ROCK CRAWLER

CE ROHS

USER MANUAL

ROCK CRAWLER

NO.EX86180PRO
NO.EX86180FOC

Notes:

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

The product has conducted IQC (Input Quality Control) and full inspection before delivery. The manufacturer is responsible for quality assurance. Remote Control model is assembled manually, and then there may have some defects in the production process. Once the product is modified or incorrect operation, it cannot apply for replacement and return services, for the parts and accessories may be damaged. Please contact the retail seller for after-sales service when needed.

The product conforms to technical requirements of export safety regulations.

Please read and follow all the instructions in the manual before use.

MADE IN CHINA

Factory Address: Huang Jiang Town, Dong Guan City,Guang Dong Province, China

Production Date: refer to packing instruction

Introduction

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

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

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

Warnings

● The product is not intended for those under 14 years of age without proper adult supervision. The product is not a toy. It is a precision machine requiring proper assembly and setup to avoid accidents and it is the responsibility of the owner to operate this product in a safe manner as it can cause serious personal injury and damage to property due to carelessness or misuse.

● Do not attempt to disassemble or modify any of the product components without the assistance of an experienced RC user.

● Only use the correct type of battery to operate. Using any wrong type of battery will damage the product and possibly make it dangerous to operate.

● The motor(s) may get hot during use. Always allow 10-15 minutes between each operation for the motor to cool down. This will prolong the life of your product.

● Choose an appropriate operating site consisting of flat, smooth ground, and clear open field. Do not operate near buildings, high voltage cable lines, or trees to ensure safety operation. Operate in safe area only, away from other people. RC models are prone to accidents, failures, and crashes due to a variety of reasons including, lack of maintenance, user error, and radio interference. Users are responsible for their actions and damage or injury occurring during the operation.

● Do not operate in inclement weather, such as rain, wind, snow or darkness.

● The product is composed of precision electrical components. It is critical to keep the product away from moisture and other contaminants. Do not allow them to get wet. Electrical damage may occur that could affect safe operation.

● You should complete a successful pre-run check of your radio equipment and model prior to each run.

● Use replacement parts from the original manufacturer to ensure safe operation.

● Operate this product within your ability. Do not operate under tired condition

● After each use, always allow the battery to cool down before recharging. When charging the battery pack, do not overcharge! If batteries get hot during charging, discontinue charging immediately and disconnect the battery from the charger. Never leave battery unattended while charging. If you are unsure of how to charge this battery, please seek the advice of experienced RC users. Never let children charge the battery without adult supervision.

● Always turn on the transmitter before connecting the battery on the model. When turning off the model, always disconnect the battery first, and then turn off the transmitter. If the order is reversed, the model may become uncontrollable and cause serious damage.

● If you are in doubt of your ability to operate the model, we strongly recommend that you seek assistance from experienced RC users or join your local modeling club to gain the required knowledge and skill. As the manufacturer and distributor, we assume no liability for the use of this product.

● Before turning on your model and transmitter, please check to make sure no one else is operating under the same frequency. Frequency interference can cause your model, or other's models to crash. The guidance provided by experienced RC users will be valuable for the assembly, tuning, trimming, and actual first flight.

● Never allow batteries to run low or you might lose control of the model.

● Plastic is very susceptible to damage or deformation due to extreme heat and cold climate. Do not store the model near any source of heat such as oven or heater. Store the model indoors, in a climate-controlled, room temperature environment.

● Never shorten the receiver antenna; or this might affect the transmitting range of the radio system.

● This product is a RC hobby model, do not use for other purpose.

Safety

Pay close attention to the following symbols and their meanings. Failure to follow these warnings could cause damage, injury or death.

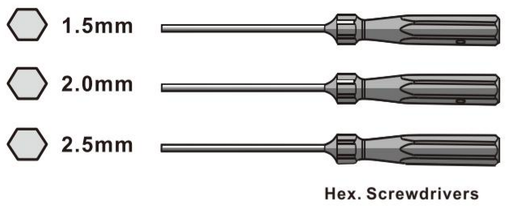
⚠ **Danger**	Not following these instructions may lead to serious injuries or death.
⚠ **Warning**	Not following these instructions may lead to major injuries.
⚠ **Attention**	Not following these instructions may lead to minor injuries.

Prohibited	■ Do not use the product at night or in bad weather like rain or thunderstorm. It can cause erratic operation or loss of control. ■ Do not use the product when visibility is limited. ■ Do not use the product on rain or snow days. Any exposure to moisture (water or snow) may cause erratic operation or loss of control. ■ Interference may cause loss of control. To ensure the safety of you and others, do not operate in the following places: ● Near any site where other radio control activity may occur ● Near power lines or communication broadcasting antennas ● Near people or roads ● On any body of water when passenger boats are present ■ Do not use this product when you are tired, uncomfortable, or under the infuence of alcohol or drugs. Doing so may cause serious injury to yourself or others. ■ The 2.4GHz radio band is limited to line of sight. Always keep your model in sight as a large object can block the RF signal and lead to loss of control. ■ Do not touch any part of the model that may generate heat during operation, or immediately after use. The engine, motor or speed control, may be very hot and can cause serious burns.
Mandatory	■ Misuse of this product may lead to serious injury or death. To ensure the safety of you and your equipment, read this manual and follow the instructions. ■ Make sure the product is properly installed in your model. Failure to do so may result in serious injury. ■ Make sure to disconnect the receiver battery before turning of the transmitter. Failure to do so may lead to unintended operation and cause an accident. ■ Ensurethatallmotorsoperateinthecorrectdirection.Ifnot,adjustthedirection first. ■ Makesurethemodelstayswithinthesystemsmaximumrangetopreventlossof control.

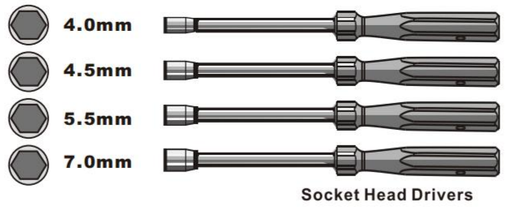
Thanks for purchasing our RC car. The power system for RC model can be very dangerous, so please read this manual carefully. In that we have no control over the correct use, installation, application, or maintenance of our products, no liability shall be assumed nor accepted for any damages, losses or costs resulting from the use of the product. Any claims arising from the operating, failure of malfunctioning etc. will be denied. We assume no liability for personal injury, consequential damages resulting from our product or our workmanship.

START GUIDE

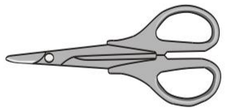
1. Please read the manual carefully and prepare the following things before use.



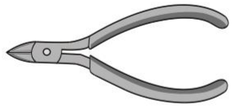
Hex. Screwdrivers



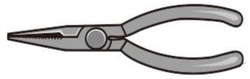
Socket Head Drivers



Lexan Scissors



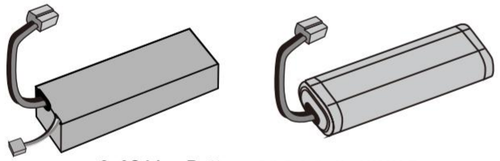
Needle Nose Pliers



Curve Nose Pliers

Body Reamer

Hobby Knife



2~3S Lipo Battery or 5-9 Cells NIMH Battery

Batteries: 4 x 1.5 V "AA"

2.The items inside the box.

One car

Transmitter

Manual

3. EX86180PRO TRACER Specifications.

Item No	EX86180PRO
Item Name	TRACER
Scale	1/10
Desciption	RTR-Crawler
Drive Type	4WD
String Type	4WS
Length	450mm
Width	252mm
Height	220mm

Wheel Base	313mm
Wheel	120*45mm
Clearance	65mm classis 48mm (steel)
Weight	2.76kg(No battery)
Radio/Rx	2.4G/4CH(FS-G4P4WS)
R/C Distance	<120m>100m
Battery Recommendations	2S or 3S Lipo, 5-9 Cells NIMH Battery
Battery Size	<142*50*55mm(L*W*H)
ESC	WP-1060 / 60A

Motor	550/8020
Servo	15kg*2p
Gead Ratio	57.6:1
Breakover	28.3°
Approach	79.5°
Departue	90°
Body Color	PC
Gift Box Size	55*29.5*26.5CM
Piece per Carton	1P

4. Please check the whole product condition when open the package.

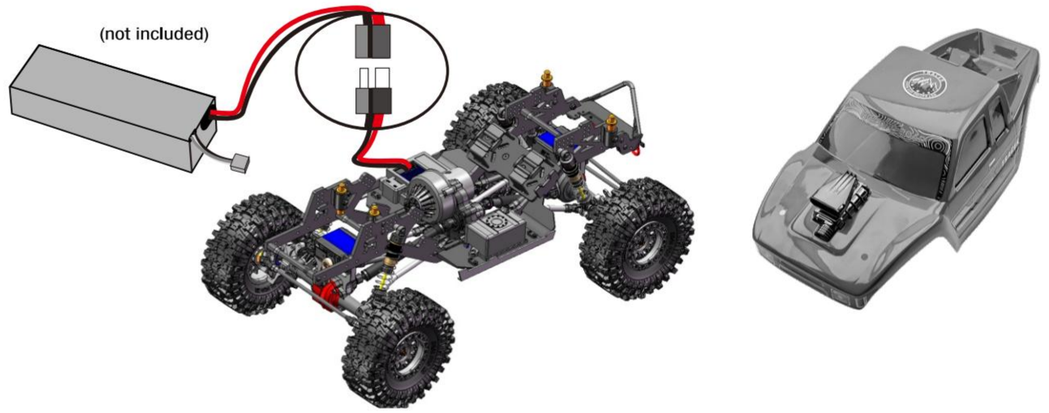
3-1. After each day of running, you should check your shocks for adequate fluid. If the fluid is low, or it is getting dirty, you should change the fluid in the shocks. To achieve better performance, you may also want to change the shock fluid and or the pistons.

3-2. Gear mesh is the clearance between the pinion and spur in an electric car or clutch bell and spur in a nitro car. It has impact on the vehicles performance. If the gear mesh is not set properly you may also damage the clutch bell and spur or the pinion gear and spur gear as soon as the vehicle starts running.

3-3. Please check if the screw is tight enough before use. Screw it tight (or apply the screw glue if necessary)

3-4. Reguarly check and verify he tires are intact . No breach should be observed. Please apply the CA glue if needed.

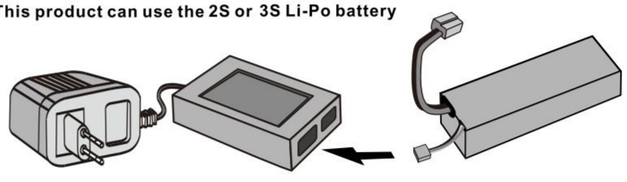
5-1.Install Charged Batteries In Car.

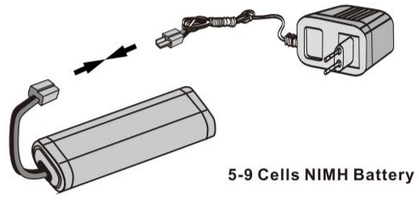


5-2. Battery Specifications for Product

WARNING:
NO battery includes in factory.Recommend?battery: 2S~3S LIPO battery or 5-9 cells NIMH battery (please match the ESC mode with the corresponding battery type)Pay attention to the battery size and plug specification when purchasing.The maximum battery measurement is 142*50*55mm LxWxH).

