

# BSD-RACING

## *1/5 4WD ELECTRIC-POWERED BRUSHLESS BUGGY*

*MODEL NO.: BS511T*



### **Product Features:**

- Length: 742mm
- Width: 450mm
- Height: 270mm
- Wheelbase: 480mm
- Front tyres: 160/60mm
- Rear tyres: 160/80mm
- Motor: KV1620
- Esc: EZRUN-150N
- Battery: Two 7.4v 5200mah 25C Lipo battery

## Instruction Manual

### Highlights:

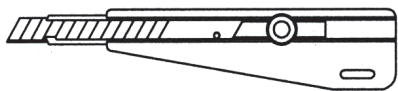
- Four wheel drive
- Motor: high performance brushless motor KV 1620
- Brushless electronic speed controller 150N
- Twin 7.4V 5200mAh 25C lipo batteries
- 6061 T6 3mm aluminium alloy, fully assembled
- Auto-shift 3 diff transmission
- Independent, colored coil spring damped suspension arms
- 2.4GHz radio system
- Adjustable threaded oil-filled shock absorbers
- Sealed, water-proof and dust proof gear boxes
- Diff gears with four bevel gears
- Ball bearing mounted on model

### **⚠ SAFETY PRECAUTIONS**

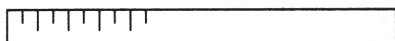
- This radio controlled racing car is not a toy!
- This high-performance R/C model is recommended for ages 14 and older.
- First-time builders should seek the advice of experienced modellers before commencing assembly.
- Take enough safety precautions prior to operating this model.  
You are responsible for this model's assembly and safe operation!

# Required equipment for operation

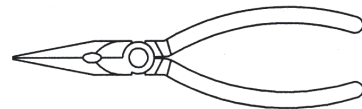
## 1. Tools required for building and maintenance:



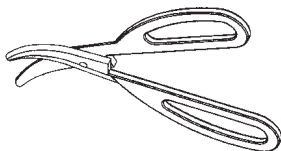
● Hobby knife



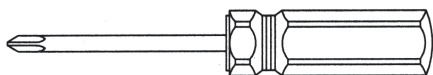
● Precision ruler



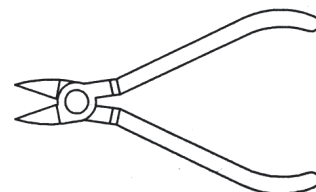
● Needle nose pliers



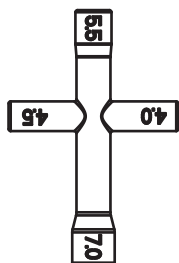
● Lexan scissors



● Flat and Philips screwdriver



● Wire cutters



● Cross wrench



● Cross wrench



● CA glue & rubber cement



● Thread locking compound



2.0mm



2.5mm



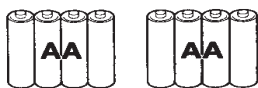
3.0mm

● Hex wrench

## WARNING!

Do not use a power screw driver to install screws into nylon or plastic materials. The fast locking may heat up the screws being installed that may break the molded parts or strip the threads during installation.

## 2. Additional items needed for operation:



8pcs AA alkaline batteries for transmitter



BS7004F

## IMPORTANT!

Check all the screws are tight before playing the vehicle!  
Use thread lock on all screws that work loose.

# Please read the instruction carefully before starting the assembly.

1. Please assemble and install this car without children's reach. As it includes small and sharp parts.
2. Do not run the car on public streets or highways. As it might cause serious accidents, personal injuries and property damage etc.
3. During the middle of racing and after operation, the engine and exhaust will become HOT. Therefore please do not touch them before cooling down.
4. Please make sure everyone is using different frequencies while racing the car in the same area.

## 2.4GHz radio instructions

### Special symbols

Please pay attention to the following symbols, and read them carefully.



**Danger:** If the operator does not operate according to the instructions, it may lead to serious injuries, even mortal danger.



**Warning:** If the operator does not operate according to the instructions, it may lead to serious injuries, even mortal danger.



**Attention:** If the operator does not operate according to the instructions, it may lead to serious injuries, even mortal danger. but generally it will not cause serious injuries to the operator.

### Safety guidelines

Don't drive the truck at night, bad weather such as rainy or thundering days. It will interfere the transmitter signal. Thereby it will cause out of control and unexpected accident.

