

4S^{POWER} ESHX^{PLUS+}

1/10 EP MONSTER TRUCK

Thank you for choosing the Team Magic ESHX Plus⁺ 4S Monster Truck.

- » The ESHX Plus⁺ 4S Monster Truck is designed for easy to drive and uses top quality parts for performance and durability. Before you start, we suggest you read through the instruction manual first. We hope you have fun and enjoy our product.

General Operation Tips:

- ▶ Read the instruction manual before operate.
- ▶ Clear a work area and try to work on a light color towel to avoid missing dropped parts.
- ▶ Don't over-tighten fasteners. Many assembly problems are caused by over-tightening screws or nuts. Please driving it slowly and feel the resistance force's feedback.
- ▶ When parts doesn't fit, please double check the position or the condition of parts.
- ▶ Check the instructions when there are any problems. If you cannot figure out what's wrong, please contact dealer, distributor or Team Magic. Don't use force beyond what the instructions call for. Using the right tools makes assembly much easier. The instructions below finely indicate you what tools to get to make things easier.

A Good Dealer is Extremely Important!!

A good hobby dealer can help you with most problems you might encounter.

This is the main reason why we suggest you buy the products from a good dealer rather than from the cheapest dealer.

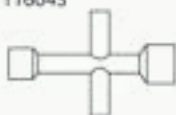
Bring your problematic parts to the dealer and, most likely, you'll walk away soon thereafter with the problem solved.

If you think that you really don't have the mechanical skills to solve the problem, you may pay your dealer to finish the job for you.

- » Thank you for purchasing the ESHX Plus⁺ 4S Monster Truck. Before start, you will need to check the following procedures.

Included Tools

- Cross Wrench (4, 5, 5.5 & 7mm) # 116043

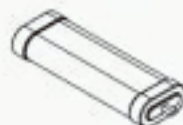


Required Items

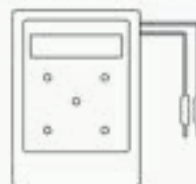
- AA Alkaline Batteries For Transmitter X 4



- 11.1V - 14.8V Rechargeable Battery X 1



- Battery Pack charger



Helpful Equipments

- Hobby Knife
- ▲ Super Sharp Warning!!



