

MODEL: LIGHTNING STK



LIGHTNINGSTK



MAN-LIGHTNINGSTK-2017.3.02

- To ensure that you are using the most recent version of this manual:
www.redcatracing.com/manuals/LIGHTNINGSTKMANUAL.pdf
- To ensure that you have the most recent version of the Electronic Vehicles Manual:
www.redcatracing.com/manuals/ELECTRIC-MANUAL.pdf

WARNING!

READ ALL INSTRUCTIONS INCLUDED WITH VEHICLE BEFORE OPERATING

**AGE WARNING!**

This radio controlled (RC) vehicle is not a toy! You must be 14 years of age or older to operate this vehicle. Adult supervision is required.

**RISK OF RUNAWAY VEHICLE OR INJURY!**

Never turn on the vehicle or plug in the battery pack without first having the controller turned on.

**RISK OF FIRE! / RISK OF EXPLOSION!**

There is a risk of fire and explosion when dealing with batteries. Rechargeable batteries may become hot and catch fire if left unattended or charged too quickly. Use extra caution when charging LiPO batteries. Use only LiPO specific chargers. Use a LiPO safe charging pouch when charging LiPOs. Charge away from flammable materials. Never charge at a rate higher than 1C. {2000Mah pack= 2amps charge rate). Overcharging can lead to fire and explosion. Always store battery packs in a cool dry place.

**RISK OF BURNS!**

The batteries, electronic speed controller (ESC), electric motor, and other areas of the vehicle can get hot. Burns can occur if touched after vehicle operation. Allow adequate time to cool before handling.

**RISK OF ELECTRICAL SHOCK!**

Use caution when charging batteries. Do not touch positive and negative leads together. Do not lay battery on metal. Use only chargers specified for the battery type being charged. Keep batteries and chargers away from water.

**RISK OF INJURY!**

Hobby grade RC vehicles can cause serious injury or death if not operated correctly. Never use vehicle in crowds. Never chase people or animals. Drive in safe open areas only. Keep body parts away from moving parts.

**RISK OF DAMAGE!**

Never operate RC vehicles on public roads. Damage of vehicle and property can occur. Only operate on open private property. Never charge the battery pack while it is still plugged into the RC vehicle. Always unplug the battery pack from the electronic speed controller (ESC) and remove the battery from the RC vehicle before charging. Failure to do so will result in damage to the vehicle's electronics.

**WARNING!**

Do not mix old and new batteries. Do not mix alkaline, lithium, standard (carbon zinc), or rechargeable (nickel cadmium) batteries. Do not change or charge batteries in a hazardous location.



FCC Compliance Statement! The radio included with your vehicle complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operations. Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

WARNING: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

WARNING: While operating the Radio, a separation distance of at least 20 centimeters must be maintained between the radiating antenna and the body of the user or nearby persons in order to meet the FCC RF exposure guidelines.

FEATURES & SPECIFICATIONS

- 19T 550 Brushed Electric Motor
- Brushed ESC
- Forward & Reverse
- 4 Wheel Drive
- Aluminum Capped Oil Filled Shocks
- Large Foam Front Bumper
- 7.2v 2000mAh NiMH Battery Pack
- NiMH Battery Charger
- 2.4GHz Radio System

- Scale: 1/10
- Length: 360mm
- Width: 200mm
- Height: 112mm
- Wheelbase: 260mm
- Ground Clearance: 4.5mm

