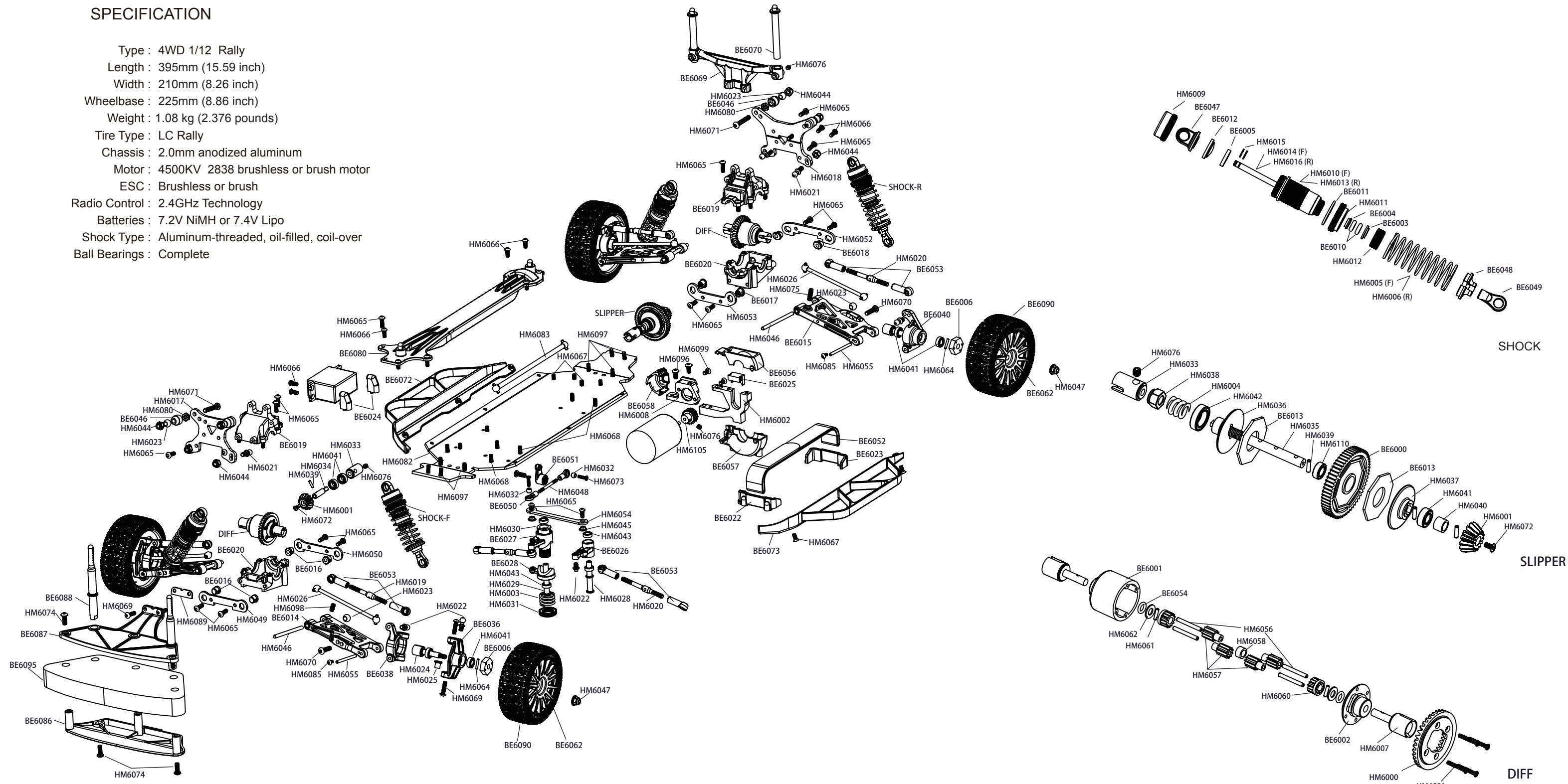


Instruction Manual

SPECIFICATION

- Type : 4WD 1/12 Rally
- Length : 395mm (15.59 inch)
- Width : 210mm (8.26 inch)
- Wheelbase : 225mm (8.86 inch)
- Weight : 1.08 kg (2.376 pounds)
- Tire Type : LC Rally
- Chassis : 2.0mm anodized aluminum
- Motor : 4500KV 2838 brushless or brush motor
- ESC : Brushless or brush
- Radio Control : 2.4GHz Technology
- Batteries : 7.2V NiMH or 7.4V Lipo
- Shock Type : Aluminum-threaded, oil-filled, coil-over
- Ball Bearings : Complete