- Body Scissors (for body cutting) #116006



- Needlenose Pliers



- TM Black RC Hex Wrench Metric Size 1.5mm #117057-1



- TM Black RC Hex Wrench Metric Size 2.0mm #117057-2



- TM Black RC Hex Wrench Metric Size 2.5mm #117057-3



- TM Black RC Hex Wrench Metric Size 3.0mm #117057-4



- TM Black HC Nut Driver 5.5mm (for 3mm nut) #117010



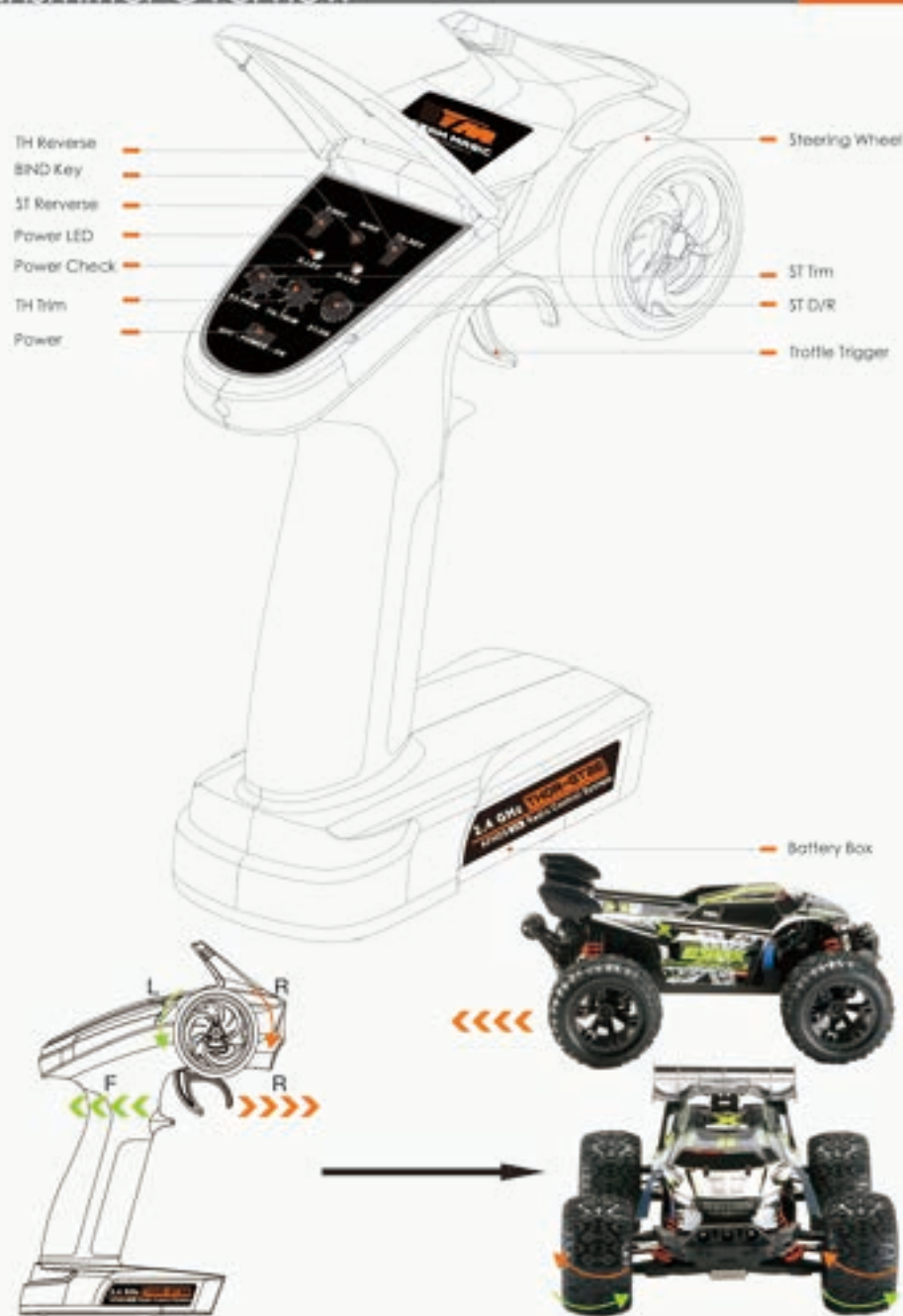
- Circlip Plier #117032



Water Warning

- ▶ After vehicle gets wet, please unplug the ESC from the battery to avoid putting users in danger. Also, rust proofing the bearings and metal parts is highly recommended.
- ▶ If you feel driving in water is necessary, please seal holes in the tires and rims before performing this action to prevent the tire foam from absorbing water inside the tires.

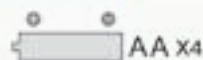




Basic Operations

▶ Install the Battery

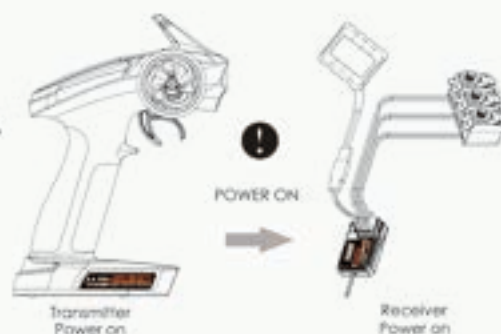
1. Remove the battery compartment cover.
2. Insert 4 fully-charged AA batteries into the compartment.



▶ Power On

Please follow the following steps:

1. Connect everything.
 - Make sure that the batteries are fully charged.
 - Make sure the receiver is off.
2. Move the transmitter's power switch to its on position.
3. Connect the power supply to the receiver. The receiver's LED should be solid to indicate that it is connected.



▶ Binding

The transmitter and receiver have been pre-bound before delivery. If you are using another transmitter or receiver, follow the steps below to bind the transmitter and receiver:

1. Ensure you are using the AFHDS 2A protocol.
2. Insert the transmitter's batteries.
3. Connect the bind cable to the receiver's B/CH3 port.
4. Connect power to the receiver's VCC port. The receiver's LED should begin to flash indicating that it has entered bind mode.
5. On the transmitter:
 - Hold the bind button and toggle the transmitter's power switch to its on position.
 - If the receiver's LED stops flashing then binding has been successful.
6. Let go of the transmitter's bind button and remove the bind and power cable from the receiver.
7. Reconnect power to the receiver's VCC port and test to make sure everything is working as expected, if not, repeat the steps above.



▶ Power Off

1. Disconnect the receiver power.
2. Hold the transmitter's power buttons to turn off the transmitter. Make sure to disconnect the receiver's power before turning off the transmitter. If you turn off the transmitter forcefully (by removing the battery), it may lead to unintended operation and cause an accident.

WP-MAX10/MAX10-SCT-RTR Sensorless Brushless Speed Controller User Manual

Congratulations and thank you for choosing Team Magic products.

