User Manual:
Toro Commercial Equipment Remote

FCC ID: OF7PFB1 IC: 3575A-PFB1

Models: 44538
07066

The Toro Commercial Equipment Remote (TCER) is a handheld transmitting Remote and equipment mounted Receiver controller designed to operate wireless capable Toro Power Equipment remotely. All installation, operation and service instruction must be followed to insure safe and proper use of the wireless devices and power equipment.

Remote Receiver:

The TCER is interfaced with equipment through the two multi-pin connectors designated as P1 and P2. In order to allow proper operation of the Receiver module, the antenna is permanently attached to the Receiver module and its orientation is shown below in Figure 1. The Receiver module gets mounted high on the equipment with the antenna away from metallic objects allowing visibility to desired operator use locations. A preconfigured mounting location is present on the Remote capable equipment and the equipment control wires will only connect at that location.

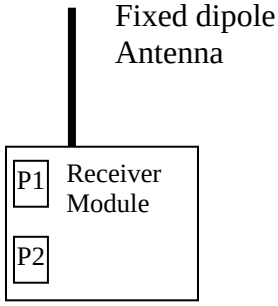

Figure 1: Receiver Module

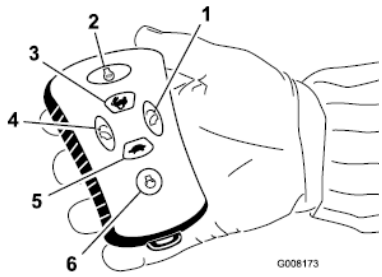

Figure 2: Handheld Transmitter

The Receiver module connector pins are shown in the schematics and drawings and are connected to host equipment at the designated mounting location. The Receiver module power of 7-30 Vdc is supplied by the host equipment and all Relay driven outputs, isolated from the Receiver circuitry, are interfaced via the P1 and P2 connectors. Voltages below 6 volts will result in the Receiver entering a standby then shutdown mode until the input voltage rises within proper operating specifications. The antenna should not be modified and must not be co-located or operated in conjunction with any other antenna or transmitter.

Handheld Remote Transmitter:

The handheld Remote Transmitter (figure 2) consists of 6 buttons, an internal PCB loop antenna and is powered by three 1.5 volt alkaline AAA batteries. The transmitter operation will cease after the combined battery voltage drops below the operational

threshold. The batteries should be replaced immediately when range performance decreases or operation ceases. An LED indicates when the unit is sending.

Installation and Operating Instructions

To install the Receive Module:

1) Turn the machine off and disconnect the Equipment's positive battery cable.
2) Mount the Receiver module using the 2 machine screws to the designated mounting location on the power equipment. The antenna faces up as shown in Figure 1 above.
3) Plug the 2 electrical cables firmly in to P1 and P2 on the receiver module. The electrical cables are different sizes and are keyed so they will only be installed correctly in the noted position.
4) Reconnect the Equipment's positive battery cable.
5) Turn the Equipment's key switch on a note the power LED illuminate on the Receiver Module.
6) Press a button on the Remote transmitter and observe the corresponding Receiver LED illuminate and Relay energize.

Learning a new transmitter:

1) To have the Receiver learn a new Transmitter, temporarily short the unconnected P1:1 cable to ground until the Signal LED blinks quickly.
2) Press any key on the new Transmitter until the LED stops blinking.
3) The Receiver will not only recognize the new Transmitter.

Replacing the hand held Remote transmitter batteries:

1) Open the Transmitter by removing the 6 phillips head screws on the back of the case.
2) Replace the three 'AAA' batteries with three NEW batteries . NOTE: Never mix old and new or different manufacturer's batteries.
3) Reinstall the transmitter cover with the 6 removed screws.

Specifications:

Operational frequency 433Mhz
Typical communication range is ~50 feet
Receiver: powered and interfaced with Remote ready power equipment
Receiver power supply: 7-30Vdc, 50mA
Transmitter power: (3) replaceable AAA batteries

FCC and IC Statement

Important Note

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Electromagnetic Compatibility

Domestic: This device complies with FCC rules Part 15. Operation is subject to the following two conditions: (1) This device may not cause harmful interference and (2) this device must accept any interference that may be received, including interference that may cause undesirable operation.

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a FCC Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause 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 the receiving antenna, relocate the remote control receiver with respect to the radio/TV antenna or if applicable plug the controller into a different outlet so that the controller and radio/TV are on different branch circuits.
If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:
"How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington, DC 20402. Stock No. 004-000-00345-4.

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Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Caution: The user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.