

USER MANUAL

1/18 Scale Brushless Crawler

NO.18800



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.

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.



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

14+
YEARS



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

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

! Warnings

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

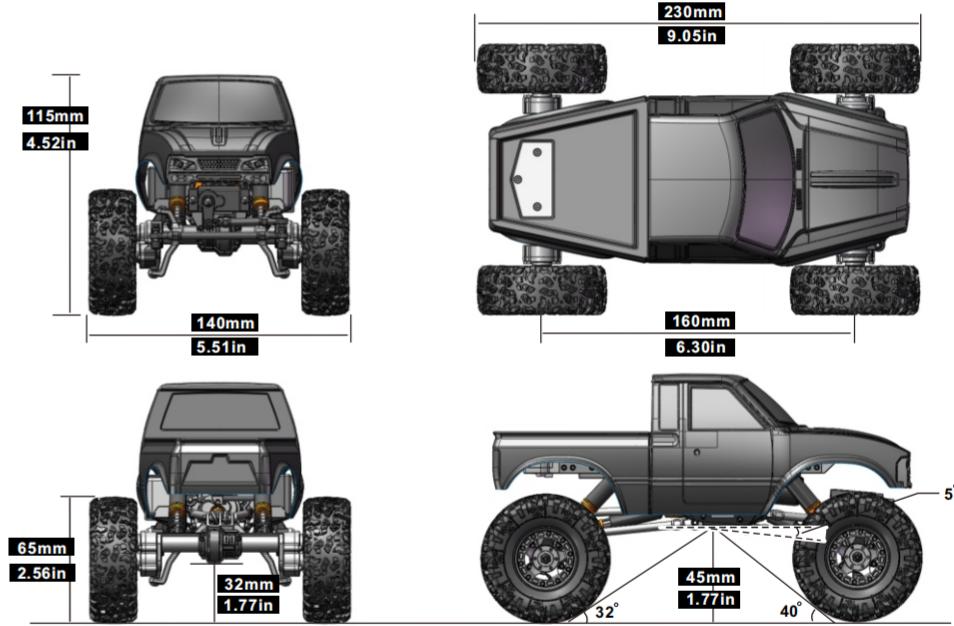
- Never shorten the receiver antenna; or this might affect the transmitting range of the radio system.

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

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).

Specifications



Item No	18800	Wheel	65*25mm	Motor	3500KV
Item Name	RIPPER	Clearance	45mm (chassis) 32mm (steel)	ESC	WP-MINI24 / 20A
Scale	1/18	Weight	456g	Steering Servo	9G/Metal Gear
Description	Crawler	Radio/Rx	2.4G/4CH(FS-MG4)	Gear Ratio/High	20 : 1
Drive Mode	4WD	R/C Distance	<150m>100m	Gear Ratio/Low	69 : 1
Length	230mm	Transmitter Battery	Exclude	Charger Spec	5V/1. 5A(USB)
Width	140mm		AAA/7#	Body Type	PC 1.0
Height	115mm	Battery	Lipo7.4V/550mAh	Body Color	Blue / Red
Wheel Base	160mm	Battery Size	<40*18*25mm(L*W*H)	Gift Box Size	305*155*165(H)mm

Operation Checklist

1. Read and follow all the instructions in the entire manual before operation.

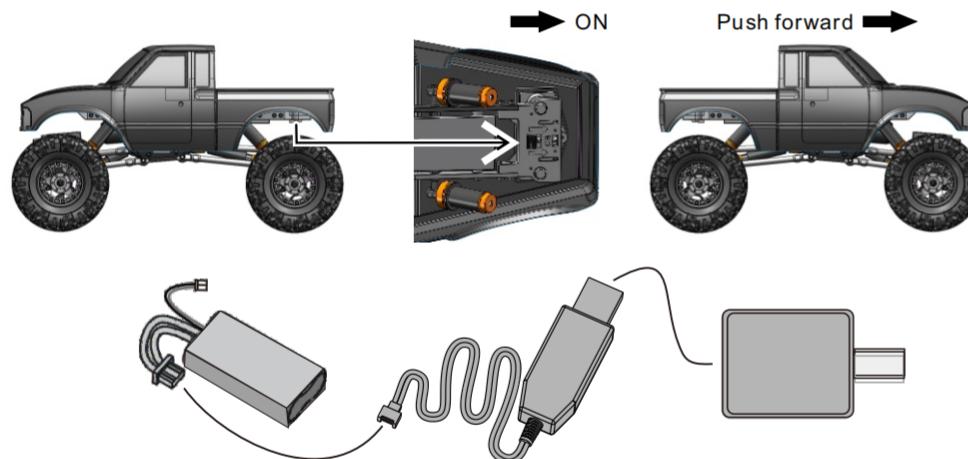
The items inside the box:



2. Charging Steps:

Open the body and take out the battery for charging.

Correct way to open the body: as shown in the diagram.



Charging the Battery

Input: USB 5V 1.5A, Output: 430-580mA/4.2VA

1. Connect the USB charger to a power block.
2. Connect the balance connector of battery to the charger's charge port. Be sure the polarity is correct. Do not force the balance connector into the charge port.
3. The charger will detect the battery status and then start to charge. The indicator LED will turn solid red when charging.
4. When the battery is fully charged (4.2V per cell), the indicator LED will be solid green. Unplug the battery from the charger.
5. Unplug the charger from the power source.

Note: If the indicator LED blinks red, check for a proper connection between the balance leads of the battery and the charger.

Note: If the battery has been discharged too much (cell voltage less than 2.5V/Cell) the charger will not charge the battery and it is considered unstable.

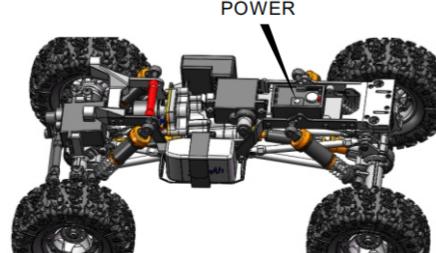
3. Car Power On/Off

As shown in the diagram on the right, press the ESC power button briefly to power on the car. Press and hold the ESC power button for 3 seconds to power off the car.

Tips: When powering on the car, please turn on the transmitter first.

When powering off the car, turn off the ESC power first, then turn off the transmitter.

To better preserve the battery's service life, please unplug the battery connector after powering off.



Checking the steering performance by turning the steering wheel:

Turn Left



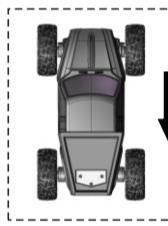
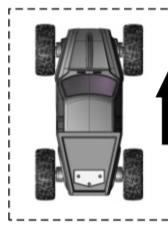
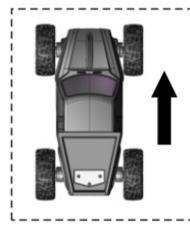
Straight



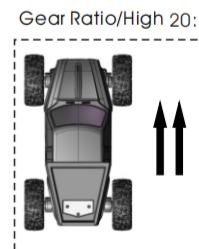
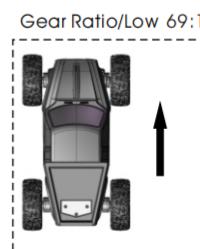
Turn Right



Throttle control:



Shifting the High-Low Transmission:

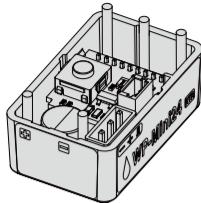


- Press CH4 button, switch to high-speed gear.
- Press CH4 button again, switch to low-speed gear.

Please stop or slow down the vehicle when shifting gear, from low-speed to high-speed or from high-speed to low-speed, in order to make the shift operation more smoother and protect the gear.



ESC(WP-MINI24-RTR) Instructions

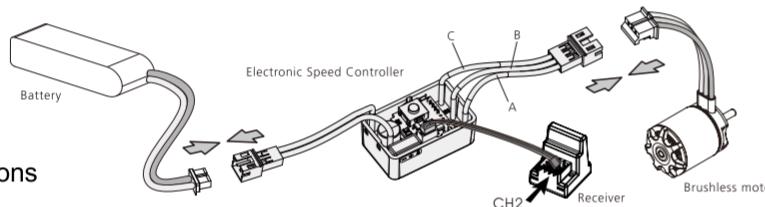


Warnings

Read the manuals of all the items being used in the build. Ensure gearing, setup, and overall install is correct and reasonable. It is important to ensure that all wires soldered are properly secured to avoid short circuits from happening. A good soldering station is recommended to do such a job to avoid overheating the circuit board as well as to ensure connections are properly soldered. Even though the product has relevant protective measures, always use it in a safe manner in accordance with the operating environment noted in the manual (e.g. voltage, current, temperature and etc.). The battery must be disconnected after use. There is a small draw even when the system is off, and will eventually fully drain the battery. This may cause damage to the ESC, and will NOT BE COVERED UNDER WARRANTY.

Specifications

Model	WP MINI24 2S RTR	WP MINI24 3S RTR
Cont Current		20A
Supported types of motors	Sensorless brushless motor	
Applications	1/24 Vehicles, 1/18&1/16 Crawlers	
Applicable motors	Outer 1621, mainstream 1212, 1806 sensorless outrunner motors	
LiPo Cells	2S LiPo	2-3S LiPo
BEC Output	6V/8.4V, Continuous Current of 1.5A	6V/8.4V, Continuous Current of 1.5A
Size/Weight	28.1mm*17.9mm*12mm/10.8g (Included wires&connectors)	
Programming Port	Independent programming port	



Connections

Refer to the wiring instructions and wiring diagram

1. Motor connection

The #A/#B/#C of the ESC can be connected to the three wires of the motor randomly. If the direction of rotation is reversed, you can use a program box to change the parameter item "Motor Rotation".

2. Receiver connection

Connect the ESC throttle cable to the throttle channel on the receiver. Since the throttle cable of esc will have BEC voltage output to the receiver and servo, please do not supply additional power to the receiver, otherwise the esc may be damaged. If additional power is required, disconnect the red wire on the throttle plug from the ESC.

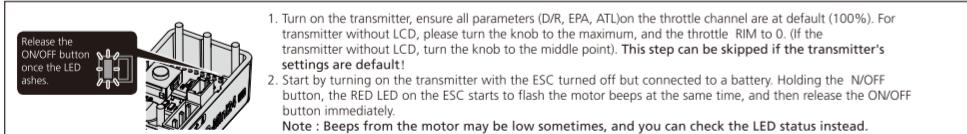
3. Battery connection

Make sure that the (+) pole of the ESC is connected to the (+) pole of the battery and (-) to the (-). If the connection is reversed, the ESC will be damaged and will not be covered by the warranty service.