By purchasing WP-MAX10/MAX10-SCT-RTR, you have chosen a high performance brushless electronic speed controller! This sensorless speed-control is equipped with high-tech features to enhance your experience with Hobbying Brushless power systems. Improper usage and unauthorized modifications to our product is extremely dangerous and may damage the product and related devices. Please take your time and read the following instructions carefully before you start using your speed control.

Warnings

- Ensure all wires and connections are well insulated before connecting the ESC to related devices.
- Ensure all devices are well connected to prevent poor connection that may cause your vehicle out of control or other unpredictable issues.
- Read through the manuals of all power devices and chassis and ensure the power configuration is rational before using this unit.
- Please use a soldering iron with the power of at least 60W to solder all input/output wires and connectors.
- Do not hold the vehicle in the air and rev it up to full throttle, as rubber tires can expand to extremely size until explode and cause serious injury.
- Stop using the ESC when its casing temperature exceeds 90°C / 194°F to avoid the ESC or the motor gets damaged even destroyed. (We recommend setting the "ESC Thermal Protection" to 105°C / 221°F, this refers to the internal temperature of the ESC.)
- We recommend removing the cooling fan from ESC before exposing vehicle to liquids, and fully dry it right after use.
- Always disconnect batteries after use, as the ESC will continue to consume the current power, even if the ESC is turned off. (A long-time connecting will cause batteries discharge completely and break the ESC.)

Features

- Fully waterproof design for all conditions.
- Super internal switch-mode BEC with switchable voltage of 6V/7.4V for usage with high torque and high voltage servos.
- Highly reliable electronic switch design prevent mechanical switch failure due to dirt, water, dust and etc.
- Separate programming port to easily connect the LED program card or the LCD program box to the ESC.
- Proportional brake with 9 levels of maximum brake force and drag brake force.
- 5 levels of acceleration/punch from soft to aggressive for different vehicles, tires and tracks.
- Capacitor Protection: Innovative Capacitor Protection effectively protects capacitors from exploding and causing irreversible damage to the ESC from overloading.
- Multiple protections: motor lock-up protection, low-voltage cutoff protection, thermal protection, overload protection, and fail safe (throttle signal loss protection).
- Single-button ESC programming and factory reset.
- Advanced programming via portable LED program card.

Specifications

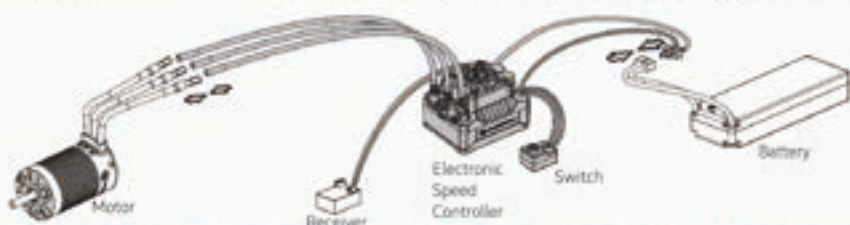
Model	WP-MAX10-SCT-120A-4S-RTR	WP-MAX10-SCT-120A-3S-RTR	WP-MAX10-SCT-120-3S-RTR	WP-MAX10-SCT-80A-3S-RTR	WP-MAX10-RTR
Cont./Peak Current	120A/150A	120A/150A	100A/130A	80A/100A	80A/100A
Motor type	Sensorless Brushless Motor (only in sensorless mode)				
Applications	1/10 Scale Monster Truck, Truck and Monster Truck				
Motor Limit & LiPo / NiMH Cells	25LiPo-6000mAh 25LiPo-6000mAh 40LiPo-6000mAh 240LiPo-10-100mAh	25LiPo-6000mAh 25LiPo-6000mAh 25LiPo-6000mAh 25LiPo-6000mAh	25LiPo-6000mAh 25LiPo-6000mAh 25LiPo-6000mAh 25LiPo-6000mAh	25LiPo-6000mAh 25LiPo-6000mAh 25LiPo-6000mAh 25LiPo-6000mAh	25LiPo-6000mAh 25LiPo-6000mAh 25LiPo-6000mAh 25LiPo-6000mAh
BEC Output	600mA Switchable, 4A	600mA Switchable, Continuous Current of 5A (Switch Mode)			
Fan (Included)	Powered by the stable BEC voltage of 6V/7.4V				
Connectors	Input: 5mm 4-Pin Connector Output: 4mm 4-Pin Female Connector (you added into the PCB of the ESC)				
Size / Weight (mm/g)	48 x 38.5 x 34 mm (36mm x 10mm)				
Programming Port	1x USB/PC Port				

Connections

[BEGIN TO USE THE NEW ESC]

Connect to ESC, Motor, Receiver, Battery and Servo

Wire A and Wire C of the ESC be connected to motor randomly. If the motor runs in the opposite direction, switch any two wire connections.



