

# miniSOT

1/16-SCALE ELECTRIC RTR SHORT COURSE TRUCK

**Operation Manual**  
**Bedienungsanleitung**  
**Guide de mise en oeuvre**  
**Manuale di istruzioni**



Not responsible for errors.

Losi, a Division of Horizon Hobby, Inc.

Stronghold Motorsports, Maxxis Tires, Lamb Energy, Simpson, Pro Am Racing, Lucas Oil Products Inc., Fiberwerx Inc., K & N, Multi Mechanical Inc., VP Racing Fuels and ReadyLift are property of their respective owners and are used by permission or license by Horizon Hobby.

## Notice

All instructions, warranties and other collateral documents are subject to change at the sole discretion of Horizon Hobby, Inc. For up-to-date product literature, visit <http://www.horizonhobby.com> and click on the support 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:

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

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

**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.



**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 and NOT a toy. 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 attempt disassembly, use with incompatible components or augment product in any way without the approval of Horizon Hobby, Inc. 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.

## Introduction

Thank you for choosing the Mini SCT from Losi. This guide contains the basic instructions for operating your new Mini SCT. It is critical that you read all of the instructions in order to operate your model correctly and avoid unnecessary damage.

## Register your Losi Product Online

Register your 1/18 vehicle now and be the first to find out about the latest option parts, product updates and more. Log on to [www.LOSI.com](http://www.LOSI.com) and follow the product registration link to stay connected.

## Connect - Register - Win

Visit [WWW.LOSI.COM/REGISTER](http://WWW.LOSI.COM/REGISTER) and follow the product registration link to stay connected.

For registering your Losi Product you will be automatically entered for a chance to win the Losi Pick-Your-Prize Sweepstakes of \$1,000 (retail value) based on winner preference.

## Losi/Horizon Support

If you have any questions concerning setup or operation of your 1/16 vehicle please contact the appropriate Horizon Product Support office (see page 12).

## Kit Contents



- 1/16th Scale Mini SCT
- Losi® Radio System with Spektrum™ 2.4GHz DSM®
- 4 AA batteries (for transmitter)
- Losi 7.2V 1100mAh NiMH Pack with EC2™ connector
- Losi AC wall charger (110V)

The Spektrum trademark is used with permission of Bachmann Industries, Inc. Losi, DSM, EC2 are trademarks or registered trademarks of Horizon Hobby, Inc.

## Charging Warnings and Precautions

Failure to exercise caution while using this product and comply with the following warnings could result in product malfunction, electrical issues, excessive heat, FIRE, and ultimately injury and property damage.

- Read all safety precautions and literature prior to use of this product.
- Never leave the battery and charger unattended during use.
- Never attempt to dismantle the charger.
- Never attach your charger to both an AC and DC power source at the same time.
- Never reverse the positive and negative terminals. Wrong connection will damage the battery and may cause damage to the charger.
- Never allow minors to charge battery packs
- Never drop charger or batteries.
- Never attempt to charge dead or damaged batteries
- Never attempt to charge a battery pack containing different types of batteries.
- Never charge a battery if the cable has been pinched or shorted.
- Never allow batteries or battery packs to come into contact with moisture at any time.
- Never charge batteries in extremely hot or cold places (recommended between 50-80 degrees F) or place in direct sunlight.
- Always use only rechargeable batteries. This charger cannot charge batteries such as "heavy duty," "Alkaline battery," or "Mercury battery."
- Always connect the positive red lead (+) and negative black lead (-) terminals of the battery to the charger terminals correctly.
- Always disconnect the battery after charging, and let the charger cool between charges.
- Always inspect the battery before charging.
- Always terminate all processes and contact Horizon Hobby if the product malfunctions.
- Always keep batteries and charger away from any material that could be affected by heat (such as ceramic and tile), as they can get hot.
- Always monitor the area, use a fire alarm and have a fire extinguisher available at all times.
- Always make sure you know the specifications of the battery to be charged or discharged to ensure it meets the requirements of this charger. If the program is set up incorrectly, the battery and charger may be damaged. Improper settings can cause the battery to become overcharged potentially leading to fire or explosion.
- Always connect the charge cable to the charger first, then connect the battery to avoid short circuit between the charge leads. Reverse the sequence when disconnecting.
- Never connect more than one battery pack to this charger at a time.
- Always constantly monitor the temperature of the battery pack while charging.
- Always end the charging process if the charger or battery becomes hot to the touch or starts to change form (swell) during the charge process.

## Getting Started

### STEP 1



Plug the charger into the proper wall receptacle then the battery into the charger and let it charge for 3 hours for the first time. For subsequent charges allow 5 to 6 hours for a full charge.

### STEP 2



Remove the transmitter battery cover, install four (4) AA batteries and replace cover. Pay close attention to the polarity of the positive (+) and negative (-) ends and replace cover.

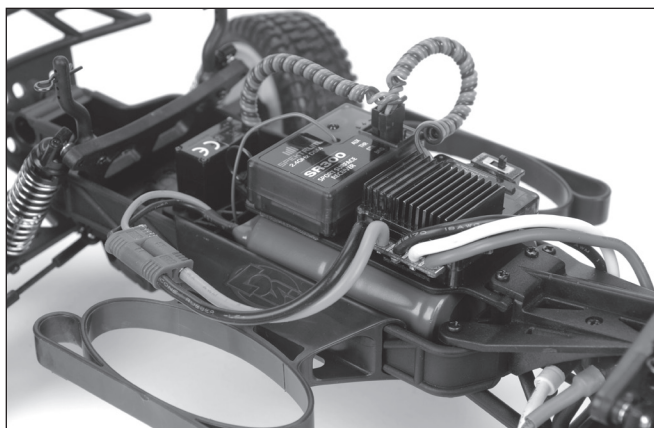
### STEP 3



Once the battery is charged, remove the body clip from the front battery hold-down and lift the battery strap.

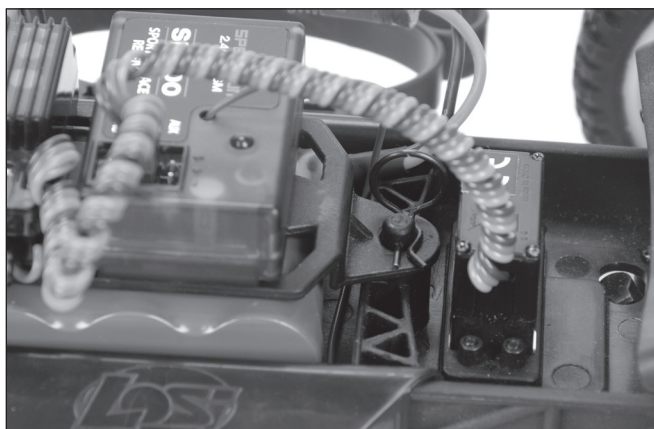


#### STEP 4



Install the charged battery pack into the chassis as shown. Ensure the battery is laying flat on the chassis.

