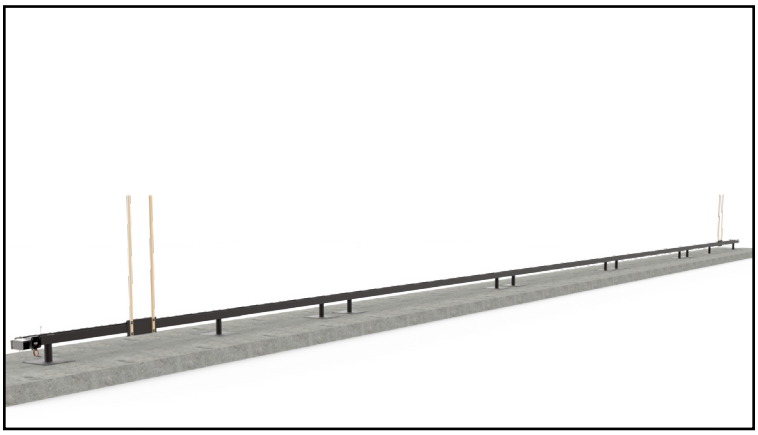
RANGE™ SYSTEMS

Pro-Runner
Installation and Operation Manual

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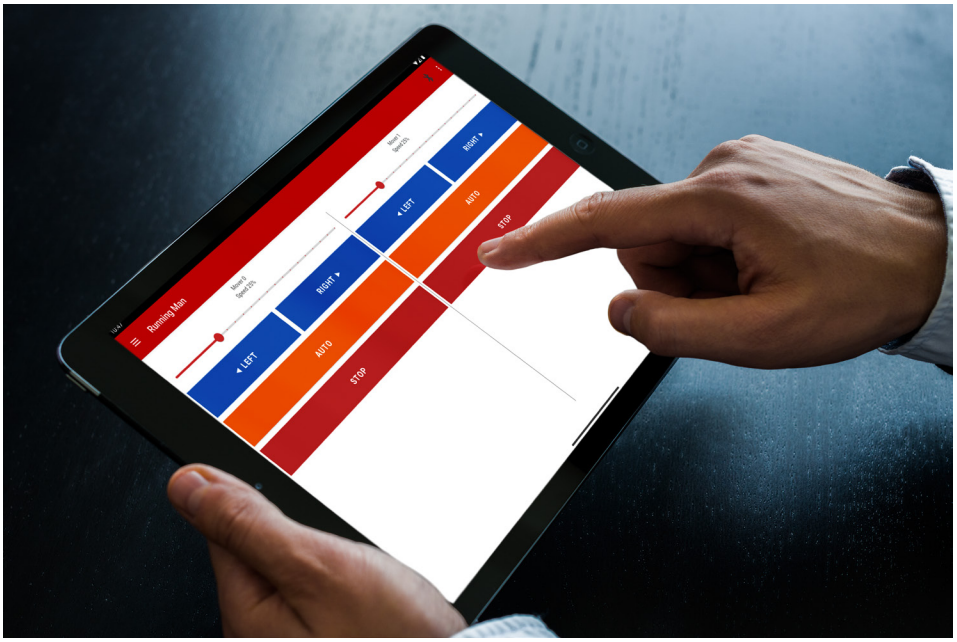
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Note: If you purchased the Pro-Tab Master Controller only, please begin on Page 9 of this manual for setup and operating instructions.



Introduction

The Pro-Runner Running Man Target System is a rail-mounted, horizontal target mover. It is designed for easy setup.

The Target Carriage and drive system mount on a single rail, allowing the operation of two independent target carriages on a single “I” beam track. Its modular construction and ease of installation make it simple to remove from the rail if maintenance is required.

The system is typically installed behind a protective knee wall, railroad ties, or a bullet berm to protect the drive components and rail from damage.

Two power options are available to accommodate different installation requirements:

Option 1: A hardwired 120-volt AC version designed for permanent installations where utility power is readily available.

Option 2: A 12-volt DC version designed for mobile applications and remote locations. This version is powered by a standard automotive battery.

The compact remote controller allows easy operation for both direction and speed control.

