

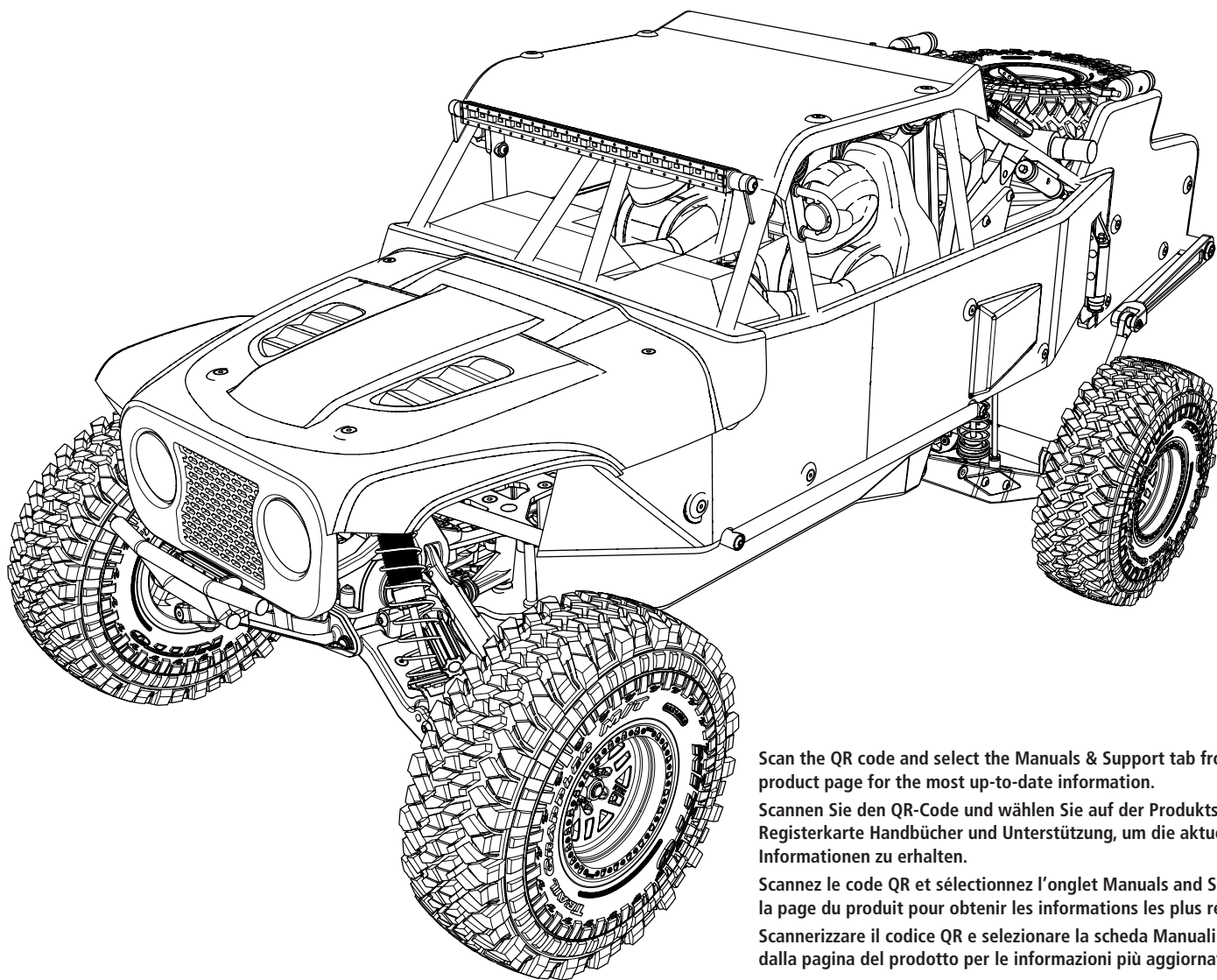


RTR
READY-TO-RUN



HAMMER REY™

1/10 4WD ROCK RACER



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INSTRUCTION MANUAL
BEDIENUNGSANLEITUNG
MANUEL D'UTILISATION
MANUALE DI ISTRUZIONI

Before operating this vehicle, please read all printed materials thoroughly. Horizon Hobby is not responsible for inadvertent errors in this manual.

HORIZON
H O B B Y

NOTICE

All instructions, warranties and other collateral documents are subject to change at the sole discretion of Horizon Hobby, LLC. For up-to-date product literature, visit www.horizonhobby.com or www.towerhobbies.com and click on the support or resources tab for this product.

MEANING OF SPECIAL LANGUAGE

The following terms are used throughout the product literature to indicate various levels of potential harm when operating this product:

WARNING: Procedures, which if not properly followed, create the probability of property damage, collateral damage, and serious injury OR create a high probability of superficial injury.

CAUTION: Procedures, which if not properly followed, create the probability of physical property damage AND a possibility of serious injury.

NOTICE: Procedures, which if not properly followed, create a possibility of physical property damage AND a little or no possibility of injury.

WARNING: Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury.

This is a sophisticated hobby product. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this Product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision. Do not use with incompatible components or alter this product in any way outside of the instructions provided by Horizon Hobby, LLC. This manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or serious injury.

WARNING AGAINST COUNTERFEIT PRODUCTS: Always purchase from a Horizon Hobby, LLC authorized dealer to ensure authentic high-quality Spektrum product. Horizon Hobby, LLC disclaims all support and warranty with regards, but not limited to, compatibility and performance of counterfeit products or products claiming compatibility with DSM or Spektrum technology.

Age Recommendation: Not for children under 14 years. This is not a toy.

SAFETY PRECAUTIONS AND WARNINGS

As the user of this product, you are solely responsible for operating in a manner that does not endanger yourself and others or result in damage to the product or property of others.

This model is controlled by a radio signal subject to interference from many sources outside your control. This interference can cause momentary loss of control, so it is advisable to always keep a safe distance in all directions around your model as this margin will help avoid collisions or injury.

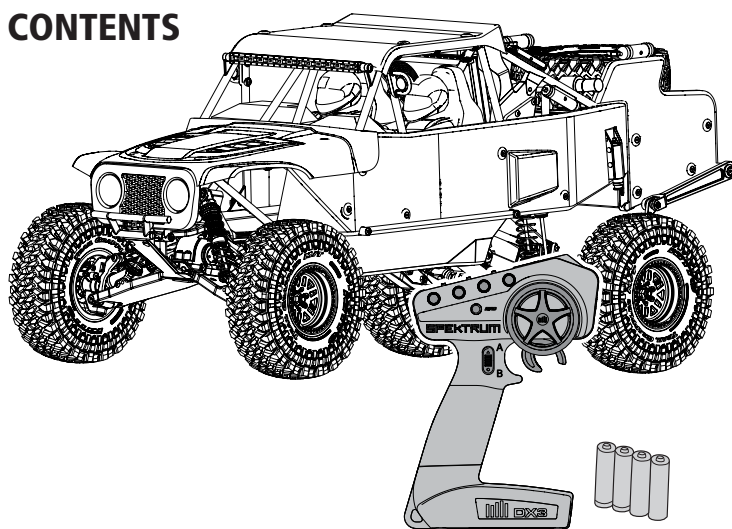
- Never operate your model with low transmitter batteries.
- Always operate your model in open spaces away from full-size vehicles, traffic and people.
- Never operate the model in the street or in populated areas for any reason.
- Carefully follow the directions and warnings for this and any optional support equipment (chargers, rechargeable battery packs, etc.) you use.
- Keep all chemicals, small parts and anything electrical out of the reach of children.
- Never lick or place any portion of the model in your mouth as it could cause serious injury or even death.

- Exercise caution when using tools and sharp instruments.
- Take care during maintenance as some parts may have sharp edges.
- Immediately after using your model, do NOT touch equipment such as the motor, electronic speed control and battery, because they generate high temperatures. You may burn yourself seriously touching them.
- Do not put fingers or any objects inside rotating and moving parts, as this may cause damage or serious injury.
- Always turn on your transmitter before you turn on the receiver in the car. Always turn off the receiver before turning your transmitter off.
- Keep the wheels of the model off the ground when checking the operation of the radio equipment.

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COMPONENTS

- Losi® Hammer Rey™ RTR: 1/10 4WD Rock Racer (LOS03030)
- Spektrum™ DX3™ 2.4GHz Transmitter (SPM2340)
- Spektrum™ SR6200A 6 Ch AVC/Telemetry DSMR® Surface Receiver (SPMSR6200A)
- Spektrum™ S614S 15kg Steel Gear WP Servo 23T (SPMS614S)
- Spektrum™ Firma™ 130A Brushless Smart ESC, 2S–4S (SPMXE1130)
- Spektrum™ Firma™ Brushless Motor, 3150Kv, 4mm Bullet (SPMXSM1000)
- 4 AA batteries (for transmitter)

WATER-RESISTANT VEHICLE WITH WATERPROOF ELECTRONICS

Your new Horizon Hobby vehicle has been designed and built with a combination of water-proof and water-resistant components to allow you to operate the product in many "wet conditions," including puddles, creeks, wet grass, snow and even rain.

While the entire vehicle is highly water-resistant, it is not completely waterproof and your vehicle should NOT be treated like a submarine. The various electronic components used in the vehicle, such as the Electronic Speed Control (ESC), servo(s) and receiver are waterproof, however, most of the mechanical components are water-resistant and should not be submerged.

Metal parts, including the bearings, hinge pins, screws and nuts, as well as the contacts in the electrical cables, will be susceptible to corrosion if additional maintenance is not performed after running in wet conditions. To maximize the long-term performance of your vehicle and to keep the warranty intact, the procedures described in the "Wet Conditions Maintenance" section below must be performed regularly if you choose to run in wet conditions. If you are not willing to perform the additional care and maintenance required, then you should not operate the vehicle in those conditions.

CAUTION: Failure to exercise caution while using this product and complying with the following precautions could result in product malfunction and/or void the warranty.

