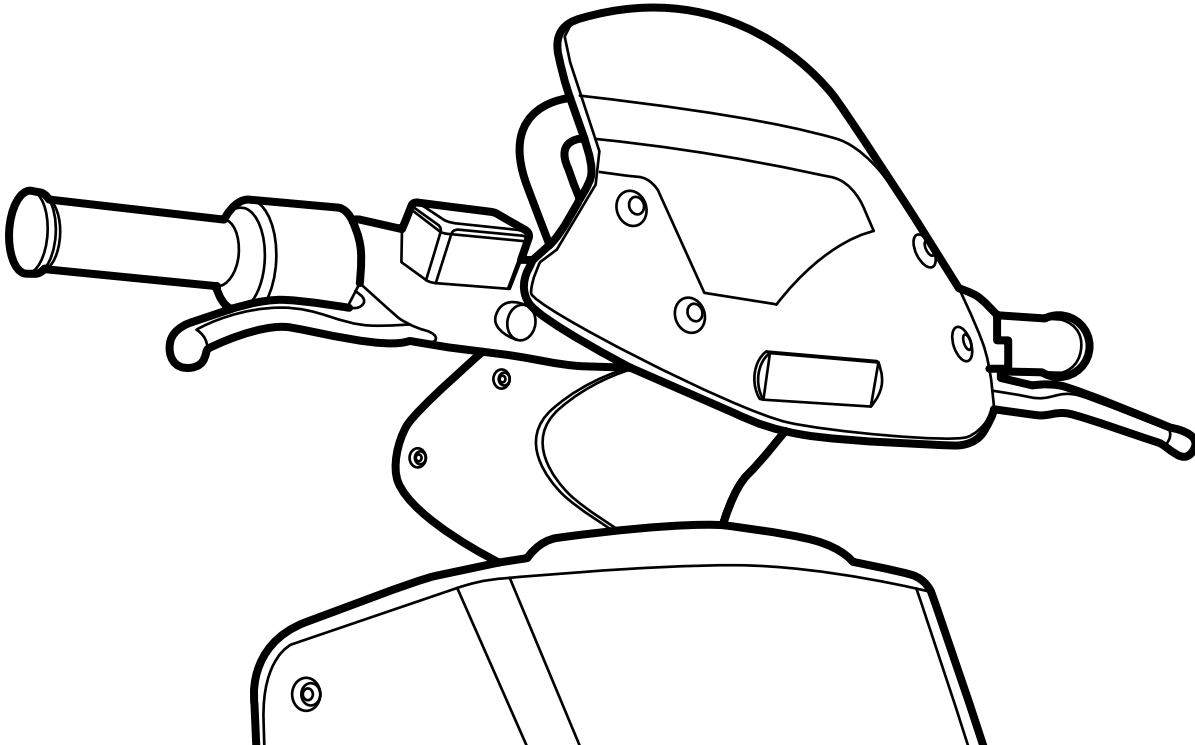


# Segway SE-3 Patroller

User Manual



## **WARNING**

- Whenever you ride the Segway® SE-3 Patroller you risk death or serious injury from loss of control, collisions, and falls. It is your responsibility to learn how to safely ride the SE-3 Patroller in order to reduce these risks. To ride safely you must follow all instructions in the user materials, including the User Manual and Safety Video. These materials are available at [www.segwaysafety.com](http://www.segwaysafety.com).
- Always wear a helmet when riding the SE-3 Patroller. Use an approved bicycle or skateboard helmet that fits properly with the chin strap in place, and provides protection for the back of your head.
- Never place anything on the Rider Detect Mat except your feet. Doing so could interfere with the Rider Detection system and may allow the SE-3 Patroller to travel on its own, risking running into a person or property and causing injury or damage.
- Avoid obstacles and slippery surfaces that could result in a loss of balance or traction and cause a fall.
- Pay attention to all Warnings and Faults from the SE-3 Patroller. You must learn about and understand the Warnings described in the User Manual and respond as instructed.
- Never step off of the SE-3 Patroller when it is in DRIVE mode. If you step off of the SE-3 Patroller while in DRIVE mode, you risk injury to others and damage to the SE-3 Patroller.
- Never restart and ride the SE-3 Patroller after it has indicated an empty charge level. You risk damaging the Battery Module, resulting in reduced battery life and capacity.
- Although the SE-3 Patroller is designed to be as stable as possible for a design that utilizes three wheels, it is possible to “override” the vehicle and tip over when riding too fast for the conditions. Always be aware of the riding surface and environmental conditions while riding.
- Do not insert the power cord if the Charge Port is wet.
- Use a surge protector when charging the SE-3 Patroller to help protect it from damage due to power surges and voltage spikes.
- Always shut down the SE-3 Patroller and unplug the AC Power Cord before performing any maintenance or installing any part or accessory.
- Use only Segway approved parts and accessories. Do not modify the SE-3 Patroller. Modifications to the SE-3 Patroller could interfere with the operation of the SE-3 Patroller, could result in serious injury and/or damage, and could void the Segway SE-3 Patroller Limited Warranty.
- Theft detection systems, such as the type used in some libraries and retail stores, can interfere with the SE-3 Patroller’s electronics and/or cause the SE-3 Patroller to malfunction. Do not ride within 5 ft. (1.5 m) of any theft detection system.

# Segway<sup>®</sup> SE-3 Patroller

## User Manual

# Copyright, Trademarks, Patent, and Contact Information

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## Trademarks

Segway Inc. ("Segway") owns a number of trademarks including, but not limited to, Segway and the Segway "Rider Design" logo that have been registered in the United States and in other countries. Those trademarks followed by ® are registered trademarks of Segway. All other marks are trademarks or common law marks of Segway. Failure of a mark to appear in this manual does not mean that Segway does not use the mark, nor does it mean that the product is not actively marketed or is not significant within its relevant market. Segway reserves all rights in its trademarks. All other trademarks are the property of their respective companies.

## Segway Inc. Patent Information

The Segway SE-3 Patroller is covered by U.S. and foreign patents. For more information go to <http://www.segway.com/patents.pdf>.

## Contact Information

For support, please contact the company from which you bought the product. For a listing of Authorized Segway Dealers and Distributors, visit the Segway website at: <http://www.segway.com>.

Segway Customer Care: 1-866-4SEGWAY (1-866-473-4929)

Fax: 1-603-222-6001

E-mail: [technicalsupport@segway.com](mailto:technicalsupport@segway.com)

Website: <http://www.segway.com>

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## Introduction

Congratulations on the purchase of the Segway SE-3 Patroller. The Segway SE-3 Patroller provides a means of clean, efficient transportation for law enforcement and security personnel both indoors and outdoors to facilitate area patrolling. In addition to being able to quickly patrol large areas, the SE-3 Patroller gives officers a greater security presence, increased viewing height, and auditory and visual aids to gain and hold pedestrians' attention.

## About This Manual

The SE-3 Patroller has been designed to be as stable as possible for a three wheel design. However, to learn to ride the SE-3 Patroller safely, you must read and follow all instructions and warnings in the **User Manual** and watch the **Safety Video**. It is important that you follow all safety warnings and cautions that appear throughout the User Manual and that you use good judgment when riding your SE-3 Patroller. Remember to pass on this User Manual if you ever resell your SE-3 Patroller. If you have questions, or need another copy of the User Manual, contact an Authorized Segway Dealer or Distributor, or Segway Inc. before you attempt to use your SE-3 Patroller. For a list of Authorized Segway Dealers and Distributors, call 1-866-473-4929 or visit <http://www.segway.com>.

Check our website regularly for updates to SE-3 Patroller User Materials: <http://www.segway.com>

## The Risk of Injury

### WARNING

Whenever you ride the Segway SE-3 Patroller, you risk death or serious injury from loss of control, collisions, and falls. To reduce risk of injury, you must read and follow all instructions and warnings in the user materials.

## Before You Begin

Before you begin, the Battery Module must be charged for at least 12 hours. You should thoroughly read and understand the instructions in this manual before you attempt to operate the SE-3 Patroller.



## Related User Materials

- **User Manual.** This User Manual provides information to help you learn to safely operate and ride your Segway SE-3 Patroller. To reduce risk of injury, you must read and follow all instructions and warnings in the User Manual.
- **Safety Video.** A Safety Video is available online. It provides important information on how to use your Segway SE-3 Patroller. To reduce the risk of injury, you must watch and follow all instructions and warnings in the Safety Video before you ride. To view the Safety Video, go to [www.segwaysafety.com](http://www.segwaysafety.com).



If you need assistance reading the User Manual or viewing the Safety Video, contact your Segway dealer as soon as possible.

## Safety Messaging

Segway takes all aspects of safety very seriously. Our publications and documentation provide clear, consistent safety messaging designed to offer instructions and procedural information that help avoid physical injury or damage to the SE-3 Patroller.

Of course, it is impossible to predict and warn against every possible harm or hazard that exists. Thus, users must also use their own intuition and common sense to help avoid physical injury or damage to your SE-3 Patroller.

The following safety messaging conventions are used throughout this guide:

 <b>WARNING</b>	Warns you about actions that could result in death or serious injury.
 <b>CAUTION</b>	Warns you about actions that could result in minor or moderate injury.
<b>NOTICE</b>	Indicates information considered important, but not related to personal injury. Examples include messages regarding possible damage to the SE-3 Patroller or other property, or usage tips.

**ATTENTION**

Segway strongly recommends that the rider complete the SE-3 Rider Training Program before operating the SE-3 Patroller in a professional patrol environment. See the SE-3 Rider Training Manual or contact Segway at 1-866-4SEGWAY (1-866-473-4929) for more information regarding the SE-3 Rider Training Program.

# The Segway SE-3 Patroller

- SE-3 Patroller components and subsystems
- SE-3 Patroller specifications
- SE-3 Patroller operating limits

## SE-3 Patroller Components and Subsystems

### WARNING

All Segway SE-3 Patroller parts must be approved by Segway, and properly installed. Do not modify the Segway SE-3 Patroller. Modifications to the SE-3 Patroller could interfere with its operation, could result in serious injury and/or damage, and could void the Segway SE-3 Patroller Limited Warranty/Guarantee.

The Segway SE-3 Patroller includes the following components and subsystems (**Figure 1**):

- Handlebar/Controls/User Interface
- Tires/wheels
- Chassis
- Drive/Electrical System
- Battery Module

The following items/parts ship with the SE-3 Patroller:

- Power Keys (2); Glovebox key (1)
- Battery Module (1)
- Power cord (for charging the SE-3 Patroller Battery Module)
- Rear wheel nut key (socket adapter)
- User Materials
- Segway SE-3 Patroller Limited Warranty/Guarantee

# SE-3 Patroller Components/Subsystems (cont.)

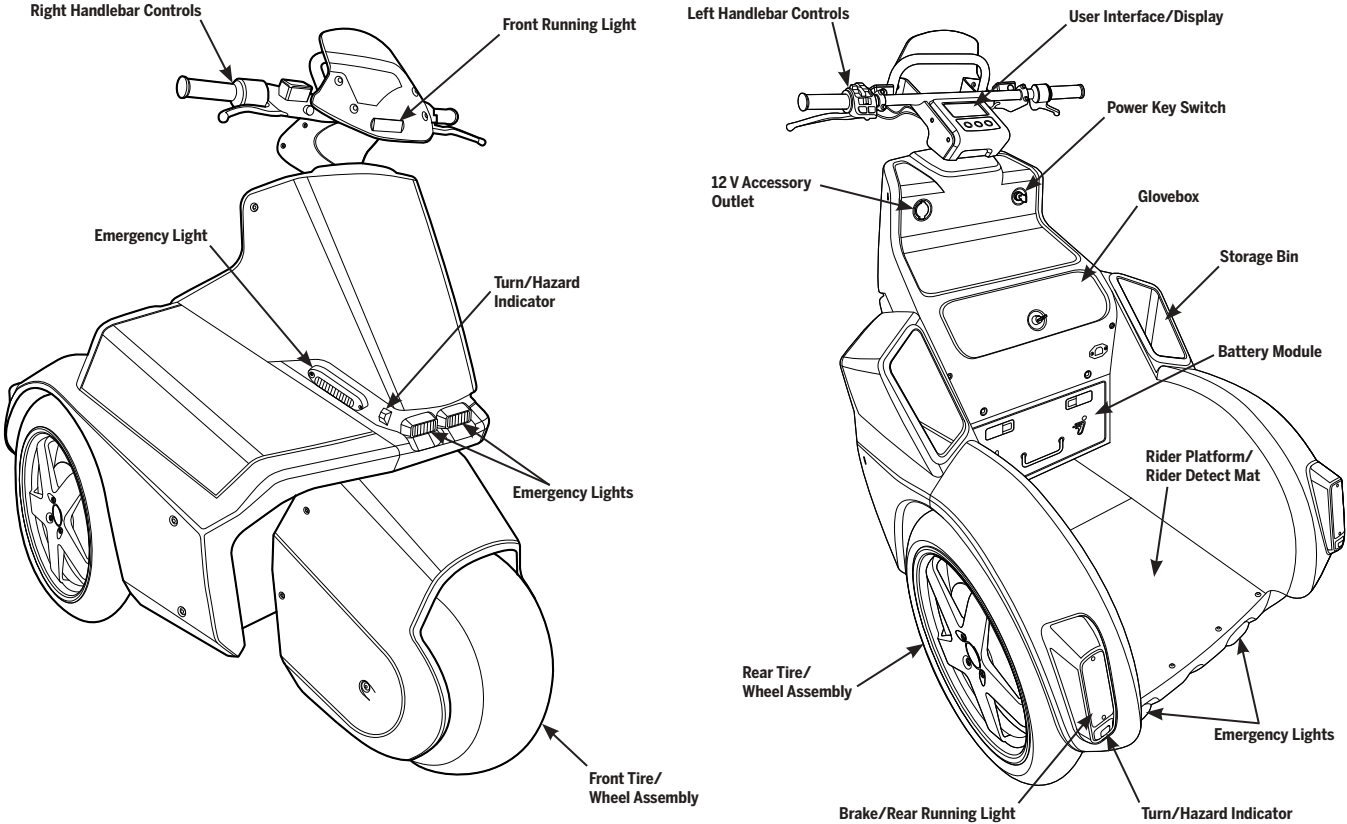


Figure 1: Segway SE-3 Patroller Components/Subsystems

## Handlebar/Controls/User Interface

The SE-3 Patroller features controls on both the left and right side of the handlebars, similar to a motorcycle, bicycle, or scooter. The User Interface displays important vehicle information, and allows users to select various functionality. For detailed information on the handlebar controls and User Interface, see "Operating the Segway SE-3 Patroller" (p. 21).

## Tires/Wheels

Ensure that Tires are inflated to the proper tire inflation pressure as specified in "Segway SE-3 Patroller Specifications" (p. 16). Tires and Wheels are installed at the factory. Do not remove the Tire from the Wheel. For Tire maintenance and servicing information, see "Maintaining and Servicing the SE-3 Patroller," p. 57.

### **WARNING**

Do not ride a SE-3 Patroller without first ensuring all tires are inflated to the proper specification. Doing so could result in loss of control and/or serious personal injury.

## Chassis

The chassis consists of the following parts:

- Vehicle Frame
- Rider Detect Mat
- Bodywork
- Lighting Accessories

### ***Vehicle Frame***

The frame of the SE-3 Patroller is a custom designed, aluminum perimeter-type frame. It is extremely strong and lightweight, and has no serviceable components.

### ***Bodywork***

The SE-3 Patroller features tough, impact-resistant bodywork with ample surface area for department or company logos or messaging. A lockable glove box provides enough storage for a clipboard and other necessities, and two storage bins allow strategic gear placement.

## SE-3 Patroller Components/Subsystems (cont.)

### Rider Detect Mat

The SE-3 Patroller comes with a pressure-sensitive Rider Detect Mat (**Figure 3**). The Mat detects the presence of a rider and provides a comfortable standing surface. The Mat should be clean and fastened securely before riding. If no rider is detected, the SE-3 Patroller's Drive System will not be enabled.

### ⚠ WARNING

Do not place any objects on the Rider Detect Mat. This could cause the SE-3 Patroller to move on its own when in DRIVE Mode if the throttle is inadvertently activated. This may result in serious personal injury and/or vehicle damage.

### Lighting/Horn & Siren/Accessories

The SE-3 Patroller features efficient LED lighting (**Figures 2, 3**):

- Front Running Light
- Rear Running Lights/Brake Lights
- Front/Rear Turn Indicator Lights
- Front/Rear/Side Amber or Red/Blue Emergency Lights

All lights can be toggled using the switchgear on the Left Handlebar Control.

The horn/siren can be activated using the Horn switch on the Left Handlebar control. For more information on operating the Handlebar Controls see "Rider Controls," p. 21.

A standard automotive-style 12 V outlet is provided for operating accessories and duty gear ("Accessory Power," p. 28).