Vehicle Battery Capabilities

Minimum NiMH: 7.2V 2000mAh

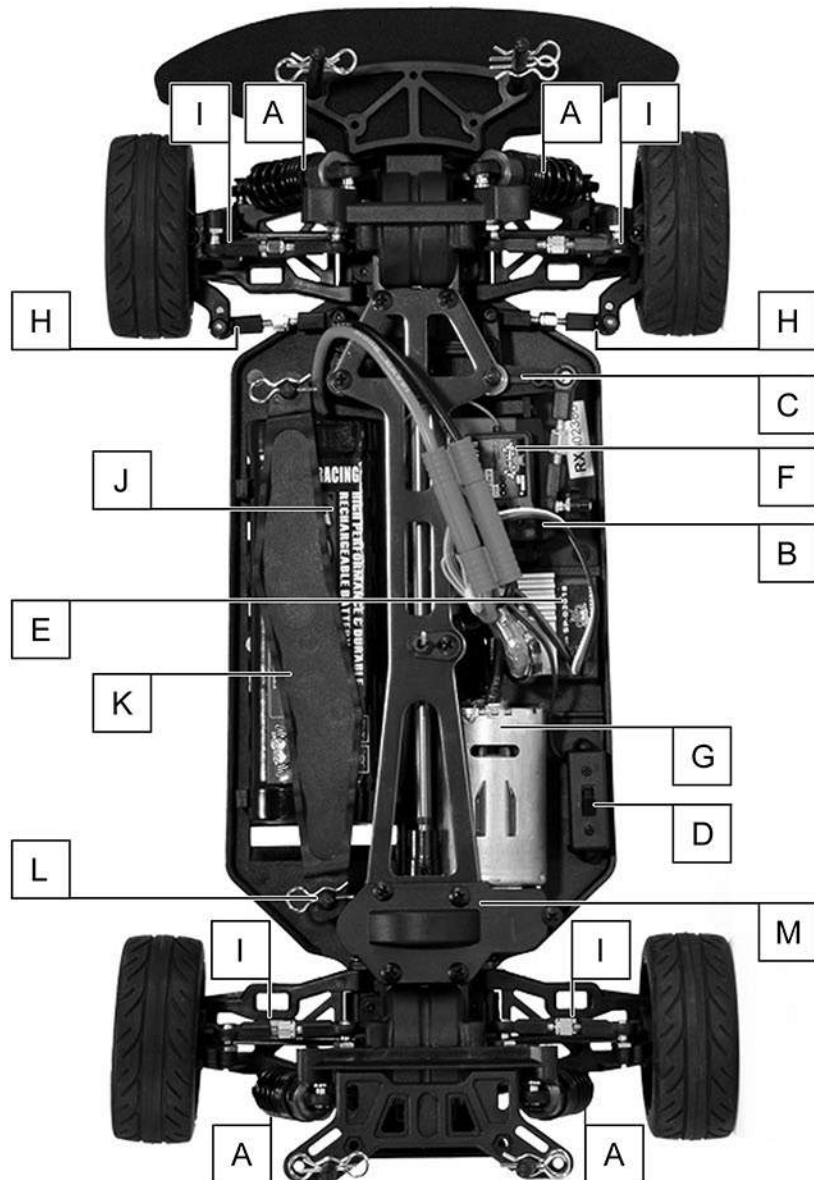
Maximum NiMH: 7.2V 5800mAh

LIPO: 7.4V (2S) 5800mAh

Warning: Exceeding the maximum battery voltage may cause damage to the motor and electronic components of this vehicle and will void the vehicle warranty.

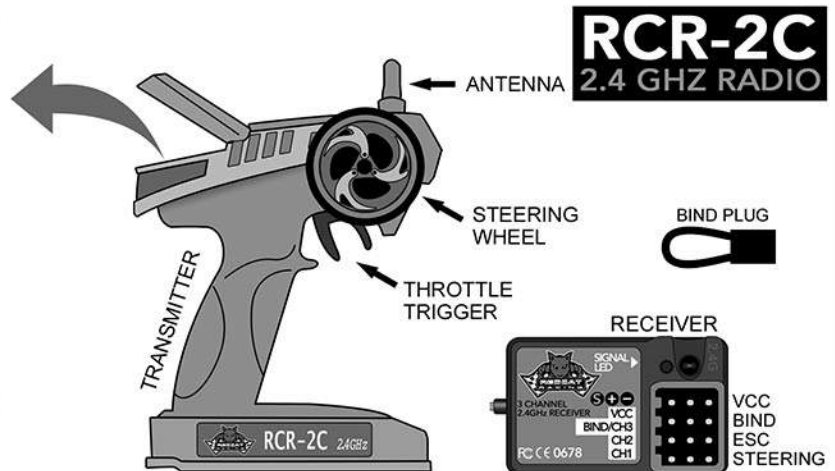
VEHICLE OVERVIEW

- A:** Oil Filled Shocks
- B:** Steering Servo
- C:** Steering Bellcrank
- D:** On/Off Switch
- E:** ESC
- F:** 2.4GHz Receiver
- G:** Electric Motor
- H:** Steering Linkage
- I:** Upper Suspension Link
- J:** Battery
- K:** Battery Retainer
- L:** Battery Retainer Clip
- M:** Spur/Pinion Gear Cover



RADIO GUIDE

CONTROL PANEL



Steering Reverse Switch: Top left switch. Used to change steering orientation. If the car turns right when you steer left, flip this switch.

