



Reel Reverser Unit



Installation & Operation

MANUFACTURED BY PGI INTERNATIONAL

Form IOM-RSD-RUH, Revision 02

Introduction

Standard Features:

- Reverses hose reel motor allowing the operator to easily pull off hose from the reel
- Environmentally sealed aluminum enclosure with water tight wire seals for external installation
- 70 amp manual reset circuit breaker provides increased safety
- Includes control harness to RSD-R6 receiver
- Rewind button wired through reverse control to prevent short circuit when rewind and unwind buttons are pressed at the same time

RSD Reel Reverser Unit Description

The RSD reel reverser unit allows the Electric Hose Rewind Motor to be reversed, making it easy for the operator to un-spool the hose from the reel.

To reverse the reel, press and hold the RSD transmitter UNWIND button. High current solenoid contactors in the Reverser Unit will route power to the motor in a reverse polarity, running the reel in the un-wind direction as long as the UNWIND button is held down. Releasing the button removes power from the motor. The rewind button, located next to the reel, activates a different set of solenoid contactors to allow the reel motor to operate normally and coil the hose onto the reel. The hose reel rewind button is wired through the RSD receiver channel 4 relay to prevent a short circuit if the rewind button and the RSD transmitter UNWIND button are pressed at the same time. The Reverser Unit includes a 70 amp circuit breaker with a manual reset button for increased safety.

Installation Considerations

WARNING!

Disconnect the positive (+) cable from the truck battery prior to installing any electronic device. Failure to do so could result in serious injury or death.

WARNING!

All wiring must comply with local codes and regulations and be done by a certified installer. Extremely dangerous currents can be developed if not installed properly.

- Locate the Reverser Unit as close to the hose reel motor as possible.
- Use 4 gauge or larger wire for battery and reel motor connections.
- Use 18 gauge or larger wire for the reel rewind button.
- Keep battery and hose reel connections as short as possible.
- Reverser Unit enclosure **MUST** be electrically connected to chassis ground.
- Make sure all wires are routed away from moving parts to prevent excessive wear or damage to the wiring during operation.
- Use a meter to check connections before applying power.

WARNING!

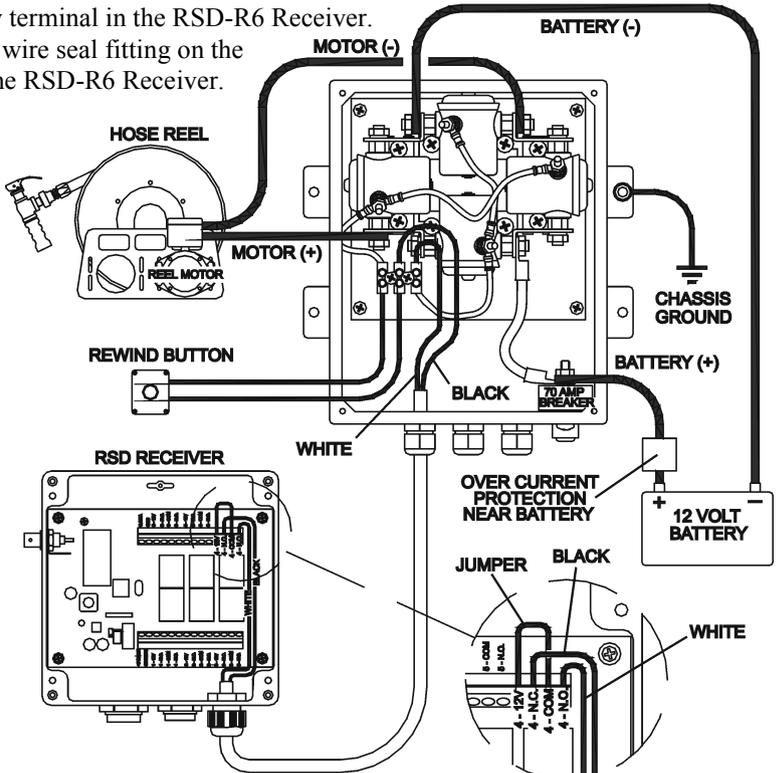
Double check all wiring before re-connecting battery cable.

Reverser Unit Location

The reverser unit should be mounted as close to the reel motor as possible to minimize the wire lengths to the motor. If possible, mount the enclosure on the truck frame to ensure a good electrical connection to the chassis ground. Mounting position should allow access to the cover with the wire fittings and circuit breaker reset button pointed downward. It is important that the enclosure make a good electrical connection to chassis ground. Use an ohm meter to make sure there is a good connection between the enclosure and the truck frame after it is mounted.

