



CHEVY/GMC LIGHT TRUCK 1988–1998 AND CLASSIC 1999–2000 VEHICLE SPECIFIC ELECTRICAL INSTALLATION INSTRUCTIONS

Model No. 1589

Straight Blade

Hydraulics Box No. 56588

Harness Kits No. 61545, 61515, 61580 • Used with Headlamp Kit No. 61540-1

Harness Kits No. 61555, 61585, 61560 • Used with Headlamp Kit No. 61550-1

MVP® Blade

Hydraulics Box No. 56777

Harness Kits No. 61546, 61716, 61581 • Used with Headlamp Kit No. 66640-1

Harness Kits No. 63416, 63417, 63418 • Used with Headlamp Kit No. 61550-1

▲ CAUTION

Read this document before installing the snowplow.

▲ CAUTION

See your WESTERN® outlet for application recommendations. The Selection List has specific vehicle and snowplow requirements.

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SAFETY

SAFETY DEFINITIONS

WARNING

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

CAUTION

Indicates a situation that, if not avoided, could result in damage to product or property.

NOTE: Identifies tips, helpful hints and maintenance information the owner/operator should know.

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 (Ft.-Lb.)			
Size	 SAE Grade 2	 SAE Grade 5	 SAE Grade 8
1/4-20	6	9	13
5/16-18	11	18	28
3/8-16	19	31	46
3/8-24	24	46	68
7/16-14	30	50	75
1/2-13	45	75	115
9/16-12	66	110	165
5/8-11	93	150	225
3/4-10	150	250	370
7/8-9	150	378	591
1-8	220	583	893
Metric Grade 8.8 (Ft.-Lb.)			
Size	Torque	Size	Torque
M 6	7	M 12	60
M 8	17	M 14	95
M 10	35	M 16	155
These torque values apply to fasteners except those noted in the instruction.			

UNDER HOOD INSTALLATION

NOTE: During electrical installation, THE LONG BATTERY GROUND CABLE (no stripe) MUST BE GROUNDED TO THE NEGATIVE BATTERY TERMINAL.

HARNES KIT SELECTION

1996 and later full size vehicles: Both U.S. and Canadian made vehicles are equipped with Daytime Running Lights (DRL's). The reduced voltage low beam system requires the same harnesses as previous U.S. vehicles and also require the installation of 61584 DRL Kit. With this kit, either the plow headlamps or the vehicle headlamps will light in the DRL mode. Applying the parking brake will prevent the DRL's from operating.

1989 through 1995 Canadian vehicles have had DRL's as standard equipment. These vehicles used a series high beam system. This system requires the use of 12-pin harnesses and headlamps in addition to the 61584 DRL Adapter Kit.

1996 - 2000 vehicles with reduced voltage low beam DRL system:

(Used on both U.S. and Canadian built vehicles. Earlier Canadian vehicles with DRL's see heading below.)

All installations require 61584 DRL Adapter Kit — DO NOT change turn signal flasher.

Straight Blades — Use Box No. 61540-1 Headlamp Kit 9-Pin

- For Dual Type 2B Headlamps — Use 61545 Harness Kit 2B/2D 9-Pin -A
(See installation Instructions on page 8. Wiring schematic is on page 16.)
- For QUAD Type HB-3 & HB-4 — Use 61515 Harness Kit HB-3 & HB-4 9-Pin -A
(See Installation Instructions on page 9. Wiring schematic is on page 17.)

MVP® Blades — Use Box No. 66640-1 Headlamp Kit 9-Pin

- For Dual Type 2B Headlamps — Use 61546 Plug-In Harness 2B/2D -A
(See installation Instructions on page 8.)
- For QUAD Type HB-3 & HB-4 — Use 61716 Plug-In Harness HB-3 & HB-4 -A
(See Installation Instructions on page 9.)

1988 - 1995 vehicles without DRL's:

All installations — DO NOT change turn signal flasher.

Straight Blades — Use Box No. 61540-1 Headlamp Kit 9-Pin

- For Dual Type 2B Headlamps — Use 61545 Harness Kit 2B/2D 9-Pin -A
(See installation Instructions on page 10. Wiring schematic is on page 18.)
- For QUAD Type HB-3 & HB-4 — Use 61515 Harness Kit HB-3 & HB-4 9-Pin -A
(See Installation Instructions on page 11. Wiring schematic is on page 19.)
- For QUAD Type LF & UF — Use 61580 Harness Kit LF & UF 9-Pin -A
(See Installation Instructions on page 11. Wiring schematic is on page 19.)

MVP® Blades — Use Box No. 66640-1 Headlamp Kit 12-Pin MVP

- For Dual Type 2B Headlamps — Use 61546 Plug-In Harness 2B/2D -A
(See installation Instructions on page 10.)
- For QUAD Type HB-3 & HB-4 — Use 61716 Plug-In Harness HB-3 & HB-4 -A
(See Installation Instructions on page 11.)
- For QUAD Type LF & UF — Use 61580 Plug-In Harness LF & UF -A
(See Installation Instructions on page 11.)

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UNDER HOOD INSTALLATION

HARNESS KIT SELECTION (Continued)

1989 - 1995 vehicles with DRL's:

All installations require 61584 DRL Adapter Kit — DO NOT change turn signal flasher.

Straight Blades — Use Box No. 61550-1 Headlamp Kit 12-Pin

- For Dual Type 2B Headlamps — Use 61555 Harness Kit 2B/2D 12-Pin -B
(See installation Instructions on pages 12 & 13. Wiring schematic is on page 20.)
- For QUAD Type HB-3 & HB-4 — Use 61585 Harness Kit HB-3 & HB-4 12-Pin -B
(See Installation Instructions on pages 14 & 15. Wiring schematic is on page 21.)
- For QUAD Type LF & UF — Use 61560 Harness Kit LF & UF 12-Pin -B
(See Installation Instructions furnished in Harness Kit. Wiring schematic is on page 22.)

MVP® Blades — Use Box No. 61550-1 Headlamp Kit 12-Pin

- For Dual Type 2B Headlamps — Use 63416 Harness Kit 2B/2D MVP 12-Pin -B
(See installation Instructions on pages 12 & 13.)
- For QUAD Type HB-3 & HB-4 — Use 63417 Harness Kit HB-3 & HB-4 MVP 12-Pin -B
(See Installation Instructions on pages 14 & 15.)
- For QUAD Type LF & UF — Use 63418 Harness Kit LF & UF MVP 12-Pin -B
(See Installation Instructions furnished in Harness Kit.)

HAZARD WARNING CIRCUIT

Snowplow park/turn and hazard lights can overload the vehicle electrical circuit when hazard lights flash for extended periods of time or when the foot brake is activated with hazard lights flashing. GM recommends that a light harness and relays be installed for snowplow lighting. See your GM dealer for service bulletin #90-8A-20. Western Products also offers a Directional Harness Kit, #61185.

UNDER HOOD INSTALLATION

VEHICLE HARNESS AND MOTOR RELAY

Except as noted, parts to be installed are found in the hydraulics box.

⚠ WARNING

Electrical shock hazard. Disconnect battery before beginning electrical installation.

⚠ CAUTION

To prevent corrosion on all underhood electrical connections, use dielectric grease to fill receptacles and lightly coat ring terminals and blades before assembling, or lightly coat the connections after assembling.

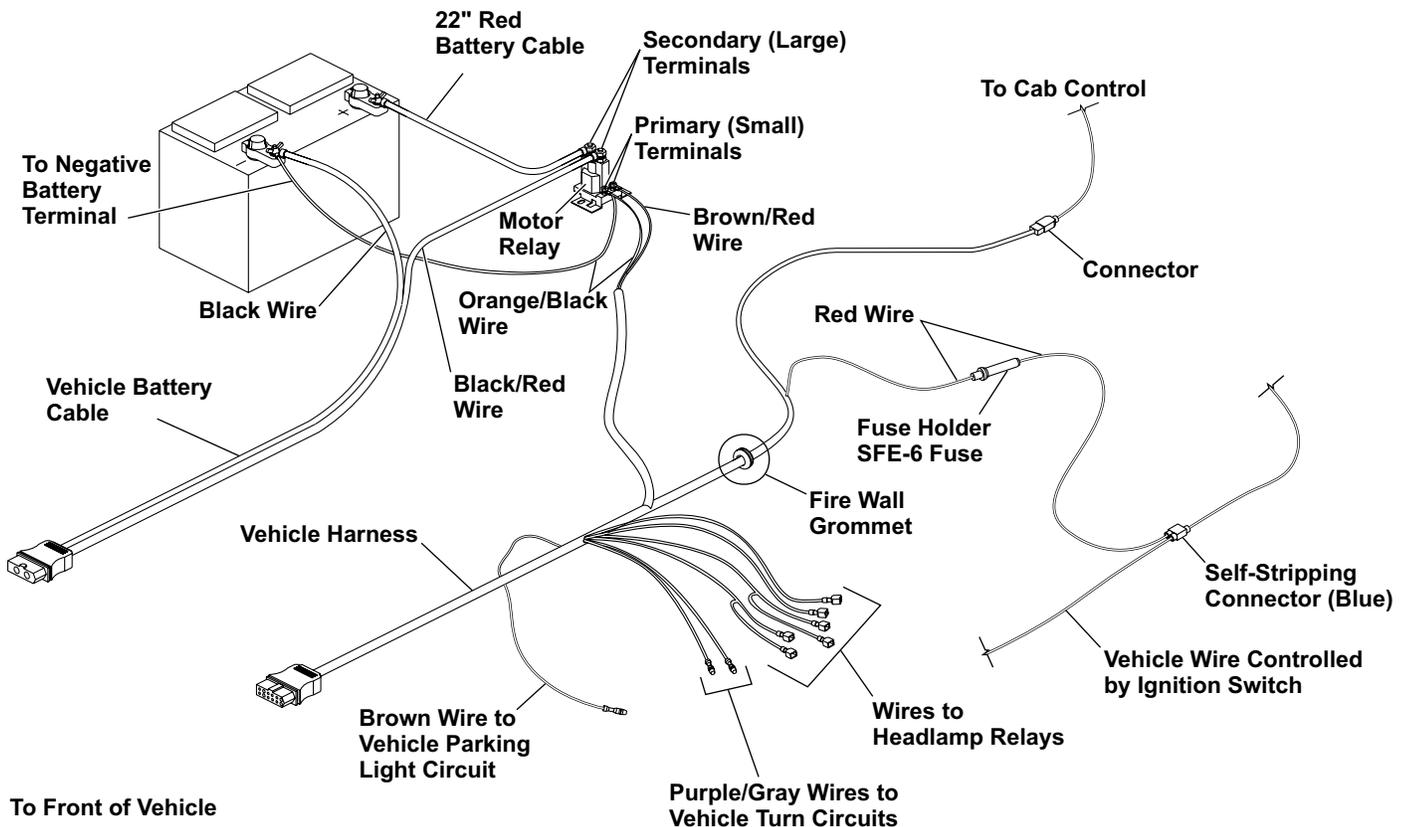
1. Identify wires for the parking lamp on the driver side and the turn signals on both sides of the vehicle. Attach a black self-stripping bullet receptacle connector (found in harness kit) to each of these three wires.

OPTION: Identify wires for parking lamps and both turn signals in the main harness behind the driver side headlamp. Attach a black self-stripping bullet receptacle connector to each of these three wires.

