

User Manual





A SAFETY PRECAUTIONS

- THIS RADIO CONTROLLED RACING CAR IS NOT A TOY!
- THIS HIGH-PERFORMANCE R/C MODEL IS RECOMMENDED FOR AGES 14 AND OLDER.
- THIS IS ONLY FOR YOUR REFERENCE BEFORE YOU OPERATE THE MODEL CAR.
- PLS DO NOT CHANGE THE EQUIPMENT OF THE BRUSHLESS ESC, MOTOR AND LI-PO BATTERY CASUALLY, WE WILL NOT TAKE ANY CHARGE OF THE DAMAGES OR INJURIES CAUSED BY YOUR CHANGES!
- ASSEMBLE THIS KIT ONLY IN PLACES OUT OF CHILDREN'S REACH!
- TAKE ENOUGH SAFETY PRECAUTIONS PRIOR TO OPERATING THIS MODEL. YOU ARE RESPONSIBLE FOR THIS MODEL'S ASSEMBLY AND SAFE OPERATION!

BEFORE YOU RUN YOUR CAR

Required equipement for operation

1. Tools required for building and maintenance:



RECOMMENDED:

pack used in the car!

Use thread lock on all scews that work loose.



PLEASE READ BEFORE STARTING!

Thank you for selecting our racing product ! This vehicle is designed to be fun to drive and uses good quality parts for durability and performance. The instruction manual you are reading was designed to be easy to follow yet thorough in its explanations. We want you to enjoy driving your new R/C car. Well, before you throw down this manual and unleash your new vehicle, please continue reading for just a few short minutes.

SAFETY GUIDELINES

The vehicle is not intended for use by children without direct supervision of a responsible, knowledgeable adult. We shall not be liable for any loss or damages, whether direct or indirect special, incidental, or consequential, arising from the use, misuse, or abuse of this product and/or any product or accessory required to operate this product.

IMPORTANT POINTS TO REMEMBER:

Always, turn on your transmitter first before turning on your vehicle receiver switch. When turning an R/C vehicle off, the order is just the opposite: Turn the receiver switch off first and then turn the transmitter off. Just remember that when your vehicle is turned ON, your transmitter should always be turned ON. If not, your vehicle will no longer be under the control of your transmitter, and could unexpectedly take off on its own, causing damage to itself and other people.

Never use old, worn out batteries in your transmitter or vehicle. Use only fresh batteries or fully charged rechargeable batteries to ensure that you will not exceed the range of your radio system while driving your vehicle. It is also very important to stop your vehicle immediately when you begin to see that it is slowing down. This means the batteries in your vehicle are close to being fully discharged, and if you continue to run your vehicle after it has slowed, it may run "out of control" since it does not have sufficient voltage left to receive the signals from your transmitter.

Only run your vehicle in safe, open areas that will not put anything or anyone in danger of a collision. Use common sense when driving your vehicle to ensure that you are not causing a potential hazard to anyone(crowds of people and confined areas should be avoided). Although the model is small and light weight, it can still hurt when it runs into your ankle height. It can also startle someone who is not expecting it, so it is extremely important to ALWAYS keep a safe distance between any people and the path of your vehicle(don't forget this includes yourself)!

Never run your vehicle through puddles, wet grass, snow or any other type of moisture. Also never use any liquid cleaners around the electronic components on your vehicle. Any small amount of moisture can cause severe damage to your electronics.

If you be running your vehicle with other R/C vehicles, always confirm before turning your transmitter on, that no one else is using your same frequency channel. If neccessary, you may change frequencies(certainly this is not related when 2.4G transmitter use.)

Always let your motor and battery cool down completely between runs. The motor needs to cool completely at the end of a charge before using again. Heat is a big enemy of electric motors. Overheating the motor will shorten its life and can cause it to fail. Prolonged running on high drag surfaces like grass, carpet etc. can heat the motor up and cause possible failure.

WHAT ELSE IS NEEDED

8 "AA" alkaline batteries (for the radio transmitter)

GETTING STARTED

1. INSTALLING TRANSMITTER BATTERIES

Install 8 new "AA" batteries into your vehicle transmitter. Check the life and proper installation of your batteries by switching the transmitter to ON. On vehicle transmitters, you should see all three LED'S light up(Red, yellow, and green). If you do not, your batteries may be low on voltage or you may not have installed them all correctly.