RSD-R6 Receiver Connections

- Inside the RSD-R6 Receiver, install a short jumper from the 4-12V screw terminal to the 4-COM. This jumper may already be installed.
- Route the control cable from the Reverser Unit to the Receiver.
- Remove the hole-plug on the bottom side of the Receiver and install the wire seal fitting.
- Route the reverser control cable through the wire seal fitting.
- Trim the cable allowing for enough wire to make the connections on the channel 4 screw terminals (see diagram).
- Strip back the black rubber jacket of the control cable back to the wire seal fitting.
- Strip the ends of the white and black control cable wires about ¼" long.
- Connect the control cable black wire to the 4-NC screw terminal in the RSD-R6 Receiver.
- Connect the control cable white wire to the 4-NO screw terminal in the RSD-R6 Receiver.
- Tighten the wire seal fitting on the bottom of the RSD-R6 Receiver.



Rewind Button Connections

Use 18 gauge or larger wire to make the connections from the rewind button to the Reverser Unit. A jacketed two-conductor cable, similar to the control cable, will make a better seal through the reverser wire seal fitting.

- Route the two wires from the rewind button, located near the hose reel, through one of the wire seal fittings on the bottom of the Reverser Unit.
- Connect the two wires to the two far left terminals of the screw terminal block inside the Reverser Unit (see diagram).

Motor Connections

Use 4 gauge or larger wire for the motor connections. Wire end connections should be made with crimp-on or solder-on terminal lugs with a 5/16" hole. Keep leads as short as possible and clear from any moving parts.

- Connect a red wire from the MOTOR (+) solenoid terminal, inside the Reverser Unit, through one of the wire seal fittings, to the reel motors positive terminal.
- Connect a black wire from the MOTOR (-) solenoid terminal, inside the Reverser Unit, through one of the wire seal fittings, to the reel motors negative terminal.

Battery Connections

IMPORTANT!

Power to the Reverser Unit must be routed through an over current protection device.

Use 4 gauge or larger wire for the motor connections. The BATTERY (-) wire end connection should be made with crimp-on or solder-on terminal lug with a 5/16" hole. The BATTERY (+) wire end requires a crimp-on or solder-on terminal lug with a 1/4" hole. Keep leads as short as possible and clear from any moving parts.

- Route a red wire through one of the wire seal fittings on the bottom on the Reverser Unit.
- Connect the red wire, using a wire lug with a 1/4" bolt hole, to the circuit breaker inside the Reverser Unit.
- Tighten the wire seal fitting.
- Route the red wire to the truck battery circuit protection device located near the battery, keeping the wire free from pinch points and areas that could damage the wire.

IMPORTANT!

**At this point the installer should go back and verify all connections.
The final step, connecting BATTERY (-),
will complete the power circuit to the Reverser Unit.**

WARNING!

**The battery positive lead is connected to the Reverser Unit and the Reverser Unit Enclosure is at a ground potential.
Be careful not to short the BATTERY (+) solenoid terminal to the Reverser Unit Enclosure.**

- Connect the red wire to the over current protection device near the battery, NOT ON THE BATTERY SIDE.
- After verifying all of the connections, attach a black lead to the BATTERY (-) solenoid terminal inside the Reverser Unit.
- Route the wire through the wire seal fitting on the bottom of the Reverser Unit.
- Tighten the wire seal fitting.
- Attach the black wire to chassis ground on the truck frame. Make sure the connection point is clean, bare metal to make a good electrical connection. One of the enclosure mounting bolts makes a convenient grounding location if the enclosure is bolted to the truck frame.

Reverser Operation and Test

The reel motor will operate **only** when the RSD-R6 receiver is armed. Check the receiver status LED to make sure the receiver is armed before testing. The LED is on solid when the receiver is armed.

WARNING!

Always disconnect battery power while making connections.

1. To un-spool the hose from the reel, press and hold the RSD transmitter UNWIND button while pulling on the hose. If the motor direction is backward, carefully reverse the MOTOR (+) and MOTOR (-) leads inside the reverser unit.
2. Release the transmitter UNWIND button to stop the reel motor.
3. Press and hold the reel rewind button to verify that the motor rotates to wind the hose back onto the reel.
4. Run the reel motor several times and then check the motor lead and battery lead connections. A poor connection can be easily detected by carefully touching the wire terminals. If the connections are warm, this is a sign of a poor connection and the unit could fail if not repaired. Replace any wire terminals that heat-up after running the motor.