ESC Setup

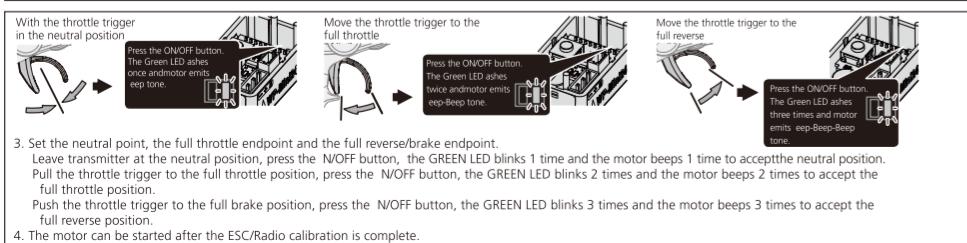
1. Set the Throttle Range-ESC Calibration Process

The calibration must be done on the first use of the ESC, or if a new radio or receiver is installed, otherwise the esc may not work correctly. We strongly recommend to open the fail safe function of the transmitter, set the no signal protection of throttle channel (S5 to close the output or set the protection value to the throttle neutral position. Thus the motor can stop running if the receiver cannot receive the signal of the transmitter. The calibration steps are below.



- Turn on the transmitter, ensure all parameters (D/R, EPA, AT) on the throttle channel are at default (100%). For transmitter without LCD, please turn the knob to the maximum, and the throttle RIM to 0. (If the transmitter without LCD, turn the knob to the middle point). **This step can be skipped if the transmitter's settings are default!**
- Start by turning on the transmitter with the ESC turned off but connected to a battery. Holding the N/OFF button, the RED LED on the ESC starts to flash the motor beeps at the same time, and then release the ON/OFF button immediately.

Note: Beeps from the motor may be low sometimes, and you can check the LED status instead.



- Set the neutral point, the full throttle endpoint and the full reverse/brake endpoint. Leave transmitter at the neutral position, press the N/OFF button, the GREEN LED blinks 1 time and the motor beeps 1 time to accept the neutral position. Pull the throttle trigger to the full throttle position, press the N/OFF button, the GREEN LED blinks 2 times and the motor beeps 2 times to accept the full throttle position. Push the throttle trigger to the full brake position, press the N/OFF button, the GREEN LED blinks 3 times and the motor beeps 3 times to accept the full reverse position.
- The motor can be started after the ESC/Radio calibration is complete.

2. Power on/off and beep instructions

Switch instructions: short press power button to power-on, long press on power button to shut down.

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; eep,Beep,Beep indicates 3S LiPo.

3. Instruction for programmable items

The highlighted options are the default settings of the system.

Item	Option1	Option2	Option3	Option4	Option5	Option6	Option7	Option8	Option9
1. Cutoff Voltage	Disabled	Auto(low)	Auto(medium)	Auto(high)					
2. Motor Rotation	CCW	CW							
3. Drag Brake Force	Disabled	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8
4. Drag Brake Rate	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9
5. BEC Voltage	6.0V	8.4V							

1. Cutoff Voltage:

Low Voltage Cutoff for LiPo Protection. This item is mainly for preventing the LiPo pack from over-discharge. If the low-voltage cutoff protection is enabled, the ESC will monitor the battery voltage all the time and gradually reduce the output to 50% and cut it off about 10 seconds later when the voltage goes below the cutoff threshold. The Red LED will flash a single flash that repeats (☆, ☆, ☆, ...) when the ESC enters the low-voltage cutoff protection. The low, medium and high options correspond to 2.8V/Cell, 3.1V/Cell, 3.4V/Cell. When set to disabled there will be no low voltage protection function, we do not recommend setting it to disabled, especially for LiPo batteries. For NiMH batteries, you can set it to disabled.

2. Motor Rotation:

Used to set the rotation direction of the motor. Due to differences in chassis frame structure, it is possible for the car to reverse when the throttle is applied to forward. In this case, you can solve it by adjusting this item.

3. Drag Brake Force:

It is the braking power produced when the throttle is at the neutral position. (Attention! Drag brake will consume more power and heat will be increased, apply it cautiously). Higher drag brake means stronger hold or hill brakes.

4. Drag Brake Rate:

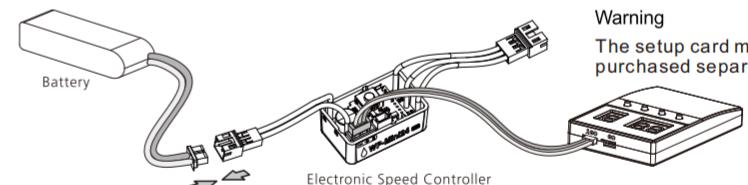
This parameter is used to control the response of the drag brake. The higher the setting value, the faster the drag brake. Setting a reasonable value can make the vehicle stop more steadily.

5. BEC Voltage:

BEC voltage support 6V/8.4V. Generally, 6.0V is suitable for standard servos, while 8.4V is suitable for high-voltage servos. Please set according to the servo specifications. **WARNING!** Do not set the BEC voltage above the maximum operating voltage of the servo and receiver, as this may damage the servo/receiver or even the ESC.

4. Programming method

- The LED program card is used to set the parameters: Connect the interface marked with "-+L" on the esc to the interface marked with "-+L" on the program card using a separate programming cable (a cable with JR plugs at both ends included in the program box packaging), then connect the esc to the battery and turn it on. Using the TEM and ALUE buttons on the program card to quickly select and change the values. Press K to save the parameters.



5. Factory reset

Below are several ways to recover factory parameters:

1. The LED program card:

Once the LED program card is connected to the ESC, press the ESET key and then press K to save to restore the factory settings.

Explanation for LED Status

1. During the Start-up Process

The RED LED turns on solid indicating the ESC doesn't detect any throttle signal or the throttle trigger is at the neutral position. The GREEN LED flashes a number of times indicating the number of LiPo cells you have connected to the ESC.

2. In Operation

RED & GREEN LEDs die out when the throttle trigger is in throttle neutral zone.

The RED LED turns on solid when your vehicle runs forward. The GREEN LED comes on when pulling the throttle trigger to the full (100%) throttle endpoint. The RED LED turns on solid when you reverse, the GREEN LED will also come on when pushing the throttle trigger to the full reverse endpoint and setting the maximum brake force to 100%.

3. When Some Protection is Activated

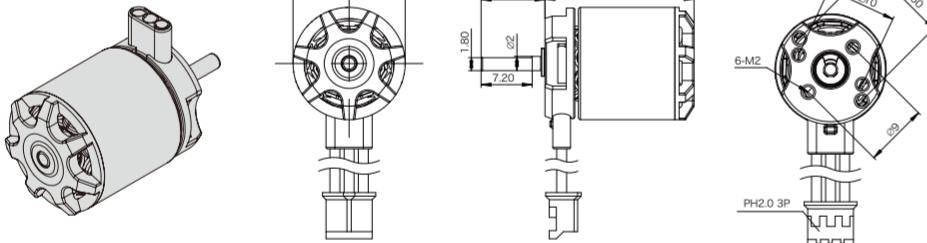
The RED LED flashes a short, single flash and repeats (☆, ☆, ☆) indicating the low voltage cutoff protection is activated. The GREEN LED flashes a short, single flash and repeats (☆, ☆, ☆) indicating the ESC thermal protection is activated.

Trouble Shooting

Trouble(s)	Possible Causes	Solution(s)
The light does not turn on after power-up, the motor does not start.	The battery voltage is not output to the ESC	Check the battery, and whether the connection between battery and esc is good and whether the plug is soldered well;
The motor does not start after power-up, with a beep-beep-beep-warning tone accompanied by a flashing red light (approximately 1 seconds for each set of two-tone intervals).	The battery pack voltage is not within the range of support.	Check the battery voltage or change the battery for test.
After power on, the red light flashes quickly.	1. The throttle signal is not detected by the ESC; 2. The neutral point of the ESC is not calibrated correctly.	1. Check if the throttle wire is plugged into the correct channel. Check if your transmitter is turned on. Check if the receiver ok. 2. Recalibrate the throttle travel.
The car is going in the reversed direction when the forward throttle is applied.	The default rotation direction setting of motor and carframe is unmatched.	Set the parameter item Motor Rotation to the opposite direction via LED program box.
The motor suddenly stopped or significantly reduced the output in running.	1. Possible interference; 2. The ESC enters into low-voltage protection state; 3. The ESC enters into overheat protection state.	1. Check the cause of the interference in the receiver and check the battery level of the transmitter; 2. Replace the battery. If the red light keeps flashing; 3. The green light continues to flash for temperature protection, please continue to use after the ESC or motor temperature is reduced (it is recommended to reduce the load on the vehicle).
The motor stuttered and unable to start.	Poor connection between motor and esc.	Check the connector and the solder points between motor and esc.
The car ran forward/backward slowly when the throttle trigger was at the neutral position.	1. The neutral position on the transmitter was not stable, so signals were not stable either. 2. The ESC calibration was not proper.	1. Replace your transmitter 2. Re-calibrate the throttle range or fine tune the neutral position on the transmitter.
LED displays three end horizontal lines all the time when connecting LED program card.	The program box is connected incorrectly to the ESC.	Please use the correct interface to connect to the programming box. This ESC has a dedicated programming port to connect to.
The throttle travel setting could not be completed.	The ESC did not receive the correct throttle signal.	1. Check whether the throttle cable is correctly connected to the receiver. 2. If the servo works normally, you can connect the throttle cable of esc to the steering channel to have a test, or change the transmitter/receiver system for test directly.

Sensorless Brushless Motor (Quicrun Outer 1621)

Specifications



Model	KV	Lipo Cells	No-load Current	Max. Output Power (W)	Current @Max. Output Power(A)	Diameter/Length	Shaft Diameter/Length	Poles	Weight
QUICRUN Outer 1621SL	3500KV	2-3S	0.6	39.1	9.52	Φ=15.8mm(0.62") L=21mm(0.83")	2.0mm/9mm	12	16.7g

Read the manuals of all the items being used in the build. Ensure gearing, setup, and overall install is correct and reasonable. All connections must be made correctly. You may lose control, or run into major issues caused by incorrect, bad, weak, or poor connections. Never apply full throttle if the pinion is not installed. Due to the extremely high RPMs without load, the motor may get damaged. Stop usage if the motor exceeds 100°C /212°F, high temperature will damage the motor and cause the rotor to weaken.