As the life of your transmitter batteries begins to decline, the green LED will no longer light. When you notice that you are down to only the yellow and red lights, this is a caution sign that it is time to install new batteries. If you continue operating your vehicle, and see that the yellow light goes out(and only the red light is lit), STOP IMMEDIATELY! Your vehicle may easily travel out of range causing you to lose all control, which could result in a collision causing damage to the vehicle or other property.

2. CHARGING YOUR VEHICLE

Charge your vehicle's battery pack. Connect the charger to your battery pack(it will only plug in one direction) and then plug the charger into a standard wall outlet. Charging takes approximately 3-4 hours. When the charging is completed, unplug the charger and connect the battery to your speed control battery's connect plug.

The charger with the vehicle will safely charge your battery pack and not over charge it. Be careful when using after market chargers that you do not overcharge the battery pack and ruin it. And please note this charger is only for the vehicle, not for radios.

3. ASSEMBLING THE ANTENNA

Locate the plastic antenna tube(found inside the manual bag).

Run the antenna wire up through the rear antenna mount hole in the upper chassis plate and begin feeding it into the plastic antenna tube until it comes out the other side. Pull the remaining wire through the tube, and then press the tube into the antenna mount in the upper chassis plate. Bend the antenna wire down around the tube and install the black rubber antenna cap on the top of the tube. You may then wrap the remaining wire arount the tube.



DO NOT cut the antenna wire off! This could shorten the range of your radio system.

4. LEARNING THE TRANSMITTER - FM

Before turning on your vehicle, please familiarize yourself with the controls and adjustments of the radio transmitter.

You may use the following diagram to confirm the location and function of each of these features.

- A. ON/OFF Switch: Controls power to the transmitter.
- B. Steering Wheel: Steering the vehicle left and right.
- C. Throttle Trigger: Contols the speed and the Forward/Reverse direction of the vehicle.
- D. Throttle Trim: Ajusts the neutral position of the throttle so your vehicle responds correctly to the trigger.
- E. Steering Trim: Adjusts the neutral position of the throttle so your vehicle travels straight.
- F. Throttle Reverse Switch: Reverses the forward/reverse direction of the steering wheel.
- G. Steering Reverse Switch: Reverse the left/right direction of steering wheel.
- H. Antenna: Transmits radio signals to your receiver.
- Recharging Jack: you can charge the battery with your charger if you are using rechargeable batteries in your transmitter.
- Caution: You can not recharge Non-rechargeable batteries.
- J. Battery Power Indicators: Signal when it is time to replace your transmitter batteries when the red indicator lit.
- K. Steering Knob: Adjusts the steering angle
- L. Frequency Crystal: Controls the operating freqency(channel) of your transmitter.



RUNNING MULTIPLE VEHICLE(related to AM FM transmitter use)

If you have some vehicles that would like to get a vehicle of their own or already have friends with other vehicles that you will be racing, it is very important that you first check what frequency channe your vehicle is on and confirm that none of your friends have the same frequency as yours. If you do find that someone else is using the same frequency channel that you are, you must wait for them to turn their transmitter and vehicle OFF or you may choose to change the frequency crystals in your transmitter and receiver (so that you can run together at the same time without causing any radio interference). Additional frequency cystal sets can be purchased separately and installed in a few quick seconds.

5. To change frequency crystals simply remove the black plastic crystal holder from the back of your transmitter by carefully pulling it straight out. Slide the crystal out of the holder and install the new crystal labeled "Tx"in its place. Then carefully align the two pins that extend from the transmitter, and gently press it into place.

Do not force the crystal! The pins can easily be broken! Remove the crystal from your receiver in the same careful manner using a pair of needle-nose pliers and install the new "Rx" crystal in its place.



PLEASE NOTE:

It is very important that the crystal labeled "Tx" is installed in the transmitter and the crystal marked "Rx"is installed in the receiver.

6. LET THE FUN BEGIN!

After reading all of the above information, you are likely ready to start racing!

Just proceed as follows:

A. Fully extend the antenna on your transmitter.

B. Turn your transmitter on.

C. Turn your vehicle on.

D. Adjust the "ThrottleTrim" knob on your transmitter if necessary(if the wheels are moving forward without touching the trigger, turn the throttle trim counter clockwise until the wheels stop.)

