Multiplexing system installation

(the control module installed under power unit (pump cover))

53618-M

(it requires light kit 800084, 800085 or 800086)
Installation of Multiplexing System

Warning:

- Top of battery needs to be protected. If positive side of battery is accidentally grounded person could be burnt or wiring system can be damaged, or battery gasses could explode causing injuries.
- Disconnect cable from negative battery terminal before starting installation.
- Always wear eye protection and protective clothing when working around hydraulic systems.
- Remove jewelry and objects that might conduct electricity while working on power units.
- Fluid under pressure can pierce the skin and enter the bloodstream causing death or serious injury.
- Hydraulic hoses and electrical cables (harnesses) must be tied and routed safely to avoid any damage and pinching (away from hot places, sharp objects etc.).
- When drilling mounting holes or using self-tapping screws in the engine compartment, be sure to check the mounting location for any wires, hoses other obstructions that could be damaged during installation.

Electrical installation of MPX system

1. For Low Lift Frame M3493, first install plow antlers, braces and lights. For the curb side brace, insert the bottom ½” bolt from inside (only on the curb side) - see the pictures below.
2. Install the module on the bracket and attach the lift frame harness to the module. Install the pump plate on Hi Boy, with bolts inserted as show on the picture.

3. Install the module bracket inside of pump housing using 2 x 5/16” bolts, flat-washers and nuts.

M3493 Low Lift Frame
Hi boy Lift Frame
4. Install lights. Using cable ties secure the light harness to the lift frame. Insert the light plugs into the pump cover housing.

5. Install the power unit and secure it with 2 x 3/8” bolts and lock washers – using holes on the back side. (apply removable grade Loctite to 3/8” bolts to fasten power unit to the pump plate).

If M3493 is installed on High Boy install the spacer plate using ¼” bolt and nut.
6. Install red terminal protector on cable and plug assembly (7). Attach red lead of the cable and plug assembly to positive motor stud and black lead to the pump base using 5/16” bolt (19)(20). Liberally coat connections with dielectric grease then slide cover over the eye on the end of the cable.

7. Secure the lift frame harness and bring it toward the driver side.
8. Plug the light connectors inside of the pump cover and secure them using zip ties. Connect the lift frame leads to the coils (see Drawing 3, 4 & 5)

9. Mount the solenoid (16) to metal surface close to the driver (as show on the picture) bending bracket if necessary. NOTE: Solenoid must be well grounded in order to function properly. (see Drawing 1)

10. Slide a dummy plug over power cable (15) and ground cable (14) and route through grille of truck leaving sufficient length to attach to the cable and plug assembly (13). Secure the red power cable (15) to the large terminal on the solenoid and the black ground cable (14) to the negative terminal on the battery. (see Drawing 1)

11. Install power cable 22” (18) from the positive side of battery to one of the terminal of 135 AMP circuit breaker (19). Install 56” power cable (17) on the second terminal end on the circuit breaker terminal and to the large terminal on the solenoid (10). When installing the circuit breaker locate a flat surface suitable for mounting. (see Drawing 1 below)
Choose surface that is clear of moving parts and extreme heat. The firewall or fender are possible mounting locations. Use ¼” bolts and locknuts. If an acceptable flat surface is not available, cable tie the circuit breaker securely to a harness or an existing bracket. Note: Make sure that chosen location is in a spot that will allow the power cables to reach their destination (see drawing).

12. For the underhood harness (1) locate a pass through hole in the firewall near the driver's side of the truck. Route the harness through the hole in firewall and attach to the controller. Install the light adapter harness (29). For installation of these two harnesses refer to Drawing 2. See section below for Installation of Vehicle Harness RED/WHITE (ignition) wire.

**Installation of Vehicle Harness RED/WHITE (ignition) wire**

Connect the RED/WHITE wire to a “keyed” 12V+ ignition source. Note: This 12V+ source should only be active when the key is in the ON position. Failure to wire to a “keyed” source can allow a condition to occur causing the battery to drain. This will also prevent operation of the plow without the vehicle's key being on.