#### STEP 5



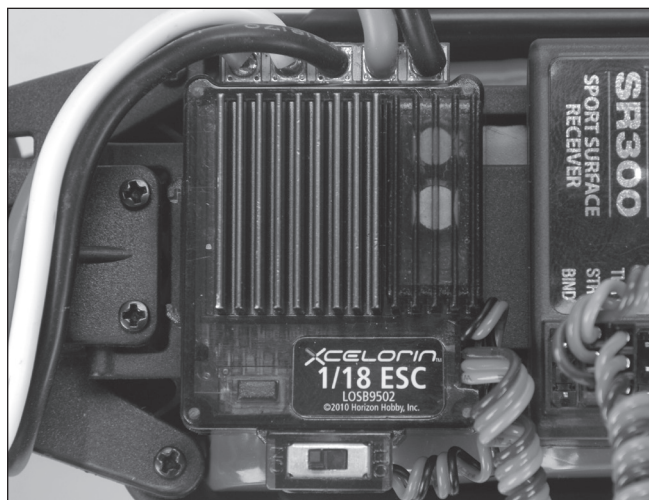
Reinstall the battery strap and body clip. Plug the battery pack into the ESC.

#### STEP 6



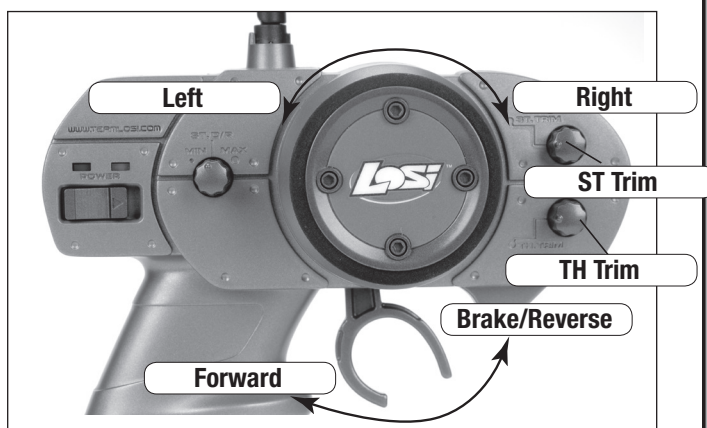
Always turn on the transmitter first. The small red and green lights above the switch should both light up. If not, you need to check for low or incorrectly installed batteries.

#### STEP 7



Once the transmitter has been powered on, turn on your vehicle by sliding the switch on the ESC to the "ON" position.

#### STEP 8



If the rear wheels turn during power-on, adjust the "TH. Trim" knob located to the lower right of the steering wheel until they stop.

To make the vehicle move forward, pull the trigger back. To reverse the vehicle, wait for the model to stop and then push the trigger forward.

When going forward the vehicle should move in a straight line. If not, adjust the "ST. Trim" so that it tracks in a straight line without having to turn the steering wheel.

#### STEP 9

After you have finished, turn your vehicle off FIRST by sliding the ESC switch to the "OFF" position. After the model has been turned off, turn off the transmitter.

#### STEP 10

If you wish to clean your vehicle, use compressed air and/or a soft brush to remove dust and dirt. NEVER use chemicals or anything wet as it can cause damage to both electronics and plastic parts.

## ALWAYS:

- Turn on the transmitter before the vehicle
- Use caution when running your vehicle near people
- Turn both the vehicle and transmitter "OFF" when done
- Check the battery condition of the transmitter before running

## NEVER:

- Operate the vehicle with low battery power
- Run the vehicle through water or wet grass
- Use chemicals to clean the chassis
- Run the vehicle without a gear cover

## Safety Precautions

Losi and Horizon Hobby shall not be liable for any loss or damages, whether direct, indirect, special, incidental, or consequential, arising from the use, misuse, or abuse of this product or any product required to operate it.

## Age Recommendation

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

- This model is controlled by a radio signal subject to interference from many sources outside your control. This interference may cause momentary loss of control so it is advisable to always keep some distance in all directions around your model as a safety margin to avoid collisions.
- Always operate your model in an open area away from cars, traffic and people.
- Avoid running your model in the street where damage can occur.
- Never run your Mini SCT with low transmitter batteries.
- Carefully follow the directions and warnings for this and any optional support equipment.
- Keep all chemicals, small parts and anything electrical out of the reach of children.

## Tools and Items You Will Find Handy



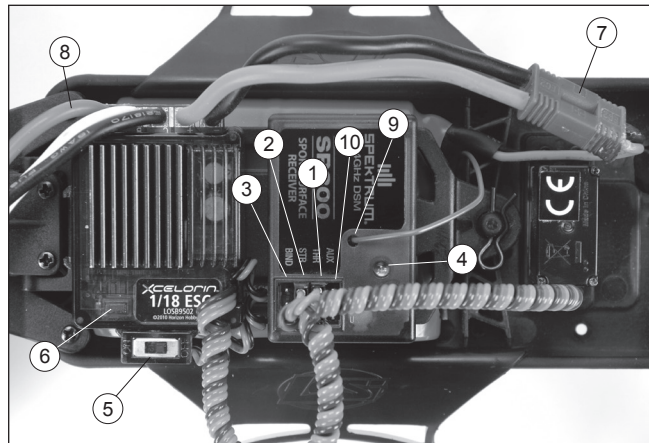
- Soft bristle brush for cleaning
- 5.5mm nut driver for the wheel nuts
- #0 or #1 Phillips screwdriver
- LOSA99100 .050-inch Hex Wrench

Note: Use only Losi tools or other high-quality tools. Use of inexpensive tools can cause damage to the small screws and parts used on this type of model.

## The Radio System

The following is an overview of the various functions and adjustments found on your Losi Mini SCT radio system. Since the Mini SCT operates on a radio signal, it is important for you to read and understand these functions before driving the model.

