

69826-2

RELAY ADAPTER KIT

Parts List and Installation Instructions

⚠ CAUTION

Read this document before installing the relay adapter kit.

⚠ 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

69826-2 Relay Adapter Kit		
Part	Description	Qty
69826-2	Relay Adapter Harness	1
-	Heat Shrink Tubing	1
-	Splices	5

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 automotive-style 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.					

INSTALLATION INSTRUCTIONS

The relay adapter kit can be used in the installation of several plug-in harnesses. Please review this document and determine which section of the instructions is applicable to your specific application.

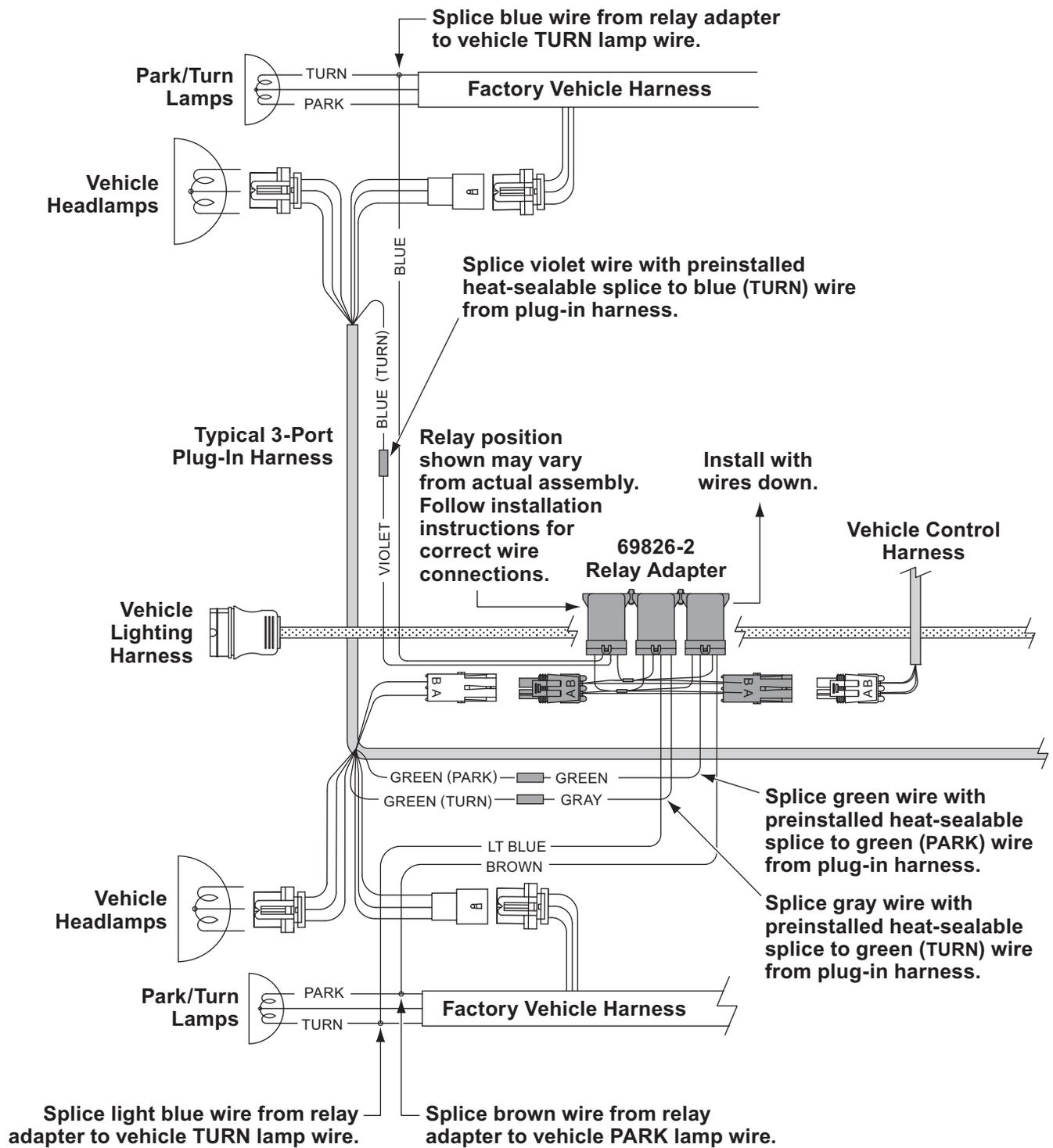
- For **plug-in harnesses 77532/77533**, see instructions beginning on page 7.
- For installations with **plug-in harness 69892-1**, see instructions beginning on page 9.
- For **typical installations**, see the instructions below.