Before you drive, please make sure the movement of servo corresponds with the direction of joysticks. If inconsistent, please adjust before drive.

You need to turn the throttle channel(ch2) and inching switch to the lowest before use. Then switch on the transmitter power, finally connect the receiver.

The sequence to shutdown is to turn off the receiver power first, and then the transmitter power.

If the above operations are reversed, it might lead to out of control and cause accident.

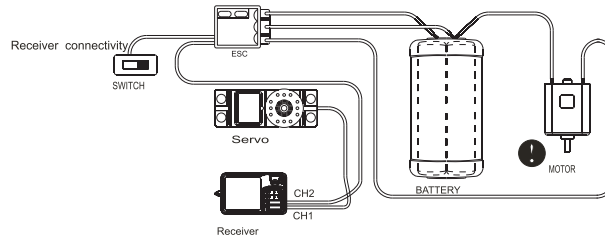
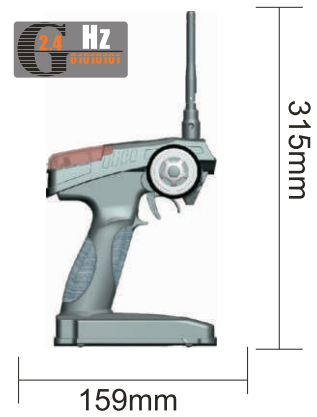
### Battery charging



If your transmitter, receiver use a nickel-cadmium, nickel-metal hydride rechargeable battery, you have to check it before use. If lack of electricity, it could cause inadequate control or out of control, resulting in accident. So please charge it immediately when the battery power is low.

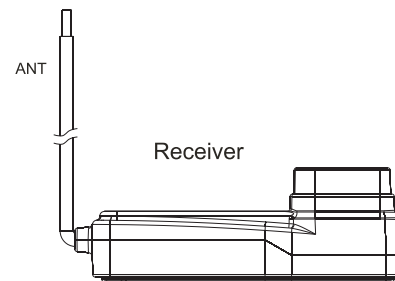
## Transmitter Specifications :

Channels: 2 channels  
 Model Type: Car/boat  
 RF Power: Less than 20dbm  
 Modulation: GFSK  
 Code Type: Digital  
 Sensitivity: 1024  
 Low Voltage Warning: Yes (less than 9V)  
 DSC Port: Yes (3.5mm)  
 Charger Port: Yes  
 Power: 12vdc (1.5AA\*8)  
 Weight: 328g  
 ANT Length: 26mm  
 Size: 159\*99\*315mm  
 Color: Black  
 Certificate: CE FCC



## Note:

Place the antenna of the receiver vertically, and do not have contact with metal component. (See Figure1)



## Binding:

The transmitter and receiver should already be bound by the factory by default .

1. Install batteries into the transmitter and shut it down.
2. Insert the bind cable on to the bind channel (Ch3) on the receiver. (Figure.2)
3. Connect the receiver battery to the VCC port on the receiver .The two LEDs on the receiver should flash rapidly, indicating the receiver is in binding state .
4. Press and hold the bind button on the transmitter , and then turn on the transmitter.
5. The LED on the receiver should stop flashing when the binding process completed (about 5 second)
6. Release the bind button on the transmitter , remove the bind cable from the receiver.
7. Install the servo and then test.
8. If the test succeeds , then remove the power supply from the VCC port.
9. The binding process completed.

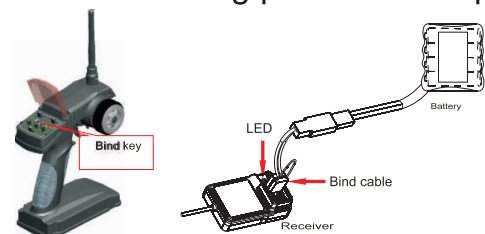
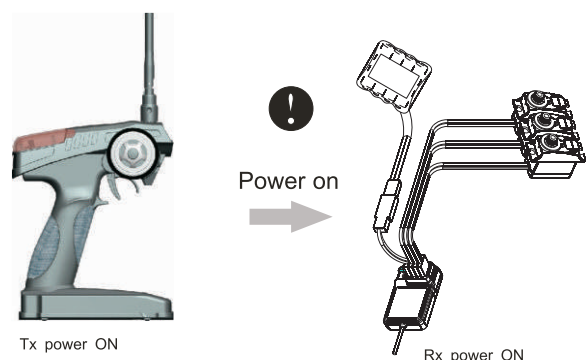