GENERAL PRECAUTIONS

- Read through the wet conditions maintenance procedures and make sure that you have all the tools you will need to properly maintain your vehicle.
- Not all batteries can be used in wet conditions. Consult the battery manufacturer before use. Caution should be taken when using Li-Po batteries in wet conditions.
- Most transmitters are not water-resistant. Consult your transmitter's manual or the manufacturer before operation.
- Never operate your transmitter or vehicle where lightning may be present.
- Do not operate your vehicle where it could come in contact with salt water (ocean water or water on salt-covered roads), contaminated or polluted water. Salt water is very conductive and highly corrosive, so use caution.
- Even minimal water contact can reduce the life of your motor if it has not been certified as water-resistant or waterproof. If the motor becomes excessively wet, apply very light

throttle until the water is mostly removed from the motor. Running a wet motor at high speeds may rapidly damage the motor.

- Driving in wet conditions can reduce the life of the motor. The additional resistance of operating in water causes excess strain. Alter the gear ratio by using a smaller pinion or larger spur gear. This will increase torque (and motor life) when running in mud, deeper puddles, or any wet conditions that will increase the load on the motor for an extended period of time.

WET CONDITIONS MAINTENANCE

- Drain any water that has collected in the tires by spinning them at high speed. With the body removed, place the vehicle upside down and pull full throttle for a few short bursts until the water has been removed.

CAUTION: Always keep hands, fingers, tools and any loose or hanging objects away from rotating parts when performing the above drying technique.

- Remove the battery pack(s) and dry the contacts. If you have an air compressor or a can of compressed air, blow out any water that may be inside the recessed connector housing.
- Remove the tires/wheels from the vehicle and gently rinse the mud and dirt off with a garden hose. Avoid rinsing the bearings and transmission.

NOTICE: Never use a pressure washer to clean your vehicle.

- Use an air compressor or a can of compressed air to dry the vehicle and help remove any water that may have gotten into small crevices or corners.
- Spray the bearings, drive train, fasteners and other metal parts with a water-displacing light oil. Do not spray the motor.
- Let the vehicle air dry before you store it. Water (and oil) may continue to drip for a few hours.
- Increase the frequency of disassembly, inspection and lubrication of the following:
 - Front and rear axle hub assembly bearings.
 - All transmission cases, gears and differentials.
 - Motor—clean with an aerosol motor cleaner and re-oil the bushings with lightweight motor oil.

QUICK START

Please read the entire manual to gain a full understanding of the Losi® Hammer Rey®, fine-tuning the setup and performing maintenance.

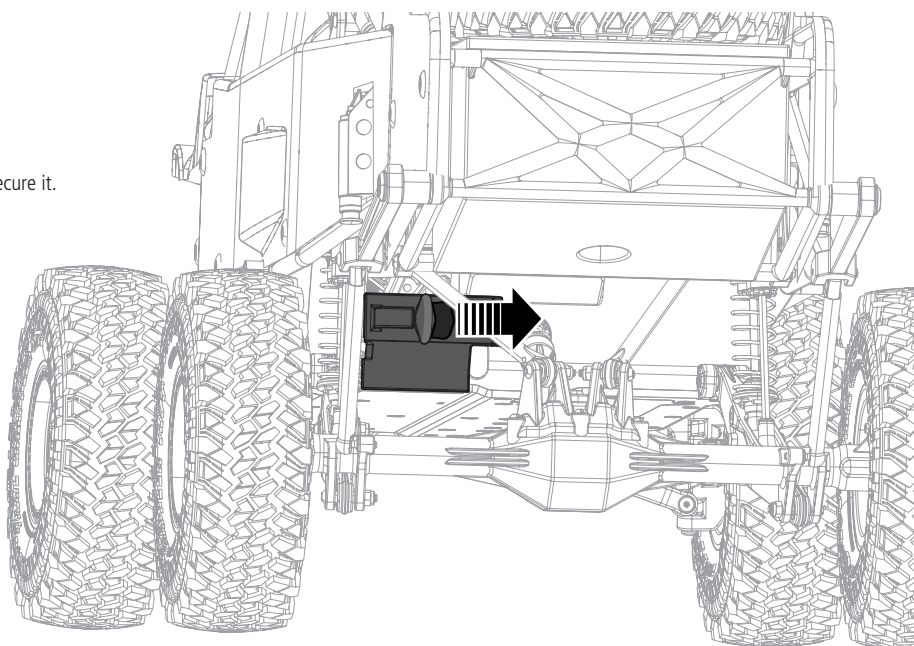
1. Read the safety precautions found in this manual.
2. Charge a battery for the vehicle. Refer to the included charging warnings and instructions for battery charging information.
3. Install the AA batteries in the transmitter. Only use alkaline or rechargeable batteries.
4. Install the fully charged battery in the vehicle.
5. With the vehicle on a flat surface, power ON the transmitter and then the vehicle. Wait 5 seconds for the ESC and AVC receiver to initialize.

Always power the transmitter ON before the vehicle, and power it OFF after the vehicle has been powered OFF.

6. Check the steering and throttle control directions. Verify that the servos are moving in the correct direction.
7. Drive your vehicle.
8. Perform any necessary maintenance.

INSTALLING THE BATTERY

1. Slide the lever to the right to release the battery door.
2. Install the fully charged battery in the vehicle.
3. Connect the battery to the ESC.
4. Close the battery door and slide the battery door lever to the left to secure it.
5. Power ON the transmitter, then the vehicle.



SPEKTRUM DX3 TRANSMITTER FUNCTIONS

A/B. Channel 3 Button

C. Throttle/Brake

D. Steering Wheel

E. AVC/Steering Rate

Adjusts the end point of the steering.

Adjusts the AVC rate when AVC is enabled.

F. Brake Rate

Adjusts the braking end point.

G. Steering Trim

Adjusts the steering center point. Normally, the steering trim is adjusted until the vehicle tracks straight.

H. Throttle Trim

Adjusts the throttle neutral point.

I. SMART Battery Level Indicator

J. Servo Reversing

To reverse the Throttle (TH) or Steering (ST) channel, switch the position of the correlating switch—"N" is for normal, "R" is for reverse.

K. Throttle Limit

Limits throttle output to 50/75/100%

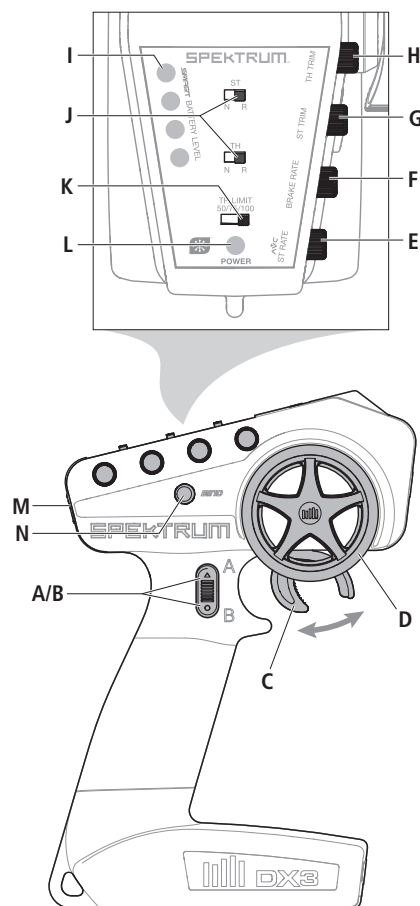
Select 50% or 75% for less experienced drivers or when you are driving the vehicle in a small area.

L. Power LED

- **Solid red lights:** Indicates radio connectivity and adequate battery power.
- **Flashing red lights:** Indicates the battery voltage is critically low. Replace batteries.

M. Power Button

N. Bind Button



TRANSMITTER BATTERY INSTALLATION

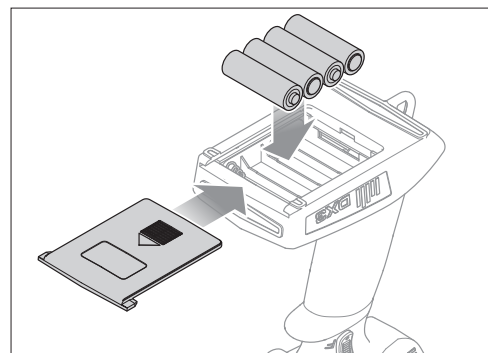
This transmitter requires 4 AA batteries.

1. Remove the battery cover from the transmitter.
2. Install the batteries as shown.
3. Install the battery cover.

CAUTION: Never remove the transmitter batteries while the model is powered ON. Loss of model control, damage, or injury may occur.

CAUTION: If using rechargeable batteries, charge only rechargeable batteries. Charging non-rechargeable batteries may cause the batteries to burst, resulting in injury to persons and/or damage to property.

CAUTION: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to national regulations.



SR6200A AVC TECHNOLOGY TELEMETRY RECEIVER

ACTIVE VEHICLE CONTROL™ (AVC®)

The Spektrum receiver features Active Vehicle Control™ (AVC®) technology that responds similar to traction control in full-scale vehicles. In addition to traction control, AVC technology also increases steering stability during high speed driving or while driving over rough terrain. As you increase the AVC sensitivity, the system increases steering stability and traction control, similar to reducing the amount of steering rate in a computer transmitter. Reducing the sensitivity value increases the amount of steering control from the transmitter. The receiver also enables you to quickly turn AVC on or off if you participate in organized racing.

IMPORTANT: You must use digital servos with the AVC receiver. Do not use analog servos as they will reduce the performance of the system and may cause overheating.

AVC® SENSITIVITY

The ST RATE dial adjusts the sensitivity, or stability, value in the receiver. If you increase the sensitivity, the AVC® system becomes more sensitive to the vehicle drifting left or right. You would use maximum sensitivity during high speed driving or drag racing, when you want the vehicle to stay in a straight line. As the sensitivity value increases, the amount of steering travel decreases.



Turn the AVC/ST RATE knob counter-clockwise to reduce the sensitivity.