This product can use the 2S or 3S Li-Po battery





5-9 Cells NIMH Battery

NOTICE
Please check the battery voltage before use. Please use a qualified charger to charge the newly purchased battery. (please read the charging steps in manual when necessary)

Charge the vehicle battery

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

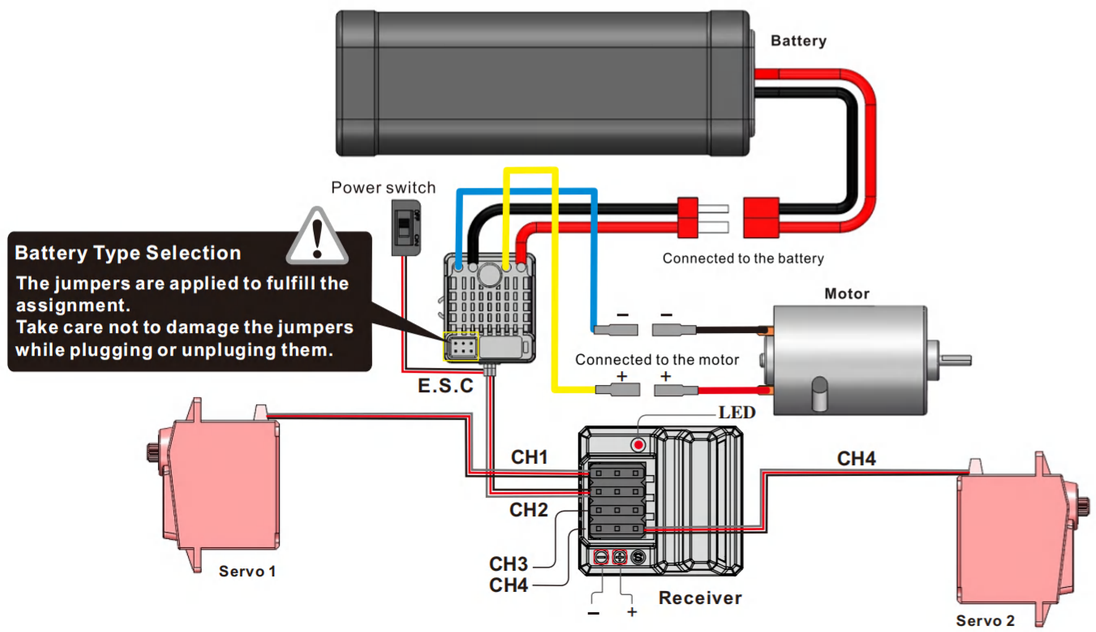
NiMH Battery Instructions

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

Lithium Polymer (LiPo) Battery Warnings

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

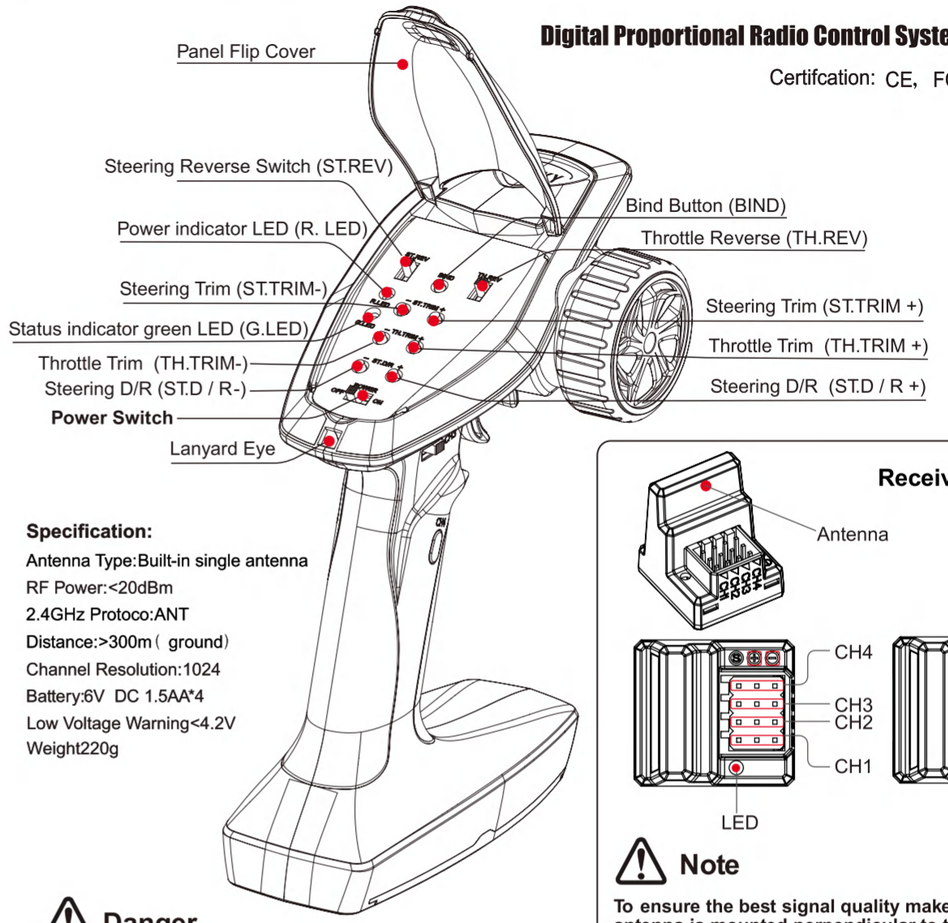
5-3.Scheme of installation



6-1. 2.4GHZ Radio System

Digital Proportional Radio Control System FS-G4P 4WS

Certifcation: CE, FCC ID: N4Z G4P00



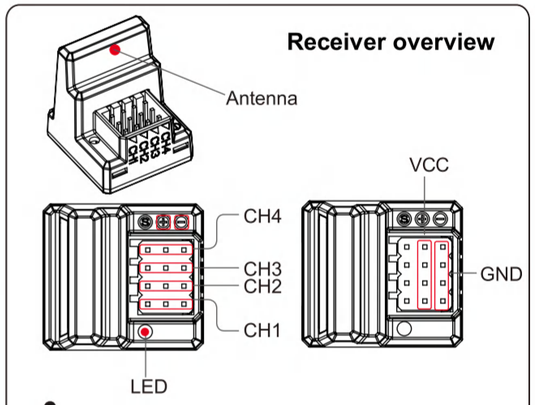
Specification:

Antenna Type:Built-in single antenna
RF Power:<20dBm
2.4GHz Protoco:ANT
Distance:>300m（ ground）
Channel Resolution:1024
Battery:6V DC 1.5AA*4
Low Voltage Warning<4.2V
Weight220g

Danger

Do not open, disassemble, or attempt to repair the battery.

Receiver overview



Note

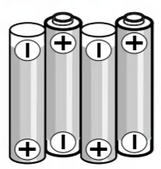
To ensure the best signal quality make sure that the antenna is mounted perpendicular to the model body in an upright position.

6-2. Take out the transmitter and load 4AA size batteries.

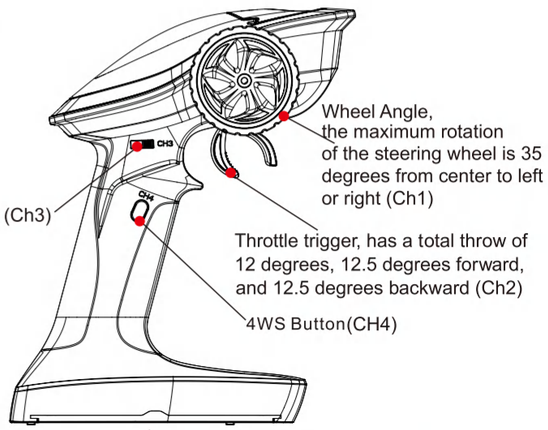
Battery Installation:

1. Open the battery compartment cover.
2. Insert 4 fully-charged AA batteries into the compartment. Make sure that the battery makes good contact with the battery compartment's contacts.
3. Replace battery compartment cover.

Low battery alarm: When the battery is lower than 4.2v, the G.LED on the panel will flash slowly



Batteries: 4 x 1.5 V “AA” (not included)



6-3. FS-G4P 4WS Transmitter Instructions

After setting up, follow the instructions below to operate the system.

Power On

Follow the steps below to turn on the transmitter:

1. Check to make sure that that battery is fully charged and installed correctly.
2. Toggle the switch to the [ON] position. When active the R.LED will be lit.
3. Connect the receiver to power.
4. For safety always power on the transmitter before the receiver.

Note ● Operate with caution in order to avoid damage or injury.

Note ● Makesurethatthethrottleisatitslowestpositionandtheswitchesaresettotheirup position.

Binding

The transmitter and receiver have already been bound at the factory.

However if the receiver needs to be replaced or additional receivers bound follow these steps:

1. Turn on the transmitter while holding the bind button to enter bind mode. G.LED will start flashing quickly.
   - **Once in bind mode release the bind button.**
2. The receiver will enter bind mode atomically when powered on.
3. Once binding is successful the receiver's LED will flash slowly and the transmitter's LED will remain solid after being rebooted.

Note: When binding, put the transmitter into bind mode first, then the receiver.

Beginner Mode

Beginner mode is designed for people new to the hobby. In this mode the throttle will be limited to 50 percent, In this mode the throttle will be limited to 50 percent, The channel range defaults to 1250~1500~1750us.

Setup:

To switch between beginner and normal modes press and hold the channel 4 button as the transmitter is turned on.

Note By default, the system is set to normal mode. The GLED will flash slowly for 3 seconds during power on if the system is set to beginner mode.

Stick Calibration

This function is used to set the neutral position for throttle and wheel. Every transmitter is calibrated before leaving the factory, however if recalibration is required, please follow these steps:

1. Turn and hold the wheel as far clockwise as it will turn, hold the throttle all the way forward, then turn on the transmitter in calibration mode.
   - **The R.LED and G.LED will fash twice.**
2. Calibrate wheel: Turn the wheel completely clockwise, then completely counterclockwise.
   - **When calibration is completed the R.LED will be of.**
3. Trigger calibration: Pull the trigger back then forward as far as it will go.
   - **When calibration is completed the G.LED will be of.**
4. Once calibration is complete press the bind key to save and exit.

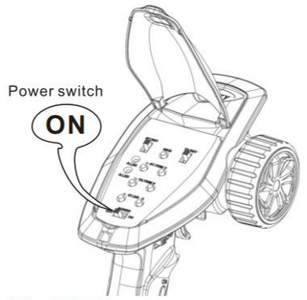
Power Off

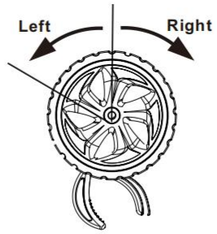
Follow the steps below to turn off the system:

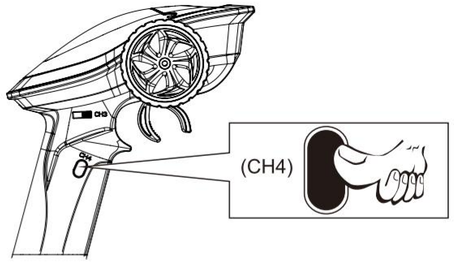
1. Disconnect the receiver power.
2. Toggle the transmitter's power switch to the off position.

Danger Make sure to disconnect the receiver power before turning of the transmitter. Failure to do so may lead to damage or serious injury.

6-4.Instruction of Transmitter 4-wheel Steering Function

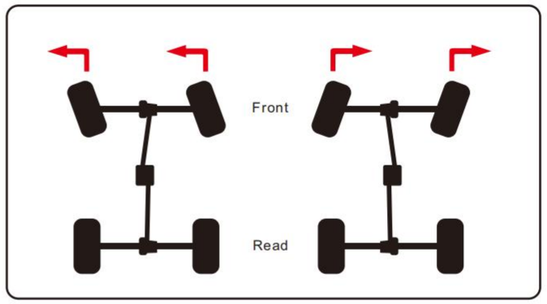




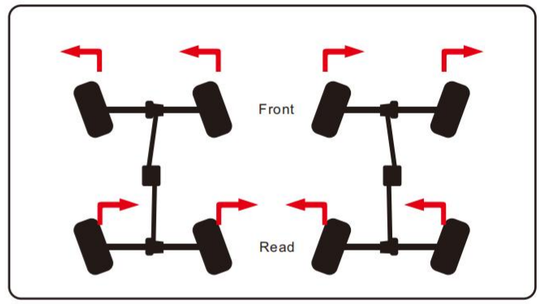


Wheel Angle
the maximum rotation of the Steering wheel is 35 degrees From center to left or right

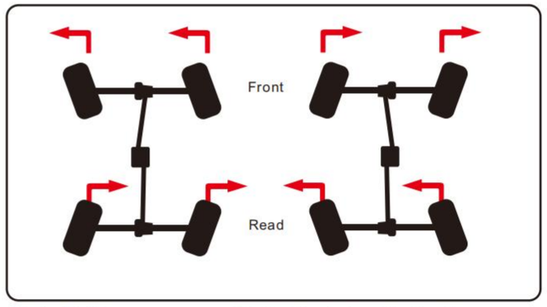
NOTE: 4-wheel steering function 1- 4 could be shifted in cycle.
Please pay attention to the front and rear direction of the car when use.



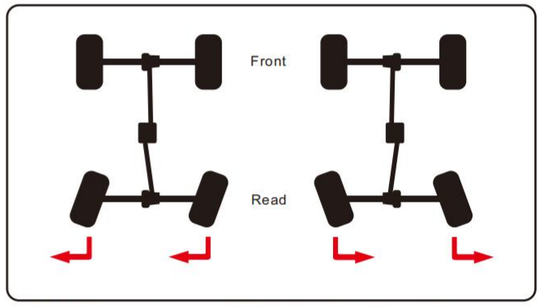
Mode 1: Power on, the original setting is front wheel steering.



Mode 2: Power on, press CH4 button one time, the front and rear wheel will turn in same direction.



Model 3: Power on, press CH4 button twice, the front and rear wheel will turn in different direction.