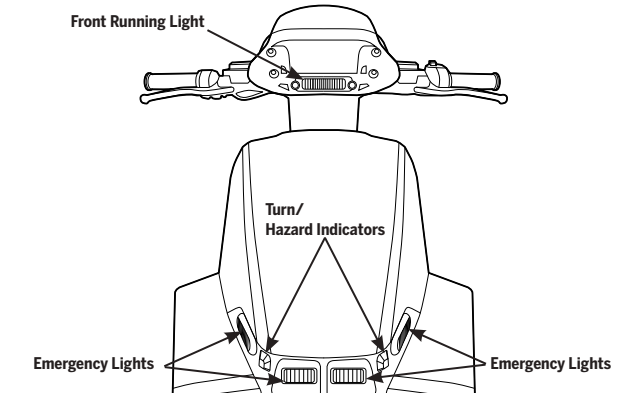


Figure 2: Front Lights

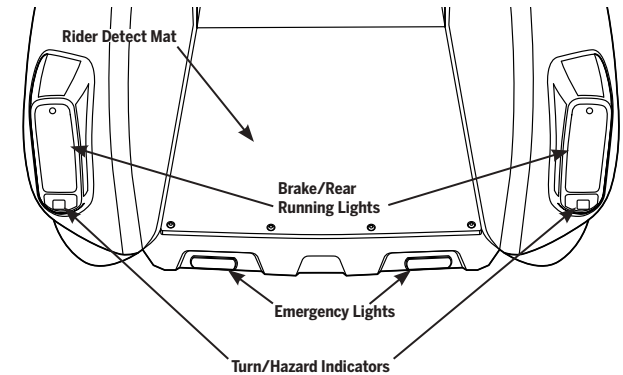


Figure 3: Rear Lights/Rider Detect Mat

## Drive/Electrical System

The SE-3 Patroller drive system consists of dual motor controllers and motors, one for each rear wheel (**Figure 4**). The drive system and electrical system are activated by a "power key," similar to an automobile's "ignition" key.

There are five conditions a rider must ensure before the SE-3 Patroller Drive System is enabled:

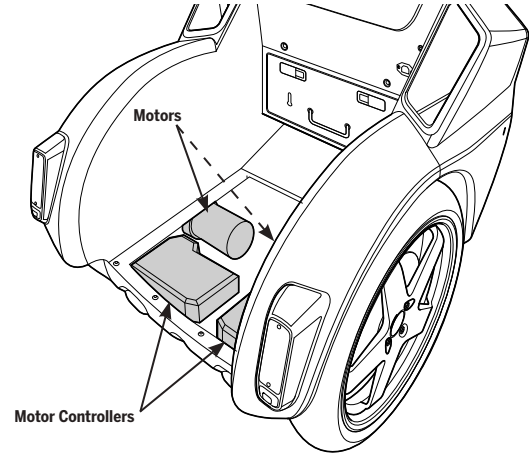
- Power Cord must not be plugged in to the Charge Port
- Rider must be standing on the Rider Platform/Rider Detect Mat
- Power Key must be turned to ON
- Throttle must be at zero (not activated)
- DRIVE/STANDBY mode switch must be set to DRIVE

### **⚠ WARNING**

Always set the DRIVE/STANDBY mode switch (p. 24) to STANDBY when the vehicle is not being driven.

### **Motors**

Each rear wheel is independently driven by a high-speed brushless electric Motor that is quiet, efficient, and does not require periodic maintenance to replace consumable parts. Each Motor is microprocessor controlled to precisely regulate drive motion. Motors are serviceable only by Segway trained and certified technicians.



**Figure 4: Motor/Motor Controller Location (Under Rider Detect Mat)**

## SE-3 Patroller Components/Subsystems (cont.)

### *Electronics*

The SE-3 Patroller electrical system consists of the following subsystems:

- User Interface/Display
- Power/Interface PCB Assembly
- Motor Controllers (2)

These components are serviceable only by Segway trained and certified technicians. If your SE-3 Patroller requires service, please contact Segway (1-866-4SEGWAY, [www.segway.com](http://www.segway.com)).

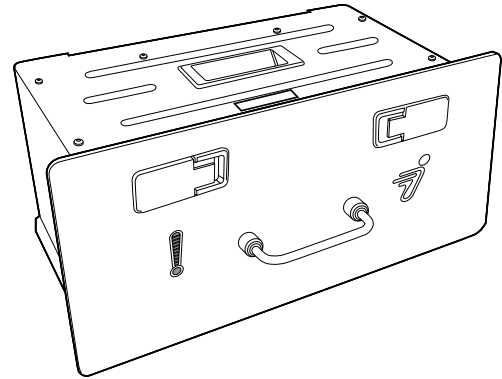
### Battery Module

The Segway SE-3 Patroller Battery Module (**Figure 5**) contains a rechargeable Li-ion power pack. The Battery Module features automatic protection for over-charge, over-discharge, over-current, and over-temperature conditions, and requires no maintenance other than proper charging and storage.

For more information on the SE-3 Patroller Battery Module, see "Segway SE-3 Patroller Battery Module" (p. 45).

#### **NOTE:**

A replacement power cord for charging the Battery Module is available from Segway. Contact an Authorized Segway Dealer or Distributor by calling 1-866-473-4929 or visit <http://www.segway.com>.



**Figure 5: SE-3 Patroller Battery Module**



# Segway SE-3 Patroller Specifications

Table 1 shows the specifications for the Segway SE-3 Patroller described in this manual.

Table 1: SE-3 Patroller Specifications

Description	Specification
<b>Rider Weight and Cargo Limits*</b>	
Maximum Payload (Rider plus all Cargo)	350 lbs (159 kg)
Minimum Rider Weight	100 lbs (45 kg)
<b>Performance</b>	
Maximum Speed	15 mph (24 km/h); selectable**
Energy (Rechargeable Batteries)	Lithium Ion (Li-ion); 1 kWh
Turning Radius	42 inches
Power Requirements (Worldwide)	100 - 240 V; 50 or 60 Hz; 3 Amp input max

**NOTE:**

\* See "Segway SE-3 Patroller Operating Limits" (p. 18) for information on cargo weight limits.

\*\* For information on changing the maximum speed limit, contact your Segway dealer or distributor.

## Segway SE-3 Patroller Specifications (cont.)

Table 1: Segway SE-3 Patroller Specifications (cont.)

Description	Specification
<b>Dimensions</b>	
Vehicle Weight Without Battery Module	360 lbs (163 kg)
Battery Module Weight	40 lbs (18 kg)
Ground Clearance (Unloaded)	3 in (7.6 cm)
Machine Length and Width	61 x 32 in (155 x 81 cm)
Handlebar Height from Mat	42 in (106 cm)
Handlebar Height from Ground (Unloaded)	52 in (132 cm)
Rider Platform Height (Unloaded)	9.75 in (25 cm)
Front Tire	18 x 8.50 Multi-terrain
Rear Tires	120/60-17
Tire Inflation Pressure	F: 22 psi (1.52 Bar; 152 kPa) R: 25 psi (1.72 Bar; 172 kPa)

## Recording Serial Numbers

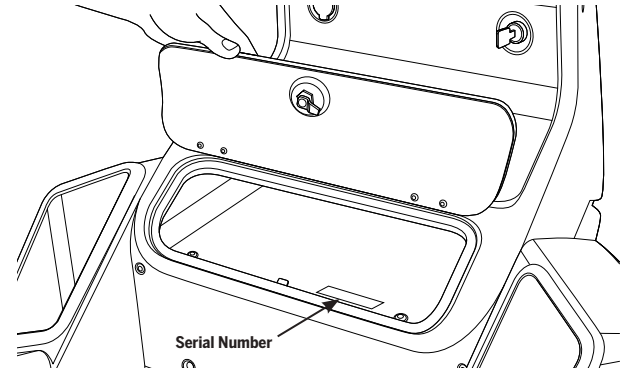
The SE-3 Patroller serial numbers are unique to your machine. These numbers can provide helpful information in the future for asset and warranty tracking, insurance claims, and in case of loss or theft. Record and store the serial numbers in a secure location, separate from your SE-3 Patroller.

### Segway SE-3 Patroller Serial Number

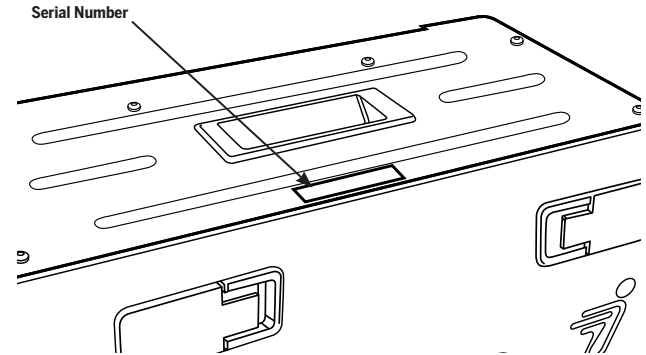
1. Open the glovebox (p. 27).
2. Locate the 12-digit SE-3 Patroller serial number (**Figure 6**).
3. Record the SE-3 Patroller serial number in the "Your Segway SE-3 Patroller" section of this User Manual (p. 88).
4. Close/secure the glovebox.

### SE-3 Patroller Battery Module Serial Number

1. Remove the SE-3 Patroller Battery Module from the Chassis (see "Removing the Battery Module," p. 49).
2. Locate the 12-digit Battery Module serial number (**Figure 7**).
3. Record the Battery Module serial number in the "Your Segway SE-3 Patroller" section of this User Manual (p. 88).



**Figure 6: SE-3 Patroller Serial Number Location**



**Figure 7: Battery Module Serial Number Location**

## Segway SE-3 Patroller Operating Limits

It is important that you familiarize yourself with the operating limits of the Segway SE-3 Patroller. These limits are set to maximize rider safety while reducing the risk of damage to the SE-3 Patroller. The SE-3 Patroller will perform better when you observe these limits.

### Weight Limits for Riders and Cargo

Segway sets weight limits for two reasons:

- Rider safety
- To reduce the risk of damage to the SE-3 Patroller

#### **WARNING**

It is important that you learn to anticipate and recognize when the SE-3 Patroller is reaching the limits of performance. Exceeding the rider and/or cargo weight limits, especially when combined with other variables, will increase your risk of falling or damaging the SE-3 Patroller.

Variables include:

- Higher payloads (weight of rider and all cargo)
- Steeper slopes
- Rough surface conditions
- Higher speeds
- Abrupt maneuvers

### **Minimum Rider Weight**

The rider's weight must not be less than 100 lbs (45 kg). If the rider is below the minimum rider weight, he/she may not sufficiently activate the rider detect system.

### **Handlebar Cargo**

The total weight of any handlebar payload plus any other attachments hanging from the handlebar must not exceed 10 lbs (4.5 kg).

### **Structural Weight Limits (Maximum Payload)**

The maximum payload (rider plus all cargo) is 350 lbs (159 kg). Exceeding the maximum weight limit increases the risk of damage to the SE-3 Patroller. Heavier payloads place greater stress on the SE-3 Patroller. Several factors affect the loads transmitted to the SE-3 Patroller

- Skill level of the rider
- Payload (weight of the rider and all cargo)
- Surface condition (obstacle height, etc.)

#### **NOTICE**

Exceeding the rider or cargo weight limits, especially when riding on uneven terrain, could damage the SE-3 Patroller.

**Table 2: SE-3 Patroller Operating Limits**

<b>SE-3 Patroller Operating Limits</b>	
<b>Temperature Ranges</b>	
operating:	14° F – 122° F (-10° C – 50° C)
charging:	32° F – 113° F (0° C – 45° C)
storage and transport:	-4° F – 140° F (-20° C – 60° C)
<b>Weight Limits</b>	
Maximum payload (rider/cargo):	350 lbs (159 kg)
Handlebar cargo weight limit:	10 lbs (4.5 kg)
Storage bin cargo weight limit (ea.):	5 lbs (2.26 kg)
Glovebox cargo weight limit	5 lbs (2.26 kg)
Minimum rider weight	100 lbs (45 kg)

# Segway SE-3 Patroller Operating Limits (cont.)

## Maximizing Range

The range of the SE-3 Patroller is affected by many variables, including:

- **Terrain:** Riding on smooth, flat terrain improves range, and riding on hilly terrain and unpaved surfaces reduces range.
- **Speed and Riding Style:** Riding at a consistent, moderate speed (~8 mph) will increase range. Frequent starting, stopping, acceleration, and deceleration reduces range.
- **Tire Inflation Pressure:** Riding with tire pressures below the specified limit reduces range and can result in premature tire wear.
- **Rider Weight and Cargo:** Lighter riders with less cargo experience better range than heavier riders with more cargo.
- **Temperature:** Storing, charging, and riding in temperatures close to the median of the recommended temperature range improves range. Riding in colder temperatures reduces range significantly.
- **Battery Condition:** Properly charged and maintained batteries provide greater range. Old, cold, heavily used, or poorly maintained batteries provide less range (see "How Temperature Affects Performance," p. 55).
- **Wind:** Riding with a tailwind increases range. Riding against a headwind reduces range.

# Operating the Segway SE-3 Patroller

- Rider Controls
- User Interface
- Storage
- Accessory Power

## Rider Controls

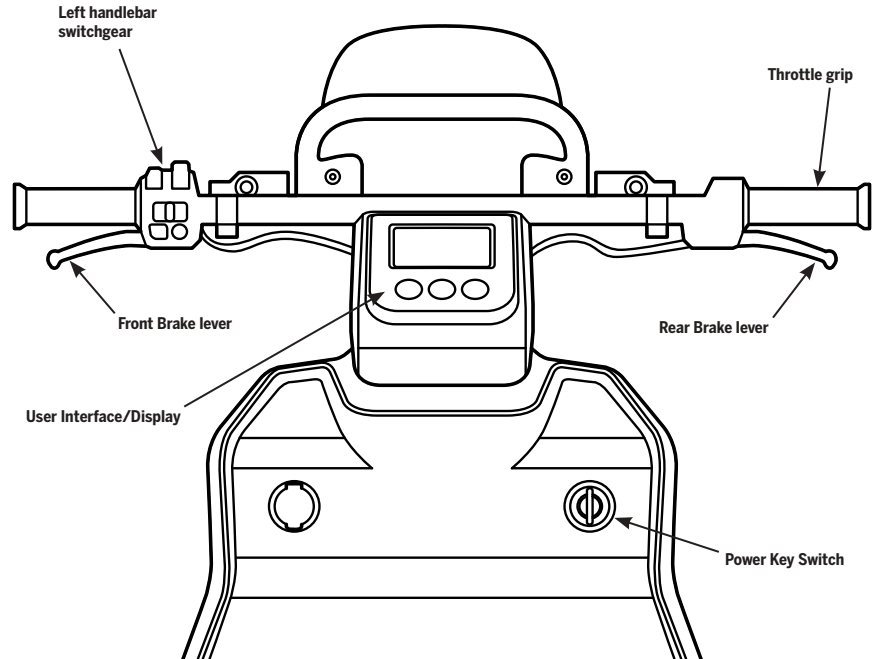
The SE-3 Patroller features rider controls designed with safety, ease of use, and efficiency in mind and are located within easy reach on the handlebar. Refer to **Table 3** and **Figures 8-10** for control functionality.

### Power Key

Insert the Power key and turn it all the way to the right to power ON the SE-3 Patroller. Turn the Power Key all the way to the left to power the SE-3 Patroller OFF.

### Throttle



The throttle is controlled by twisting the Throttle Grip towards the rider (rear of the vehicle) to accelerate, and away from the rider (front of the vehicle) to slow down.



**Figure 8: Rider Controls**

## Rider Controls (cont.)

Table 3: SE-3 Patroller Rider Controls

Control	Description
Power Key	Powers ON or OFF the SE-3 Patroller (p. 21).
Parking Brake	Mechanically (through rear brake activation) secures the SE-3 Patroller when stopped (p. 24).
Throttle	Used to accelerate or decelerate the SE-3 Patroller (p. 21).
Brakes (Front/Rear)	Slows down or stops the SE-3 Patroller through brake lever activation (p. 24), activates brake lights.
DRIVE/STANDBY	Activates (DRIVE  ) or deactivates (STANDBY  ) the SE-3 Patroller drive system (p. 24).
Lights	Operates the Front/Rear running lights and emergency lights (p. 25).
Turn Indicators	Operates the Left or Right Turn Indicators (p. 25).
Reverse	Activates Reverse mode, enabling reverse drive (p. 37).
Hazard Indicators	Turns the Hazard indicators ON/OFF (p. 25).
Horn/Siren	Operates the Horn or Siren (p. 25).
User Interface	Displays important SE-3 Patroller status information (p. 26).