Turn the AVC/ST RATE knob clockwise to increase the sensitivity

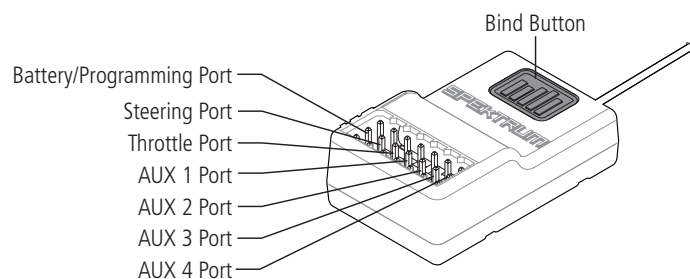
IMPORTANT: The ST RATE knob will only adjust the sensitivity when the transmitter is bound to a DSMR® AVC® receiver. When the transmitter is bound to a DSM2®/DSMR non AVC receiver, the ST RATE knob controls the steering dual rate.

AUX CHANNELS

The Aux channels can operate as additional servo channels, or as a power supply for a personal transponder.

If AVC is active, only 4 channels; Steering, Throttle, AUX3 and AUX4 are operational. The remaining Aux channels can be used to power a personal transponder or lights.

If AVC is disabled (see DISABLING AVC TECHNOLOGY STABILITY ASSIST FUNCTION), all 6 channels including the Aux channels can operate as servo channels.



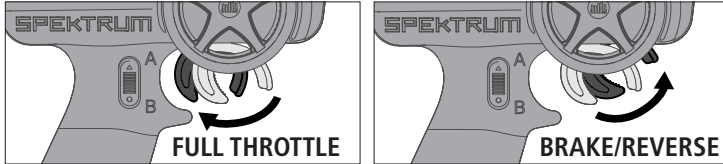
BINDING AND CALIBRATING THE RECEIVER

Binding is the process of linking the SR6200A receiver to your Spektrum transmitter. The AVC features on the receiver can be enabled or disabled during the binding process.

IMPORTANT: You must calibrate the SR6200A receiver each time it is placed in bind mode, regardless of AVC being enabled or disabled.

Upon initial setup after the first bind, the model must be configured for servo direction, trim and travel. Then the receiver must be rebound and calibrated to those settings for proper operation. Center the steering trim and throttle trim on the transmitter before beginning.

1. Press and hold the bind button on the receiver.
2. Power on the receiver. The orange LED flashes, indicating the receiver is in bind mode. Release the bind button after the orange LED illuminates.
3. Put your transmitter in bind mode. The bind process is complete when the orange LED on the receiver remains lit. The receiver is now bound to the transmitter but must be calibrated before it will operate.
4. Pull the transmitter trigger to full throttle, pause, then return the trigger to center.



5. Push the transmitter trigger to full brake, pause, then return the trigger to center.
6. Turn the transmitter steering wheel to full right, pause, then return the wheel to center.
7. Turn the transmitter steering wheel to full left, pause, then return the steering wheel to center. The orange LED flashes to confirm the settings have been accepted.
8. Turn off the vehicle to complete the binding and calibration process.

CAUTION: When the bind process is complete, the throttle and steering channels are active. Keep hands and loose objects away from all spinning parts on the vehicle.

IMPORTANT: You must rebind the transmitter and receiver if you:

- Change the servo reversing after binding
- Change the travel after binding
- Change the receiver mounting orientation

DISABLING AVC® TECHNOLOGY STABILITY ASSIST

If you participate in organized racing, you might need to turn off AVC technology. To turn off AVC technology:

1. Connect power to the receiver and quickly press and release the bind button three times (within 1.5 seconds).
2. Press and hold the bind button and to put the receiver in bind mode. Release the button when the LED starts to flash rapidly, indicating it is in bind mode.

When the AVC system has been disabled, the LED on the receiver will show three flashes upon power up, and then remain lit. The receiver is bound and operating normally when the LED remains illuminated.

TIP: If the AVC feature in the receiver is active and the AVC menu in the transmitter is Inhibited, AVC functions will default to the AUX 1 and AUX 2 operation, and in this scenario, AVC will not work correctly.

FAILSAFE

In the unlikely event that the radio link is lost during use, the receiver will drive the throttle channel to the neutral position. If the receiver is powered on prior to turning on the transmitter, the receiver will enter the failsafe mode, driving the throttle channel to the neutral position. When the transmitter is turned on, normal control is resumed.

IMPORTANT: Failsafe activates only in the event that signal is lost from the transmitter. Failsafe will NOT activate in the event that receiver battery power decreases below the recommended minimums or power to the receiver is lost.

DRIVING PRECAUTIONS

- Maintain sight of the vehicle at all times.
- Routinely inspect the vehicle for loose wheel hardware.
- Routinely inspect the steering assembly for any loose hardware. Driving the vehicle off-road can cause fasteners to loosen over time.
- Do not drive the vehicle in tall grass. Doing so can damage the vehicle or electronics.
- Stop driving the vehicle when you notice a lack of power. Driving the vehicle when the battery is discharged can cause the receiver to power off. If the receiver loses power, you will lose control of the vehicle. Damage due to an over-discharged Li-Po battery is not covered under warranty.

CAUTION: Do not discharge a Li-Po battery below 3V per cell. Batteries discharged to a voltage lower than the lowest approved voltage may become damaged, resulting in loss of performance and potential fire when batteries are charged.

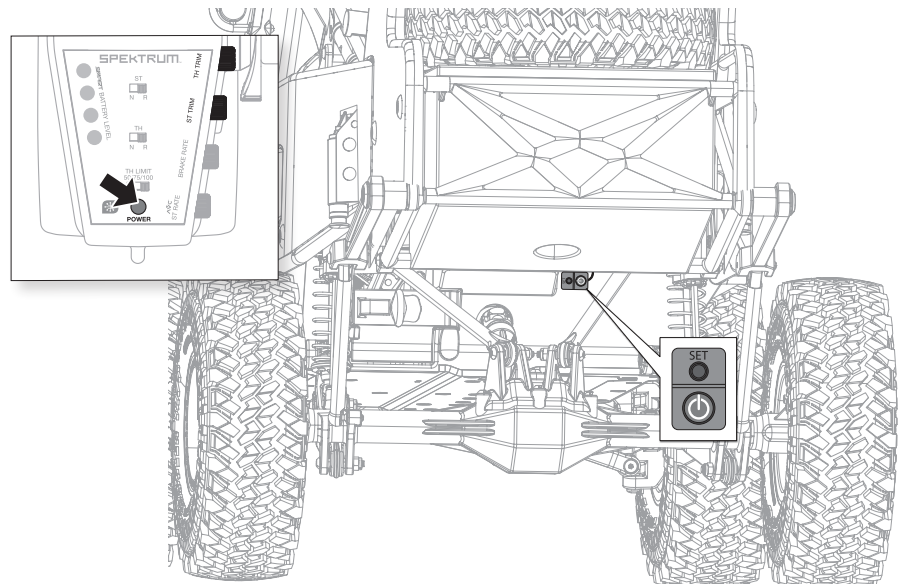
- Do not apply forward or reverse throttle if the vehicle is stuck. Applying throttle in this instance can damage the motor or ESC.
- After driving the vehicle, allow the electronics to cool before driving the vehicle again.

IMPORTANT: Keep wires away from all moving parts.

POWERING ON THE VEHICLE

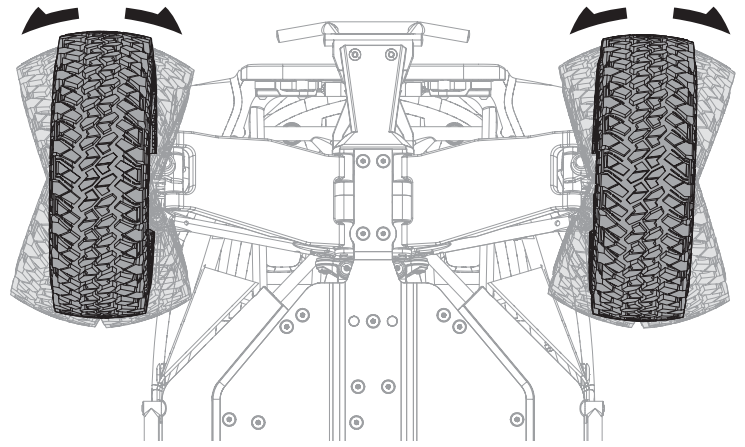
1. Center the ST TRIM and TH TRIM dials on the transmitter.
2. Power on the transmitter.
3. Connect the fully charged battery packs to the ESC.
4. Power on the ESC.

IMPORTANT: In order for AVC to initialize properly, the vehicle MUST remain on a flat, level surface and motionless for at least 5 seconds.



PERFORMING A CONTROL DIRECTION TEST

Perform a control test with the vehicle wheels off the ground. If the wheels rotate after the vehicle is powered ON, adjust the TH Trim knob until they stop. To make the wheels move forward, pull the trigger. To reverse them, wait for the wheels to stop, then push the trigger. When moving forward, the wheels should maintain a straight line without any steering wheel input. If not, adjust the ST Trim knob, so the wheels maintain a straight line without having to turn the steering wheel.



CHANGING THE TRAVEL ADJUST SETTINGS

1. Hold the trigger in the full brake position and turn the steering wheel to Full Right while powering on the transmitter. The LED flashes rapidly, indicating the programming mode is active.
2. Throttle End Point: Continue holding full throttle. Turn the TH TRIM knob to adjust the full throttle end point.
3. Brake End Point: Hold the trigger in the full brake position. Turn the TH TRIM knob to adjust the full brake end point. Return the trigger to the center position.
4. Left Steering End Point: Hold the steering wheel in the full left position. Turn the ST TRIM knob to adjust the left end point.
5. Right Steering End Point: Hold the steering wheel in the full right position. Turn the ST TRIM knob to adjust the right end point. Return the steering wheel to the center position.
6. Power off the transmitter to save the travel adjust settings.
The minimum Travel is 75%, and the Maximum travel is 150%.