Throttle Reverse Switch: Top right switch. Used to change throttle trigger orientation. If the car goes in reverse while you pull the throttle trigger, flip this switch.

Power LED: Left LED light. Lights up when the transmitter is turned on.

Battery Level LED: Right LED light. Lights up green when transmitter batteries are full. Flashes when transmitter batteries are low and need replacing.

Bind Button: Used to bind the transmitter to the receiver. See binding instructions.

Steering Trim: Left knob. Used to set the steering neutral point. If the vehicle veers in one direction while the steering wheel is centered, turn this knob in the opposite direction until the car drives straight.

Throttle Trim: Middle knob. Used to set the throttle neutral point. If the vehicle moves forward or reverse while the throttle trigger is centered, turn this knob until the vehicle remains still. For maximum setting, turn slowly until the vehicle creeps forward, then turn the knob the opposite direction until the car stops.

Steering Dual Rate: Right knob. Used to limit the amount of steering. 0= little/no steering & 6= maximum steering. Set the knob to the amount of steering you feel comfortable with. If the vehicle has a tendency to spin out, lower the steering rate.

On/Off Switch: Bottom switch. Turns transmitter On and Off.

VCC: Not used.

Bind/Ch3: Used when binding to transmitter. Used for 3rd channel when needed.

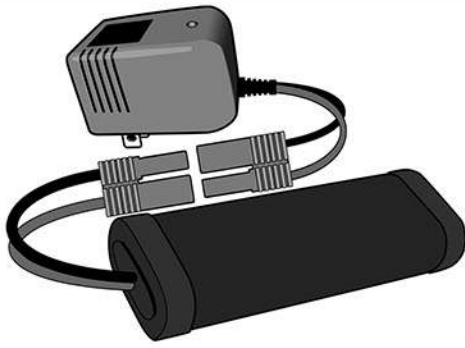
Ch2: Used for Electronic Speed Controller.

Ch1: Used for steering servo.

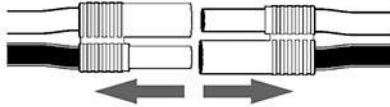
Binding:

1. Insert the BIND PLUG into the receiver BIND port.
2. Make sure your ESC is plugged into CH2, and insert the bind plug into BIND/CH3. Now, power the vehicle on and the receiver light should begin to blink red.
3. Press the BIND button in the center of the transmitter's Control Panel and turn on radio.
4. Release the bind button when you see the green light on the radio flashing. At this point, your receiver's LED should now be solid red. Turn off the power to your vehicle, as well as the radio.
5. Remove the BIND PLUG from the receiver. Make sure the servos and ESC are attached as described above.
6. First turn your radio on, then your vehicle as normal. Your radio and receiver should be bound together and communicating with each other.

CHARGING THE NIMH BATTERY



ATTENTION



Before attempting to charge your NiMH battery, be sure to remove it from the vehicle and place it on a nonflammable surface away from hazards, such as curtains, couches, or clothing.

Warning! Batteries can potentially catch fire if over charged or charged incorrectly.

NIMH Charging:

Charging NiMh battery packs with the included charger is simple.

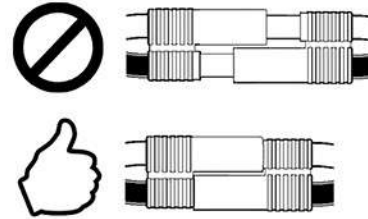
1. Unplug and remove the battery from the RC vehicle.
2. Plug the charger into a 110v wall receptacle.
3. Plug the battery pack into the charger.

When plugging the battery into the charger, ensure the red (POS+) wire on the battery is connected to the red (POS+) wire of the charger. Also ensure the black (NEG-) wire on the battery is connected to the black (NEG-) wire of the charger.

Charge times vary according to charger current and battery mAh. **Battery mAh ÷ Charger mA = Approximate charge time**
 Ex. 2000mAh battery ÷ 500 mA charger = ~4 hours charge time.