PLEASE NOTE:

If you do not have any "reverse" when pusing the trigger forward twice, adjust the throttle trim further in the counter clockwise direction. If you pull the trigger all the way back to forward full speed and your car stops, then adjust the throttle trim in the clockwise direction. But becareful not to go too far or your vehicle may not be able to reach full speed when pulling the trigger all the way back.

- E. Adjust the "Steering Trim" knob on your transmitter if necessary (so your car will travel in a straigth line without turning the steering wheel)
- F. By now you are likely kicking up dust or burning up the asphalt. We highly recommend that you continue readding the reminder of this manual to find out how you can get even more enjoyment out of your vehicle.

While if you have our optional radio control system- 2.4G at hand, please read as following:

LEARNING THE OPTIONAL TRANSMITTER - 2.4G

You may use the following diagram to confirm the location and function of each of these features.

- A. ON/OFF Switch: Controls power to the transmitter.
- B. Steering Wheel: Steering the vehicle left and right.
- C. Throttle Trigger: Contols the speed and the Forward/Reverse direction of the vehicle.
- D. Throttle Trim: Ajusts the neutral position of the throttle so your vehicle responds correctly to the trigger.
- E. Steering Trim: Adjusts the neutral position of the throttle so your vehicle travels straight.
- F. Throttle Reverse Switch: Reverses the forward/reverse direction of the steering wheel.
- G. Steering Reverse Switch: Reverse the left/right direction of steering wheel.
- H. Antenna: Transmits radio signals to your receiver.
- I. Recharging Jack: you can charge the battery with your charger if you are using rechargeable batteries in your transmitter.
- Caution: You can not recharge Non-rechargeable batteries.
- J. Battery Power Indicators: Signal when it is time to replace your transmitter batteries when the red indicator lit.
- K. Steering Knob: Adjusts the steering angle
- L. Start button: Channel 3.

2.4GHZ Frequency Pin Setup





1. Switch on the transmitter.

- 2. Turn on the receiver power(you can choose any channel), plug the jumper into "BIND/BATT" stop of receiver. When the indicator starts flashing, that means the receiver comes into the set code mode. At this point, pull out the jumper immediately.
- 3. The receiver can automatically find the nearest transmitter to match with. Once they match successfully the indicator would keep lighting(at this moment, please plug the jumper into" BIND/BATT" again.) And if the indicator flashes continuously, that means they haven't matched successfully, please re-try.

6. LET THE FUN BEGIN!

After reading all of the above information, you are likely ready to start racing! Just proceed as follows:

- A. Fully extend the antenna on your transmitter.
- B. Turn on your transmitter.
- C. Turn on your vehicle.
- D. Adjust the "Throttle Trim" knob on your transmitter if necessary(if the wheels are moving forward without touching the trigger, turn the throttle trim counter clockwise untill the wheel stop).

Instructions of Brushless ESC B1112

[FEATURES]

- Compatible with all sensorless brushless motors.
- With 3 running modes-Forward with Brake, Forward and Reverse, Forward/Reverse with Brake.
- 4 options of start mode, from slow to very fast, so that it can fit different road conditions and tyre, effectively prevent slippery.
- Multiple protection features: Low voltage cut-off protection for lithium or nickel battery / Over-heat protection / Throttle signal loss protection / Motor blocked high current protection.
- Using the software to do the Timing adjustment. With 5 Timing mode, to match all kinds of brushless motor.
- Proportional ABS brake function with 4 steps of maximum brake force adjustment, 6 steps of drag-brake force adjustment.
- Splash proof and dustproof, prolong its service life.
- Easily programmed with the "SET" button on the ESC

[SPECIFICATIONS]

- Model no: B1112-brushless ESC 35A
- Battery: Li-xx2-3cell Ni-xx 5-9cell
- Constant Current/Burst Current: 35A/190A
- Resistance: 0.0015ohm
- Suitable car: 1/10 1/12 1/16
- Suitable Brushless Motor: >10.5T
- BEC Output: 6V/2A
- Dimension: 32×30×31.5mm (with fan)

[BEGIN TO USE THE NEW ESC]

- Switch off the ESC, connect the ESC, motor, receiver, battery and servo as the attached diagrams. Then turn on the transmitter.
- Throttle Range Settings.

In order to make the ESC fit the throttle range, you must calibrate it when you begin to use a new ESC, or a new transmitter, or change the settings of neutral position of the throttle stick, ATV or EPA parameters, etc. Otherwise the ESC cannot work properly.