## THE RECEIVER



1. Receiver/ESC Power Lead: Connects to the battery lead for power
2. Servo Port/Plug: Where the steering servo plugs in (note polarity on case)
3. Bind port: Used to bind the receiver to the transmitter
4. Indicator Light: Indicates the operation status of the receiver
5. On/Off Switch: Controls Power to the Receiver/ESC
6. Setup Button: Enters ESC into setup mode
7. Battery Leads: Connects the battery to the ESC
8. Motor Lead: Connects the ESC to the motor
9. Antenna Wire: Receives the radio signal from your transmitter
10. Aux. Port

## THE TRANSMITTER



1. Steering Wheel: Controls direction (left/right) of the model.
2. Throttle Trigger: Controls speed and direction (forward/reverse) of the model.
3. Antenna: Transmits signal to the model.
4. On/Off Switch: Turns the power on/off for the transmitter.
5. Indicator Lights: Green (right) light indicates adequate battery power. Red (left) indicates signal strength.
6. ST. Trim: Adjusts the "hands off" direction of the model.
7. TH. Trim: Adjusts the motor speed to stop at neutral.
8. Steering Rate: Adjusts amount front wheels move when the steering wheel is turned left and right.
9. ST. REV: Reverses the function of the steering when the wheel is turned left or right.
10. TH. REV: Reverses the function of the speed control when pulled back or pushed forward.
11. Bottom Cover: Covers and holds the batteries that power the transmitter.

## Re-Binding the Transmitter to the Receiver

The Losi DSM radio system included in the Mini SCT operates on 2.4GHz. The communication between the transmitter and receiver starts in the few seconds after the transmitter and vehicle are both turned on. This is called the "binding process". The Losi DSM radio system will not interfere with previous technology radio systems that operate on 27MHz or 75MHz frequencies and you will not receive any interference from them. Although set at the factory, below are the steps required to re-bind your transmitter to the receiver should the need arise. During the bind process there is a unique ID from the transmitter communicated to the receiver to ensure trouble-free radio operation.

### Steps to Re-Bind

1. Ensure the transmitter and vehicle are both turned off.
2. Using the supplied Bind plug (which looks like a standard receiver plug with a wire loop installed) insert or plug into the receiver slot labeled "BIND". Looking down on the receiver this slot would be below the LED and is the furthest from the LED, or nearest to the corner of the receiver.

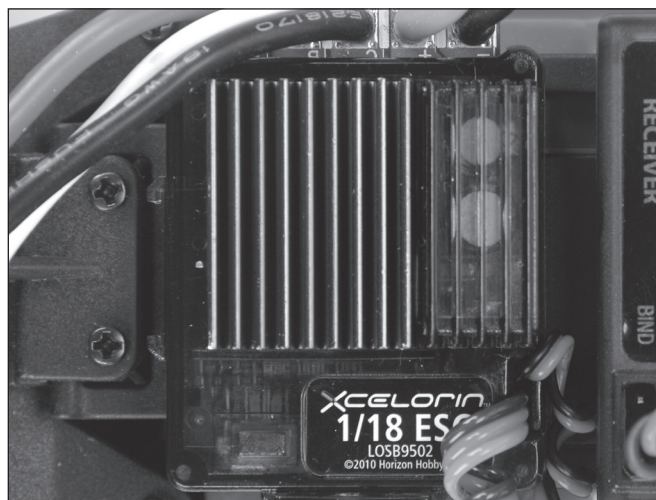
Note: You do not need to remove any of the other plugs to re-bind.

3. With the Bind plug installed, turn on the vehicle. Notice a blinking Orange LED within the receiver.
4. Now you are ready to turn on the transmitter. You should notice on the back of the transmitter a similar blinking Orange LED under the translucent cover.
5. Both the receiver and transmitter blinking Orange LEDs will stop blinking and become solid indicating they have "bound" themselves together.
6. Please turn off both the vehicle and transmitter to remove the Bind plug from the receiver. Failing to remove the Bind plug will cause the transmitter to attempt to rebind every time you turn on the vehicle and transmitter.
7. Turn on both the vehicle and transmitter to ensure operation. If the transmitter does not control the vehicle, please repeat steps 1 to 6. Should this not correct the problem please call Horizon Service/Repair for further assistance.
8. The Bind process is complete. Your vehicle's radio system should be ready for use.



## Resetting and adjusting the MSC-18BL ESC

### FEATURES



1. Auto Detects Brushed or Brushless motor (See Select Motor Type)
2. One-Touch Endpoints calibration
3. Battery Selection:
  - a. LiPo (ESC auto detects number of cell: 1S to 3S)
  - b. NiMH
4. 2 ESC profile:
  - a. Forward / Reverse with Smart Brake II
  - b. Forward Only
5. Battery Over Voltage Protection (Max Input voltage = 13V)
6. Thermal Protection
7. Motor Stall Detection

### Speed Control Programming

#### Select Motor Type

When ESC is turned on, it will check the connection between Red and White wire. If the wires are shorted, then it will go into brushed motor mode.

#### Brushed Motor

- a. Motor (+) connected to Red and White Wire of ESC
- b. Motor (-) connected to Black Wire of ESC

#### Brushless Motor

Connect the 3 motor wires to Red, White and Black wire of ESC.

### Battery Type Programming

#### 1. LED indicator

After power is turned on, the LED will display the selected Battery Type for 2 seconds.

Red and Green LEDs are used to display selected Battery Type:

Red LED Flashing = LiPo is selected

Green LED Flashing = NiMH is selected

To change from one battery type to another (colors described above), press the setup button during the first 2 seconds after turning on ESC. Cutoff voltage will automatically adjust based on battery type:

For LiPo battery: ESC will auto detect whether it is 1 cell (3.3V), 2 cell (6V) or 3 cell (9V)

For NiMH: ESC will cutoff at 4.3V

#### 2. LED display during "Normal Operation"

Condition	LED
Stop	Green
Partial Forward	Off
Max Forward	Red
Partial Reverse	Off
Max Reverse	Red
Brake	Red & Green

#### 3. One-Touch Endpoints Calibration Programming:

- a. Turn on Transmitter, Throttle in neutral position
- b. Hold the ESC setup button and turn on ESC
- c. Red and Green LED will turn on, release setup button
- d. Green LED will begin flashing, pull trigger to full throttle position until Green light turns solid, then return to neutral position
- e. Red LED will flash at this time
- f. Push trigger to at maximum reverse position until Red LED turns solid
- g. Release trigger to neutral position and programming is complete

#### 4. LED display for "Error"

- a. Battery Voltage too high (over 13V)---Solid Red LED and Green LED flashing slowly (Only during Power ON)
- b. Overheat---Alternatively Flashing Red and Green
- c. Motor Failure, e.g., wire broken, bad motor, or jam---Red LED flashing quickly 3 times (repeating sequence)
- d. Battery Low---Green LED solid on and Red LED flashing slowly

#### 5. Technical Specification:

1. Sensorless Brushless ESC
2. Resistance per phase: 0.0036 ohm
3. Up to 25A continuous current, 250A surge current
4. Max RPM: 120,000
5. 4 to 7 cells NiMH, or 1, 2 or 3 cell Li Polymer
6. BEC: 6V, 1A

## Warning

This model may only be powered by the stock 6-cell 7.2-volt NiMH battery pack (LOSB1212), a 2-cell 7.4-volt LiPo battery pack (LOSB9826) or 3-cell 11.1 volt LiPo battery pack (LOSB9827). Please consult the Motor/Battery Chart below for suggested motor/battery combos. The use of higher voltage battery packs will cause ESC damage and void any warranty. Consult your local hobby dealer or check [www.losi.com](http://www.losi.com).

