



# Exit-Side Lockout Kit

## 2024 or 4045 Directional Drill

Model No. 130-4452

## Operator's Manual

# Introduction

The exit-side lockout transmitter and receiver is designed to remotely stop and lockout the user controls of a directional drill.

Read this information carefully to learn how to operate and maintain your machine properly and to avoid injury and equipment damage. You are responsible for operating the machine properly and safely.

You may contact Toro directly at [www.Toro.com](http://www.Toro.com) for product and accessory information, help finding a dealer, or to register your product.

This manual identifies potential hazards and has safety messages identified by the safety alert symbol (Figure 1), which signals a hazard that may cause serious injury or death if you do not follow the recommended precautions.



Figure 1

1. Safety alert symbol

This manual uses 2 words to highlight information.

**Important** calls attention to special mechanical information and **Note** emphasizes general information worthy of special attention.

This product complies with all relevant European directives. For details, see the separate product-specific Declaration of Conformity (DOC) sheet.

This product may contain material that may be hazardous to human health and the environment. In compliance with EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE):

- Do not dispose of the product as unsorted municipal waste.
- This product should be recycled in accordance with local regulations. Contact local authorities for detailed information.
- This product may be returnable to the distributor for recycling. Contact your distributor/dealer for details.

### FCC Statements

#### 15.19 – Two Part Warning

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

#### 15.21 – Unauthorized Modification

**NOTICE:** The manufacturer is not responsible for any unauthorized modifications to this equipment made by the user. Such modifications could void the user's authority to operate the equipment.

#### 15.105(b) – Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

### Industry Canada Statement

This device complies with Canadian RSS-210.

The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's website [www.hc-sc.gc.ca/rpb](http://www.hc-sc.gc.ca/rpb).



# Safety

Improperly using or maintaining this equipment can result in injury. To reduce the potential for injury, comply with these safety instructions. Toro tested this equipment for reasonably safe service; however, failure to comply with the following instructions may result in personal injury.

To ensure maximum safety, best performance, and to gain knowledge of the product, it is essential that you and any other operator read and understand the contents of this manual before using this product. Pay particular attention to the safety alert symbol (Figure 1), which means Caution, Warning, or Danger—"personal safety instruction." Read and understand the instruction because it has to do with safety. Failure to comply with the instruction may result in personal injury.

- Failure to abide by these precautions may result in equipment failure and personal injury.
- Use and maintain proper wiring. Improper, loose, and frayed wiring can cause system failure, equipment damage, and intermittent operation.
- Changes or modifications made to equipment not expressly approved by the manufacturer will void the warranty.
- Owner/operators of the equipment must abide by all applicable Federal, State, and Local laws concerning installation and operation of the equipment.
- Make sure that the machinery and surrounding area is clear before operating. Do not activate the remote control system until certain that it is safe to do so.
- Turn off the handheld remote and remove power from the base unit before attempting any maintenance. This will prevent accidental operation of the controlled machinery.
- Power is removed from the Base Unit by detaching the 12-pin cable from the base unit connector P1, or by removing the source power from the circuit.
- Use a damp cloth to keep units clean. Remove mud, concrete, dirt, etc. after use to prevent obstructing or clogging the buttons, levers, wiring, and switches.
- Do not allow liquid to enter the handheld or base unit enclosures. Do not use a high pressure washer to clean the equipment.
- Disconnect the radio base unit before welding on the machine. Failure to disconnect the base unit may result in destruction of or damage to the base unit.
- Operate and store units only within the specified operation and storage temperatures defined in this document.

# Product Overview

## Controls

### Exit-Side-Lockout System

The exit-side-lockout system provides the individuals working around the machine with a means to disable the drill pipe from rotating and thrusting.

This system consists of a receiver mounted on the machine and a transmitter (Figure 2) that must be held by a designated individual working around the machine.

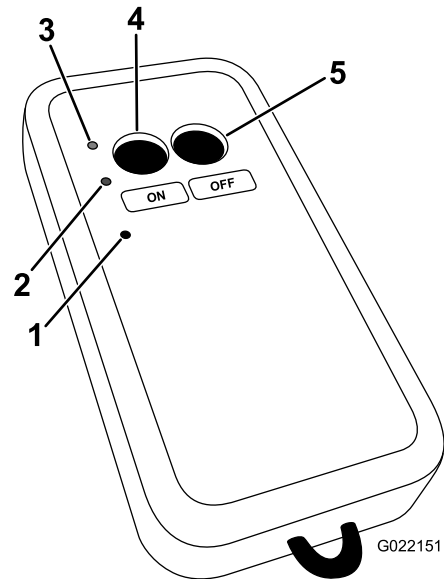


Figure 2

- |                           |               |
|---------------------------|---------------|
| 1. Red indicator light    | 4. On button  |
| 2. Yellow indicator light | 5. Off button |
| 3. Green indicator light  |               |

The individual holding the transmitter can push the Lock Drill (Off) button to stop the drill rotation and thrust. This is primarily used to stop/lockout the drill operations in the following situations:

- When installing or removing a drill head or reamer
- Whenever someone needs to approach the drill pipe or head anywhere in front of the machine
- Placing a wiper on the drill pipe
- When the location receiver operator identifies a problem requiring immediate shutdown of drilling

When it is safe to resume drilling, the individual holding the transmitter can press the Unlock Drill (On) button. This button sends a signal to the receiver that allows the machine operator to reset the system and restore the thrust and rotary functions.