Installation & Connection

1. Installation of the motor

There are 6 motor mounting holes in M2 specification, and the mounting holes are 1.8mm in depth, before installing the motor on the vehicle, please carefully confirm whether the specifications of the screws are appropriate, as not to damage the motor due to excessive length. There are three types of mounting hole spacing of the motor, one group is 9mm, one group is 10mm, and one group is 12.5mm. Refer to the motor outline drawing for details.

2. How to Connect the Motor to an ESC

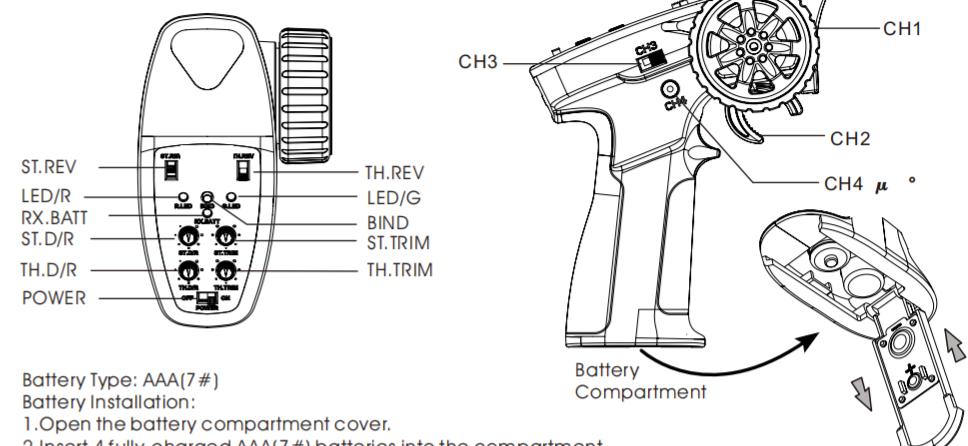
There is no specific wire sequence requirement for the connection between the motor and the esc, the # A/# B/# C three wires of the motor and esc can be connected at will, if the motor rotation in the opposite direction, you can exchange any two wires, or set the "Motor Rotation" parameter of the esc..

3. Inspection

Before powering on the esc, please check the motor installation and the order of all connections.

FS-MG4-BS 2.4GHZ Radio System

Transmitter Overview



Battery Type: AAA(7#)

Battery Installation:

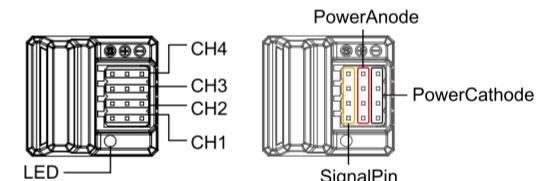
1. Open the battery compartment cover.
2. Insert 4 fully-charged AAA(7#) batteries into the compartment. Then make sure that the battery makes good contact with the battery compartment's contacts.
3. Replace battery compartment cover.

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

Note: When installing the batteries, be careful to handle the positive and negative poles.

Receiver Overview

- ProductName:FS-R4P-BS
- NumberofPWMChannels:4
- RF:2.4GHzISM
- 2.4GProtocol:2A-BS
- Antenna:Singlebuilt-inantenna
- Distance:>150m(Grounddistancewithoutinterference)
- InputPower:3.5~8.4V/DC
- WorkingCurrent: < 30mA/5V
- DataOutput:PWM



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 power on and wait for 1 second, if without connection, it will enter the matching code automatically;
3. Once binding is successful the receiver's LED will keep on.

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

Channel Reverse

This function is used to adjust the action direction of the servo or motor.

The ST.REV/TH.REV switches are the reverse buttons for CH1 and CH2. If the switch is up it indicates reverse, and the down indicates normal.

Trims

The ST.TRIM is the trims for CH1 (steering), and can be multiplexed as trims of CH3, the TH.TRIM is the trims for CH2 (throttle), and can be multiplexed as trims of CH4; For multiplexing switching mode, see [5.5 Mode Switching]. Adjustment range: -120us ~ +120us;

ST.TRIM/TH.TRIM: Counterclockwise adjustment to increase the trim value. The maximum value is 120 us.

ST.TRIM/TH.TRIM: Clockwise adjustment to decrease the trim value. The minimum value is -120 us.

ST. D/R

The ST.D/R is the trims for CH1 (steering), and can be multiplexed as trims of CH3;

The TH.D/R is the trims for CH2 (throttle), and can be multiplexed as Trims of CH4;

For multiplexing switching mode, refer to [5.5 Mode Switching].

Adjustment range: 0-120%;

ST.D/R: Counterclockwise adjustment to increase the servo amount. The maximum value is 120%.

ST.D/R: Clockwise adjustment to decrease the servo amount. The minimum value is 0%.

TH.D/R: Counterclockwise adjustment to increase the servo amount. The maximum value is 120%.

TH.D/R: Clockwise adjustment to decrease the servo amount. The minimum value is 0%.

Mode Switching

This function is for reusing the ST.TRIM and ST.D/R buttons for different channels (Refer to [5.3 Trims] and [5.4 D/R]).

Function settings:

Under normal power-on condition, press the BIND button twice (within 1S) to switch between mode 1 and mode 2. By default, mode 1 is used.

Mode 1: R.LED is solid on. G.LED is off. ST.TRIM is for CH1 trim. ST.D/R is for the D/R adjustment of CH1. TH.TRIM is for CH2 throttle trim. TH.D/R is for the D/R adjustment of CH2.

Mode 2: R.LED and G.LED are flashing alternately. ST.TRIM is for CH3 trim. ST.D/R is for the D/R adjustment of CH3.

TH.TRIM is for CH4 trim. TH.D/R is for the D/R adjustment of CH4

Vehicle Maintenance:

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

- 1) Inspect your car and make sure there is no obvious damage and breakage.
- 2) Check gears for wear, debris or broken/slipping teeth.
- 3) Check for loose screws in the chassis. And make sure the wheels are firmly before use.
- 4) Check for the wires for frayed or damaged wires or connectors.
- 5) Check the steering servo which will wear out over time and require replacement.
- 6) Check all batteries. Disconnect and remove the batteries when not in use. Batteries should be stored in a clean and dry place, which should NOT be exposed to direct sunlight.
- 7) Keep the chassis clean and free of sand, dust and moisture.
- 8) Remove and clean the motor if necessary. (Never attempt to re-assemble the motor.)
- 9) Clean the car body with a soft lint-free cloth. Regular check gear mesh, clean and oil the gears if necessary.
- 10) Remove all batteries when not in use.
- 11) Store the vehicle in a clean and dry place out of children's reach. Storage should not expose the vehicle to any source of heat and water.

Check if either the charger or the batteries are damaged, or batteries are over-discharged.

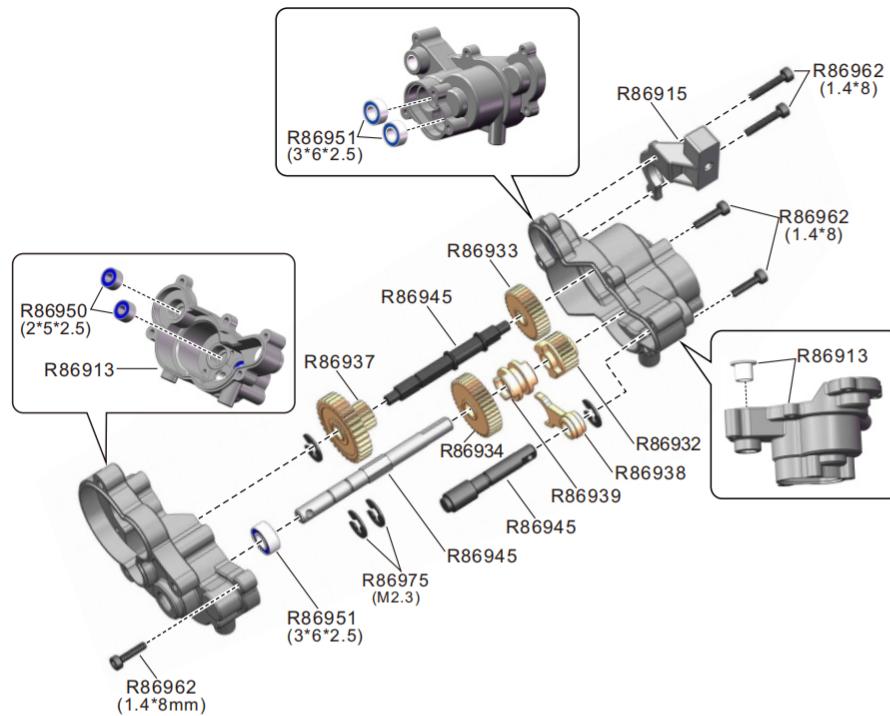
Not able to charge the batteries:

If you do not use it for any extended period of time (e.g. for storing), disconnect and take out the battery pack from the vehicle. This will prevent damage from leaking rechargeable battery pack. To prolong battery life, do not permit the vehicle to be used to a standstill resulting in the battery being completely over-discharged. Always stop use when slow running speed is observed. Fully charge the battery pack before use and storing.