2. Remove NEGATIVE battery cable from battery.
3. Find a location for the motor relay where it will be protected from road splash and will be within 18" of the vehicle primary battery.

NOTE: Motor relay terminals must be up or horizontal.

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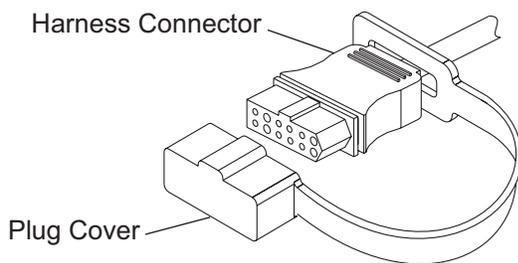


UNDER HOOD INSTALLATION

VEHICLE HARNESS AND MOTOR RELAY (Continued)

Using the motor relay mounting plate as a template, drill two 9/32" holes, and mount motor relay to holes using 1/4" x 3/4" bolts, flat washers, and lock nuts.

- Route 22" red battery cable between a large motor relay terminal and the POSITIVE (+) battery terminal taking care to avoid sharp edges, and hot or moving parts. Attach cable to a large motor relay terminal with a lock washer and 5/16"-24 jam nut. Attach other end of 22" cable to POSITIVE (+) battery terminal with furnished battery adapter. (Adapter found in mount box.) Position cable and tighten battery adapter to 124–178 in-lb. Attach OEM battery cable to adapter with original battery bolt. Position cable and hold adapter while tightening original battery bolt to 124-178 in-lb.
- Stretch rectangular openings of plug cover straps (found in harness kit) over harness connector ends of long battery cable assembly (found in hydraulics box) and vehicle harness (found in harness kit). Place plug covers over molds on harness.



- Find a location in the vehicle bumper/grill area on the battery side for mounting the battery cable harness connector. The best location is at least 10-1/2" from the center of the grill and at a convenient height for connecting the plow plugs.

Allow harness connector of each harness to hang out in front of grill. Allow enough cable so it is easy to mate and remove connector. Secure with long cable ties (found in mount box).

- Route battery cable through the bumper/grill area at the selected location and through or around the radiator bulkhead to motor relay taking care to avoid sharp edges, and hot or moving parts.

- Attach cable with red stripe to the unused large terminal on the motor relay, and secure it with a lock washer and 5/16"-24 jam nut.
- Route the battery cable without stripe **directly to the NEGATIVE battery terminal** (carefully separate the two cables as needed to reach ground bolt or battery). **DO NOT attach cable to battery at this time.**
- Find a location in bumper/grill area on driver side for mounting the vehicle harness (similar position to battery cable mount). See Steps 6 and 7 above for how to mount. Route vehicle harness through grill and around, or through radiator bulkhead (drill 5/8" hole if needed) into engine compartment.
- Route the wires that break out of the vehicle harness to the area behind the driver-side headlamp. Route rest of harness to the firewall. Drill a 5/8" hole through the firewall in a convenient location away from sharp edges and hot or moving engine parts.
- Route brown/red and orange/black (early revision harnesses have brown/red and black/orange wires) wire loom to motor relay. Early revision harnesses must be modified if CabCommand control is being installed. (See instructions furnished with CabCommand control.)

Attach the brown/red and orange/black (early revisions black/orange) wires small ring terminals to separate small terminals on motor relay using a lock washer and #10-32 nut for each connection.
- Route the orange/black wire with 3/8" ring terminal to the battery negative terminal. **DO NOT attach wire to battery at this time.**

For MVP® installation, continue with In-Cab Installation, step 14, starting on page 24.

(Continued on next page)

UNDER HOOD INSTALLATION

For straight blade installation, continue with step 14 on the next page.

VEHICLE HARNESS AND MOTOR RELAY (Continued)

14. **IMPORTANT:** All vehicles with DRL's — insert fuse holder on pink wire of DRL Adapter Kit (P.N. 61584) through firewall first. Route end of pink wire with receptacles to area of driver side headlamp.

Feed vehicle harness fuse holder through hole and then feed the plastic connector and harness through to the cab. Disassembly of the fuse holder may make it easier to pass through 5/8 hole.

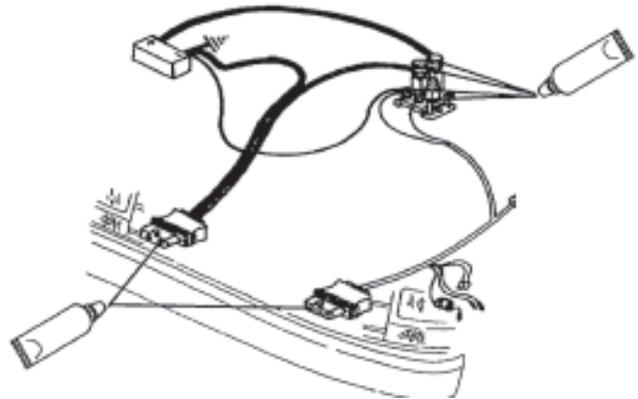
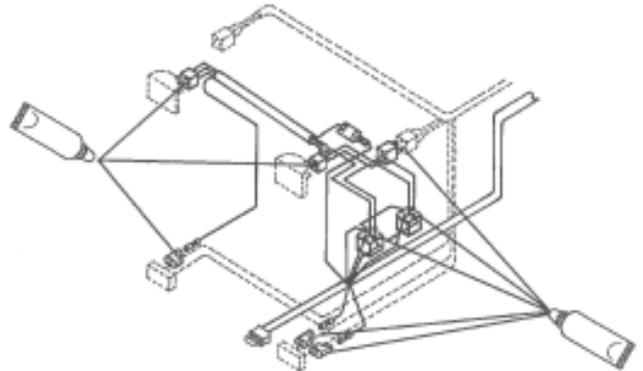
15. At the hole through the firewall, inside the cab, route vehicle harness connector to solenoid or CabCommand control and couple the connectors together.
16. Attach the black hydraulic unit battery cable and the orange/black wire ring terminal to the NEGATIVE (–) battery terminal with the second battery cable adapter. Position cable and wire, and tighten battery adapter to 124–178 in-lb. Attach OEM battery cable to adapter, position cable and hold adapter while tightening original battery bolt to 124–178 in-lb.
17. Locate an accessory wire or unused fuse box terminal capable of carrying 7 amps and controlled by the ignition (key) switch. Route the vehicle harness SFE-6* fuse holder red wire to this location and trim off any excess length of wire (keep fuse holder in system).

Fuse block terminal as source: Attach a terminal (not furnished) to the vehicle harness red wire and plug on the fuse box terminal. If DRL wire is used, crimp pink wire into the same terminal with the red wire.

Accessory wire as source: Open blue self-stripping connector and place the end of the red wire against the inner groove stop (end of wire must not extend from the connector), and the accessory wire in the outer groove. Close connector over the wires using a pliers and snap the locking tab in place. Repeat with DRL pink wire.

*Early style harnesses have a 10 amp fuse which must be replaced with SFE-6 fuse for CabCommand Control.

REMINDER: To prevent corrosion on all underhood electrical connections, use dielectric grease to fill receptacles, including harness connectors, and lightly coat ring terminals and blades before assembling or lightly coat connections after assembling.



Dielectric Grease
P.N. 56099

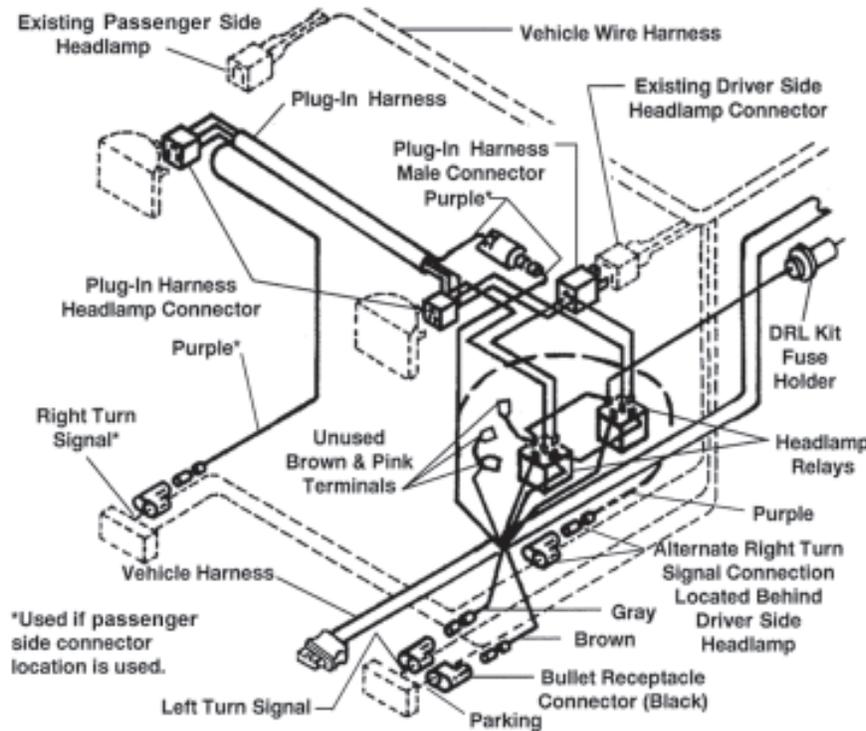
NOTE: A larger tube of dielectric grease is available. Part number #49326.

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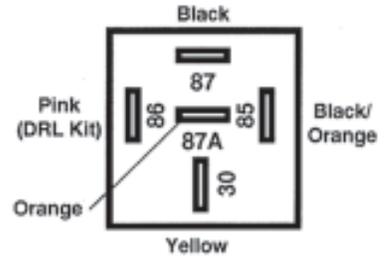
1996 - 2000 DUAL HEADLAMPS WITH DRL'S PLUG-IN HARNESS AND HEADLAMP RELAY INSTALLATION

HEADLAMP WIRING DIAGRAM

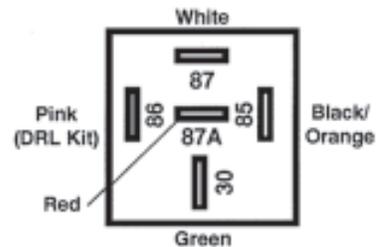
(1996 - 2000 Vehicles with Dual Headlamps with DRL's Shown — For Quad Headlamps, see next page)



HEADLAMP RELAY WIRING DIAGRAM Type A with DRL's



Low Beam Headlamp Relay



High Beam Headlamp Relay

REMINDER: Lubricate all receptacles and blades with dielectric grease before assembling.

1. In the engine compartment behind the driver side headlamp, insert wire bullets from vehicle harness into black bullet connectors (installed in step one of previous section) as follows:
 - Brown wire to parking lamp wire on driver side.
 - Gray wire to left turn signal wire on driver side.
 - If optional bullet connector location is used — vehicle harness purple wire to right turn signal wire on driver side.
2. At the vehicle driver side headlamp, remove the connector from the headlamp and couple matching connector with plug-in harness 3-wire male plug (plug-in harness found in harness kit). Attach plug-in harness headlamp connector to headlamp terminals.
3. Route other end of plug-in harness along radiator bulkhead or over radiator shroud to passenger side headlamp. Remove headlamp connector and secure connector with a cable tie (found in harness kit). Attach plug-in harness headlamp connector to headlamp terminals.