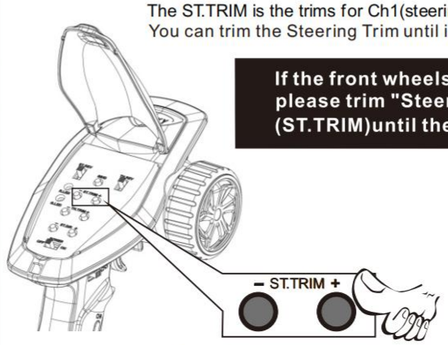


Model 4: Power on, press CH4 button three times, the rear wheels turn. Then press CH4 button once, the front steering recover.

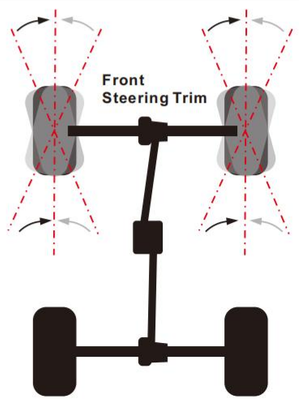
6-5. Transmitter steering trim and throttle trim

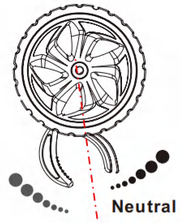
The ST.TRIM is the trims for Ch1(steering),
You can trim the Steering Trim until it fulfills your desired steering angles.

If the front wheels are not aligned, please trim "Steering Trim" (ST.TRIM)until they are aligned.



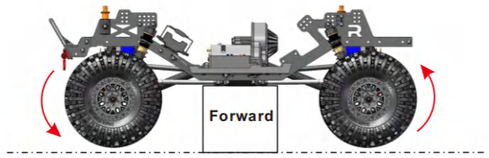
ST.TRIM + : increase adjustment step
ST.TRIM- : Decrease adjustment step

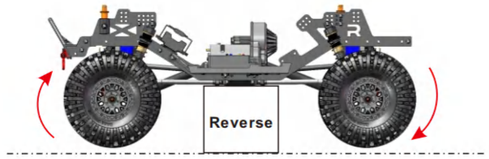


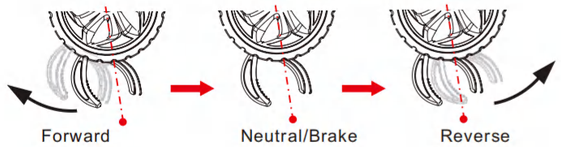


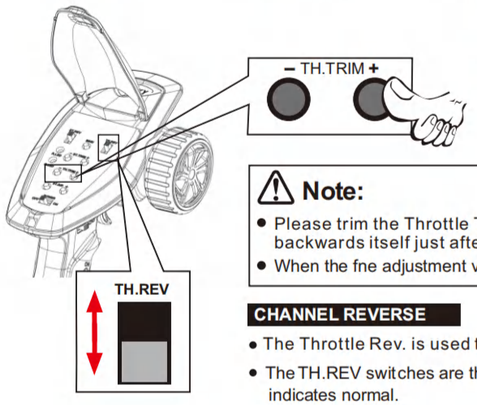
Throttle trigger,
has a total throw of 12 degrees,
12.5 degrees forward,
and 12.5 degrees backward
The heavier you pull or push
the trigger, the faster acceleration
will be.

Note: Release the throttle trigger button, activate the brake mode automatically. (Only for Crawler)





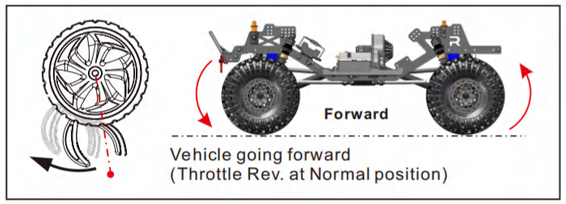




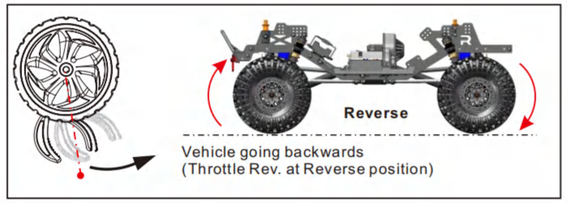
TH.TRIM +: increase adjustment step
TH.TRIM-: Decrease adjustment step
TH.TRIMis the trims for CH2(throttle). Adjustment range: -120us- + 120us, each step is 4us.

⚠ Note:
- Please trim the Throttle Trim (TH. Trim) until the vehicle stops in case the vehicle goes forwards or backwards itself just after it is turned on.
- When the fne adjustment value is at the midpoint,The G.LED will fash twice slowly.

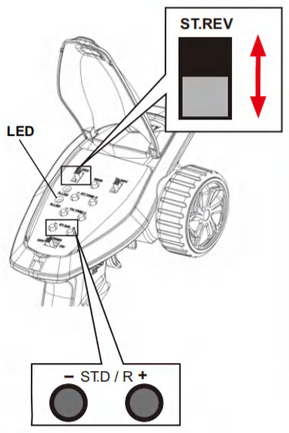
CHANNEL REVERSE
- The Throttle Rev. is used to reverse the direction of motor rotation.
- The TH.REV switches are the reverse buttons for Ch2. If the switch is up it indicates reverse, and the down indicates normal.



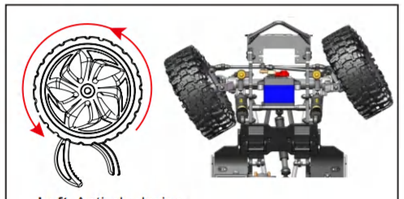
Vehicle going forward
(Throttle Rev. at Normal position)



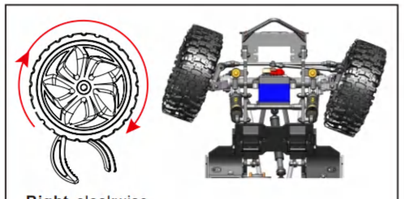
Vehicle going backwards
(Throttle Rev. at Reverse position)



- Steering Trim(ST. Rev) is used to reverse the direciton of servo movement.
- The ST.REV switches are the reverse buttons for Ch1. If the switch is up it indicates reverse, and the down indicates normal.



Left Anti-clockwise
Vehicle turning left when the control wheel is turned to the left (Steering Rev. At Normal position)



Right clockwise
Vehicle turning right when the control wheel is turned to the right (Steering Rev. at Reverse position)

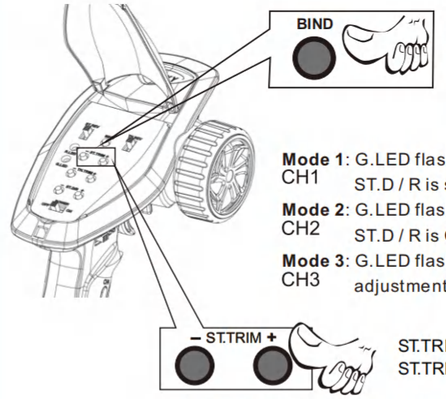
ST.D / R +: increase servo travel.
ST.D / R -: decrease servo travel.

ST. D / R is for servo travel adjustment,which can be multiplexed as CH2 (throttle), CH3, CH4 servo travel adjustment.
Adjustment range: 0-120%(the default is 100%), the step is 5%.

LED Indicator:
- When using the trim keys the G.LED will fash slowly on short presses and quickly on long presses.
- When the ratio value is at both ends (0/120%), the ST. D / R button is at its maximum and as such G.LED will not fash(if the ratio value has been adjusted to 120%, then press ST. D / R + key is invalid and G.LED has Instructions)

Mode switching

This function is for reusing the ST.TRIM and ST.D / R buttons for different channels .



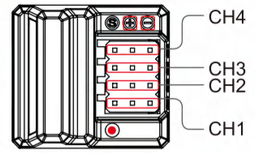
Function setting:
Under normal power-on, quickly press the Bind button twice (within 1 Sec) to cycle through modes 1, 2, 3, and 4.

⚠ Note ● **The default setting when powering on is Mode 1.**

Mode 1: G.LED flashes slowly once, ST.TRIM is CH1 fine adjustment , ST.D / R is ser vo travel adjustment.
CH1

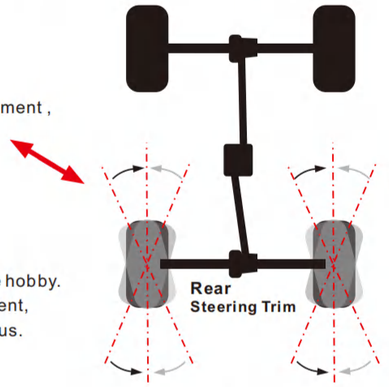
Mode 2: G.LED flashes twice slowly, ST.TRIM is CH1 fine adjustment , ST.D / R is CH2 ser vo travel adjustment.
CH2

Mode 3: G.LED flashes three times slowly, ST.TRIM is CH3 fine adjustment , ST.D / R is CH3 ser vo travel adjustment.
CH3

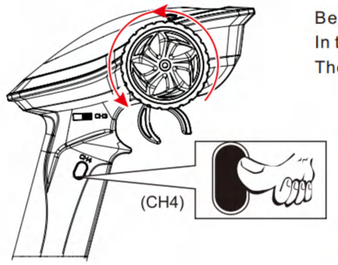


ST.TRIM + : increase adjustment step
ST.TRIM- : Decrease adjustment step

Mode 4: G.LED flashes slowly four times, ST.TRIM is CH4 fine adjustment , ST.D / R is CH4 ser vo travel adjustment.
CH4



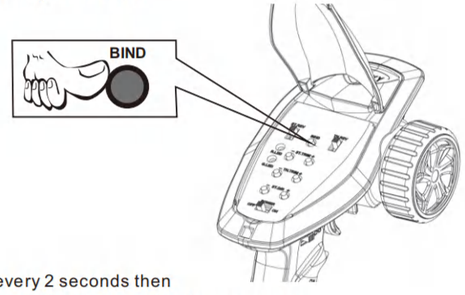
Beginner Mode



Beginner mode is designed for people new to the hobby.
In this mode the throttle will be limited to 50 percent,
The channel range defaults to 1250~1500~1750us.

Setup: To switch between beginner and normal modes press and hold the channel 4 button as the transmitter is turned on.
Note:
By default, the system is set to normal mode. The GLED will flash slowly for 3 seconds during power on if the system is set to beginner mode.

Failsafe



This function dictates what the receiver will do in the event that it loses signal from the transmitter, this includes servo position etc.

Setup:
1. Turn on the transmitter and make sure it is connected to the receiver.
2. Hold the control surface at the desired failsafe position.
3. Press and hold the bind button for 3 seconds, if the G.LED starts flashing every 2 seconds then setup has been successful. Failsafe is now set and will default to these values when the receiver looses signal.

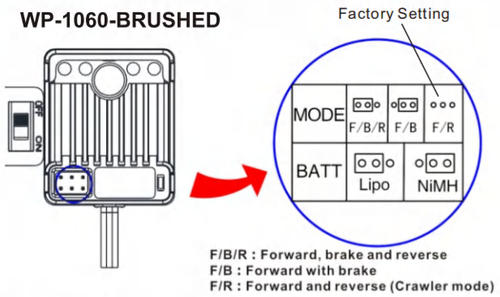
Note: The fail-safe function has no default set at the factory and as such must be set manually. If no failsafe setting has been set, then the receiver will not output anything when signal is lost.

7. All the ways done,your car is ready to run. Hope you enjoy the fun in driving it.

Tip: Always turn off the receiver and then the transmitter when not in use. Clean the car before storage.

Vehicle Maintenance:
1).Please remove the battery pack plug or take it out, when the car is out of use.
2).Before each use, please redo the above steps and check all the parts condition if over wear.
3).Ensure the unused battery pack over-discharge (recommended to be above 40%), and keep in a dry and cool place, out of reach of children.
4).After each use, please carefully check all the parts condition, and repair or replace the worn part. Use a fine brush to sweep the sand, marl and other dirt inside the model, then wipe it cleanly by a soft cloth.

8. User Manual of Water-Proof Brushed Speed Controller



Model		WP-1060-BRUSHED
Cont. / Burst Current		Forward: 60A / 360A Backward: 30A / 180A
Input		2-3S Lipo, 5-9 Cells NiMH
Cars Applicable		1:10 on-road, off-road 1:10 Crawler, Tank &Boat
Motor Limit	2S Lipo or 5-6 cells NiMH	540 or 550 size motor ≥ 8T or RPM <45000 @7.2V
	3S Lipo or 7-9 cells NiMH	540 or 550 size motor ≥13T or RPM <30000 @7.2V
Resistance		Fwd: 0.0008Ohm,Bwd : 0.0016Ohm
Built-in BEC		3A/6V (Switchm ode BEC)
Dimension& Weight		36*30*18, 40g

FEATURES

*. Water-proof and dust-proof for all weather races.
*. Small size with built-in capacitor module.
*. Automatic throttle range calibration, easy to use.
*. Multiple protections: Low voltage cut-off protection for Lipo or NiMH battery / Over-heat protection / Throttle signal loss protection.
*. Easily programmed with the jumpers.