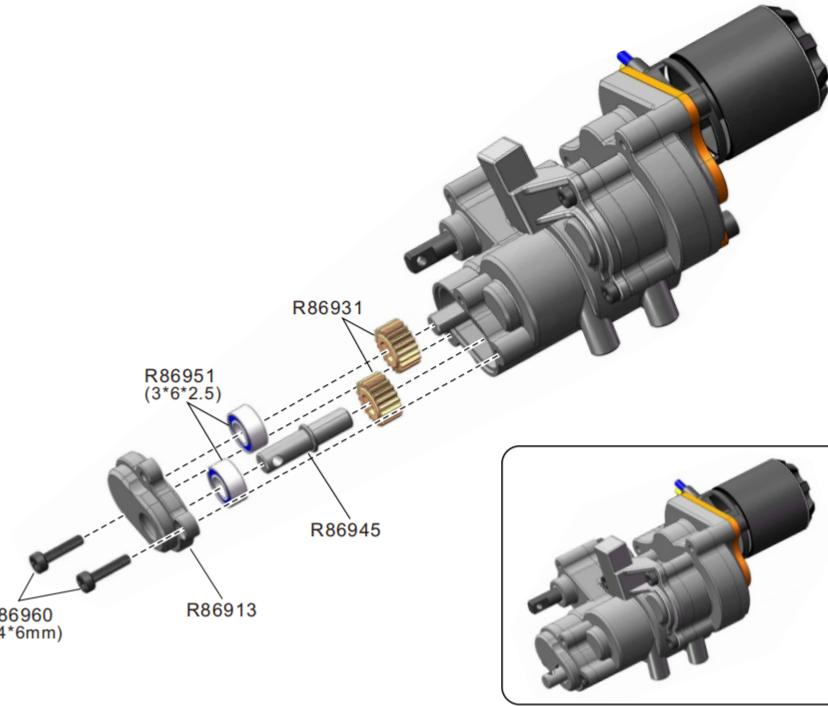
Troubleshooting

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
No Backward, forward normally	Transmitter damaged	Relace or contact seller
	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
Car operate automatically, with no control	Throttle damaged or transmitter throttle not centered	Refer to manual "Transmitter", and reset
	Throttle trim out of center on transmitter	Refer to manual "Transmitter", and reset
Normal operation, speed shift failure	Neutral throttle is in incorrect position	Adjust ESC in neutral point
	Error Operation	Ensure to operate in stop status, more refer to the Manual
	Gear Cable damage or loose	Replace the accessory or Readjust
Sluggish Action	Servo wire inserts in wrong Receiver slot	Refer to the manual, Readjust
	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
Light Function Failure after Battery properly installed	Drivetrain dirty / damaged	Check and clean
	Light Plug is not connected or in wrong position	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.
Lack of steering and throttle	Light Cable in wrong installation and connection	Readjust the installation and Connection
	ESC power off by overheat	Stop operation, cool the ESC
Vehicle moves left/ right without steering input	Transmitter too near interfere electronical objects	Check and rebind transmitter and receiver, refer to manual
	Steering accessories damaged	Check and replace
	Wheel loose	Check and replace
Controls Reversed	Drivetrain dirty / damaged	Check and replace
	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

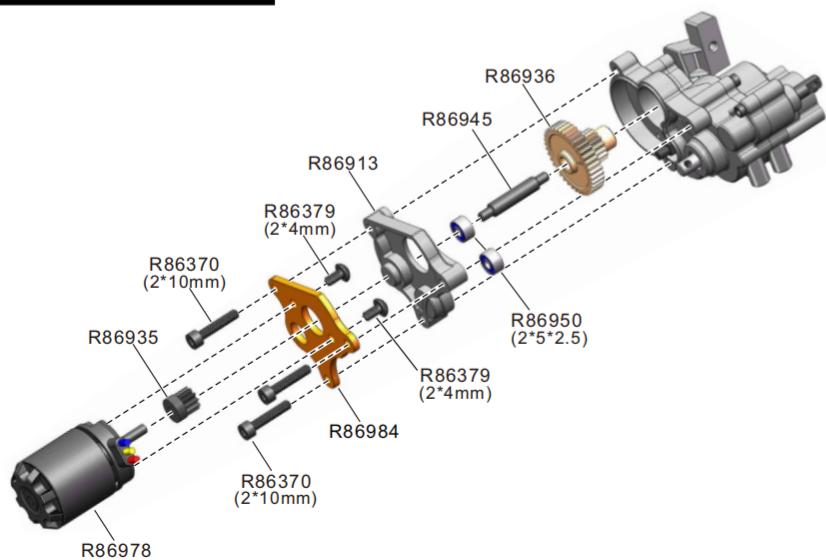
Transmission Assembly-1



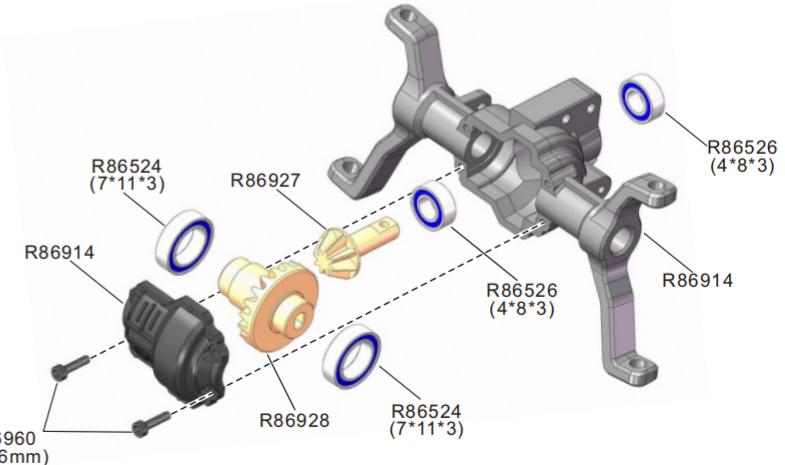
Transmission Assembly-2



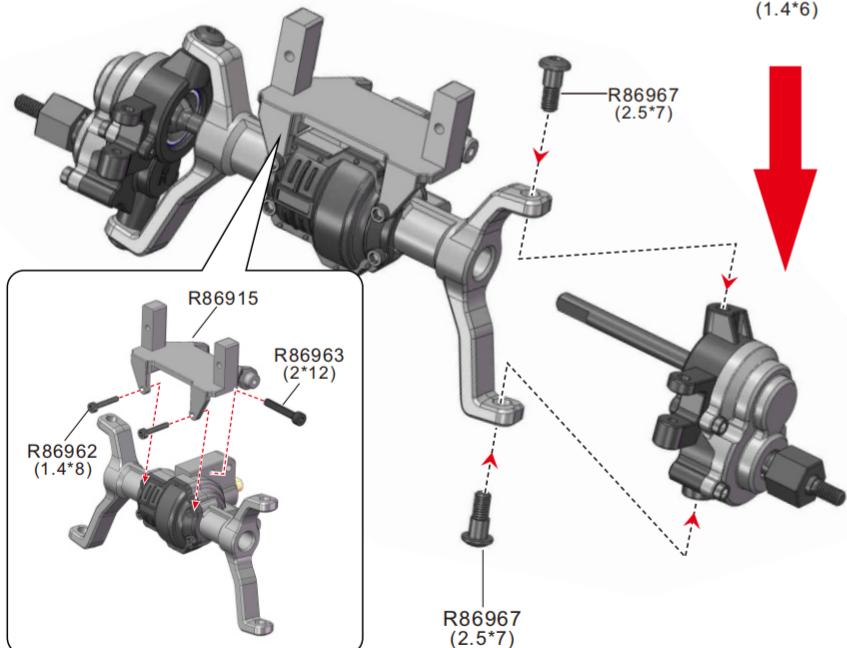
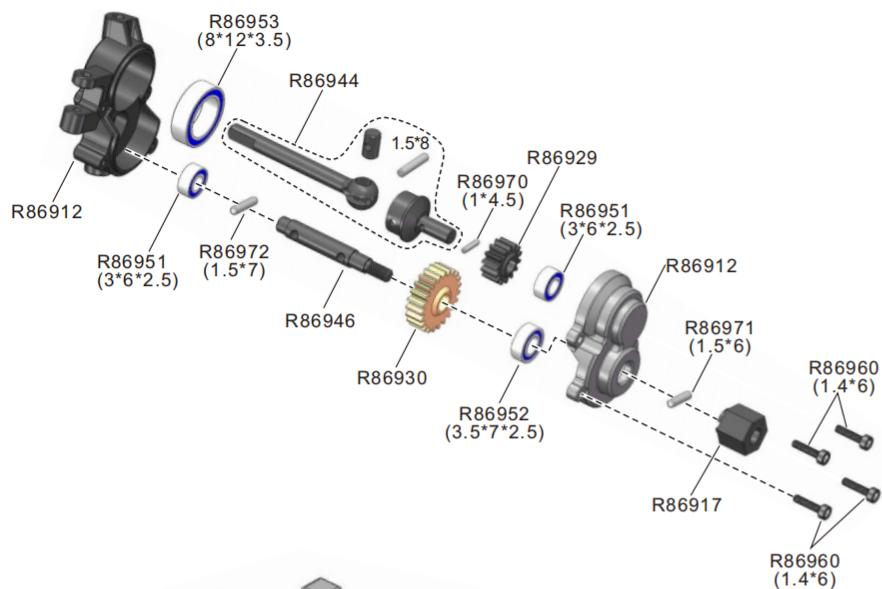
Transmission Assembly-2