IMPORTANT: If the travel is changed on the DX3, you must rebind and calibrate the receiver.

RUN TIME

The largest factor in run time is the capacity of the battery pack. A larger mAh rating increases the amount of run time experienced.

The condition of a battery pack is also an important factor in both run time and speed. The battery connectors may become hot during driving. Batteries will lose performance and capacity over time.

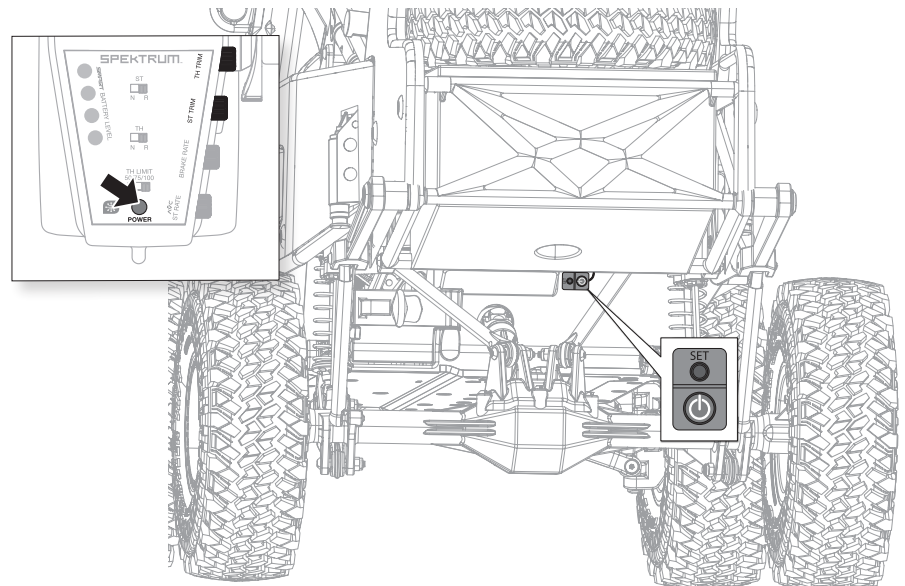
Driving the vehicle from a stop to full speed repeatedly will damage the batteries and electronics over time. Sudden acceleration will also lead to shorter run times.

TO IMPROVE RUN TIMES

- Keep your vehicle clean and well maintained.
- Allow more airflow to the ESC and motor.
- Change the gearing to a lower ratio. A lower ratio decreases the operating temperature of the electronics. Use a smaller pinion gear or larger spur gear to lower the gear ratio.
- Use a battery pack with a higher mAh rating.
- Use the optimum charger to charge battery packs (Visit your local hobby dealer for more information).

POWERING OFF THE VEHICLE

1. Power off the ESC.
2. Power off the transmitter.
3. Remove and charge the batteries.



SPEKTRUM™ FIRMA™ SMART 130A BRUSHLESS ESC (SPMXSE1130)

SPECIFICATIONS

Type	Sensorless, SMART Throttle Compatible
Output	130A/760A
Function	Forward/Brake–Forward/Brake Reverse
Input Voltage	7.4V–14.8V
BEC Output	6V/4A
Dimensions (LxWxH)	57.5mm x 46mm x 38mm
Weight	154 g

ESC LED STATUS

- No ESC LEDs will glow when there is no throttle input from the transmitter.
- The red ESC LED glows when there is any throttle input from the transmitter.

AUDIBLE WARNING TONES

- Input Voltage:** The ESC checks the input voltage when it is powered ON. If a voltage problem is detected, the ESC continuously sounds 2 beeps with a 1 second pause (xx-xx-xx). Power OFF the ESC and ensure the connections are secure and that the battery power is not too low for safe operation.
- Radio Connection:** The ESC checks radio signal input when it is powered ON. If a problem is detected, the ESC continuously sounds 1 beep with a 2 second pause (x--x--x). Power OFF the ESC and ensure the radio system is operating correctly.

NOTICE: Always disconnect the battery from the ESC after operating your vehicle. The ESC's switch only controls power to the receiver and servos. The ESC will continue to draw current when connected to the battery, resulting in possible damage to the battery through over discharge.

ESC CALIBRATION PROCEDURE

Complete the transmitter/receiver binding procedure prior to calibrating the ESC.

1. Set the transmitter throttle channel to 100% travel and center the throttle trim.
 2. Connect a battery to the ESC battery lead.
 3. Power on the transmitter.
 4. Press and hold the SET button while turning on the ESC. Release the SET button when the **red** LED begins to flash, indicating the ESC is in calibration mode. The ESC will enter programming mode if the button is held for more than three seconds.
- TIP:** The red LED should be flashing when the ESC enters calibration mode. If the green LED is flashing the ESC has entered programming mode. Power off the ESC and repeat step 4, releasing the SET button when the red LED begins to flash.
5. With the transmitter throttle trigger at the neutral position, press and release the ESC SET button. The red LED will stop flashing, the green LED will flash one time and the motor will make a tone to indicate the neutral position has been accepted.
 6. While holding the throttle trigger at the full throttle position, press and release the ESC SET button. The green LED will flash twice and the motor will make two tones to indicate the full throttle position has been accepted.
 7. While holding the throttle trigger at the full brake position, press and release the SET button. The green LED will flash three times and the motor will make three tones to indicate the full brake position has been accepted.

The motor will operate normally after calibration is completed.

ESC FUNCTIONS AND MODES

The ESC includes programming options so you can adjust the way your vehicle performs. Refer to the included settings table to adjust the ESC for your driving conditions.

ESC PROGRAMMING PROCEDURE

Programming is accomplished using the SET button on the ON/OFF switch or Digital Program Box (SPMXCA200).

1. Connect a fully charged battery to the ESC.
2. Power ON the ESC using the ESC switch.
3. Hold the SET button for 1 second until the green LED blinks, then release the SET button to enter programming mode.

4. Press and release the SET button as needed to get to the desired menu option (the Green LED will blink corresponding to the menu item number). Programming menu items 1 through 9 are accessible using the SET button on the ESC. Programming menu items 10 and above are only accessible using the optional ESC programming card. Programming of menu items 10 and 11 is only possible after firmware updates to the ESC programming card.
5. When at the desired menu item, hold the SET button for 3 seconds until the red LED blinks.
6. Press the SET button to move among the settings based on how many times the red LED blinks (Refer to the table for more information).
7. Save the setting by holding the SET button for 3 seconds.
8. Power OFF the ESC switch and repeat the instructions above to change other settings.

TIP: If desired, the ESC programming can be returned to default settings by powering ON the ESC and holding the SET button for 5 seconds.

PROGRAMMABLE ITEMS	PROGRAMMABLE VALUE									Default Settings
	1	2	3	4	5	6	7	8	9	
1 Running Mode	Forward w/ brake	Forward/Reverse w/ brake	Forward/Reverse							
2 Drag Brake Force	0%	5%	10%	20%	40%	60%	80%	100%		
3 Low Voltage Cutoff	None	2.6V/Cell	2.8V/Cell	3.0V/Cell	3.2V/Cell	3.4V/Cell				
4 Punch (Level)	1	2	3	4	5	6	7	8	9	
5 Max Brake Force	25%	50%	75%	100%	Disabled					
6 Max Reverse Force	25%	50%	75%	100%						
7 Initial Brake	Drag Brake	0%	20%	40%						
8 Neutral Range	6%	9%	12%							
9 Timing	0.00°	3.75°	7.50°	11.25°	15.00°	18.75°	22.50°	26.25°		
10 Thermal Protection	Enable									
11 Motor Rotation	Counterclockwise	Clockwise								
12 Li-Po Cells	Auto Calculate	2S	3S	4S						

DESCRIPTIONS

1. Running Mode

- *Forward Only with Brake*
Intended for competition use, this mode allows only forward and brake controls.
- *Forward/Reverse with Brake*
This mode is the basic all-around mode, allowing forward, reverse and brake controls. To engage reverse while moving forward, apply the brake until the vehicle has come to a complete stop, release brake, then apply the brake again. While braking or in reverse, engaging the throttle will result in the vehicle immediately accelerating forward.

2. Drag Brake Force

Adjusts the amount of brake automatically applied when the throttle is returned to the neutral position. This simulates the engine braking effect of a full-scale vehicle, allowing improved turn-in and your vehicle's general response to controls.

3. Low Voltage Cutoff

This function helps to prevent battery over-discharge. The ESC continuously monitors the battery's voltage. If the voltage falls below the voltage threshold for 2 seconds, the output power shuts off and the red LED flashes twice repeatedly.

The cutoff threshold calculation is based on individual Li-Po cell voltage. For Ni-MH batteries, if the voltage battery pack is higher than 9.0V, it will be treated as a 3-cell Li-Po battery pack; if it is lower than 9.0V, it will be treated as a 2-cell Li-Po battery pack. Example: for a 8.0V Ni-MH battery pack used with a 2.6V/cell threshold, it will be treated as a 2-cell Li-Po battery pack and the low-voltage cut-off threshold will be 5.2V (2.6x2=5.2).

4. Punch (Level)

Sets the initial throttle punch when the car accelerates. Level 1 gives a very soft initial acceleration and level 4 gives a stronger initial acceleration.

5. Max Brake Force

Adjusts the maximum braking force. A higher value provides stronger braking, but can also cause the wheels to lock, resulting in loss of control of the car.

6. Max Reverse Force

This parameter adjusts the maximum power when travelling in reverse.

7. Initial Brake Force (minimum brake)

Adjusts the minimum amount of braking power when the brakes engage. The default value is equal to the drag brake value. A high value can lock the wheels when the brake is used.

8. Neutral Range

Adjusts the throttle sensitivity around the neutral point. A higher value results in the throttle having to be moved more for the vehicle to move forward, backward or brake.

9. Timing

Adjusts the motor drive current timing. More timing gives more performance, but can lower efficiency and cause damage to the motor and/or ESC by overload or overheating.