This is an extremely powerful brushless motor system. For your safety and the safety of those around you, we strongly recommend removing the pinion before performing calibration and programming functions with this system, and keeping wheels in the air when you turn on the ESC.

Radio Calibration

Begin using your ESC by calibrating with your transmitter. We strongly recommend Hobbying users to use the "Fail Safe" function on the radio system and set (F/S) to "Output OFF" or "Neutral Position".

ESC Setting

1. Turn on the transmitter, ensure all parameters (D/R, Curve, ATC) on the throttle channel are at default (100%). For transmitter without LCD, please turn the knob to the maximum, and the throttle "TRIM" to 0. Please also turn the corresponding knob to the neutral position. For Futaba™ transmitter, the direction of throttle channel shall be set to "REV", while other radio systems shall be set to "NOR". Please ensure the "ABS / braking function" of your transmitter must be DISABLED.
2. Start by turning on the transmitter with the ESC turned off but connected to a battery. Holding the SET button and press the ON/OFF button, the RED LED on the ESC starts to flash (Note 1 the motor beeps at the same time), and then release the SET button immediately. (The ESC will enter the programming mode if the SET button is not released in 3 seconds, please restart from step 1.) **Note 1:** Beeps from the motor may be low sometimes, and you can check the LED status instead.
3. Set the neutral point, the full throttle endpoint and the full brake endpoint.
 - 1) Leave transmitter in neutral position and press the SET button. After the RED LED dies out, Mode LED flashes GREEN and motor beeps 1 time. Neutral setting is stored.
 - 2) Hold full throttle on transmitter and press the SET button once. GREEN LED blinks and motor beeps 2 times. Full throttle setting is stored.
 - 3) Push and hold full brake and press the SET button, the GREEN LED blinks and the motor beeps 3 times. Full brake setting is stored.
4. The motor will work 3 seconds after the ESC/Radio calibration is complete.

Power On/Off Warning

- Power ON/OFF: Start with the ESC turned off: Press the ON/OFF bottom to turn on the ESC. Start with the ESC turned on: Press and hold the ON/OFF bottom to turn off the ESC.
- Warning Tones: Turn on the ESC and the motor "beep" sound indicated the type of LiPo cell you have plugged in. For example, 2 beep sounds indicated a 2S LiPo cells; 3 beep sounds means 3S LiPo cells.

Programmable Items

Programmable Items	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9
Running Mode	Fwd/Br	Fwd/Rev/Br							
LiPo Cells	2S	2S	3S						
Low Voltage Cutoff	Disabled	Auto(Low)		Auto(High)					
ESC Thermal Protection	105°C/221°F	125°C/257°F							
Motor Thermal Protection	Disabled								
Motor Rotation	CCW	CW							
BEC Voltage	6.0V	7.4V							
Max Brake Force	12.50%	25.00%	37.50%	50.00%	62.50%	75.00%	87.50%	100.00%	Disabled
Max Reverse Force	25.00%	50.00%							
Start Mode (Punch)	Level 1	Level 2	Level 3	Level 4	Level 5				
Drag Brake	0%	2%	4%	6%	8%	10%	12%	14%	16%

Running Mode

- Option 1: Forward with Brake
It has forward and brake functions only and is usually a racing mode.
- Option 2: Forward / Reverse with Brake
Brake – Push the throttle trigger 1st Reverse – Push the throttle trigger 2nd

Notice! The reverse function will not work if your motor does not stop completely.

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• LiPo Cells

"Auto Calculation" is the default setting. If LiPo Batteries are often used with the same cell amount, setting this function manually to avoid the incorrect calculation which may cause the low-voltage cutoff protection malfunction.

• Cutoff Voltage

Sets the ESC voltage automatically to "Low" or cutoff the power offer to motor in order to keep the battery stay in the safe minimum voltage. The ESC monitors the battery voltage all the time, when it goes below to cutoff threshold, the ESC will reduce the power to 50% immediately and cutoff the output for 10 second.

When the Red LED lights up with short single reaping flash (* , * , *) indicate that the low-voltage cutoff protection is activated.

Notice If the reverse function will not work if your motor does not stop completely.

Warning If you set the Cutoff Voltage to "Disable", please pay attention to the output power change of your vehicle incase the batteries over-discharge.

• ESC Thermal Protection

When the temperature rich to the value you've preset, the ESC will automatically cutoff the output with the Green LED flashing (* , * , *). The output will not resume until the temperature gets down.