Spare part package

Spare part

Spare part name

- (L6014) HM6000 37T RING GEAR
- (L6014) HM6001 15T PINION GEAR
- (L6027) HM6002 MOTOR MOUNT
- (L6023) HM6003 STEERING SPRING
- (L6012) HM6004 SLIPPER SPRING
- (L6022) HM6005 FRONT SHOCK SPRING
- (L6021) HM6006 REAR SHOCK SPRING
- (L6015) HM6007 DIFF OUTDRIVE
- (L6027) HM6008 MOTOR MOUNT ADJUSTER
- (L6021) HM6009 SHOCK UPPER CAP
- (L6022) HM6010 FRONT SHOCK BODY
- (L6021) HM6011 SHOCK ADJUSTOR
- (L6021) HM6012 SHOCK BOTTOM CAP
- (L6021) HM6013 REAR SHOCK BODY
- (L6022) HM6014 FRONT SHOCK SHAFT
- (L6021) HM6015 E-RING 2.3
- (L6021) HM6016 REAR SHOCK SHAFT
- (L6009) HM6017 FRONT SHOCK TOWER
- (L6009) HM6018 REAR SHOCK TOWER
- (L6019) HM6019 TURNBUCKLE L35
- (L6019) HM6020 TURNBUCKLE L40
- (L6031) HM6021 4.3 BALL LONG
- (L6031) HM6022 4.3 BALL SHORT
- (L6021) HM6023 5.8 BALL
- (L6017) HM6024 AXLE
- (L6007) HM6025 SWERVE BUSHING
- (L6018) HM6026 F&R DOGBONE
- (L6030) HM6028 LEFT STEERING POST
- (L6030) HM6029 RIGHT STEERING POST

- (L6023) HM6030 STEERING POST
- (L6023) HM6031 STEERING NUT
- (L6024) HM6032 4.0 BALL
- (L6012) HM6033 DRIVE CUP
- (L6013) HM6034 PINION GEAR SHAFT
- (L6012) HM6035 SLIPPER SHAFT
- (L6012) HM6036 FRONT SLIPPER PAD
- (L6012) HM6037 REAR SLIPPER PAD
- (L6012) HM6038 M4 LOCK NUT
- (L6012) HM6039 PIN 1.5X6
- (L6012) HM6040 SPACER BUSH
- (L6012) HM6041 BEARING 4X8X3
- (L6012) HM6042 BEARING 7X11X3
- (L6042) HM6043 BEARING 4X7X2.5
- (L6041) HM6044 M3 LOCK NUT
- (L6023) HM6045 STEERING LINK BUSHING
- (L6006) HM6046 HINGE PIN
- (L6041) HM6047 M3 FLANGE LOCK NUT
- (L6024) HM6048 SERVO CONNECTING LINK
- (L6011) HM6049 SUSPENSION MOUNT FF
- (L6011) HM6050 SUSPENSION MOUNT FR
- (L6011) HM6052 SUSPENSION MOUNT RR
- (L6011) HM6053 SUSPENSION MOUNT RF
- (L6023) HM6054 STEERING PLATE
- (L6006) HM6055 LOWER ARM SHAFT
- (L6015) HM6056 PIN 1.5X13.4
- (L6015) HM6057 DIFF GEAR 10T
- (L6015) HM6058 DIFF SPACER BUSH
- (L6015) HM6060 DIFF GEAR 14T
- (L6015) HM6061 PIN 1.2X5
- (L6015) HM6062 WASHER 3X6X0.5
- (L6042) HM6063 BEARING 8X12X3.5
- (L6016) HM6064 PIN 1.5X8