To find a “keyed” 12V+ ignition source, consult the fuse panel section of the vehicle's owner's manual. Look for a fuse labeled ACC/IGN or ACC (Accessory). Remove the fuse, apply the fuse tab as shown below and reinstall the fuse. The RED/WHITE ignition wire can now be plugged to the ¼” fast-on tab.

Note: Check to make sure that the snowplow control ONLY has power when the vehicle ignition switch is ON.

If NO accessory fuse is available, a test light may have to be used to determine if power to a certain fuse (or any other power source) is “switched / keyed” or not.

Note: The RED/WHITE ignition wire is equipped with its own 10 amp fuse, so it can be tapped to any size fuse (10 or above). Do not use two taps on the same fuse.
   **Note:** Be sure all cables are properly protected from any sharp edges or hot or 
   moving parts!!

14. When the plow is not attached to the truck, plug the end connectors to each other to 
   avoid the corrosion (on both sides, plow and truck side).

15. For hydraulic install refer to Hydraulic Installation section.

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**Lighting System Procedure**

*To avoid corrosion, extend the life of the control module & ensure proper plow 
functionality keep all connectors well-greased with dielectric grease.*

**Basic Lighting Transfer Overview:**

To transfer the lights from the vehicles headlights to the plow lights, the Control Module 
Electrical System installed on your vehicle must see or read four things. 
1.) The vehicles ignition is turned ON. 
2.) The vehicles headlight switch is turned ON. 
3.) The plow is plugged in (by the vehicles grill). 

Note: Keep in mind that turning the vehicles ignition OFF, acts as a RESET for the 
lighting system. 

Below is a set of two Conditions that may help to better explain the transfer of lights 
from vehicle to plow:

**When the vehicles ignition is turned OFF, the entire snowplow system is OFF. (Note: 
If this is not correct, see the plows installation instructions for proper plow installation).**
**Condition #1:** The vehicle’s ignition is turned ON, the plow is NOT attached (and NOT plugged in) and the plow controller is OFF (or not plugged in). When turning ON the vehicles headlight switch, the vehicles headlights will turn ON.

**Condition #2:** The vehicles ignition is turned ON, the plow is attached (and plugged in) and the plow controller is OFF (or not plugged in). When turning ON the vehicles headlight switch, the plow headlights will turn ON.

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<thead>
<tr>
<th>Part#</th>
<th>Description</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>1 53625-MPX</td>
<td>Under Hood MPX Harness</td>
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<tr>
<td>2 53627-MPX</td>
<td>MPX Lift Frame Harness</td>
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<td>3 800080-MPX</td>
<td>MPX Control Module Box</td>
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<td>3/16” Mini Fuse Tap</td>
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<td>5/16”-18 x1” HHCS</td>
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<td>18” Cable Plug Assembly</td>
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<td>90” Power Cable (Red)</td>
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<td>18 51335-22-M</td>
<td>Gauge Battery Cable, 22”</td>
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<td>19 53608-N</td>
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<td>28 53326-MPX</td>
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To avoid corrosion
keep connectors well-greased with dielectric grease.
To avoid corrosion and extend the life of the Control module, keep connectors well-greased with dielectric grease.

To the lights

Truck Side

To the power unit

Plow Side

When the plow is not attached to the truck, plug connectors to each other to avoid corrosion.

To driver side truck light

To curb side truck light

Longer side to connected to curb side truck light

Apply dielectric grease to each relay – terminals

Note: On some trucks it is required to attach grey wire to the park/run light, the violet wire to the driver side turn and the pink wire to the curb side turn.
To avoid corrosion keep connectors well-greased with dielectric grease.
To avoid corrosion
keep connectors well-greased with dielectric grease.
To avoid corrosion
keep connectors well-greased with dielectric grease.
Connectors alignment for the MPX system

Must align before plugging together

Alignment tab
Controller connector
Alignment groove
Controller harness