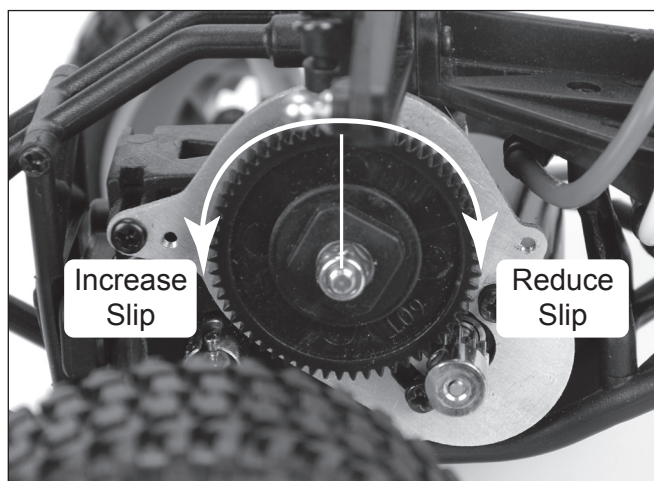
	4100 (LOSB9458)	4500 (LOSB9457)	5000 (LOSB9459)	6000 (LOSB9460)	7400 (LOSB9461)	8200 (LOSB9462)	9400 (LOSB9463)
7.2V NiMH (LOSB1212)	x	x	x	x	x	x	x
7.4V LiPo (LOSB9826)	x	x	x	x	x	x	x
11.1V LiPo (LOSB9827)	x	x	x				

## Chassis Tuning

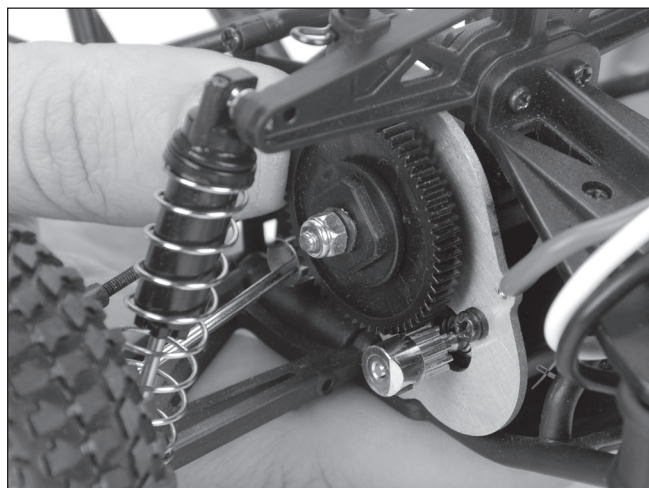
The Mini SCT has several adjustments available to you for tuning the performance for your needs. Although there are multiple shock positions and camber link locations provided, we have built the model with the best overall settings. The following are simple adjustments and easily maintained settings to assure proper operation and performance. It is advised when making any adjustment that you do so in small increments and always check for other parts of the chassis that are affected.

### Slipper Adjustments

The Mini SCT is equipped with a slipper device offering both traction control and protection for the transmission. The slipper is primarily used to help absorb sudden impacts on the drivetrain due to landing big jumps or when using more powerful aftermarket motors and/or battery packs. Additionally, it can be used to smooth out the flow of power to the rear wheels and limit wheel spin when running on extremely slick surfaces.



Adjustment is made by turning the 3mm adjustment nut clockwise (to the right) to reduce the slip, or counterclockwise (to the left) to increase the slip.

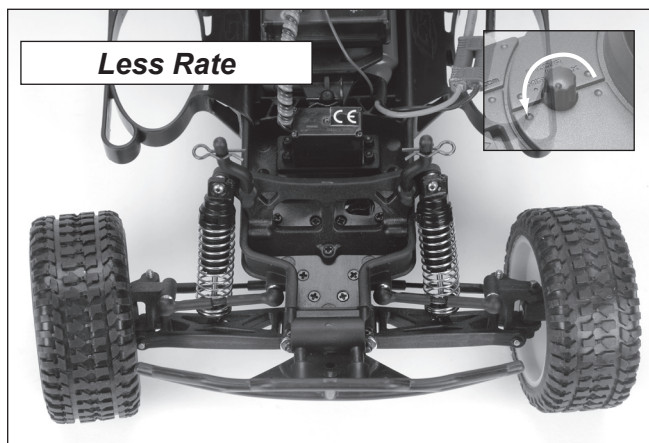


When adjusted properly, you should be able to hold the rear tires firmly and barely be able to push the spur gear forward with your thumb.

To track test, turn the Mini SCT on and place it on the ground. As you push it backwards allowing it to roll freely, punch the throttle. The slipper should slip no more than an inch or two as it accelerates. With the included motor and battery pack it should slip just a little. Make sure you replace the gear cover before running.

### Steering Rate

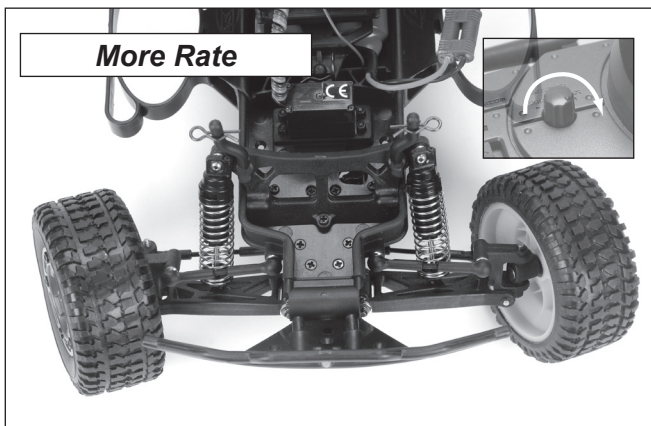
Your transmitter is equipped with a steering rate control to the left of the steering wheel. This advanced feature, usually found only on competition-type radios, allows you to adjust the amount the front tires move when you turn the steering wheel. This is really helpful when you are on slick, as well as high-traction surfaces.