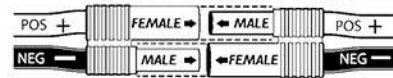
BATTERY → CHARGER ↓	2000mAh	2200mAh	3000mAh	3800mAh
250mA	8 hrs	8.8 hrs	12 hrs	15.2 hrs
500mA	4 hrs	4.4 hrs	6 hrs	7.6 hrs
650mA	3 hrs	3.4 hrs	4.6 hrs	5.8 hrs

ATTENTION



BATTERY CONNECTION INSTRUCTIONS:
 Make sure battery connectors are fully pushed in when charging and connecting to the vehicle.

ATTENTION



Be sure the wires are correctly orientated when plugging the battery into the vehicle.

When plugging the battery into the vehicle, Ensure the red (POS+) wire on the battery is connected to the red (POS+) wire of the ESC. Also ensure the black (NEG-) wire on the battery is connected to the black (NEG-) wire of the ESC.

Improper connection may damage electronics.



WARNING



UNPLUG THE BATTERY PACK FROM THE VEHICLE!

BEFORE CHARGING YOUR BATTERY PACK, YOU MUST FIRST UNPLUG IT FROM THE ESC. FAILURE TO UNPLUG THE BATTERY FROM THE VEHICLE'S ESC BEFORE CHARGING MAY PERMANENTLY DAMAGE SOME OR ALL ELECTRONICS IN THE VEHICLE.

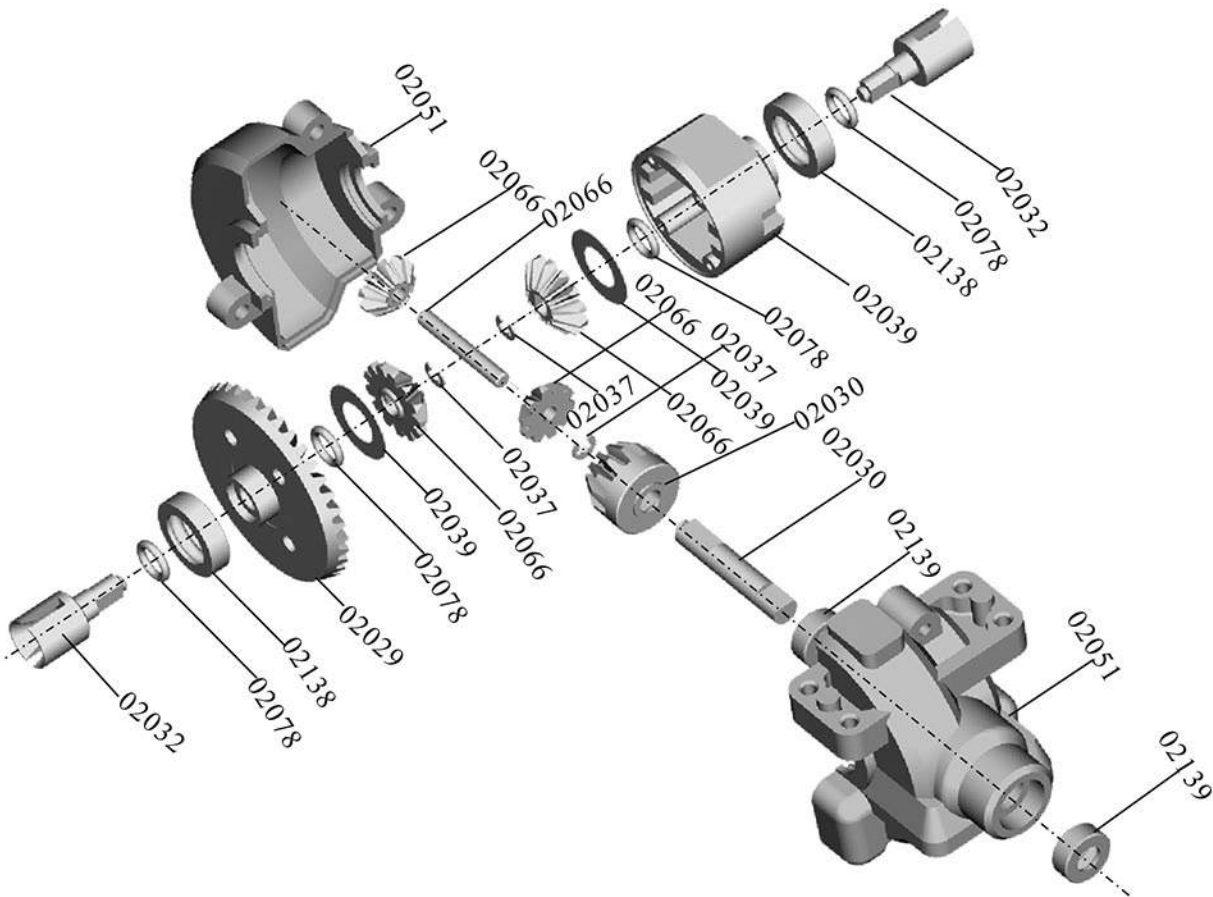
NEVER LEAVE BATTERY PACKS UNATTENDED WHILE CHARGING! Leaving a battery unattended while charging may result in fire and damage / injury.