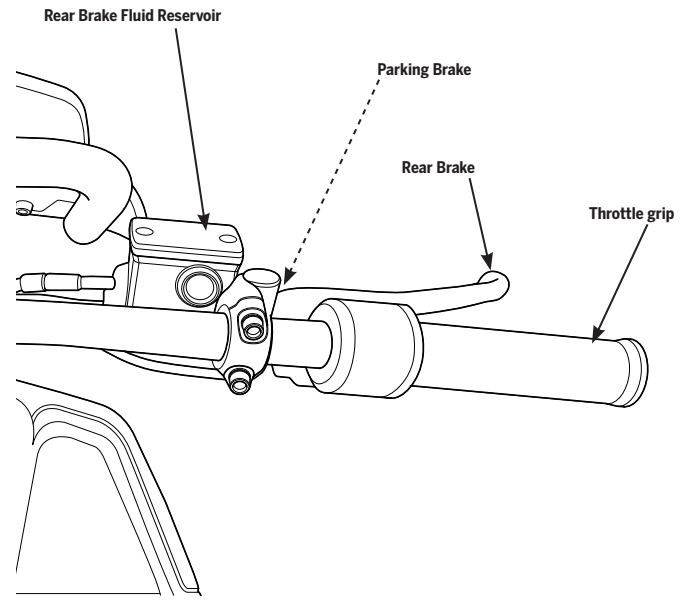
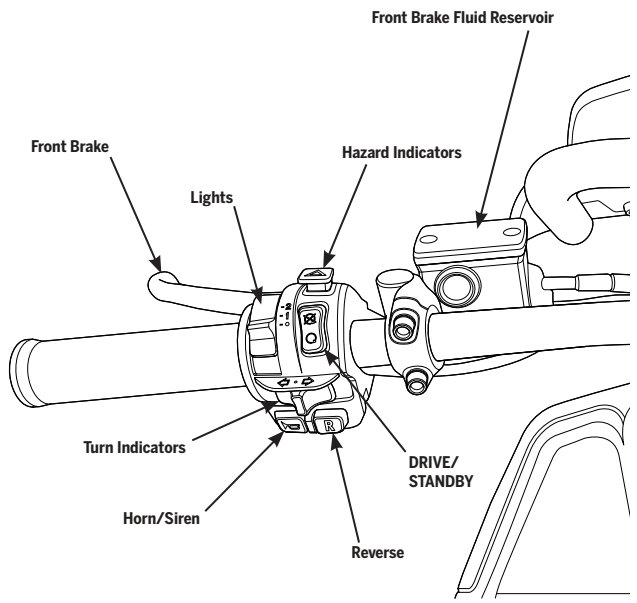


Figure 9: Left Handlebar Controls

Figure 10: Right Handlebar Controls

## Rider Controls (cont.)

### Brakes

The Left brake lever activates the Front brake. The Right brake lever activates the Rear brakes (Left = Front, Right = Rear). See "Riding: Slowing/Stopping the SE-3 Patroller" (p. 36) for information on how to properly use the brakes while riding. See "Checking the Brake Fluid Level (Front/Rear)" (p. 65) for information on checking the level of brake fluid in the brake fluid reservoirs.

#### **Parking Brake**

Engage the Parking Brake by pushing down on the metal cap while firmly squeezing the Rear brake lever (see **Figure 11**). Ensure the cap is pushed down completely, fully seated, then release the Rear brake lever. To release the Parking Brake, give the Rear brake lever a firm squeeze; the cap should automatically disengage and return to a level position.

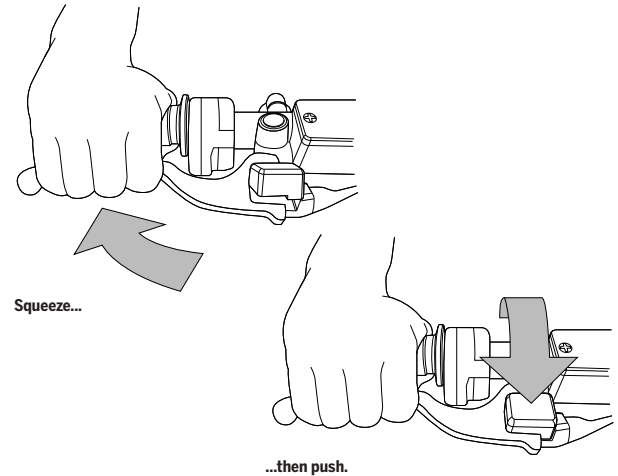
### Switchgear

#### **DRIVE/STANDBY Switch**

Set the DRIVE/STANDBY switch to DRIVE (Q) to activate the SE-3 Patroller's drive system (see **Figure 12**). Set the switch to STANDBY (X) to disable the SE-3 Patroller's drive system. When the SE-3 Patroller is in STANDBY mode, all other electrical systems are enabled, including the lights, horn/siren, and User Interface.

#### **⚠ WARNING**

Always set the DRIVE/STANDBY mode switch (p. 24) to STANDBY when the vehicle is not being driven.



**Figure 11: Engage the Parking Brake**

## Reverse

Press and hold the Reverse switch (**R**) with your left thumb to engage Reverse mode (**Figure 12**). To disengage Reverse mode, release the Reverse switch. See "Riding: Engaging Reverse Mode" (p. 37).

## Lights

The Light switch features three positions (**Figure 13**):

- = lighting OFF
- 1 = Front/Rear running lights ON
- 2 = Condition "1" + emergency lights active

## Turn Indicators

Push the Turn Indicator switch to the left (↵) to signal a left-hand turn, push the switch to the right (⇨) to signal a right-hand turn. After the turn is completed, return the Turn Indicator switch to the center position.

## Horn/Siren

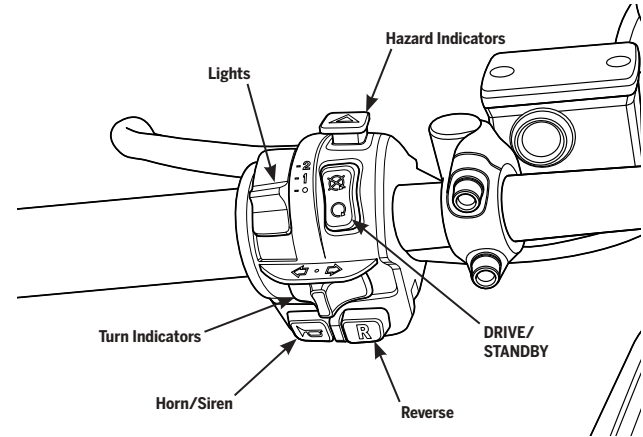
To activate the Horn, tap or push the Horn switch (🔊). To activate the Siren, keep the Horn switch pushed for about one second or longer. The Horn will sound initially, then segue into the Siren.

### NOTICE:

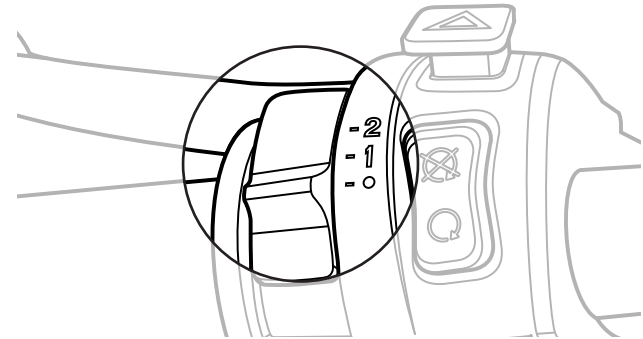
Be aware of your surroundings when activating the siren, as some people may be sensitive to loud sounds and/or bright lights.

## Hazard Indicators

To activate the Hazard Indicators, pull up on the Hazard switch (⚠️). Brake lights and Hazard Indicators are enabled regardless of Light switch position; however, they are not enabled when Power Key is set to OFF.



**Figure 12: Left Handlebar Controls Switchgear**



**Figure 13: Light Switch**

# User Interface/Display

## User Interface Buttons

The User Interface (**Figure 14**) features an LCD with three buttons at the bottom of the display surround. On vehicle power-up, an initialization screen displays, then turns into a virtual "dashboard." The Display button (⊗) cycles through three display brightness levels. The Left button (⊕) cycles between kilometers and miles display units. The Right button (⊖) performs a "tripmeter" function: press the button to reset trip distance to zero. Note that the buttons are deactivated when the vehicle is travelling over 3 mph.

### ⚠ WARNING

Do not become distracted by, or attempt to interact with, the User Interface Display while riding. Doing so could result in serious personal injury and/or vehicle damage.

## User Interface Display

The User Interface "dashboard" (**Figure 15**) displays the following information to the rider:

- Battery charge level/charge screen (p. 52)
- Various messages/warnings (p. 73)
- Rider Present indication
- Drive mode: "D" = DRIVE, "N" = Neutral (STANDBY), "R" = REVERSE
- Torque gauge
- Speedometer/Odometer/Tripmeter

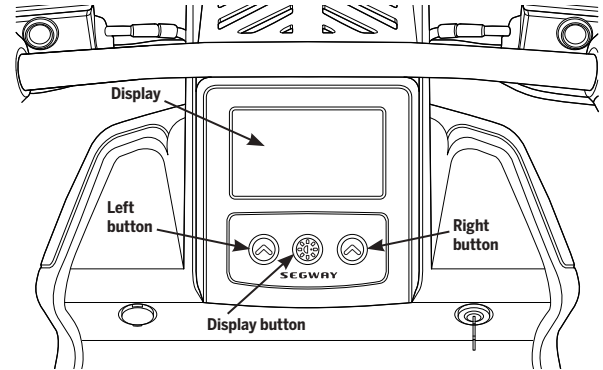


Figure 14: User Interface/Display

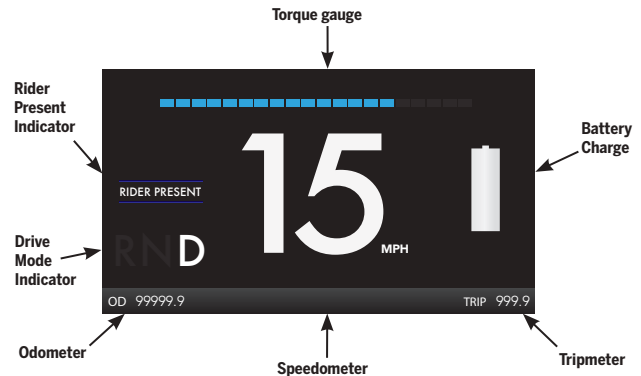


FIGURE 15: USER INTERFACE DASHBOARD

# Storage

## Glovebox

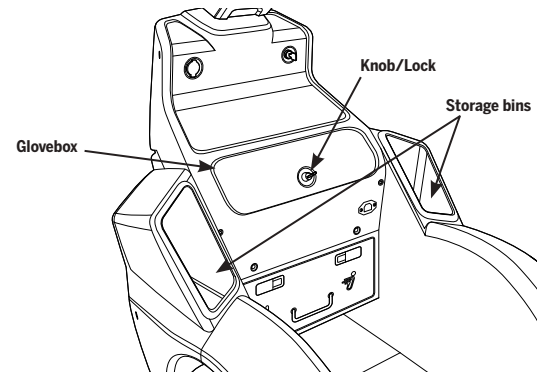
Glove Box latching (knob) and locking (key) are separate functions. The key can be removed in any state. Keep the glove box door (**Figure 16**) latched when closed to prevent accidental opening.

To latch, turn the knob clockwise 90 degrees. To unlatch, turn the knob counter clockwise 90 degrees. To lock, latch the door, insert the key, and turn counter clockwise 180 degrees. To unlock, insert the key and turn clockwise 180 degrees, then unlatch the door to open.

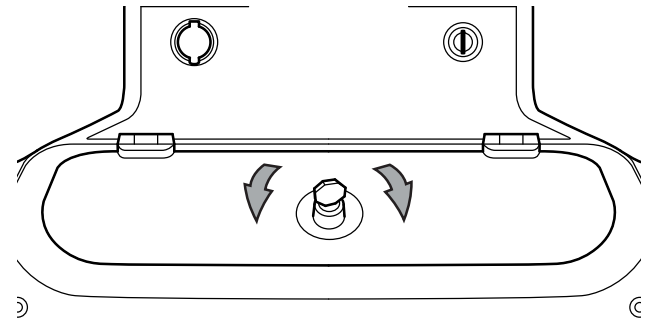
See "SE-3 Patroller Operating Limits" (**Table 2**, p. 19) for the maximum allowable Glovebox cargo weight.

## Storage Bins

There are two storage bins (**Figure 16**), one on each side of the Rider Platform. See "SE-3 Patroller Operating Limits" (**Table 2**, p. 19) for the maximum allowable Storage Bin cargo weight.



**Figure 16: Glove Box and Storage Bins**



**Figure 17: Turn the key to the left to lock, to the right to unlock.**

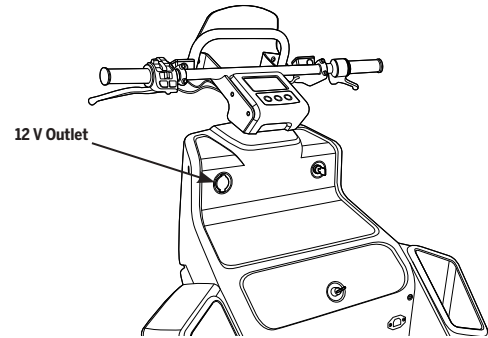
## Accessory Power

### 12 V Outlet

A standard automotive-style 12 V outlet is provided for operating accessories and duty gear (**Figure 18**). The outlet provides power for accessories only while the SE-3 Patroller is powered ON.

#### NOTICE:

Limit any current draw from accessories to 2 A or less. If the accessory outlet stops working, check the fuse ("Accessory Outlet Fuse," p. 76).



**Figure 18: 12 V Outlet**

# Riding the Segway SE-3 Patroller

- Riding Instructions
- Avoiding Hazards, Riding Tips, Safety Guidelines
- Report All Incidents

Follow the instructions in this section to learn how to safely ride the SE-3 Patroller. Practice riding in a controlled, familiar environment until you are comfortable operating the SE-3 Patroller. Before riding, make sure the SE-3 Patroller has been pre-ride inspected and the battery module is charged. See "Pre-Ride Checklist" (on the inside back cover of this manual), and "Charging the Battery Module" (p. 50). Do not ride if any part is loose, damaged, or if the Tires are not properly inflated. See "Maintaining and Servicing the SE-3 Patroller" (p. 57). Do not wear loose clothing or jewelry that could get caught in any of the controls.

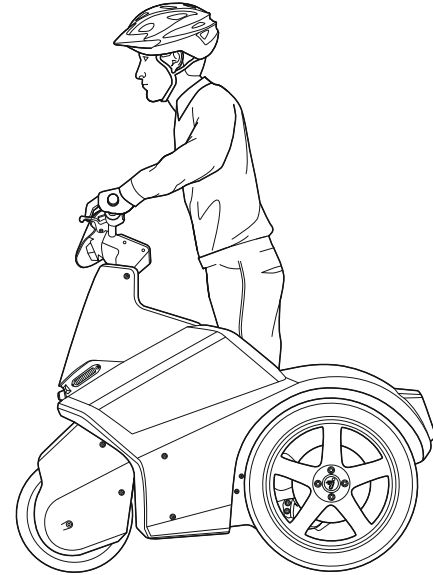
## **WARNING**

- Whenever you ride the Segway SE-3 Patroller, you risk death or serious injury from loss of control, collisions, and falls. To reduce risk of injury, you must read and follow all instructions and warnings in the user materials.
- Always wear a helmet when riding the SE-3 Patroller.
- Always set the DRIVE/STANDBY mode switch to STANDBY (⊗) and engage the Parking Brake when the vehicle is not being driven.
- The SE-3 Patroller is for one rider only. Do not ride double or carry any passengers. Do not carry a child in your arms or in a child carrier while riding. Expectant mothers should not ride the SE-3 Patroller.
- Be aware when using the emergency lights that a very small percentage of individuals may experience epileptic seizures or blackouts when exposed to certain light patterns or flashing lights.
- Do not attempt to tow anything with the SE-3 Patroller.

## Riding Position

Your posture and riding position (**Figure 19**) on the vehicle affect your ability to ride safely:

- Be alert. Scan both far ahead and directly in front of the vehicle—your eyes are your best tool for safely avoiding obstacles and slippery surfaces.
- Keep a firm grip on the Handlebar, your legs loose, knees and elbows bent, with a slight forward lean. This helps maintain your balance over rough terrain.
- Keep your feet firmly in contact with the Rider Detect Mat.
- Lean into turns.
- Do not lean over the Handlebar or front of the vehicle, or hang off the back of the vehicle, while riding.



**Figure 19: Proper Riding Position**



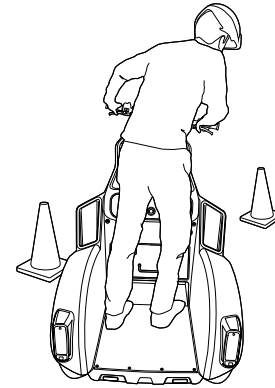
## Avoiding Hazards

The SE-3 Patroller is highly maneuverable and allows you to easily navigate around most obstacles (**Figure 20**). However, to prevent the loss of traction, you must always be careful when riding and learn to identify and avoid slippery, icy, or wet surfaces, loose materials (sand/gravel), steep slopes, and hazardous obstacles.

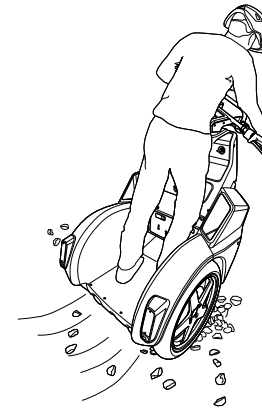
### Loss of Traction

The SE-3 Patroller Tires must be able to grip the ground for the machine to perform properly. Slips occur when tires lose traction, potentially causing loss of control and a fall. Abrupt maneuvers, and riding over slippery surfaces, loose objects and materials, or steep slopes can cause the tires to lose traction.

- Avoid abrupt maneuvers, such as fast stopping or starting, and turning too hard.
- Avoid riding on slippery or low-traction surfaces such as snow, ice, wet floors, wet grass, or any other surface that might cause loss of traction (**Figure 21**).
- Avoid riding over loose objects or materials such as small branches, litter, gravel, or small stones.
- Use caution when riding over any terrain change such as pavement to grass, or over a threshold or speed bump.
- Avoid riding on steep slopes. Maintain Tire contact with the ground.