Attention: The incorrect polarity will damage the ESC immediately.If the motor runs in the opposite direction, please swapthese two wire connections.

【PROTECTION FUNCTIONS】

1. Low voltage Cut-off (LVC) protection: If the voltage of battery pack is lower than the threshold for 2 seconds, the ESC will enterthe protection mode.
When the car stops, the red LED blinks to indicate the low voltage cut-off protection has been activated.

Table A:LVC protection for WP-1060-BRUSHED, (F/B/R or F/B mode).

2S Lipo	3S Lipo	4S Lipo	5-9 cells NiMH
Output reduces 50% at 6.5V Output cuts off at 6.0V, cannot be recovered	Output reduces 50% at 9.75V Output cuts off at 9.0V, cannot be recovered	Output reduces 50% at 13V Output cuts off at 12V, cannot be recovered	Output reduces 50% at 4.5V Output cuts off at 4.0V, cannot be recovered

2. Over-heat protection: When the internal temperature of the ESC is higher than 100 Celsius degree or 212 Fahrenheit degree for 5 seconds, the ESC will reduce and cut off the output power.
When the car stops, the red LED blinks to indicate the over-heat protection has been activated.If the ESC cools down to 80 Celsius degree(176 Fahrenheitdegree)the outpu t power is recovered to normalstate.
3. Throttle signal loss protection: The ESC will cut off the output power if the throttle signal has been lost for 0.1second. The Fail Save function of the radio system is strongly recommended to be activated.

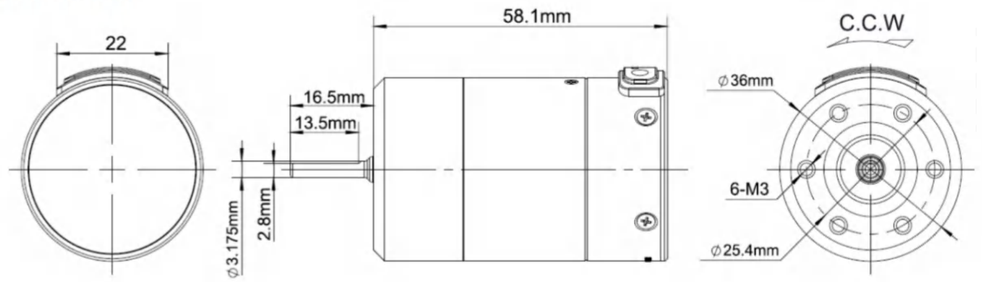
【TROUBLE SHOOTING】

Trouble	Possible Reason	Solution
After power on, motor cant work, no sound is emitted, and LED is off.	The ESC doesnt get its working voltage; Connections between battery pack and ESC are broken.	Check the battery wires connection or replace the defective connectors.
	Switch is damaged.	Replace the switch.
After power on, motor cant work ; red LED blinks.	Throttle signal is abnormal.	Check the thro ttle wire connection; make sure it is plugged into the throttle channel of the receiver.
	Automatic throttle range calibration is failed.	Set the TRIM of throttle channel to 0 or turn the knob to its neutral position.
The car runs backward while giving throttle. (The motor runs in the opposite direction)	The wire connections between ESC and the motor need to be changed.	Swap two wire connections between the ESC and the motor.
The car cant go backward.	The jumper position is wrong.	Check the jumper and plug it to the correct position.
	The neutral point of throttle channel is changed or drifted.	Set the TRIM of throttle channel to 0 or turn the knob to its neutral position.
The car cant go forward, but can go backward.	The direction of throttle channel is not correct.	Reset the direction of throttle channel from original NOR to REV or from original REV to NOR.

Please review the ESC manual for more details.

9. WP Fusion BL SYS for Crawler-540 Spec-RTR

9-1.Specification:



Continuous peak current	40A/160A	Parameter setting	Independent programming interface(switch position)
Main applications	1/10 rock crawler	Motor KV	1200KV , 1800KV
LiPo/NiMH Cells	2-3S Lipo,6-9 Cells NiMH	Diameter/length of Motor	36mm / 58.1mm
BEC output	6V/4A (Switch mode)	Shaft diameter / exposed shaft length	3.175mm / 16.5mm
Motor Poles	4 poles	Size/Weight(entirety)	36mm(diameter)x58.1mm(length) / 204g(including wires)

9-2. Indication for LED of ESC-Troubleshooting

1. Startup phase
1) In the normal state after startup, the red light is always on.
2) The red light flashes continuously and rapidly: No throttle signal is detected by the ESC or the neutral position of the ESC does not match with the radio.
3) The green light flashes N times: The number of Lipo Cells detection, flashes N times indicates there are N Lipo.
2. Driving stage
1) The throttle trigger is in neutral range, and the green light goes out.
2) When forwarding, the green light flashes; when the throttle is at the end position of forward, the green light is always on.
3) When reversing, the green light flashes; when the throttle is at the end position of backward and the max. reverse force is set to 100%, the green light is always on.
3. When relevant protection functions are triggered, the LED status means:
1) The red light flashes continuously(single flashing, "?,?,?"): The ESC enters low-voltage protection status.
2) Green light flashes continuously(single flashing, "?,?,?"): The temperature of ESC is too high, and enters overheat protection status.

9-3. Troubleshooting Solution

Trouble	Possible Reason	Solution
The indicator light is not on after power on and the motor cannot start.	The battery voltage is not input to the esc.	Check the battery and connection.
	The switch of esc is damaged.	Replace the switch.
Power on and finish inspecting the number of Lipo cells(Green light flashed N times), red light flashes quickly.	Throttle signal is not detected by the esc.	Check whether the throttle cable is inserted reversely, whether the channel is wrongly and whether the radio is on.
	The neutral position of esc does not match with the radio.	Set the throttle trim, calibrate the esc(set the throttle range).
The vehicle run reverse when you pull the throttle trigger towards you.	The rotation direction of the frame is different from the mainstream.	Set the motor rotation to another direction via LED program box.
The motor suddenly stops or reduce the power in running.	The receiver is influenced.	Check radio/receiver system, connection, and check the battery voltage of radio.
	The esc enters the low voltage protection.	The red light keeps flashing indicating the LVC protection is activated, please change the fully charged battery.
	The esc enters the overheat protection.	The green light keeps flashing indicating the overheat protection is activated, please let the esc/motor cool down (or reduce the load).
When you do not move the throttle trigger, the motor will run slowly.	The neutral position of esc does not match with the radio.	Calibrate the esc(set the throttle range).
	The neutral throttle signal is unstable.	Change the radio system to have a test.
Unable to complete esc calibration.	The esc does not receive the correct throttle signal.	Check whether the receiver channel is connected incorrectly or reversely,
		Check whether the receiver is damaged, you can connect the throttle cable to the steering channel for test, or change the radio system for test.

10. ESC Setup

1. Set the Throttle Range – ESC Calibration

1: turn on the transmitter/radio first, in the power off state of esc, and then press the power button and hold it continuously, the red light on the ESC's switch will flash, then release the button immediately (If the button is not released within 8 seconds, the ESC will enter other modes), and the motor will beep at the same time.

2: At this time, three points need to be set: the neutral position, the end position of forward and the end position of reverse.

A: The throttle trigger stays at the neutral position, press the button, the green light will flash once, and the motor will beep once at the same time, indicating that the neutral position has been stored;

B: Move the throttle trigger to the end position of forward, press the button, the green light will flash twice, and the motor will beep twice, indicating that the end position of forward has been stored;

C: Push the throttle trigger to the end position of reverse, press the button, the green light will flash three times, and the motor will beep three times, indicating that the end position of reverse has been stored.

3: After calibrating, the system can be operated normally.

2. Instruction for power on/off and Tones

Instruction for power on/off: Short press the switch button to start in off state; long press the switch button to shut down in on state.

Instruction for sound: Start in normal condition (Not setting throttle range), the times of beep emitted by motor indicates the number of Lipo Cells, for example, "Beep, Beep" indicates 2S Lipo; "Beep, Beep, Beep" indicates 3S Lipo.

3. Instruction for programmable items

The column of white words on black background in the following table are the default values of programmable items.

Item	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Cutoff Voltage	Disabled	Low	**Intermediate**	High		
Motor Rotation	**CCW**	CW				
Drag Brake Force	Disabled	Level 1	Level 2	**Level 3**	Level 4	Level 5
Drag Brake Rate	Level 1	Level 2	**Level 3**	Level 4	Level 5	

1> Cutoff Voltage:

This function is mainly to prevent the irrecoverable damage caused by over discharge of Lipo battery. If the voltage protection is turned on, the ESC will monitor the battery voltage all the time during operation. When the voltage is lower than the set threshold value, the power output will reduce to 50% of the normal power, and the power will be completely closed after about 10 seconds. When entering the low-voltage protection, the red LED will blink in the way of " " in single cycle. When set to no protection, the ESC will not cut off power due to low voltage. When using Lipo Cells, it is not recommended to set to (Disabled), otherwise the battery may be damaged due to over discharge. For NiMH batteries, it is recommended to set this parameter to no protection. The low, medium and high options correspond to 3.0v/3.2v/3.4v respectively.

2> Motor Rotation:

The front of the motor shaft faces the user's face (i.e. the tail of the motor is far away from the user's face), when the radio is increasing the throttle in the forward direction, if it is set to CCW, the motor shaft rotates counterclockwise; if it is set to CW, the motor shaft rotates clockwise. Due to the structure difference of car frame, the rotation direction would not correct. If the rotation direction is wrong, change to the reverse direction.

3> Drag Brake Force:

Drag brake means a brake force on the motor when the throttle trigger moves from the non-neutral range to the neutral range. There are 6 levels of drag brake force to adjust, "Disabled" means the drag brake force is 0; the corresponding drag brake force increases from level 1 to level 5. Select the appropriate drag brake force according to the actual situation.

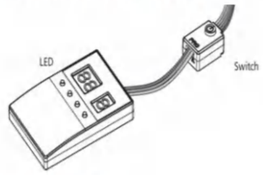
4> Drag Brake Rate:

It means the rate when drag brake force increases from zero to the set value when the throttle trigger enters the neutral range, commonly called as slow brake. This value has 5 levels to adjust. The higher the level is, the greater the drag brake rate is. Reasonably set this value can make the vehicle stop more stably.

4. Parameter setting method

Use LED program box to set ESC

The ESC is in off state, connect the 3pin programming port on the switch of 2 in 1 system with the port marked with on the upper right corner of the LED program box according to the polarity with a separate cable with JR plug at both ends. Then power on the ESC, after a few seconds, the parameter of the ESC can be displayed. The "ITEM" and "VALUE" button on the program box can quickly select the programming items and parameter values, press "OK" key to save the new parameters in ESC.



5. Factory reset

Use LED program box to restore factory settings. The method is as follows:

After connect LED program box and the ESC, press "RESET" key and then press "OK" key to save, the factory settings can be restored.

6. Automatic Motor Pairing(Optional)

If the motor has been subjected to severe impact or has abnormal heating and abnormal power output during operation, need to do the following automatic motor pairing. The operation method is as follows:

Step 1: Pull out the throttle cable from the receiver and remove the motor gear.

Step 2: Connect the battery, long press and start key, the switch of ESC will flash the red light first, and then switch to green light flashing after about 8 seconds, now you can release the button, the motor will automatically rotate, wait for the motor to end the rotation and the red light starts flashing, indicating that the automatic motor pairing is completed.

Step 3: After the automatic motor pairing is completed, the ESC will self-check (report Lipo Cells). Reconnect the throttle cable to runnormally.

Note: Please remove the motor gear before operation, otherwise it may lead to incorrect matching and unknown risk.

11. Indication for LED of ESC

1. Startup phase

1) In the normal state after startup, the red light is always on.

2) The red light flashes continuously and rapidly: No throttle signal is detected by the ESC or the neutral position of the ESC does not match with the radio.

3) The green light flashes N times: The number of Lipo Cells detection, flashes N times indicates there are N Lipo.

2. Driving stage

1) The throttle trigger is in neutral range, and the green light goes out.

2) When forwarding, the green light flashes; when the throttle is at the end position of forward, the green light is always on.

3) When reversing, the green light flashes; when the throttle is at the end position of backward and the max. reverse force is set to100%, the green light is always on.