NEVER ALLOW A BATTERY PACK TO GET HOT! It's normal for the battery pack to get warm, but it should never get hot! Monitor batteries during charging and unplug to let cool if the battery gets hot.

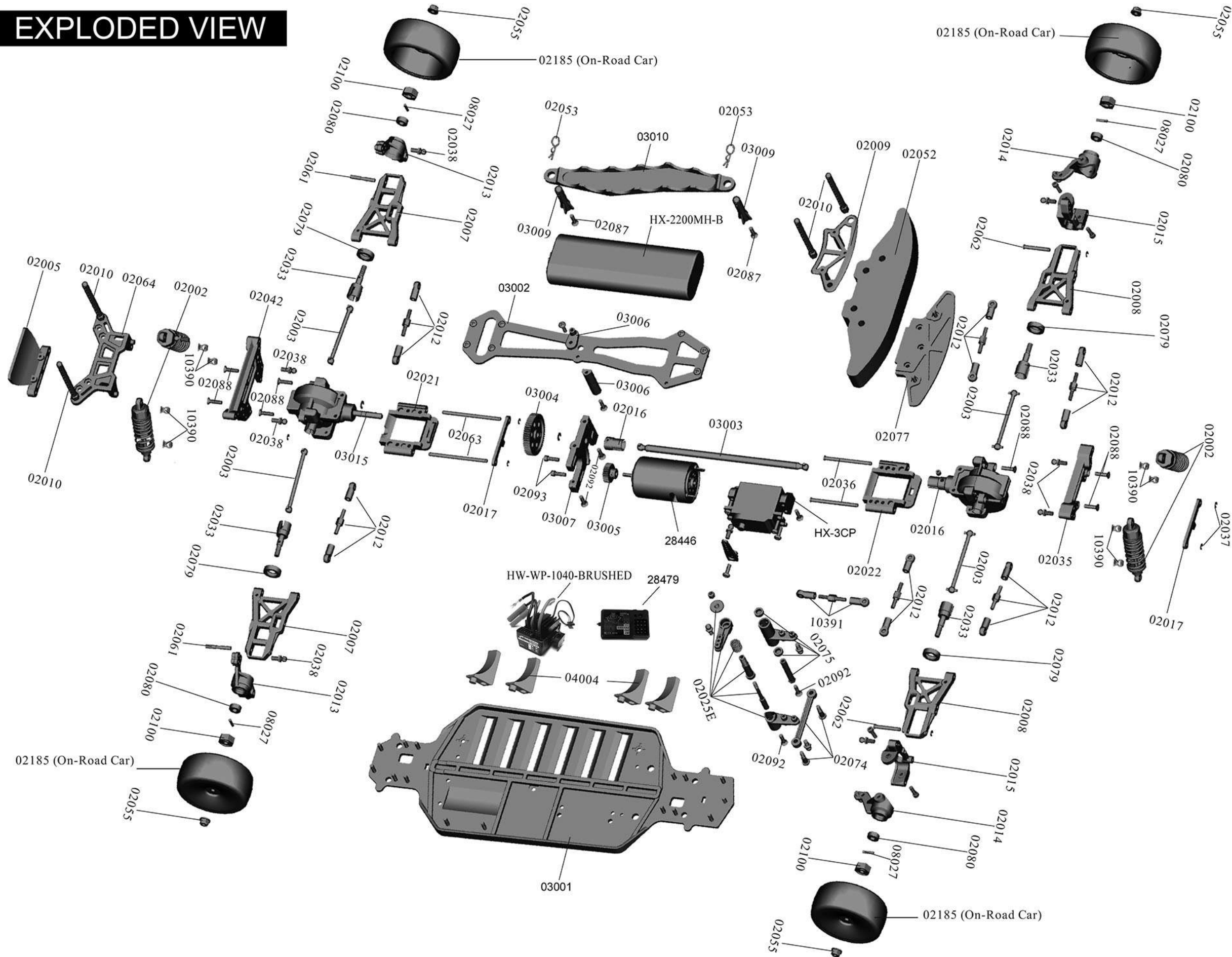
WHEN CHARGING LIPOs, A LIPO SAFE CHARGING BAG SHOULD BE USED TO HELP PREVENT FIRES.