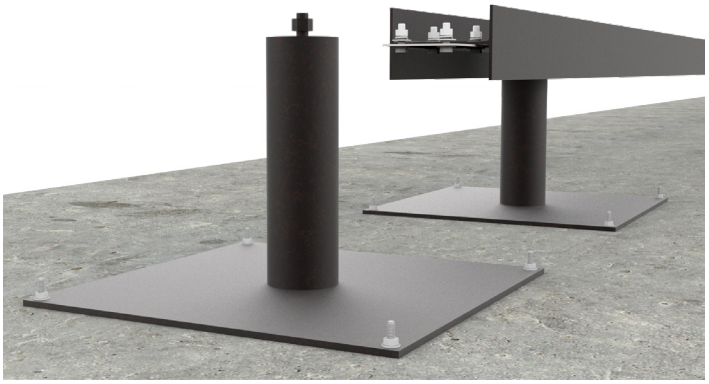
Features and Specifications

- Realistic Moving Target Training
- Modular Design
- Flexible Power Options
- Dual-Target Capability
- Low-maintenance design reduces long-term ownership costs

Setup

Before beginning setup, inspect all components to verify that all required parts are present and in good condition.

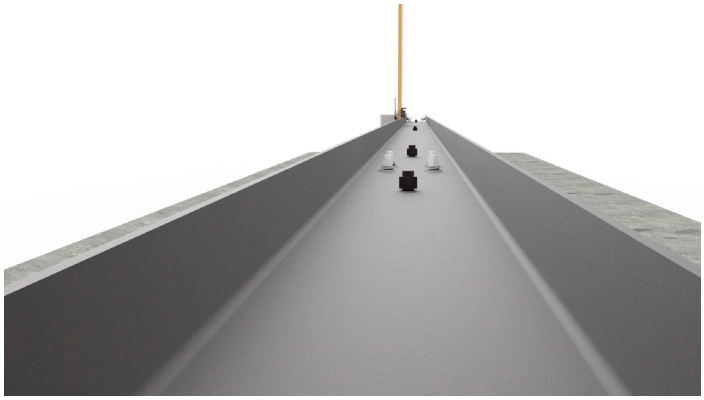
1. Track Assembly





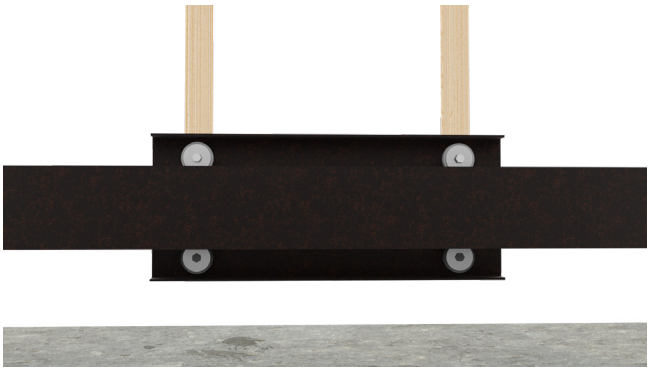
Place the legs into position and lower the I-beam onto the legs. Install a washer and tighten the bolt. Repeat the process with the next leg, continuing down each section of the I-beam. Connect the I-beams together using a backer plate on the underside and the supplied hardware as shown. Connect the following beam using the backer plate on the underside and the supplied hardware as shown.

Note: The I-beams must be properly aligned to ensure smooth carrier movement along the track. If slight inconsistencies remain at the I-beam joints after they are joined together, use an angle grinder to smooth the transition and eliminate any interference with carrier travel. Paint or other finish on the I-beam may need to be touched up after grinding.



2. Install the Target Carriage





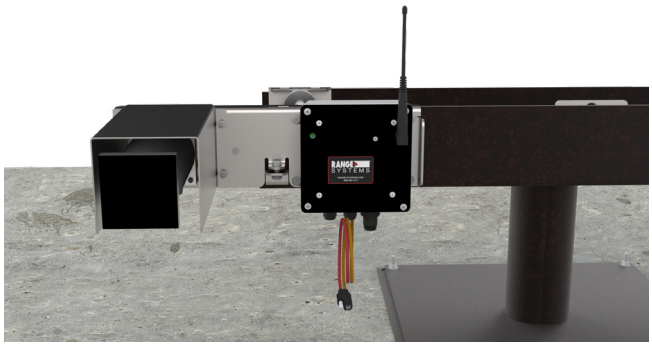
Slide the Target Carriage onto one end of the rail. Tilt the Target Carriage slightly to place the upper wheel onto the track first, then level the Target Carriage while guiding the lower wheel onto the lower rail. Holding the Target Carriage level, gently slide it onto the track while aligning the remaining wheels.