**Figure 20: Navigate Around Obstacles**



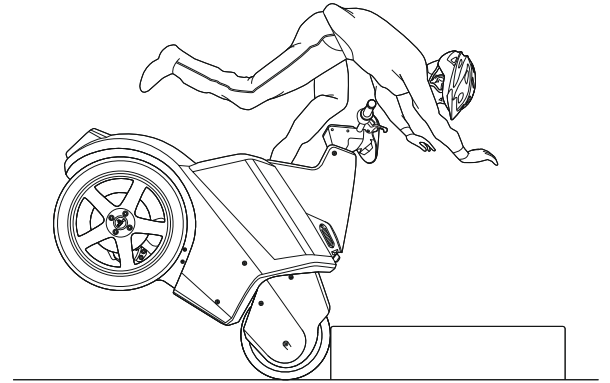
**Figure 21: Avoid Low-Traction Surfaces**

## Avoiding Hazards (cont.)

### Impacts

Impacts occur when the SE-3 Patroller Wheels or chassis encounter an obstacle or terrain that prevents it from moving, bringing it to an abrupt stop and potentially causing a fall or tip-over (**Figure 22**).

- Avoid holes, curbs, steps, and other obstacles.
- Use caution when riding over any terrain change such as pavement to grass, or over a threshold or speed bump where the bottom of the SE-3 Patroller may strike any object.

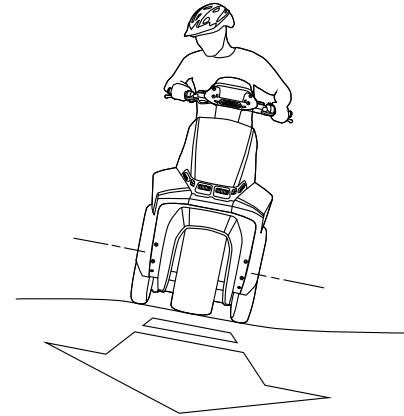


**Figure 22: Avoid holes, curbs, steps, and other obstacles**

### Tip-Overs

You are responsible for maintaining proper vehicle/rider balance by leaning into turns and uphill on slopes (**Figure 23**). If you fail to actively maintain vehicle/rider balance, the SE-3 Patroller can tip sideways and fall over. If a tip-over occurs, do not attempt to ride the SE-3 Patroller until it has been thoroughly inspected by a Segway Certified Technician.

- Avoid riding across steep slopes.
- Lean into turns and lean uphill when riding across gentle slopes.
- Avoid turning on slopes or ramps.
- Never let go of the Handlebar when riding across a slope. The SE-3 Patroller could turn downhill and you could lose your balance.
- Stay centered on narrow sidewalks or elevated paths. Make sure that one Wheel does not drop off a curb.
- Ride slowly over bumpy terrain.



**Figure 23: Lean uphill when riding across slopes**

## Riding: Stepping On/Stepping Off

### ⚠ WARNING

Read and understand the SE-3 Patroller User Manual before attempting to ride. Always wear a helmet when riding the SE-3 Patroller.

### Stepping On

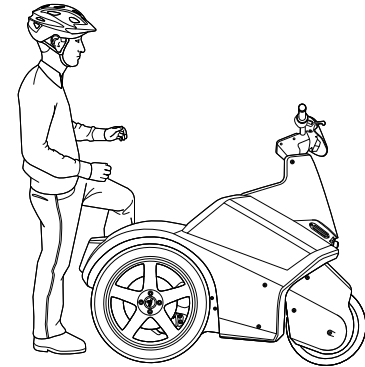
1. Ensure the Segway SE-3 Patroller is unplugged and the Parking Brake is engaged (p. 38).
2. Ensure the Power key is OFF.
3. Ensure the DRIVE/STANDBY switch is set to STANDBY (⊗).
4. Step onto the Rider Detect Mat (**Figure 25**).

### Stepping Off

1. Ensure the SE-3 Patroller is at a complete stop and on level ground when possible.
2. Switch to STANDBY mode (⊗).
3. Engage the Parking Brake (p. 38).
4. Turn the Power key OFF.
5. Step off the Rider Detect Mat (**Figure 25**).



**Figure 24: ALWAYS Wear a Helmet!**



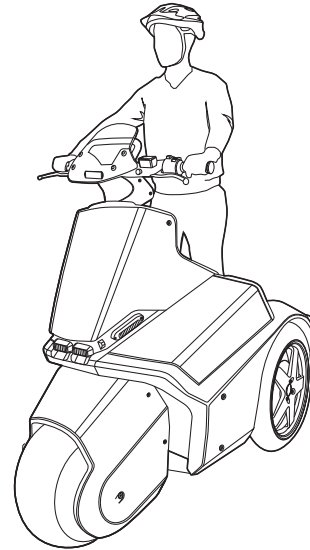
**Figure 25: Stepping On/Stepping Off**

## Riding: Power On/Accelerating

### ⚠ WARNING

Read and understand the SE-3 Patroller User Manual before attempting to ride. Always wear a helmet when riding the SE-3 Patroller.

1. Step onto the SE-3 Patroller (p. 33).
2. Ensure the lights are in the desired mode (p. 25).
3. Insert and turn the Power key ON.
4. Make sure there are no warnings or faults being displayed on the User Interface (p. 73).
5. Switch to DRIVE mode (Q).
6. Disable the Parking Brake.
7. Smoothly engage the throttle by twisting the throttle grip toward the rear (towards the rider). Avoid making sharp, jerky movements of the throttle grip, and lean forward when accelerating to assist in maintaining proper balance and ride position.
8. To slow down or stop, disengage the throttle by twisting the throttle grip toward the front of the machine (away from the rider), and simultaneously squeezing both the Front and Rear brake levers.



**Figure 26: Maintain proper riding position and situational awareness**

## Riding: Turning the SE-3 Patroller

The SE-3 Patroller is inherently stable. However, you are responsible for maintaining proper vehicle/rider balance by leaning into turns (**Figure 27**). If you fail to actively maintain vehicle/rider balance, the SE-3 Patroller can tip sideways and fall over.

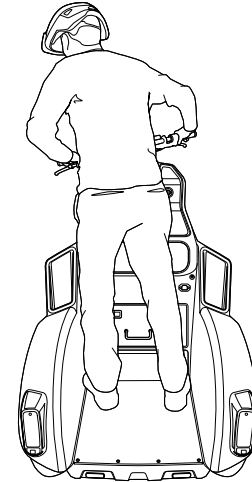
### **WARNING**

The ability to turn is dependent on front wheel traction; do not overpower the front wheel with the front brake while turning. Doing so may result in traction loss and turning ability. Over-aggressive braking while turning may result in a tip-over.

Adhere to the following guidelines while turning the SE-3 Patroller:

- Always turn slowly and with caution.
- Always lean into turns.
- Look through the turn, to where you want to go. Do not stare directly ahead of the vehicle or at the ground.
- Do not attempt a turn or other maneuver if you are unsure of your ability to safely navigate the maneuver.

The SE-3 Patroller features yaw control, which will reduce motor power if an unsafe turning speed is detected. However, if you are coasting through a turn, yaw control has no effect since the motors are not driving the wheels. Thus, while the yaw control functionality can prevent a rider from accelerating too fast in a turn, it cannot prevent a tip-over as a result of too fast a turning speed.



**Figure 27: Lean into turns**

## Riding: Slowing/Stopping the SE-3 Patroller

### ⚠ WARNING

Read and understand the SE-3 Patroller User Manual before attempting to ride. Always wear a helmet when riding the SE-3 Patroller.

1. To slow or stop the SE-3 Patroller, always use both Front and Rear brakes (p. 24).

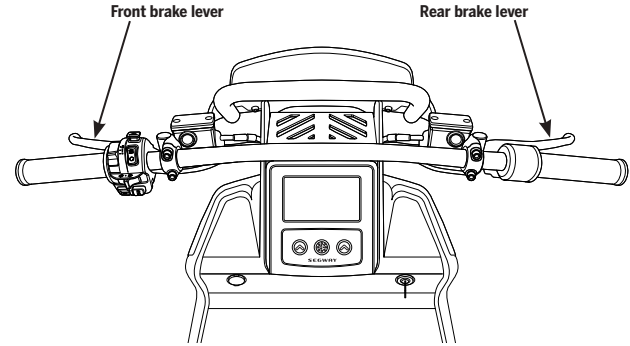
### NOTE

Activating both brakes at the same time will remove all torque applied by the motors. Activating only one brake (either Front or Rear) will still allow torque to be applied by the motors.

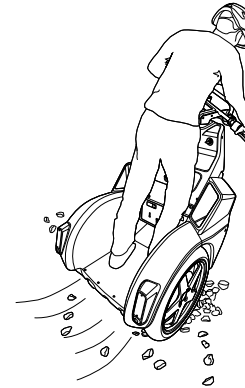
2. Activate the brakes smoothly and evenly by squeezing the levers, adjusting the braking pressure as needed for the braking situation (**Figure 28**). Shorter, more aggressive stops require more lever pressure, longer, slower stops require less lever pressure.
3. Keep brake pressure applied until you have slowed to the desired speed or come to a stop.

### ⚠ WARNING

Do not brake too aggressively for the surface you are riding on. The tires may lose traction, increasing the risk of an accident. Over-aggressive braking while turning may result in a tip-over.



**Figure 28: Use BOTH brakes when braking**



**Figure 29: Over-aggressive braking can increase risk of traction loss**

## Riding: Engaging Reverse Mode

### WARNING

Read and understand the SE-3 Patroller User Manual before attempting to ride. Always wear a helmet when riding the SE-3 Patroller.

1. Ensure the SE-3 Patroller is at a complete stop.
2. Press and hold the Reverse switch (**R**) on the Left Handlebar Control with your left thumb (**Figure 30**).
3. While looking in the direction you want to travel, smoothly engage the throttle while keeping the Reverse switch held down. Avoid making sharp, jerky movements of the throttle grip.
4. When you are finished reversing, bring the SE-3 Patroller to a complete stop, then release the Reverse switch.
5. Forward drive motion is now enabled.

### WARNING

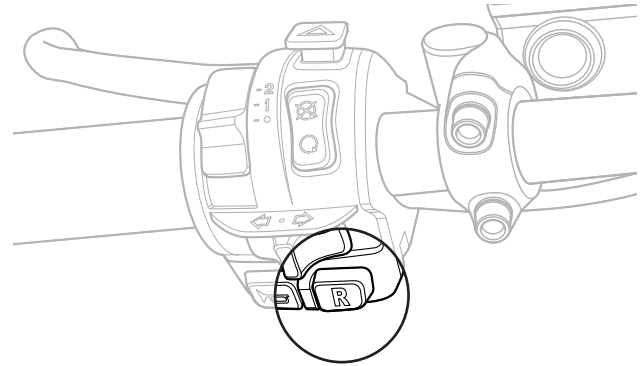
Braking too aggressively on a high-traction surface while travelling in reverse may result in a backwards tip-over.

### NOTE:

The SE-3 Patroller features a back-up beeper for safety while the vehicle is driving in Reverse.

The Reverse switch is inactive if the SE-3 Patroller is being driven at speeds higher than 2 mph.

The SE-3 Patroller is limited to 2 mph in reverse.




**Figure 30: Press and hold the Reverse switch while backing up**

## Riding: Parking/Power Off

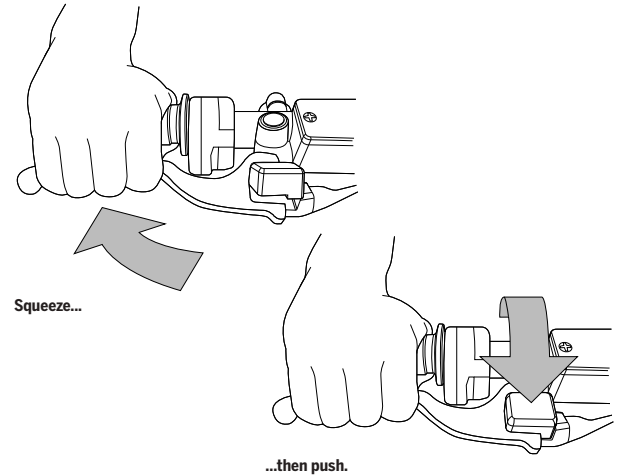
### WARNING

Read and understand the SE-3 Patroller User Manual before attempting to ride. Always wear a helmet when riding the SE-3 Patroller.

1. Use common sense when parking the SE-3 Patroller. Do not park in areas that would hinder pedestrian or vehicular traffic, or risk damage to the SE-3 Patroller.
2. Bring the SE-3 Patroller to a complete stop.
3. Switch to STANDBY mode () .
4. Engage the Parking Brake (**Figure 31**).
5. Ensure the light switch is in the desired mode.
6. Turn the Power key OFF.
7. Step off the Rider Detect Mat.
8. If the SE-3 Patroller will not be operated again within 24 hours, plug in the Power Cord and charge the Battery Module (p. 50).

### Parking on Inclines

If you must park on an incline be sure to set the Parking Brake, and chock the wheels for an added measure of safety.



**Figure 31: Engage the Parking Brake**



## Riding Techniques

### ⚠ WARNING

Do not attempt to navigate stairs or curbs while riding the SE-3 Patroller.

### Navigating Terrain

With practice, you can learn to ride over many different types of terrain, provided you avoid slippery surfaces, loose materials, steep slopes, and obstacles. Always proceed slowly over unfamiliar terrain. Never allow the SE-3 Patroller to become airborne, even for short periods of time.

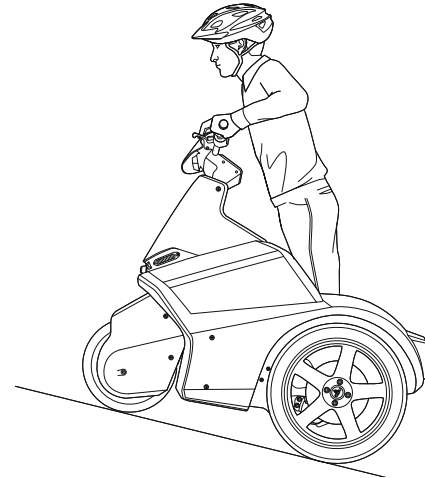
### Ascending Hills

- Lean slightly forward when ascending (**Figure 32**).
- If you must stop or slow down, be sure you use both Front and Rear brakes to slow the SE-3 Patroller.

### NOTE

Activating both brakes at the same time will remove all torque applied by the motors. Activating only one brake (either Front or Rear) will still allow torque to be applied by the motors.

- If stopped momentarily on an incline, you must keep the brakes activated. If parking on an incline, see "Riding: Parking/Power Off," p. 38).
- When accelerating from a stopped position on an incline, smoothly and slowly engage the throttle to prevent a possible tip-over.



**Figure 32: Lean forward when ascending**

## Riding Techniques (cont.)

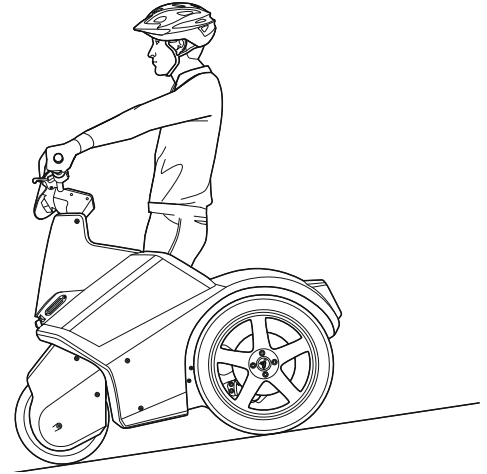
### *Descending Hills*

- Lean slightly backward when descending (**Figure 33**).
- If you must stop or slow down, be sure to smoothly activate both Front and Rear brakes to prevent a possible tip-over or the wheels losing traction.

#### **NOTICE**

Keep in mind there is no "engine braking" or "regenerative braking" with the SE-3 Patroller. This means the vehicle is in a "free-wheel" mode when no throttle or brakes are applied.

- If stopped momentarily on an incline, you must keep the brakes activated. If parking on an incline, see "Riding: Parking/Power Off," p. 38).
- When accelerating from a stopped position on an incline, be sure to smoothly and slowly engage the throttle.

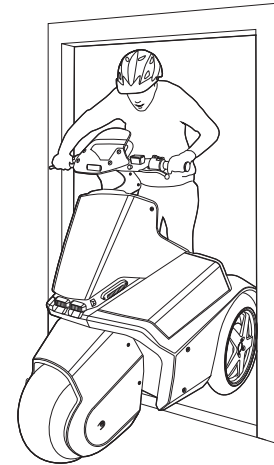


**Figure 33: Lean slightly to the rear when descending**

## Riding Indoors

Riding the SE-3 Patroller indoors presents different environmental conditions than you may be used to. Keep the following in mind:

- You are taller than you think. Be aware of the added height that the SE-3 Patroller (and your helmet) gives you and use caution when riding indoors or in the vicinity of doorways, archways, branches, signs, or other low overhead obstacles.
- Be sure to leave enough wheel clearance when riding through doorways or other space-restricted areas.
- Be aware of the riding surface; indoor surfaces can be slippery (tile, polished concrete) or give excess traction (carpet).
- Keep people away from the vehicle, especially the wheels, when riding in crowded environments.