Typical Installation

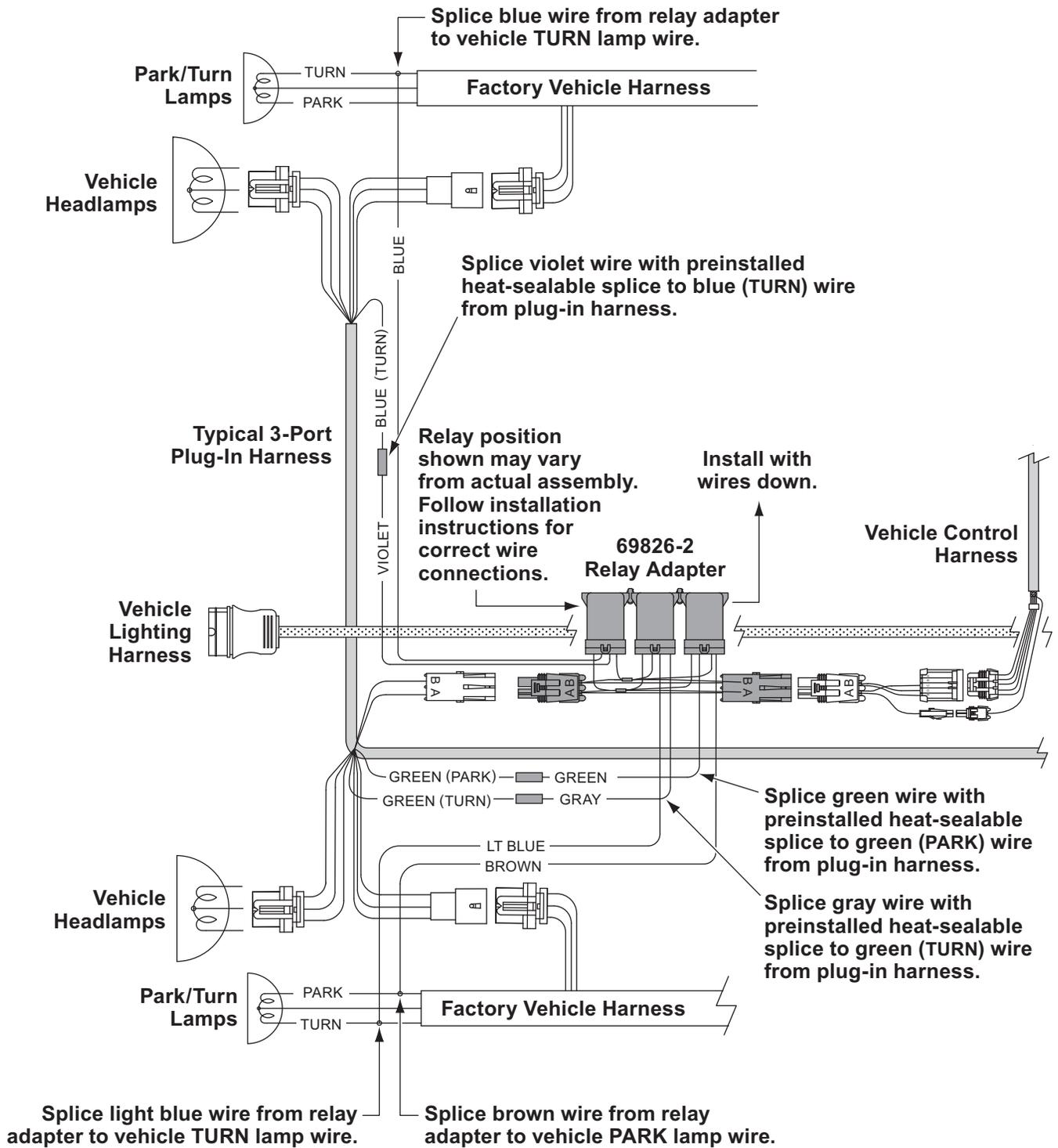
1. Connect one black 4-position relay adapter connector to the 4-position connector from the plug-in harness.
2. Connect the second black 4-position relay adapter connector to the 4-position connector from the vehicle control harness.
3. Splice the plug-in harness wire marked "PARK" to the green wire from the relay adapter using the insulated splice supplied on the adapter wire.
4. Splice the brown wire from the relay adapter into the vehicle PARK wire, following the splicing procedure outlined in the Installation Instructions from the plug-in harness kit.
5. Splice the plug-in harness wire marked "TURN" to the gray wire from the relay adapter using the insulated splice supplied on the adapter wire.
6. Splice the light blue wire from the relay adapter into the vehicle TURN wire following the splicing procedure outlined in the Installation Instructions from the plug-in harness kit.
7. On the passenger's side, route both violet and blue wires from the relay adapter along the plug-in harness to the area near the plug-in harness headlamp connectors, taping the wire to the harness as required.
8. Splice the plug-in harness wire marked "TURN" to the violet wire from the adapter using the insulated splice supplied on the adapter wire.
9. Splice the blue wire from the adapter into the vehicle TURN wire, following the splicing procedure outlined in these Installation Instructions from the plug-in harness kit.
10. Using a hot-air source, starting at the center of the first splice and working to either side, apply heat until the tubing recovers and glue can be seen around the edges. Allow the tubing to cool before handling. Repeat for the other splices.
11. Complete the relay adapter installation by securing the assembly to an existing assembly with the wires facing down.