3. Adjust the Lower Track Wheel



Check the lower track wheel adjustment by lifting each end of the Target Carriage. The Target Carriage should have approximately 1/32 inch of vertical travel.
If the Target Carriage moves more than this, or if it binds or drags during movement, adjust the lower wheel position by loosening the wheel axle nuts and adjusting one wheel at a time until proper clearance is achieved.

4. Install the Motor/Controller Assembly

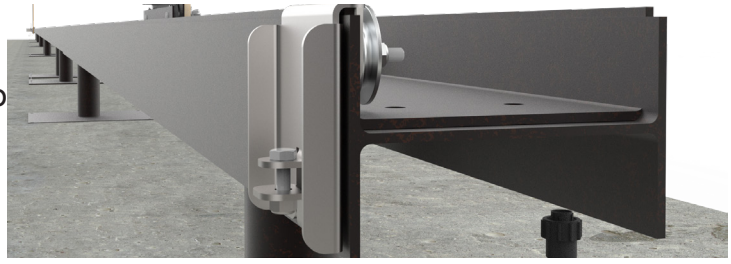




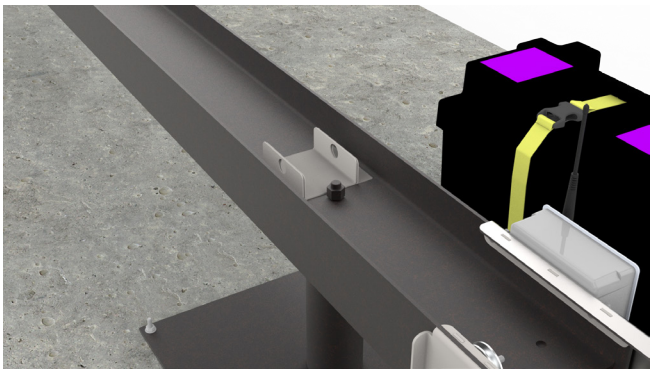
Mount the Motor/Controller Assembly to the track as shown in image. The motor and idler pulleys should be located immediately beyond the end of the rail.
Tighten the rail clamping bracket bolt only enough to securely hold the assembly in place. Excessive tightening may distort the clamp.

5. Install the Idler Assembly

Mount the Drive Cord Idler Assembly at the opposite end of the track from the Motor/Controller assembly. Position the assembly approximately 4 to 6 inches from the end of the track to allow for drive cord tension adjustment.
Refer to image to the right.



6. Install the Proximity Limit Switch Assemblies



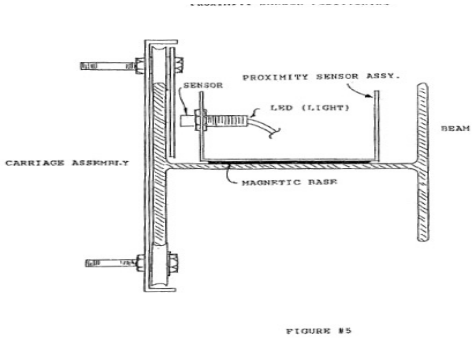


FIGURE #5

Position the Proximity Limit Switch Assemblies on the center flat section of the beam approximately 24 inches from each end assembly. Orient the sensor tip toward the carriage travel path. Position the carriage in front of the sensor and adjust the assembly so there is approximately 1/8 to 1/4 inch of clearance between the sensor and the carriage.

A small LED located on the rear of each sensor will illuminate when power is applied. The LED should change state as the carriage passes the sensor, indicating correct operation. If the sensor is positioned too close to the I-beam flange, or too far away, the LED may not activate and the target will not operate correctly.

