

# 81330

## HARNESS KIT

### 3-PORT ISOLATION MODULE

### LIGHT SYSTEM

#### Parts List and Installation Instructions

**⚠ CAUTION**

Read this document before installing the snowplow.

**⚠ CAUTION**

See your sales outlet/website for specific vehicle application recommendations before installation. The online selection system has specific vehicle and snowplow requirements.

**PARTS LIST**

<b>Halogen Light System Plug-In Harness</b>		
<b>Part</b>	<b>Description</b>	<b>Qty</b>
29860	Vehicle Lighting Harness – 11-Pin w/Relays	1
81328	Plug-In Harness, GM HD	1

## SAFETY DEFINITIONS

### WARNING

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious personal injury.

### CAUTION

Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

**NOTE:** Indicates a situation or action that can lead to damage to your snowplow and vehicle or other property. Other useful information can also be described.

## FUSES

The snowplow electrical and hydraulic systems contain several blade-style automotive fuses. If a problem should occur and fuse replacement is necessary, the replacement fuse must be of the same type and amperage rating as the original. Installing a fuse with a higher rating can damage the system and could start a fire. Fuse Replacement, including fuse ratings and locations, is located in the Maintenance section of the Owner's Manual.

## BATTERY SAFETY

### CAUTION









Batteries normally produce explosive gases, which can cause personal injury. Therefore, do not allow flames, sparks, or lit tobacco to come near the battery. When charging or working near a battery, always cover your face and protect your eyes, and also provide ventilation.

- Batteries contain sulfuric acid, which burns skin, eyes, and clothing.
- Disconnect the battery before removing or replacing any electrical components.