**Figure 34: Be aware of your height while riding.**

## Riding Tips and Safety Guidelines Recap

The Segway SE-3 Patroller's ease of use and stable platform may lead you to become overconfident. If you exceed the handling envelope of the SE-3 Patroller, such as by riding over obstacles, uneven terrain, slippery surfaces, loose materials, steep slopes, or riding too fast for the conditions, you can very quickly lose control, leading to collisions, falls, and injury. As with any other transportation device, using a SE-3 Patroller exposes you to risk of injury. You can reduce the risk by following all the instructions and warnings in this Manual, but you cannot completely eliminate the risk.

- Conduct a pre-ride inspection before each use (see "Pre-Ride Checklist" on the inside back cover of this manual). Do not use if any part is loose or damaged. If you discover any loose or damaged part, see "Troubleshooting Procedures" (p. 69).
- Do not place any objects on the Rider Detect Mat. This could cause the SE-3 Patroller to move on its own when in DRIVE Mode if the throttle is inadvertently activated. This may result in serious personal injury and/or vehicle damage.

## Riding Tips and Safety Guidelines Recap (cont.)

- Do not allow any person to use the SE-3 Patroller unless that person has carefully read this Manual and watched the Safety Video.
- Do not use the SE-3 Patroller in hazardous atmospheres. The SE-3 Patroller has not been certified for use in hazardous atmospheres as defined in NFPA 70, National Electric Code. Hazardous atmospheres are locations where fire or explosion hazards may exist due to flammable gases, vapors, liquids, dust, or fibers.
- Wear a helmet. Whenever you ride the SE-3 Patroller wear a helmet that fits properly with the chin strap in place. Use an approved bicycle or skateboard helmet that provides protection for the back of your head. Depending on riding conditions and your riding experience, consider using additional protective equipment such as gloves, eye protection, wrist guards, and knee pads. Wear footwear that protects your feet and provides adequate support and comfort.
- **The safety of new riders is your responsibility. Do not let new riders operate the SE-3 Patroller outside of your direct supervision unless they have read this Manual and watched the Safety Video.**
- To ride safely, you must be able to clearly see what is in front of you and you must be clearly visible to others, in all environmental conditions.
- Avoid slippery surfaces, loose materials, steep slopes, and obstacles. Be especially careful when riding in confined spaces or near obstructions.
- Use caution on slopes. Use caution when ascending, descending, or crossing slopes. Do not attempt to ride across any slopes with loose material or slippery surfaces. When riding across any slope, lean uphill to maintain balance.
- Watch those turns! Always turn slowly and with caution. Fast turns can lead to loss of control and falls. Lean into turns.
- Do not take risks. When you encounter a slope, uneven terrain, or other terrain feature with which you are not experienced or that makes you at all concerned about your safety, do not risk riding over it.
- You are taller than you think. Be aware of the added height that the SE-3 Patroller (and your helmet) gives you and use caution when riding indoors or in the vicinity of doorways, archways, branches, signs, or other low overhead obstacles.

- Do not wear loose clothing that could catch on the controls and prevent proper operation.
- No passengers. The SE-3 Patroller is for one rider only. Do not ride double or carry any passengers. Do not carry a child in your arms or in a child carrier while riding. Expectant mothers should not ride the SE-3 Patroller.
- Do not exceed the maximum weight limit (rider and all cargo) specified in this Manual. If you exceed the maximum weight limit, you are at greater risk of falling and injury, and damage to the SE-3 Patroller. Also, the rider's weight must not be less than the minimum rider weight limit specified in this Manual. If you are below the minimum rider weight limit, you may not be able to ride safely because the Rider Detect functionality may not operate properly. For additional information on weight limits, see "Operating Limits" (p. 18).
- Never attempt to ride on stairs or through revolving doors. Riding on stairs is extremely dangerous, as is riding on escalators and through revolving doors.
- Do not step off a moving SE-3 Patroller. Always come to a complete stop before stepping off.
- Be alert. As with any other transportation device, you must be mentally alert and physically able to safely ride a SE-3 Patroller. Do not attempt to ride if you are ill, fatigued, or if you cannot comply fully with the instructions and warnings in this Manual. Do not ride under the influence of alcohol or drugs. Avoid distractions. Do not use a mobile phone or smart device, listen to headphones, or engage in any other activity that might distract you or interfere with your ability to monitor your surroundings while riding.
- Be prepared to stop. Be especially careful when approaching or crossing intersections, driveways, corners, doorways, and other areas where you may need to slow down or stop to avoid motor vehicles, bicyclists, or pedestrians.
- When riding, keep both hands on the Handlebar and both feet on the Rider Detect Mat. Be relaxed. Ride in a relaxed position with your knees and elbows slightly bent and head up.
- Do not ride backward, except to maneuver in and out of tight spaces or around obstacles. There is a difference between maneuvering backward and riding backward, similar to the difference between stepping back and walking backward. Maneuver backward only when necessary to reverse direction or back away from an obstacle. Avoid turning sharply while maneuvering backward.
- Riding on the road. The SE-3 Patroller is not intended or recommended for primary use on roads. If you must ride on the road, or must cross the road, be extremely careful. Ride as far away from traffic as possible. Allow plenty of time for crossing roads. Check to make sure that riding on the road is allowed by law.

## Riding Tips and Safety Guidelines Recap (cont.)

- Do not attempt to carry any object in your hand(s). To carry cargo, use the cargo bins, glove box, or a cargo accessory that is recommended by Segway or a securely attached backpack with both shoulder straps in place. For cargo weight limits, see "SE-3 Patroller Operating Limits," (**Table 2**, p. 19).
- Do not ride the SE-3 Patroller if you suffer any impairment to balance.
- The SE-3 Patroller has not been designed, tested, or approved as a medical device. You must be able to step on and off the SE-3 Patroller unassisted, which requires physical abilities similar to ascending and descending stairs without assistance and without holding the handrail.
- The SE-3 Patroller is not to be used by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience or knowledge. Children should be supervised to ensure that they do not play or interact with the SE-3 Patroller.
- All riders must be at least 18 years old.

## Report All Incidents

If you or any other user of the SE-3 Patroller is involved in an accident, or if the SE-3 Patroller performs in a way that you do not intend or in a way that it is not supposed to, contact Segway Technical Support.

Phone: 1-866-4SEGWAY (1-866-473-4929)

Fax: 1-603-222-6001

Email: [technicalsupport@segway.com](mailto:technicalsupport@segway.com)

Website: [www.segway.com](http://www.segway.com)

# Segway SE-3 Patroller Battery Module

- Battery Safety
- Battery Module/Specifications
- Charging the Segway SE-3 Patroller Battery Module

## Battery Safety

### WARNING

- Do not use a Battery Module if the casing is broken or if the Battery Module emits an unusual odor, smoke, or excessive heat or leaks any substance. Avoid contact with any substance seeping from the Battery Module.
- Keep out of reach of children and pets. Exposure to Battery voltage could result in death or serious injury.
- Unplug or disconnect the SE-3 Patroller from AC power before removing or attaching the Battery Module or performing any service. Never work on any part of the SE-3 Patroller when it is plugged into AC power. You risk serious bodily injury from electric shock as well as damage to the SE-3 Patroller.
- The cells within the Battery Module contain toxic substances. Do not attempt to open the Battery Module. Do not insert any object into the Battery Module or use any device to pry at the Battery Module casing. If you insert an object into any of the Battery Module ports or openings you could suffer electric shock, injury, burns, or cause a fire. Attempting to open the Battery Module casing will damage the casing and could release toxic and harmful substances, and will render the Battery Module unusable.
- Observe and follow all safety information on the warning label found on the Battery Module.
- Failure to charge the Battery Module could result in permanent damage to the Battery Module. Left unplugged, the Battery Module could fully discharge over time, causing permanent damage.
- Use only charging devices approved by Segway and never attempt to bypass or override their charging protection circuits.
- Do not wash the Segway SE-3 Patroller with a power washer or high pressure hose. Avoid getting water into the Charge Port. Avoid exposure to heavy downpours or extended periods of heavy rain (including during riding, storage, or while being transported). Clean with soap and water and a soft cloth. Make sure that the Charge Port is dry before you plug in the Power Cord. Failure to follow these instructions could expose you to electric shock, injury, burns, or cause a fire.

## Battery Safety (cont.)

- Do not submerge the Battery Module or vehicle in water. If you suspect the Battery Module or vehicle has been submerged or experienced water intrusion, call Segway Technical Support immediately at 1-866-473-4929, prompt #2. Until you receive further instructions, store the SE-3 Patroller upright, outdoors, and away from flammable objects. Do not attempt to remove the Battery Module. Do not plug the Power Cord into the SE-3 Patroller. Failure to follow these instructions could expose you to electric shock, injury, burns, or cause a fire.
- As with all rechargeable batteries, do not charge the Battery Module near flammable materials.

## The Battery Module

The SE-3 Patroller Battery Module is a rechargeable Li-ion power pack. The Battery Module features automatic protection for over-charge, over-discharge, and over-temperature conditions.

With normal usage and proper vehicle maintenance, the Battery Module should last thousands of cycles. As the Battery Module nears the end of its useful life, it may need more frequent charging and the SE-3 Patroller's range may be reduced. To order a replacement Battery Module, contact an Authorized Segway Dealer or Distributor.

Keep in mind, in order to maintain the best performance from the SE-3 Patroller Battery Module, you must keep the Battery Module charging when not operating the SE-3 Patroller, and you must fully charge the Battery Module for at least 12 hours once a month, or once every 12 hours of operation—whichever comes first. Remember to charge the Battery Module only when it is within the specified charging temperature range (see "Battery Module Specifications," p. 47).

### NOTE:

A replacement power cord for charging the Battery Module is available from Segway. Contact an Authorized Segway Dealer or Distributor by calling 1-866-473-4929 or visit <http://www.segway.com>.

### CAUTION

- Failure to charge the Battery Module could result in damage to the Battery Module. Left unplugged, the Battery Module could fully discharge, causing permanent damage to the Battery Module. Use only charging devices approved by Segway.
- If the SE-3 will not be operated within 24 hours after being ridden, plug in the Power Cord and charge the Battery Module (p. 50).



Charging times vary depending on the following:

- Battery Module Charge Level—The lower the charge level is, the longer it will take to complete the charging process.
- Battery Module Temperature—Battery Modules that are too hot or too cold may not charge or may take much longer to charge. Battery Modules charge most efficiently when they are close to the center of the recommended charging temperature range. See "Battery Module Specifications."
- If storage temperature is below 32° F/0° C, do not charge your batteries. Instead, bring them into a warm (above 50° F/10° C) environment for charging. Doing so will ensure optimal battery life and performance.

## Battery Module Specifications

Table 4: SE-3 Patroller Battery Module Specifications

SE-3 Patroller Battery Module Specifications	
<b>Charging Time</b>	
before first use:	12 hours
to 90%:	~5 hours
<b>Temperature Ranges</b>	
operating:	14° F – 122° F (-10° C – 50° C)
charging:	32° F – 113° F (0° C – 45° C)
storage and transport:	-4° F – 140° F (-20° C – 60° C)
<b>General</b>	
capacity (Ah) and voltage:	20 Ah, 51.2 volts
dimensions:	18 x 8.8 x 9 in (45.6 x 22.5 x 23 cm)
battery module weight:	40 lbs (18 kg)

### IMPORTANT:

You must charge the Battery Module for at least 12 hours before first use. See "Charging the Battery Module," p. 50.

### NOTICE:

If you use, charge, or store the SE-3 Patroller Battery Module outside the limits specified, you may void the limited warranty/guarantee, damage the Battery Module, and/or experience reduced range and ineffective Battery Module charging.

## Installing the Battery Module

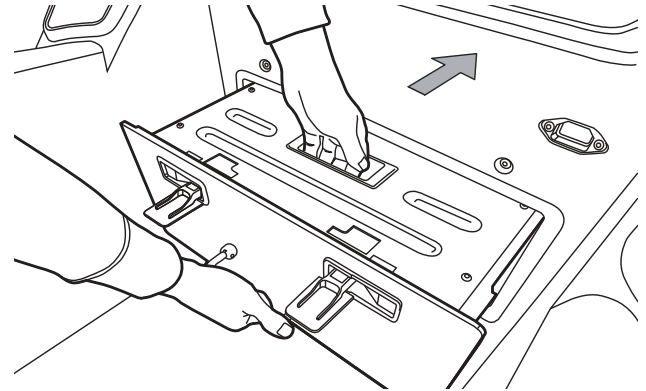
### ⚠ CAUTION

The Battery Module weighs approximately 40 lbs. Do not attempt to install or remove the Battery Module if you are incapable of safely lifting an object of this weight. Use standard lifting techniques.

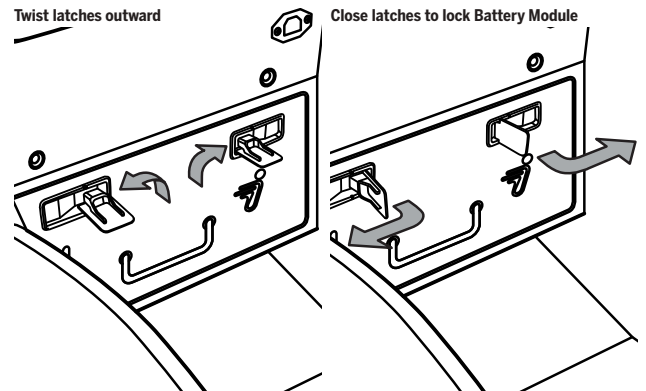
#### Tool Required: None

1. Make sure the Segway SE-3 Patroller is unplugged, powered off, and the parking brake is engaged.
2. Make sure the latches are configured as in **Figure 35**.
3. Holding the Battery Module by both front and top handles, slide it into the opening.
4. Twist the latches and fold them back (**Figure 36**) to lock the Battery Module.

To remove the Battery Module, see "Removing the Battery Module," (p. 49).



**Figure 35: Slide the Battery Module into the SE-3 Patroller**



**Figure 36: Twist and close the Battery Module Latches**

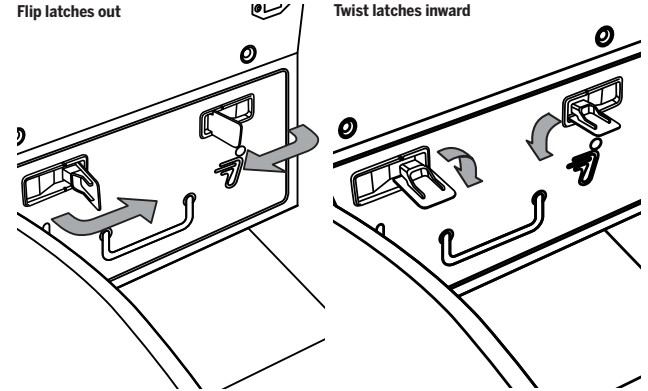
## Removing the Battery Module

### ⚠ CAUTION

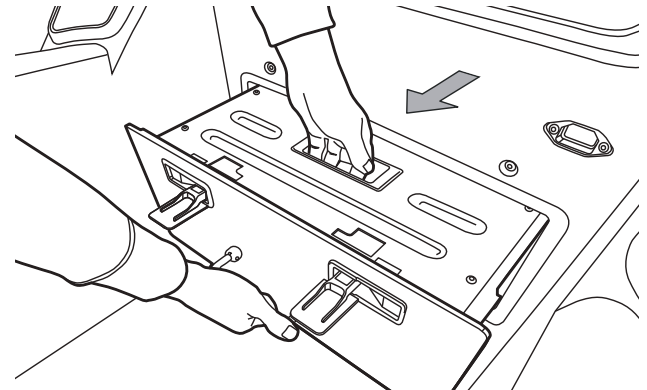
The Battery Module weighs approximately 40 lbs. Do not attempt to install or remove the Battery Module if you are incapable of safely lifting an object of this weight. Use standard lifting techniques.

1. Make sure the Segway SE-3 Patroller is unplugged, powered off, and the parking brake is engaged.
2. Flip out and twist the latches as shown in **Figure 37**.
3. Use the handle to slide the Battery Module part way out.
4. Grasp both the front handle and the top handle of the Battery Module (**Figure 38**). Slide the Battery Module completely out.

To install the Battery Module, see "Installing the Battery Module," (p. 48).



**Figure 37: Flip out and twist the Battery Module Latches**



**Figure 38: Slide the Battery Module out of the SE-3 Patroller**

## Charging the Battery Module

### ⚠ WARNING

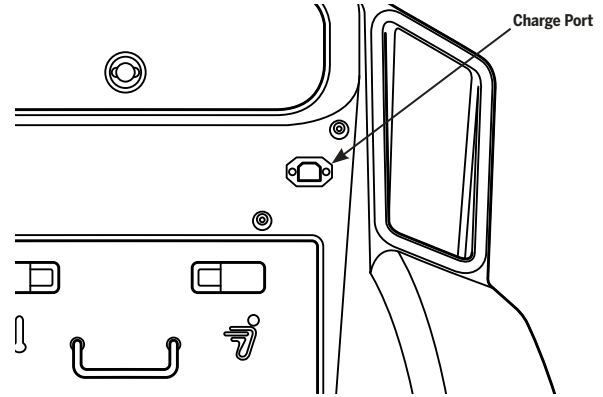
Do not insert the Power Cord plug if the Charge Port, Power Cord, or AC Power outlet is wet.