NOTE: If possible, mount the relay assembly in an area that is protected from road splash.

Typical 2-Plug, 3-Port Module System



Typical 3-Plug, 3-Port Module System

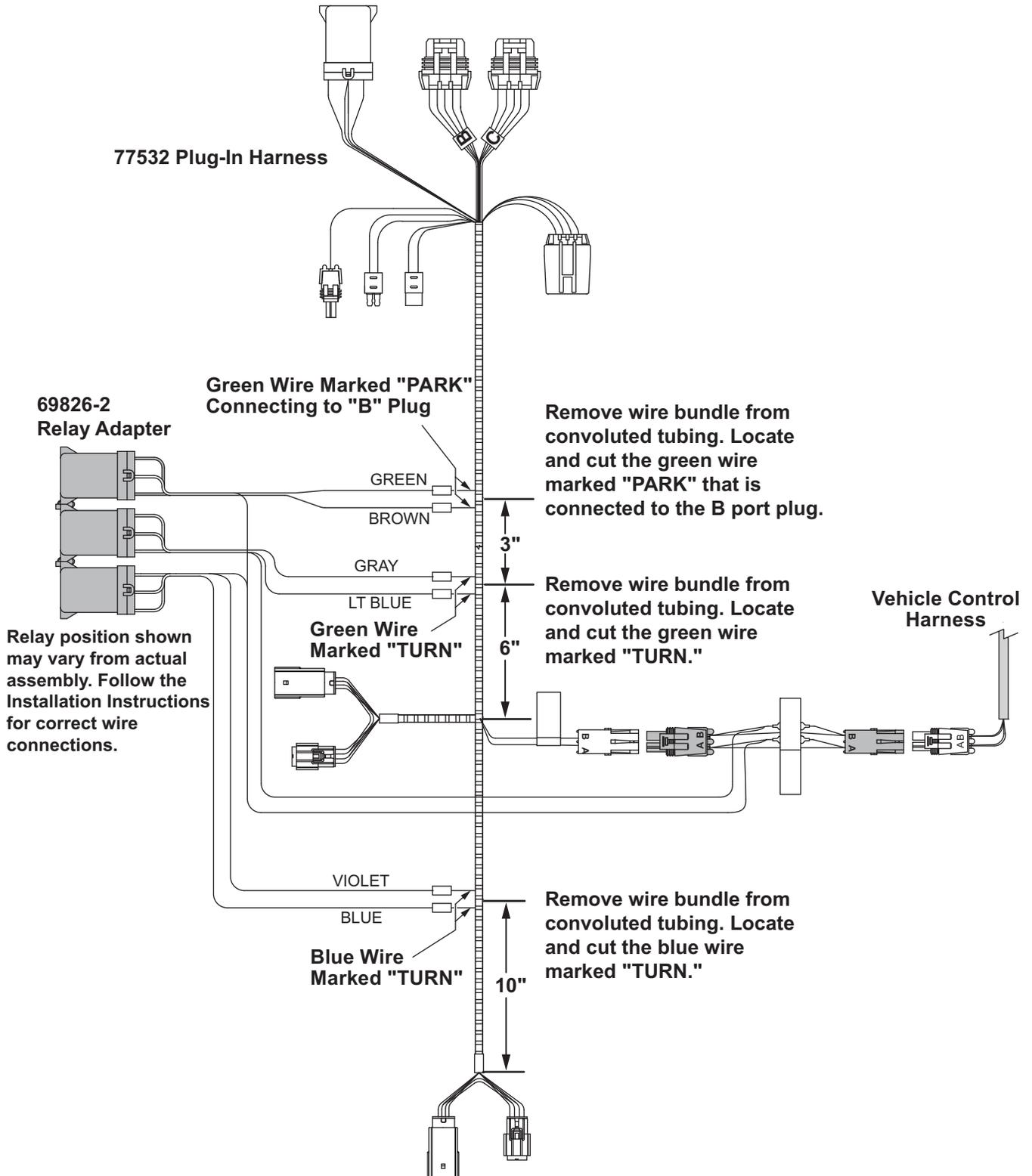


Plug-In Harness 77532/77533

1. Connect one black 4-position relay adapter connector to the 4-position connector from the plug-in harness.
 2. Connect the second black 4-position relay adapter connector to the 4-position connector from the vehicle control harness.
 3. Remove the wire bundles from the convoluted tubing on the plug-in harness at locations shown on diagram.
 4. Locate the green wire marked "Park" that is connected to the B port plug and cut it at the location shown.
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- NOTE: There are two green "Park" wires at this location in the harness. Do not cut the green "Park" wire that connects to the relay of the plug-in harness.**
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5. Splice the green wire from the relay adapter using the insulated splice supplied on the adapter wire to the green "Park" wire that is connected to the B port plug.
 6. Splice the brown wire from the relay adapter to the remaining cut green wire marked "Park" following the splicing procedure outlined in the Installation Instructions from the plug-in harness kit.
 7. Locate the green "Turn" wire and cut it at the location shown.
 8. Splice the gray wire from the relay adapter using the insulated splice supplied on the adapter wire to the cut green "Turn" wire that is connected to the B port plug.
 9. Splice the light blue wire from the relay adapter to the remaining cut green "Turn" wire following the splicing procedure outlined in the Installation Instructions from the plug-in harness kit.
 10. On the passenger's side, route both violet and blue wires from the relay adapter along the plug-in harness to the area near the plug-in harness headlamp connectors, taping the wire to the harness as required.
 11. Locate the blue wire marked "Turn" and cut it at the location shown.
 12. Splice the violet wire from the relay adapter using the insulated splice supplied on the adapter wire to the cut blue "Turn" wire that is connected to the C port plug.
 13. Splice the blue wire from the relay adapter to the remaining cut blue "Turn" wire following the splicing procedure outlined in the Installation Instructions from the plug-in harness kit.
 14. Using a hot-air source, starting at the center of the first splice and working to either side, apply heat until the tubing recovers and glue can be seen around the edges. Allow the tubing to cool before handling. Repeat for the other splices.
 15. Insert wire bundles back into the convoluted tubing of the plug-in harness. Tape tubing and relay adapter wires together as needed.
 16. Complete the relay adapter installation by securing the assembly to an existing assembly with the wires facing down.

NOTE: If possible, mount the relay assembly in an area that is protected from road splash.