3. When relevant protection functions are triggered, the LED status means:

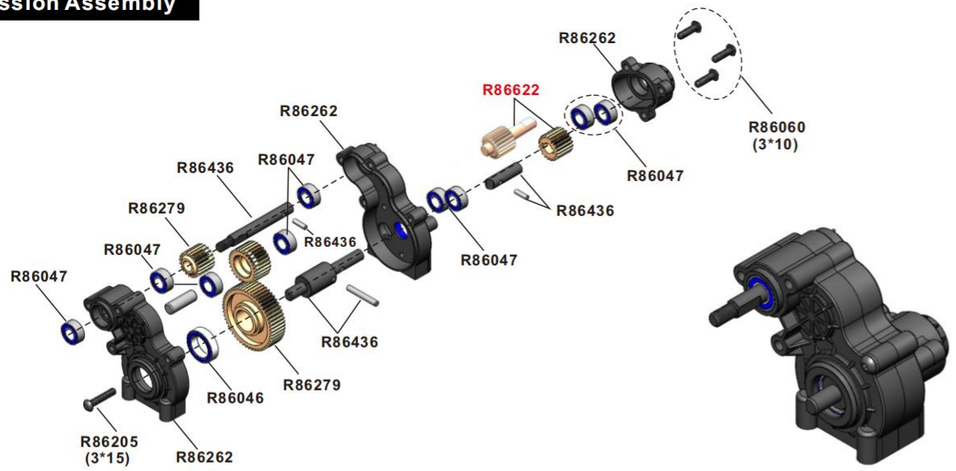
1) The red light flashes continuously(single flashing, " "): The ESC enters low-voltage protection status.

2) Green light flashes continuously(single flashing, " "): The temperature of ESC is too high, and enters overheat protection status.

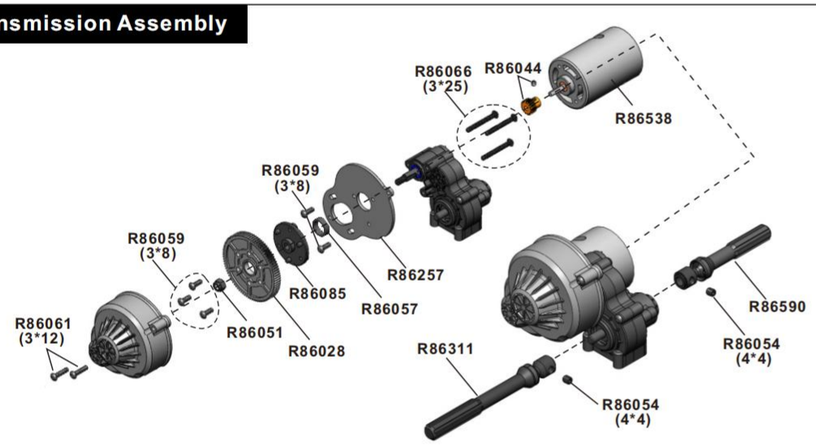
12. Troubleshooting

Problem	Possible Cause	Solution
Car does not respond during operation	Electronic plugs loose or fall off	Switch off and reconnect
	Vehicle battery not charged, activating the ESC low voltage cut-off to protect the battery	Replace/recharge the vehicle battery
	Motor or ESC dirty or damaged	replace new Motor (recommend to purchase facoty Motor)
	ESC failed	replace new ESC (recommend to purchase facoty ESC)
	ESC power off by overheated Motor	Stop operation and cool the ESC or Motor
	Motor overheated, demagnetized or damaged	replace new Motor (recommend to purchase facoty Motor)
	Transmitter batteries low or beyond the remote control distance	Replace the transmitter batteries, adjust the remote control distance
	Transmitter damaged	Relace or contact seller
No Backward, forward normally	ESC "operation mode" setting error	Refer to manual "ESC", set "operation mode" into "forward and backward reverse with brake"
	ESC damaged	Relace or contact seller
	Throttle damaged or transmitter throttle not centered	Refer to manual "Transmitter", and reset
Car operate automatically, with no control	Throttle trim out of center on transmitter	Refer to manual "Transmitter", and reset
	Neutral throttle is in incorrect position	Adjust ESC in neutral point
Normal operation, speed shift failure	Error Operation	Ensure to operate in stop status, more refer to the Manual
	Gear Cable damge or loose	Replace the accessory or Readjust
	Servo wire inserts in wrong Receiver slot	Refer to the manual, Readjust
Sluggish Action	Battery damaged / not charged	Check, change or recharge
	Throttle trim out of center on transmitter	Adjust (refer to manual "transmitter")
	Motor dirty/ damaged	Clean/ replace
	Drivetrain dirty / damaged	Check and clean
Light Function Failure after Battery properly installed	Light Plug is not connected or in wrong postion	Check the plug connection
	Transmitter Set Error or Light Control Panel Damage	Reset the Transmitter. Otherwise, please check the light control panel is damaged or not.
	Light Cable in wrong installation and connection	Readjust the installation and Connection
Lack of streering and throttle	ESC power off by overheat	Stop operation, cool the ESC
	Transmitter too near interfere electronical objects	Check and rebind transmitter and receiver, refer to manual
Vehicle moves left / right without steering input	Steering accessories damaged	Check and replace
	Wheel loose	Check and replace
	Drivetrain dirty / damaged	Check and replace
Controls Reversed	ST. REV or TH. REV	Change switch position, refer to manual
	Check the wires between ESC and Motor correct or not	Switch the motor black and red wire
Clicking noise in operation	Check the bodyshell damaged or fall off	Retrim or replace
	Loose or tight between motor gear and main gear	Reset gear mesh
	Gear damaged or rocked	Remove gear cover and inspect. If necessary, replace gear
Only steering, no forward and backward	ESC failed or abnormal	Reset the neutral point or replace
	Transmitter failed or abnormal	Relace or contact seller

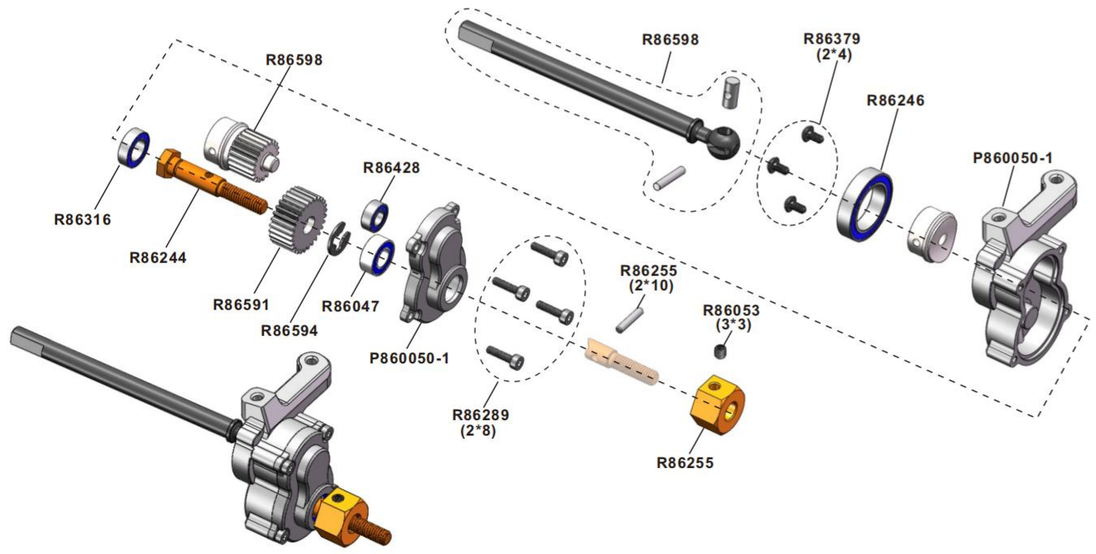
Transmission Assembly



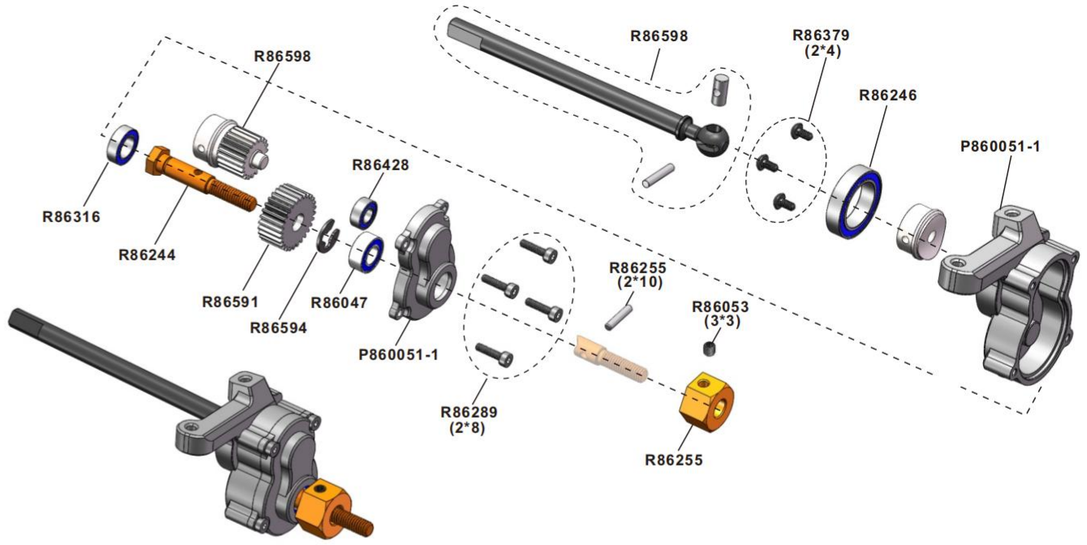
Motor/Transmission Assembly



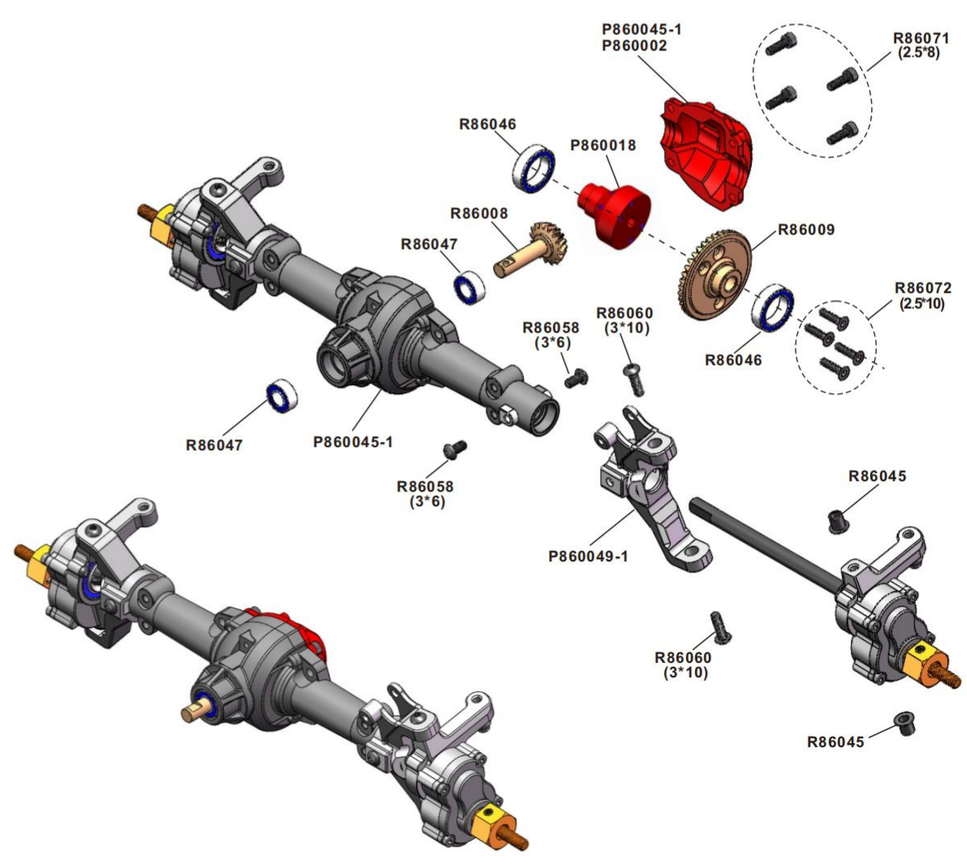
Right Gear Transmission (Front/ Rear)