To charge the Battery Module:

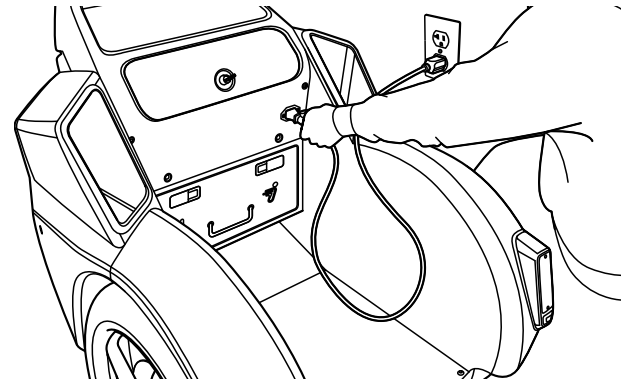
1. Park the SE-3 Patroller in a clean, dry place, within the recommended charging temperature range (p. 47).
2. Verify that the Charge Port, Power Cord, and AC Power outlet are clean, dry, and free of debris (**Figure 39**).
3. Plug one end of the Power Cord (provided with the vehicle) into a grounded AC outlet (100V–240V; 50Hz–60Hz). The Power Cord should be properly grounded (**Figure 40**).
4. Plug the other end of the Power Cord into the Charge Port.
5. Verify that the Battery Discharge Indicator (BDI) lights confirm the Battery Module is charging (see **Table 5**). For more information on the BDI lights, see p. 51.

### IMPORTANT:

You must keep the SE-3 Patroller plugged into a grounded AC outlet when it is not in use. If you do not plan to use it for an extended time, visit the vehicle every month and remove and reinsert the power cord to ensure the charging system is working properly.



**Figure 39: Verify the Charge Port is clean, dry, and free of debris**



**Figure 40: Plug into a properly grounded AC outlet**

## Unplugging the SE-3 Patroller

When you are ready to operate the SE-3 Patroller, remove the Power Cord:

1. Disconnect the Power Cord from the Charge Port.
2. Disconnect the Power Cord from the grounded AC outlet.
3. Store the Power Cord.

## Battery Discharge Indicator (BDI)

The Battery Discharge Indicator on the Battery Module illuminates when the Battery Module is charging or in use (see **Table 5**). When charging, the lights scroll from the bottom upward indicating the charge level. When the Battery Module is fully charged the lights will turn off.

When in use the lights are solid, indicating the charge level. For example, the seventh LED from the bottom would indicate the battery module is currently at 70%. The fourth LED from the bottom would represent 40%, and so on (**Figure 41**). When the Battery Module is less than 20% full, the last two lights will flash.

The bottom-most light blinks red for warnings and faults. It may blink because of over-voltage, under-voltage, or over-temperature conditions. The light may also blink while the Battery Module is charging because of temporary over-voltage conditions while balancing; this is normal. If you notice this light is blinking while discharging (charger not plugged in), follow these steps:

1. Power down the SE-3 Patroller and allow time for the Battery Module to cool.

Battery Module at 70%



Battery Module at 40%

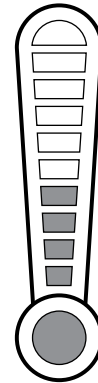


Figure 41: Battery Discharge Indicator (BDI)

Table 5: BDI LED Messaging

Charge Level	Indicator LEDs
Charging	LEDs scroll bottom to top
Charging Complete	All LEDs OFF
Discharge/normal use	LEDs indicate charge level
Error Condition	Bottom Red LED flashing while discharging

## Battery Discharge Indicator (BDI) (cont.)

2. If the Battery Module is empty, Bring the SE-3 Patroller indoors or someplace where the temperature is within the recommended range (**Table 4**, p. 47).
3. Charge the SE-3 Patroller for 12 hours.

If the bottom LED continues to blink red while discharging (charger not plugged in), contact Segway Technical Support.

## Charging Failures

If a failure is detected during charging, all charging will stop and the BDI LEDs will turn off. Note that the LEDs also turn off when the Battery Module is fully charged. If the Battery Module fails to charge when it is low or empty, it may need to be replaced. To order a replacement Battery Module, contact an Authorized Segway Dealer or Distributor.

## User Interface Battery Charge Level Gauge

The User Interface Display uses a grey battery icon to indicate the Battery Module charge level (**Figure 42**). As the charge level depletes, the battery icon "level" reduces. If the charge level drops below 15%, the color of the battery icon changes to red, and "Low Battery" will display on the left hand side of the User Interface (**Figure 43**). If the charge level is 0%, Empty Battery" will display.

If the battery icon is red, do not attempt to ride the SE-3 Patroller. Instead, charge the Battery Module.

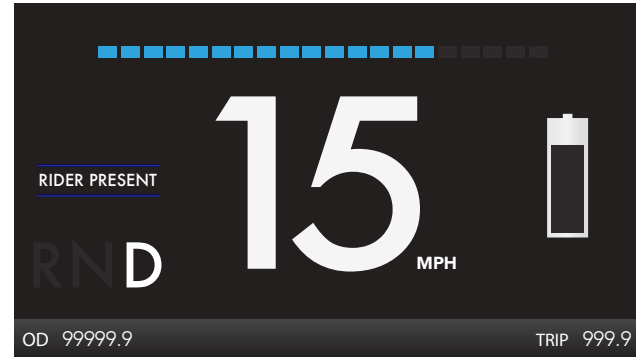


Figure 42: Battery Charge Level at 75%

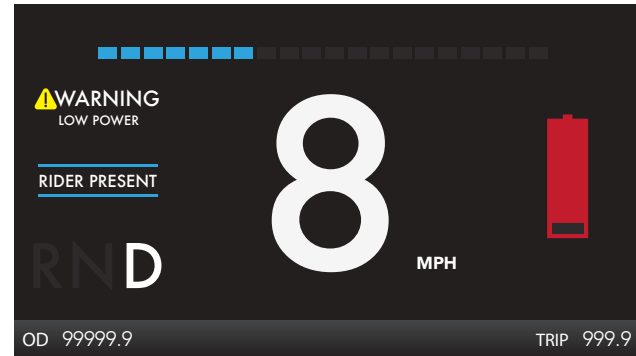


Figure 43: User Interface Low Battery Charge Level Warning

## Partial Charge

Whenever you do not fully charge the SE-3's Battery Module, partial charge may affect the accuracy of the Battery Module charge level display, causing it to show a higher charge level than actually exists. After you power on, check the Battery Module charge level display and then operate the SE-3 Patroller for some time. Check the Battery Module charge level display again. If the Battery Module charge level display shows rapid charge depletion during this time, the Battery Module has received only a partial charge. If necessary, plug the SE-3 back in and recharge.

## Self Discharge

When not in use the Battery Module will continue to discharge at a low rate, slowly draining the Battery Module. Over time this could result in a low or empty Battery Module. For this reason, Battery Modules should always be plugged in and charging when stored for extended periods of time.

### CAUTION

If left uncharged, an empty Battery Module could become permanently damaged. Always charge Battery Modules when not in use and always immediately charge a Battery Module that has been depleted.

## Recalibrating the Battery Charge Level Display

There are two Battery Charge Level displays: one on the Battery Module itself (the Battery Discharge Indicator), and one on the User Interface Display. These displays may be inaccurate after long periods of storage or during initial use.

To recalibrate the displays:

1. Fully charge the Battery Module for 12 hours.
2. Discharge the Battery Module (through normal use of the SE-3) until the bottom bar on the Battery Discharge Indicator is blinking or the User Interface Display indicates 10% charge (**Figure 44**).
3. Leave the SE-3 Patroller in a safe, secure location, powered on, until the Battery Module is fully depleted and the SE-3 powers down.

### NOTE:

Depleting the Battery Module from the bottom bar to empty could take several hours.

### ⚠ CAUTION

Do not leave the Battery Module completely empty for more than two hours. Leaving the Battery Module empty could cause permanent damage to the Battery Module.

4. Fully recharge the Battery Module for a minimum of 12 hours, after which the Battery Charge Level Display will be recalibrated.



**Figure 44: BDI Indicating 10% Charge Remaining**



## How Temperature Affects Performance

The Battery Module is usually significantly warmer than the air temperature due to heating that occurs as electricity is delivered from it (while riding) and to it (while charging).

### *Riding in Hot or Cold Temperatures*

The Battery Module will run at the highest efficiency when you operate it nearest the center of the recommended operating temperature range. As with all batteries, less energy is available at low battery temperatures. You may not be able to travel the same distance when the Battery Module is cold as when the Battery Module is nearer to room temperature.

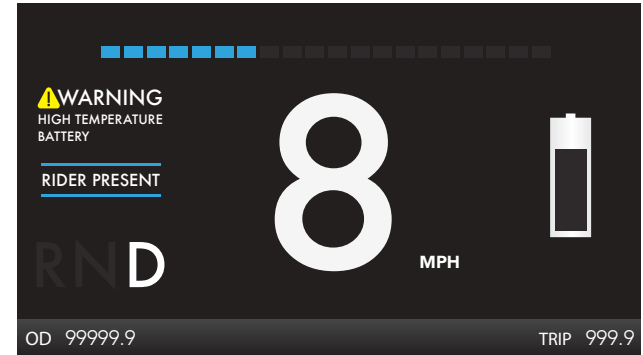
If the Battery Module on the SE-3 Patroller becomes too hot while riding, the SE-3 may activate a High Temperature Battery warning (**Figure 45**). Drive the vehicle in a less demanding manner, or shut down the vehicle, to let the Battery Module cool (see "Warnings and Faults," p. 73). Reduce performance may be experienced while the High Temperature warning is active.

If performance is poor because of cold weather (below 32° F/0° C), try warming up your SE-3 Patroller by bringing it into a warm environment for at least 30 minutes.

### *Charging in Hot or Cold Temperatures*

The Battery Module should be within the recommended charging temperature range prior to and during charging. For the recommended charging temperature range, see "Battery Module Specifications" (p. 47).

If the Battery Module is too hot or too cold, it may take longer to charge, or may not charge at all.



**Figure 45: High Temperature Battery Warning**

## Battery Module Transportation, Shipping, and Disposal

If you are transporting the SE-3 Patroller, protect the Battery Module to avoid damage. Do not expose the Battery Module to direct heat or moisture, and avoid heavy vibration during transportation.

### WARNING

Do not use or transport the Battery Module if the casing breaks open, leaks any substance, becomes excessively hot, or if you detect an unusual odor. Do not handle a damaged or leaking Battery Module unless you are wearing disposable rubber gloves, eye protection, and are in a well-ventilated area. Dispose of the rubber gloves and damaged Battery Module properly in accordance with regulations governing disposal of toxic materials.

### Shipping Li-ion Batteries

Li-ion Batteries are regulated as "Hazardous Materials" by the U.S. Department of Transportation. For information on shipping Li-ion Batteries, contact the U.S. Department of Transportation at [www.phmsa.dot.gov/hazmat/regs](http://www.phmsa.dot.gov/hazmat/regs) or call 1-800-467-4922.

If you need to arrange air shipment of your SE-3 Patroller and/or Li-ion Battery Module, contact an authorized Segway Dealer or Distributor for assistance.

You must comply with all local, federal, and individual country laws when transporting Segway Li-ion Battery Modules.

### Battery Disposal

The Li-ion Batteries used in the Battery Module can be recycled. Recycle or dispose of Batteries in accordance with local environmental regulations. Do not place in fire or incinerate. For more information, contact Segway at 1-866-4SEGWAY (1-866-473-4929) or visit our website at [www.segway.com](http://www.segway.com).

# Maintaining and Servicing the Segway SE-3 Patroller

- General maintenance and servicing procedures related to the SE-3 Patroller
- Important operating tips

The Segway SE-3 Patroller is designed to be virtually maintenance free. Make sure it is clean, all parts are installed and functioning properly, the Battery Module is charged, and Tires are properly inflated prior to riding. Never attempt to access the Electronics, Motors, or Gearboxes. These are not user-serviceable parts.

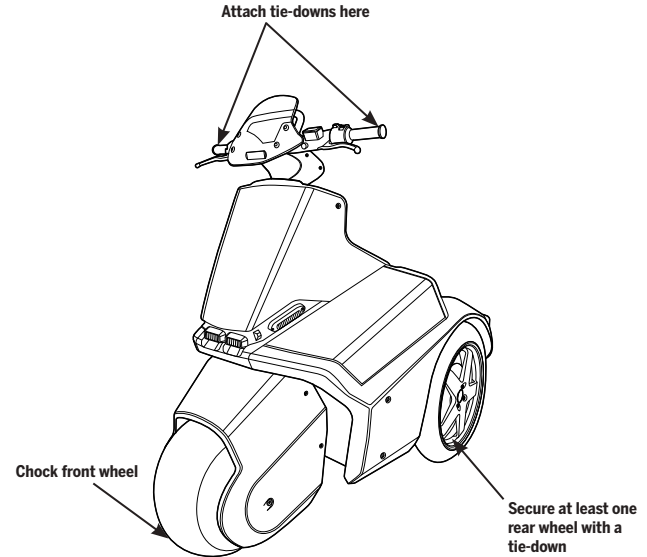
## WARNING

- Always shut down the Segway SE-3 Patroller, unplug the AC Power Cord, and set the Parking Brake before performing any maintenance or installing any part or accessory. It is not safe to perform these procedures while the SE-3 Patroller is powered on or charging.
- Do not attempt to access the Electronics, Motors, or Gearboxes. There are no user-serviceable parts inside. By accessing these components you risk electric shock injury. Also, you could void your limited warranty/guarantee, damage the SE-3 Patroller, and render it unsafe to operate.
- Adhere to torque specifications when tightening fasteners. Over tightened or under tightened fasteners could malfunction, leading to damage or serious injury.
- Do not attempt to lift the SE-3 Patroller by hand. The vehicle is too heavy and unwieldy to lift safely without proper equipment and training.
- Use only Segway-approved parts, fasteners, and accessories.
- Wear safety glasses. Failure to do so could result in serious injury.

## Securing the SE-3 Patroller for Transport

Follow these instructions to secure the SE-3 Patroller for transport on a pickup truck or trailer.

1. Ensure the SE-3 Patroller is powered off and unplugged.
2. Engage the parking brake.
3. Chock the front wheel.
4. Attach tie-downs to each end of the handlebars and to at least one rear wheel (**Figure 46**).
5. Secure the tie-downs to the transporting platform.



**Figure 46: Securing the SE-3 Patroller for Transport**

## Tires and Wheels

### ⚠ WARNING

Recommended tire pressures are shown on Wheel labels affixed near the valve stems. These pressures supersede any recommended pressures stated on the Tires. Higher pressure reduces suspension performance and traction, and increases risk of loss of control, collisions, and falls. Lower pressure reduces range and increases risk of damage to the Tire/ Wheel Assembly. Unequal pressure will cause the Segway SE-3 Patroller to turn in the direction of the lower pressure tire.

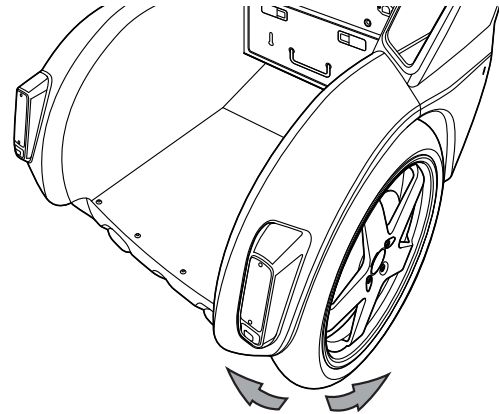
### ⚠ WARNING

Brake discs can become very hot during aggressive use. Let the brake system cool down before performing any Tire/Wheel maintenance, to avoid the possibility of burns.

### Checking the Tire/Wheel Assembly

To check the Tires and Wheels:

1. Make sure the SE-3 Patroller is unplugged and powered off.
2. Apply the parking brake (p. 24).
3. Check for Wheel wobble by grasping the Tire/Wheel Assembly and attempting to move it side-to-side (**Figure 47**). The Tire/Wheel Assembly should not move laterally.
4. If you detect Wheel wobble, check the Wheel nuts and tighten if necessary using the supplied wheel nut key. Torque the wheel nuts to **55 N-m (40 ft-lbf)**.



**Figure 47: Checking the Tire/Wheel Assembly for Wobble**

## Tires and Wheels (cont.)

### Checking Tire Pressure

The Tires on the SE-3 Patroller provide suspension and traction. Both functions are affected by tire inflation pressure. Recommended tire pressures are shown on Wheel labels affixed near the valve stems.

#### WARNING

Inflate tires to the correct pressure (**Table 6**). Overinflating or underinflating Tires can increase your risk of traction loss, possibly resulting in injury or falls.

#### **Front Tire**

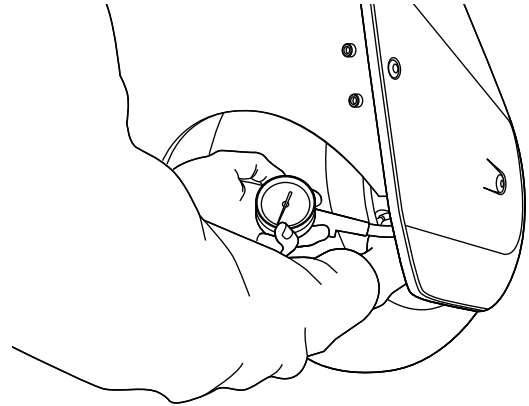
1. Make sure the SE-3 Patroller is unplugged and powered off.
2. Apply the parking brake (p. 24).
3. Turn the handlebar all the way to the left.
4. From behind the front wheel shroud, locate the valve stem and check the tire pressure (**Figure 48**).