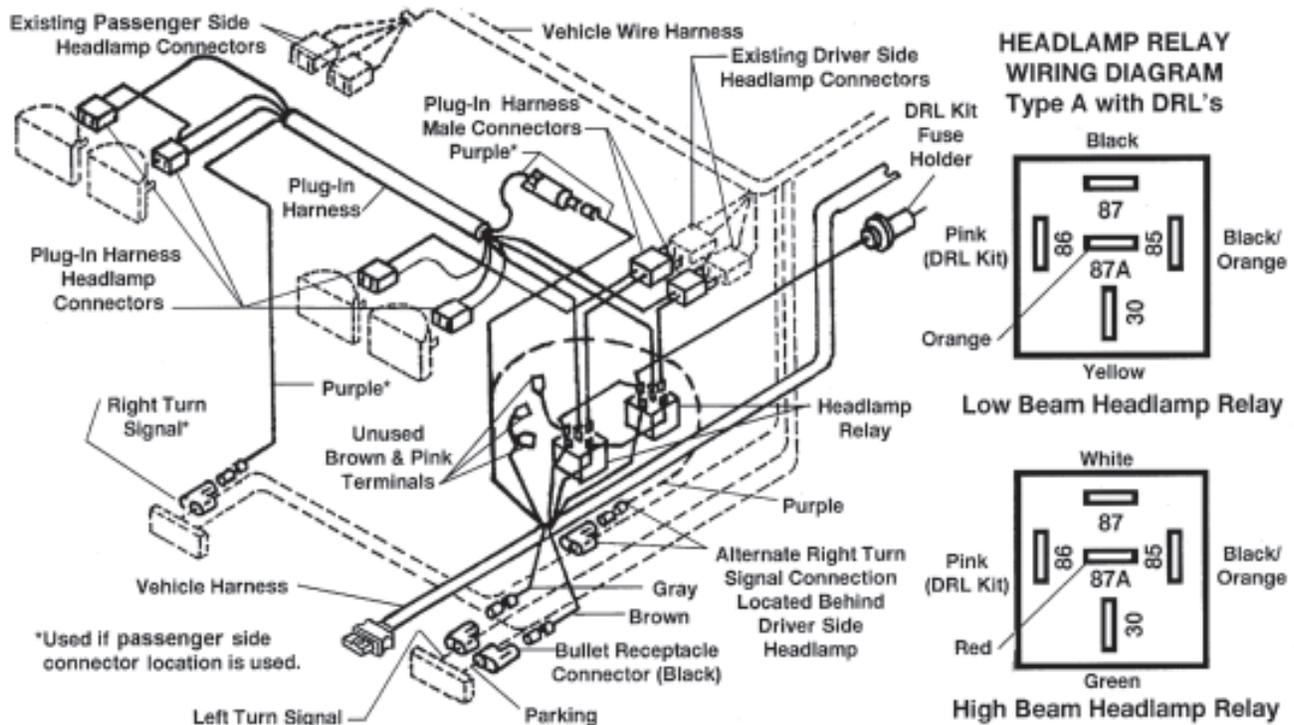
If optional right turn signal connector location is used, skip steps 4 and 5. Purple wire in plug-in harness is not used.

4. On the passenger side, insert purple wire bullet from plug-in harness into vehicle turn signal black bullet connector installed in step one of the previous section.
5. At the driver side headlamp, insert the purple wire bullet from the vehicle harness into the purple wire receptacle on the plug-in harness.
6. At driver side headlamp, connect vehicle and plug-in harness wires with receptacles and pink DRL kit wires to the two headlamp relays (found in harness kit) as shown in the above diagram. (Brown vehicle harness wires are not used in this installation.)
7. Place grommet around vehicle harness and insert into firewall hole (also put grommet in the radiator bulkhead hole if one was drilled). Use cable ties (found in harness kit) to secure harnesses, relays and wires away from sharp edges, and hot or moving engine parts and to prevent accidental grounding of connections.
8. This vehicle does not require change of the turn signal flasher.
9. Lubricate terminal cavities of both harness connectors with dielectric grease. Give the dielectric grease tube to vehicle owner for future lubrication of harness connectors.

1996 - 2000 QUAD HEADLAMPS WITH DRL'S PLUG-IN HARNESS AND HEADLAMP RELAY INSTALLATION

HEADLAMP WIRING DIAGRAM

(1996 - 2000 Vehicles with Quad Headlamps with DRL's Shown — For Dual Headlamps, see previous page)



REMINDER: Lubricate all receptacles and blades with dielectric grease before assembling.

- In the engine compartment behind the driver side headlamp, insert wire bullets from vehicle harness into black bullet connectors (installed in step one of previous section) as follows:
 - Brown wire to parking lamp wire on driver side.
 - Gray wire to left turn signal wire on driver side.
 - If optional bullet connector location is used — vehicle harness purple wire to right turn signal wire on driver side.
- Remove park/turn lamp housing to access headlamp connectors on quad composite type headlamps. At the vehicle driver side headlamp, remove the connectors from the headlamps and couple matching connectors with plug-in harness two 2-wire male plugs (plug-in harness found in harness kit). Attach plug-in harness headlamp connectors to headlamp terminals.
- Route other end of plug-in harness along radiator bulkhead or over radiator shroud to passenger side headlamps. Remove headlamp connectors and secure connectors with a cable tie (found in harness kit). Attach plug-in harness headlamp connectors to headlamp terminals.

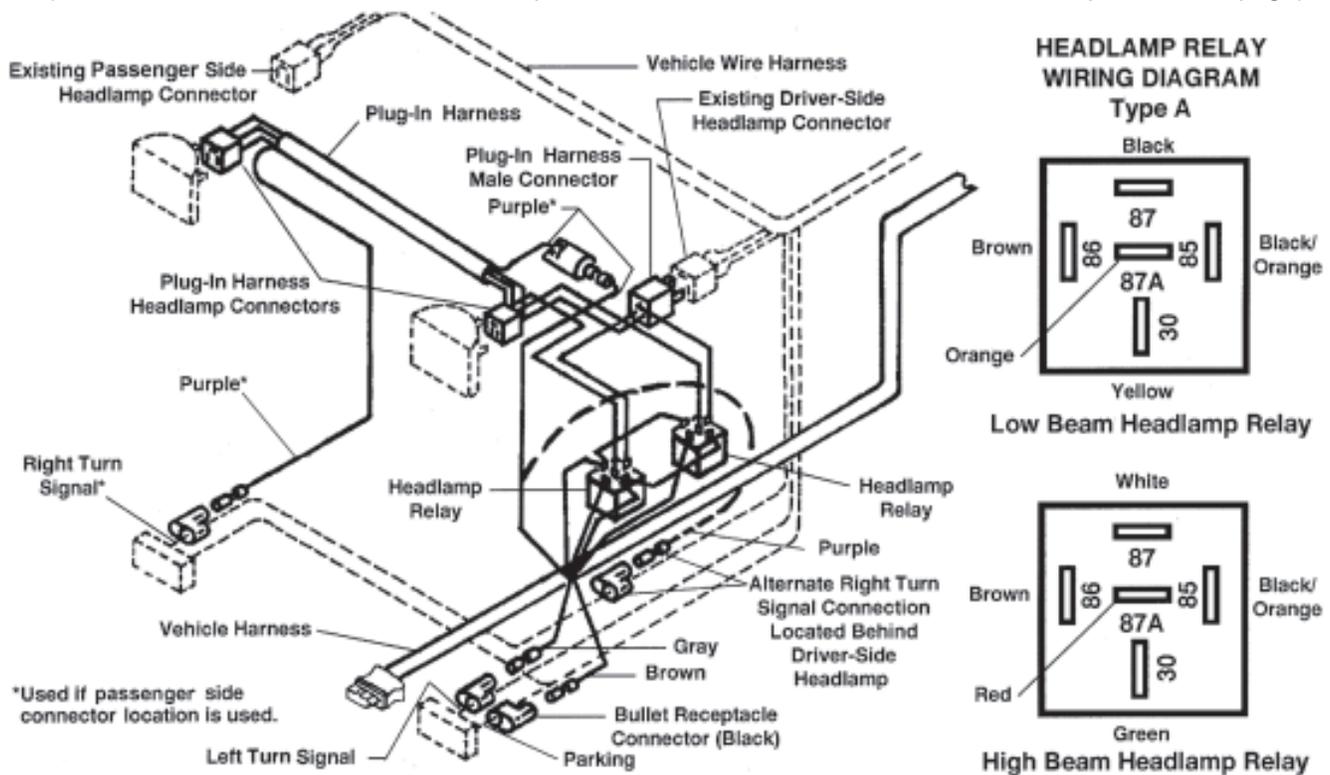
If optional right turn signal connector location is used, skip steps 4 and 5. Purple wire in plug-in harness is not used.

- On the passenger side, insert purple wire bullet from plug-in harness into vehicle turn signal black bullet connector installed in step one of the previous section.
- At the driver side headlamp, insert the purple wire bullet from the vehicle harness into the purple wire receptacle on the plug-in harness.
- At driver side headlamp, connect vehicle and plug-in harness wires with receptacles and pink DRL kit receptacles to the two headlamp relays (found in harness kit) as shown in the above diagram. (Brown vehicle harness wires are not used in this installation.)
- Place grommet around vehicle harness and insert into firewall hole (also put grommet in the radiator bulkhead hole if one was drilled). Use cable ties (found in harness kit) to secure harnesses, relays and wires away from sharp edges, and hot or moving engine parts and to prevent accidental grounding of connections.
- This vehicle does not require change of the turn signal flasher.
- Lubricate terminal cavities of both harness connectors with dielectric grease. Give the dielectric grease tube to vehicle owner for future lubrication of harness connectors.

1988 - 1995 DUAL HEADLAMPS WITHOUT DRL'S PLUG-IN HARNESS AND HEADLAMP RELAY INSTALLATION

HEADLAMP WIRING DIAGRAM

(1988 - 1995 Vehicles with Dual Headlamps without DRL's Shown — For Quad Headlamps, see next page)



REMINDER: Lubricate all receptacles and blades with dielectric grease before assembling.

- In the engine compartment behind the driver side headlamp, insert wire bullets from vehicle harness into black bullet connectors (installed in step one of previous section) as follows:
 - Brown wire to parking lamp wire on driver side.
 - Gray wire to left turn signal wire on driver side.
 - If optional bullet connector location is used — vehicle harness purple wire to right turn signal wire on driver side.
- At the vehicle driver side headlamp, remove the connector from the headlamp and couple matching connector with plug-in harness 3-wire male plug (plug-in harness found in harness kit). Attach plug-in harness headlamp connector to headlamp terminals.
- Route other end of plug-in harness along radiator bulkhead or over radiator shroud to passenger side headlamp. Remove headlamp connector and secure connector with a cable tie (found in harness kit). Attach plug-in harness headlamp connector to headlamp terminals.