Setting the Throttle Range:

Switch off the ESC, turn on the transmitter, set the throttle trim to the low (off) position-"0", while set the "EPA/ATV" value of throttle channel to "100%".

- 1. Move the throttle stick at the end point of forward direction and swich on the ESC, the motor sounds 1 short tone.
- 2. Wait for 6 seconds, the motor sounds 1 long tone(this means it already got the top point of forward direction), at this moment move the throttle stick at the end of backward direction.
- 3. Wait for 3 seconds, when hear 1 long tone(that means it already got the top point of backward direction), then move the throttle stick at the neutral point.
- 4. First the motor sounds 1 short tone, wait for 1 second, it sounds 1 triplets "di-be-du-" (this means it got the neutral position already). Then the ESC can work properly.



[PROGRAM THE ESC] Easily programmed with the "SET" button.

	Programmal	ble Items Li	st							
	Programmable			Programmable Value						
	Items	Option1	Option2	Option3	Option4	Option5	Option6			
	Running Mode	Forward with Brake	Forward and Reverse	Froward/Reverse with Brake	Normal State	In DO NO	er an for			
1	Reverse Force	20%	40 %	60 %	80%	100%				
	Brake Force	25%	50 %	75%	100%	-				
1	Drag brake force	0%	10 %	20%	40 %	70%	100 %			
	Neutral range	3%	6%	9%	12%					
	Start mode	Very fast	fast	normal	slow					
	Timing	0°	5°.	10°	15°	. 20°				
	Battery voltage protection	Ni-xx no protection	Li-xx 2.8V/cell	Li-xx 3.0V/cell	Li-xx 3.2V/cell	Li-xx 3.4V/cell				
	Over-heat protection	90°	110°	No protection	and the second					
U.B	Protection mode	lower power	Cut off the main power immediately			11- 5-53 11- 5-53				

Remark: The highlightened are the default parameters.

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Explanation for each programmable item.

- 1. Running mode: With "Forward with Brake" mode, the car can go forward and brake, but cannot go backward, this mode is suitable for competition; "Forward/Reverse" mode, the car only can go forward and backward, no brake, this mode is usually used for the Rock Crawler. "Forward/Reverse with Brake" mode, which is suitable for daily training. When move the throttle stick from forward zone to backward zone for the first time (The 1st "click"), the ESC begins to brake the motor, the motor speeds down but it is still running, not completely stopped, so the backward action is NOT happened immediately. When the throttle stick is moved to the backward zone again (The 2nd "click"), if the motor speed is slowed down to zero (i.e. stopped), the backward action will happen. The "Double-Click" method can prevent mistaken reversing action when the brake function is frequently used in steering. By the way, in the process of brake or reverse, if the throttle stick is moved to forward zone, the motor will run forward at once.
- Reverse Force: Sets how much power will be applied in the reverse direction. Different value makes different reverse speed.
- 3. Brake Force: The ESC provides proportional brake function. The brake force is related to the position of the throttle stick. Maximum brake force refers to the force when the throttle stick is located at the top point of the backward zone. A very large brake force can shorten the brake time, but it may damage the gears.
- 4. Drag Brake Force: It's a slight force which caused to motor when the throttle stick move to the neutral position. It is used to slowdown the glide speed.
- 5. Throttle Neutral Range: It's the range when the throttle stick is in the neutral position but no output.
- 6. Start Mode: It refers to the start force of ESC, you can choose different start mode according to the road condition, the tyre's ability to grip, and etc.
- 7. Timing: The "timing" item is usable for sensorless brushless motors. There are many differences among structures and parameters of different brushless motors, so a fixed timing ESC is difficult to compatible with all brushless motors. It is necessary to make the timing value programmable. Please select the most suitable timing value according to the motor you are just using. Generally, higher timing value brings out higher power output, but the whole efficiency of the system will be slightly lower down.
- 8. Low Voltage Cut-Off: The function prevents the lithium battery pack from over discharging. It's designed for prolonging its service life. Here, we suggest use the higher voltage protection value.
- 9. Over-Heat Protection: If the function is activated, the output power will be cut-off when the temperature of the ESC is higher than a factory-preset value, and the Green LED will flash. While motor will emit 1 "beep-" tone every 2 seconds. It can recover the output after the temperature down.
- 10. Protection mode: these two modes are designed for the lipo battery achieving at the voltage protection value. When the voltage achieve at the protection value, if choosing cutting off main power immediately, ESC no output; While if choosing reduce power, ESC will still have a 20% power output, the car can return back slowly, but be sure to change the battery at the time, so as to avoid overdischarge and ruin it.

