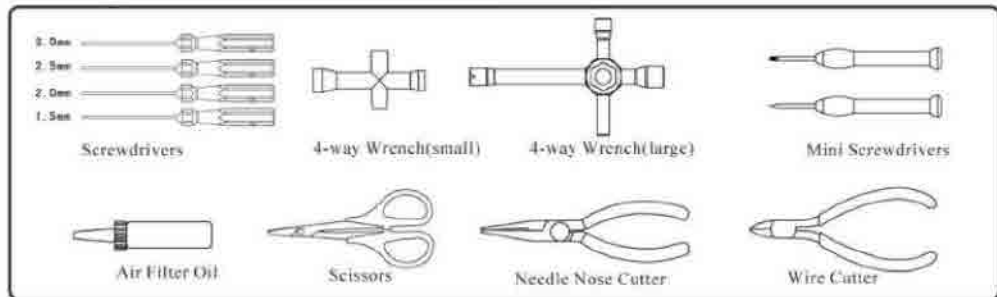
Check the items from your package:

1. Buggy chassis fully assembled with printed lexan body
2. 1pc 2000KV motor assembled
3. 1pc 120A brushless ESC included
4. 1set of 2.4GHz 2CH radio system with 9kg steering servo

Items that you will need for your vehicle:

1. 8pcs "AA" size batteries for transmitter
2. A balance charger can be used for 3cell Lipo battery

### Tools Required for Assembling Your Model



The above accessories available from your model dealer are for optional purchase to facilitate your operations.

## Radio/Motor/ESC Instructions

Please read the Radio/ESC/Motor Manual attachment before you operating the vehicle to make sure fully understanding the proper operation.

Battery Series	XP series	XP series	XP series	XP series	XP series	XP series	XP series	XP series
Capacity (mAh)	1000	1300	1800	2200	2500	3300	3700	4500
Max. Charging Current (mA)	2000	2500	3600	4400	5000	6600	5400	9000
Max. Cont. Discharging Current	25C (25A)	25C (32.5A)	25C (45A)	25C (55A)	25C (62.5A)	25C (82.5A)	25C (92.5A)	25C (112A)
Burst Current	50C (50A)	50C (65A)	50C (90A)	50C (110A)	50C (125A)	50C (165A)	50C (185A)	50C (225A)

Battery Series	HP series	HP series	HP series	HP series	HP series	HP series	HP series	HP series
Capacity (mAh)	5300	450	600	850	1000	1200	1300	1500
Max. Charging Current (mA)	10600	900	1200	1700	2000	2400	2600	3000
Max. Cont. Discharging Current	25C (132.5A)	25C (9A)	20C (12A)	20C (17A)	20C (20A)	20C (24A)	20C (26A)	20C (30A)
Burst Current	50C (265A)	40C (18A)	40C (24A)	40C (34A)	40C (40A)	40C (48A)	40C (52A)	40C (60A)

## In the case of Li-Po Battery powered model crash

Whenever a Li-Po battery pack is subjected to a crash, immediately do the following:

- 1) Remove the Li-Po battery pack from the model in which it is used.
- 2) Place the Li-Po battery pack in a safe open area away from any flammable/combustible materials and monitor the pack for at least 30 minutes. Watch for swelling of the pack and/or unnatural heat build-up. These are signs of internal damage.
- 3) Damage of your Li-Po battery pack may not be readily apparent upon visual inspection. Check the battery to find if any shorts and other damages occur carefully. You should inspect them thoroughly for damage before attempting to use them again.

## Storage & Transportation

- 1) Never leave your Li-Po batteries installed in your model when not in use. Do store your Li-Po batteries in an airtight and flame resistant container when not in use.
- 2) Do store battery at a place with low humidity and free from corrosive gas & combustible materials within the temperature range from 14°F to 104°F (-10°C to 40°C). Storage at temperature from 41°F to 77°F (5°C to 25°C) is recommended for best results.
- 3) Do not expose Li-Po batteries to direct sunlight for extended period of time or leave it at any heat place such as in a car in hot weather.
- 4) When batteries are transported or temporarily stored in a vehicle, temperature should be higher than 14°F (-10°C) but not over 140°F (60°C).
- 5) Storing battery at temperatures higher than 170 °F(76°C) for more than 2 hours may cause damage to battery and may even cause fire.
- 6) A higher cell voltage during storage will accelerate the self-discharge of the battery which may lead to over-discharge and deteriorate the battery performance, it is recommended to keep the cell at a lower voltage (about 3.8V/cell) throughout the period of storage. If the battery is to be stored for longer than one year, the user should charge the battery at least once a year to about 3.8V/cell so as to prevent over-discharge.

connector to make sure the voltage of each cell keeps within 4.15-4.22V.

The range of discharge temperature is between 32 to 113°F (0 to 45°C). For optimum performance of our R/C batteries, 68 to 86°F (20 to 30°C) is recommended.

During discharging and handling the batteries, keep the temperature not to exceed 160°F (71°C), otherwise, the battery may be damaged and may even result in fire.

For the first discharge, use low discharging current and keep the discharging time into every 6-minute session with 15-minute breaks.