Typical 2-Plug 3-Port Installation On Plug-In Harness 77532/77533



Plug-In Harness 69892-1

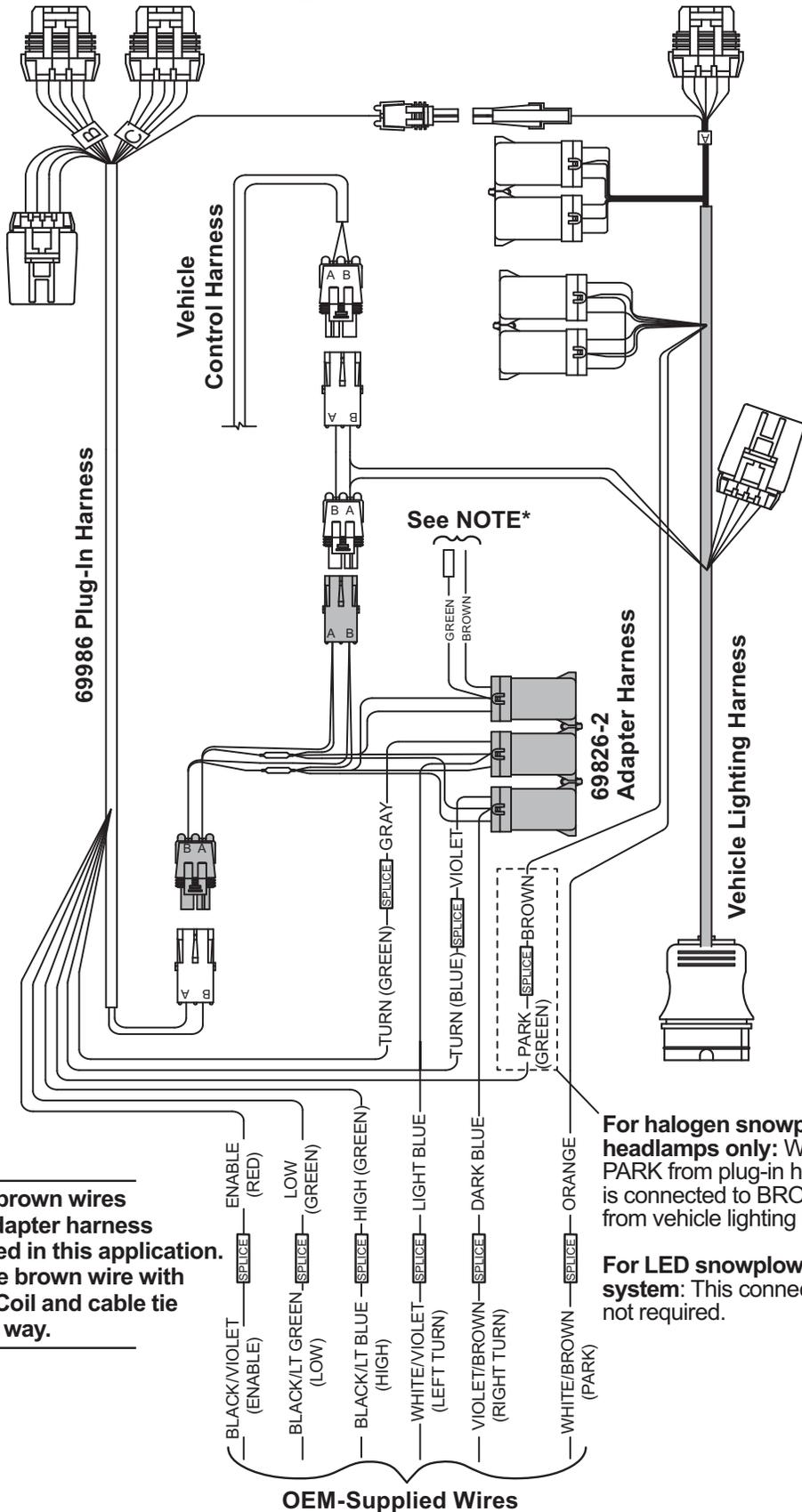
1. Connect one black 4-position relay adapter connector to the 4-position connector from the 69986 plug-in harness.
2. Connect the second black 4-position relay adapter connector to the 4-position connector from the vehicle lighting harness.
3. Connect the second black 4-position connector from the vehicle lighting harness to the 4-position connector from the vehicle control harness.
4. For halogen snowplow lighting systems, splice the plug-in harness wire marked "PARK" to the brown wire from the vehicle lighting harness using the insulated splice supplied on the harness wire. On LED snowplow lighting systems, there is no connection made to the PARK (green) plug-in harness wire.
5. Locate the OEM-supplied blunt cut wires from the vehicle. The wires are underneath PDC on the driver's side.
6. Splice the orange wire from the vehicle lighting harness to the vehicle-supplied white/brown PARK wire, using the insulated splice supplied on the orange wire.
7. Splice the plug-in harness green wire marked "TURN" to the gray wire from the relay adapter using the insulated splice supplied on the gray wire.
8. Splice the light blue wire from the relay adapter into the vehicle-supplied white/violet TURN wire, following the splicing procedure outlined in these Installation Instructions.
9. Splice the plug-in harness blue wire marked "TURN" to the violet wire from the adapter following the splicing procedure outlined in these Installation Instructions. Shorten the violet wire from the adapter as needed.
10. Splice the dark blue wire from the adapter to the vehicle-supplied violet/brown TURN wire, following the splicing procedure outlined in these Installation Instructions. Shorten the blue wire from the adapter as needed.
11. Splice the remaining wires from the plug-in harness to the blunt-cut wires from the OEM-supplied harness according to the following color codes.