NOTICE: Always ensure the motor timing is set correctly. Failure to set the motor timing correctly can result in damage to the motor and ESC. Refer to the manufacturer instructions for recommended timing settings.

The Following Programmable Items require the optional Digital ESC Program Box:

10. Thermal Protection

Available Items are subject to firmware updates to the ESC and the optional digital program box.

11. Motor Rotation

Allows you to make this change in the ESC so no wires need to be changed between the ESC and the motor.

12. Li-Po Cells

Allows the ESC to automatically detect or manually set the number of cells in your Li-Po battery pack.

SPEKTRUM FIRMA 3150KV BRUSHLESS MOTOR

PRECAUTIONS

- Never touch moving parts.
- Never disassemble while the batteries are installed.
- Always let parts cool before touching.

GEARING

Your stock vehicle has been equipped with an 11T pinion for optimal gearing. It offers an ideal balance between speed, power and efficiency. Should you decide to customize your vehicle with optional batteries or motors, it may be necessary for you to change the pinion or spur gear.

Installing a pinion gear with fewer teeth or a spur gear with more teeth will provide greater torque but will reduce top speed. Likewise, a pinion gear with more teeth or a spur gear with fewer teeth will reduce torque and increase top speed. Care should be taken when installing larger pinion gears as this can "overgear" the vehicle, resulting in overheating of the motor and ESC. When testing different gearing options, pay close attention to the temperature of the motor and speed control to ensure you are operating within the temperature range of the components. The motor or ESC should never be so hot that it cannot be touched. If temperatures are too hot, a different gearing combination with a lower pinion gear and/or higher spur gear is suggested.

CHANGING THE PINION GEAR/GEAR RATIO

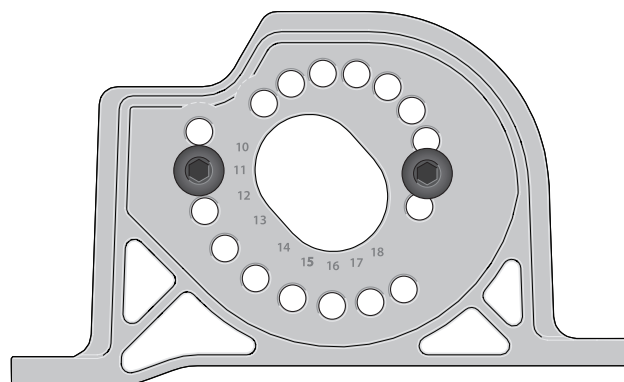
The Hammer Rey vehicle uses a motor mount with pre-set gearing.

1. Remove the lower motor mount chassis plate, the motor, and motor mount.
2. Loosen the set screw and remove the installed pinion gear.
3. Install the motor screws corresponding to the number of teeth on the pinion gear.
4. Place the new pinion gear on the end of the motor shaft, so the setscrew is located over the flat of the shaft.
5. Position the pinion gear so that the teeth line up with the spur gear and secure the pinion gear by tightening the set screw.
6. Check the gear mesh to ensure that everything spins properly.

SETTING THE GEAR MESH

The motor gearing is set on the motor mount and uses corresponding holes that match the number of teeth on the pinion gear. The gear mesh has already been set at the factory. Setting it is only necessary when changing motors or gears.

Proper gear mesh (how gear teeth meet) is important to the performance of the vehicle. When the gear mesh is too loose, the pinion gear can damage the spur gear. If the mesh is too tight, speed could be limited and the motor and ESC will overheat.



IMPORTANT: The included 11T pinion gear is suitable for use with 2S or 3S Li-Po batteries.

NOTICE: For extreme load surfaces (e.g., sand and tall grass), gear down 1–2 teeth on the pinion gear to minimize the chance of motor and ESC damage.

TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	SOLUTION
Vehicle does not operate	Battery not charged or plugged in	Charge battery/plug in
	ESC switch not "On"	Turn on ESC switch
	Transmitter not "On" or low battery	Turn on/replace batteries
Motor runs but wheels do not rotate	Pinion not meshing with spur gear	Adjust pinion/spur mesh
	Pinion spinning on motor shaft	Tighten pinion gear setscrew on motor shaft flat spot
	Transmission gears stripped	Replace transmission gears
	Drive pin broken	Check and replace drive pin
Steering does not work	Servo plug not in receiver properly	Verify the steering servo plug is connected to the receiver steering channel, noting proper polarity
	Servo gears or motor damaged	Replace or repair servo
Will not turn one direction	Servo gears damaged	Replace or repair servo
Motor does not run	Motor wire solder joint is damaged	Resolder the motor wire with the proper equipment
	Motor wire broken	Repair or replace as needed
	ESC damaged	Contact Horizon Hobby Product Support
ESC gets hot	Motor over-gearred	Use smaller pinion or larger spur gear
	Driveline bound up	Check wheels and transmission for binding
Poor run time and/or sluggish acceleration	Battery pack not fully charged	Recharge battery
	Charger not allowing full charge	Try another charger
	Driveline bound up	Check wheels, transmission for binding
Poor range and/or glitching	Transmitter batteries low	Check and replace
	Vehicle battery low	Recharge battery
	Loose plugs or wires	Check all wire connections and plugs

LIMITED WARRANTY

What this Warranty Covers – Horizon Hobby, LLC, (Horizon) warrants to the original purchaser that the product purchased (the "Product") will be free from defects in materials and workmanship at the date of purchase.

What is Not Covered – This warranty is not transferable and does not cover (i) cosmetic damage, (ii) damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or due to improper use, installation, operation or maintenance, (iii) modification of or to any part of the Product, (iv) attempted service by anyone other than a Horizon Hobby authorized service center, (v) Product not purchased from an authorized Horizon dealer, or (vi) Product not compliant with applicable technical regulations or (vii) use that violates any applicable laws, rules, or regulations.

OTHER THAN THE EXPRESS WARRANTY ABOVE, HORIZON MAKES NO OTHER WARRANTY OR REPRESENTATION, AND HEREBY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL SUITABLY MEET THE REQUIREMENTS OF THE PURCHASER'S INTENDED USE.

Purchaser's Remedy – Horizon's sole obligation and purchaser's sole and exclusive remedy shall be that Horizon will, at its option, either (i) service, or (ii) replace, any Product determined by Horizon to be defective. Horizon reserves the right to inspect any and all Product(s) involved in a warranty claim. Service or replacement decisions are at the sole discretion of Horizon. Proof of purchase is required for all warranty claims. SERVICE OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY.

Limitation of Liability – HORIZON SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY, REGARDLESS OF WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR ANY OTHER THEORY OF LIABILITY, EVEN IF HORIZON HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Further, in no event shall the liability of Horizon exceed the individual price of the Product on which liability is asserted. As Horizon has no control over use, setup, final assembly, modification or misuse, no liability shall be assumed nor accepted for any resulting damage or injury. By the act of use, setup or assembly, the user accepts all resulting liability. If you as the purchaser or user are not prepared to accept the liability associated with the use of the Product, purchaser is advised to return the Product immediately in new and unused condition to the place of purchase.

Law – These terms are governed by Illinois law (without regard to conflict of law principals). This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Horizon reserves the right to change or modify this warranty at any time without notice.

WARRANTY SERVICES

Questions, Assistance, and Services – Your local hobby store and/or place of purchase cannot provide warranty support or service. Once assembly, setup or use of the Product has been started, you must contact your local distributor or Horizon directly. This will enable Horizon to better answer your questions and service you in the event that you may need any

assistance. For questions or assistance, please visit our website at www.horizonhobby.com, submit a Product Support Inquiry, or call the toll free telephone number referenced in the Warranty and Service Contact Information section to speak with a Product Support representative.

Inspection or Services – If this Product needs to be inspected or serviced and is compliant in the country you live and use the Product in, please use the Horizon Online Service Request submission process found on our website or call Horizon to obtain a Return Merchandise Authorization (RMA) number. Pack the Product securely using a shipping carton. Please note that original boxes may be included, but are not designed to withstand the rigors of shipping without additional protection. Ship via a carrier that provides tracking and insurance for lost or damaged parcels, as Horizon is not responsible for merchandise until it arrives and is accepted at our facility. An Online Service Request is available at http://www.horizonhobby.com/content/_service-center_render-service-center. If you do not have internet access, please contact Horizon Product Support to obtain a RMA number along with instructions for submitting your product for service. When calling Horizon, you will be asked to provide your complete name, street address, email address and phone number where you can be reached during business hours. When sending product into Horizon, please include your RMA number, a list of the included items, and a brief summary of the problem. A copy of your original sales receipt must be included for warranty consideration. Be sure your name, address, and RMA number are clearly written on the outside of the shipping carton.

NOTICE: Do not ship Li-Po batteries to Horizon. If you have any issue with a Li-Po battery, please contact the appropriate Horizon Product Support office.

Warranty Requirements – For Warranty consideration, you must include your original sales receipt verifying the proof-of-purchase date. Provided warranty conditions have been met, your Product will be serviced or replaced free of charge. Service or replacement decisions are at the sole discretion of Horizon.

Non-Warranty Service – Should your service not be covered by warranty, service will be completed and payment will be required without notification or estimate of the expense unless the expense exceeds 50% of the retail purchase cost. By submitting the item for service you are agreeing to payment of the service without notification. Service estimates are available upon request. You must include this request with your item submitted for service. Non-warranty service estimates will be billed a minimum of ½ hour of labor. In addition you will be billed for return freight. Horizon accepts money orders and cashier's checks, as well as Visa, MasterCard, American Express, and Discover cards. By submitting any item to Horizon for service, you are agreeing to Horizon's Terms and Conditions found on our website http://www.horizonhobby.com/content/service-center_render-service-center.

ATTENTION: Horizon service is limited to Product compliant in the country of use and ownership. If received, a non-compliant Product will not be serviced. Further, the sender will be responsible for arranging return shipment of the un-serviced Product, through a carrier of the sender's choice and at the sender's expense. Horizon will hold non-compliant Product for a period of 60 days from notification, after which it will be discarded.