## TORQUE CHART

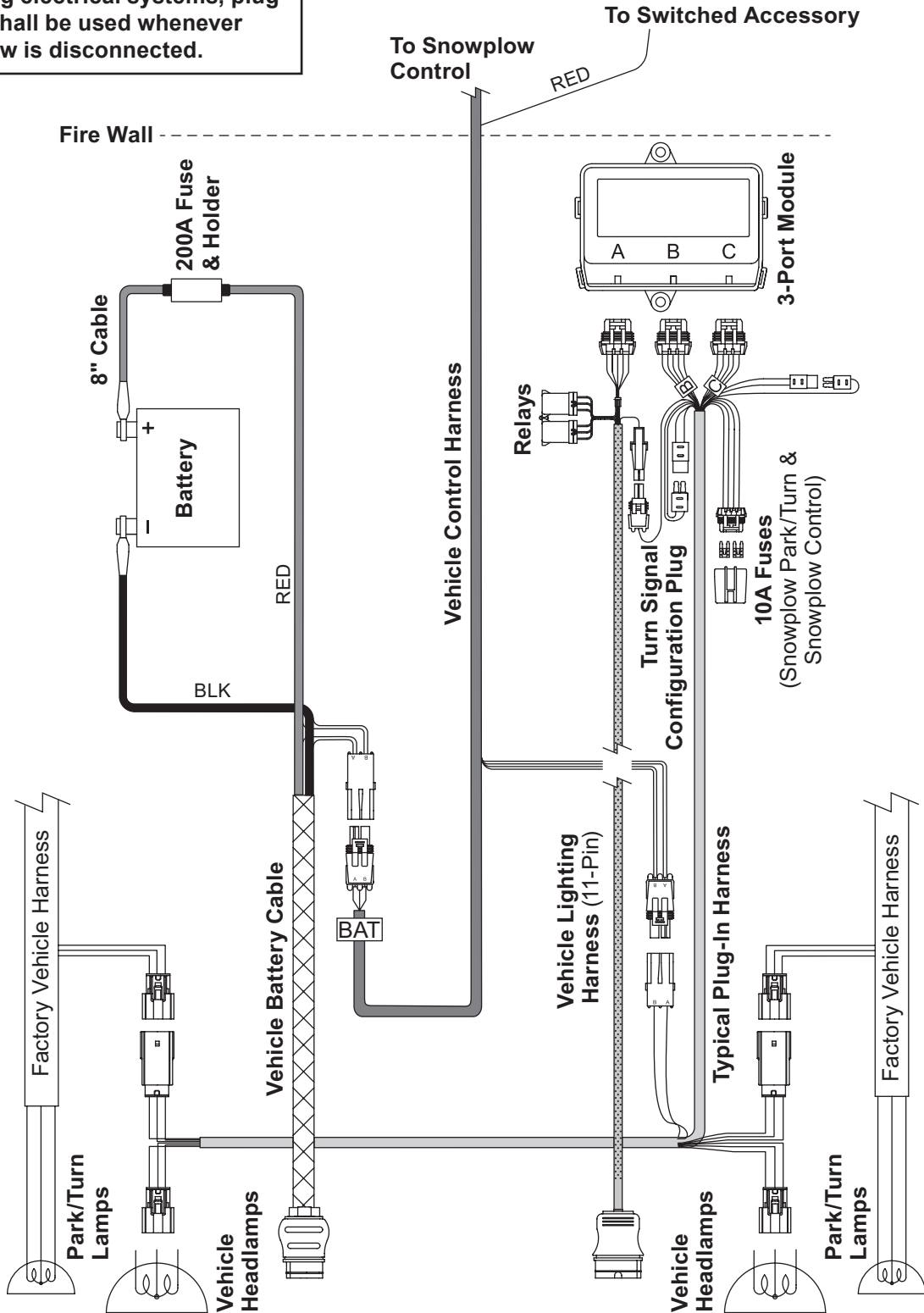
### CAUTION

Read instructions before assembling. Fasteners should be finger tight until instructed to tighten according to the torque chart. Use standard methods and practices when attaching snowplow, including proper personal protective safety equipment.

Recommended Fastener Torque Chart					
Inch Fasteners Grade 5 and Grade 8					
Size	Torque (ft-lb)		Size	Torque (ft-lb)	
	 Grade 5	 Grade 8		 Grade 5	 Grade 8
1/4-20	8.4	11.9	9/16-12	109	154
1/4-28	9.7	13.7	9/16-18	121	171
5/16-18	17.4	24.6	5/8-11	150	212
5/16-24	19.2	27.3	5/8-18	170	240
3/8-16	30.8	43.6	3/4-10	269	376
3/8-24	35.0	49.4	3/4-16	297	420
7/16-14	49.4	69.8	7/8-9	429	606
7/16-20	55.2	77.9	7/8-14	474	669
1/2-13	75.3	106.4	1-8	644	909
1/2-20	85.0	120.0	1-12	704	995
Metric Fasteners Class 8.8 and 10.9					
Size	Torque (ft-lb)		Size	Torque (ft-lb)	
	 Class 8.8	 Class 10.9		 Class 8.8	 Class 10.9
M6 x 1.00	7.7	11.1	M20 x 2.50	325	450
M8 x 1.25	19.5	26.9	M22 x 2.50	428	613
M10 x 1.50	38.5	53.3	M24 x 3.00	562	778
M12 x 1.75	67	93	M27 x 3.00	796	1139
M14 x 2.00	107	148	M30 x 3.50	1117	1545
M16 x 2.00	167	231	M33 x 3.50	1468	2101
M18 x 2.50	222	318	M36 x 4.00	1952	2701
These torque values apply to fasteners except those noted in the instructions.					

TYPICAL 2-PLUG, 3-PORT MODULE SYSTEM DIAGRAM

**⚠ CAUTION**  
 On 2-plug electrical systems, plug covers shall be used whenever snowplow is disconnected.

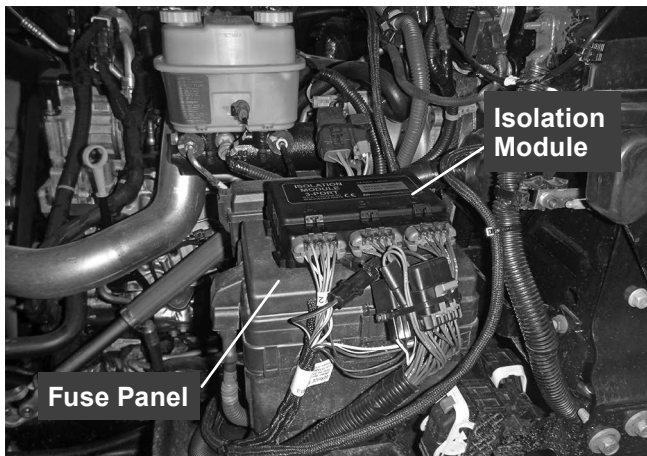


## INSTALLATION INSTRUCTIONS

### Isolation Module Mounting

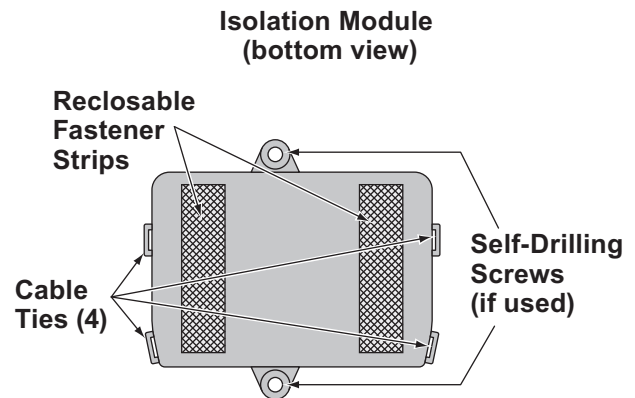
Isolation modules are sold separately. Check the online selection system for the correct module for your vehicle.