Do not discharge the battery with the current over the designed maximum continuous discharging current specified in Chart 2. A higher discharging current may cause overheat which will lead to balloon and swell up or even result in fire. For example, a 1000mAh battery with a designed max. 25C discharge current must not have a maximum discharge rate or load of more than 25 Amps. The maximum discharge rate or load must never be exceeded. For longer cycle life, a continuous discharging current of 70%-80% of the designed maximum discharging current is acceptable and recommended.

Never discharge Li-Po battery below the Lowest Discharge Voltage (Please refer to Chart 1), as it may cause irreversible damage which will deteriorate the battery performance and cycle life. Caution must be taken so that your Li-Po batteries do not discharge lower than the Lowest Discharge Voltage when using Electronic Speed Controls (ESCs that use a set battery elimination circuit (BEC) cut-off value created for use with Ni-Cd or Mi-MH batteries). When using ESCs with BEC designed for use with Ni-Cd or Ni-MH batteries where the cut-off voltage would be lower than the Lowest Discharge Voltage, you should stop flying and land immediately after you notice any drop of power.

**Chart 1**

Battery packing:	1SxP (single cell)	2SxP (2 cells connected in series)	3SxP (3 cells connected in series)	4SxP (4 cells connected in series)	5SxP (5 cells connected in series)	6SxP (6 cells connected in series)
Nominal Voltage (V)	3.7	7.4	11.1	14.8	18.5	22.2
Lowest Open Voltage (V)	3	6.2	9.3	12.8	16.5	19.8
Max Charging Voltage (V)	4.2	8.4	12.6	16.8	21	25.2
Voltage after Charging(V)	4.15-4.22	8.32-8.44	12.48-12.66	16.64-16.88	20.80-21.10	24.90-25.50
Lowest Discharging Voltage(V)	2.75	6	9	12	15	18

**Chart 2**

Battery Series	XT series	XT series	XT series	XT series	XT series	XT series	XT series	Pacing Car Packs
Capacity (mAh)	800	1200	1700	2200	2500	3700	4500	3700
Max. Charging Current (mA)	1600	2400	3400	4400	5000	7400	9000	7400
Max. Conti Discharging Current	35C(28A)	35C(42A)	36C(60A)	35C(77A)	35C(88A)	35C(130A)	35C(158A)	25C(92.5A)
Burst Current	60C(16A)	60C(72A)	60C(119A)	60C(154A)	60C(175A)	60C(259A)	60C(315A)	50C(185A)

Battery Series	Pacing Car Packs	XT series	XT series	RX series	RX series	XP series	XP series	XP series
Capacity (mAh)	5400	3000	3050	3000	5000	450	600	850
Max. Charging Current (mA)	10800	3000	3050	3000	5000	900	1200	1700
Max. Conti Discharging Current	25C(108A)	1C(3A)	1C(3.05A)	10A	10A	25C(11.3A)	25C(15A)	25C(21.3A)
Burst Current	40C(216A)	2C(6A)	2C(6.1A)	15A	15A	50C(22.5A)	50C(30A)	50C(42.5A)

otherwise, a short may occur and potentially cause a fire. To solder a connector, remove insulating tape of Red wire and solder to positive terminal of a connector, then remove insulating tape of Black wire and solder to the negative terminal of the connector.

Be careful not to short the wire lead. If you accidentally cause the battery to short, place it in a safe open space and observe the battery for at least 15 minutes. A battery may swell or even possibly catch fire after a short time. Additionally, if a short occurs and contact is made with metal (such as rings on your hand), severe injuries may occur due to the conductivity of strong electric current.

Dispose the used or damaged Li-Po batteries at your local Hazardous Waste Facility or return them to the place of purchase.

### Charging Process and Precautions

Never charge batteries unattended. Use specific qualified Lithium Polymer charger only.

Do not let the temperature exceed the range from 32 to 113°F (0°C to 45°C).

Always charge the batteries in an isolated safe area away from any flammable/combustible materials. Never charge a Li-Po battery on a wooden workbench, inside an automobile, or on any flammable surface. We recommends charging Li-Po batteries on a concrete surface where there are no flammable objects within 10 feet (3 meters) of the charging area.

Always remove your Li-Po battery from your equipment using Li-Po battery and cool down the battery to ambient temperature before charging.

Check the voltage of the pack or cells before charging. Do not attempt to charge any pack if the open voltage is lower than the Lowest Open Voltage (Please refer to Chart 1). We recommends checking the voltage of each cell before charging with the balance connector. If the open voltage of any cell is less than 3.0V/cell, stop charging the battery, remove the battery from service and dispose it properly.

Reverse Charging is prohibited! You must check the polarity before connecting the battery to the charger. Do not reverse the positive (+) and negative (-) terminals when charging. Otherwise, the battery pack will be reverse-charged, abnormal chemical reactions will occur, and the excessively high current will cause damage, overheating, smoke emission, bursting and/or fire.

When selecting the cell count or voltage for charging purposes, select the cell count and voltage as it appears on the battery label. As a safety precaution, please confirm that the information printed on the battery or label is correct. (Please refer to Chart 1). Selecting a wrong cell count or charging voltage may cause fire.