If your Mini SCT turns too sharply and/or spins out easily, try turning the steering rate down by rotating the knob counterclockwise (to the left).



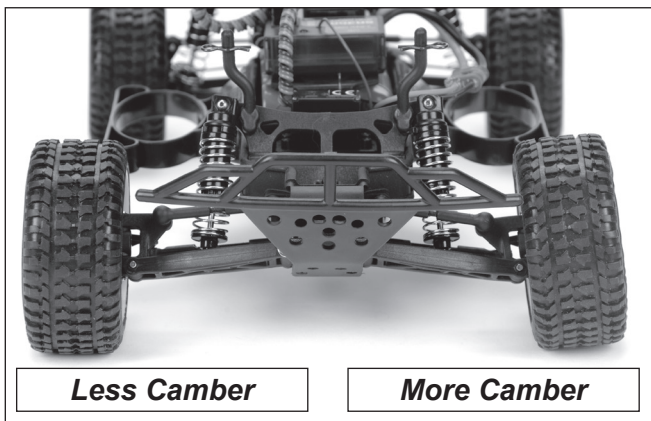
### **More Rate**



For sharper or additional steering, try turning the knob clockwise (to the right).

### **Camber**

Camber is the angle of the tires to the racing surface when viewed from the front or rear of the truck.

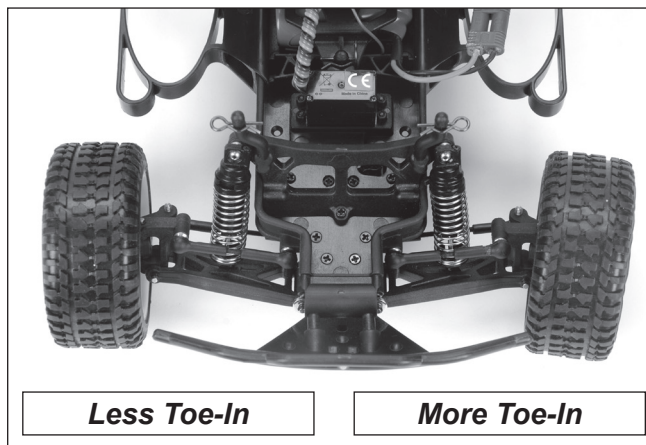


You want to keep both the front and rear tires straight up and down or leaning in at the top very slightly.

If you are running on carpet or similar high traction surfaces, you may find leaning the tires in a bit more helps. This adjustment is made with the threaded links extending from the front or rear bulkhead to the spindle carrier or rear hub. Making the camber rods shorter increases the camber and lean-in of the tire, while making the camber rods longer decreases the camber.

### **Toe-In**

This is the relationship of the left and right side tire to one another.



Ideally, you want the front of the tires to be pointed inward toward each other just slightly when viewed from above. This makes the model track straight and stable. This is controlled with the threaded steering rods on either side. As you make them longer you will increase the toe-in and vice versa.

### **Ride Height**

This is the height the chassis sits and runs at. Spring spacers included with the Mini SCT, when installed between the shock top and spring, will increase the pre-load on the spring and raise the chassis. You may want to try this when running on extremely rough surfaces.

### **Service/Repair**

#### **Radio/Speed Control & Motor**

If you have any problems other than those covered in the troubleshooting section, please call the appropriate electronics service department. They will be able to give you specific problem additional attention and instruct you as to what needs to be done.

#### **Maintenance**

If you have any questions other than those covered in the troubleshooting or maintenance sections, please call the appropriate Horizon product support department.

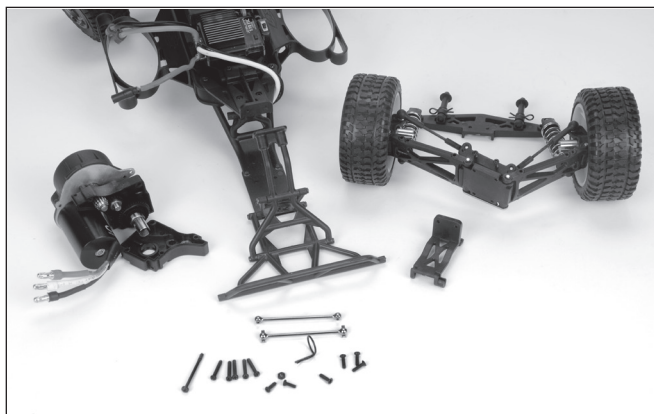
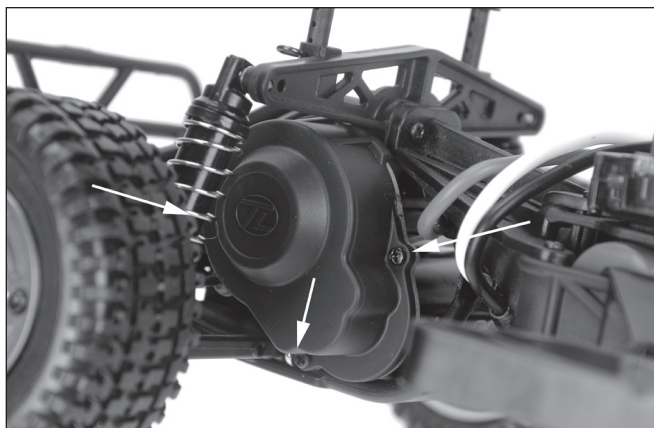
#### **Cleaning**

Performance can be hindered if dirt gets in any of the moving suspension parts. Use compressed air, a soft paintbrush, or toothbrush to remove dust or dirt. Avoid using solvents or chemicals as they can actually wash dirt into the bearings or moving parts as well as cause damage to the electronics.

## Rebuilding the Differential

The gears in the differential will wear over time. The same is true for the outdrives, driveshafts, and rear axles. We suggest using a small rag or paper towel to lay out the parts you remove to make it easier to reassemble.

### Disassembly



1. Unplug the 3 motor wires from ESC.
2. Remove the gear cover (three screws pictured)
3. Remove the 2 screws on the front of the rear shock tower that attach to the rear upper cage. Once the screws are removed, rotate the rear cage toward the rear enabling access to the rear camber block.
4. Remove the 2 screws attaching the rear camber block to the transmission case.
5. Remove 4 screws from rear skid plate and remove transmission from vehicle.
6. Remove bracket on top of transmission by removing the 2 front screws and removing the long screw (secured with a bolt), which passes through the transmission from the motor plate side.
7. Remove the left side of the gearbox by removing the three screws.
8. Remove any shims on the bevel gears (not used on all models) and set them aside so they can be reinstalled in the same location.
9. Carefully remove the large plastic sun gear and the bevel gears on either side of it. You can use the removed differential assembly as a guide for putting together the replacement unit. For the best performance Losi Grease (LOSA3066) can be applied to these gears.
10. Remove the center mounted idler gear from the gearbox. Remove the shaft and push the ball bearings out of both sides. Install these bearings in the new gear.