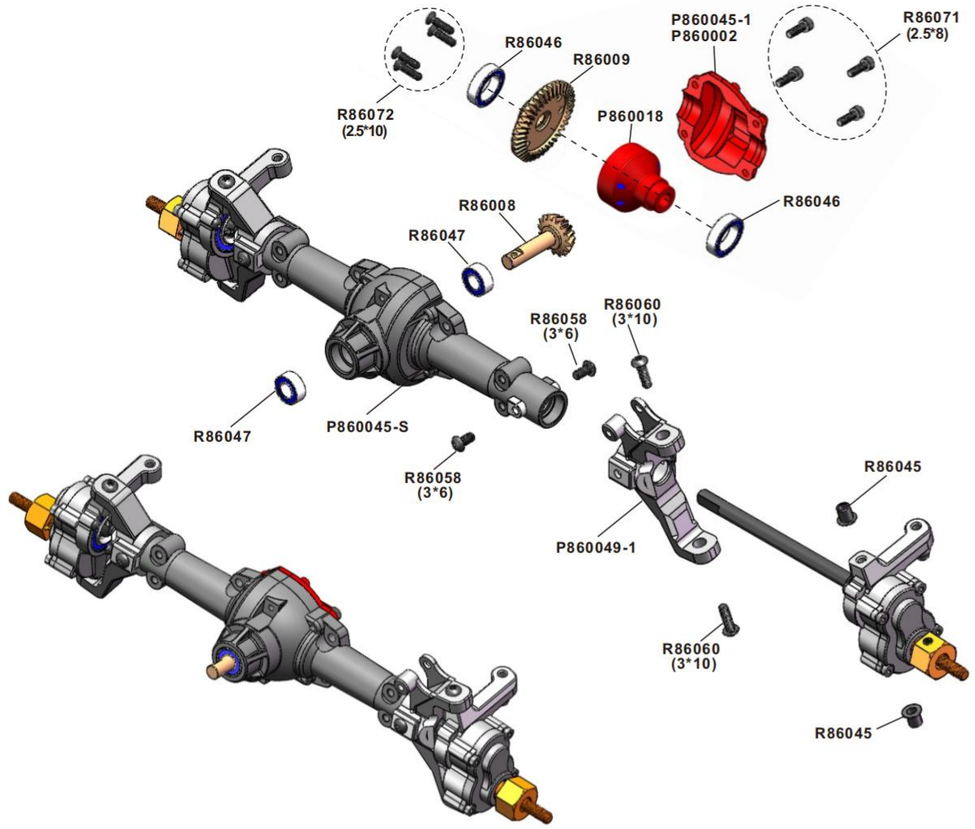
Left Gear Transmission (Front/ Rear)