10/15

WARRANTY AND SERVICE CONTACT INFORMATION

Country of Purchase	Horizon Hobby	Contact Information	Address
United States of America	Horizon Service Center (Repairs and Repair Requests)	servicecenter.horizonhobby.com/RequestForm/	2904 Research Rd Champaign, Illinois 61822 USA
	Horizon Product Support (Product Technical Assistance)	productsupport@horizonhobby.com 877-504-0233	
	Sales	websales@horizonhobby.com 800-338-4639	
Germany	Horizon Technischer Service	service@horizonhobby.eu	Hanskampring 9 D 22885 Barsbüttel, Germany
	Sales: Horizon Hobby GmbH	+49 (0) 4121 2655 100	

FCC INFORMATION


Contains FCC ID: BRWKATY1T

Contains FCC ID: BRWSPMSR6200A

This equipment complies with FCC and IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and/or antenna and your body (excluding fingers, hands, wrists, ankles and feet). This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Supplier's Declaration of Conformity

Losi Hammer Rey Rock Racer, RTR (LOS03030)

 This device 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 operation.



CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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 or more 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.

Horizon Hobby, LLC
2904 Research Rd., Champaign, IL 61822
Email: compliance@horizonhobby.com
Web: HorizonHobby.com

IC INFORMATION

CAN ICES-3 (B)/NMB-3(B)

Contains IC: 6157A-KATY1T

6157A-SPMSR6200A

This device contains license-exempt transmitter(s)/receivers(s) that comply with Innovation, Science, and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following 2 conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

COMPLIANCE INFORMATION FOR THE EUROPEAN UNION



EU Compliance Statement:

Losi Hammer Rey Rock Racer, RTR (LOS03030)

Hereby, Horizon Hobby, LLC declares that the device is in compliance with the following: EU Low Voltage Directive 2014/35/EU; EU RED 2014/53/EU; RoHS 2 Directive 2011/65/EU; RoHS 3 Directive - Amending 2011/65/EU Annex II 2015/863.

The full text of the EU declaration of conformity is available at the following internet address: <https://www.horizonhobby.com/content/support-render-compliance>.

NOTE: This product contains batteries that are covered under the 2006/66/EC European Directive, which cannot be disposed of with normal household waste. Please follow local regulations.

Wireless Frequency Range and Wireless Output Power:

Transmitter:

2402–2478MHz

17.7 dBm

Receiver:

2404–2476MHz

5.58dBm



E328

EU Manufacturer of Record:

Horizon Hobby, LLC
2904 Research Road
Champaign, IL 61822 USA

EU Importer of Record:

Horizon Hobby, GmbH
Hanskampring 9
22885 Barsbüttel Germany

WEEE NOTICE:



This appliance is labeled in accordance with European Directive 2012/19/EU concerning waste of electrical and electronic equipment (WEEE). This label indicates that this product should not be disposed of with household waste. It should be deposited at an appropriate facility to enable recovery and recycling.

Replacement Parts // Teileliste // Liste des pièces de rechange // Elenco dei ricambi

Part #	English	Deutsch	Français	Italiano
LOS13002	Light Set	Beleuchtungssatz	Ensemble d'éclairage	Set luci
LOS230013	Body Button Base & Top (22)	Body Button unten und oben (22)	Boutons de carrosserie, base et haut (22)	Cappucci carrozzeria inferiori e superiori (22)
LOS230095	Grill, Headlight Housing, Lens	Kühlergrill, Scheinwerfergehäuse, Linse	Grille, boîtier de phare, lentille	Griglia, alloggiamento faro, lente
LOS230096	Faux Sway Bar Set	Künstlicher Schwingen-Satz	Ensemble fausse barre stabilisatrice	Set barra antirollio posticcia
LOS230097	Accessory Set	Zubehörsatz	Ensemble d'accessoires	Set accessori
LOS230098	Body/Driver Set, Red, Silkscreened	Karosserie-/Steckschlüsselsatz, rot, Siebdruck	Ensemble carrosserie/conducteur, rouge, sérigraphié	Set chiavi/carrozzeria, serigrafato, rosso
LOS230099	Body/Driver Set, Green, Silkscreened	Karosserie-/Steckschlüsselsatz, grün, Siebdruck	Ensemble carrosserie/conducteur, vert, sérigraphié	Set chiavi/carrozzeria, serigrafato, verde
LOS230100	Body/Driver Set, Clear	Karosserie-/Steckschlüsselsatz, farblos	Ensemble carrosserie/conducteur, transparent	Set chiavi/carrozzeria, trasparente
LOS231006	Battery Tray Door Lock 2S Spacer	Akkufachverriegelung 2S-Abstandhalter	Espaceur 2S verrouillage du couvercle du compartiment de batterie	Vano batteria, portello, chiusura, 2S, distanziatore
LOS231012	Motor Mount	Motorhalterung	Support moteur	Supporto motore
LOS231013	Steering Hardware Set	Hardwaresatz Lenkung	Ensemble de matériel de direction	Set accessori sterzo
LOS231085	Rear Bulkhead, Fan Panel	Hintere Spritzwand, Lüfterplatte	Cloison arrière, panneau de ventilateur	Paratia posteriore, pannello ventola
LOS231086	Front Bumper, Brace, Skid Plate	Frontstoßstange, Klammer, Gleitbrett	Pare-chocs avant, renfort, plaque de protection	Paraurti anteriore, rinforzo, sottoscocca
LOS231087	Cage, Side, Sliders & Mirrors	Käfig, Seite, Schieberegler & Spiegel	Cage, côté, coulisseaux et miroirs	Scocca, lato, paratelaio e specchietti
LOS231088	Cage, Roof, Bed	Käfig, Dach, Unterbau	Cage, toit, plateau	Scocca, tetto, cassone
LOS231089	Cage, Hood, Radiator Mount	Käfig, Klappe, Kühlerhalterung	Cage, capot, support de radiateur	Scocca, cofano, supporto radiatore
LOS231090	Cage, Grill, Tank Mount	Käfig, Kühlergrill, Tankhalterung	Cage, grille, support de réservoir	Scocca, griglia, supporto serbatoio
LOS231091	Tire Mount, Tank	Reifenhalterung, Tank	Support de pneu, réservoir	Supporto ruota, serbatoio
LOS231092	Exhaust	Auspuff	Échappement	Scarico
LOS231093	ESC Mount, Brace	Halterung Geschwindigkeitsregler, Klammer	Support d'ESC, renfort	Supporto ESC, rinforzo
LOS231094	Servo Mount, Steering Parts	Servo-Halterung, Lenkteile	Support de servo, pièces de direction	Supporto servo, parti dello sterzo
LOS231096	Shock Tower, Track Rod Mount	Stoßdämpferbrücke, Spurstangenhalterung	Tour d'amortisseur, support de barre d'accouplement	Torre ammortizzatore, supporto tirante
LOS231097	Chassis w/Motor Cover Plate	Karosserie mit Motorabdeckplatte	Châssis avec plaque de capot de moteur	Telaio con piastra copertura motore
LOS231098	Center Chassis Brace & Standoffs	Zentrale Karosseriestrebe & Abstandhalter	Renfort et entretoises de châssis, centre	Rinforzo centrale telaio e distanziatori
LOS232001	Axle Housing Set, Rear	Achsgehäuse-Set, Heck	Ensemble carter d'essieu, arrière	Set carcassa assale, post
LOS232002	Center Transmission Housing	Zentrales Getriebegehäuse	Boîtier de vitesse centrale	Scatola trasmissione centrale
LOS232005	Rear Driveshaft Set	Heck Antriebswelle-Set	Ensemble arbre de transmission arrière	Set albero di trasmissione post
LOS232006	Hex Rotor Caliper Pin Set (4)	Sechskant-Rotorsattelstift-Satz (4)	Ensemble broches d'étrier de rotor hexagonal (4)	Set hex rotore pinza perno (4)
LOS232007	Center Transmission Gear Set	Zentrales Übersetzungsgetriebe-Set	Ensemble boîte de transmission centrale	Set ingranaggio trasmissione centrale
LOS232012	Center Outdrive Set	Mittiger Antriebssatz	Ensemble arbre extérieur central	Set albero outdrive centrale
LOS232014	Rear Axle Shaft Set	Achswellensatz Heck	Ensemble arbre d'essieu arrière	Set albero assale posteriore
LOS232019	42T Ring & 12T Pinion Gear	42T Ring & 12T Zahnradgetriebe	Anneau 42 dents et pignon 12 dents	Corona 42T e pignone 12T
LOS232020	Front Axle (1)	Vorderachse (1)	Axe avant (1)	Assale anteriore (1)
LOS232021	Front Sliders	Frontschieber	Coulisseaux avant	Paratelaio anteriori
LOS232022	Front Outdrive Shaft	Front-Flexwelle	Arbre de transmission extérieure avant	Albero outdrive anteriore
LOS232051	Open Rear Diff Gear Set	Offenes Heckdifferential Getriebebesatz	Ensemble engrenage différentiel arrière ouvert	Set ingr diff posteriore aperto
LOS232073	Center Driveshaft	Antriebswelle Mitte	Arbre de transmission central	Albero trasmissione centrale
LOS232074	Front Gear Box, Set	Vorderer Getriebekasten, Satz	Boîte à engrenage avant, ensemble	Set scatola trasmissione ant
LOS232075	HD Diff Housing Internal	HD-Differentialgehäuse-Einbau	Intérieur de boîtier de différentiel ultra-résistant	Carcassa e parti interne diff HD
LOS233001	Shock Ends, Tops, Piston	Stoßdämpferenden, Oberteile, Kolben	Embouts d'amortisseur, parties supérieures, piston	Pistone, cappucci, estremità amm
LOS233002	FR RR Shock Body and Collar Set	Stoßdämpfergehäuse und Hülsensatz, Heck/Front	Ensemble corps d'amortisseur et bague, avant arrière	Set corpo e collare amm ant/pst
LOS233003	FR RR Shock Shaft Set and Hardware	Kolbenstangensatz und Hardware, Heck/Front	Ensemble axe d'amortisseur et matériel, avant arrière	Set aste e accessori amm ant/pst
LOS233004	FR RR Shock Seal and Limiter Set	Stoßdämpfer und Stoßbegrenzersatz, Heck/Front	Ensemble joint d'amortisseur et limiteur, avant arrière	Set limitatori/tenute amm ant/pst
LOS234003	Trailing Arm Steering Upper Drag Link Set	Längslenker Lenkung Drag-Verbindungssatz oben	Ensemble barre de direction supérieure bras oscillant	Set braccetto e tirante longitudinale sterzo sup
LOS234006	FR RR Sway Bar Links	Schwingverbindung, Heck/Front	Bras de barre stabilisatrice avant arrière	Leveraggi barra antirollio ant/pst
LOS234007	Front Hinge Pins and Brace Set	Scharnierstifte und Klammersatz, Front	Ensemble renfort et d'axes de charnière avant	Set rinforzo e perni cerniere ant
LOS234008	7mm Steel Pivot Ball Double Boss (10)	7-mm-Stahl-Zapfenkugel-Doppelspitze (10)	Rotule en acier 7 mm double bossage (10)	Pivot ball acciaio doppio mozzo 7 mm (10)
LOS234011	FR Suspension Arm Set	Aufhängungsarmsatz, Front	Ensemble bras de suspension avant	Set braccetti sospensioni ant
LOS234012	Caster Block Set	Radblocksatz	Ensemble bloc de roulettes	Set caster block
LOS234013	Steering Spindle Set	Lenkspindelsatz	Ensemble arbre de direction	Set fuselli sterzo
LOS234014	Camber & Steering Link Set	Satz aus Sturz und Lenkstange	Ensemble bras de direction et carrossage	Set camber e braccetti sterzo
LOS235023	Hinge Pin Screw, FR (10)	Scharnierbolzenschraube, Front (10)	Vis de charnière, avant (10)	Viti perni cerniere, ant (10)
LOS236003	Screw Pin, Clip Post (10)	Schraubenstift, Klemmenstab (10)	Cheville à vis, attache (10)	Vite a perno, piolo a clip (10)
LOS236005	Clip, Wire Retaining	Klemme, Kabelhalterung	Attache, dispositif de retenue de fil	Clip, fermacavo
LOS43053	Nitto Trail Grappler, KMC Wheel (2)	Nitto Trail Grappler, KMC-Rad (2)	Nitto Trail Grappler, roue KMC (2)	Ruote KMC, Nitto Trail Grappler (2)
LOSA3571	1.0 Module Pitch Pinion, 11T	1.0 Modul Getriebegrad, 11T	Pignon de pas module 1.0, 11 dents	Pignone passo modulo 1.0, 11T
SPM2340	DX3 Smart DSMR 3CH Transmitter	DX3 Smart DSMR-Sender mit 3 Kanälen	Émetteur DX3 Smart DSMR 3 canaux	Trasmittente DX3 Smart DSMR 3 CH
SPMS614S	S614S 15kg Steel Gear WP Servo 23T	S614S 15 kg Stahlgetriebe servo 23T was-serfest	Servo étanche à engrenage en acier 15 kg S614S, 23 dents	S614S servo ingr acciaio imp, 15 kg, 23T