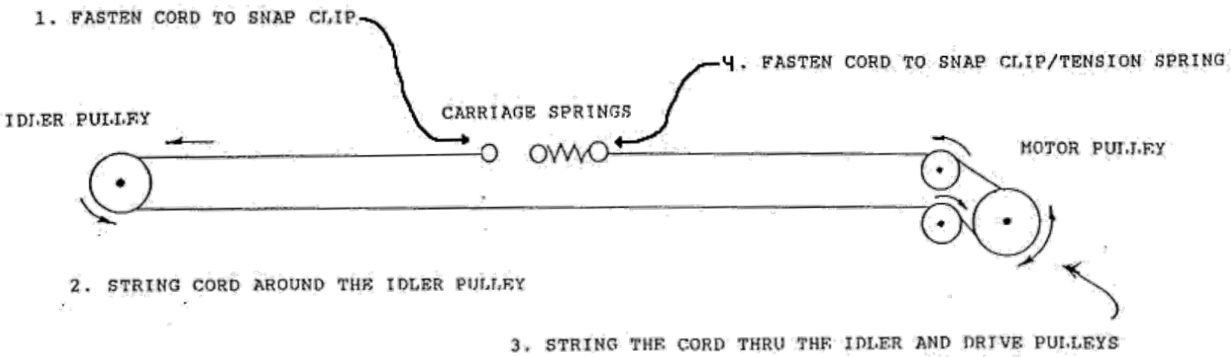
Note: The limit switch assemblies utilize magnetic bases and require no additional fasteners.

Route all Proximity Switch wiring down the center of the rail to prevent interference with the Target Carriage or drive cord movement. Eye bolts are provided for wire routing, they are field drilled and located by the installer based on project needs. The sensors stop the carriage as it passes by preventing the Target Carriage from striking either the motor assembly or the idler assembly.

7. Install the Drive Cord

1. Route the drive cord as shown in the diagram below.

DRIVE CORD INSTALLATION



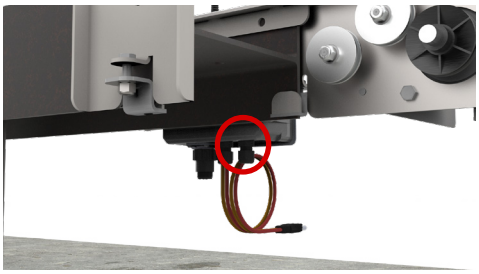
2. Slide the carriage to the idler end of the track.
3. Tie one end of the drive cord to a tension spring and connect it to a S-hook.
4. Attach the S-hook to the carriage hole nearest the idler assembly.
5. Route the cord around the idler pulley, then to the motor end through the motor assembly pulleys and back to the carriage.
6. Attach the opposite end of the cord to the second tension spring and connect it to the second S-hook.
7. Attach the other end of the tension spring to the second hole on the carriage back plate.

Note: Once the drive cord is tied to the S-hooks, you can simply unhook the S-hooks for future disassembly. If the track length is increased, install a new drive cord. Do not splice additional cord sections together.

8. Adjust Drive Cord Tension

Tension the drive cord by repositioning the idler assembly toward the end of the rail.
Proper tension is achieved when the tension springs are stretched approximately 1 to 1½ inches.