EXPLODED VIEWS

Front/Rear Differential Gearbox











































EXPLODED VIEW



PARTS IDENTIFICATION

02035-Front Shock Tower 	02042-Rear Shock Tower 	02002-Shock Absorber 	28446- Brushed Motor 	HW-WP-1040-BRUSHED Electronic Speed Controller 
03007-Motor Mount 	03001-Chassis 	03002-Chassis Plate 	03013-Radio Tray Mount 	03010-Battery Cover 
HX-2200MH-B - 2200mAh NiMH Battery Pack 	04004-Battery Corner Holder 	03009-Battery Cover Post 	02074-Steering Ackerman Joint 	02025E-Steering Set A 
02075-Steering Set B 	03401 - Gear Cover 	03300 - Motor Heat Sink 	03004-Diff.Main Gear (58T) 	03005-Motor Gear (26T) 
02029-Crown Gear (38T) 	02030-Drive Pinion Complete 	02024-Diff.Main Gear Complete 	03015-Drive Gear Shaft+E-Clips 	02066 - Diff. Planetary Gears/Pin 
02039-Differential Box+Seals+Washers 	02051-Gear Box 	02372-Servo Arm 	02116 - Tires with Foams 	02020W- Wheels and Tires Complete 
02057-Antenna Pipe 	03006-Antenna Mount 	HX-3CP - Steering Servo (3Kg) 	28479 - 2.4GHz Receiver 	RCR-2CNR - 2.4GHz Transmitter 

PARTS IDENTIFICATION

02012-Front/Rear Link 	10391-Servo Link 	02003-Dogbones Hole Track:55mm Total Length:61mm 	02010-Body Post Front:Long Rear:Short 	03003-Center Dogbone 157mm 
08027-Pin 2*10 	02036-3*44mm Front Suspension Arm Pin A 	02061-Rear Lower Arm Round Pin B 3*23mm 	02062-Front Lower Arm Round Pin B 3*24.5mm 	02063-Rear Suspension Arm Pin A 3*54mm 
02017-Suspension Arm Reinforcement Brace 	02053-R- Clip 	02176-Cap Head Machine Screws 3*12 4P 	02083-Cap Head Self- Tapping Screw 3*12 6P 	02100- Wheel Hex. 
02501-Washer 8*5.2*0.5 	02037 - E Clip 7*4*2.5*2.3 	02101- Steering Bushing 	02082-Cap Head Self- Tapping Screw 3*10 10P 	02081-Cap Head Self- Tapping Screw 3*8 6P 
02079 - Oil Bushing 15*10*4 	02080 - Oil Bushing 5*10*4 	02139 - Ball Bearing 10*5*4 	02138 - Ball Bearing 15*10*4 	02078-O-Ring 
02055-Nylon Locknut M4 	02102- M3 Nylon Lock Nut 	10390-Ball Head A 	02099- Grub Screw M4*4 	02038-Ball Head Screw 
02093-M3*10 Column Head Machine Screw 10P 	02095-M3*8 Column Head Machine Screw 4P 	01083-Round Head Machine Screw 3*11 6P 	02085-Round Head Self-Tapping Screw 2*8 8P 	02086-Round Head Self-Tapping Screw 2*10 10P 
02087- Countersunk Cross Head Self- Tapping Screw 3*10 15P 	02088- Countersunk Cross Head Self- Tapping Screw 3*14 13P 	02089- Countersunk Cross Head Self- Tapping Screw 3*15 9P 	02180-Flat Head Self- Tapping Screw 3*16 10P 	81220-5-Flat Head Machine Screw 3*14 4P 