Locate a flat surface within the engine compartment of the vehicle for mounting the isolation module (**on the driver's side, if possible**). Possible mounting locations are the fuse panel (shown below), the fire wall, the fender well, or the radiator shroud.



If a suitable flat surface is not accessible, cable tie the isolation module to existing brackets or harnessing.

Reclosable fastener strips and/or cable ties are supplied for mounting the isolation module, but self-drilling screws can also be used. When using reclosable fastener strips, the mounting surface must be free of dirt and grease.



## Vehicle Battery Cable Installation

### ⚠ CAUTION

Batteries normally produce explosive gases, which can cause personal injury. Therefore, do not allow flames, sparks, or lit tobacco to come near the battery. When charging or working near a battery, always cover your face and protect your eyes, and also provide ventilation.

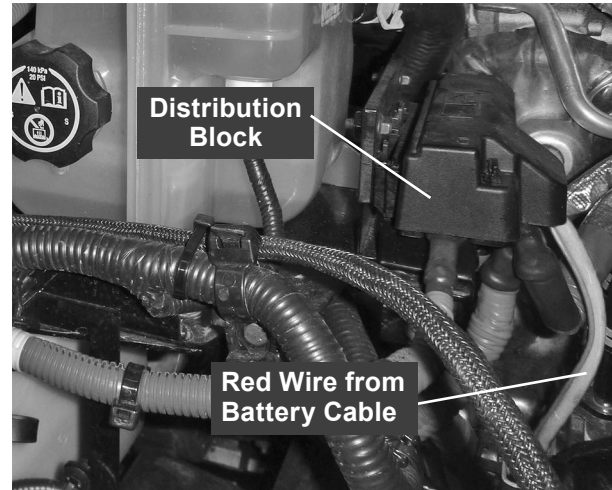
- Batteries contain sulfuric acid, which burns skin, eyes, and clothing.
- Disconnect the battery before removing or replacing any electrical components.

**NOTE:** When instructed, make all snowplow battery cable connections to the auxiliary battery, if vehicle is so equipped.

**NOTE:** Use dielectric grease on all electrical connections to prevent corrosion. Fill receptacles and lightly coat ring terminals before assembly.

1. Turn OFF the vehicle ignition.
2. Disconnect both the NEGATIVE (–) and the POSITIVE (+) battery cables.
3. Route the supplied vehicle battery cable from the grille or bumper to the POSITIVE (+) power distribution block, avoiding any sharp edges and hot or moving parts. Cable tie only the end section closest to the grille.

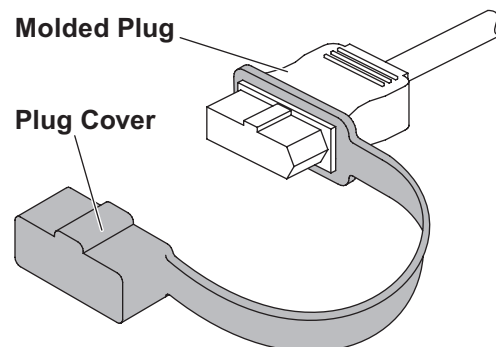
4. Route the red wire from the vehicle battery cable to the POSITIVE (+) power distribution block. *Do not connect at this time.*



5. Route the black wire from the vehicle battery cable to a suitable grounding point on the vehicle frame. *Do not connect at this time.* The 4-position connector from the vehicle battery cable will connect to the mating connector (labeled "BAT") on the end of the vehicle control harness.

### Plug Cover

Stretch the rectangular opening of the plug cover strap over the end of the vehicle battery cable. Place the plug cover over the molded plug when snowplow is not in use.



## Vehicle Lighting Harness and Vehicle Control Harness Installation

1. Route both harnesses around or through the radiator bulkhead to the isolation module.
2. Connect the 4-position connector from the vehicle lighting harness to the matching 4-position connector from the vehicle control harness.
3. Connect the vehicle lighting harness to position "A" on the isolation module.
4. Route the end of the vehicle control harness with the white 4-pin connector to the fire wall.