• Motor Thermal Protection

This function has been permanently set to "None" by the manufacturer

• Motor Rotation

CW : Clockwise / CCW : Counterclockwise

Pull the throttle trigger with the motor shaft facing you to check the motor rotation, swith any two wires (ESC to motor) if the motor runs in reverse.

• BEC Voltage

Option 1 : 6.0 V applicable to ordinary servos / Option 2 : 7.4 V applicable to high voltage servos

Warning Do not use the option 2 with ordinary servo, it might burnt out due to higher voltage.

• Max. Brake Force

The ESC provides the function to adjust the percentage of the braking power with the full brake applied.

Notice If Higher brake force amount setting will shorten the braking time but causing damage to the pinion and the spur easily.

• Max. Reverse Force

The different reverse amount with the different reversing speed. For your safty, we recommends using the low amount.

• Start Mode / Punch

Punch level : 1 to 5 (very softly to very aggressively). It prevents tires form wheel-spinning during the tire warm-up process.

The level 4 & the level 5 are reqired on the battery's discharge capability which affect the vehicle starting-up and the large current providing in the short time. If the vehicle suddenly loses power in the starting-up process indicated that the discharge capability of battery is poor and needs to reduce the punch or increase the FDR setting (Final Drive Ratio).

• Drag Brake

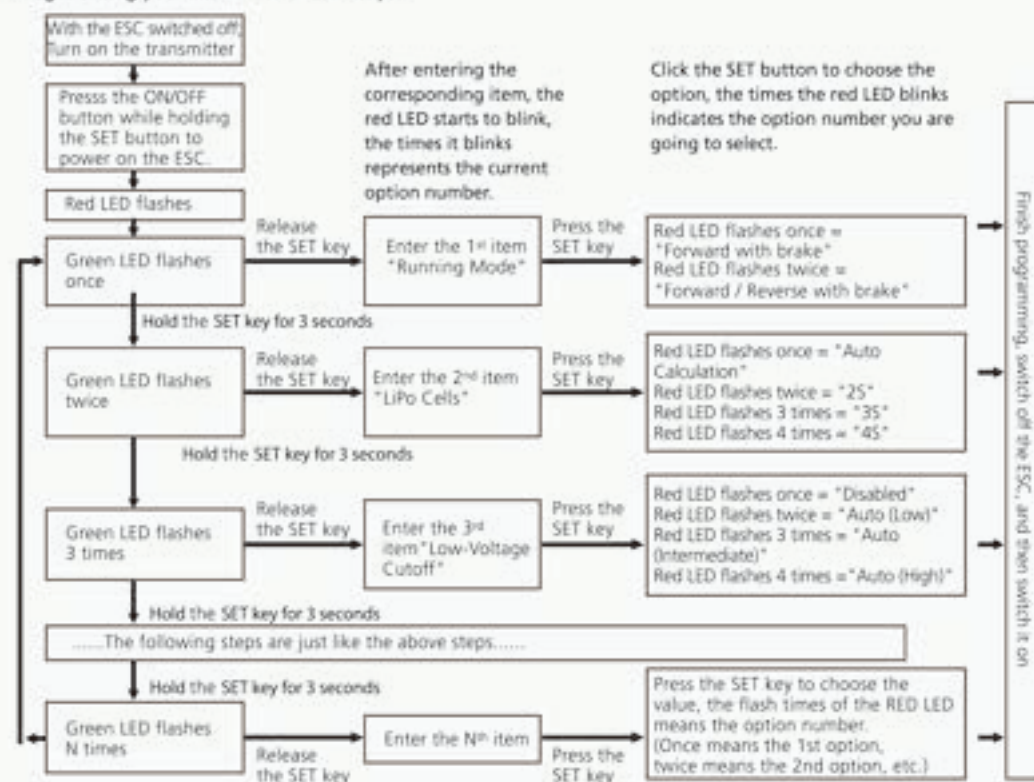
Drag brake is the braking produced when the trigger releasing from the fully speed to the neutral zone.