Replacement Parts // Teileliste // Liste des pièces de rechange // Elenco dei ricambi

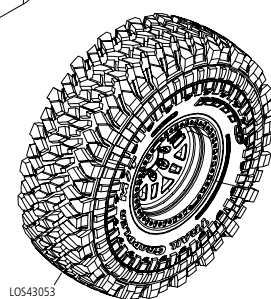
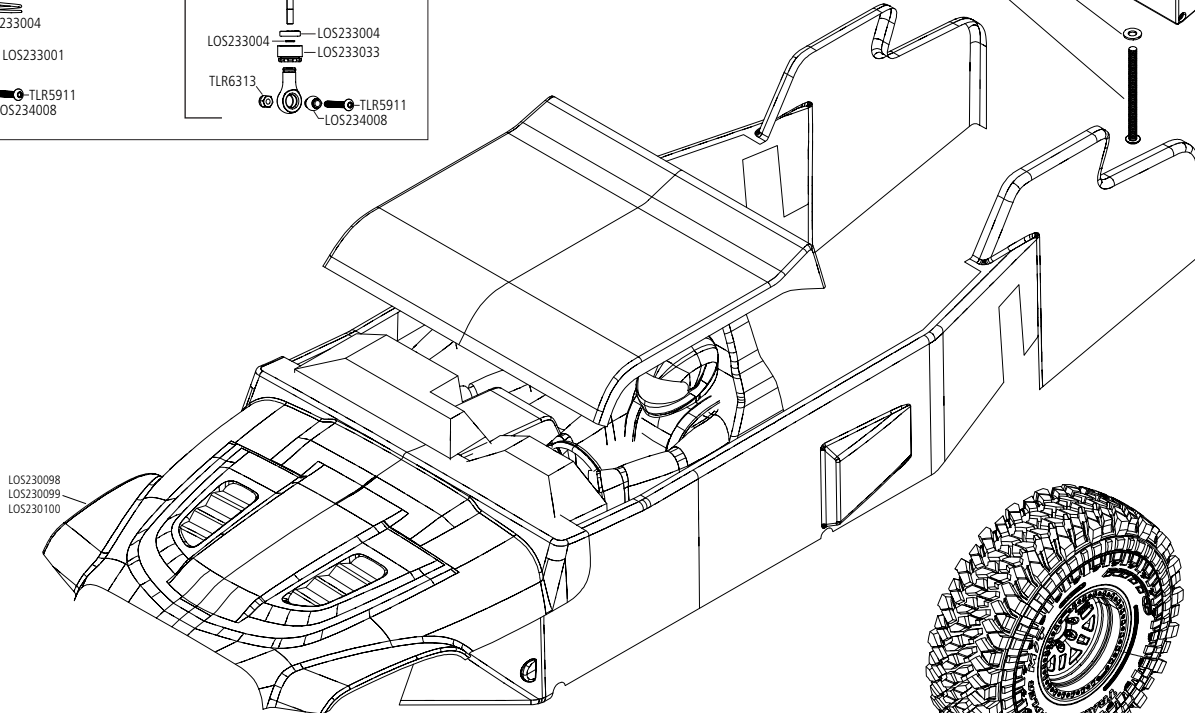
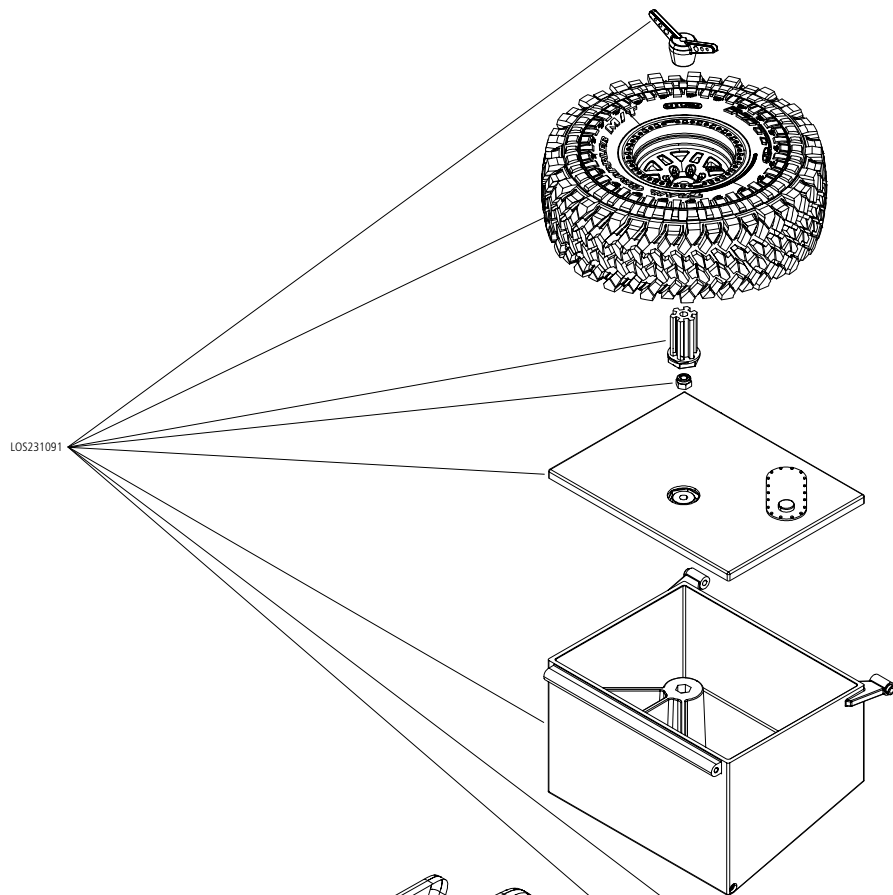
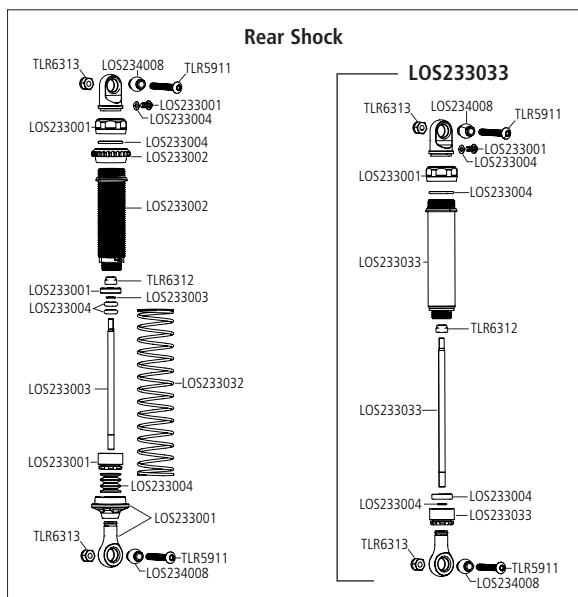
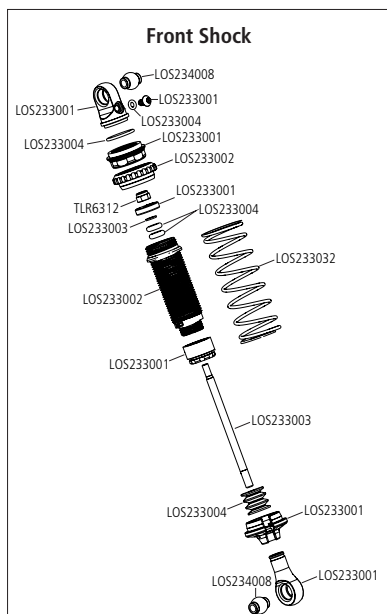
Part #	English	Deutsch	Français	Italiano
SPMXE1130	Firma 130A Brushless Smart ESC, 2S-4S	Firma 130A bürstenloser Smart-Geschwindigkeitsregler, 2S-4S	Variateur ESC sans balais Smart Firma 130 A, 2S-4S	Smart ESC Firma 130 A brushless 2S-4S
SPMSR6200A	SR6200A DSMR 6-Channel AVC Surface Rx	R6200A DSMR 6-Kanal AVC Oberflächenempfänger	Récepteur de surface AVC 6 canaux DSMR SR6200A	SR6200A DSMR, rx di superficie, 6 canali AVC
SPMXC1020	S120 USB-C Smart Charger 1x20W	S120 USB-C Smart-Ladegerät, 1 x 20 W	Chargeur Smart S120 USB-C, 1 x 20 W	Caricabatterie S120 USB-C SMART 1x20 W
SPMX50002S50H5	7.4V 5000mAh 2S 50C Smart Hardcase LiPo Battery: IC5	7,4 V 5.000 mAh 2S 50C Smart LiPo-Akku, Hartschale: IC5	Batterie Li-Po Smart 7,4 V 5000 mAh 2S 50C, boîtier rigide : IC5	Batteria 7,4 V 5000 mAh 2S 50C Smart Hardcase LiPo: IC5
SPMXSM1000	Firma Brushless Motor, 3150Kv, 4mm Bullet	Firma bürstenloser Motor, 3150 kV, 4-mm-Rundstecker	Moteur sans balais Firma, 3150 Kv, connecteur cylindrique de 4 mm	Motore Firma Brushless, 3150 Kv, banana 4 mm
TLR5903	Button Head Screws, M3 x 10mm (10)	Halbrundschraube, M3 x 10mm (10)	Vis à tête bombée, M3 x 10mm (10)	Viti a testa tonda, M3 x 10mm (10)
TLR5904	Button Head Screws, M3 x 12mm (10)	Halbrundschraube, M3 x 12mm (10)	Vis à tête bombée, M3 x 12mm (10)	Viti a testa tonda, M3 x 12mm (10)
TLR5909	Button Head Screws, M3 x 16mm (10)	Halbrundschraube, M3 x 16mm (10)	Vis à tête bombée, M3 x 16mm (10)	Viti a testa tonda, M3 x 16mm (10)
TLR5910	Button Head Screws, M3 x 14mm (10)	Halbrundschraube, M3 x 14mm (10)	Vis à tête bombée, M3 x 14mm (10)	Viti a testa tonda, M3 x 14mm (10)
TLR5911	Button Head Screws, M3 x 20mm (10)	Halbrundschraube, M3 x 20mm (10)	Vis à tête bombée, M3 x 20mm (10)	Viti a testa tonda, M3 x 20mm (10)
TLR5913	Button Head Screws, M2.5 x 12mm (10)	Halbrundschraube, M2.5 x 12mm (10)	Vis BHC, M2,5 x 12mm (10)	Viti a testa tonda, M2,5 x 12mm (10)
TLR5934	Cap Head Screws, M3 x 16mm (10)	Sechskantschraube, M3 x 16mm (10)	Vis CHC M3 x 16mm (10)	Viti a testa piatta M3 x 16mm (10)
TLR5961	Flathead Screws, M3 x 8mm (10)	Flachkopfschraube, M3 x 8mm (10)	Vis FHC, M3 x 8mm (10)	Viti a testa piatta, M3 x 8mm (10)
TLR5963	Flathead Screws, M3 x 12mm (10)	Flachkopfschraube, M3 x 12mm (10)	Vis FHC, M3 x 12mm (10)	Viti a testa piatta, M3 x 12mm (10)
TLR5964	Flathead Screws, M3 x 16mm (10)	Flachkopfschraube, M3 x 16mm (10)	Vis FHC, M3 x 16mm (10)	Viti a testa piatta, M3 x 16mm (10)
TLR5965	Flathead Screws, M3 x 20mm (10)	Flachkopfschraube, M3 x 20mm (10)	Vis FHC, M3 x 20mm (10)	Viti a testa piatta, M3 x 20mm (10)
TLR6312	Locknut, M2.5 x .45 x 5mm (6)	Muttern Nylock angeflanscht, M2.5 x .45 x 5mm (6)	Ecrou auto-freiné M2,5 x 0,45 x 5mm (6)	Dadi autobloccanti, M2,5 x .45 x 5 mm (6)
TLR6313	Locknut, M3 x .5 x 5.5mm (10)	Muttern Nylock angeflanscht, M3 x 0.5 x 5.5mm (10)	Ecrou auto-freiné M3 x 0,5 x 5,5mm (10)	Dadi autobloccanti, M3 x .5 x 5,5 mm (10)
TLR6352	Washers, M3 (10)	TLR U-Scheibe, M3 (10)	Rondelles M3 (10)	Rondelle, M3 (10)
TLR74006	Silicone Shock Oil, 30wt, 2oz	Silikon-Stoßdämpferöl, 30 wt, 60 ml (2 oz)	Huile silicone d'amortisseur, 30wt, 60 ml	Olio al silicone per ammortizzatore, 30wt, 2oz
TLR245017	M4 Flanged Nut (10)	M4 Nylock Flanschmutter (10)	Écrou à frein élastique à embase M4 (10)	Dadi flangiati Nylock M4 (10)