- (L6041) HM6065 TM2.6X8mm
- (L6041) HM6066 TM2.6X6mm
- (L6041) HM6067 KM2.6X6mm
- (L6041) HM6068 KM2.6X8mm
- (L6041) HM6069 TM2.6X10mm
- (L6041) HM6070 TM3.0X12mm
- (L6041) HM6071 TM3.0X18mm
- (L6041) HM6072 KM2.0X4mm
- (L6041) HM6073 KM2.0X8mm
- (L6040) HM6074 TM3.0X8mm
- (L6006) HM6075 SET SCREW M3x10
- (L6012) HM6076 SET SCREW M3x3
- (L6041) HM6078 TM2.0X6mm
- (L6050) HM6079 R BUTTON
- (L6041) HM6080 M3 NUT
- (L6041) HM6081 KB1.4X10mm
- (L6034) HM6082 LONG CHASSIS
- (L6037) HM6083 LONG MIDDLE DOGBONE
- (L6041) HM6085 TM2.0X4mm
- (L6041) HM6096 TM3.0X6mm
- (L6041) HM6097 KM2.6X10mm
- (L6006) HM6098 SET SCREW M3x6
- (L6024) HM6100 PW2.6X6X0.5
- (L6032) HM6105 Pinion Gear 17T
- (L6012) HM6110 OIL BEARING 4X7X2.5
- (L6005) BE6000 SPUR GEAR 60T
- (L6015) BE6001 DIFF HOUSING
- (L6015) BE6002 DIFF COVER
- (L6021) BE6003 SHOCK SHAFT BUSHING
- (L6021) BE6004 SHOCK BUSHING
- (L6021) BE6005 SHOCK PISTON
- (L6016) BE6006 WHEEL HEX
- (L6021) BE6010 O-RING 2.8x6.6x1.9

- (L6021) BE6011 O-RING 15X13X1.0
- (L6021) BE6012 DIAPHRAGM
- (L6012) BE6013 SLIPPER SHEET
- (L6006) BE6014 FRONT SUSPENSION ARM
- (L6006) BE6015 REAR SUSPENSION ARM
- (L6011) BE6016 SUSPENSION ARM ADJUSTER A
- (L6011) BE6017 SUSPENSION ARM ADJUSTER B
- (L6011) BE6018 SUSPENSION ARM ADJUSTER C
- (L6010) BE6019 DIFF GEAR BOX UPPER HOUSING
- (L6010) BE6020 DIFF GEAR BOX BOTTOM HOSUSING
- (L6008) BE6022 FRONT POSITIONER MOUNT
- (L6008) BE6023 REAR POSITIONER MOUNT
- (L6024) BE6024 SERVO MOUNT
- (L6012) BE6025 SLIPER BRACE
- (L6023) BE6026 BELLCRANK Left
- (L6023) BE6027 BELLCRANK RIGHT UP
- (L6023) BE6028 BELLCRANK RIGHT BELOW
- (L6020) BE6029 REAR DIFF GEAR BOX SPACER
- (L6007) BE6036 SPINDLE CARRIER L
- (L6007) BE6037 SPINDLE CARRIER R
- (L6007) BE6038 LEFT SPINDLE
- (L6007) BE6039 RIGHT SPINDLE
- (L6007) BE6040 LEFT REAR HUB
- (L6007) BE6041 RIGHT REAR HUB
- (L6009) BE6046 SHOCK POST
- (L6021) BE6047 SHOCK TOP BALL CAP
- (L6021) BE6048 SHOCK SPRING RETAINER
- (L6021) BE6049 SHOCK BALL END
- (L6024) BE6050 4.0mm CUP
- (L6024) BE6051 SERVO HOM
- (L6008) BE6052 BATTERY STRAPS
- (L6019) BE6053 BALL CAP
- (L6015) BE6054 O-RING 3X5

- (L6028) BE6056 SPUR GEAR COVER TOP
- (L6028) BE6057 SPUR GEAR COVER BOTTOM
- (L6028) BE6058 GEAR COVER
- (L6004) BE6062 RALLY WHEEL
- (L6033) BE6069 REAR BODY MOUNT
- (L6033) BE6070 REAR BODY POST
- (L6035) BE6072 RIGHT SAFEGUARD
- (L6035) BE6073 LEFT SAFEGUARD
- (L6036) BE6080 SC BRACE SPACER
- (L6040) BE6086 RALLY BUMPER
- (L6040) BE6087 RALLY BUMPER MOUNT
- (L6040) BE6088 FRONT BODY POST
- (L6040) BE6089 BUNPER WASHER
- (L6004) BE6090 RALLY TIRE
- (L6040) BE6093 RALLY BUMPER EVA
- (L6032) HM6087 Pinion Gear 18T
- (L6032) HM6106 Pinion Gear 19T
- (L6043) CVD Drive Shaft
- (L6044) Li-Po battery
- (L6045) SERVO
- (L6046) Transmitter
- (L6056) Receiver
- (L6047) ESC 35A
- (L6048) Brushless motor
- (L6049) NiMH battery
- (L6051) 1/14 RALLY BODY(PVC)
- (L6054) 1/14 RALLY BODY(PC)

TACON-RC guarantees this product to be free of manufacturing faults and material defects. This product has been checked and fine tuned individually by professional staff and quality control staff. The warranty does not cover any component parts damaged by use and modification. Please visit <http://www.taconrc.com> for updated product information.