Never charge the battery with the current exceeding 1C (one times the capacity of the battery). A higher setting may cause fire. (Please refer to Chart 2)

If charging operation fails to complete even when a specified recharging time has elapsed, immediately stop further recharging.

### Usage and Discharge Warnings

Please check cell voltage after the first charge to make sure the voltage not to exceed the range specified in Chart 1. We recommend to check the voltage of each cell with the balance

- To avoid damage of burn, do not touch the motor as soon as they are stopped running.
- Always check battery power. You may lose of control of your model due to low battery power.
- In the event that the model behaves abnormally, stop running it and check. The model is not allowed to be used until all problems have been settled.
- Use the neutral cleaner and soft clothes to clean the model surface.

### Lipo Battery Warnings

Stop using or charging the battery immediately whenever a battery damages, gives off an odor, becomes discolored or deformed, starts to balloon or swell up, leaks, its temperature reaches over 160°F (71°C) or anything else abnormal occurs. Disconnect the battery and observe it in a safe place. This abnormal problem may cause the battery to leak, and the reaction with air may cause the chemical materials inside to ignite and even result in fire. Since delayed chemical reaction may occur—a battery can still ignite even after 10 minutes, you should keep observing the battery for at least 15 minutes as a safety precaution. Battery observation should be taken in a safe area outside of any building or vehicle and away from any combustible material.

Do charge Li-Po battery only with qualified charger specifically designed for Li-Po battery. Do not use a Ni-MH or Ni-Cd charger. Failure to do so may cause a fire which may result in personal injury and property damage. Some Li-Po chargers in the market may have technical deficiencies, which may cause to charge the Li-Po batteries incorrectly or at an improper rate. It is your responsibility solely to assure that the charger you purchased works properly. Always charge batteries through balancer or use the charger with balance function. Overcharge may occur to the unbalance cell in the pack if you use the series charger, that may lead to shorten the battery life, and may even cause a fire which may result in personal injury and property damage.

Never charge batteries unattended. During the whole charging Li-Po batteries process, you should always remain in constant observation to monitor the charging process and react to any problems occurring to assure that batteries are being charged properly all the time.

Do not discharge the batteries with the current exceeding the max. continuous discharge current specified for them, otherwise, it will cause the batteries overheat and result in battery deterioration, burst, balloon or may even cause fire or explosion.

Never store or charge battery pack inside your car or in extreme temperature, since extreme temperature might ignite the battery and cause fire.

Store the battery at a place where infants/kids can not reach. Make sure children not to take the battery from the charger or equipment.

### Handling and Caring for Battery

Never disassemble, modify, puncture, mechanical shock, crash and/or short the battery, it may cause leakage, smoke emission, ignition, explosion and even fire, which may result in personal injury and property damage.

Short circuit may cause fire and injury! If you need to cut the terminal wires of the battery, it is necessary to cut each wire separately, ensuring the wires not to touch each other,



## RH812 VRX-2E Features:

- One-piece ESC/battery tray for 7.4V/11.1V/14.8V Lipo battery fastened by hook-and-loop straps.
- Durable machined 14T pinion gear and 46T spur gear.
- Rigid motor mounts securing the motor to chassis tightly
- 80A brushless speed control with cooling fan designed for 7.4V-14.8V Lipo
- Light Solid 6061/T6 anodized alum. chassis
- Three differentials and four wheel drive system
- Blacked universal joint, dogbones and fully ball bearings
- Front/rear metal sway bar system
- Good quality wheel rims & cube-nailed tread tyres providing a long period of service
- Oil filled shock absorber
- High impact durable lexan body
- Brushless motor & speed control included
- 11.1V 2700mAh Lipo battery one pack included

## RH812 VRX-2E Technical Data:

Overall Length.....	505mm	Weight.....	3.5kgs
Overall Width.....	305mm	Gear Ratio.....	1:11.35
Height.....	175mm	Wheel Diameter.....	115mm
Wheelbase.....	330mm	Wheel Width.....	42mm
Front Wheel Track.....	258mm	Ground Clearance.....	35mm
Rear Wheel Track.....	261mm	Pinion gear.....	14T
ESC.....	80A	Motor.....	2230KV
Motor Shaft.....	5.0 mm	Battery.....	11.1V Lipo

These data are subject to change without prior notice as a result of our Product continual improvement.

## Important Safety Precautions

This is a high performance radio controlled model which needs to be operated with caution and common sense. Failure to follow the safety instructions could result in personal injuries and/or property damage.

- Always run your vehicle after the body shell is mounted.
- Do not abruptly alter the speed during running.
- Do not run your vehicle around crowded people.
- Carefully check whether all screws or nuts are loose or not after running.
- Do not put your finger or any object into the rotating or moving parts.

# Instruction Manual

**1/8 SCALE**

**4WD BRUSHLESS READY TO RUN BUGGY**

**VPX-2B** NO. RH812



Note:

- ▶ This radio controlled racing model is not a toy. It is suited for experienced operators.
  - ▶ 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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