Connect the black 4-position connector (labeled "BAT") from the end of the vehicle control harness to the 4-position connector from the vehicle battery cable. Do not cable tie the harness at this time.

### **⚠ CAUTION**

**Before installing self-drilling screws or drilling mounting holes, check the selected mounting area for any wires, hoses, or other obstructions.**

5. On the driver's side, locate an existing hole through the fire wall for the vehicle control harness. If access through the fire wall does not exist, drill a 5/8" hole through the fire wall in a convenient location away from sharp edges and hot or moving parts.
6. Push the braided harness breakout with the cab control connector through the fire wall hole into the cab. Use a grommet, existing plug cover, or proper anti-chafing material to protect the harness where it passes through the fire wall. Route the harness to the selected control mounting location.

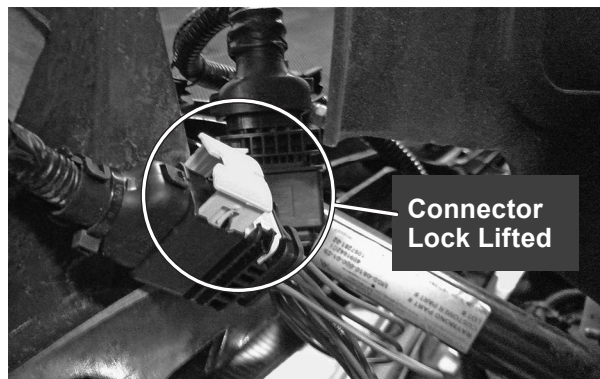
To mount the control, follow the instructions supplied with the control.

7. Locate an accessory wire controlled by the ignition switch. Acceptable accessory wires show +12V when the ignition switch is turned ON, and 0V when it is OFF.

8. Route the red "ACC" wire from the vehicle control harness to this location and trim away excess length.
9. Following the recommended splicing procedure given at the end of this document, splice the red "ACC" wire into the switched accessory wire using the supplied parallel splices and heatshrink tubing.

## Plug-in Harness installation

1. Disconnect the headlamp harness connectors by lifting up the yellow connector lock as shown. Connect the plug-in harness to the mating connectors of the headlamp harness on both sides of the vehicle.



2. Route the plug-in harness to the isolation module. Connect the plug-in harness to the module by matching harness connector B with module port B and harness connector C with module port C.
3. Connect the 4-position connector on the vehicle lighting harness to the matching 4-position connector on the plug-in harness.
4. Connect the single-wire connector from the vehicle lighting harness to the single-wire connector from the plug-in harness.
5. Cable tie the vehicle control harness, vehicle lighting harness, and plug-in harness away from any sharp, hot, or moving parts.

## Turn Signal Configuration Plug

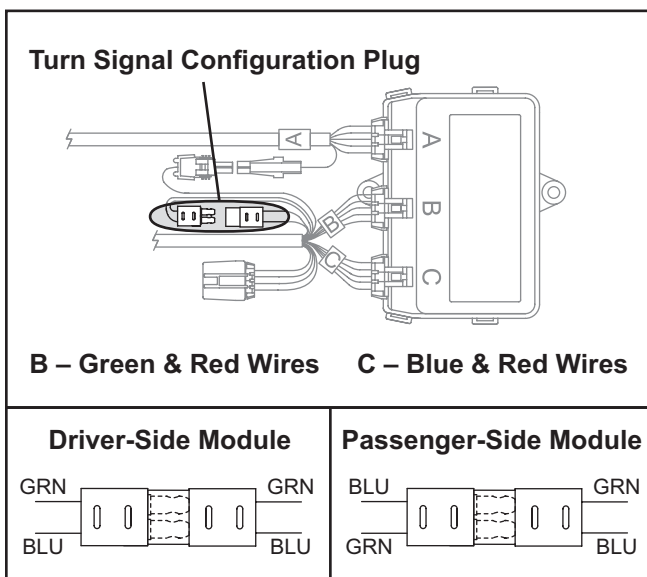
**⚠ WARNING**

**If the turn signal configuration plug is mated incorrectly, the turn signals will be reversed between the vehicle and the snowplow.**

1. Mate the turn signal configuration plug located on the plug-in harness.

**If the isolation module is installed on the driver's side**, mate the plug so that the wire colors match (green to green and blue to blue).