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 this product.

WARNINGS

- 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 run 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. RC models are prone to accidents, failures, and crashes due to a variety of reasons including, lack of maintenance, driver error, and radio interference. Drivers are responsible for their actions and damage or injury occurring during the operation.

- Do not operate in inclement weather, such as rain, wind, snow and 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.
- After each use, always allow the battery to cool down before recharging. When charging the battery pack, do not over charge! 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 models. 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 model flying 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.
- You should complete a successful pre-run check of your radio equipment and model prior to each run.
- 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 over or heater. Store the model indoors, in a climate-controlled, room temperature environment.

Charge the battery pack

Disconnect the battery from the charger when the charging process completed. Do not charge the battery unattended at all time.

Lithium Polymer (LiPo) Battery Warning

- 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(60 C) will usually become damaged and will catch fire.
- Do not allow 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 over 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 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 operation.
- 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 rang (0 C-45 C)

User Manual of Sensorless Brushless Speed Controllers

Congratulations and thanks for purchasing electronic speed controller (ESC). The brushless power system for RC model can be very powerful and dangerous, so please read this manual carefully. Since we have no control over the installation, application, use or maintenance of this product, in no case shall we be liable for any damages, losses or costs. Besides, we have the rights to change the design, appearance, functions and operational requirements without any notifications.

Features

- ★ Water-proof and dust-proof for all-weather races. (Note: please uninstall the cooling fan before using this ESC in water; Clean and dry it soon after the use for avoiding the connectors get rusty.)
- ★ Proportional brake with 4 steps of maximum brake force adjustment and 8 steps of drag brake force adjustment.
- ★ 9 steps of acceleration (punch) adjustment from "soft" to "Very aggressive" to fit for different kinds of models, tires and tracks.
- ★ Multiple protections: Low voltage cut-off protection / Over-heat protection / Throttle signal loss protection / Motor lock-up protection.
- ★ One-button (the "SET" button on the ESC) to set the ESC, and easy to reset all parameters to the factory default settings.
- ★ Compatible with the optional device ---- the portable Digital LED Program Card, especially convenient for outdoor use.

Specifications

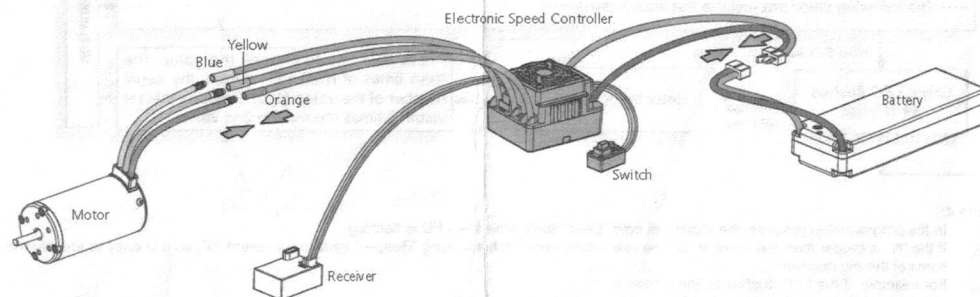
Model	WP-16BL35-RTR
Continuous Current/Peak Current/Resistance	35A/210A/0.002Ω
Motor Type Supported	Sensorless Brushless Motor (compatible with sensored motor but not in sensored)
Car Applicable	1:18 & 1:16 On-road/Off-road/Buggy/Monster
Motor Limit	For 2S Lipo or 6 cells NiMH: 1) On-road: 2435-size motor with the KV<8000 2) Off-road: 2435-size motor with the KV<5000
	For 3S Lipo or 9 cells NiMH: 1) On-road: 2435-size motor with the KV<5500 2) Off-road: 2435-size motor with the KV<3500
Battery	4-9 Cells NiMH, 2-3S Lipo
BEC Output	6V/1A (Linear Mode)
Dimensions/Weight	36(L)*28(W)*16(H) / 38g
Working voltage of Fan	No cooling fan

Begin to Use a New Brushless ESC

Attention! This brushless system is powerful and dangerous, for the safety of your own and those people around you, please turn on the ESC while keeping all the wheels in the air.