Figure 2

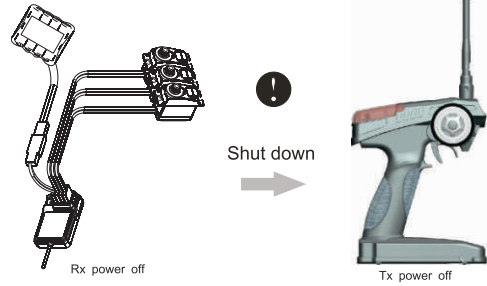
## Turn On:

1. Turn on the transmitter.
2. Connect the power supply of the receiver.
3. Receiver LED light should turn solid.
4. Ready to use.

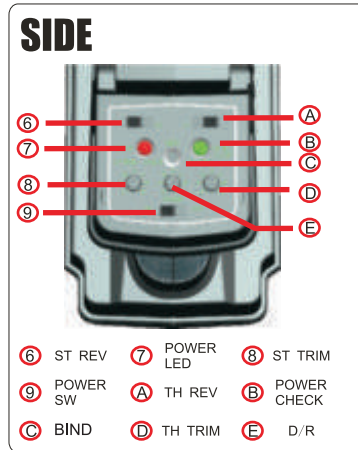
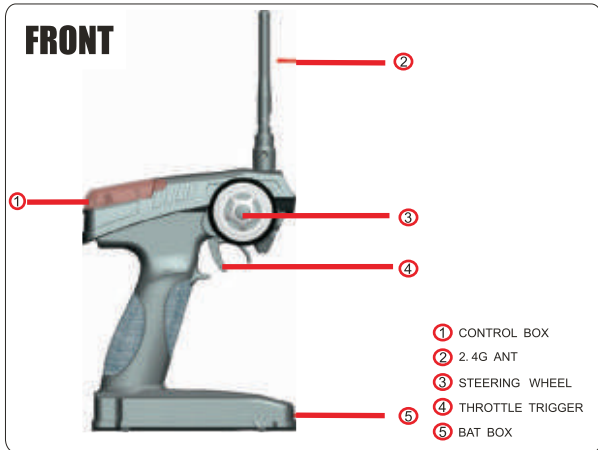


## Shut Down:

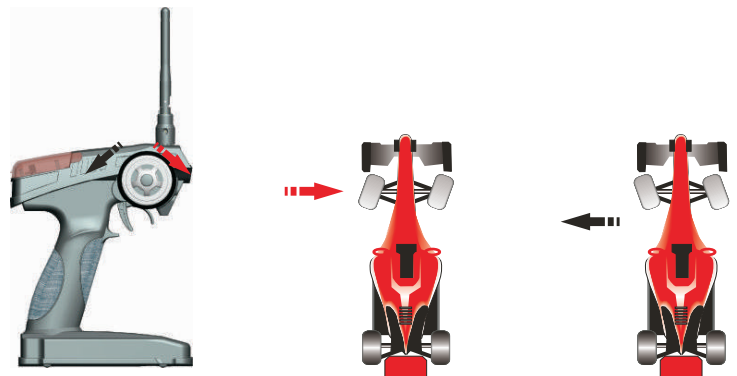
1. Disconnect the receiver's power supply.
2. Turn off the transmitter.



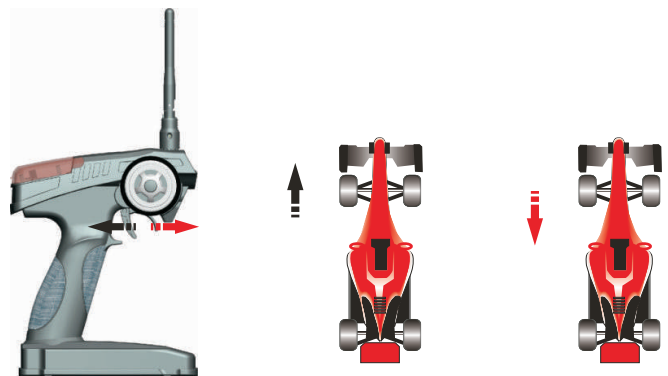
## Transmitter Functions:



This function is to control the direction of the vehicle



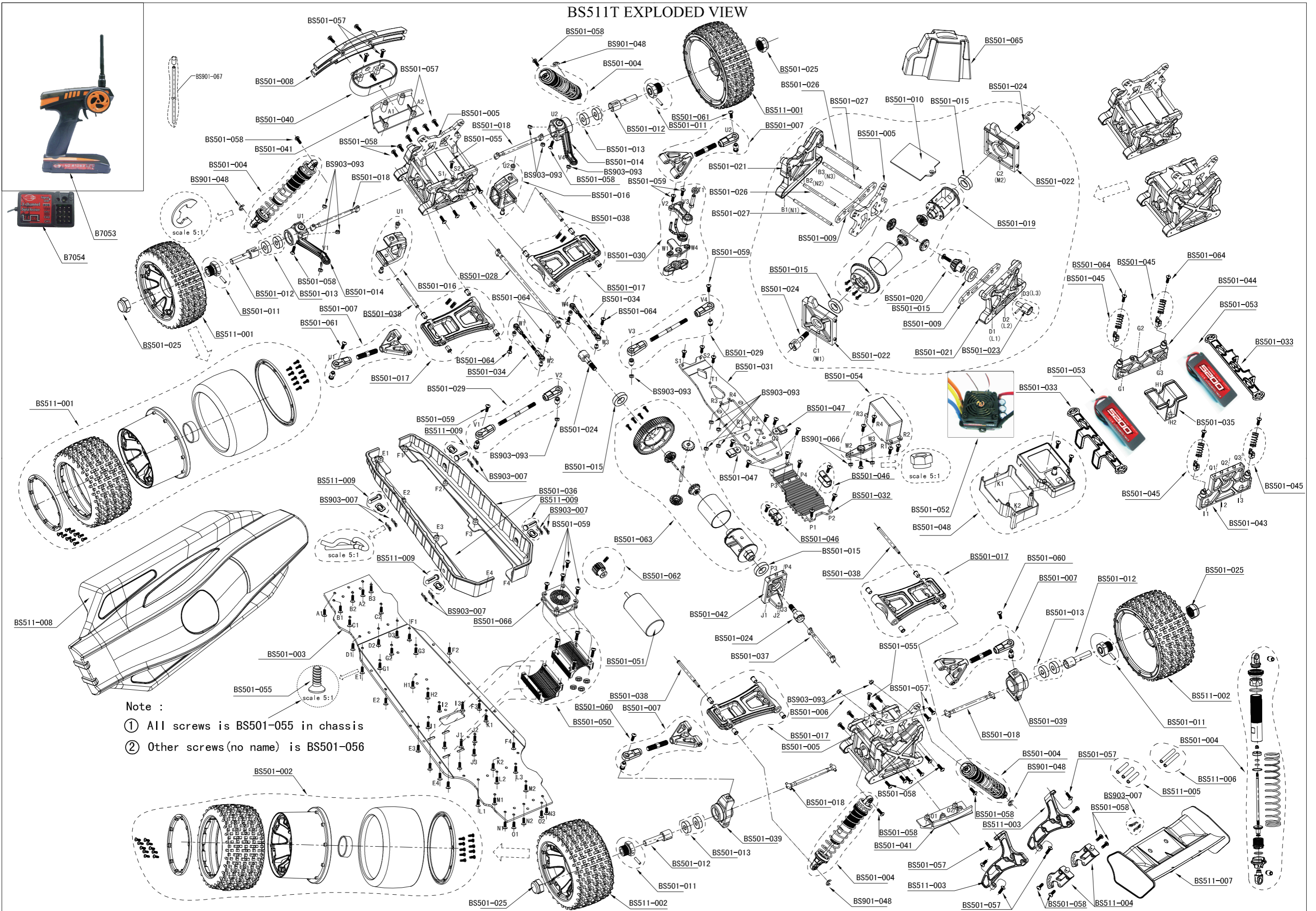
This function is to control the throttle speed of the vehicle