Front Axle Housing Assembly



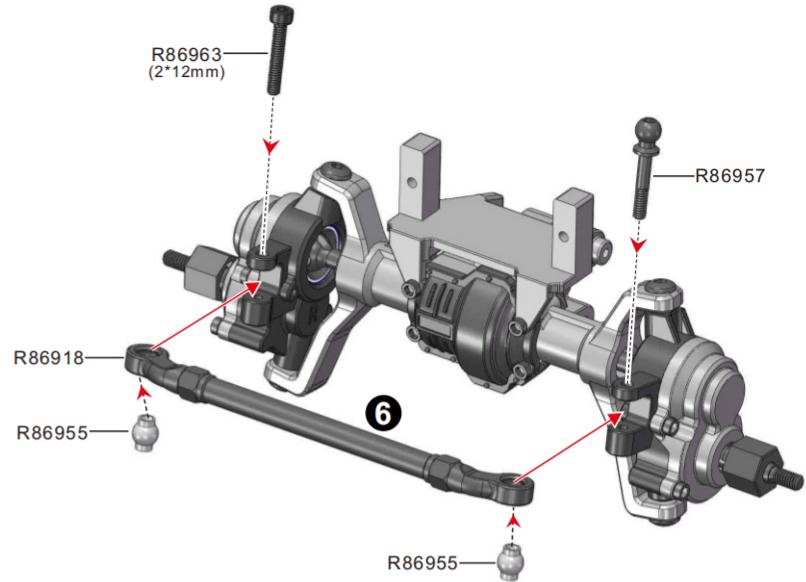
Steering Mount Assembly



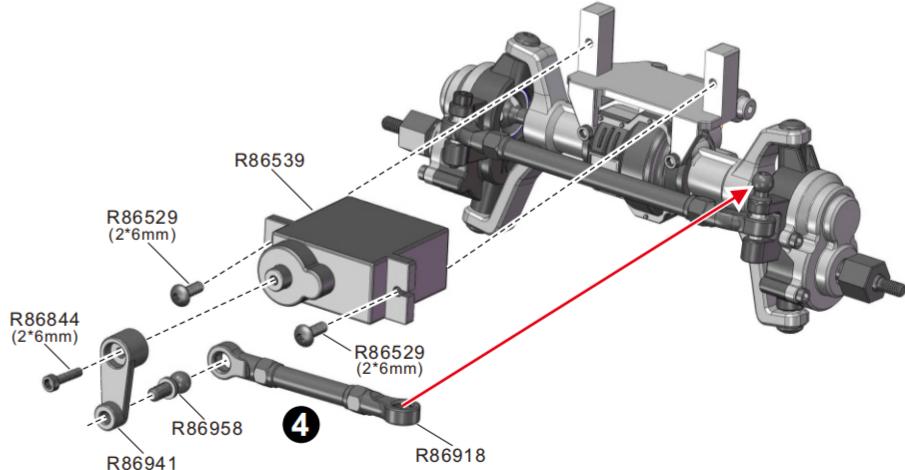
Front Drive Installation

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Steering Link Installation

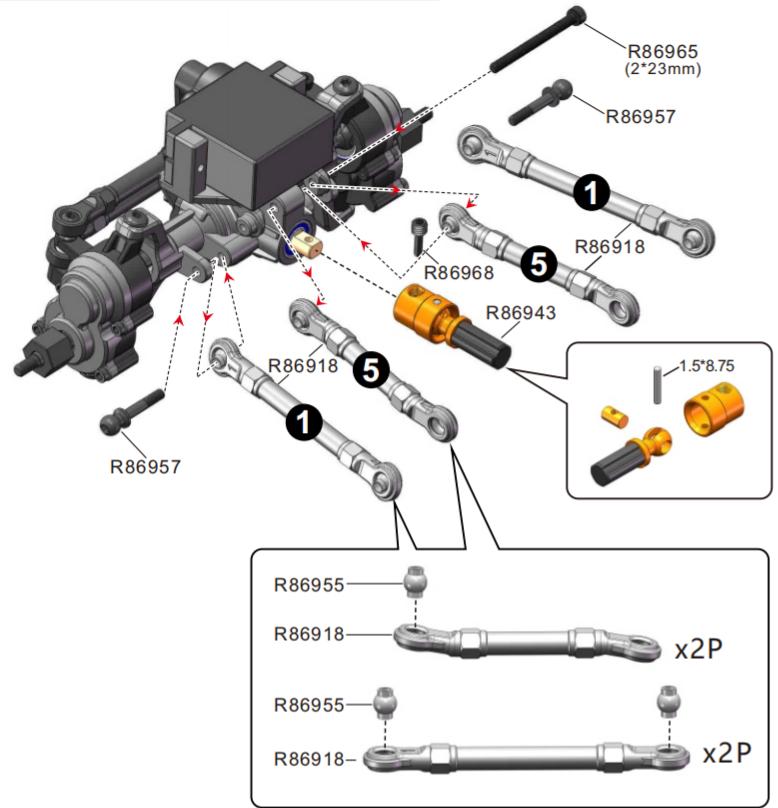


Servo Link/Servo 1 Installation

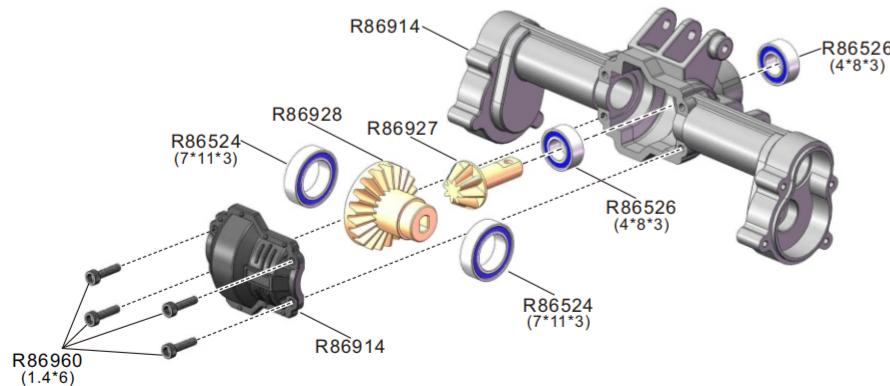


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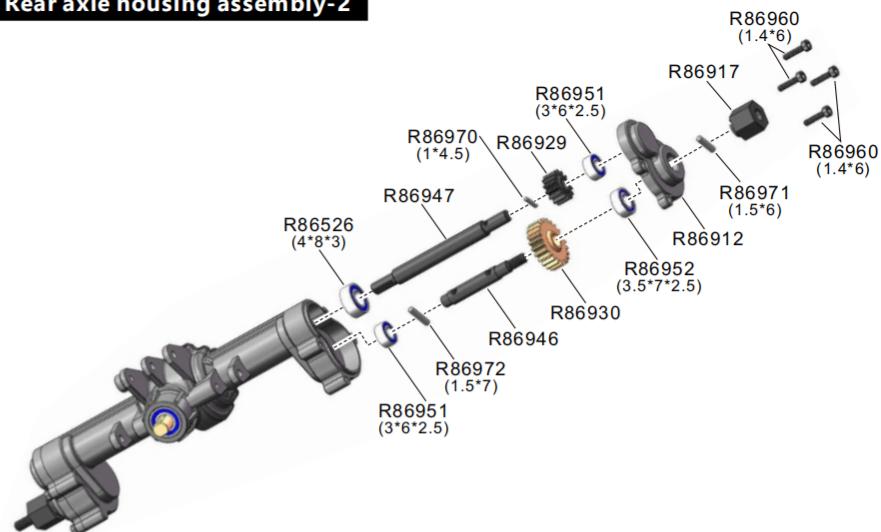
Front upper and lower link Installation-1



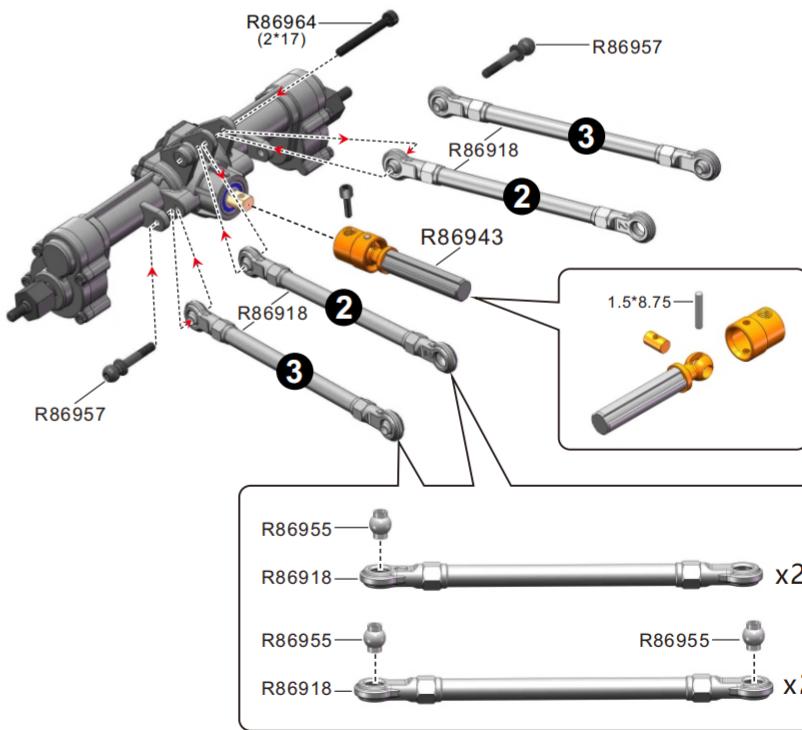
Rear axle housing assembly-1



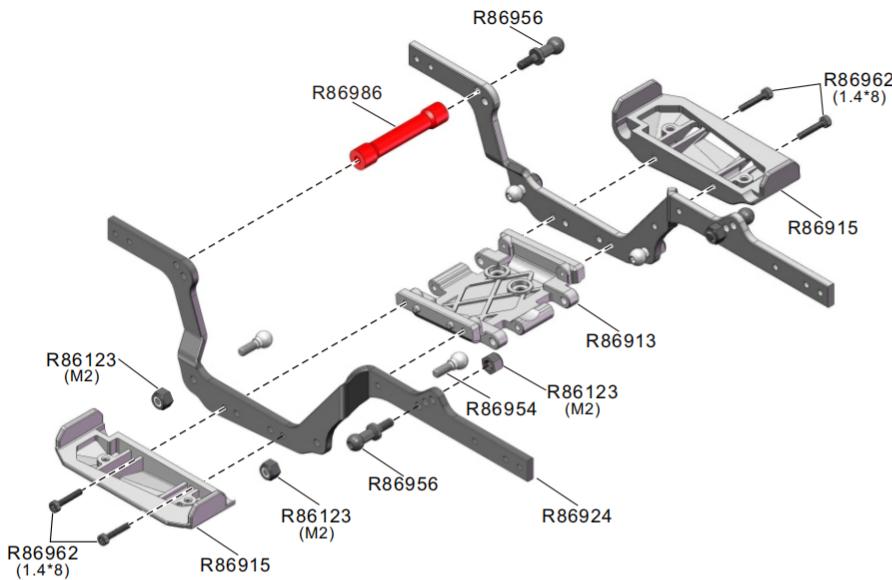
Rear axle housing assembly-2



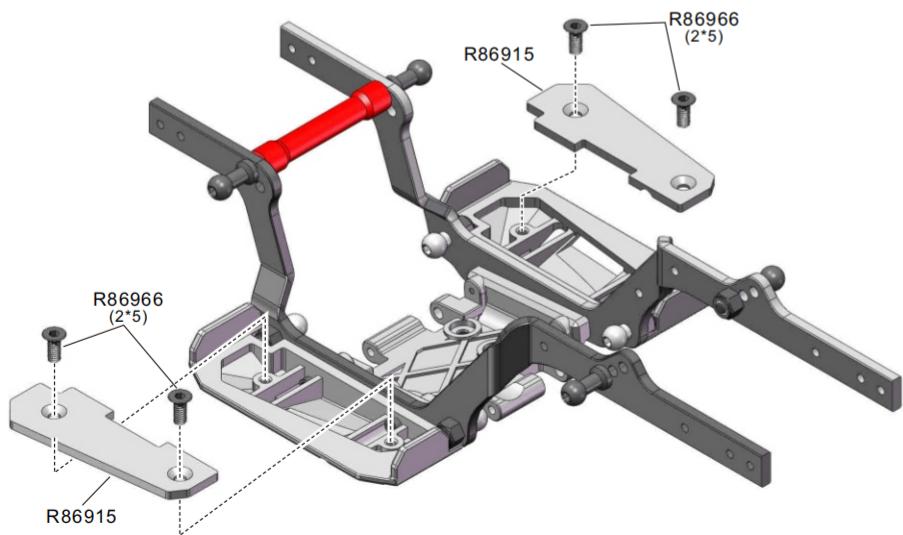
Rear upper and lower link Installation-1