#### **Rear Tires**

1. Make sure the SE-3 Patroller is unplugged and powered off.
2. Apply the parking brake (p. 24).
3. Locate the rear tire valve stem and check the tire pressure.

**Table 6: SE-3 Patroller Recommended Tire Pressures**

Tire	Recommended Pressure
Front Tire	22 psi (1.52 Bar; 152 kPa)
Rear Tires	25 psi (1.72 Bar; 172 kPa)



**Figure 48: Check front tire pressure from behind the wheel shroud**

## Checking Tires for Wear

Over time, the tires on the SE-3 Patroller will wear and need replacing.

### **⚠ WARNING**

Do not ride the Segway SE-3 Patroller with excessively worn tires (**Figure 49**). A tire could burst, causing personal injury or damage to the SE-3 Patroller.

### **Front Tire**

1. Make sure the SE-3 Patroller is powered off and unplugged.
2. Apply the parking brake (p. 24).
3. Measure the depth of the treads (**Table 7**). If the tread depth is at or below 2 mm, replace the tire.

### **Rear Tires**

1. Make sure the SE-3 Patroller is unplugged and powered off.
2. Apply the parking brake (p. 24).
3. Locate the tread wear indicators in the landings between treads. If the treads are worn down level with the tread wear indicators, replace the tire.

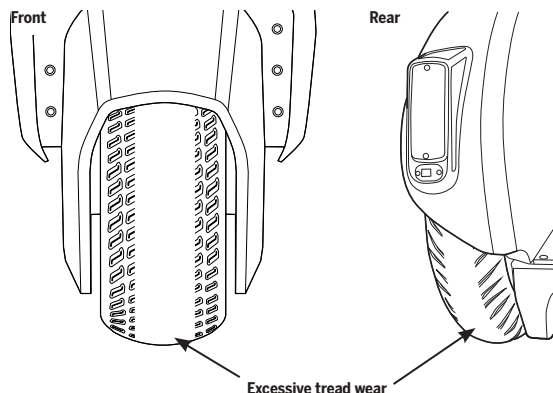
Alternately, measure the depth of the treads (**Table 7**). If the tread depth is at or below 3.8 mm, replace the tire.

### **NOTE**

To replace the tires, contact an Authorized Segway Dealer or Distributor, or Segway Customer Care. For a list of Authorized Dealers and Distributors, visit [www.segway.com](http://www.segway.com).

**Table 7: Tire Wear Specifications**

Tire	Minimum Tread Depth
Front Tire	2 mm
Rear Tires	3.8 mm (or when the tread is flush with the tread wear indicators)



**Figure 49: Do not drive on worn out tires**

## Tires and Wheels (cont.)

### Replacing a Rear Tire/Wheel

**Tools:** Vehicle jack  
Wheel nut key (included with the SE-3 Patroller)  
19 mm or 21 mm socket wrench  
Torque wrench

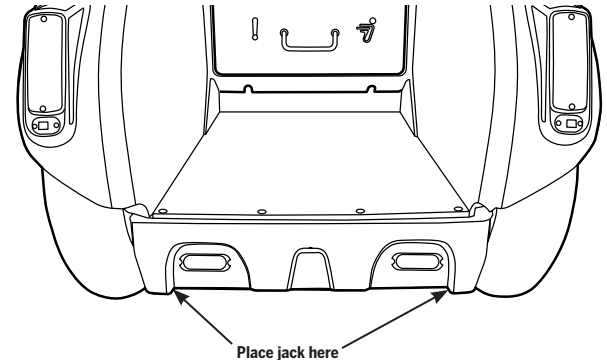
#### *Rear Tire/Wheel Removal*

1. Make sure the SE-3 Patroller is powered off and unplugged.
2. Apply the parking brake (p. 24).
3. Using the wheel nut key, loosen but do not remove the four Wheel Nuts.
4. Place the vehicle jack under the back of the SE-3 Patroller skid plate, close to the wheel being changed (**Figure 50**). Raise the SE-3 Patroller until the wheel is just off the ground.

#### **⚠ WARNING**

Do not lift both rear wheels off the ground. Two wheels must always remain in contact with the ground to reduce the possibility of the SE-3 Patroller tipping over while it is on the jack.

5. Using the wheel nut key, remove all four Wheel Nuts.
6. Pull the wheel off the studs.

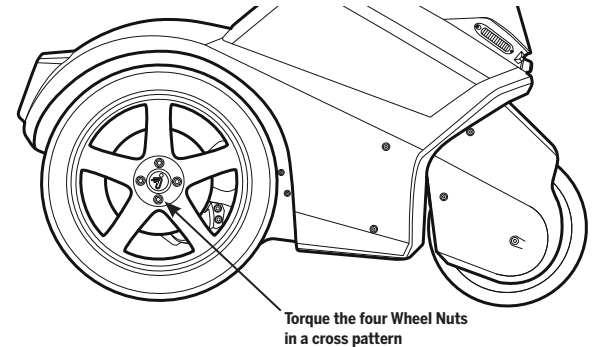


**Figure 50: SE-3 Patroller Rear Lifting Points**



## Rear Tire/Wheel Installation

1. Make sure the SE-3 Patroller is powered off, unplugged, and the parking brake is engaged.
2. Jack up the SE-3 Patroller (**Figure 50**).
3. Make sure all mounting surfaces are clean and free of debris.
4. Slide the wheel onto the four studs.
5. Using the wheel nut key, install the four Wheel Nuts, a little more than hand tight.
6. Lower the SE-3 Patroller and remove the jack.
7. Using the wheel nut key, torque the four Wheel Nuts to **55 N-m (40 ft-lbf)**. Torque nuts in a cross pattern: top, bottom, left, right (**Figure 51**).



**Figure 51: Installing a Rear Wheel**

## Replacing the Front Tire/Wheel

Segway recommends the front tire/wheel be serviced or replaced by a Segway trained and certified technician. Contact your local dealer or Segway for your servicing needs:

Phone: 1-866-4SEGWAY (1-866-473-4929)

Website: [www.segway.com](http://www.segway.com)

# Brakes

## Adjusting the Brake Levers

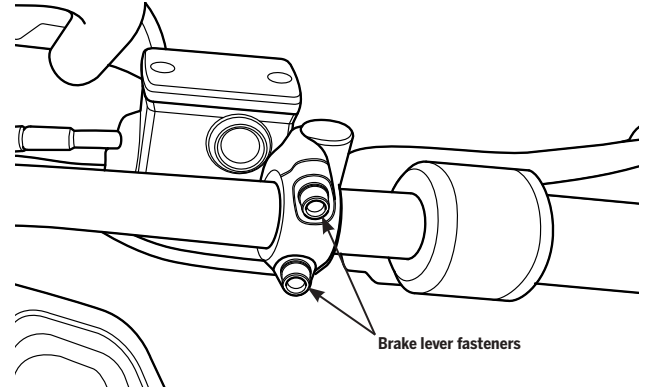
The angle of the brake levers can be adjusted for the user's preference.

### WARNING

Make sure the brake levers are easy to reach and are fastened to the appropriate torque. Brakes are an essential safety feature of the SE-3 Patroller. If the user cannot reach the brakes they may not be able to stop the vehicle, which could lead to injury or death.

**Tools:** 5 mm hex wrench  
Torque wrench

1. Make sure the SE-3 Patroller is powered off and unplugged.
2. Apply the parking brake (p. 24).
3. Using a 5 mm hex wrench, loosen the two fasteners on the brake lever clamp (**Figure 52**).
4. Rotate the brake lever to the desired position, being careful not to pinch the cables on any chassis hardware.
5. Using a 5 mm hex wrench, tighten the two fasteners on the brake lever clamp. Torque to **10 N-m (7.3 ft-lbf)**.



**Figure 52: Brake Lever Fasteners**

## Checking the Brake Fluid Level (Front/Rear)

### ⚠ WARNING

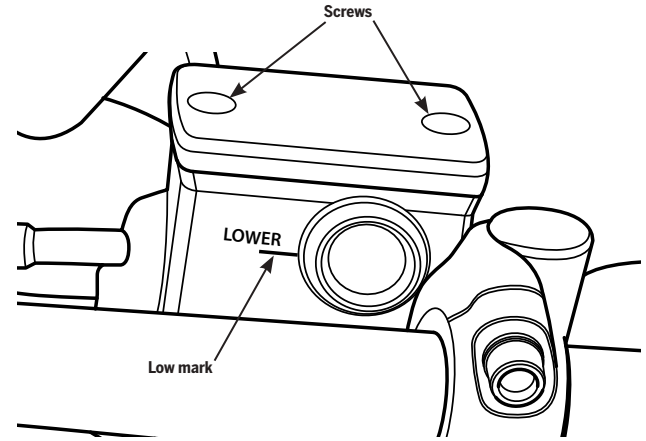
Do not operate the SE-3 Patroller if the brake fluid level is low. The brakes may not activate properly and the vehicle may not stop as intended.

1. Make sure the SE-3 Patroller is powered off and unplugged.
2. Apply the parking brake (p. 24).
3. Make sure the brake fluid reservoir is level.
4. Inspect the sight glass and determine if fluid is below the "low" mark (**Figure 53**). If fluid is below the "low" mark, brake fluid needs to be added.

## Adding Brake Fluid (Front/Rear)

**Tools:** Phillips head screwdriver  
Torque wrench

1. Use a Phillips head screwdriver to remove the two screws on top of the brake fluid reservoir.
2. Remove the reservoir cap and gasket.
3. Add DOT 4 brake fluid; do not overfill the reservoir.
4. Replace the gasket and the reservoir cap.
5. Use a Phillips head screwdriver to install the two screws on top of the brake fluid reservoir. Torque to **1.5 N-m (14 in-lbf)**.



**Figure 53: Checking the Brake Fluid Level**

### NOTICE

Use only fresh DOT 4 brake fluid from a new container. Avoid getting any brake fluid on hands, clothing, or painted parts. Immediately wipe up any spilled fluid.

## Cleaning the Segway SE-3 Patroller

### ⚠ WARNING

Do not clean the Rider Detect Mat or Tires with any specialized cleaners. Use of such products may reduce traction, increasing the risk of a fall.

To clean the SE-3 Patroller:

1. Make sure the SE-3 Patroller is unplugged and powered off.
2. Always inspect the Charge Port before and after charging and prior to cleaning.
3. Gently clean the SE-3 Patroller with soap and water and a soft cloth.

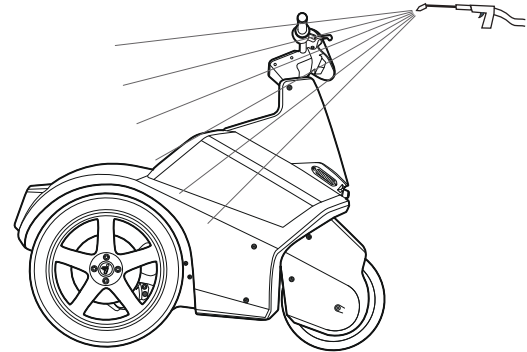
## Avoid Submerging the SE-3 Patroller

### ⚠ WARNING

Do not wash the SE-3 Patroller with a power washer or high pressure hose (**Figure 54**). Avoid spraying water into the Charge Port and the neck cavity below the User Interface. Avoid exposure to heavy downpours or extended periods of heavy rain (including during riding, storage, or when transporting). Make sure that the Charge Port is dry before you plug in the Power Cord. Failure to follow these instructions could expose you to electric shock, injury, burns, or cause a fire.

### ⚠ WARNING

Do not submerge the Battery Module or vehicle in water. If you suspect the Battery Module or vehicle have been submerged or experienced water intrusion: 1) call Segway Technical Support immediately at 1-866-473-4929; 2) store the SE-3 Patroller level, outdoors, and away from flammable objects; 3) do not attempt to remove the Battery Module; 4) do not plug the Power Cord into the SE-3 Patroller. Failure to follow these instructions could expose you to electric shock, injury, burns, or cause a fire.



**Figure 54: Do NOT use high pressure washers**

## Storing the Segway SE-3 Patroller

To store the Segway SE-3 Patroller for Winter or long periods of time, do the following to ensure it will always be ready to supply you with maximum performance:

### SE-3 Patroller

- Store the SE-3 Patroller (and its Battery Module) indoors, in a place that is free of moisture and humidity, with an ambient temperature of at least -4° F/-20° C or above.
- Clean the SE-3 Patroller.
- Inflate the tires to the proper pressure (p. 60).
- You may want to cover the SE-3 Patroller to prevent dust accumulation.

### SE-3 Patroller Battery Module

- Fully charge the Battery Module for at least 12 hours once a month, or after every 12 hours of operation—whichever comes first. Charge the Battery Module only when it is within the specified charging temperature range (p. 47).
- Even if you will not be using the SE-3 Patroller for an extended period of time, you should leave it plugged into AC power. Otherwise the Battery Module could fully discharge over time, causing permanent damage.
- If storing the SE-3 Patroller longer than 1 month, remove the batteries—but be sure to charge them at least every 2 months.
- If storage temperature is below 32° F/0° C, do not charge the Battery Module. Instead, bring it into a warm (above 50° F/10° C is optimal) environment for charging. Doing so will ensure optimal battery life and performance.

#### CAUTION

Failure to charge the Battery Module could result in permanent damage. Left unplugged, the Battery Module could fully discharge over time, causing permanent damage. Use only the built-in SE-3 Patroller charger or charging devices approved by Segway.

## Replacing Parts

If a part breaks or needs replacement, or if you have a question about SE-3 Patroller replacement parts, contact an Authorized Segway Dealer or Distributor. For a list of Dealers and Distributors, visit [www.segway.com](http://www.segway.com). See the SE-3 Patroller Limited Warranty/Guarantee for a list of owner-replaceable parts.

Use only Segway-provided replacement parts and fasteners.

## Torque Specifications

### CAUTION

Adhere to torque specifications when tightening fasteners. Over-tightening or under-tightening fasteners can result in damage or malfunction.

## Accessories

If you are interested in adding accessories to your SE-3 Patroller, please contact an Authorized Segway Dealer or Distributor or visit Segway's website at [www.segway.com](http://www.segway.com) to learn what accessories are available.

Use only Segway-approved accessories.

# Troubleshooting

## Troubleshooting Procedures

You can troubleshoot certain problems with the Segway SE-3 Patroller before contacting an Authorized Segway Dealer or Distributor, or Segway Customer Care. This chapter provides lists of problems and recommended actions.

### WARNING

Always shut down the SE-3 Patroller and unplug the AC Power Cord before performing any maintenance or installing any part or accessory.

**Table 8** lists potential problems. This table directs you to the page in this chapter where you can find more information on resolving the problem.

If you are unable to resolve the problem, contact an Authorized Segway Dealer or Distributor, or Segway Customer Care. For a list of Authorized Dealers and Distributors, visit [www.segway.com](http://www.segway.com).

**Table 8: SE-3 Patroller Troubleshooting Procedures**

Problem:	See:
SE-3 Patroller will not power on.	page 70
Tire/Wheel assembly is loose/wobbles.	page 71
SE-3 Patroller pulls to one side.	page 72
Tire is flat/will not maintain pressure.	page 72
Accessory outlet fuse	page 76

## Troubleshooting Procedures (cont.)

### SE-3 Patroller Will Not Power On

**Problem:**

Your Segway SE-3 Patroller will not power on when you insert and turn the power key.

Review the following procedures prior to troubleshooting this problem:

- “Removing the Battery Module” (p. 49)
- “Installing the Battery Module” (p. 48)

**Recommended Action:**

1. Make sure the SE-3 Patroller's Battery Module is charged.
2. If a Warning/Fault message appears on the User Display when attempting to power on, see “Warnings and Faults,” (p. 73).
3. If the SE-3 Patroller still will not power on, remove the Battery Module and then re-install it.



## Tire/Wheel Assembly is Loose and/or Wobbles

### Problem:

The Tire/Wheel assembly is not secure. It appears to be loose and/or wobbles.

Review the following procedure prior to troubleshooting this problem:

- "Checking the Tire/Wheel Assembly" (p. 59)
- "Replacing a Rear Tire/Wheel" (p. 62)

### Recommended Action:

1. Make sure the Segway SE-3 Patroller is unplugged and powered off.
2. Tighten the Wheel Nuts. Torque to **55 N-m (40 ft-lbf)**.
3. If the Tire/Wheel Assembly is still loose or wobbles, remove, clean, and reseal the Tire/Wheel Assembly to the hub on which the Tire/Wheel Assembly mounts.

## Troubleshooting Procedures (cont.)

### Segway SE-3 Patroller Pulls to One Side When Riding

**Problem:**

Your Segway SE-3 Patroller pulls to one side when you are riding.

Review the following procedures prior to troubleshooting this problem:

- "Checking the Tire/Wheel Assembly" (p. 59)
- "Checking Tire Pressure" (p. 60)

**Recommended Action:**

1. Check to make sure Rear Tire inflation pressure is equal, and set to recommended specifications (see "Checking Tire Pressure," p. 60).
2. If either Rear Tire is not set at the proper tire inflation pressure, inflate the Tire or Tires until both are at equal and correct pressure.

### Tire is Flat or Will Not Maintain Pressure

**Problem:**

One of the Tires on your Segway SE-3 Patroller is flat or will not hold air.