# PARTS LIST

Item No.	Description	Item No.	Description
BS501-003	Chassis 1 pcs	BS501-026	Upper suspension arm pin 4pcs
BS501-004	Shock absorber unit 2pcs	BS501-027	Lower suspension arm pin 4pcs
BS501-005	Shock mount 2 pcs	BS501-028	Front drive shaft 1 pcs
BS501-007	Upper suspension arms 2pcs	BS501-029	Steering link set 2 pcs
BS501-008	Bumper 2 pcs	BS501-030	Steering servo saver set 1 pcs
BS501-009	Lower suspension mount 2 pcs	BS501-031	Front upper deck 1 pcs
BS501-010	Gear box upper cover 2 pcs	BS501-032	Rear upper deck 1 pcs
BS501-011	Rim hub w/pins 2 pcs	BS501-033	Battery cover
BS501-012	Axel 2 pcs	BS501-034	Servo saver link set 2 pcs
BS501-013	Ball bearing 2 pcs ( $\Phi 10 * \Phi 22 * 6\text{mm}$ )	BS501-035	Battery base 1 pcs
BS501-014	Steering arms 2 pcs	BS501-036	Sideguards L/R 1 set
BS501-015	Ball bearing 2 pcs ( $\Phi 15 * \Phi 28 * 7\text{mm}$ )	BS501-037	Rear drive shaft 1 pcs
BS501-016	C-hub set 2 pcs (C-hub 2 pcs / Chub screw washer 4 pcs)	BS501-038	Lower suspension arm shaft 2pcs
BS501-017	Suspension arms set (lower) suspension arms 2 pcs/bushings 8 pcs	BS501-039	Rear hub 2pcs
BS501-018	Transverse driver shaft set 2pcs	BS501-040	Bumper mount 2 pcs
BS501-019	Diff gear box unit 1 pcs	BS501-041	Bumper chassis 2 pcs
BS501-020	Pinion gear set 1 pcs (gear 15T 1 pcs/screws 1 pcs)	BS501-042	Central diff rear mount 1 pcs
BS501-021	Diff gear front cover 1 pcs/ rear cover 1 pcs)	BS501-043	Central diff front mount 1 pcs
BS501-022	Diff gear left cover 1 pcs/ right cover 1 pcs)	BS501-044	Steering saver lower mount 1 pcs
BS501-023	Diff. outdrive A 1 pcs/pin 1pcs	BS501-045	Battery mount
BS501-024	Diff. outdrive B 2pcs	BS501-046	wire mount A 2 pcs
BS501-025	M18 nut 2 pcs	BS501-047	Wire mount 2 pcs
		BS501-048	Receiver cover upper/lower set w/screws 2 pcs
		BS501-049	Painted body 1 pcs
		BS501-050	Motor mount Upper/lower set/Hex screw 4 pcs/ screw washer 4 pcs
		BS501-051	Brushless motor Kv1550 1 pcs

# BS511T EXPLODED VIEW



Note :

- ① All screws is BS501-055 in chassis
- ② Other screws(no name) is BS501-056

# PARTS LIST

Item No.	Description	Item No.	Description
BS501-052	Brushless ESC 150A	1 pcs	BS501-064 B head cross screw BM3*16
BS501-053	Lipo batteries 7.4V 5200mAh	1 pcs	12pcs
BS501-054	18KG Servo	1 pcs	BS501-065 Motor dustproof cover
BS501-055	Flat head hex fine pitch screws HM4*12	12 pcs	1 pcs
BS501-056	B head hex fine pitch screws HM4*12	12 pcs	BS803-030 Cooling fan
BS501-057	B head hex fine pitch screws HM4*16	12 pcs	1 pcs
BS501-058	B head hex fine pitch screws HM4*20	12 pcs	BS903-007 Body pins
BS501-059	B head hex fine pitch screws HM4*25	12 pcs	6 pcs
BS501-060	B head hex fine pitch screws HM4*30	6 pcs	BS903-093 M4*4 lock nut
BS501-061	B head hex fine pitch screws HM4*37	6 pcs	BS901-048 E clip
BS501-062	Motor gear 1 pcs/grub screw	1 pcs	BS901-066 M3 lock nut
BS501-063	Central diff unit	1 set	BS901-067 Antenna pipe w/cap
			3Pcs
			BS7053 2.4GHz radio transmitter
			1 pcs
			BS7054 2.4GHz receiver
			1 pcs
			BS511-001 Front tyre set
			2 pcs
			BS511-002 Rear tyre set
			2 pcs
			BS511-003 Rear wing lower mount
			1 pcs each
			BS511-004 Rear wing upper mount
			1 pcs each
			BS511-005 Rear wing bushing A
			3 pcs
			BS511-006 Rear wing bushing B
			2 pcs
			BS511-007 Rear wing
			1 pcs
			BS511-008 Painted body
			1 pcs
			BS511-009 Body post
			4 pcs