Troubleshooting

Trouble	Possible Reason	Solution
Motor and cooling fan doesn't work.	1. No power is supplied to the ESC. 2. The ESC switch is broke.	1. Reconnect the ESC and the batteries again. 2. Replace the broken switch.
Motor doesn't work with "beep" alarm.	The input volatage is unstable.	Check the voltage of the battery pack.
Green, and Red LED keep flashing rapidly.	The ESC doesn't detect any throttle signal / the ESC neutral throttle value is different from the value in the transmitter.	Check the throttle wire is plugged reverse or not, Check the transmitter signal and re-calibrate the throttle range.
The accelerating motor runs in the opposite direction.	The (ESC to- Motor) wires are disorder.	Swap any two wire connections between the ESC and the motor.
The motor suddenly stops running.	1. The throttle signal is lost. 2. The ESC is in the low voltage protection mode.	1. Check the transmitter and the receiver or the receiver signal wire 2. Red LED flashing means low voltage, Green LED flashing means over heat.
The motor stuttered but couldn't start.	1. The gears might creaked. 2. The ESC might broken.	1. Check all soldering point. 2. Contact to the distributor.
The vehicle can not reverse.	The neutral position stay in braking zone / Set the "Running Mode" ingproperly / The ESC might broken.	1. Re-calibrate the throttle neutral position. 2. Re-set the "Running Mode" to "F/R with brake". 3. Contact to the distributor.
The car runs forward/backward slowly when the throttle trigger was at the neutral position.	1. The signal of the transmitter isn't stable. 2. The ESC calibration isn't proper.	1. Replace the transmitter. 2. Re-calibrate the throttle range or the neutral position of the transmitter.
The LED program card shows 3 shorts lines(---) after it connected to the ESC.	The programming card/box was connected to the ESC via the throttle control cable.	Reconnect the ESC and the programming card by plugging the programming cable into the fan port.
Set the throttle neutral position. The Green LED doesn't flash and no "beep" sounding. The ESC unable to set the full throttle endpoint and the full brake endpoint.	The ESC throttle cable doesn't plugged correctly.	Re-plug the throttle cable properly into the throttle (TH) channel on your receiver.

ESC Programming

• Programming your ESC with the "SET" Keys.



• Programming your ESC with the "LED program card"

The LED program card is an optional accessory applicable for field use. It makes the ESC programming easy and quick.

1. connect the ESC and program card via a cable with 2 JR male connectors
2. Turn on the ESC and the program items will shows up.
3. Use bottoms on the program card to choosing "item" or "value"
4. Press "OK" to save your setting to your ESC.

Factory Reset

• Restore the default values with the "SET" button.

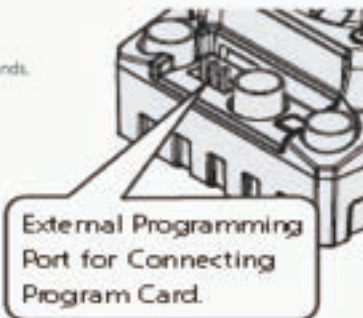
1. Move the trigger be at the neutral position then press and hold the "SET" bottom for 3 seconds.
2. Restored all default values (Green & Red LED flashing up simultaneously)
3. Turn off the ESC and back on and all setting will back to the factory default mode.

• Restore the default values with the "LED Program Card".