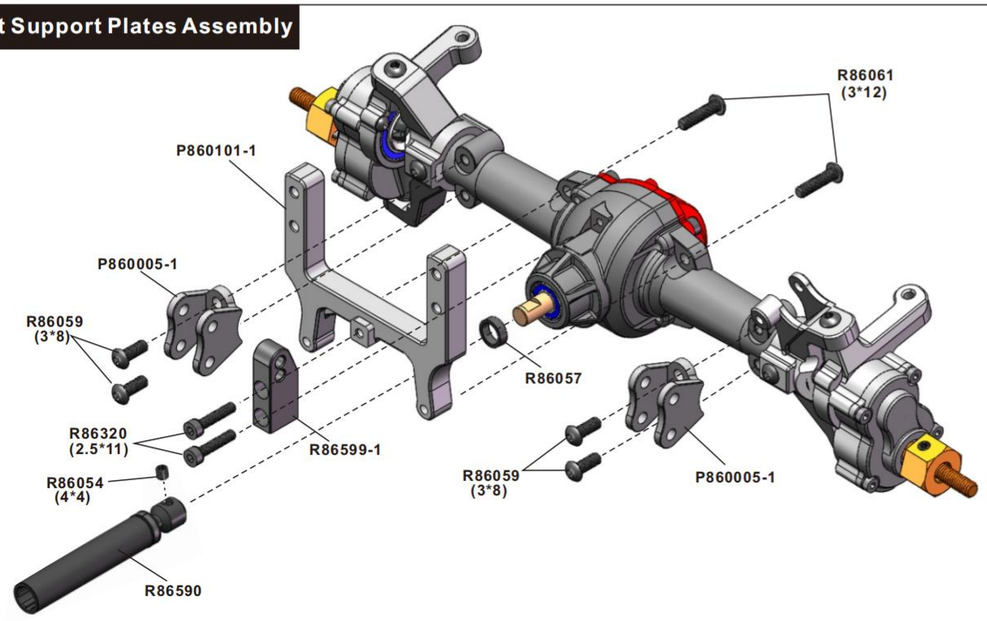
Front Diff. ILLlustration



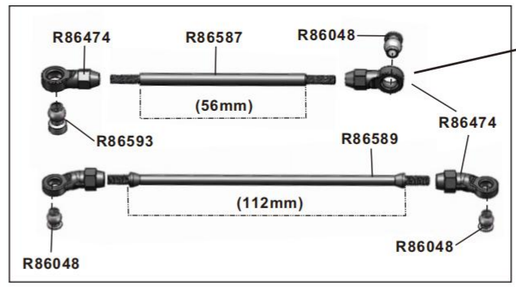
Rear Diff. ILLustration

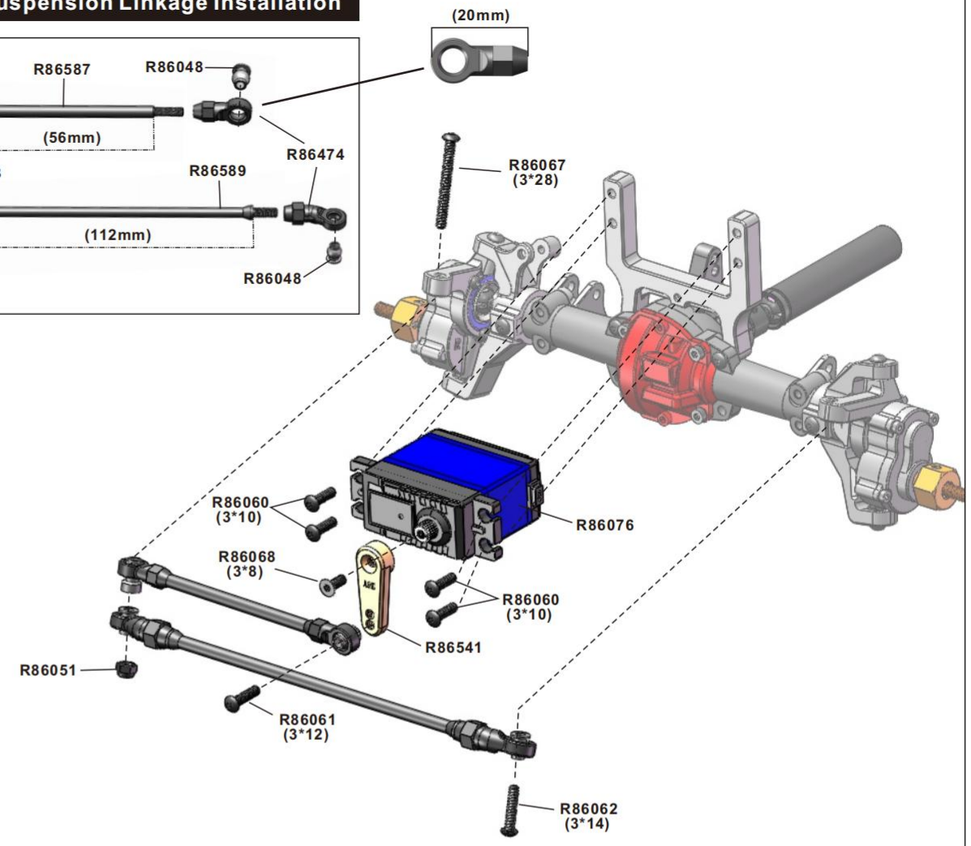


Front Support Plates Assembly

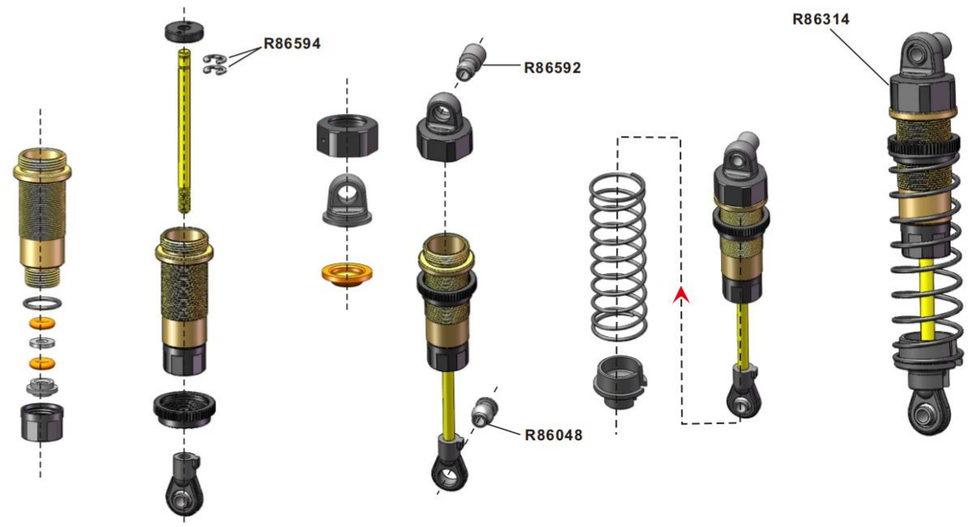


Front/RearSuspension Linkage Installation

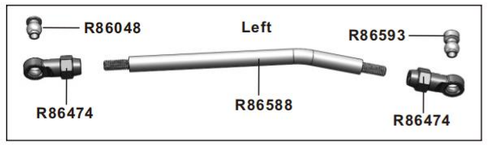


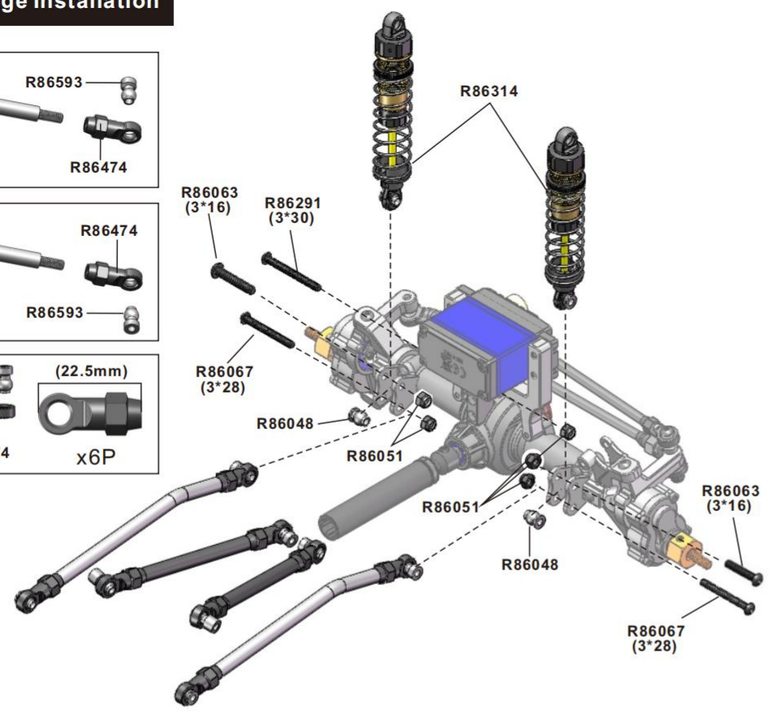


Shock Absorber Assembly

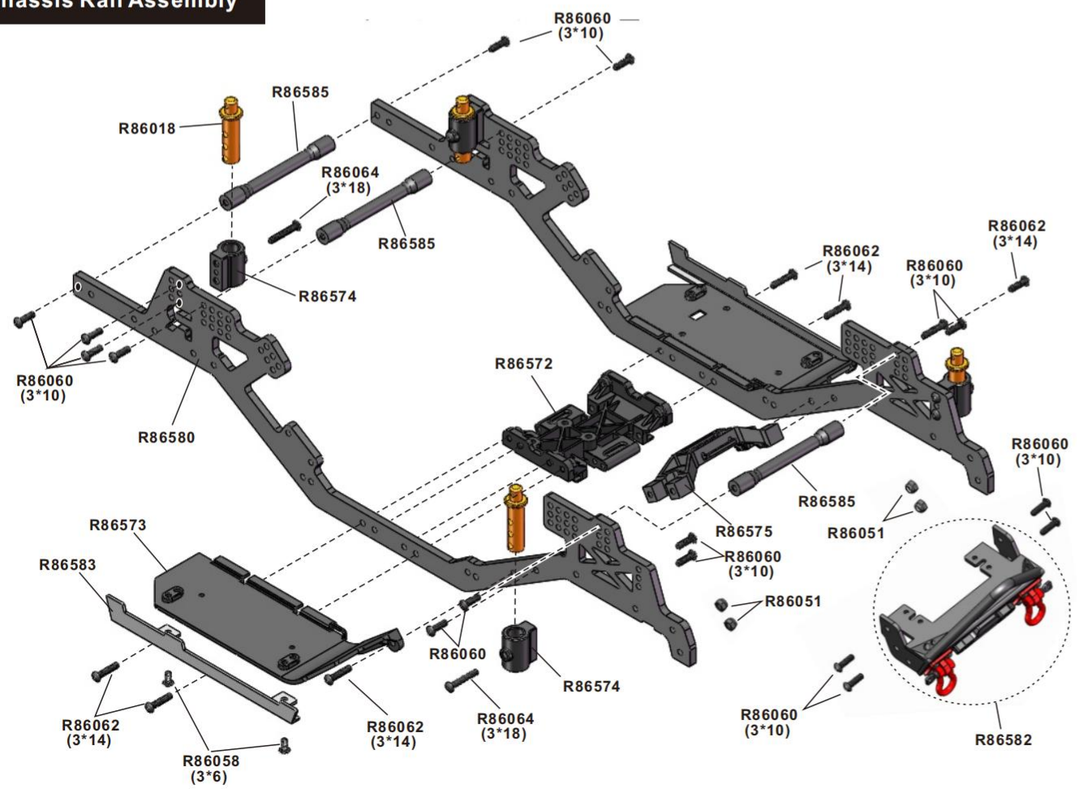


Front/RearSuspension Linkage Installation

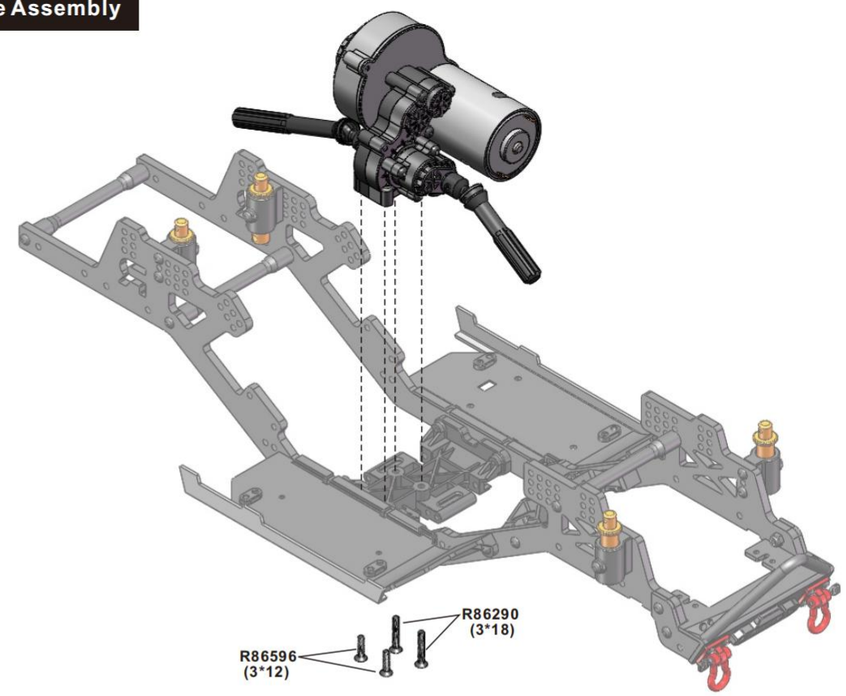




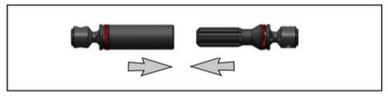
Chassis Rail Assembly



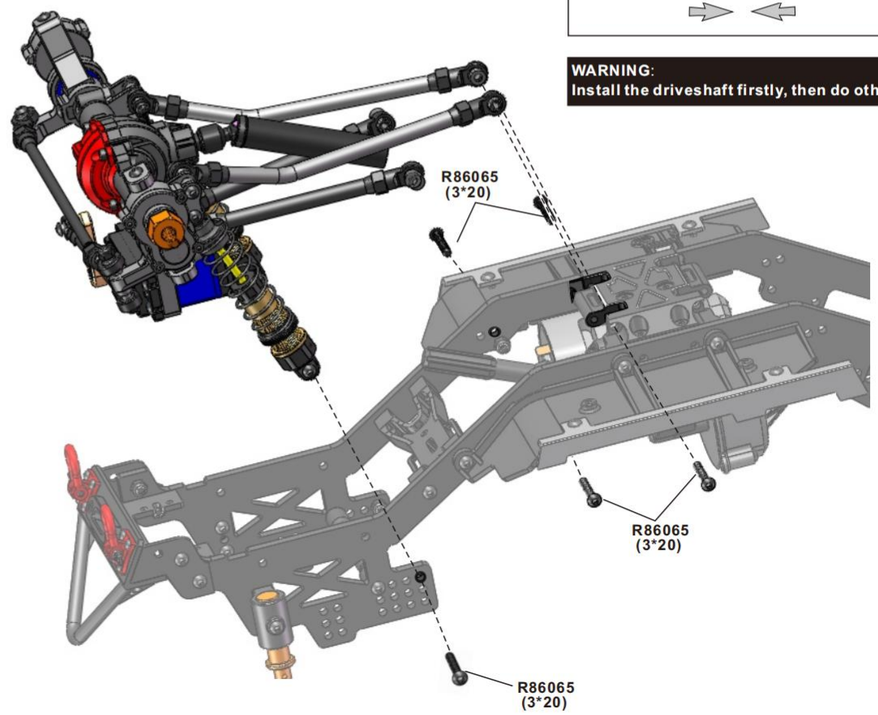
Transfer Case Assembly



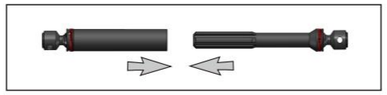
Installing FrontAxle Complete



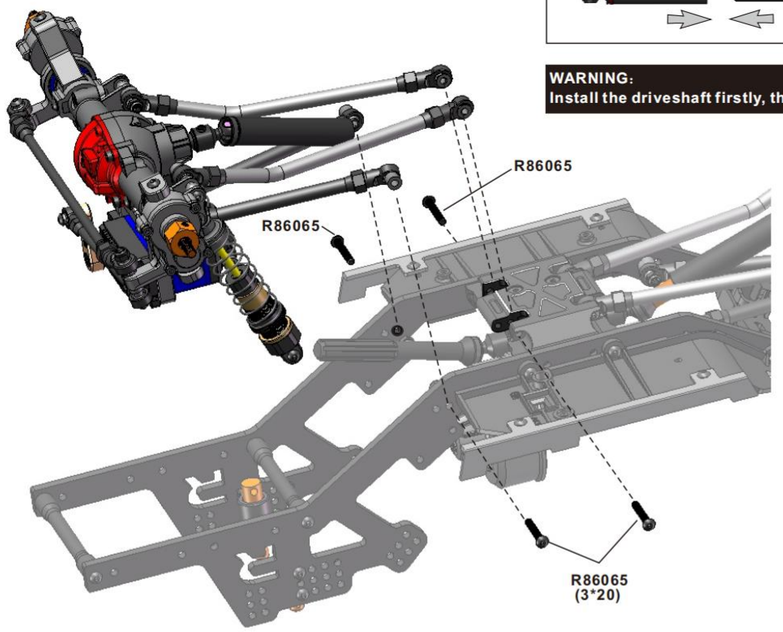
WARNING:
Install the driveshaft firstly, then do other step.



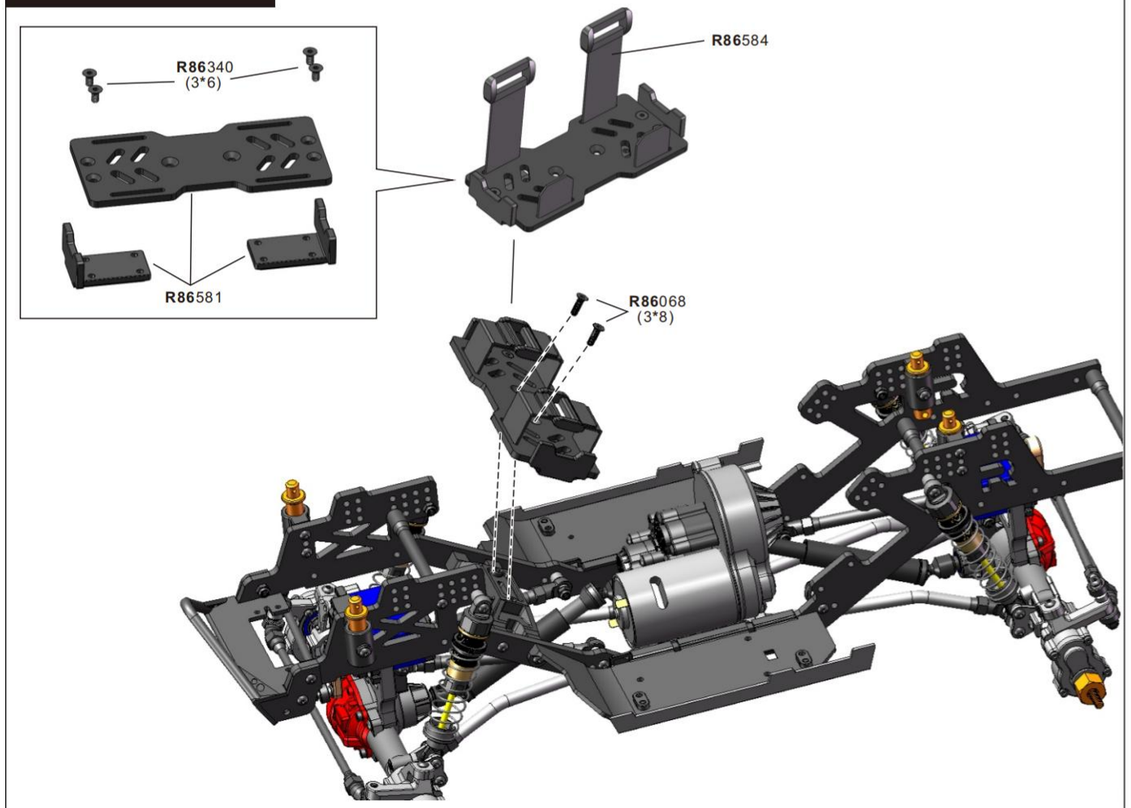
Installing RearAxle Complete



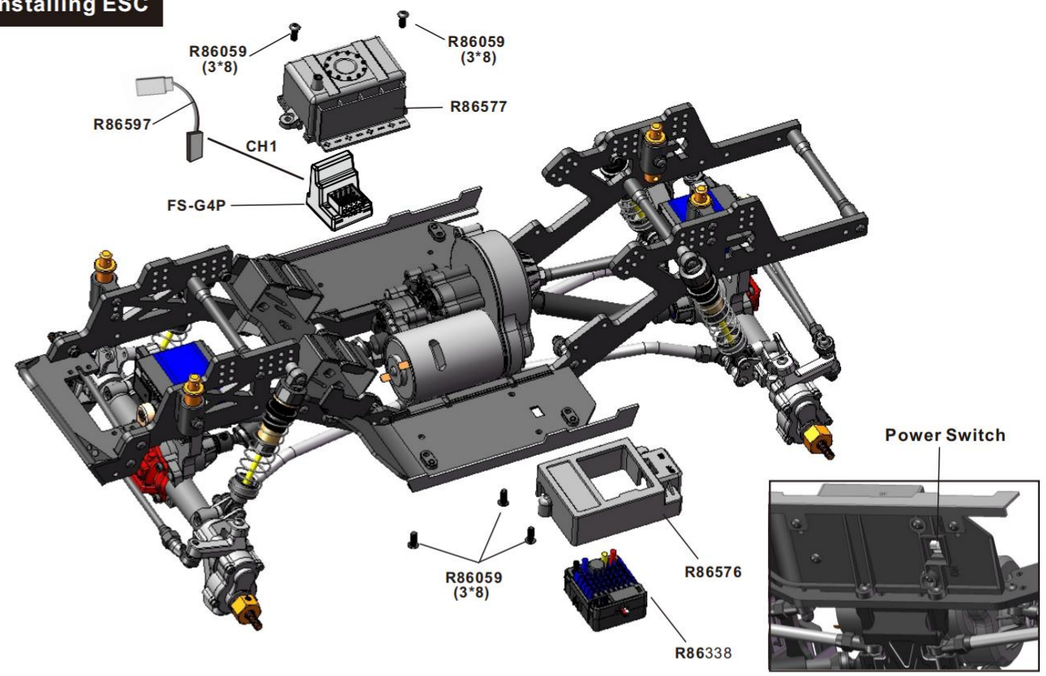
WARNING:
Install the driveshaft firstly, then do other step.