9. Connect the Proximity Sensor Cable
Connect the proximity sensor cable to the Motor/Controller Assembly.

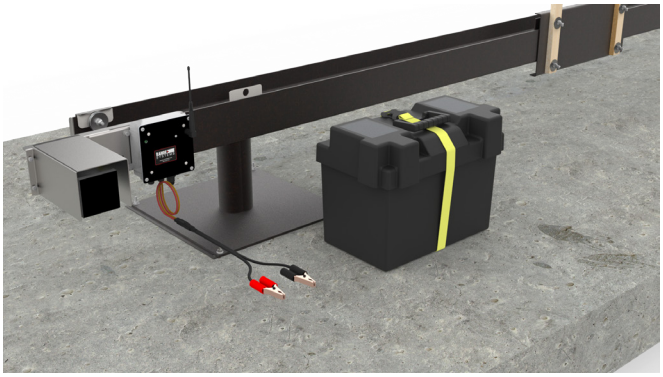


10. Connect the Control System

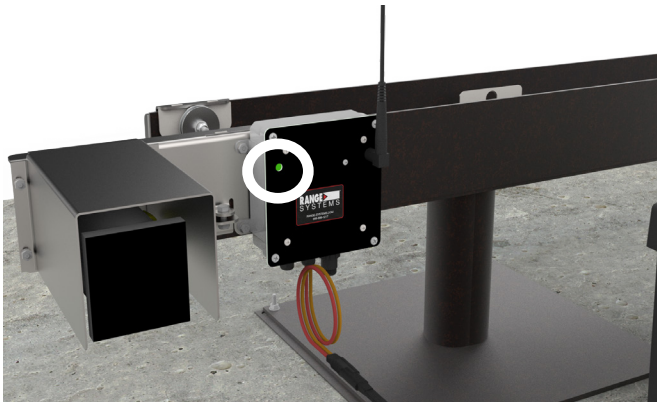
- **Wireless Transmitter Battery**
  Some units are shipped with a handheld wireless transmitter. If your unit includes the wireless transmitter, install a 9-volt battery into the transmitter's battery compartment if one is not already installed.
- **Bluetooth Controller Option**
  Some units are shipped with a tablet and Bluetooth transmitter in place of the handheld wireless transmitter. If your unit includes the tablet controller, refer to the additional tablet controller instructions provided on page 9 for setup and operation.

11. Connect Power

120-Volt Permanent Installation Version:
Connect the system to the designated hardwired 120 VAC power source in accordance with all applicable electrical codes and site requirements.



12-Volt Version:
Connect the input power leads to a 12-volt battery, paying attention to the positive and negative battery posts. An automotive battery is recommended for extended operation.



When power is correctly connected, the green indicator light on the Motor Controller will illuminate. If power polarity is reversed on the 12-volt version, the red indicator light will illuminate. If neither light is illuminated, verify all connections and check the power source.

12. Verify Proximity Sensor Operation

1. Position the carriage in front of either proximity sensor.
2. Using the Remote Controller, attempt to drive the carriage toward the nearest end of the track. The Target Carriage should not move.

If movement occurs:

1. Verify the sensor connection.
2. Confirm the drive cord routing.
3. Check sensor positioning.
4. Verify the sensor-to-Target Carriage gap is between 1/8 and 1/4 inch.

Repeat this test at the opposite end of the track.

The system is now ready for target installation and operation.

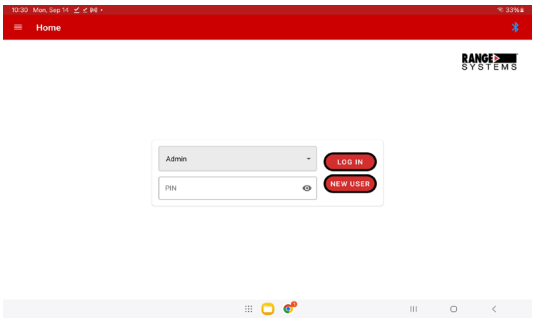
OPERATION OF THE PRO-RUNNER TARGET SYSTEM

Using the Pro-Tab Master Controller and Range Systems Targetry Software
The Pro-Tab Master Controller ships from Range Systems preconfigured for use with the Pro-Runner. The Pro-Tab tablet is paired via Bluetooth with the supplied controller transmitter, allowing the Range Systems Targetry Software to communicate with and control the Pro-Runner.

Bluetooth pairing is completed by Range Systems prior to shipment and, under normal operating conditions, does not need to be performed by the operator. When the Pro-Tab and controller transmitter are powered on, the tablet should automatically reconnect to the paired controller.

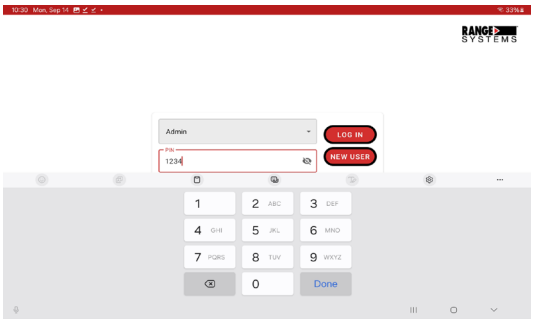
Powering On and Connecting

1. Turn on the Pro-Runner Target System.
2. Turn on the Controller Transmitter by toggling the power switch to the right, toward the antenna.
3. On your Pro-Tab Master Controller, launch the Range Systems Targetry Software.
4. Log in to the application.



Logging In

- When the Range Systems Targetry Software opens, the Home screen will display the user login.