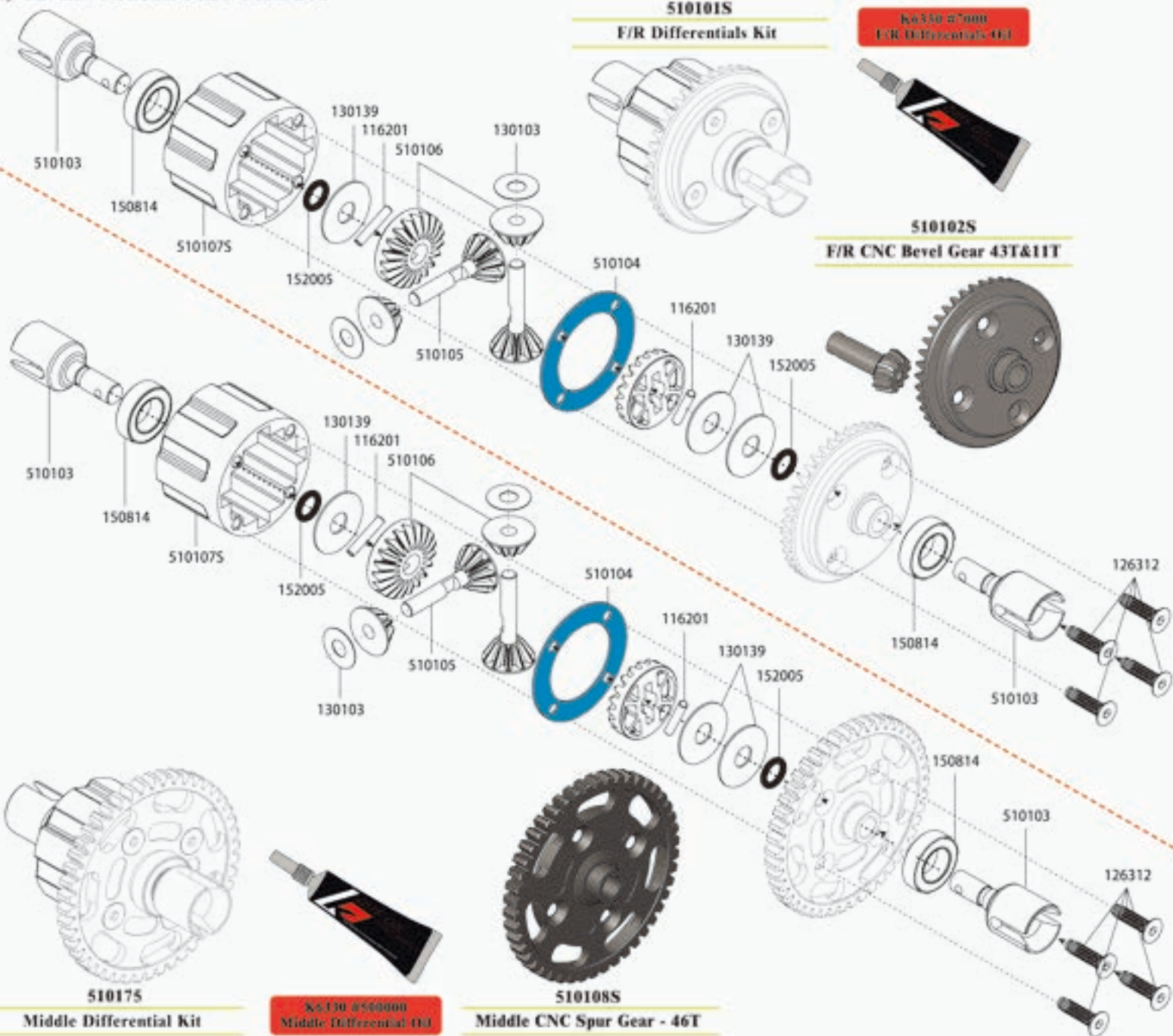
1. Connect the "LED Program Card" to the "ESC".
2. Press the "RESET" and the "OK" key to factory reset your ESC.



The Rx wire of the ESC (for connecting receiver) CANNOT be used to connect with the LED Program Card. Please only use the special port between the terminals ABC to connect with the Program Card.