BS501-003 Chassis 1pcs



BS501-004 Shock absorber unit 2pcs



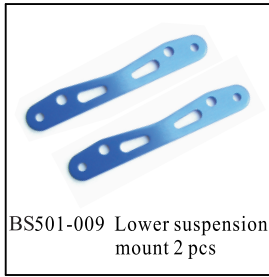
BS501-005 Shock mount 2pcs



BS501-007 Upper suspension arms 2pcs



BS501-008 Bumper 2pcs



BS501-009 Lower suspension mount 2pcs



BS501-010 Gear box upper cover 2pcs



BS501-011 Rim hub w/pins 2pcs



BS501-012 Axle 2pcs



BS501-013 Ball bearing 2pcs (Φ10 \* Φ22 \* 6mm)



BS501-014 Steering arms 2pcs



BS501-015 Ball bearing 2pcs (Φ15 \* Φ28 \* 7mm)



BS501-016 C-hub set 2pcs C-hub 2pcs/C hub screw washer 4pcs



BS501-017 Suspension arms set (lower suspension arms 2pcs/bushings 8pcs)



BS501-018 Transverse driver shaft set 2pcs



BS501-019 Diff gear box unit 1pcs



BS501-020 Pinion gear set 1pcs (gear 15T 1pcs/screws 1pcs)



BS501-021 Diff gear front cover 1pcs/rear cover 1pcs



BS501-022 Diff gear left cover 1pcs/right cover 1pcs



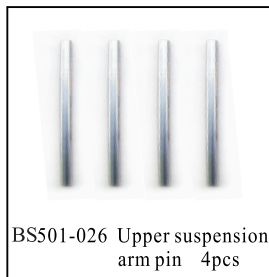
BS501-023 Diff. outdrive A 1pcs/pin 1pcs



BS501-024 Diff. outdrive B 2pcs



BS501-025 M18 nut 2pcs



BS501-026 Upper suspension arm pin 4pcs



BS501-027 Lower suspension arm pin 4pcs



BS501-028 Front drive shaft 1pcs



BS501-029 Steering link set 2pcs



BS501-030 Steering servo saver set 1pcs



BS501-031 Front upper deck 1pcs



BS501-032 Rear upper deck 1pcs



BS501-033 Battery cover



BS501-034 Servo saver link set 2pcs



BS501-035 Battery base 1pc



BS501-036 Sideguards L/R 1 set



BS501-037 Rear drive shaft 1pcs



BS501-038 Lower suspension arm shaft 2pcs



BS501-039 Rear hub 2pcs



BS501-040 Bumper mount 2 pcs



BS501-041 Bumper chassis 2 pcs



BS501-042 Central diff rear mount 1 pcs



BS501-043 Central diff front mount 1 pcs



BS501-044 Steering saver lower mount 1 pcs



BS501-045 Battery mount



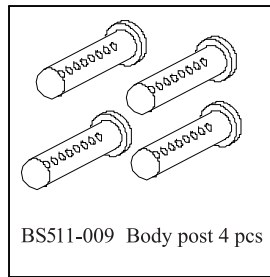
BS501-046 wire mount A 2 pcs



BS501-047 Wire mount 2 pcs



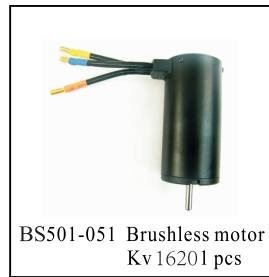
BS501-048 Receiver cover upper/lower set w/screws 2 pcs