Optional Parts // Optionale Bauteile // Pièces optionnelles // Pezzi opzionali

Part #	English	Deutsch	Français	Italiano
LOS232011	Rear Diff Locker	Hinteres Differentialgetriebefach	Blocage de différentiel arrière	Blocco diff post
LOS331003	Adjustable Turnbuckle Set	Anpassbarer Spannschraubensatz	Ensemble ridoir ajustable	Set tenditore regolabile
LOS331004	Aluminum Rear Upper Link and Spacer Set	Aluminium oberer Stangen- und Abstandhaltersatz, Heck	Ensemble espaceur et bras supérieur arrière en aluminium	Set distanziale e tirante ant sup alluminio
LOS334001	Aluminum Front Spindle Set	Aluminium Front-Spindelsatz	Ensemble axe avant en aluminium	Set fuselli ant alluminio
LOS334002	Aluminum Axle Housing Upper Track Rod Mount	Aluminium Achsgehäuse Obere Spurstange Halterung	Support de barre d'accouplement supérieur de carter d'essieu en aluminium	Supporto tirante sup carcassa assale alluminio
LOS334003	Aluminum Upper/Lower Bulkhead Track Rod Mount Set	Aluminium Spritzwand Spurstange Halterungssatz oben/unten	Ensemble support de barre d'accouplement de cloison supérieur/inférieur en aluminium	Set supporto tirante paratia sup/inf alluminio
LOS334006	Aluminum Lower Rear Trailing Arm Set	Aluminium Hinterachsträgersatz unten, Heck	Ensemble bras oscillant inférieur arrière en aluminium	Set braccio longitudinale post inf alluminio
LOSA99172	Camber Gauge	Sturzlehre	Jauge de cambrure	Misuratore campanatura
LOSA99173	Ride Height Gauge	Höhenmesser	Jauge de hauteur de course	Misuratore altezza di marcia
LOSA99174	Car Stand	Fahrzeugständer	Socle	Supporto automodello
SPMS612HV	12KG Servo, WP, Metal, 23T	12KG Servo, WP, Metall, 23T	Servo 12 kg, étanche, métal, 23 dents	Servo 12 KG, WP, metallo, 23T
SPMSS6250	S6250 U-T / H-S Digital HV WP Servo	S6250 U-T / H-S Digitaler HV WP Servo	Servo numérique étanche haute tension U-T / H-S S6250	Servo S6250 U-T/H-S imp HV digitale
SPMSS6260	S6260 H-T / H-S Digital HV WP Servo	S6260 H-T / H-S Digitaler HV WP Servo	Servo numérique étanche haute tension U-T / H-S S6260	Servo S6260 U-T/H-S imp HV digitale
SPMSS6280	S6280 U-T / H-S Digital HV WP Servo	S6280 U-T / H-S Digitaler HV WP Servo	Servo numérique étanche haute tension U-T / H-S S6280	Servo S6280 U-T/H-S imp HV digitale
SPMSS6290	S6290 U-T / H-S Digital HV WP Servo	S6290 U-T / H-S Digitaler HV WP Servo	Servo numérique étanche haute tension U-T / H-S S6290	Servo S6290 U-T/H-S imp HV digitale

LOS F™ HAMMER REY®, 1/10 4WD ROCK RACER RTR

EXPLODED VIEW // EXPLOSIONSZEICHNUNG // VUE ÉCLATÉE DES PIÈCES // VISTA ESPLOSA DELLE PARTI





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US 9,930,567. US 10,419,970. US 10,849,013. US 9,320,977. US 10,528,060. CN201721563463.4. Other patents pending.

Updated 10/21

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