**If the module is installed on the passenger's side**, mate the plug so that the wire colors are opposite (green to blue).



2. Complete the installation by securing the relay assemblies to an existing assembly with cable ties. Mount the relay connectors wire side down.

## Securing Harnesses

1. To complete the harness installation, use cable ties to secure the vehicle control harness, vehicle lighting harness, and plug-in harness, making sure to keep them away from any sharp, hot, or moving parts.

**NOTE: Cable tie the control harness and accessory tap away from the brake, clutch, gas, or parking brake pedals, and any moving parts.**

2. Secure the lighting harness relay assemblies to an existing assembly using cable ties. Mount the relay connectors wire-side down.

## Battery Connections

1. Attach the POSITIVE (+) OEM cable to the battery. Attach the RED vehicle battery cable to the POSITIVE (+) power distribution block terminal following OEM battery cable connection recommendations.
2. Attach the NEGATIVE (-) OEM cable to the battery. Attach the BLACK vehicle battery cable to the vehicle frame grounding point following OEM battery cable connection recommendations.



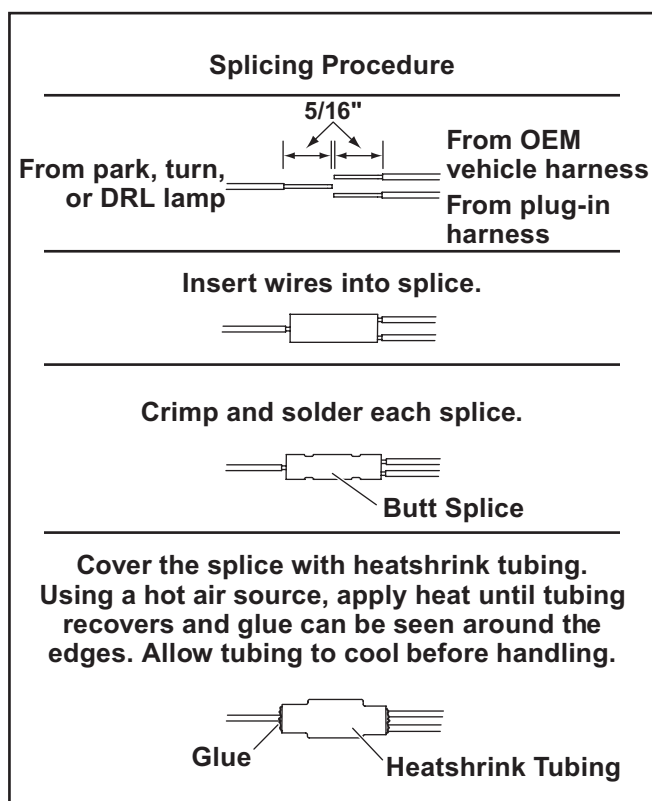
## RECOMMENDED SPLICING PROCEDURE

1. Locate wire to be spliced into.
2. Cut wire at least 1-1/2" from any other splice, connector, or terminal. If wires are covered by tubing or braid, remove enough of it to achieve the minimum clearance required.
3. Strip away 5/16" of insulation from the ends of the wires to be spliced.
4. Slide two wires into one end of the supplied parallel splice.
5. Place a piece of heatshrink tubing (3/16" x 1-1/4" long) over the remaining wire to be spliced. Cut tubing into 1-1/4" lengths if required.
6. Insert the wire into the open end of the splice and crimp using an appropriate crimp tool. One or two crimps may be necessary to ensure a good connection. No wire strands should be visible outside of the splice.
7. Preheat a soldering tool for at least one minute to help promote even solder flow.
8. Apply heat to the splice. Avoid heating too close to the insulation. Apply solder to the wires. Use just enough solder to produce an even flow through the splice. **Use rosin core solder ONLY. Do not use acid core solder.**

**NOTE: Avoid using an excessive amount of solder, as it can result in wicking. Wicking occurs when solder travels up the wire core. This may cause the wire to become stiff or brittle, which could lead to a broken or open circuit.**

9. Check the circuits for continuity.
10. Cover the splice with heatshrink tubing. The tubing should extend beyond the splice on both sides.
11. Using a hot air source, starting in the center and working out to either side, apply heat until the tubing recovers and glue can be seen around the edges. Allow the tubing to cool before handling.

**NOTE: The splices supplied will accommodate 18-gauge wires as shown. For larger gauge wires, cut the wire, strip the ends 3/8" to 1/2", and twist together. Apply solder to the splice and cover with heatshrink tubing.**



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