BS511-009 Body post 4 pcs



BS501-050 Motor mount Upper/lower set/Hex screw 4 pcs/ screw washer 4 pcs



BS501-051 Brushless motor Kv 16201 pcs



BS501-052 Brushless ESC 150A 1 pcs



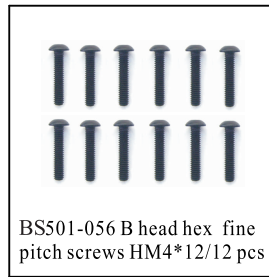
BS501-053 Lipo batteries 7.4V 5200mAh 1 pcs



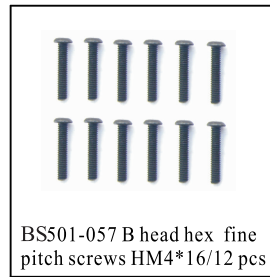
BS501-054 18KG Servo 1 pcs



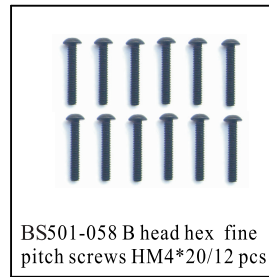
BS501-055 Flat head hex fine pitch screws HM4\*12/12 pcs



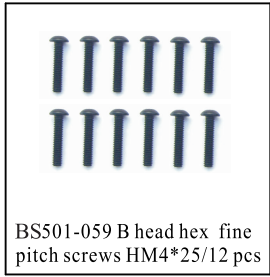
BS501-056 B head hex fine pitch screws HM4\*12/12 pcs



BS501-057 B head hex fine pitch screws HM4\*16/12 pcs



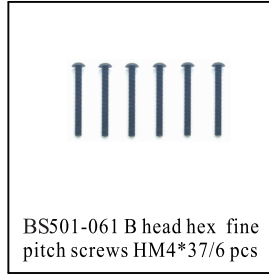
BS501-058 B head hex fine pitch screws HM4\*20/12 pcs



BS501-059 B head hex fine pitch screws HM4\*25/12 pcs



BS501-060 B head hex fine pitch screws HM4\*30/6 pcs



BS501-061 B head hex fine pitch screws HM4\*37/6 pcs



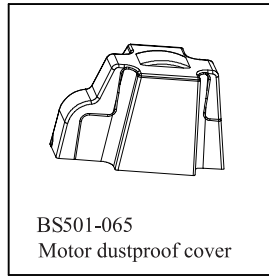
BS501-062 Motor gear 1 pcs/ grub screw 1 pcs



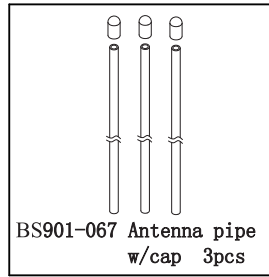
BS501-063 Central diff unit 1 set



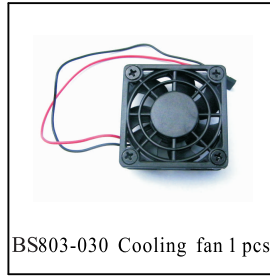
BS501-064 B head cross screw BM3\*16 /12pcs