<u>Plug-In Harness</u>	<u>OEM Supplied</u>
LOW	BLACK/LT GREEN
HIGH	BLACK/LT BLUE
ENABLE	BLACK/VIOLET

12. Green and brown wires from the relay adapter harness will not be connected in this application. Cover the end of the brown wire with supplied heat shrink tubing. Coil and cable tie the wires out of the way.
13. Using a hot-air source, starting at the center of the first splice and working to either side, apply heat until the tubing recovers and glue can be seen around the edges. Allow the tubing to cool before handling. Repeat for the other splices.
14. Complete the relay adapter installation by securing the assembly to an existing assembly with the wires facing down.

NOTE: If possible, mount the relay assembly in an area that is protected from road splash.

Typical 2-Plug 3-Port Installation On Plug-In Harness 69892-1



***NOTE:** Green and brown wires from the 69826-2 adapter harness will not be connected in this application. Cover the end of the brown wire with heatshrink tubing. Coil and cable tie the wires out of the way.

For halogen snowplow headlamps only: Wire marked PARK from plug-in harness is connected to BROWN wire from vehicle lighting harness.

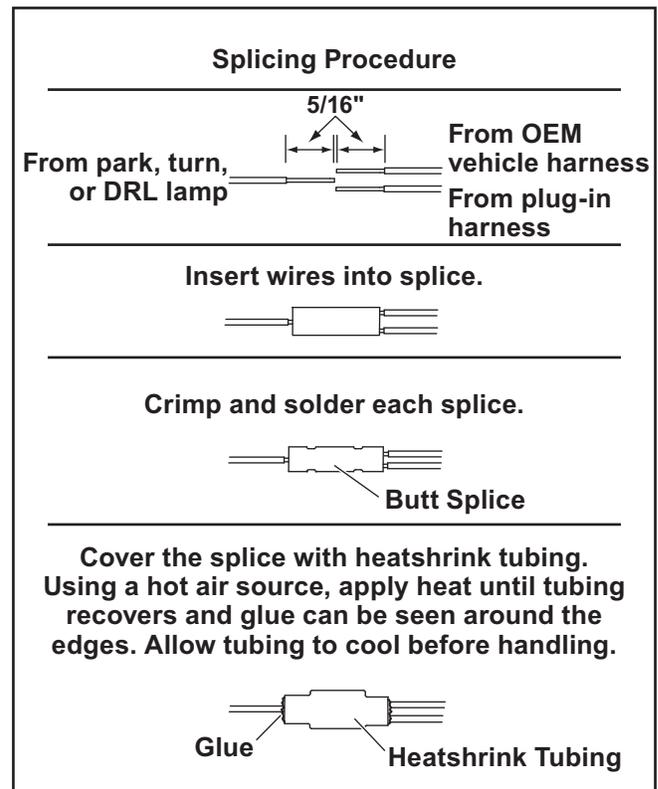
For LED snowplow lighting system: This connection is not required.

OEM-Supplied Wires

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.**
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.



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.

The company reserves the right under its product improvement policy to change construction or design details and furnish equipment when so altered without reference to illustrations or specifications used. This equipment manufacturer or the vehicle manufacturer may require or recommend optional equipment for snow removal. Do not exceed vehicle ratings with a snowplow. The company offers a limited warranty for all snowplows and accessories. See separately printed page for this important information.

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