•Program the ESC with Set button.

First hold the "SET" key, switch on the ESC, motor will sound a "beep" prompt tone.

Hold SET key for 3 seconds, it sounds 2 long tones(Di--, Du--), while red and green LED flash 2 times at the same time (★ → ★ →), then release the key and wait for 0.8 seconds to enter into the programmable item mode.

2. First program the 1st item " running mode". motor emit"beep-", and the green LED flashes once (★-), then release the SET key to enter in. Motor emit "beep-, beep-", and green LED flashes twice(★-, ★ -), enter the 2nd item; So, if motor sounds N tones, and green LED flashes N times, that means enter the Nth items. But if the "N" is bigger than the number "5", a long time flash and long "beep--" tone will represent "5". For example, if the situation is as following:

motor sounds 1 long tone "beep---"and 1 short tone" beep-", and the green LED flashes (\bigstar --, \bigstar -), then please release the key to enter the NO 6th item. While motor emit a long tone and 2 short tone(Beep--, beep-), and green LED flashes (\bigstar --, \bigstar -, \bigstar -), release the key to enter the 7th item. And so on. After the 10th item programmed, it would enter the 1st item again.

- 3. After hear the indication voice of corresponding programmable items then press the set key to choose the programmable value(you will hear a "beep" tone), the number of tones and flash times of red LED mean the serial number of the value you are choosing. All the tones under this mode are start with two syllable (di-du-), and red LED will flash at the same time(1 time means the 1st value, 2 time means the 2nd value...). Short of pressing SET key after hear the corresponding prompt tone, it will reenter the programmable item mode.
- 4. Hold SET key for 3 seconds under programmable items, the motor emit 2 long tones(di--du--), red and green LED flash at the same time (★-, ★-), this means it is going to enter the parameter storage precedure. Wait for another 1 second, motor emit 1 long tone(du--), red and green LED flashes once at the same time, this means the storage finished, release the SET key, switch off the ESC, it can work normally when re-energized.

Attention:

- 1. A short prompt tone will emit after press the SET key each time. This just means pressed the key already, but no flash.
- 2. The prompt tone in programmable items mode are all with the green LED flashes. While the tone in the options of programmable value mode are with the red LED flashes.
- 3. The parameter value can be updated through SET key every energization.
- 4. The parameter value can be stored only under the programmable item mode to press the SET key for a long time.

[Reset All Items To Default Values]

- 1. Turn on the transmitter, pull the throttle stick to the maximum position, then switch on the ESC.
- 2. Wait for 6 seconds, motor sounds a long tone(beep--), press the "SET" button on the ESC.
- 3. Hold SET key for 3 seconds, motor sounds 2 long tone(beep--,beep--),this means ESC enters into the parameters stored procedures. Wait for another 1 second when hear 1 long tone it means the restores finished. At this moment release the SET key and throttle stick, it can work normally after separated.

[LED STATUS AND ALERT TONES]

- 1. In normal use, if the throttle stick is in the neutral range, neither the red LED nor the green LED lights.
- 2. The green LED flashes quickly when the car is running forward, while red LED lights when the car is braking and it will flash quickly when car run backward..
- 3. When the over-heat protection happens, the green LED will flash and 1 alert tone will be emitted every 2 seconds.
- 4. Battery voltage protection. The red LED flashes, and 1 alert tone(beep) emitted every 1 second;
- 5. When the ESC can't detect the normal throttle signal, the red LED flashes, and 2 alert tones(beep, beep) emitted every 1 second.

SAFETY WARNINGS ABOUT BATTERY

[Lithium Polymer(Li-Po) Battery General Warnings]

Lithium Polymer(Li-Po) batteries are significantly more volatile than Alkaline or Ni-Cd / Ni-MH batteries used in R/C applications. When using Li-Po batteries to power your model, all instructions and warnings must be followed closely. Mishandling of Li-Po batteries can result in fire.