Use the following default login information:

- **User: Admin**
- **PIN: 1234**

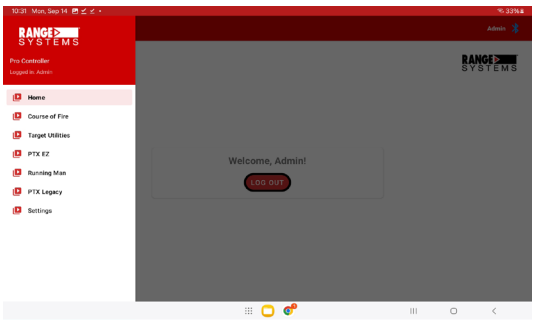
5. Once logged in, verify the Bluetooth connection by checking the Bluetooth symbol in the upper-right corner of the application. If the Bluetooth symbol is blue, the Controller Transmitter is connected and ready for operation.



Note: If the symbol is gray, verify that the Controller Transmitter is powered on and within range of the Pro-Tab Master Controller.



6. Press the hamburger menu icon in the upper-left corner of the application and select Running Man.



IMPORTANT: Always verify that the Pro-Runner's complete travel path is clear of personnel, equipment, and other obstructions before commanding movement.

The Running Man screen displays controls for a dual running man target system, allowing two targets to be operated independently from the same Pro-Tab Master Controller.



If your system is equipped with only one Running Man target system, use the left-side controls to operate your target. The right-side controls will not be used.

Each mover has its own Speed, LEFT, RIGHT, AUTO, and STOP controls.

Setting the Travel Speed
The Speed slider located at the top of each mover's control panel determines the travel speed of that Pro-Runner. The selected speed is displayed as a percentage above the slider.

Move the slider to the desired speed before initiating movement.

When testing the Pro-Runner or operating it in a new training area, begin at a reduced speed to verify proper operation and ensure the travel path is clear.

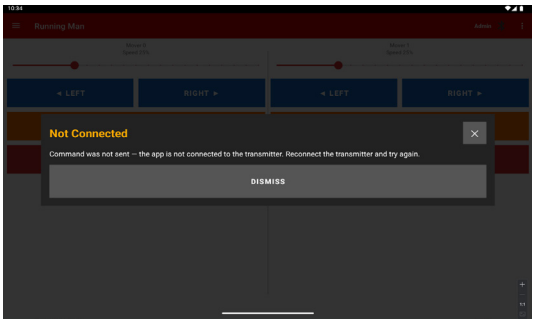
Manual Movement
Use the blue LEFT and RIGHT buttons to manually move the selected Pro-Runner in the corresponding direction.

Before commanding movement, verify the direction of travel and confirm that the entire path is clear.

Automatic Mode
Note: For AUTO mode to operate properly, the target cannot be positioned at the far-right end stop. Before selecting AUTO, move the target away from the far-right position.
Press the orange AUTO button to activate automatic movement for the selected Pro-Runner.
While operating in Auto mode, the operator should maintain visual awareness of the Pro-Runner and its travel area throughout the exercise.

Stopping the Pro-Runner
Press the red STOP button to stop movement of the selected Pro-Runner.
The operator should remain prepared to use the STOP control whenever movement needs to be interrupted during an exercise.

Bluetooth Connection and “Not Connected” Warning
The Pro-Tab communicates with the Pro-Runner system through the Bluetooth-paired controller. If communication between the Pro-Tab and controller is lost, the Targetry Software will display a Not Connected warning:



> Not Connected
> Command was not sent — the app is not connected to the transmitter. Reconnect the transmitter and try again.

If this warning appears, press DISMISS and verify that the controller is powered on and within Bluetooth range of the Pro-Tab. Allow the Pro-Tab to reconnect to the previously paired controller before attempting another command.

Do not assume a movement command was received when a Not Connected warning is displayed. Re-establish communication and verify proper operation before continuing the training exercise.

NOTE: The Pro-Tab and controller are Bluetooth paired by Range Systems prior to shipment. Do not pair the Pro-Tab with a different controller or modify the Bluetooth configuration unless instructed by Range Systems.

Before Beginning a Training Exercise
Before each training exercise, verify that the Pro-Runner and controller are powered on, the Pro-Tab is connected to the controller, the correct target system is selected, the desired travel speed is set, and the complete travel path is clear. Perform a brief operational check using the LEFT, RIGHT, and STOP controls at a reduced speed before beginning the exercise.

End of Day Charging
At the end of each day, be sure to fully charge both the Bluetooth transmitter and tablet to ensure they are ready for use the following day.