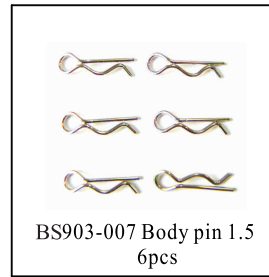
BS501-065 Motor dustproof cover



BS901-067 Antenna pipe w/cap 3pcs



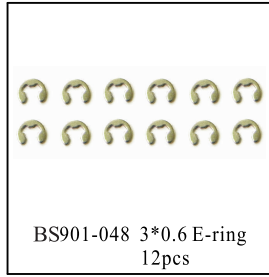
BS803-030 Cooling fan 1 pcs



BS903-007 Body pin 1.5 6pcs



BS903-093 M4\*4 Nylon self-lock nut 6pcs



BS901-048 3\*0.6 E-ring 12pcs



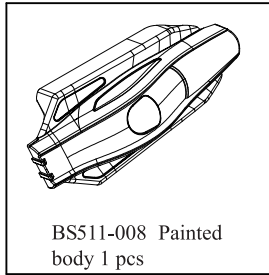
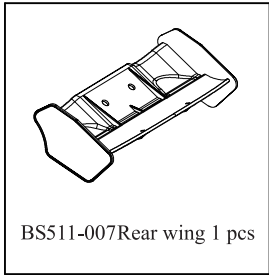
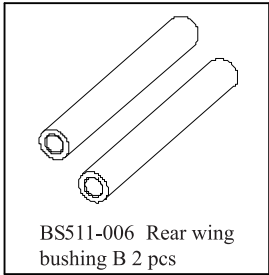
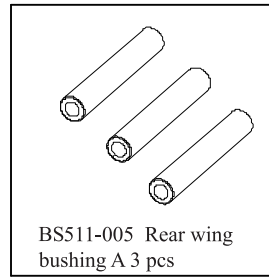
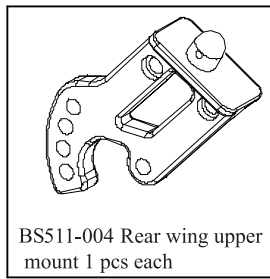
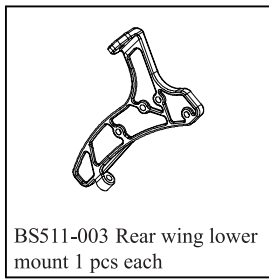
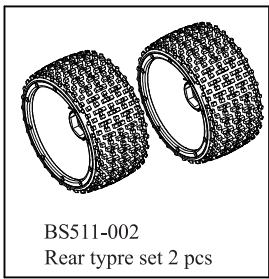
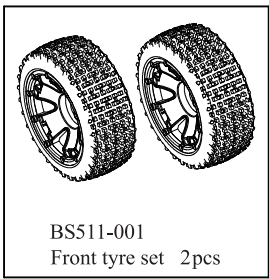
BS901-066 M3 lock nut 5pcs



BS7053 2.4GHz Transmitter



BS7054 2.4GHz Receiver



# Precautions and Warnings for Use and Handling of Lithium Polymer Battery

## Preface

In order to get the optimum performance and reliable safety, consumers shall read and take the following instructions and precautions when use and handle the Lithium Polymer (Li-Po) batteries.

## 1. Charging

1-1 Charging current should not be more than the maximum charge current specified in the Product Specification (normally 0.5C-1.0C or lower). Charging with higher current may damage the cell or even lead to safety problem, e.g. overheating or leakage.

1-2 Charging voltage shall not be more than that specified in the Product Specification (4.2V/cell). 4.25V is the maximum charging voltage for each cell. Never charge the battery in series and be sure that each single cell has a separated charging circuit with a max. charging voltage of 4.25V. Or the battery may be overcharged, and lead to fire or explosion. The user is fully responsible to the result of misusing the battery.

1-3 Charging temperature: The cell should be charged within the range of temperatures specified in the Product Specification. Stop charging immediately when the surface temperature of the battery is over 50°C.

1-4 Reverse charging: Please make sure the polarities of cells are connected properly before charging. Reverse charging is strictly prohibited. Reverse charging cannot charge the cells but will deteriorate their charging/discharging and safety characteristics, or even lead to fire or explosion.

## 2. Discharging

2-1 Discharging current: The cell shall be discharged at the current no more than the maximum discharging current specified in the Product Specification. Over current discharging may damage the battery and cause over-heat.

2-2 Operation temperature: Use the battery within the temperature range specified in the Product Specification. Stop using when temperature is over 70°C.

2-3 Over-discharging: Over-discharging will deteriorate the cell's performance and characteristics. Do not over-discharge a battery below 2.75V/cell.

## 3. Storage

If you intend to keep the battery for a long time (3 months or longer), it is strongly recommended that the battery shall be stored under the environment with temperature 10-25°C, low humidity and without corrosive gas. The battery should be charged every six months to ensure that each cell's storage voltage is 3.6~3.9V.

## Others

>The aluminum packing foil is very soft that it will be easily left scratches. Please do not hit the cell with any sharp edge parts.

>Don't fall, hit or bend the battery. It may cause fire or explosion.

>Short circuit the battery is strictly prohibited, it may damage the battery seriously.

>Never disassemble the battery. It may cause fire.

>Never dispose of the battery in fire. It is very dangerous and strictly prohibited.

>To place the battery into liquid such as water is strictly prohibited.

>Always remove battery from car when charging. Charging the battery in a car is forbidden and is dangerous.

>Avoid vibration, shock or extruding the battery. Handle carefully when moving it.

# **BSD Racing**

**<http://www.bsdracing.com>**