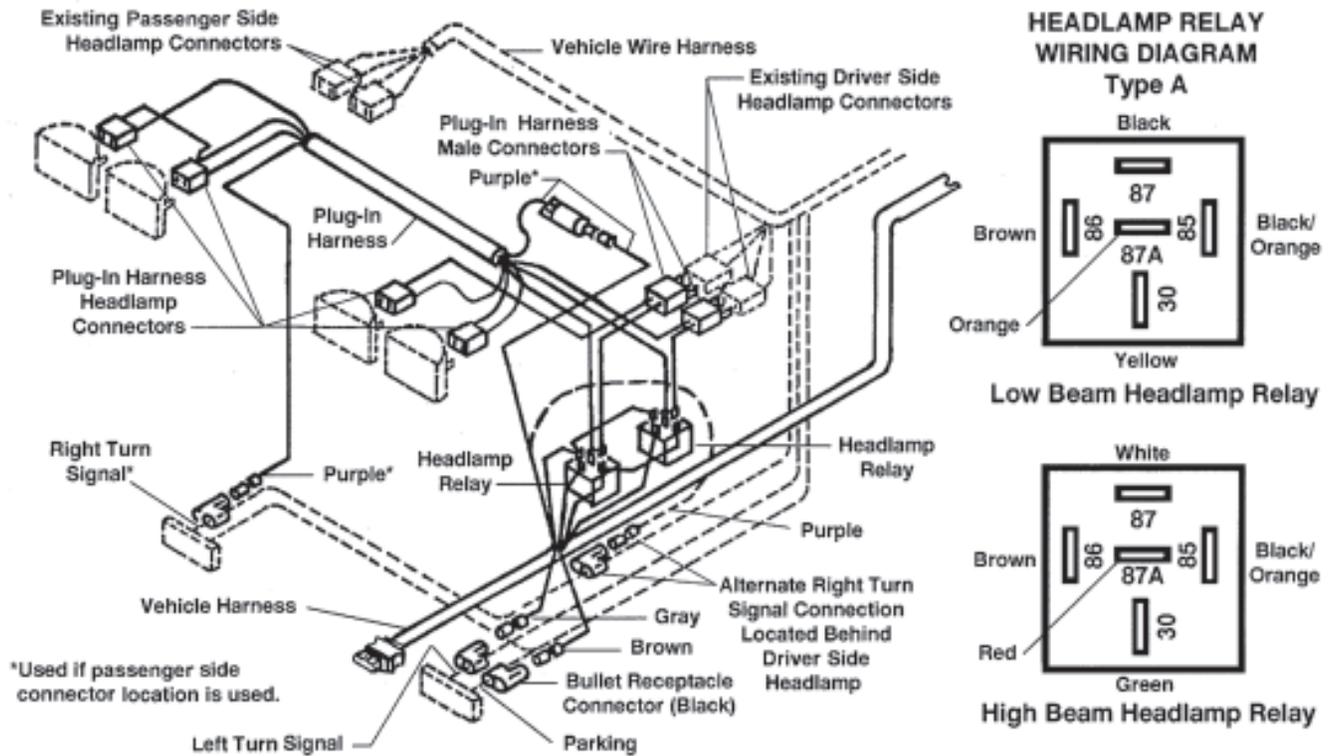
If optional right turn signal connector location is used, skip steps 4 and 5. Purple wire in plug-in harness is not used.

- On the passenger side, insert purple wire bullet from plug-in harness into vehicle turn signal black bullet connector installed in step one of the previous section.
- At the driver side headlamp, insert the purple wire bullet from the vehicle harness into the purple wire receptacle on the plug-in harness.
- At driver side headlamp, connect vehicle and plug-in harness wires with receptacles to the two headlamp relays (found in harness kit) as shown in the above diagram.
- Place grommet around vehicle harness and insert into firewall hole (also put grommet in the radiator bulkhead hole if one was drilled). Use cable ties (found in harness kit) to secure harnesses, relays and wires away from sharp edges, and hot or moving engine parts and to prevent accidental grounding of connections.
- This vehicle does not require change of the turn signal flasher.
- Lubricate terminal cavities of both harness connectors with dielectric grease. Give the dielectric grease tube to vehicle owner for future lubrication of harness connectors.

1988 - 1995 QUAD HEADLAMPS WITHOUT DRL'S PLUG-IN HARNESS AND HEADLAMP RELAY INSTALLATION

HEADLAMP WIRING DIAGRAM

(1988 - 1995 Vehicles with Quad Headlamps without DRL's Shown — For Dual Headlamps, see previous page)



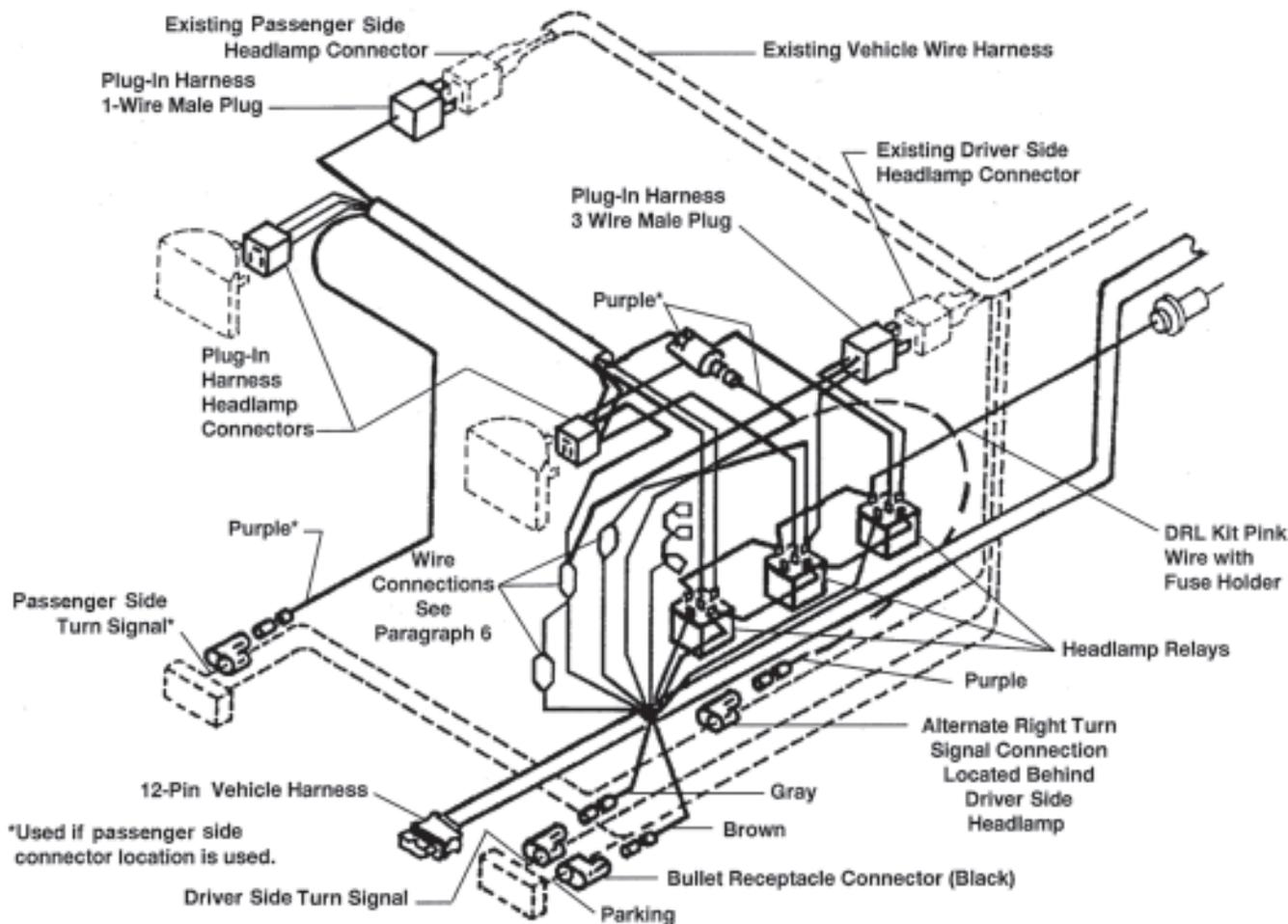
REMINDER: Lubricate all receptacles and blades with dielectric grease before assembling.

- In the engine compartment behind the driver side headlamp, insert wire bullets from vehicle harness into black bullet connectors (installed in step one of previous section) as follows:
 - Brown wire to parking lamp wire on driver side.
 - Gray wire to left turn signal wire on driver side.
 - If optional bullet connector location is used — vehicle harness purple wire to right turn signal wire on driver side.
- Remove park/turn lamp housing to access headlamp connectors on quad composite type headlamps. At the vehicle driver side headlamp, remove the connectors from the headlamps and couple matching connectors with plug-in harness two 2-wire male plugs (plug-in harness found in harness kit). Attach plug-in harness headlamp connectors to headlamp terminals.
- Route other end of plug-in harness along radiator bulkhead or over radiator shroud to passenger side headlamps. Remove headlamp connectors and secure connectors with a cable tie (found in harness kit). Attach plug-in harness headlamp connectors to headlamp terminals.
- On the passenger side, insert purple wire bullet from plug-in harness into vehicle turn signal black bullet connector installed in step one of the previous section.
- At the driver side headlamp, insert the purple wire bullet from the vehicle harness into the purple wire receptacle on the plug-in harness.
- At driver side headlamp, connect vehicle and plug-in harness wires with receptacles to the two headlamp relays (found in harness kit) as shown in the above diagram.
- Place grommet around vehicle harness and insert into firewall hole (also put grommet in the radiator bulkhead hole if one was drilled). Use cable ties (found in harness kit) to secure harnesses, relays and wires away from sharp edges, and hot or moving engine parts and to prevent accidental grounding of connections.
- This vehicle does not require change of the turn signal flasher.
- Lubricate terminal cavities of both harness connectors with dielectric grease. Give the dielectric grease tube to vehicle owner for future lubrication of harness connectors.

1989 - 1995 CANADIAN DUAL HEADLAMPS WITH DRL'S PLUG-IN HARNESS AND HEADLAMP RELAY INSTALLATION

HEADLAMP WIRING DIAGRAM

(1989 - 1995 Canadian Vehicles with Dual Headlamps with DRL's Shown — For Quad Headlamps, see page 14)



REMINDER: Lubricate all receptacles and blades with dielectric grease before assembling.

- In the engine compartment behind the driver side headlamp, insert wire bullets from 12-pin vehicle harness into black bullet connectors (installed in step one of previous section) as follows:
 - Brown wire to parking lamp wire on driver side.
 - Gray wire to left turn signal wire on driver side.
 - If alternate bullet connector location is used — vehicle harness purple wire to right turn signal wire on driver side.
- At the vehicle driver side headlamp, remove the connector from the headlamp and couple connector with plug-in harness 3-wire male plug (plug-in harness found in harness kit). Attach plug-in harness headlamp connector to headlamp terminals.

- Route other end of plug-in harness along radiator bulkhead or over radiator shroud to passenger side headlamp. Remove headlamp connector and couple connector with plug-in harness 1-wire male plug. Secure connector with a cable tie (found in harness kit). Attach plug-in harness headlamp connector to headlamp terminals.

If alternate right turn signal connector location is used, skip steps 4 and 5. Purple wire in plug-in harness is not used.

- On the passenger side, insert purple wire bullet from plug-in harness into vehicle turn signal black bullet connector installed in step one of the previous section.