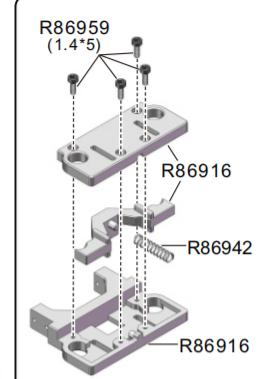
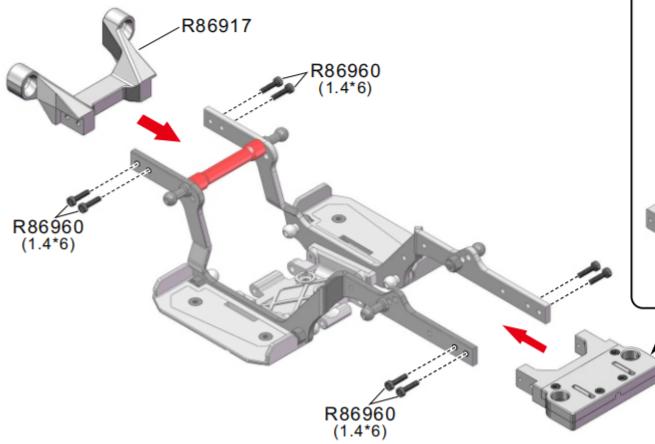
Chassis Rail Assembly



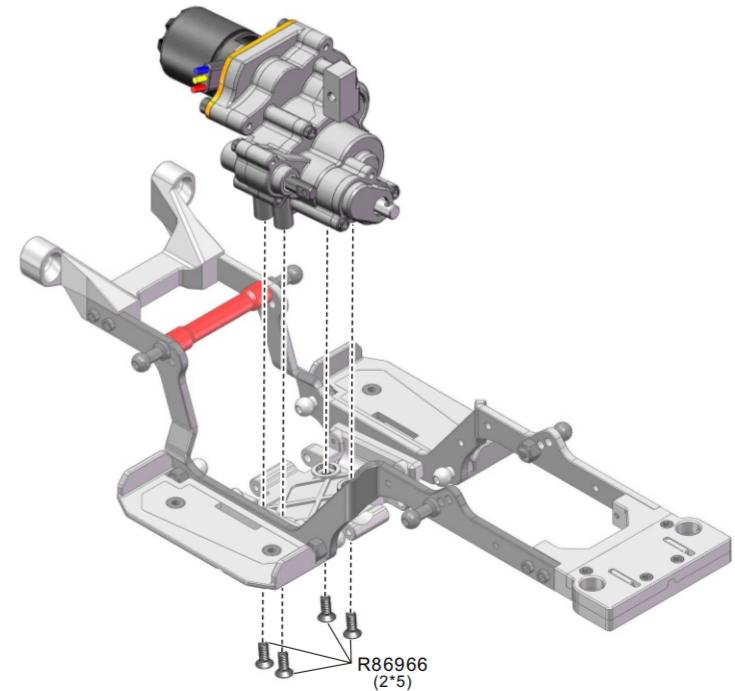
Baffle cover Assembly

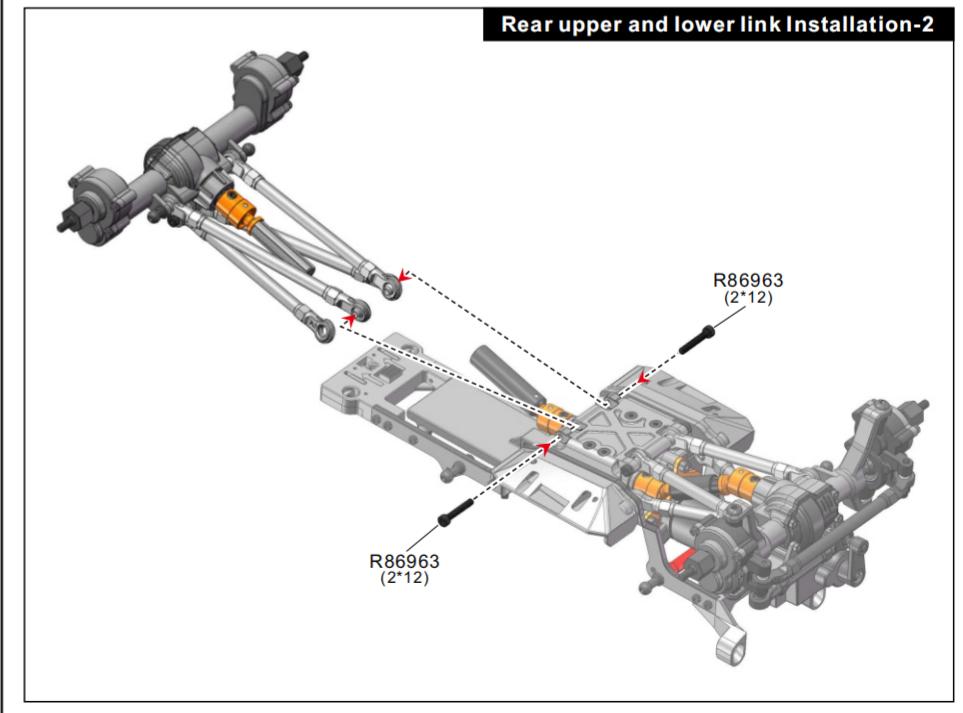
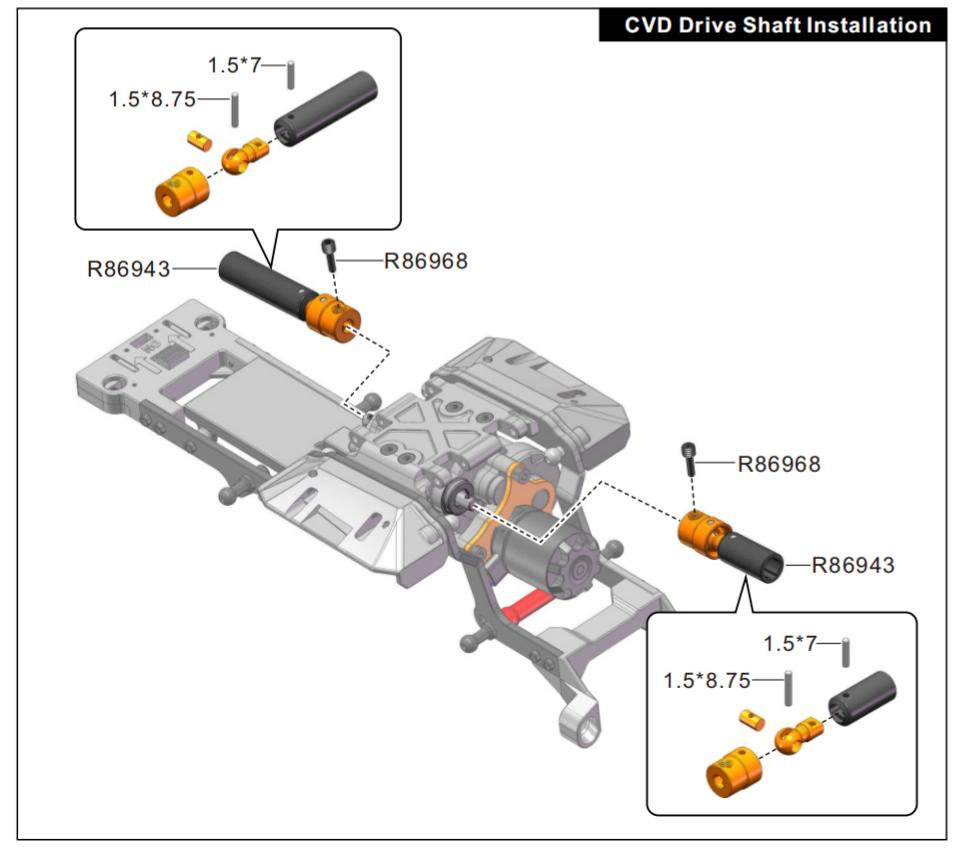
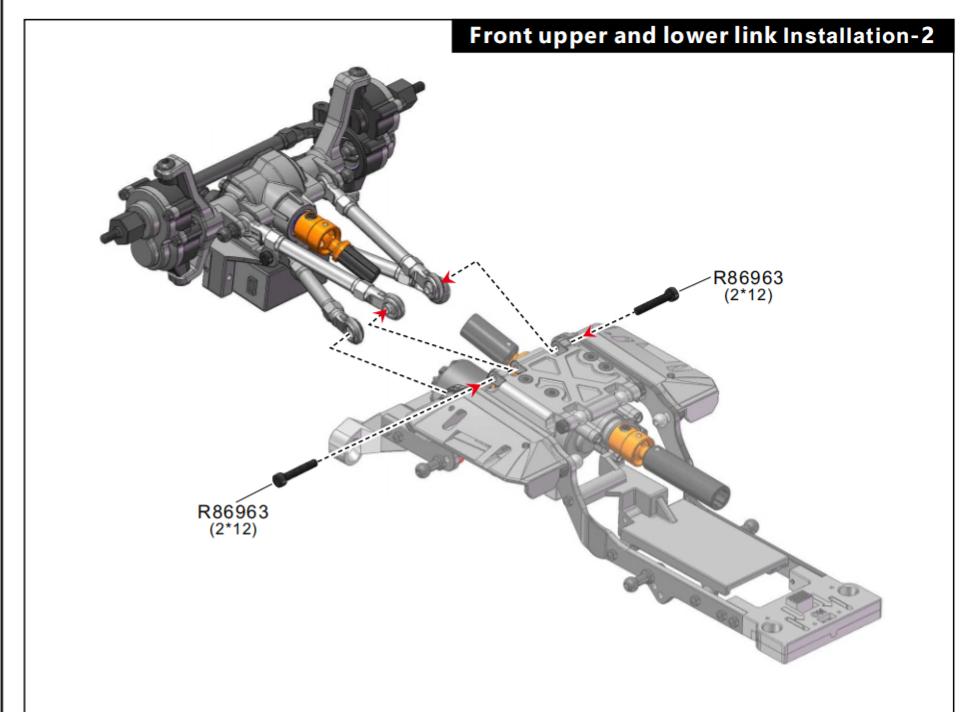
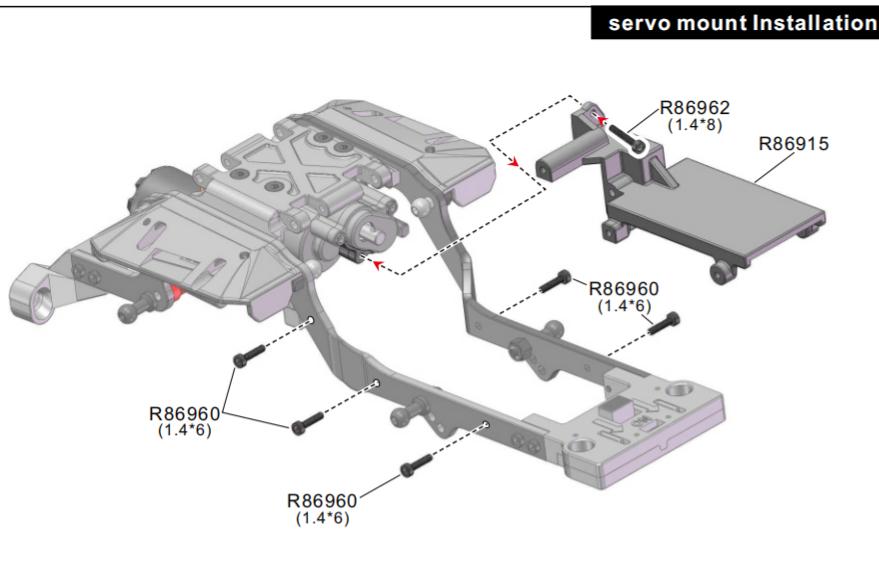