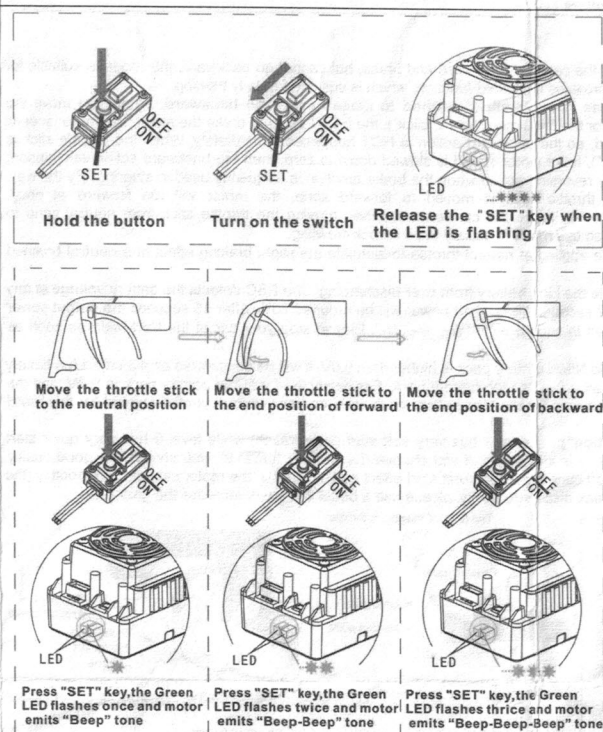
Step 1: Wiring

Connect the ESC, receiver, servo, battery and motor according to the wiring diagram, recheck all the connections before getting into the next step (If the rotation direction is reversed, please swap any two wire connections of the motor).



Step 2: Set the Throttle Range

Note1: In order to make sure the ESC fits the throttle range of your transmitter, you must calibrate it when begin to use a new ESC, or a used transmitter if some of its settings have been changed, like the Throttle Trim, D/R, EPA or other parameters. Otherwise, the ESC cannot work properly. Besides, we strongly recommend users to enable the "failsafe" function of the transmitter, set the "F/S" of the throttle channel to the Shutdown mode or set the protection value to the neutral position, so the car can be stopped if the receiver fails to get the radio signals from the transmitter. Please calibrate the throttle range according to the following steps.



Step 3: Check the LED Status in Normal Running

- 1) When the throttle stick is in the neutral range, neither the Red LED nor the Green LED lights up.
- 2) When the car moves forward, the Red LED solidly lights; the Green LED also lights up when the throttle stick is at the top position (100% throttle).
- 3) When the car brakes, the Red LED solidly lights; the Green LED also lights up when the throttle stick is at the bottom position and the maximum brake force is set to 100%.
- 4) When the car reverses, the Red LED solidly lights; the Green LED also lights up when the throttle stick is at the bottom position and the maximum reverse force is set to 100%.

Explanation for the Beep Sound

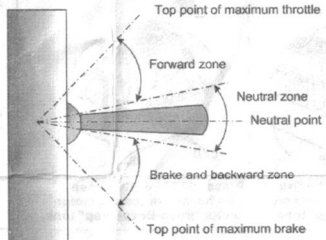
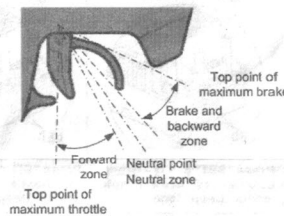
In normal case, when the ESC is switched on, the motor will emit several "Beep" tones to express the cell count of the battery pack. For example, "Beep-Beep" means 2S LiPo, "Beep-Beep-Beep" means 3S LiPo.