- Before using the battery, make sure all the working voltage of the battery is known and the correct connection between the model&charger is well understood.
- INSPECT Li-Po batteries before each use for swelling or other malformation. If damaged, they should not be used.
- DO NOT attempt to charge Li-Po batteries with any charger other than a charger designed to charge Li-Po batteries. The Li-Po battery charger you use should include a balancing feature.
- DO NOT leave Li-Po batteries unattended during the charging process.
- Always charge Li-Po batteries on a fire-resistant surface and NEVER charge Li-Po batteries near any flammable material.
- DO NOT use or charge Li-Po batteries if they are hot to the touch.
- Make sure all the wires and connections insulated. Never short-circuit the battery.
- ALWAYS let Li-Po batteries cool betweens uses and charging.
- DO NOT poke, bend or otherwise damage Li-Po batteries.
- DO NOT allow Li-Po batteries to ever exceed 71°C (160°F) for any reason.

[Handling and Caring for Battery]

- Never disassemble, modify, puncture, mechanical shock, crash and/or short the battery, it may cause leakage, smoke emission, ignition, explosion and even fire, which may result in personal injury and property damage.
- Short circuit may cause fire and injury! If you need to cut the terminal wires of the battery, it is necessary to cut each wire seperately, ensuring the wires not to touch each other.
- Avoid pressing the battery while connecting/disconnecting to the equipment, never dsitroy the outside of the battery or bring the battery into contact with the sharp and hard odjects, or else lead to leaking, balloon, short circuit, even fire.
- Dispose the used or damaged Li-Po batteries at any collecting point in your local authority.

[In the case of Li-po Battery powered model crash]

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

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

[Storage & Transportation]

- 1. Never leave your Li-Po batteries installed in your model when not in use.
- 2. Never throw the battery into the water or other liquid, and do not moisten the battery.
- 3. Do not expose Li-po batteries to direct sunlight for extended period of time or leave it at any heat place such as in a car in hot weather.
- 4. When batteries are transported or temporarily stored in a vehicle, temperature should be higher than 14°F (-10°C) but not over 140°F (60°C)
- 5. Storing battery at temperatures higher than 140°F(60°C) for more than 2 hours may cause damage to battery and may even cause fire.
- 6. Never put your Li-Po batteries in a pressure vessel, and do not take pressure or vacuumize of the battery.

 If the battery is to be stored for a long time, do the coltage checking every 3 months, and charge the battery to about 3.8V/cell so as to prevent over-discharge. Charge and discharge with the current 0.5C every 6 months for activating the battery.

Declaration Of Using Our Products

Even if the vehicle is quite small at the first glance, there is risk of injuries in the case of crash with people(or animals), because of the high acceleration capacity and the high achievable speed. Sharp edges and rotating parts also present a high danger!

This is why you should drive very responsibly and carefully, this is especially the case for inexperienced drivers.

So, here we declaration as below:

- 1. Please do note this manual carefully, especially the attentions parts and if you are a new player without enough experience, we will not take any responsibility for the car damages or injuries caused by incorrect operation!
- 2. Please do not change the matches of the brushless ESC, motor and the Li-Po battery casually, if you want to make a change, please do ask for ideas of professional people, incorrect and unsuitable matches will effect the functions and the car's high performance, even it will cause the damages of the electronic parts and the crash of the car!

We do not take the responsibility of car damages and injuries of unsuitable matches or equipment changes!

3. We have right to change the specification and parameter of the model and without notice in advance pls take the material object as the standard!





