Front/Rear Body Mount Installation

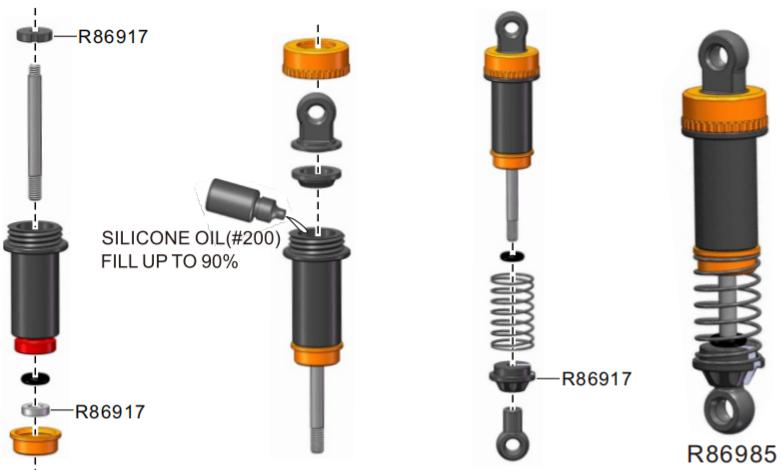


Motor/Center Gearbox Installation

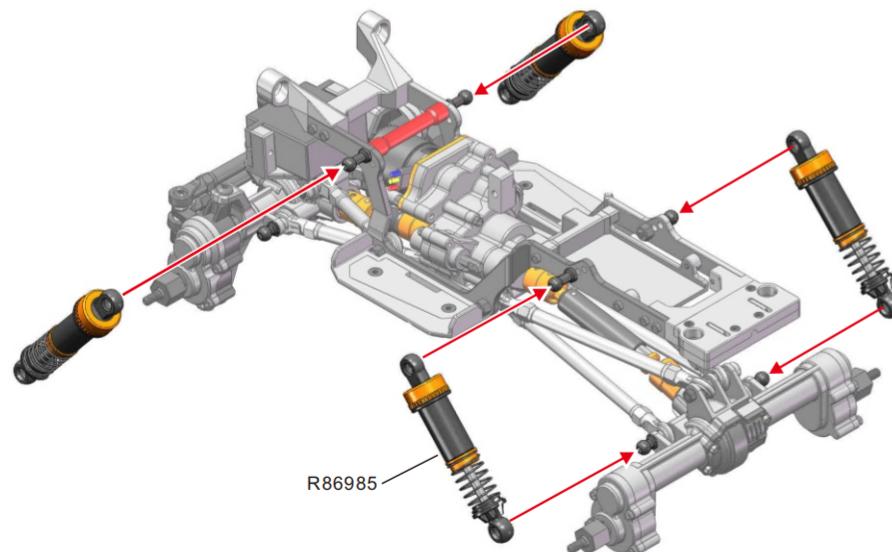




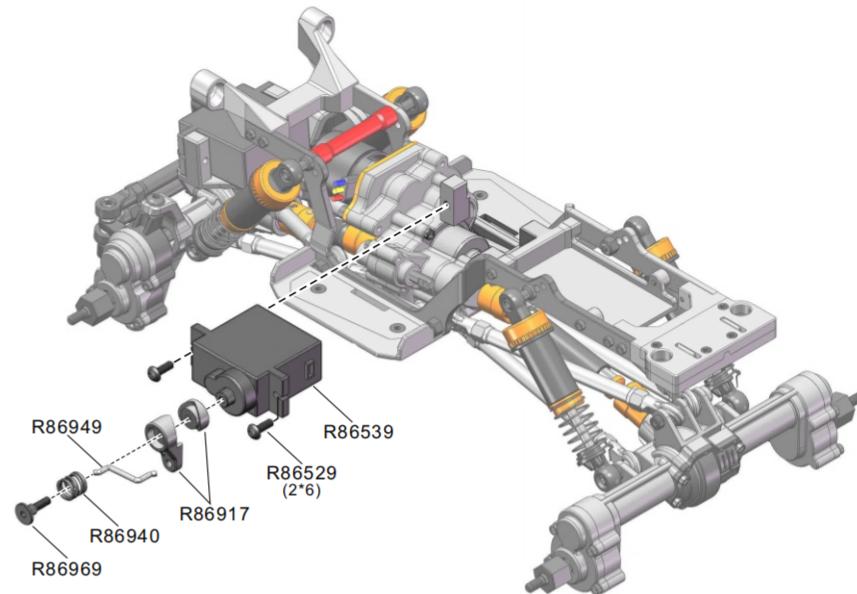
Shock Absorber Assembly



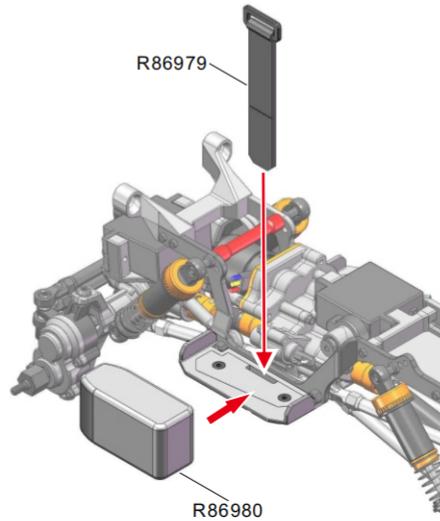
Shock Absorber Installation



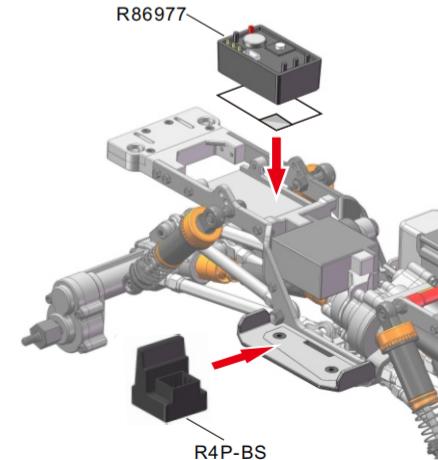
Servo 2 Installation

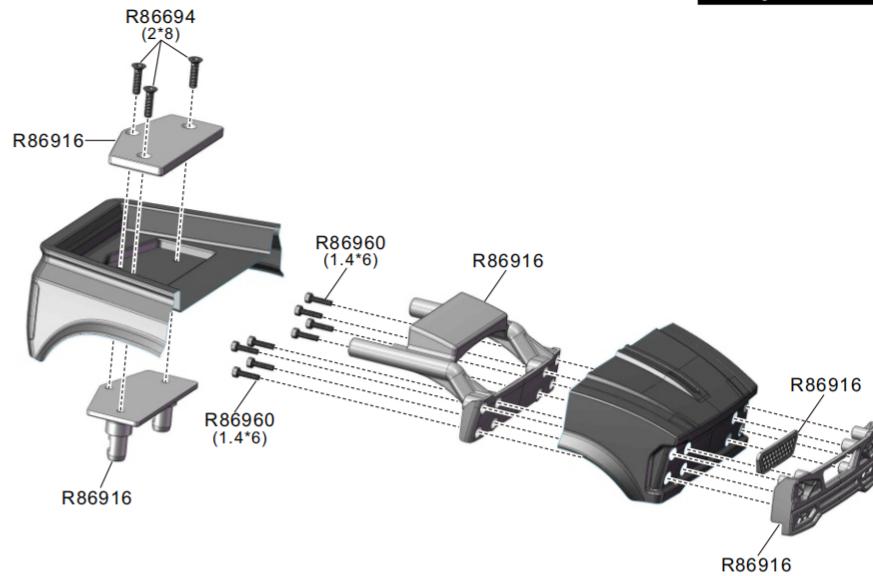
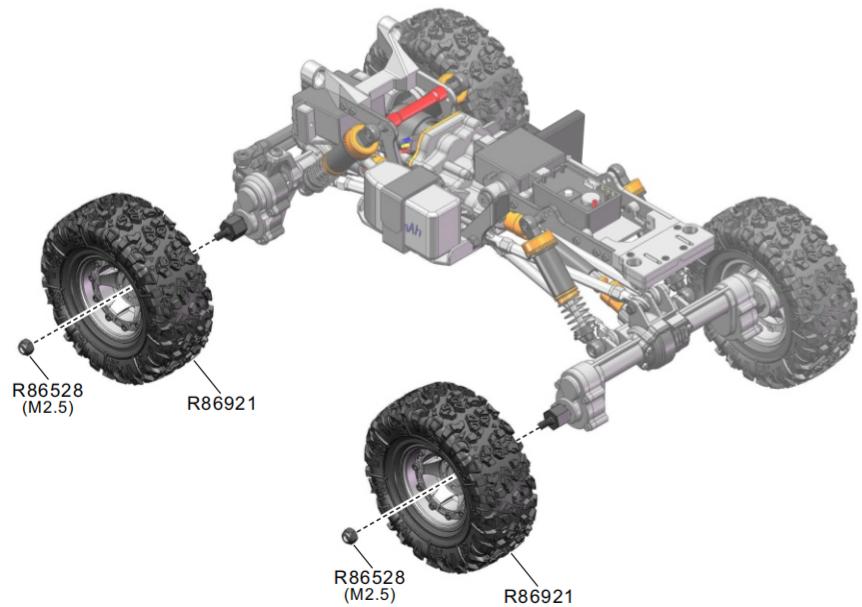
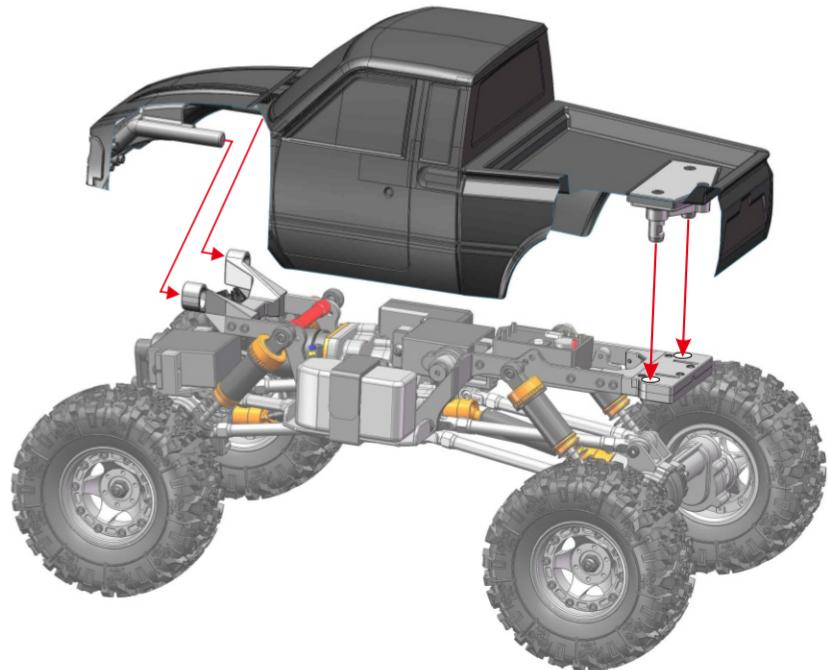