Programmable Items (Italics in forms below denote the default values)

Programmable Items	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9
1. Running Mode <i>Note 2</i>	Fw d/Br	Fwd/Rev/Brk	Fw d/Rev						
2. Drag Brake Force	0%	5%	10%	20%	40%	60%	80%	100%	
3. Low Voltage Cutoff	Disable	2.6V/Cell	2.8V/Cell	3.0V/Cell	3.2V/Cell	3.4V/Cell			
4. Start Mode (Punch)	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9
5. Max. Brake Force	25%	50%	75%	100%	Disable				
6. Max. Reverse Force	25%	50%	75%	100%					
7. Initial Brake Force	Drag Brake Force	0	20%	40%					
8. Throttle Range	6%(Narrow)	9%(Normal)	12%(Wide)						
9. Timing	0.00 deg	3.75 deg	7.50 deg	11.25 deg	15.00 deg	18.75 deg	22.50 deg	26.25 deg	

Note 2: Fwd=Forward, Rev=Reverse, Brk=Brake

Explanation of Each Programmable Item

- 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 with Brake" mode provides backward function, which is suitable for daily training.
Note: "Forward/Reverse with Brake" mode uses "Double-click" method to make the car go backward. When you 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, then the backward action will happen. The "Double-Click" method can prevent mistakenly reversing action when the brake function is frequently used in steering. By the way, in the process of braking or reversing, if the throttle stick is moved to forward zone, the motor will run forward at once. "Forward/Reverse" mode uses "single-click" method to make the car reverse. When moving the throttle stick from neutral zone to backward zone, the vehicle reverses immediately, so this mode is usually used in rock crawling.
- Drag Brake Force:** Set the amount of drag brake applied at neutral throttle to simulate the slight braking effect of a neutral brushed motor while coasting.
- Low Voltage Cut-Off:** The function mainly prevents the Lipo battery from over discharging. The ESC detects the battery voltage at any time, if the voltage is lower than the threshold for 2 seconds, the output power will be reduced 70%, after 15 seconds the output power will be completely shut off and the red LED flashes in such a way: "☆-, ☆-, ☆-". Please stop your car at the track side as soon as possible to avoid obstructing other racing cars.
Note 3: For NiMH battery, if the voltage of the whole NiMH battery pack is higher than 9.0V, it will be considered as a 3 cells Lipo battery pack; if it is lower than 9.0V, it will be considered as a 2 cells Lipo battery pack. For example, if a NiMH battery pack is 8.0V, and the threshold is set to 2.6V/Cell, so it will be considered as a 2 cells Lipo battery pack, and the low-voltage cut-off threshold for this NiMH battery pack is 2.6x2=5.2V.
- Start Mode (Also called "Punch" or "Acceleration"):** Level 1 has very soft start acceleration, while level 9 has very quick start acceleration. From Level 1 to Level 9, the start force is increasing. If you choose "Level 7" to "Level 9", you should use good quality battery with powerful discharge ability, otherwise you cannot get the burst start effect as you want. If the motor cannot run smoothly (the motor is cogging), sometimes it is caused by the weak discharge ability, please use a better battery or increase the gear ratio.
- Maximum 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.

- Maximum Reverse Force:** Sets how much power will be applied in the reverse direction.
- Initial Brake Force:** It is also called "minimum brake force", which refers to the force when the throttle stick is located at the initial position of the backward zone. The default value is equal to the drag brake force, so the brake action can be very smoothly.

- Throttle Neutral Range:** Please refer to the picture at the lower left corner to adjust the neutral range.
- Timing:** This function can be used to fine-tune the output power of the motor, the bigger the timing, the faster the motor runs or the larger output power of the motor. As the Boost Timing technology has been introduced into this ESC, so under the sensed mode, adjust the ESC timing can greatly increase the motor RPM. Therefore, please remember to enlarge the gear ratio of the chassis and carefully check temperatures of the motor and the ESC after increasing the timing.