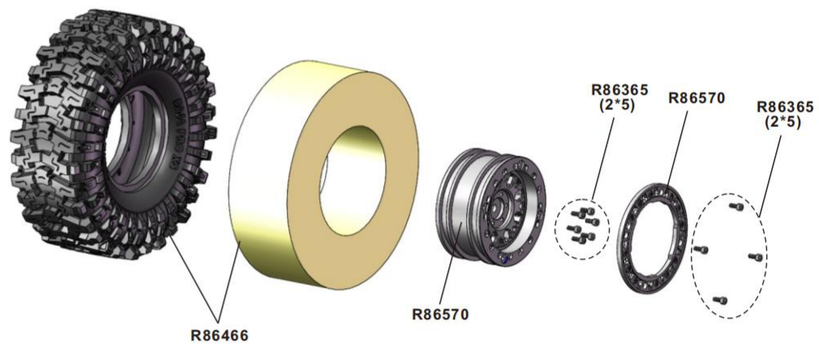
Installing Battery Holder



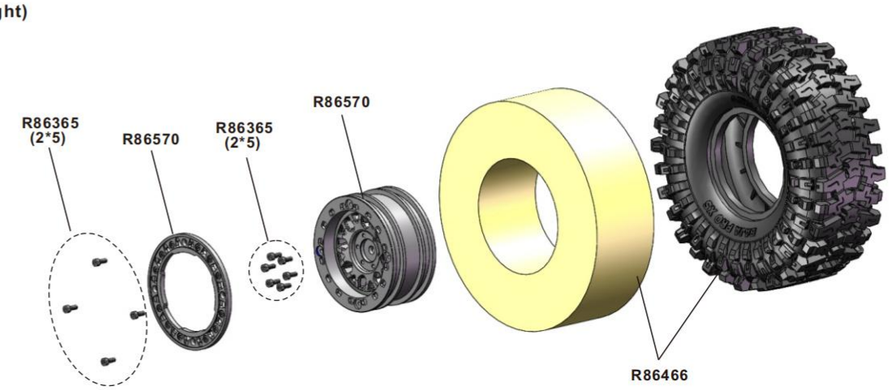
Installing ESC

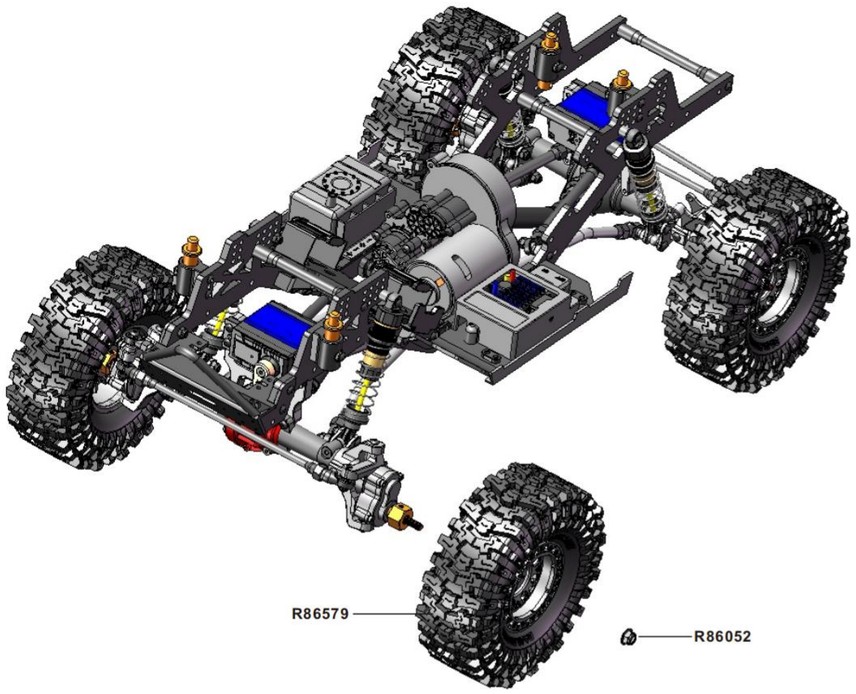


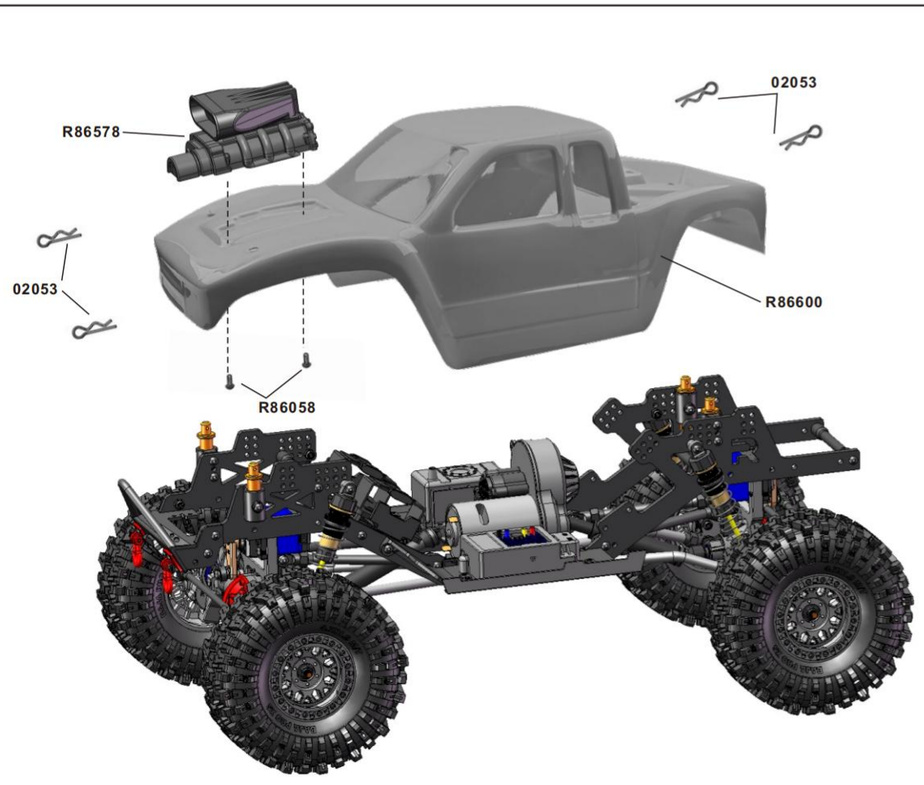
(Left)



(Right)

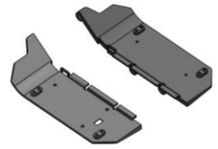




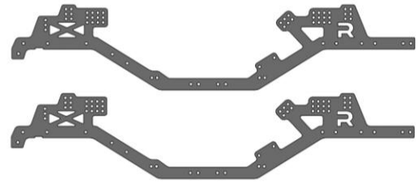


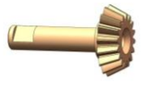
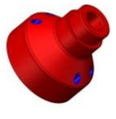
Spare Part

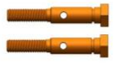
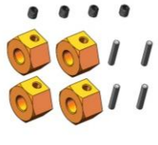
R86018	R86028	R86085	R86262	R86263
				
Body Post F/R	Main Gear set(87T)	Gear Mount	Distribution Housing	Motor Cover

R86572	R86573	R86574	R86575	R86576
				
Chassis Mount	Baffle B(L/R)	Body Post Mount	ECS Cable Connector	ESC Mount

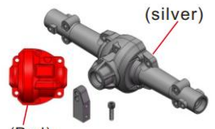
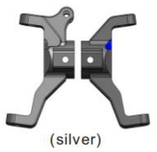
R86577	R86578	R86474	R86581
			
Receiver Box	Engine Cover	Link Ends	Battery Mount

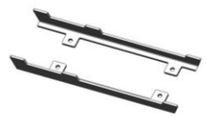
R86570	R86466	R86579	R86580
			
Wheel Rim	Wheel Complete L/R	Tire W/Foam	Chassis Rail

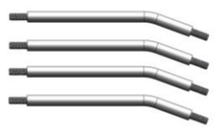
R86008	R86009	P860018	R86591	R86598
				
Drive Gear(16T)	Diff Main Gear(40T)	straight axle mount	Transmission Gear(28T)	CVD Drive shaft

R86244	R86255	R86257	R86279	R86599-1
				
Wheel Hub	Wheel Hex. W/Pins(2*10)	Motor Mount	(20T+20T+20T+28T+53T) Transmission Gear Set	Rear Anti-Angle Holder

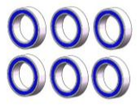
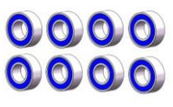
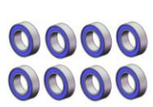
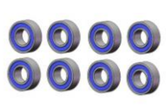
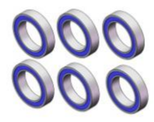
Spare Part

P860005-1	P860045-1	P860049-1	P860050-1	P860051-1
 (silver) Mount for Link(AL.)	 Front /Rear Axle Box(AL.)	 (silver) Caster Mounts (L/R)(AL.)	 (silver) Steering Mount R(AL.)	 (silver) Steering Mount L(AL.)

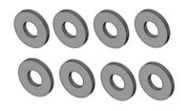
R86311	R86590	P860002	R86582	R86583
 Rear Drive Axle	 Front Drive Axle	 (Red) Axle Box Cover(AL.)	 Front Bumper	 Side Guards

P860101	R86585	R86586	R86587	R86588
 (Silver) Servo Mount(AL.)	 Joint Link	 Upper Link 53.6mm	 Servo link 56mm	 Lower Link

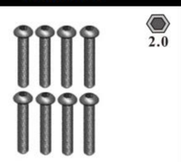
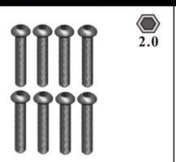
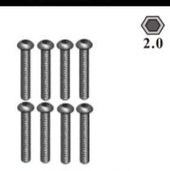
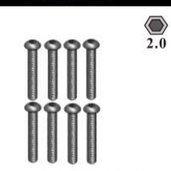
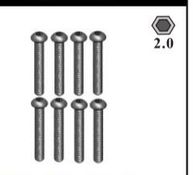
R86589	R86436	R86044	R86622	R86623
 Steering Link 112mm	 Gear Shaft Set	 Pinion Gear(14T)	 (21T+19T) Transmission Gear	(Optionals)  (20T+20T) Transmission Gear

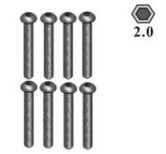
R86046	R86047	R86316	R86428	R86246
 Ball Bearing Ø10*Ø15*4	 Ball Bearing Ø5*Ø10*4	 Ball Bearing Ø6*Ø10*3	 Ball Bearing Ø4*Ø8*3	 Ball Bearing Ø18*Ø12*4

R86045	R86048	R86049	R86592	R86593
 King Pin Bushing	 Ball Stand Ø5.9mm(Short)	 Ball Stand Ø5.9mm (Long)	 Ball Stand Ø5.0mm	 Ball Stand Ø5.9mm

R86051	R86052	R86053	R86054	R86055
 Nylon Nut M3	 Flange M4 Lock Nut	 Crub Screw Bolt 3*3mm	 Crub Screw Bolt 4*4mm	 Ø3*Ø8*0.8 Metal Washer

R86057	R86594	R86058	R86059	R86060
 Gasket(6.8*5*2)	 E-Clips -Ø2.3mm*6P E-Clips -Ø4mm*6P	 Button Head 3*6mm	 Button Head 3*8mm	 Button Head 3*10mm

R86061	R86062	R86063	R86064	R86065
 Button Head 3*12mm	 Button Head 3*14mm	 Button Head 3*16mm	 Button Head 3*18mm	 Button Head 3*20mm

R86066	R86067	R86205	R86291	R86379
 Button Head 3*25mm	 Button Head 3*28mm	 Button Head 3*15mm	 Button Head 3*30mm	 Button Head 2*4mm

R86072	R86340	R86068	R86596	R86290
 Flat Head 2.5*10mm	 Flat Head 3*6mm	 Flat Head 3*8mm	 Flat Head 3*12mm	 Flat Head 3*18mm

R86365	R86289	R86071	R86320	R86076
 Cap Head 2*5mm	 Cap Head 2*8mm	 Cap Head 2.5*8mm	 Cap Head 2.5*11mm	 Steering Servo 15KG

Spare Part

R86541	R86538	R86338	R86597	R86584
				
Servo Horn(25T)	Motor-550/8020	ESC - 60A	Wire Head	Batter Strap(L:250mm)
FS-G4P/4WS	**PC Body+Sticker**	**02053**	**R86314**	**R86787**
	**R86600-0 (Clera)** **R86600-1 (Orange)** **R86600-2 (Gray White)** **R86600-4 (Blue)** 			
Radio/Rexeiver		Body Clip	Shock Absorbers	Fusion Brushless System (1800KV)

Upgradable Optionals

P860065	P860066	P860096	P860097	P860098
			P860097-1(Silvery) 	P860098-1(Silvery) 
(Black) Wheel (AL.)	(Black) Wheel (AL.)	Copper Distribution Housing Weight Set 146g	(Black) Chassis Mount (AL.)	(Black) Distribution Housing(AL.)
P860099	**P860100**			
P860099-1(Silvery) 	P860100-1(Silvery) 			
(Black) Motor Cover(AL.)	(Black) Motor Mount(AL.)			

PRODUCT QUALIFICATION CERTIFICATION

Remote control models are specialized and high-value products. If you identify any quality defects upon receipt, please do not use the product and contact the seller immediately to arrange a replacement or return. Please note that we cannot provide any after-sales guarantee for damages which are caused by improper use.

The product conforms to technical requirements of export safety regulations.

Factory Address: Huang Jiang Town, Dong Guan City, Guang Dong Province, China
Website: www. RGT-RACING. Com

Production Date: refer to packing instruction