Battery Installation

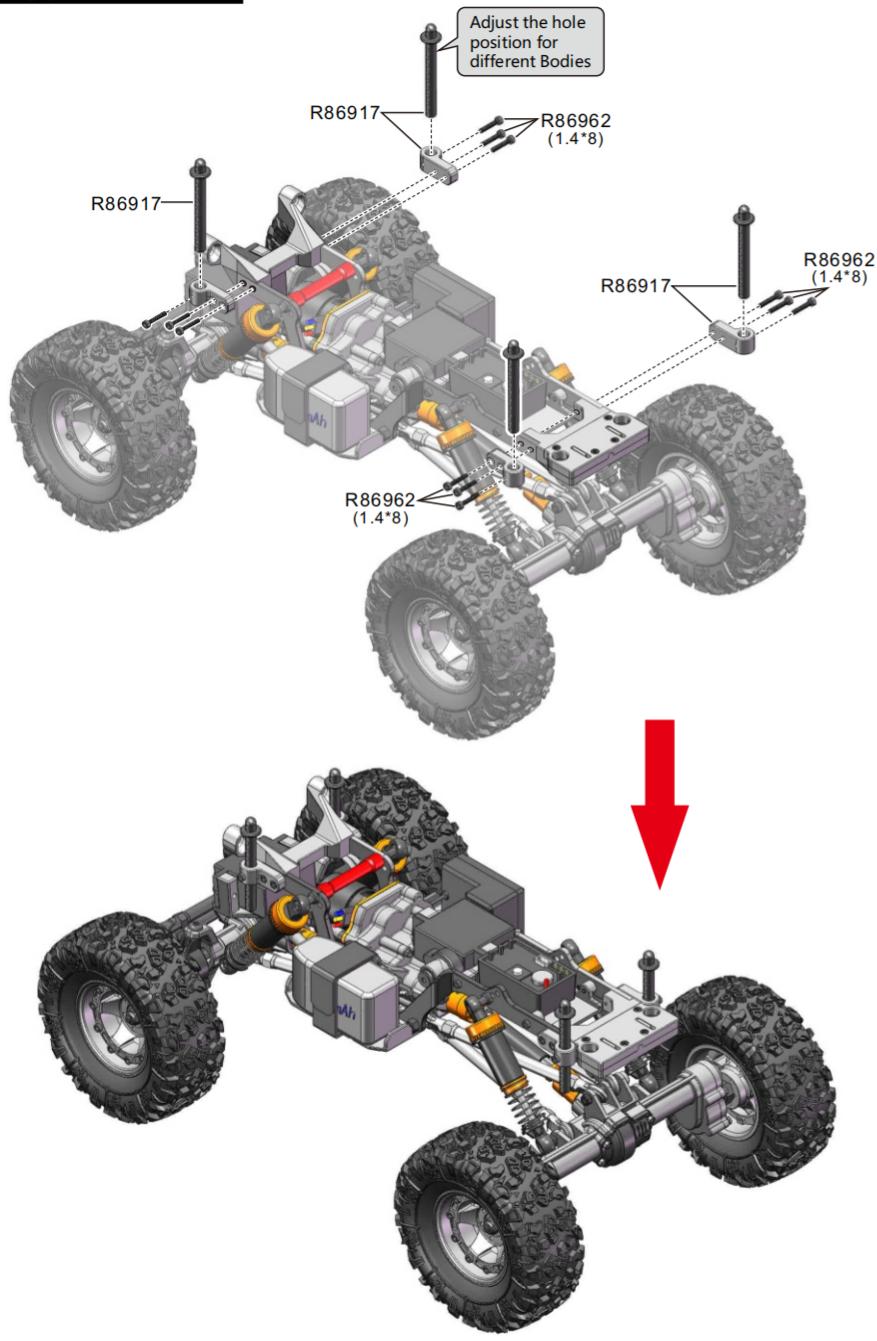


Receiver/ESC Installation



Wheel Assembly**Body Assembly****Wheel Installation****Body Installation**

Body post Installation



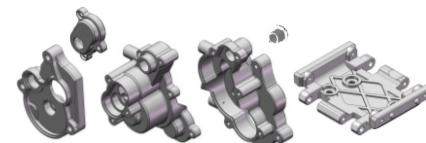
Spare Part

R86912



Steering Mount (L/R) & steering mount cover & rear axle drive shaft cover

R86913



Gearbox A/B/C/D + base

R86914



F/R axle housing & axle housing

R86915



servo mount & servo seat B & servo brace & baffle(L/R) & baffle cover (L/R)

R86916



Rear Body(fixing accessories) & air intake grille & air intake grille net & Body front fixed post

R86917



Body post & body post mount & servo horn A/B & front body fixed mount & shock absorber piston & shock absorber O-ring gasket & spring lower seat & wheel hex

R86918



(FU/FL & RU/RL) Steering & Servo Link set

R86919



Split wheel rim (A/B/C) & wheel rim ring

R86920

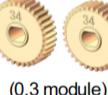
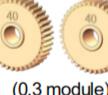


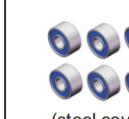
Tire Foam & Gravel wheel

R86921



Pre-assembled wheel with tire

Spare Part				
PC body + Stickers		Assembled-PC body		
R86922-0(Clear) R86922-1(Blue) R86922-3(Red)		P86490-1(Blue) P86490-3(Red)		
				
R86924	R86984	R86985	R86927	
				
Chassis Rail (L/R)	Motor mount (Gun Grey)	Shock absorber (Gun Grey)	8T bevel gear	
R86928	R86929	R86930	R86931	R86932
				
20T bevel gear	14T spur gear (0.5 module)	23T spur gear (0.5 module)	20T spur gear (0.3 module)	23T spur gear (0.3 module)
R86933	R86934	R86935	R86936	R86937
				
34T spur gear (0.3 module)	40T spur gear (0.3 module)	Motor Pinion 11T	Dual gear (16T-38T)	Dual gear (17T-33T)
R86938	R86939	R86940	R86941	R86942
				
Shift Block	Shift Block Gear	Servo arm spring	Servo Horn	Clamp spring
R86943	R86944	R86945		
				
CVD drive shaft	CVD (wheel axle & shaft & shaft inner sleeve)	Reverse drive shaft & gear shaft & speed shaft & dual gear adapter shaft & shift shaft		

Spare Part				
R86946	R86947	R86986	R86949	R86950
				
Wheel axle	Rear straight axle	Connecting link (Gun Grey)	Shifting connecting rod	Bearing (Ø2*Ø5*2.5) (steel cover)
R86951	R86952	R86526	R86524	R86953
				
Bearing (Ø3*Ø6*2.5) (plastic cover)	Bearing (Ø3.5*Ø7*2.5) (plastic cover)	Bearing (Ø4*Ø8*3) (plastic cover)	Bearing (Ø7*Ø11*3) (plastic cover)	Bearing (Ø8*Ø12*3.5) (plastic cover)
R86954	R86955	R86956	R86957	R86958
				
Toothed ball (4mm)	Ball (4mm)	Shock absorber upper ball joint	Shock absorber lower ball joint	Steering ball joint
R86123	R86528	R86959	R86960	R86961
				
Nylon Nut M2	Nylon Nut M2.5	Cap Head 1.4*5mm	Cap Head 1.4*6mm (black)	Cap Head 1.4*6mm (silver)
R86962	R86844	R86370	R86963	R86964
				
Cap Head 1.4*8mm	Cap Head 2*6mm	Cap Head 2*10mm	Cap Head 2*12mm	Cap Head 2*17mm
R86965	R86966	R86694	R86379	R86529
				
Cap Head 2*23mm	Flat Head 2*5mm (black)	Flat Head (2*8mm)	Button Head 2*4mm	Button Head Self-tapping 2*6mm

Spare Part				
R86967	R86968	R86969	R86970	R86971
2.0 cross head hex screw (2.5*7mm)	Headless screw pin (3*8mm)	Servo arm screw	Pin(1*4.5mm)	Pin(1.5*6mm)
R86972	R86973	R86974	R86975	R86976
Pin(1.5*7mm)	Pin(1.5*8mm)	Pin(1.5*8.75mm)	E-clip (Ø2.3mm)	1/24 R-clip
R86539	R86977	R86978	R86979	R86980
Servo-9g	Brushless ESC	Motor(1621SL-3500KV)	Velcro (105mm)	Battery(7.4v 550mAh)
MG4-BS	R4P-BS	R86981	R87029	
Transmitter	Receiver	Transmitter&Receiver	USB Charger	

Optional parts				
P860137	P860138	P860139	P860140	P860141
(copper)	(copper)	(copper)	(copper)	(copper)
Axe housing cover	Rear axle wheel shaft cover	Steering Mount	Servo Mount	Wheel Hex
R86982	R86983	P860142		
(0.5 module)	(0.5 module)	Link set		
15T spur gear	22T spur gear	Link set		