Review the following procedure prior to troubleshooting this problem.

- "Checking Tire Pressure" (p. 60)

**Recommended Action:**

1. Check for Tire damage. If the Tire is damaged, contact an Authorized Segway Dealer or Distributor to order a replacement Tire/Wheel Assembly.
2. If there is no visible Tire damage, check to make sure the Tire valve stem core is tight. Tighten the valve stem if necessary.
3. Inflate the Tire and check for leaks. If the Tire goes flat or will not maintain pressure, contact your Segway Dealer.

# Warnings and Faults

Both warnings and faults are displayed on the User Interface screen.

## Warnings

The SE-3 Patroller displays various warnings on the User Interface screen. Warnings inform the user of situations that may cause reduced performance, but will not stop the SE-3 Patroller from operating.

### Release Throttle

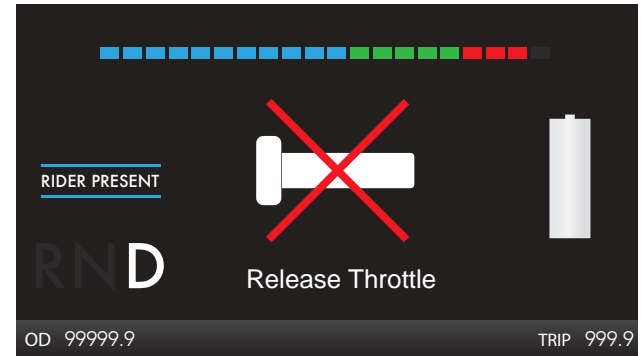
This warning occurs if the throttle is activated while attempting to enter DRIVE mode (**Figure 55**).

If this happens, release the throttle and DRIVE mode will be enabled.

### Reduce Speed (Top Speed Exceeded)

This warning occurs any time the vehicle is going faster than the maximum speed. See "Segway SE-3 Patroller Specifications," p. 15.

When this occurs the rider should use the brakes to safely slow the vehicle. Driving faster than the top speed is not recommended and could expose the rider to unsafe situations that could lead to falls and personal injury.



**Figure 55: Warnings are Displayed on the User Interface Screen**

## Warnings (cont.)

### CAUTION

Charge an empty or low Battery Module immediately. Leaving a Battery Module empty for long periods of time could result in permanent damage to the Battery Module.

### Low Battery

This warning occurs when the Battery Module level of charge is below 15% or when there is low battery voltage. In the case of low battery voltage, vehicle performance will be reduced. Drive to a secure location and charge your Battery Module.

### Empty Battery

This warning occurs when the Battery Module is completely empty. The SE-3 Patroller may power off at any moment. Charge your Battery Module immediately.

### High Temperature (Drive/Motor/Battery)

These warnings occur when the components reach high temperatures. Vehicle performance is reduced. As the temperature gets higher, performance is reduced further.

Power off the SE-3 Patroller. Let it cool to within the recommended operating range. See "Segway SE-3 Patroller Operating Limits," page 19.

### UI Hardware Fault

This is a fault on the User Interface Board. A variety of problems could cause this warning, including loss of communication between the board and other components. Under most circumstances the SE-3 Patroller will continue to operate as normal.

Contact an Authorized Segway Dealer or Distributor, or contact Segway Customer Care. For a list of Authorized Dealers and Distributors, visit [www.segway.com](http://www.segway.com).

## Faults

When a Fault occurs, the default User Interface screen is replaced by the Fault Screen (**Figure 56**) which displays a warning triangle and a short description of the fault. The fault message will be displayed until the SE-3 Patroller powers off. For all faults, the motor drives are disabled but power is still available.

### Rider Detect Mismatch/Drive Enable Hardware Fault

If you see either of these fault messages displayed, there could be a problem with the rider detect mat. The redundant rider detection sensor outputs do not match each other. This can occur if light pressure is applied to the rider detect mat such that one sensor is engaged and the other is not.

Remove any objects from on top of the Rider Detect Mat. Power the SE-3 Patroller off and then on again (p. 34, 38). Make sure the rider is within the recommended weight range and standing centered on the Rider Detect Mat (see "Segway SE-3 Patroller Specifications," p. 15). If the fault reoccurs, contact an Authorized Segway Dealer or Distributor for service.

*Most faults indicate that the SE-3 Patroller needs to be serviced. Power cycling the vehicle (turning it OFF then ON) will clear the fault, but it will reappear if the fault condition still exists. If a fault occurs, do not attempt to drive the SE-3 Patroller. Contact an Authorized Segway Dealer or Distributor, or contact Segway Customer Care. For a list of Authorized Dealers and Distributors, visit [www.segway.com](http://www.segway.com).*



**Figure 56: Rider Detect Fault**

## Accessory Outlet Fuse

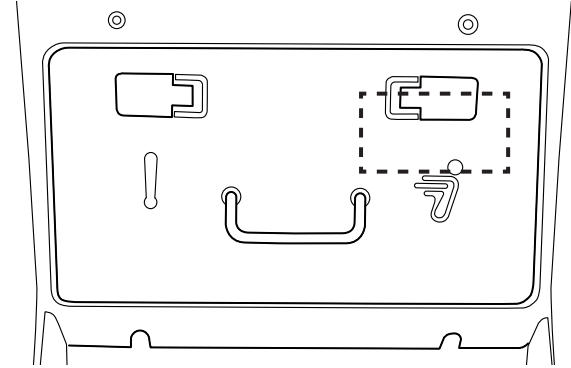
### ⚠ WARNING

Do not attempt to remove or access any of the covers or panels in the Battery Module enclosure. There are no user serviceable parts inside. Doing so could result in death or serious injury from electric shock.

A 2 Amp fuse protects the SE-3 Patroller's Accessory Outlet. If an accessory with a larger load is connected to the circuit, the fuse may blow. In that case, remove the accessory and do not use it again. Access the fuse panel behind the Battery Module ("Removing the Battery Module," p. 49) and locate the 2 Amp fuse next to "+12V Accessory Supply." Replace the fuse only with an identical 2 Amp fuse.

### NOTICE:

Do not attempt to troubleshoot or change any of the other fuses in the fuse panel. These are connected to circuits and components that are serviceable only by Segway trained and certified technicians. If your SE-3 Patroller requires service, please contact Segway (1-866-4SEGWAY, [www.segway.com](http://www.segway.com)).



**Figure 57: Fuse access is located behind the Battery Module**

# Contact and Legal Information

## Report All Incidents

If you or any other user of your Segway SE-3 Patroller is involved in an accident, or if your SE-3 Patroller performs in a way that you do not intend or in a way that it is not supposed to, contact Segway Customer Care.

## How to Reach Us

Telephone: (English-language only) 1-866-4SEGWAY (1-866-473-4929)

E-mail: (English-language only) [technicalsupport@segway.com](mailto:technicalsupport@segway.com)

An Authorized Segway Dealer or Distributor can answer questions about your SE-3 Patroller via the web, email, or phone. For a list of Dealers and Distributors, visit [www.segway.com](http://www.segway.com).

## California Warning

This product contains chemicals, including lead, known to the State of California to cause cancer, birth defects, or other reproductive harm.

## Obey All Laws and Regulations

The use of the SE-3 Patroller on roads and walkways may be regulated by governmental authorities. In addition to other requirements, these laws and regulations may prescribe minimum ages for SE-3 Patroller users and may set speed limits and mandate protective gear for riders. You should consult local authorities to become familiar with applicable laws and regulations.

## Limited Warranty/Guarantee

(United States Only)

Segway provides with each Segway SE-3 Patroller a “Segway® SE-3 Patroller Limited Warranty/Guarantee.” This is the only warranty applicable to the Segway SE-3 Patroller. Consult the “Segway® SE-3 Patroller Limited Warranty/Guarantee” delivered with your Segway SE-3 Patroller for the specific terms of limited warranty coverage.

## Regulatory Compliance Information

### European Directives

The Segway SE-3 Patroller complies with the requirements of the following European Directives:

- 2004/108/EC, Electromagnetic Compatibility Directive
- 2006/95/EC, Low Voltage Directive
- 2006/42/EC, Machinery Directive
- 2011/65/EC, Restriction of the use of certain Hazardous Substances in Electrical and Electronic Equipment (RoHS)
- 2012/19/EC, Directive on Waste Electrical and Electronic Equipment (WEEE)
- 2006/1907/EC, Directive on Registration, Evaluation, Authorization and Restriction of Chemical Substances (REACH)

### Other Standards

The Segway SE-3 Patroller also complies under the applicable sections of the following:

- UL 60335-1 Issue: 2011/10/31 Ed: 5 UL Standard for Safety of Household and Similar Electrical Appliances, Part 1: General Requirements
- CSA C22.2 #60335-1 Issue: 2011/10/31 Safety of Household and Similar Electrical, Part 1: General Requirements
- CENELEC EN 60335-1 Issued: 2002/10/01 Household and similar electrical appliances Safety Part 1: General requirements-Includes amendments A11:2004, A1:2004; A2:2006 and A12:2006 IEC 60335-1:2002 + 1:2004, modified



## Regulatory Compliance Information (cont.)

- IEC 60335-1 Issue: 2010/12/10 Ed: 5 Household and similar electrical appliances Safety Part 1: General requirements; COR No.1: 2010/07/28
- IEC 60529 Issued: 2001/02/01 Ed: 2.1 Degrees of Protection Provided by Enclosures (IP Code); COR. No. 1:2003; COR. No.2:2007; COR. No.3:2009
- CEN EN ISO 12100 Issue: 2010/11/15 Safety Of Machinery – General Principals For Design – Risk Assessment And Risk Reduction
- FCC 47 CFR Part 15, Subpart a (General), b (Unintentional Radiators), Class B
- ICES-003 Interference-Causing Equipment Standard – Digital Apparatus, Class B
- EN 55011 Industrial, scientific and medical (ISM) radio-frequency equipment – Electromagnetic disturbance characteristics, Group I Class B
- EN 55022 Information technology equipment – Radio disturbance characteristics, Class B
- EN 61000-3-2 Harmonic current emissions
- EN 61000-3-3 Voltage changes, voltage fluctuations and flicker
- EN 61000-4-2 Electrostatic discharge immunity
- EN 61000-4-3 Radiated, radio-frequency, electromagnetic field immunity
- EN 61000-4-4 Electrical fast transient/burst immunity
- EN 61000-4-5 Surge immunity
- EN 61000-4-6 Immunity to conducted disturbances, induced by radio-frequency fields
- EN 61000-4-8 Power frequency magnetic field immunity
- EN 61000-4-11 Voltage dips, short interruptions and voltage variations immunity
- EN 61000-6-1 Electromagnetic compatibility (EMC) – Immunity for residential, commercial and light-industrial environments

## Regulatory Compliance Information (cont.)

- EN 61000-6-2 Electromagnetic compatibility (EMC) – Immunity for industrial environments
- EN 61000-6-3 Electromagnetic compatibility (EMC) – Emission standard for residential, commercial, & light-industrial environments
- EN 61000-6-4 Electromagnetic compatibility (EMC) – Emission standard for industrial environments
- UL 1012/CAN/CSA-C22.2 NO. 107.2 – Battery Chargers/Power Supplies Other than Class 2
- EN 60335-2-29/IEC 60335-2-29 Issued: 1994/01/01 Ed: 3 Safety of Household and Similar Electrical Appliances Part 2: Particular Requirements for Battery Chargers
- IEC 62133 Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications
- UL 1642, UL Standard for Safety for Lithium Batteries

## Radio Frequency Interference

### United States FCC Part 15 Class B Radio Frequency Interference (RFI) Statement

The Segway SE-3 Patroller has been tested and found to comply with the limits for Class B digital devices pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential environment. The Segway SE-3 Patroller generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the User Materials may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If the SE-3 Patroller does cause harmful interference to radio or television reception, which can be determined by turning the SE-3 Patroller off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the distance between the SE-3 Patroller and the receiver.

## Radio Frequency Interference (cont.)

- Connect the SE-3 Patroller 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.
- Operation is subject to the following two conditions:
  1. This device may not cause harmful interference
  2. This device must accept any interference received, including interference that may cause undesired operation

This product complies with FCC radiation exposure limits set forth for an uncontrolled environment.

**Modifications:** Modifications not expressly approved by Segway may void the user's authority to operate this device under FCC regulations and must not be made.

### Canadian ICES-003

The Segway SE-3 Patroller is a Class B digital apparatus that complies with Canadian CAN ICES-3 B/NMB-3B. Cet appareil numérique de la classe b est conforme à la norme CAN ICES-3 B/NMB-3B du Canada.

## Product Life and Recycling

This product should be recycled at the end of its useful life. All Segway SE-3 Patroller models can be returned to the location at which they were purchased, or to Segway Inc. at:

Segway Inc.  
Attn: Product Recycling  
14 Technology Dr.  
Bedford, NH 03110 USA

To find the nearest Segway dealer or distributor go to <http://www.segway.com/dealer-locator/>.



## Segway SE-3 Patroller Li-ion Batteries

### *Transportation and Shipping*

Lithium-ion Batteries are regulated as “Hazardous Materials” by the U.S. Department of Transportation. For more information, contact the U.S. Department of Transportation at [www.phmsa.dot.gov/hazmat/regs](http://www.phmsa.dot.gov/hazmat/regs) or call 1-800-467-4922.

### *Disposal*

The Li-ion Batteries used in the Segway SE-3 Patroller can be recycled. Recycle or dispose of Batteries in accordance with local environmental regulations. Do not place in fire or incinerate. For more information, contact Segway at 1-866-4SEGWAY (1-866-473-4929), or visit our website at [www.segway.com](http://www.segway.com).

## Patent Information

The Segway SE-3 Patroller is covered by US and foreign patents.

For patent information go to <http://www.segway.com/patents.pdf>.

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**Notes:**

## Recommended Maintenance Schedule–SE-3 Patroller

Maintenance procedure	1x/month	1x/4 months	1x/6 months	1x/12 months
Check tire pressure: Front = 22 psi; Rear = 25 psi	●	●	●	●
Check tire wear (tread depth): Front = 2 mm; Rear = 3.8 mm	●	●	●	●
Ensure rider mat is intact, secure, and free of debris	●	●	●	●
Inspect rider controls for proper installation	●	●	●	●
Inspect charge port for condition/functionality	●	●	●	●
Battery Connector: free of corrosion and/or debris (Service Manual)	●	●	●	●
Ensure all lights are functional (Service Manual)	●	●	●	●
Inspect bodywork/fenders for cracks/obstructions/debris	●	●	●	●
Check fastener torque: Rear wheel nuts = <b>55 N-m (40 ft-lbf)</b>	●	●	●	●
Windshield: clean with a dry, lint-free cloth	●	●	●	●
Check for play in steering: Apply front brake, pull forward and backward; if play is felt vehicle needs service. <sup>3</sup>		●	●	●
Brake lever pivot: no binding or sticky action			●	●
Check brake discs for wear: 3.2 mm wear limit <sup>2</sup>				●
Check brake pad wear: replace if less than 1 mm pad material <sup>2</sup>				●

Key: ● = required, <sup>2</sup> = Performed by Level 2 trained Segway Certified Technician only, <sup>3</sup> = Performed by Level 3 trained Segway Certified Technician only



## Recommended Maintenance Schedule–SE-3 Patroller (cont.)

Maintenance procedure	1x/month	1x/4 months	1x/6 months	1x/12 months
Power on SE-3. Ensure operability and document hours/miles				●
Test ride SE-3, note wheel alignment, drift, or performance issues				●
Inspect Motor/Gearbox elastomer and coupling <sup>2</sup>				●
Replace components and update software as necessary <sup>3</sup>				
Replace brake fluid every 2 years				
Replace tires (see "Tire Wear" below) as necessary				

Key: ● = required; <sup>2</sup> = Performed by Level 2 trained Segway Certified Technician only; <sup>3</sup> = Performed by Level 3 trained Segway Certified Technician only

### Tire Wear

Excess tire wear is determined as follows:

- Front – tire tread depth is less than 2 mm
- Rear – tire tread depth is less than 3.8 mm

See "Checking Tires for Wear" (p. 61) for more information on tire wear.

# Your Segway SE-3 Patroller

Write down the important information below for quick access if needed.

<b>Serial Numbers</b>	
SE-3 Patroller Serial Number	
Battery Module Serial Number	

Dealer Name	
Dealer Contact	
Dealer Address	
Dealer Web/Email/Phone	

Owner Name	
Owner Address	
Owner Email/Phone	

## Pre-Ride Checklist – SE3 Patroller

Perform the following checks on the SE-3 Patroller before each ride:

- Check tire pressure**  
Front – 22 psi (1.52 Bar; 152 kPa)  
Rear – 25 psi (1.72 Bar; 172 kPa)
  
- Check for tire wear**  
Front – tire tread depth is less than 2 mm  
Rear – 3.8 mm (or when the tread is flush with the tread wear indicators)
  
- Ensure there is no visible damage to the SE-3 Patroller or loose bodywork.**
  
- Ensure the Rider Detect Mat is intact, secure, and free of debris.**
  
- Verify the brake levers are firm when squeezed and the brake fluid level is above the “low” mark.**  
Right – Rear brake fluid reservoir  
Left – Front brake fluid reservoir

**ProTIP:** Copy and post this page near your SE-3 Patroller parking area – check  the boxes off as you go down the list.