Differentials Shock Absorbers



K6350 #7000
F/R Differentials Oil

K6350 #7000
F/R Differentials Oil

K6350 #550000
Middle Differential Oil

510210A
Alum. Shock Absorbers



K6350 #350
F/R Shocks Oil



Part List

Item NO.	Item Description	Item NO.	Item Description	Item NO.	Item Description	Item NO.	Item Description
111007F	3mm Flat Locknut (10)	130103	4.2x10x0.2mm Shim (6)	510131	ES Upper Arm (2)	510186	ES Rear Wing
111007ST	3mm Steel Locknut (10)	130116	3.2x8x0.7 Washer (10)	510132	ES Lower Arm (2)	510187	ES Rear Wing Support
111160	*4mm Special Wheel Lock Nut (4)*	130138	3.5x7x1 Washer (10)	510133	ES Steering Block (2)	510188	ES Taillight Holder
111166	RB Angled Body Clip (10)	130139	5.2x15x0.5 Washer (10)	510134	ES Pivot Ball (9mm) (4)	510189	ES LED Taillight
111167	2.6mm Lock Nut (10)	130140	Shims 12.1x13.9x0.1mm(2),0.2mm(2),0.3mm(2)	510135	ES Wheel Hexes 14mm (4)	510195B	ES 4S Body Shell - Blue
115030	5X4mm Ball Stud(10)	130145	6.05x9.5x0.4 mm Shim(10)	510136	ES Mounted Tire (Pair)	510195G	ES 4S Body Shell - Green
116137	3x70mm Hardened Adjustable Rod (2)	150612	6x12x4mm Bearing (4)	510137	ES Lower Arm Hinge Pin (2)	510195O	ES 4S Body Shell - Orange
116201	2x10.8mm Pin (10)	150814	8x14x4mm Bearing (2)	510138	ES Upper Arm Hinge Pin (2)	510195Y	ES 4S Body Shell - Yellow
116237	2.5x11.8mm Pin (10)	151218	12x18x4mm Bearing (4)	510140	ES Center Driveshaft - Long	510196	ES 4S Chassis
116241	3M Double Side Tape 4x2.2cm	152005	O-Ring 4.7X1.4mm(10)	510141	ES Chassis linkage block	510210A	ES Alum. Shock Absorber Set (2)
116242	EVA Tape 3x14cm	152015	15.5x1.5 O-RING (4)	510142BK	ES Alum. Body Post -Black	510211	ES Shock Shaft for 510210 (2)
123516BU	3.5x16mm Steel BH Screw (6)	191027	THOR GT2E 2.4G Transmitter w/Receiver	510143	ES Body Post Mount (F/R)	K6310-350	K Factory Shock Oil 70ml/2.5oz #350
126208C	2x8mm Steel Cap Screw (6)	191028	THOR GT2E Receiver	510144	ES Ball Cup	K6330-7000	K Factory Diff Oil 40ml #7000
126208C-5	2.5x8mm Steel Cap Screw (6)	191030	THOR 3660 4S Brushless Motor 3500KV (14.8V)	510145	ES Servo Saver Inner Post (2)	K6330-500000	K Factory Diff Oil 30ml #500000
126306	3x6mm Steel FH Screw (6)	191031	THOR MAX-10 120A ESC (14.8V)	510146	ES Servo Saver Post	K6602-10	M1.0 Pinion Gear for 5mm Shaft 10T
126306BU	3x6mm Steel Button Head Screw (6)	503140	Long Ball Cup 5mm (6)	510147	ES Servo Saver Spring	SA-SW0231	SW-0231 Waterproof Servo (15KG)
126308	3x8mm Steel F.H. Screw (6)	5101015	ES 4S Differential Kit (F/R)	510148	ES Steering Linkage Plate		
126308BU	3x8mm Steel Button Head Screw (6)	5101025	ES Machined Bevel Gear - 43T/11T	510149	ES Servo Saver Nylon Parts		
126308C	3x8mm Steel Cap Screw (6)	510103	ES F/R Differential Outdrive (2)	510150	ES Center Driveshaft - Short		
126308SBU	M3X8mm SBH Screw(10)	510104	ES Differential Case Gasket (4)	510151	ES Wheelie Linkage		
126310	3x10mm Steel F.H. Screw (6)	510105	ES Differential Bevel Shaft (2)	510152	ES Wheelie Lower Mount		
126310BU	3x10mm Button Head Screw (6)	510106	ES Differential Bevel Gear Set (for 1 diff)	510153	ES Wheelie Upper Mount		
126310C	3x10mm Cap Screw (6)	510107S	ES 4S Bevel Gear Case	510154	ES Wheelie Wheel		
126312	3x12mm Steel F.H. Screw (6)	510108	ES Spur Gear-46T	510155	ES Pivot Ball (5mm) (6)		
126312BU	3x12mm Button Head Screw (6)	510114A	ES Shock Body Alum. (2)	510156	ES Pivot Ball Screw (5mm) (4)		
126312C	3x12mm Cap Screw (6)	510115	ES Shock Bladder (4)	510157	ES Bushing 4x7x2.35 (4)		
126314	3x14mm Steel FH Screw (6)	510116W	ES Shock Piston POM (4)	510159	ES Waterproof Receiver Box		
126314BU	3x14mm Button Head Screw (6)	510117	ES Shock Spring Holder	510160	ES Battery Straps (2)		
126314C	3x14mm Cap Screw (6)	510119	ES Shock O-Ring & Washer	510161	ES Battery Mount		
126316C	3x16mm Cap Screw (6)	510120	ES Shock Spring (2)	510162	ES ESC Cover		
126320S	3x20m Set Screw (6)	510121	ES Shock Pivot Ball Joints (4)	510163	ES Stainless Sand Filter (2)		
126322C	3x22mm Cap Screw (6)	510122	ES Front Skip Plate	510164	ES Central linkage Plate		
126325C	3x25mm Cap Screw (6)	510123	ES Front Bumper	510165	ES Adjust Motor Mount		
126330C	3x30mm Cap Screw (6)	510124	ES Front LED Light	510166	ES Central Case		
126332C	3x32mm Cap Screw (6)	510125	ES Differential Box	510167	ES Extension Cord		
126340C	3x40mm Cap Screw (6)	510126	ES Lower Arm Mount (2)	510171	ES CNC Machined Stainless Chassis Guard(F)		
126345C	3x45mm Cap Screw (6)	510127BK	ES CNC Machined Shock Tower-BK	510180	ES Center Driveshaft Joint (2)		
126370C	3x70mm Cap Screw (6)	510128	ES Shock Pivot Ball Mount (2)	510181	ES C-Clip 12x1.4mm (4)		
126404S	4x4mm Set Screw (6)	510129	ES Pin Stopper (4)	510182	ES Servo Arm - Short (Futaba) (2)		
126408S	4x8mm Set Screw (6)	510130	ES Universal Driveshaft (2)	510185	ES Shims for Rear Wing (2)		