Troubleshooting

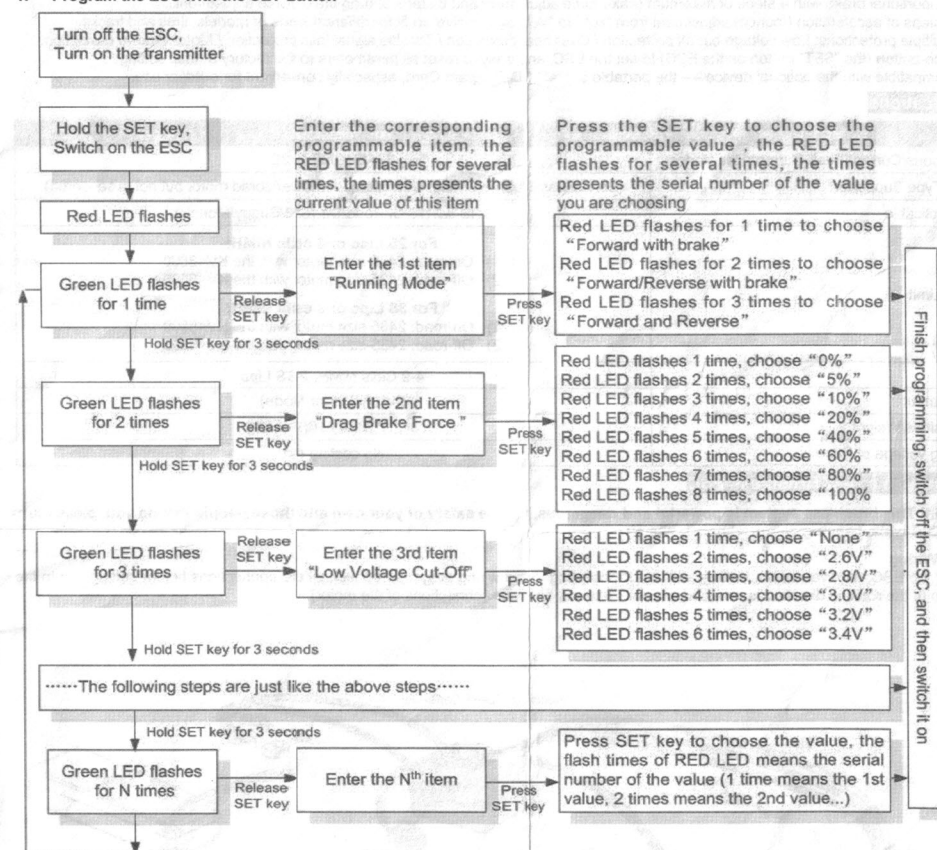
Trouble(s)	Possible Causes	Solution(s)
Turn on the switch, no LED lights up, and neither the motor nor fan works.	No battery voltage is input to the ESC. The switch of the ESC is damaged	Check the connections between the battery and the ESC, re-solder the connectors if needed. Change the switch.
After power on, motor doesn't work but emits "beep-beep-, beep-beep-" alert tone. (there's 1 second pause between 2 "beep-beep-")	The voltage of the battery pack is not in the normal range, it's too high or too low.	Check the voltage of the battery pack.
After power on, the Red LED turns solid red but the motor doesn't work.	The throttle signal wire is oppositely inserted or into the incorrect channel.	Plug the signal wire (Rx lead) correctly into the throttle channel (usually Channel #2) of the receiver.
The car runs backwards when accelerating forward on radio.	The wire connections between the ESC and the motor need to be changed.	Swap any two wire connections between the ESC and the motor.
The car suddenly slows down, then stops about 15 seconds later.	Low voltage cutoff protection (Red LED blinks) Overheat protection (Green LED blinks)	Check the battery voltage. If still has some capacity, lower the cut-off threshold voltage; if not, replace a new battery. Wait several minutes to cool the ESC. Increase the gear ratio or the T number (Turns) of the motor.
The motor stutters, and cannot start up.	The connections between motor and ESC are not reliable. The ESC is damaged.	Check all the solder joints and ensure they are well soldered. Check connectors. Contact the distributor for after-sales service.
The vehicle can go forward but cannot reverse.	The throttle neutral point drifts to the brake area.	Calibrate the throttle neutral point again to ensure that no LED lights when the throttle stick is at the neutral position.

Reset All Items To Default Values

At any time when the throttle is located in neutral zone (except in the throttle calibration or parameters program process), press and hold the "SET" key for over 3 seconds, the red LED and green LED will flash simultaneously, which means each programmable item has been reset to its default value. It needs to be restarted to complete the whole process.

Program the ESC

1. Program the ESC with the SET Button



Note 4:

- In the programming process, the motor will emit "Beep" tone while the LED is flashing.
- If the "N" is bigger than the number "5", we use a long time flash and long "Beep—" tone to represent "5", so it is easy to identify the items of the big number.
For example, if the LED flashes as the following:
 "A long time flash + 1 short time flash" (Motor sounds "B—B") = the No. 6 item
 "A long time flash + 2 short time flash" (Motor sounds "B—BB") = the No. 7 item
 "A long time flash + 3 short time flash" (Motor sounds "B—BBB") = the No. 8 item, and so on.

2. Set the ESC by the Program Card

The Program Card is optional equipment which needs to be purchased separately. It has 3 digital LEDs to display the programmable items' number and the options' number.

(Please refer to the user manual of the program card for detail info)