# Specifications

## Handheld Unit

Batteries	3 AAA
Auto shutdown	After 2 hours of inactivity
Low battery warning	3.3 V and below
Low battery shutdown	3.1 V
Operating temperature	-20 to 55 degrees C (-4 to 131 degrees F)
Storage temperature	-40 to 55 degrees C (-40 to 131 degrees F)
Radio frequency	2405 to 2480 MHz
Radio RF power	2 mW (2.4 GHz)
Radio license	Not required
Modulation	DSSS
Antenna	Internal

## Base Unit

Radio frequency	2405 to 2480 MHz
Radio RF power	2 mW (2.4 GHz)
Radio license	Not required
Modulation	DSSS
Antenna	Internal
Operating temperature	-20 to 55 degrees C (-4 to 131 degrees F)
Storage temperature	-40 to 55 degrees C (-40 to 131 degrees F)

# Operation

## Handheld Indicator Lights

The following table lists the various states of the indicator lights on the handheld transmitter (Figure 2) and their meanings:

Indicator Light State	Meaning
Green light is blinking rapidly	The transmitter is transmitting to the base unit
Green light is illuminated without blinking	A button on the transmitter is currently pressed
Yellow light is blinking slowly	The batteries are low; change the batteries. If you do not change the batteries soon, the handheld will power down.
Red light is blinking	The transmitter is actively receiving messages from the base unit.

# Replacing the Transmitter Batteries

1. Loosen the four screws securing the battery cover (Figure 3).

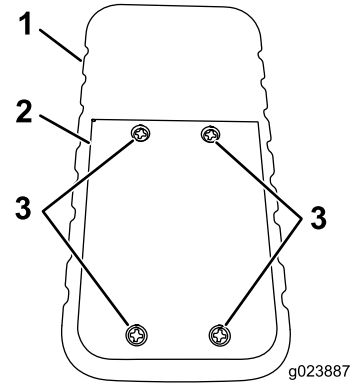


Figure 3

1. Handheld transmitter
2. Battery cover
3. Screws

2. Remove the cover (Figure 4).

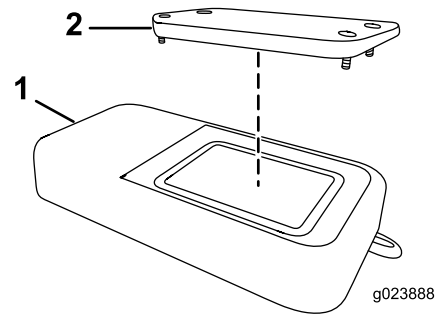


Figure 4

1. Handheld transmitter
2. Battery cover

3. Remove the existing batteries.
4. Install 3 new, AAA batteries in the orientation shown in Figure 5.

**Important:** Ensure that you install the batteries in the correct polarity orientation or you could damage the transmitter.

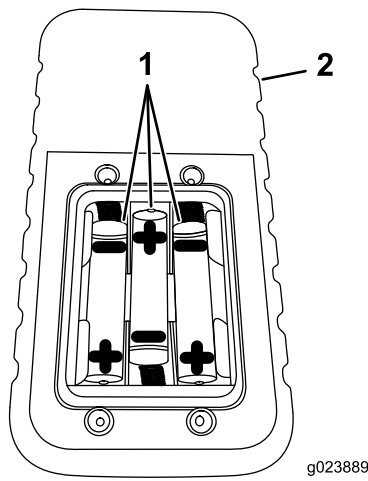


Figure 5

1. Handheld transmitter      2. AAA batteries

5. Replace the cover and secure it with the screw removed previously.

Tighten the screws enough to ensure that the sealing gasket is compressed, but do not over tighten them.

## Associating the Handheld Transmitter with the Base Unit

If the handheld transmitter ever stops communicating with the base unit, or if you replace it with a new transmitter, you need to associate the transmitter to the base unit as follows:

1. Ensure that the machine is turned off.
2. Ensure that the handheld transmitter is not active (i.e., no lights are on).
3. Stand near the rear control panel of the machine.
4. Simultaneously press and hold the On and Off buttons.

The Green light illuminates.

5. Continue holding the buttons until the Yellow light begins flashing, then release the buttons.

The Red light begins flashing allowing you 2 seconds to press the next button.

6. Press and hold the On button

The Red light turns off and the Green and Yellow lights illuminate.

**Important: If you do not press this button within 2 seconds, you will have to start this procedure over again.**

7. Continue holding the On button and turn on the machine to power the base unit.

The base unit and handheld establish a communication link while you hold the button. Once the process is complete, the Yellow light turns off, the Red light

begins flashing, and the Green light illuminates. All lights remain as mentioned until you release the button.

8. Release the On button.

The Red light turns off and the Green light flashes for a few seconds.

## Disassociating all Handheld Transmitters from the Base Unit

**Important: Completing this procedure will disassociate all transmitters from the base unit, which will need to be associated again before they will function.**

1. Ensure that the machine is turned off.
2. Ensure that the handheld transmitter is not active (i.e., no lights are on).
3. Stand near the rear control panel of the machine.
4. Simultaneously press and hold the On and Off buttons.

The Green light illuminates.

5. Continue holding the buttons until the Yellow light begins flashing, then release the buttons.

The Red light begins flashing allowing you 2 seconds to press the next button.

6. Press and hold the Off button

The Red light turns off and the Green and Yellow lights illuminate.

**Important: If you do not press this button within 2 seconds, you will have to start this procedure over again.**

7. Continue holding the Off button and turn on the machine to power the base unit.

The base unit and handheld establish a communication link while you hold the button. Once the process is complete, the Yellow light turns off, the Red light begins flashing, and the Green light illuminates. All lights remain as mentioned until you release the button.

8. Release the Off button.

The Red light turns off and the Green light flashes for a few seconds.