Trooper spare parts list							
30023-servo mounts 2pcs	30028-Antenna pipe & cap 1set	30036-diff. Gear housing	30052-P3 O-ring 10pcs	30061-diff. Gearbox complete 1pcs	30062-main pinion gear w/shaft & pin 1pcs		
88		2	00000		-		
30063-diff. Bevel gear S. w/shaft	30064-spur gear	30065-diff. Gear complete 1pcs	30066-diff. Bevel gear B. w/shaft & E-clip	30067-wheelshaft pin 2.0*9.4 10pcs	30073-ball bearing 5*10*4mm-2pcs		
Pur B		The	-	111111 111111	00		
30075-ball bearing 10x15x4 2pcs	30079-E-ring(φ 2.3*0.4)-10pcs	30082-screw shaft- 2pcs	30083-M3 nylon nut- 10pcs	30084-M4 nylon nut 10pcs	30085M3*3 grub screw 10pcs		
00	88888	71	900000 90 000 000 000 000 000 000 000 0	000000			
30087-M4*4 grub screw 10pcs	30088-socket screw M3*10-10pcs	30094-ISO3*10 screw 10pcs	30095-ISO3*15 FH screw 10pcs	30097-BT2.6*6 screw- 10pcs	- 30098- BT3*8 button head screw10pcs		
88888 88888			mm	99999 99999	TTTT		
30099-BT3*10 BH screw 10pcs	30100-"BT3*14 BH screw 10pcs	30107-front susp.linkage 1pcs	30109-ball stud B 10pcs	30110-ball stud C 10pcs	30116-univ. joint A w/grub screw		
11111 11111	ttttt ttttt		*****	00000	888		
30117-univ. joint C w/grub screw	30217-front bulkheads left & right	30218-rear bulkheads left & right	30235-pin for upper susp. arm 4pcs	30236-pin for lower susp. arm 4pcs	30240-ISO3*12 flat head screw-10pcs		
2222	64	AA	1111	11	HIII		
30244-shocks ball stud 4pcs	30249-drive shaft 2pcs	30284-front shock tower 1pc	30285-rear shock tower	30286-body mount 2pcs	30299-dogbone 2pcs		
6444	41			11	11		

	1	rooper sp	are parts l	ist	
30405-shock sleeve	30406-shock's central shaft-2pcs	30801-TPF2x8 FH screw 10pcs	30849-BM3*6 screw 10pcs	30860-BM3*20.5- 10pcs	32612-φ1.5 Pin B 10pcs
	1	IIIII	IIIII	tttt tttt	R R R R R R R R R R R
32615-antenna holder 1pc	32616-triangle washer 4pcs 3* φ3.1	32630-Ball Bearing 6x12x4 4pcs	32632-Pin φ 2.5*11.5mm 4pcs	32643-E-ring Dia5 8pcs	32715-triangle Washer φ 3.1* φ 7*3.0 10pcs
0	0000	00	1111	2222	00000
32726-shock washer(φ 3.2*φ7.0*0.5)- 10pcs	33143-wheel hub(thickness:5.6mm) - 4pcs	32769-front/rear upper and lower susp.arms	32770-front steering L/R	32781-plastic shock absorber assembly 1pcs	32784-screws 4pcs
00000	0,0,	Inno	: 2. 8ª	11	1111
32785-TPF3*10 FH screw 10pcs	32801-battery cover&battery post	32802-shocks sleeve spacer 2pcs	32826-middle diff.bearing mount	32848-ball bearing ø8* ø16*5-4pcs	32858-diff. Gear
ĦĦĦ		88	S. S.	00	000
32865-diff.box washers6pcs	32866-spur gear 44T	32868-O ring ø2*ø6 - 6pcs	32895-spur gear shaft-4pcs	32900-ISO3*18 FH screw 10pcs	32912-ISO4*12 FH screw 10pcs
000	3	000	1111	IIIII	IIIII
32913-socket screw M4*12 4pcs	32914-BM 3*36 screw 10pcs-	33021-upper susp.arm's ball end- 10pcs	33036-servo horn A and B 1set	33037-ISO 2*12 screws 10pcs	33128-front bumper set
1111			4	IIIII	
33129-bumper mount	33133-Triangle support plate (glass fiber)	33134-central. Diff connecting plate (glass fiber)	33135-upper plate (glass fiber)	33136-support rod Φ 6*38.5 1pcs	33137-chassics-1pcs
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33138-motor mont wit	h 33139-front central	33140-rear central	33141-linkage rod ϕ	33144-steering/rear	33145-servo saver
screws /	joint shaft φ6.8*45.0- 1pcs	joint shaft_φ 6.8*157.5-1pcs	3.1* \$\$\phi\$ 7*4.9-2pcs	linkage rod	complete-1pcs
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33146-ball end	33147-central. Diff outdrive shaft 2pcs	33148-motor gear 14Twith screws	33155-guard plate	33156-ISO3*8(black) screws10pcs	B0047P-printed body shell
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33311-tyre-2pcs	33312-inner sponge- 2pcs	33374-wheel			
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Upgraded Parts List

30350-CVD 2pcs	33045-front metal shock-2pcs	33092-rear metal shock-2pcs	33340-servo saver completed-1pcs	
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