

Universal Upfitter Wiring 13 Pin, Headlight Control

Part No. MSC25013

Installation Instructions

Safety

A WARNING

Incorrectly routing the battery cable could cause sparking and the battery gasses to explode, which could result in death or serious injury.

- Always disconnect the negative (black) battery cable before disconnecting the positive (red) cable.
- Always connect the positive (red) battery cable before connecting the negative (black) cable.

Installation

A DANGER

Moving engine parts become extremely hot and could cause severe burns.

Shut off the engine and allow it sufficient time to cool down before installing this kit.

A DANGER

Vehicle batteries can cause dangerous electrical shocks that could lead to severe burns or death.

Disconnect your battery before installing this kit.

Note: Apply dielectric grease to all electrical connections.

Determine the left and right sides of the machine from the normal operating position.

- 1. Park the vehicle on a level surface.
- Engage the parking brake.
- 3. Shut off the engine, remove the key, wait for all moving parts to stop, and allow the vehicle to cool.
- Disconnect the battery.
- Ensure that the vehicle firewall is clear of obstructions.

A CAUTION

Using a drill without wearing eye protection may allow debris to enter the eye, causing personal injury.

When drilling, always wear eye protection.

6. Drill a 3 cm (1-1/4 inch) diameter hole through the firewall on the driver side of the vehicle.

Note: The hole should be in an easily accessible area.

Insert the split rubber grommet into the hole.



8. Pull the plow-controller connector, black/red wire, and the tractor-light harness through the hole in the firewall.

Important: Ensure that all wiring is secured in a position that avoids hot or moving parts to prevent damage to the vehicle or plow.

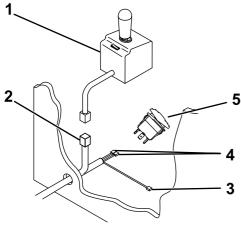
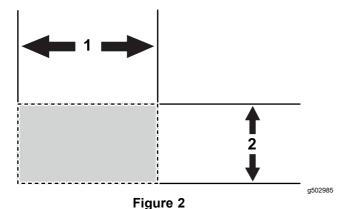


Figure 1

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- 1. Plow controller
- 4. Tractor-light harness
- Controller connector
- 5. 3-position rocker switch
- 3. Black/red wire
- On the dashboard, determine where you will mount the 3-position rocker switch. Use the dimensions in the template below to mark and cut out the portion of the dashboard where the switch will be mounted.



Panel cutout shape

- 1. 37 mm (1.46 inches)
- 2. 21.1 mm (0.83 inches)
- 10. Pull the tractor-light harness through the 3-position rocker switch hole in the dashboard. Connect the wires to the switch poles as described below:
 - Attach the black wire to the center pole.
 - Attach the red wire to the bottom pole.
 - Attach the blue wire to the top pole.

- 11. Install the 3-position rocker switch into the hole in the dashboard.
- 12. Cut connector from the high-beam indicator and strip the ends of wires.
- Using a posi-tap wire connector, connect the white/black wire from the high-beam indicator to the black/red wire from the RAM upfitter harness.
- Connect the black/red wire to a keyed 12V+ ignition source.

Note: Connecting the wire to a source that is not keyed can cause the battery to drain.

- 15. Using a posi-tap wire connector, connect the black wire from the high-beam indicator to the blue wire of the tractor-light harness in the cab of the vehicle.
- 16. Determine where you will mount the high-beam indicator on the dashboard and clean the area thoroughly.

Note: Allow the area to dry completely after cleaning.

- 17. Remove the adhesive backing and press the indicator to the clean area of the dashboard for 30 seconds.
- Plug the controller connector into the plow controller.

A DANGER

The controller could cause serious injury if contacted during a crash.

Mount the controller in a location that vehicle occupants will not contact during a crash.

19. Mount the plow controller.

Note: Mount the controller in the cab in a dry area where it does not interfere with vehicle operation or visibility.

- 20. Mount the pump solenoid inside the engine compartment of the vehicle, ensuring that it stays in an upright position and does not contact the body, hood, or other conductive material on the vehicle.
- 21. Connect the white/black wire from the wire harness to the small post on the pump solenoid.

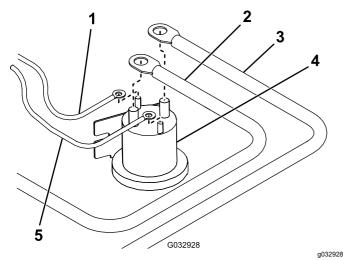


Figure 3

- 1. White/black wire
- 4. Pump solenoid
- 2. Battery cable
- 5. Brown wire
- 3. Red power/ground cable
- 22. Connect the brown wire from the wire harness to the other small post on the pump solenoid.