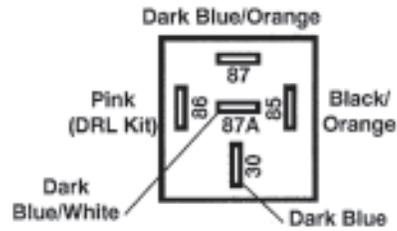
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1989 - 1995 CANADIAN DUAL HEADLAMPS WITH DRL'S PLUG-IN HARNESS AND HEADLAMP RELAY INSTALLATION (Continued)

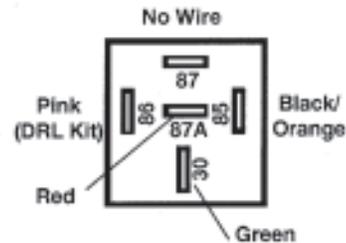
5. At the driver side headlamp, insert the purple wire bullet from the vehicle harness into the purple wire receptacle on the plug-in harness.
6. Behind the driver side headlamp, connect the following blades and receptacles together:
 - Black/white wire blade to black/white wire receptacle.
 - Yellow and orange wire blade to black wire receptacle.
 - Green wire blade to white wire receptacle.
7. At driver side headlamp, connect 12-pin vehicle and plug-in harness wires with receptacles to the three headlamp relays (found in harness kit) as shown in the diagrams on this page.
8. Place grommet around 12-pin vehicle harness and insert into firewall hole (also put a grommet in the hole in the radiator bulkhead if hole was drilled).
9. Use cable ties (found in harness kit) to secure harnesses, relays and wires away from sharp edges, and hot or moving engine parts and to prevent accidental grounding of connections.
10. This vehicle does not require a change of the turn signal flasher.
11. Lubricate terminal cavities of both harness connectors with dielectric grease. Give the dielectric grease tube to vehicle owner for future lubrication of harness connectors.

HEADLAMP RELAY WIRING DIAGRAM

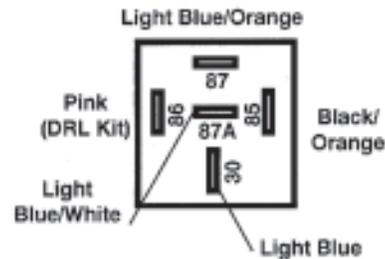
SAE 2B Headlamps with DRL's



Passenger Side Headlamp Relay



Vehicle High Beam Headlamp Relay

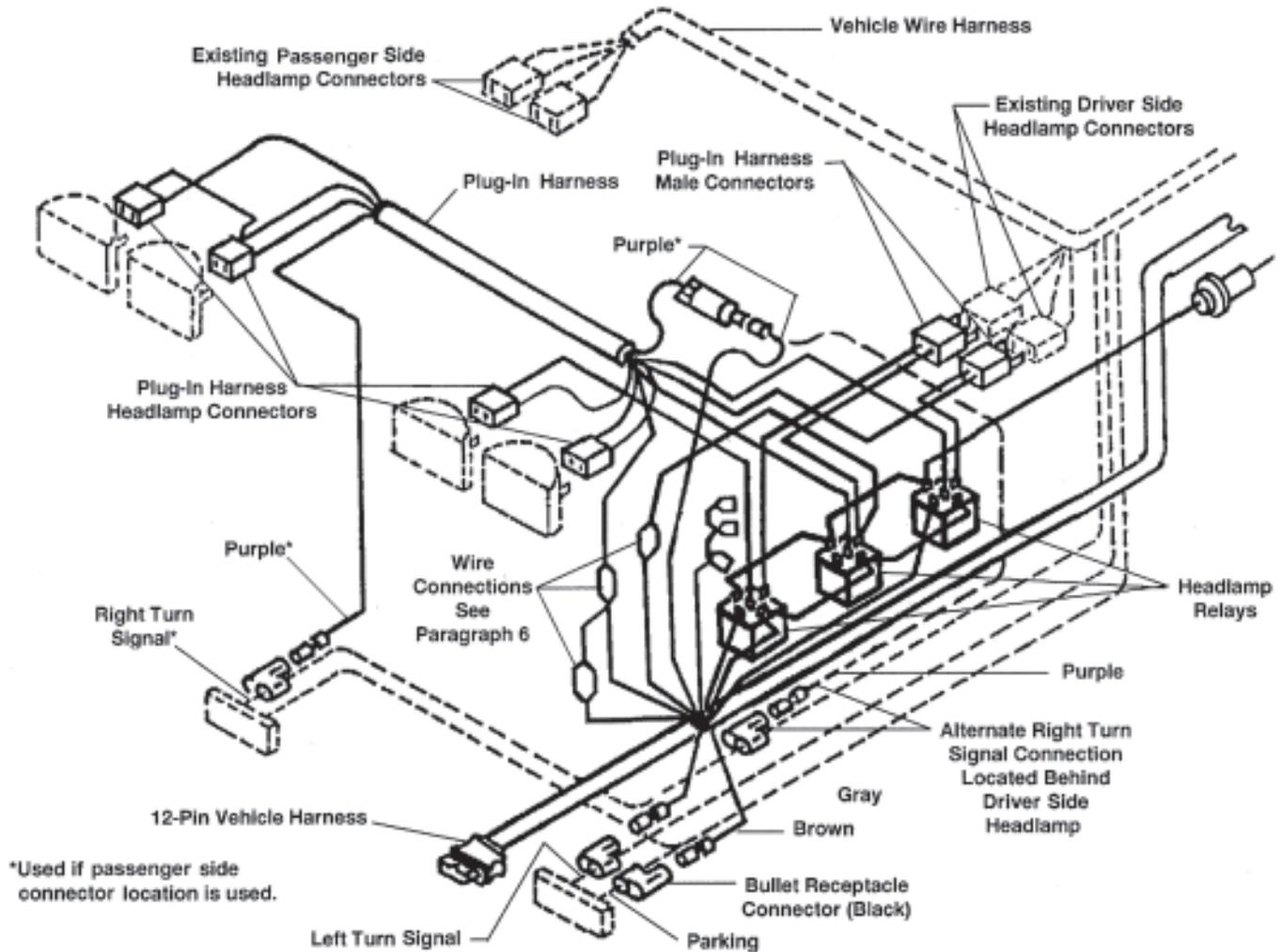


Driver Side Headlamp Relay

1989 - 1995 CANADIAN QUAD HEADLAMPS WITH DRL'S PLUG-IN HARNESS AND HEADLAMP RELAY INSTALLATION

HEADLAMP WIRING DIAGRAM

(1989 - 1995 Canadian Vehicles with Quad Headlamps with DRL's Shown — For Dual Headlamps, see page 12)



REMINDER: Lubricate all receptacles and blades with dielectric grease before assembling.

1. In the engine compartment behind the driver side headlamp, insert wire bullets from 12-pin vehicle harness into black bullet connectors (installed in step one of previous section) as follows:

- Brown wire to parking lamp wire on driver side.
- Gray wire to left turn signal wire on driver side.
- If alternate bullet connector location is used — vehicle harness purple wire to right turn signal wire on driver side.

2. Remove park/turn lamp housing to access headlamp connectors on quad composite type headlamps. At the vehicle driver side headlamp, remove the connectors from the headlamps and couple matching connectors with two plug-in harness 2-wire male plugs (plug-in harness found in harness kit). Attach two plug-in harness headlamp connectors to headlamp terminals.
3. Route other end of plug-in harness along radiator bulkhead or over radiator shroud to passenger side headlamps. Remove two headlamp connectors and secure connectors with cable tie (found in harness kit). Attach two plug-in harness headlamp connectors to headlamp terminals.

(Continued on next page)

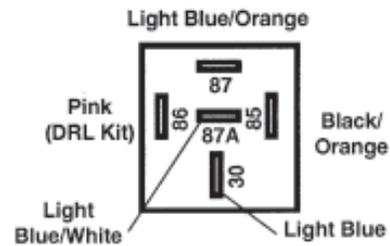
1989 - 1995 CANADIAN QUAD HEADLAMPS WITH DRL'S PLUG-IN HARNESS AND HEADLAMP RELAY INSTALLATION (Continued)

If alternate right turn signal connector location is used, skip steps 4 and 5. Purple wire in plug-in harness is not used.

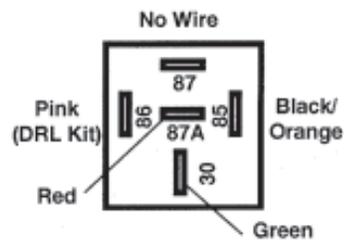
4. On the passenger side, insert purple wire bullet from plug-in harness into vehicle turn signal black bullet connector installed in step one of the previous section.
5. At the driver side headlamp, insert the purple wire bullet from the vehicle harness into the purple wire receptacle on the plug-in harness.
6. Behind the driver side headlamp, connect the following blades and receptacles together:
 - Black/white wire blade to black/white wire receptacle.
 - Yellow and orange wire blade to black wire receptacle.
 - Green wire blade to white wire receptacle.
7. At driver side headlamp, connect 12-pin vehicle and plug-in harness wires with receptacles to the three headlamp relays (found in harness kit) as shown in the diagrams on this page.
8. Place grommet around 12-pin vehicle harness and insert into firewall hole (also put a grommet in the hole in the radiator bulkhead if hole was drilled).
9. Use cable ties (found in harness kit) to secure harnesses, relays and wires away from sharp edges, and hot or moving engine parts and to prevent accidental grounding of connections.
10. This vehicle does not require a change of the turn signal flasher.
11. Lubricate terminal cavities of both harness connectors with dielectric grease. Give the dielectric grease tube to vehicle owner for future lubrication of harness connectors.