PARTS IDENTIFICATION

02007-Rear Lower Suspension Arm 	02008-Front Lower Suspension Arm 	02014-Steering Hub (L/R) 	02015-Front Hub Carrier (L/R) 	02013-Rear Upright+ Set Screw 4*4 
02033-Wheel Axle 	02016-Universal Joint Cup B+ Grub Screw 4*4 	02032-Universal Joint Cup C 	02021-Rear Arm Holder 	02022-Front Arm Holder 
02077-Front Bumper Plate 	02052-Front Bumper Foam 	02009-Front Bumper Upper Cover 	02005-Rear Bumper 	02064-Rear Body Post Plate 
02092-ISO 3*10 Screw 8P 	08024- Discal Screw M3*11 8P 	02096-Cap Head Machine Screw 3*10 6P 	HX-01003 - NiMH Charger 	

PERFORMANCE UPGRADES

<p>02132P-Aluminum Front Hub Carrier(L/R)+Flat Head Mechanical Screws 3*15mm*2P</p> 	<p>103013-Servo Mount(AL.)+Flat Head Machine Screw 3*8*2P+Cap Head Machine Screw3*8* 4P</p> 	<p>103004-Aluminum Battery Mount+Flat Head Machine3*10*4P</p> 	<p>103006-Antenna Mounts (AL.)+Flat Head Machine Screw3*10*1P/Cap Head Machine Screw 3*10 *1P</p> 	<p>103009-Aluminum Battery Posts+Flat Head Machine3*10*2P</p> 
<p>02131P-Steering Hub(L/R) (AL.)+Cap Head Mechanical Screws 3*12mm*2P/3*11mm*2P</p> 	<p>02130P-Aluminum Rear Hub Carrier(L/R)+Flat Head Mechanical Screws 3*15mm*2P+M4*4 Grub Hex. Screw 2P</p> 	<p>102017-Front/Rear & Servo Link(AL.)+Flat Head Mechanical Screws 3*14mm*4P+Nut M3*4P</p> 	<p>02159-Aluminum Rear Shock Tower+Cap Head Mechanical Screws 3*14mm*2P/3*8mm*2P</p> 	<p>02161 -Front Lower Arm (AL.)+Flat Head Machine Screw3*14 mm*2P+Grub Screw 4*6*2P</p> 
<p>02160 -Rear Lower Arm (AL.)+Flat Head Machine Screw3*14 mm*2P+Grub Screw 4*6*2P</p> 	<p>02158 -Aluminum Front Shock Tower+ Cap Head Mechanical Screws 3*14mm*2P</p> 	<p>02191P -Aluminum Nut M3</p> 	<p>102049-Aluminum Nut M4</p> 	<p>102040 -Aluminum Ackerman Plate</p> 
<p>103071 -Lightweight Motor Mount(AL.)+Flat Head Machine Screw3*8 *4P/Cap Head Machine Screw3*8mm*2P</p> 	<p>102260-Aluminum Front Gear Box Mount</p> 	<p>102261-Aluminum Rear Gear Box Mount</p> 	<p>102258-Aluminum Front Bumper Upper Plate/Cap Head Machine Screw3*10mm *2P/Flat Head Machine Screw3*10mm*2P</p> 	<p>02144 -Aluminum Body Post+Cap Head Machine Screw 4P</p> 
<p>103002T - Carbon Fiber Upper Chassis Plate</p> 	<p>102270 - Rear Body Post Plate</p> 	<p>103022T - Carbon Fiber Front Shock Tower</p> 	<p>103023T - Carbon Fiber Rear Shock Tower</p> 	<p>HX-580030C-BV2-Hexfly 5800mAh 30C 7.4V 2S LIPO Battery</p> 
<p>HX-403 - Hexfly Dual Port LIPO Fast Charger</p> 	<p>LIPO-STOCK-CHARGER - LIPO Charger</p> 	<p>02134 -Aluminum Wheel Hex. Mount</p> 	<p>102227-Suspension Arm Brace(AL.)</p> 	<p>102057-Steering Servo Saver Set(AL.)</p> 
<p>02106 -Universal Drive Joint</p> 	<p>102004-Aluminum Shock Absorber</p> 	<p>HUK-2P - Hop-Up Kit Purple Includes: 02132P, 02131P, 02130P, 02161, 02160, 02144, 102017 (x2)</p> 		<p>HUK-2B - Hop-Up Kit Blue Includes: 02132B, 02131, 02130B, 02161B, 02160B, 122237, 122217 (x2)</p> 



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