## Reassembly

Replace the idler gear and shaft into the center of the same right side of the gearbox. Replace any shims removed from the right bevel gear and slide it through the lower bearing. Replace any shims that came off of the left side bevel gear and allow it to slide through the lower bearing as you put the left gearbox half back into position. Replace the screws and reinstall the rebuilt gearbox using the above steps in reverse order. Consult the exploded view in the back of this manual for more details.

### Changing the Spur Gear

Remove the gear cover by removing the three small screws. If you are replacing the spur gear with one of a different size (number of teeth), you must first loosen (do not remove) the two screws that secure the motor and slide it back slightly. Remove the 3mm nut at the end of the slipper shaft and all of the slipper parts on the outside of the spur gear as well as the old gear. Place the new spur gear into position and replace the slipper parts. If you have changed the size of the spur, see Setting the Gear Mesh below. After you have changed the spur gear, you will have to adjust the slipper as described elsewhere.

### Changing the Pinion Gear/Gear Ratio

Before you change the pinion gear ask yourself why you are doing it. In general, if you change to a larger pinion the top speed will improve but you will see less acceleration and run time. This would only be advisable for really long track layouts with few tight turns. Changing to a smaller pinion will give you quicker acceleration and possibly a bit longer run time but a little less top speed. This would be good for short layouts or when running hotter motors. The pinion on the Mini SCT offers the best balance of both. To change the pinion, remove the gear cover, loosen the motor screws, and slide the motor back. Use a pair of small needle-nose pliers between the motor plate and back of the pinion to push the pinion off. Place the new pinion on the end of the motor shaft and, using the flat of the pliers or a similar flat tool, push it on to the same position as the one removed. See Setting the Gear Mesh below.



**CAUTION:** When running aftermarket motors, check with the motor manufacturer for correct gearing. Never over-gear the motor as it can cause overheating, damaging it and the speed control.

### Setting the Gear Mesh

The motor screws should be slightly loose. Slide the motor forward allowing the pinion gear to mesh with the spur gear. Snug (not tight) the bottom motor screw and try rocking the spur back and forth. There is a slight bit of movement before the motor is forced to turn over. If not, pull the top of the motor back slightly and recheck. If there is too much slop between the gears, push the top of the motor forward. When set properly, the wheels can be spun forward freely with very little noise. Make sure to tighten both motor screws and replace the gear cover before running.



## **Steering Servo Installation/Removal**

Unplug the servo lead from the receiver. Remove the four small screws located on the bottom of the chassis that secure the servo to the chassis. Use a screwdriver or small pliers to pop the steering link off of the servo, so it can be removed. Replace in the reverse sequence used to remove the servo.

## **Receiver/Speed Control (ESC) Installation/Removal**

Unplug the power lead, motor leads and steering servo. Do not attempt to open the receiver or electronic speed control (ESC) as only a factory technician has the proper tools and parts to make any repairs necessary. The receiver and ESC are mounted with double-sided foam tape. Use your thumb and index finger at the bottom of the front corners to pull them from the mount. If this is difficult, ask for help. If necessary, carefully use a large flat blade screwdriver between the unit and the mount to pry it loose. Make sure you remove any left over foam or adhesive before remounting with common servo tape or hobby type foam tape.

## **Warranty and Repair Policy**

### **WARRANTY PERIOD**

Exclusive Warranty- Horizon Hobby, Inc., (Horizon) warrants that the Products purchased (the "Product") will be free from defects in materials and workmanship at the date of purchase by the Purchaser.

### **LIMITED WARRANTY**

**Horizon reserves the right to change or modify this warranty without notice and disclaims all other warranties, express or implied.**

(a) This warranty is limited to the original Purchaser ("Purchaser") and is not transferable. REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE PURCHASER. This warranty covers only those Products purchased from an authorized Horizon dealer. Third party transactions are not covered by this warranty. Proof of purchase is required for all warranty claims.

(b) Limitations- HORIZON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCT. THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL SUITABLY MEET THE REQUIREMENTS OF THE PURCHASER'S INTENDED USE.

(c) Purchaser Remedy- Horizon's sole obligation hereunder shall be that Horizon will, at its option, (i) repair or (ii) replace, any Product determined by Horizon to be defective. In the event of a defect, these are the Purchaser's exclusive remedies. Horizon reserves the right to inspect any and all equipment involved in a warranty claim. Repair or replacement decisions are at the sole discretion of Horizon. This warranty does not cover cosmetic damage or damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or modification of or to any part of the Product. This warranty does not cover damage due to improper installation, operation, maintenance, or attempted repair by anyone other than Horizon. Return of any Product by Purchaser must be approved in writing by Horizon before shipment.

### **DAMAGE LIMITS**

HORIZON SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCT, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE, OR STRICT LIABILITY. 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 this Product, you are advised to return this 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).

## **Warranty Services**

### **QUESTIONS, ASSISTANCE, AND REPAIRS**

Your local hobby store and/or place of purchase cannot provide warranty support or repair. Once assembly, setup or use of the Product has been started, you must contact 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 direct your email to [productsupport@horizonhobby.com](mailto:productsupport@horizonhobby.com), or call 877.504.0233 toll free to speak to a Product Support representative. You may also find information on our website at [www.horizonhobby.com](http://www.horizonhobby.com).





## INSPECTION OR REPAIRS

If this Product needs to be inspected or repaired, please use the Horizon Online Repair 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 Repair Request is available at [www.horizonhobby.com](http://www.horizonhobby.com) <http://www.horizonhobby.com> under the Repairs tab. 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 repair. 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 batteries to Horizon. If you have any issue with a battery, please contact the appropriate Horizon Product Support office.**

## WARRANTY INSPECTION AND REPAIRS

**To receive warranty service, you must include your original sales receipt** verifying the proof-of-purchase date. Provided warranty conditions have been met, your Product will be repaired or replaced free of charge. Repair or replacement decisions are at the sole discretion of Horizon.