HEADLAMP RELAY WIRING DIAGRAM

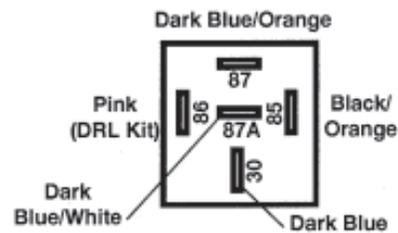
SAE HB-3 & HB-4 Headlamps with DRL's



High Beam Headlamp Relay



Vehicle High Beam Headlamp Relay



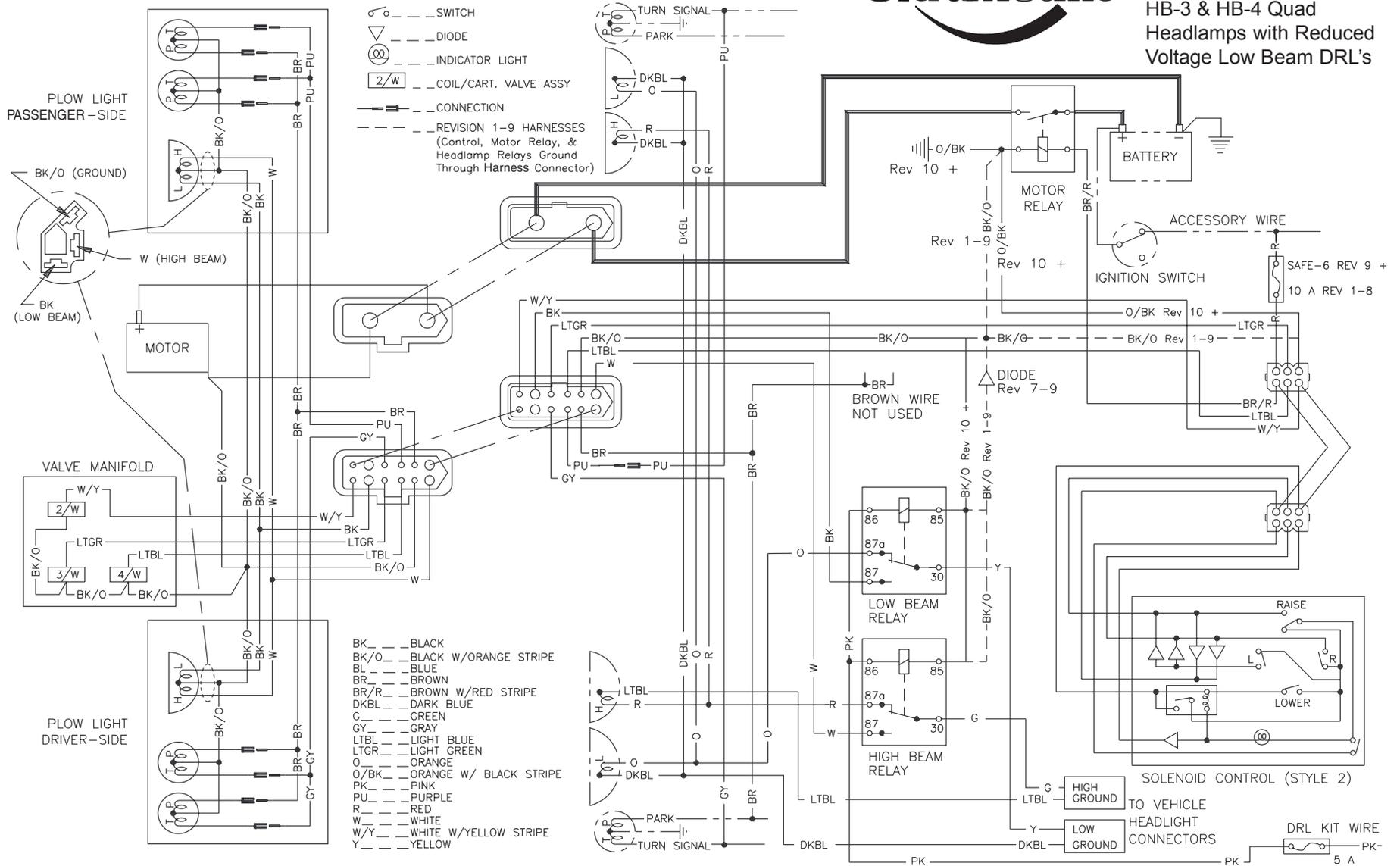
Low Beam Headlamp Relay

Headlamp Kit 9-Pin P.N. 61540-1, Harness Kit HB-3 & HB-4 U -A P.N. 61515 with DRL Kit P.N. 61584, Installation Instructions page 9

Solenoid Control — 9-Pin Vehicle Harness Revision 10 and later — The control indicator light will light whenever the control ON/OFF switch and the ignition (key) switch are both turned ON. The plow plugs and harness connectors do not need to be connected for the control light to be on.



Wiring Diagram
Harness Type -A
with 9-Pin Headlamp Kit
HB-3 & HB-4 Quad
Headlamps with Reduced
Voltage Low Beam DRL's



9-Pin Vehicle harnesses — P.N. 61437, rev. 7, 8, or 9 — The indicator light on the solenoid control will only light when both plow plugs and harness connectors are connected and the ignition (key) switch and control on/off switch are both turned on.

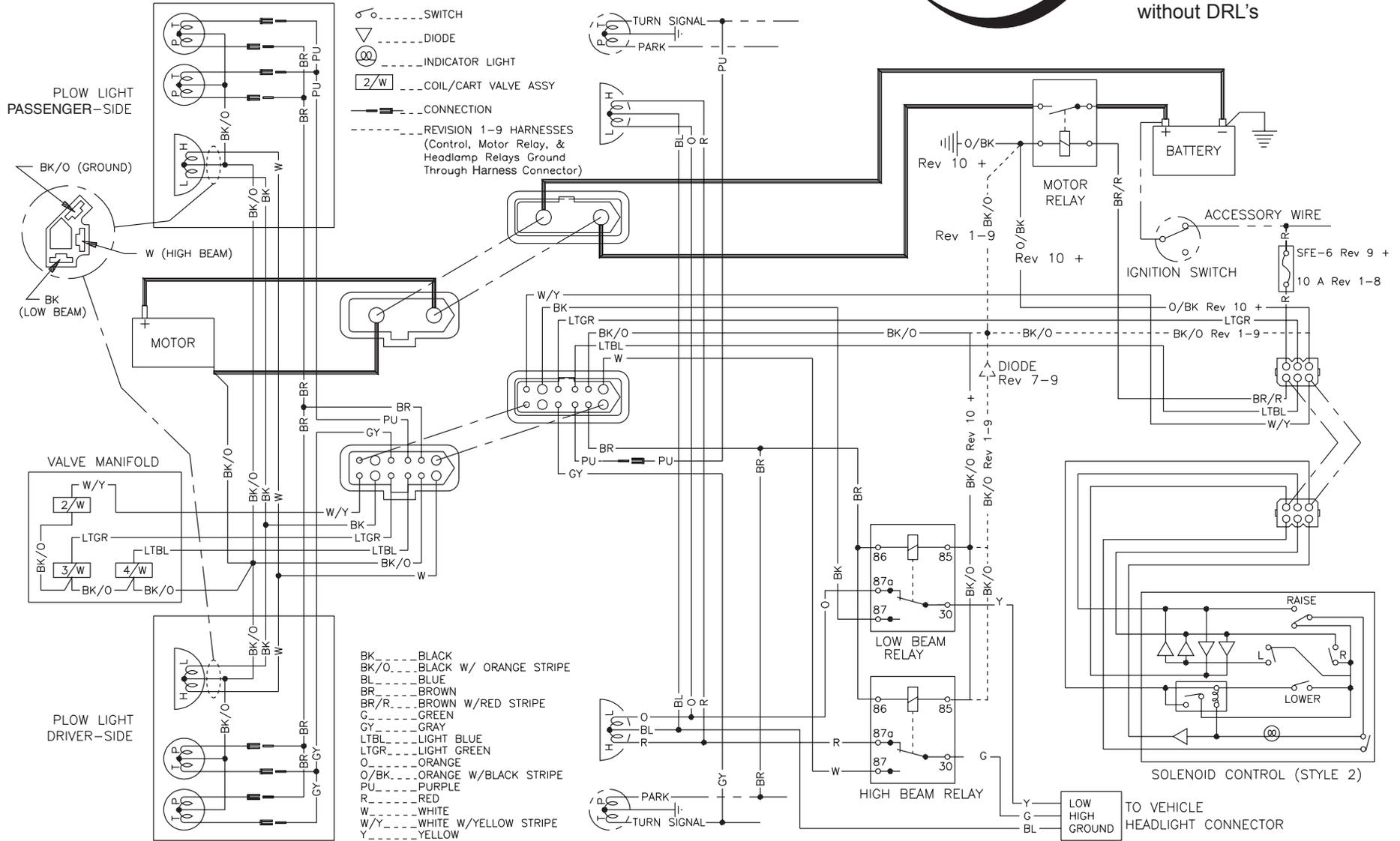
9-Pin Vehicle harnesses with revision numbers prior to listed revisions at right — The indicator light will also be on when the control and ignition (key) switches are ON and the plow plugs are disconnected. If the parking lights are turned on (with plow plugs disconnected), the indicator light will go out.

Headlamp Kit 9-Pin P.N. 61540-1, Harness Kit 2B U -A P.N. 61545 without DRL's, Installation Instructions page 10

Solenoid Control — 9-Pin Vehicle Harness Revision 10 and later — The control indicator light will light whenever the control ON/OFF switch and the ignition (key) switch are both turned ON. The plow plugs and harness connectors do not need to be connected for the control light to be on.



Wiring Diagram
Harness Type -A
with 9-Pin Headlamp Kit
2B Dual Headlamps
without DRL's



9-Pin Vehicle harnesses — P.N. 61437, rev. 7, 8, or 9 — The indicator light on the solenoid control will only light when both plow plugs and harness connectors are connected and the ignition (key) switch and control on/off switch are both turned on.

9-Pin Vehicle harnesses with revision numbers prior to listed revisions at right — The indicator light will also be on when the control and ignition (key) switches are ON and the plow plugs are disconnected. If the parking lights are turned on (with plow plugs disconnected), the indicator light will go out.

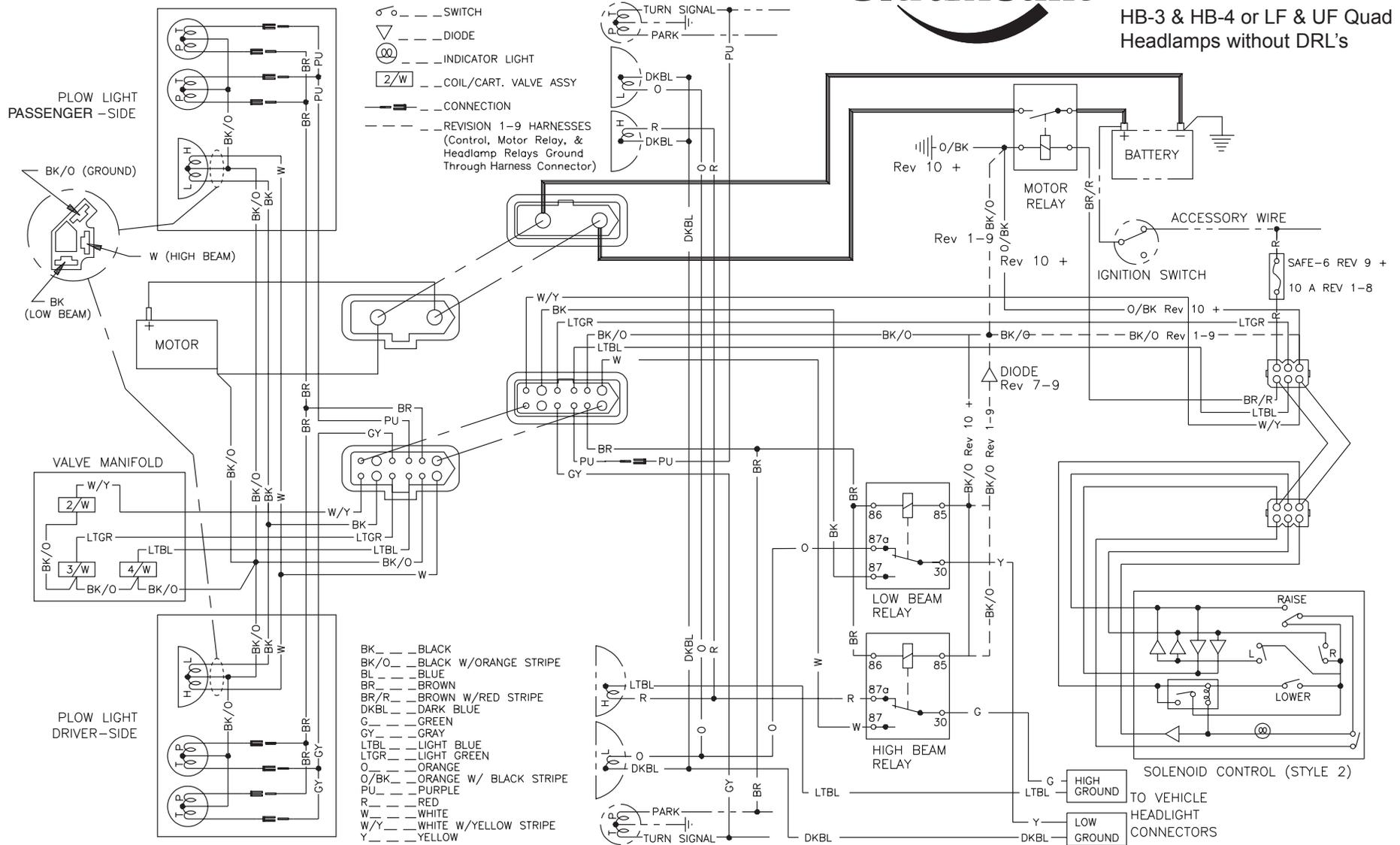
Headlamp Kit 9-Pin P.N. 61540-1, Harness Kit HB-3 & HB-4 U -A P.N. 61515 or Harness Kit LF & UF U -A P.N. 61580 without DRL's, Installation Instructions page 11

Solenoid Control — 9-Pin Vehicle Harness Revision 10 and later — The control indicator light will light whenever the control ON/OFF switch and the ignition (key) switch are both turned ON. The plow plugs and harness connectors do not need to be connected for the control light to be on.