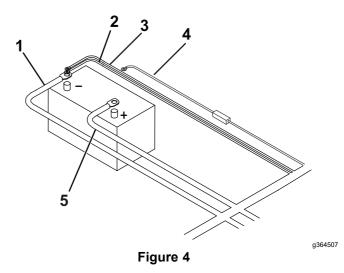
Note: The wires may go on either small post, but should not share a post.

- 23. Connect the red power/ground cable to the large post on the pump solenoid.
- 24. Connect the battery cable to the other large post on the pump solenoid.

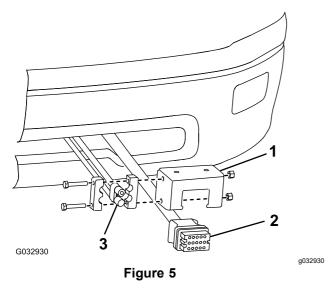
Note: The wires may go on either large post, but should not share a post.

25. Connect the black power/ground cable to the negative (-) battery terminal.

Note: For 2019 and newer vehicles, grounding to the engine block is recommended.

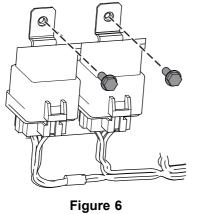


- 1. Black power/ground cable
- 4. Red/white fused wire
- 2. Brown wire
- 5. Red power/ground cable
- 3. White/yellow wire
- 26. Connect the brown wire to the negative (-) battery terminal.
- 27. Connect the free end of the battery cable to the positive (+) battery terminal.
- 28. Connect the red/white fused wire to the positive (+) battery terminal.
- 29. Locate the upfitter wires on the controller wire harness.
- 30. Connect the red upfitter wire and yellow upfitter wire to the red wire on the tractor-light harness.
- 31. Connect the blue upfitter wire to the blue wire on the tractor-light harness.
- 32. Locate the trailer wiring fuses on the fuse box in the engine bay. If trailer wiring turn signal fuses are not available, locate left and right turn signal wires.
- 33. Complete 1 of the 2 steps below:
 - Using fuse taps, connect the violet upfitter wire to the driver-side trailer turn signal fuse and then connect the pink upfitter wire to the passenger-side trailer turn signal fuse.
 - Using bullet style taps, connect the violet upfitter wire to the driver-side trailer turn signal wire and then connect the pink upfitter wire to the passenger-side trailer turn signal wire.
- 34. Connect the black wire from the tractor-light harness to the negative (-) battery terminal.
- 35. Mount the truck-side, wire harness plow connector to the lower part of the bumper using the control-harness mounting bracket.



- 1. Control-harness mounting 3. Power/ground connector bracket
- 2. Plow connector
- Mount the black and red power/ground 36. connector to the control-harness mounting bracket.
- Mount the relay pack to the inside of the engine 37. compartment using 4 sheet-metal screws.

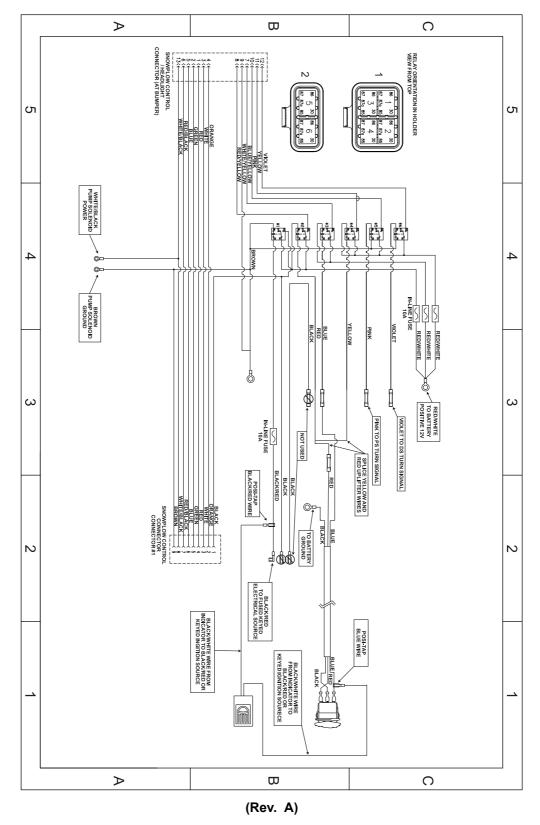
Note: Ensure that the relay pack is mounted in the upright position.



Secure the wire harness with cable ties.

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Schematics



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