## NON-WARRANTY REPAIRS

**Should your repair not be covered by warranty the repair 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 repair you are agreeing to payment of the repair without notification. Repair estimates are available upon request. You must include this request with your repair. Non-warranty repair 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 cashiers checks, as well as Visa, MasterCard, American Express, and Discover cards. By submitting any item to Horizon for inspection or repair, you are agreeing to Horizon's Terms and Conditions found on our website under the Repairs tab.

## UNITED STATES

*(Electronics and engines)*

Horizon Service Center  
4105 Fieldstone Rd  
Champaign, Illinois  
61822 USA

Online Repair Request visit:  
[www.horizonhobby.com/repairs](http://www.horizonhobby.com/repairs)  
877-504-0233

*(All other products)*

Horizon Product Support  
4105 Fieldstone Rd  
Champaign, Illinois  
61822 USA  
[productsupport@horizonhobby.com](mailto:productsupport@horizonhobby.com)  
877-504-0233

## UNITED KINGDOM

Horizon Hobby Limited  
Units 1-4 Ployters Rd  
Staple Tye  
Harlow, Essex  
CM18 7NS  
United Kingdom  
[sales@horizonhobby.co.uk](mailto:sales@horizonhobby.co.uk)  
+44 (0) 1279 641 097

## GERMANY

Horizon Technischer Service  
Hamburger Str. 10  
25335 Elmshorn  
Germany  
[service@horizonhobby.de](mailto:service@horizonhobby.de)  
+49 4121 46199 66

## FRANCE

Horizon Hobby SAS  
14 Rue Gustave Eiffel  
Zone d'Activité du Réveil Matin  
91230 Montgeron  
[infofrance@horizonhobby.com](mailto:infofrance@horizonhobby.com)  
+33 (0) 1 60 47 44 70

## Compliance Information for the European Union

### CE DECLARATION OF CONFORMITY

(in accordance with ISO/IEC 17050-1)

No. HH2010081901

Product(s): 1/16 Mini Stronghold SCT RTR

Item Number(s): LOSB0211i

Equipment class: 1

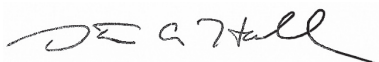
The object of declaration described above is in conformity with the requirements of the specifications listed below, following the provisions of the European R&TTE directive 1999/5/EC:

EN 300-328	Technical requirements for Radio equipment.
EN 301 489	General EMC requirements
EN 60950	Safety

Signed for and on behalf of:

Horizon Hobby, Inc.  
Champaign, IL USA  
Aug 19, 2010

Steven A. Hall



Vice President  
International Operations and Risk Management  
Horizon Hobby, Inc.



### DISPOSAL OF WEEE BY USERS IN THE EUROPEAN UNION

This product must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of their waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or where you purchased the product.

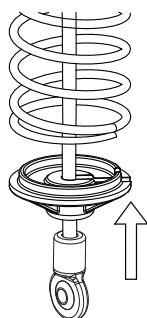
### FCC Information

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.

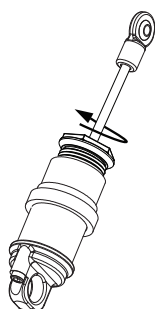
This product contains a radio transmitter with wireless technology which has been tested and found to be compliant with the applicable regulations governing a radio transmitter in the 2.400 GHz to 2.4835 GHz frequency range.

## Rebuilding/Refilling the Shocks



### Step 1

After removing the shock, push up on the lower spring cup and remove it from the shaft. Remove the spring and preload spacers.



### Step 2

Turn the shock upside down and remove the black shock cartridge/shaft assembly from the shock body by turning it counterclockwise.

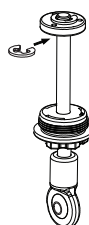
**Note:** If you only wish to change or fill the shock fluid, skip to step 5.



### Step 3

Remove the top E-clip from the shock shaft. Remove the shock piston. Remove second E-clip. Remove the old cartridge.

Put a drop of oil on the shock shaft before installing a new shock cartridge.



### Step 4

Reinstall the lower E-clip. Slide the shock piston onto the shock shaft against the E-clip. Reinstall the top E-clip.



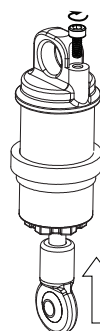
### Step 5

If you plan on completely changing the shock fluid (suggested), dump out the old fluid from the shock body. Carefully fill the shock body with fluid to the bottom of the threads inside the shock body.



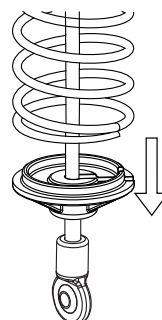
### Step 6

Pull the shaft out so the piston is next to the cartridge and reinstall the assembly into the shock body. Turn in a clockwise direction until snug—DO NOT TIGHTEN yet!



### Step 7

Turn the shock over and use a #0 Phillips screwdriver to remove the small bleed screw at the top of the shock. Slowly push the shock shaft up until it stops. Excess fluid should flow out of the bleed hole. Slowly pull the shock shaft halfway back and replace the bleed screw. Use pliers to tighten the cartridge, being careful not to strip the plastic lobes on the cartridge.



### Step 8

Replace the spring and spring cup and test the shock action for smoothness and leaks. Retighten the bleed screw or cartridge if either leaks. Remount the shock on your truck.

**Note:** Production shocks may differ slightly from those shown in the drawings.



## VEHICLE TROUBLESHOOTING GUIDE

<i>Symptom</i>	<i>Possible Cause(s)</i>	<i>Possible Solution(s)</i>
<b><i>Doesn't operate</i></b>	Battery not charged or plugged in Receiver switch not "On" Transmitter not "On" or low battery	Charge battery/plug in Turn on receiver switch Turn on/replace batteries
<b><i>Motor runs but rear wheels don't move</i></b>	Pinion not meshing with spur gear Pinion spinning on motor shaft Slipper too loose Transmission gears stripped	Adjust pinion/spur mesh Replace pinion gear on motor Check & adjust slipper Replace transmission gears Check and replace drive pin
<b><i>Steering doesn't work</i></b>	Servo plug not in receiver Servo gears or motor damaged	Check if plug in/in all the way Replace or repair servo
<b><i>Won't turn in one direction</i></b>	Servo gears damaged	Replace servo
<b><i>Motor doesn't run</i></b>	Motor plugs loose Motor wire broken ESC damaged	Plug in completely Repair or replace as needed Contact Horizon Hobby Product Support
<b><i>ESC gets hot</i></b>	Motor over-gearred Driveline bound up	Use smaller pinion on motor Check wheels, suspension, and transmission for binding
<b><i>Poor run time and/or sluggish acceleration</i></b>	NiMH pack not fully charged Charger not allowing full charge Slipper slipping too much Motor worn out Driveline bound up	Recharge battery Try another charger Check/adjust slipper Replace motor Check wheels and transmission for binding
<b><i>Poor range and/or glitching</i></b>	Transmitter batteries low Transmitter antenna loose Vehicle battery low Loose plugs or wires	Check and replace Check and tighten Recharge or replace Check motor and power plugs
<b><i>Slipper won't adjust</i></b>	Drive pin missing in shaft Spur gear face worn out	Replace drive pin Replace spur gear and adjust slipper