Wiring Diagram Harness Type -A with 9-Pin Headlamp Kit

HB-3 & HB-4 or LF & UF Quad
Headlamps without DRL's



9-Pin Vehicle harnesses — P.N. 61437, rev. 7, 8, or 9 — The indicator light on the solenoid control will only light when both plow plugs and harness connectors are connected and the ignition (key) switch and control on/off switch are both turned on.

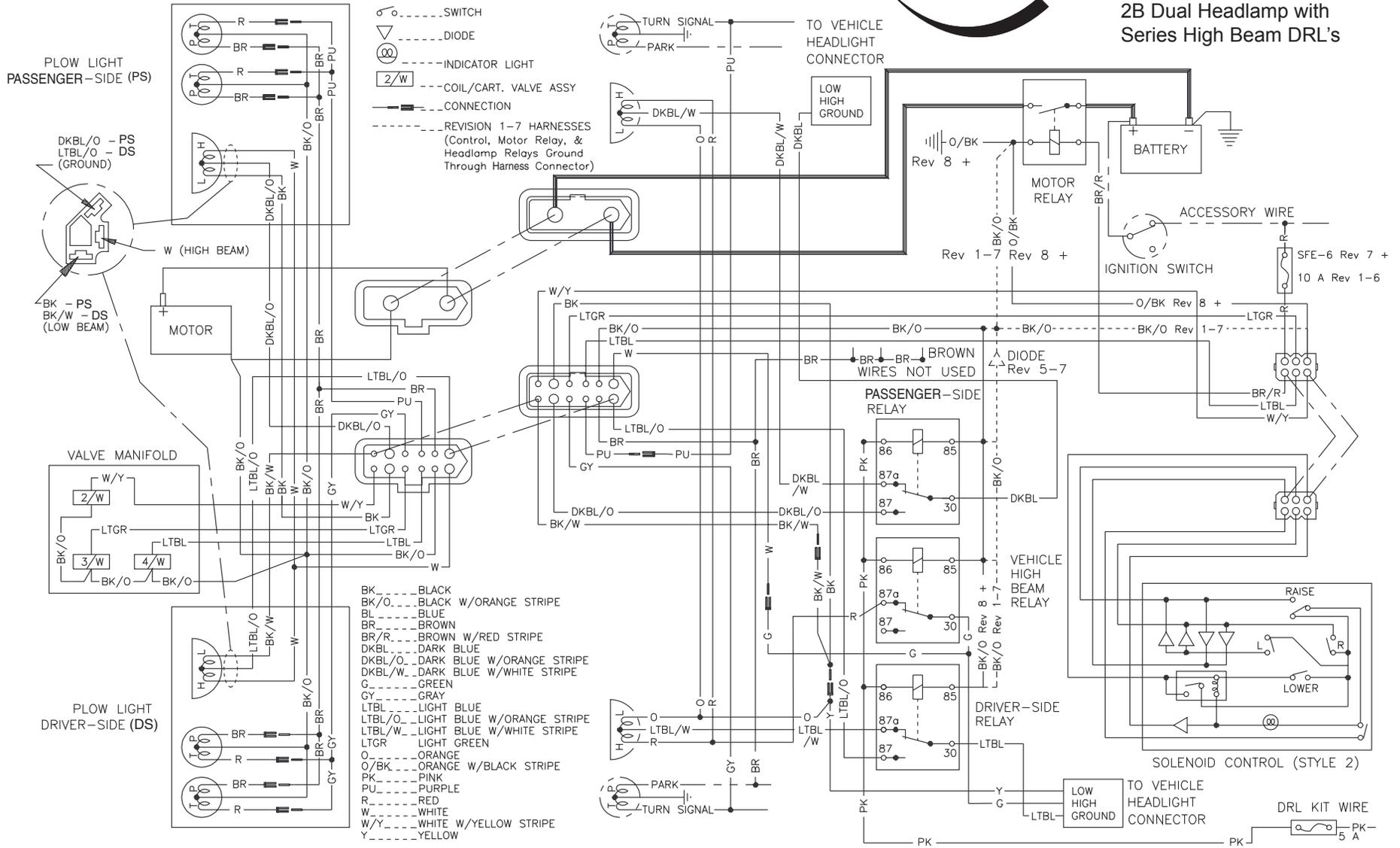
9-Pin Vehicle harnesses with revision numbers prior to listed revisions at right — The indicator light will also be on when the control and ignition (key) switches are ON and the plow plugs are disconnected. If the parking lights are turned on (with plow plugs disconnected), the indicator light will go out.

Headlamp Kit 12-Pin P.N. 61550-1, Harness Kit 2B U -B P.N. 61555 with DRL Kit P.N. 61584, Installation Instructions page 12 and 13

Solenoid Control — 12-Pin Vehicle Harness Revision 8 and later — The control indicator light will light whenever the control ON/OFF switch and the ignition (key) switch are both turned ON. The plow plugs and harness connectors do not need to be connected for the control light to be on.



Wiring Diagram Harness Type -B with 12-Pin Headlamp Kit 2B Dual Headlamp with Series High Beam DRL's



9-Pin Vehicle harnesses — P.N. 61557, rev. 5, 6, or 7 — The indicator light on the solenoid control will only light when both plow plugs and harness connectors are connected and the ignition (key) switch and control on/off switch are both turned on.

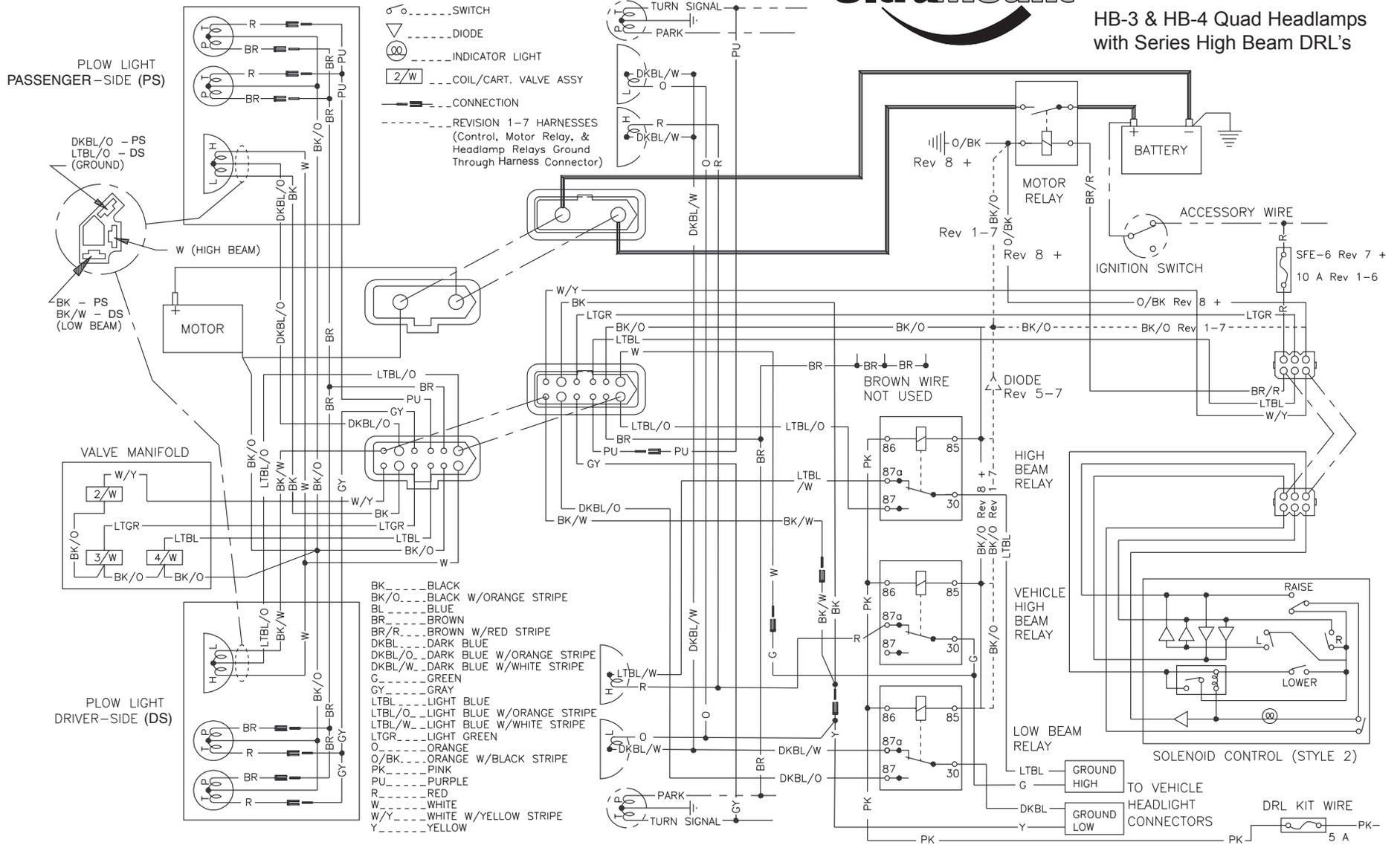
9-Pin Vehicle harnesses with revision numbers prior to listed revisions at right — The indicator light will also be on when the control and ignition (key) switches are ON and the plow plugs are disconnected. If the parking lights are turned on (with plow plugs disconnected), the indicator light will go out.

Headlamp Kit 12-Pin P.N. 61550-1, Harness Kit HB-3 & HB-4 U -B P.N. 61585 with DRL Kit P.N. 61584, Installation Instructions page 14 and 15

Solenoid Control — 12-Pin Vehicle Harness Revision 8 and later — The control indicator light will light whenever the control ON/OFF switch and the ignition (key) switch are both turned ON. The plow plugs and harness connectors do not need to be connected for the control light to be on.



Wiring Diagram Harness Type -B with 12-Pin Headlamp Kit HB-3 & HB-4 Quad Headlamps with Series High Beam DRL's



9-Pin Vehicle harnesses — P.N. 61557, rev. 5, 6, or 7 — The indicator light on the solenoid control will only light when both plow plugs and harness connectors are connected and the ignition (key) switch and control on/off switch are both turned on.