## Recommended Motor and Battery Chart

	4100 (LOSB9458)	4500 (LOSB9457)	5000 (LOSB9459)	6000 (LOSB9460)	7400 (LOSB9461)	8200 (LOSB9462)	9400 (LOSB9463)
7.2V NiMH (LOSB1212)	x	x	x	x	x	x	x
7.4V LiPo (LOSB9826)	x	x	x	x	x	x	x
11.1V LiPo (LOSB9827)	x	x	x				

## Warning

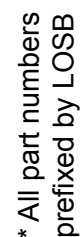
This model may only be powered by the stock 6-cell 7.2-volt NiMH battery pack (LOSB1212), a 2-cell 7.4-volt LiPo battery pack (LOSB9826) or 3-cell 11.1 volt LiPo battery pack (LOSB9827). Please consult the Motor/Battery Chart above for suggested motor/battery combos. The use of higher voltage battery packs will cause ESC damage and void any warranty. Consult your local hobby dealer or check [www.losi.com](http://www.losi.com).

## Replacement Parts

LOSB0805	Losi DSM Transmitter	LOSB1212	7.2V 1100mAh NiMH Battery with EC2 Connector
LOSB0813	MS20DSL Servo with Long Lead	LOSB1260	Pinion Gear Set (9T-12T)
LOSB1009	Main Chassis	LOSB1291	Front Shock Springs (pr)
LOSB1018	Front Bulkhead, Kickplate & Brace	LOSB1292	Rear Shock Springs (pr)
LOSB1020	F/R Pivot Block Set	LOSB1293	Front Shocks with Springs, Assm. (pr)
LOSB1024	F/R Suspension Arm Set	LOSB1294	Rear Shocks with Springs, Assm. (pr)
LOSB1027	Spindle, Carrier & Rear Hub Set	LOSB1295	Front Shock Body Set (pr)
LOSB1029	Steering Bellcrank Set	LOSB1296	Rear Shock Body Set (pr)
LOSB1037	Front Axle & Pin Brace Set	LOSB1297	Front Shock Shaft Set (pr)
LOSB1040	Camber & Steering Link Set	LOSB1298	Rear Shock Shaft (pr)
LOSB1041	Suspension Pin Set	LOSB1299	F/R Shock Rebuild Kit (pr)
LOSB1043	E-Clips (10)	LOSB1850	Side Guard
LOSB1045	Wheel Nuts & Drive Pins	LOSB1852	Front/Rear Shock Tower
LOSB1049	Rod End Set (14)	LOSB1853	Front/Rear Ladder & Mount Set
LOSB1051	Ball Stud Set (10)	LOSB1854	Front/Rear Bumper & Support Set
LOSB1059	Transmission Case & Motor Plate Set	LOSB1855	Motor Plate
LOSB1060	Transmission Ball Bearing Set (7)	LOSB1856	Body Post, Gear Cover Set
LOSB1061	Battery Hold Down Set	LOSB1859	Fastener Set
LOSB1063	Transmission Shaft Set	LOSB1950	Front Mounted Tire
LOSB1064	Slipper Hardware Set	LOSB1951	Rear Mounted Tire
LOSB1065	Transmission Gear Set, Metal	LOSB9457	4500Kv Sensorless Motor
LOSB1068	Spur Gear Set (50T & 60T)	LOSB9502	MSC-18BL Brushless ESC
LOSB1073	Outdrive/Dogbone/Rear Axle Set	SPMSR300	Spektrum 3-Channel Surface Receiver
LOSB1074	F/R Bumper and Mount/Support Set		
LOSB1100	F/R Ball Bearing Set (8)		

## Option Parts

LOSB1013	Track Dots, Neon Orange (12)	LOSB9458	1/18th Xcelorin 4100Kv Brushless Motor
LOSB1100	F/R Ball Bearing Set (8)	LOSB9459	1/18th Xcelorin 5000Kv Brushless Motor
LOSB1110	Aluminum Shock Set	LOSB9460	1/18th Xcelorin 6000Kv Brushless Motor
LOSB1117	Front Spring Set for Oil Shocks	LOSB9461	1/18th Xcelorin 7400Kv Brushless Motor
LOSB1119	Rear Spring Set for Oil Shocks	LOSB9462	1/18th Xcelorin 8200Kv Brushless Motor
LOSB1125	Ball Differential, Assembled with Bearings	LOSB9463	1/18th Xcelorin 9400Kv Brushless Motor
LOSB1206	AC Peak Charger (1 hour)	LOSB9535	1/18th Xcelorin Brushless Electronics Speed Control
LOSB1226	Servo Saver Set	LOSB9560	Xcelorin 6000Kv Brushless Combo (requires setscrew, pinion)
LOSB1230	Titanium Turnbuckle Set	LOSB9561	Xcelorin 7400Kv Brushless Combo (requires setscrew, pinion)
LOSB1240	CV Driveshaft Set	LOSB9562	Xcelorin 8200Kv Brushless Combo (requires setscrew, pinion)
LOSB1260	Pinion Gear Set, 9T-12T	LOSB9563	Xcelorin 9400Kv Brushless Combo (requires setscrew, pinion)
LOSB1261	Pinion Gear Set, 13T-16T	LOSB9606	MultiPro Intelligent Balance Charger
LOSB1262	Pinion Gear Set, 17T-20T	LOSB9626	Mini Plug to EC2 Charger Adaptor
LOSB1263	Pinion Gear Set, 14T, 16T, 18T, 20T	LOSB9826	7.4V 1300mAh 2S 15C LiPo Battery
LOSB1264	Pinion Setscrew with Wrench	LOSB9627	Tamiya to EC2 Charger Adaptor
LOSB1322	Painted Body Set with Stickers, ReadyLift/Geiser Painted Body Set	LOSB9827	11.1V 1300mAh 2S 20C LiPo Battery
LOSB1323	Painted Body Set with Stickers, Rockstar Painted Body Set		
LOSB1326	Body Set with Stickers, Clear		
LOSB1339	Sticker Set		







# **miniSCOT**

**1/16-SCALE ELECTRIC RTR SHORT COURSE TRUCK**