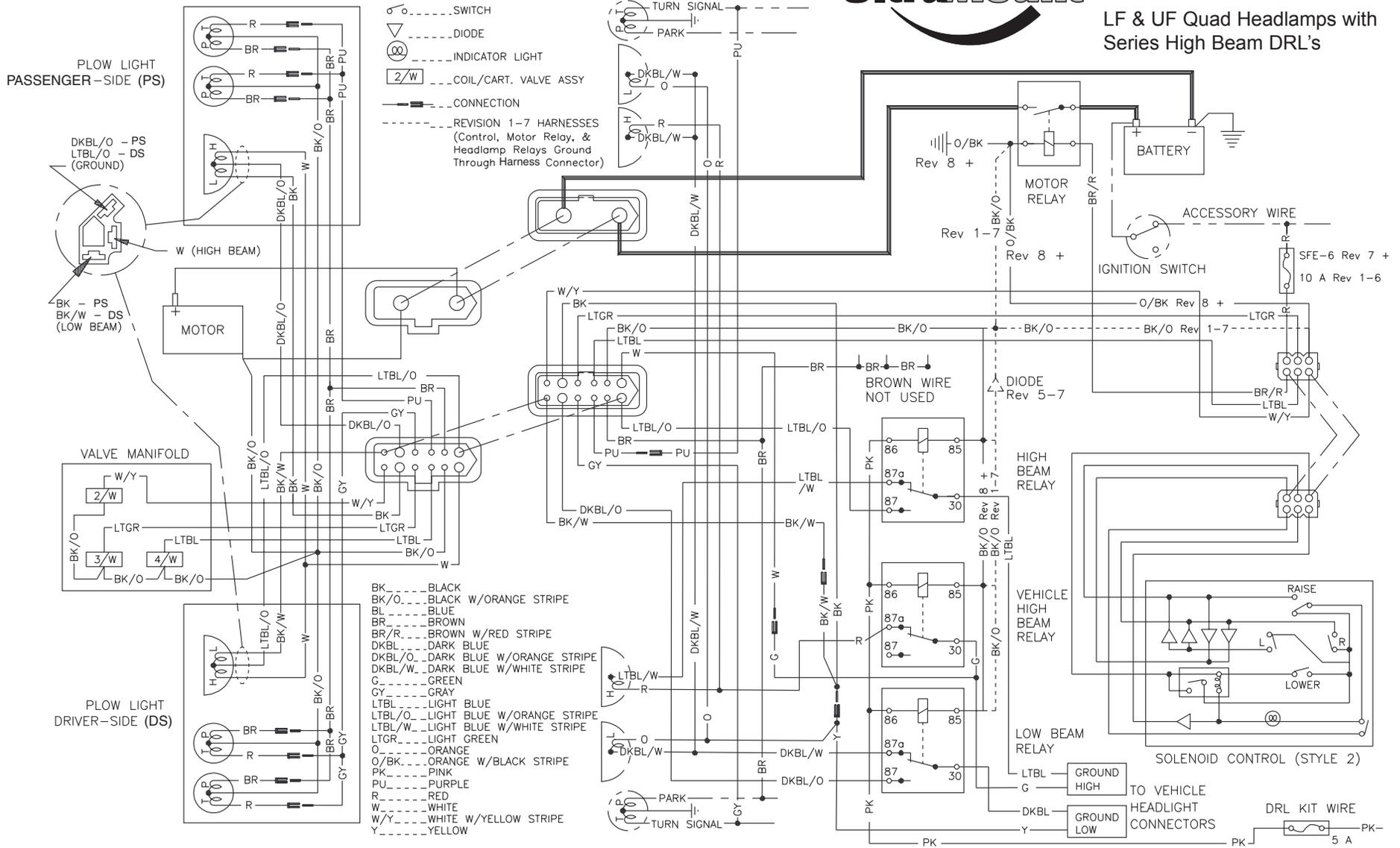
9-Pin Vehicle harnesses with revision numbers prior to listed revisions at right — The indicator light will also be on when the control and ignition (key) switches are ON and the plow plugs are disconnected. If the parking lights are turned on (with plow plugs disconnected), the indicator light will go out.

Headlamp Kit 12-Pin P.N. 61550-1, Harness Kit LF & UF U -B P.N. 61561 with DRL Kit P.N. 61584, Installation Instructions Furnished in Harness Kit

Solenoid Control — 12-Pin Vehicle Harness Revision 8 and later — The control indicator light will light whenever the control ON/OFF switch and the ignition (key) switch are both turned ON. The plow plugs and harness connectors do not need to be connected for the control light to be on.



Wiring Diagram
Harness Type - Modified A
with 12-Pin Headlamp Kit
LF & UF Quad Headlamps with
Series High Beam DRL's

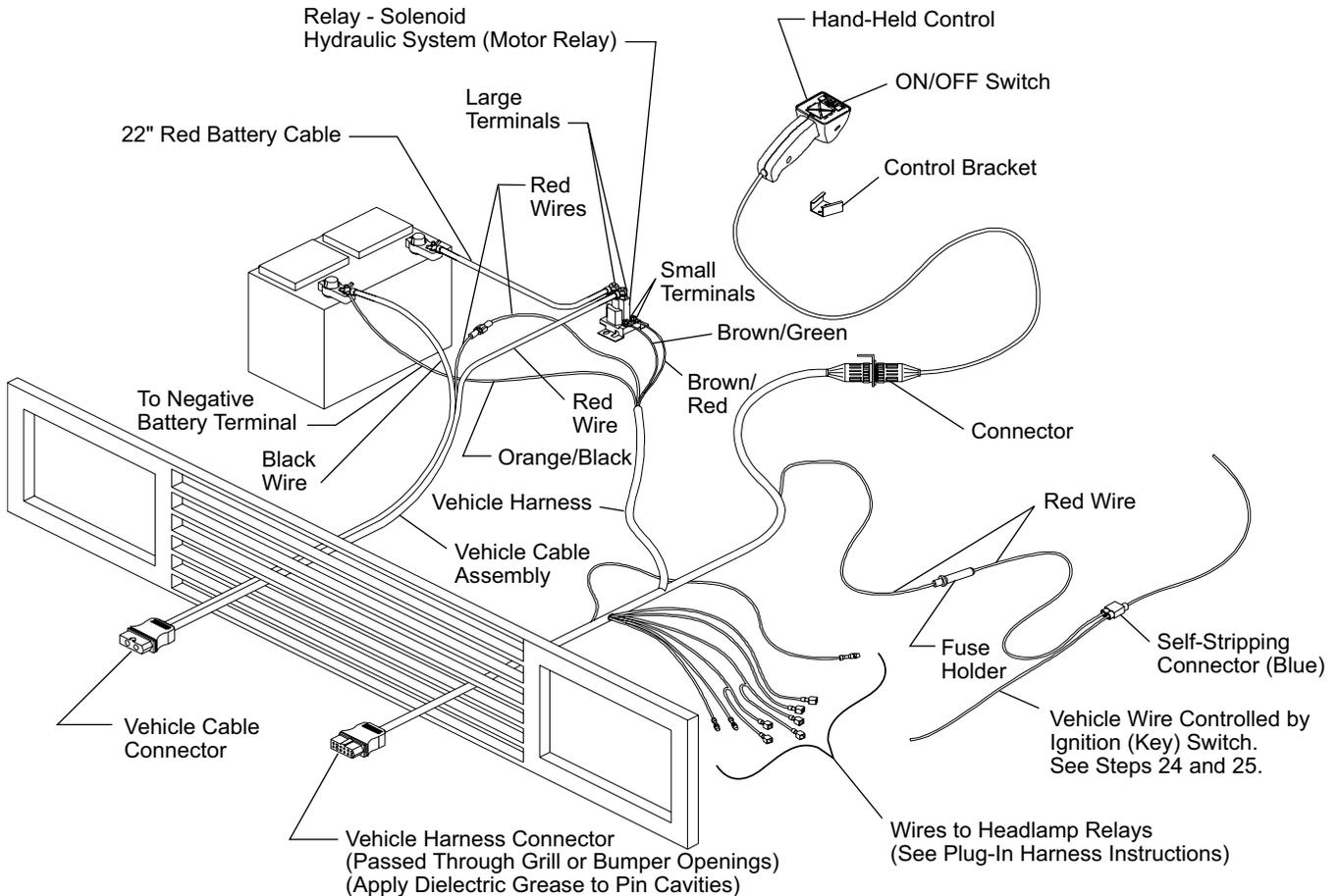


9-Pin Vehicle harnesses — P.N. 61557, rev. 5, 6, or 7 — The indicator light on the solenoid control will only light when both plow plugs and harness connectors are connected and the ignition (key) switch and control on/off switch are both turned on.

9-Pin Vehicle harnesses with revision numbers prior to listed revisions at right — The indicator light will also be on when the control and ignition (key) switches are ON and the plow plugs are disconnected. If the parking lights are turned on (with plow plugs disconnected), the indicator light will go out.

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VEHICLE HARNESS AND MOTOR RELAY INSTALLATION



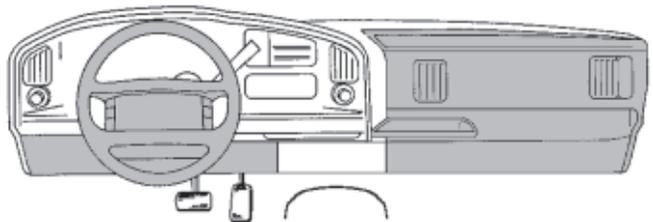
For all MVP® installation except 1989-1995 with Canadian DRL's, follow instruction beginning with step 14 below.

For 1989-1995 MVP® installations with DRL's, follow instructions on page 26 before proceeding with step 14 below.

14. Remove the packing material from the end of the harness near the fuse. This will expose 10 socket-type terminals. Push the fuse holder through the firewall hole and then carefully feed the end of the harness with the 10 terminals through to the cab.
15. Locate a connector bracket mounting position under the dash where it will not interfere with other equipment. Mount the connector bracket using #8 x 5/8" tapping screws and washers.

⚠ CAUTION

Do not alter, modify, or install additional components in shaded areas of the illustration below. Failure to comply may cause damage to the product or property.



(Continued on next page.)

VEHICLE HARNESS AND MOTOR RELAY INSTALLATION (Continued)

16. Feed the vehicle harness through the bracket.
17. Insert each of the 10 socket-type terminals into the connector housing. **(See Figure Below.)**

Refer to the Table 1 below for under-dash vehicle harness connector pin assignments.

NOTE: A “snap” will be felt as the terminals are successfully inserted. An extraction tool is provided for removal of pin terminals if necessary.

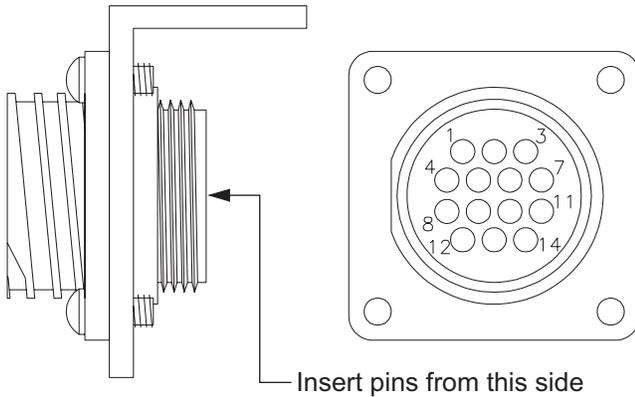


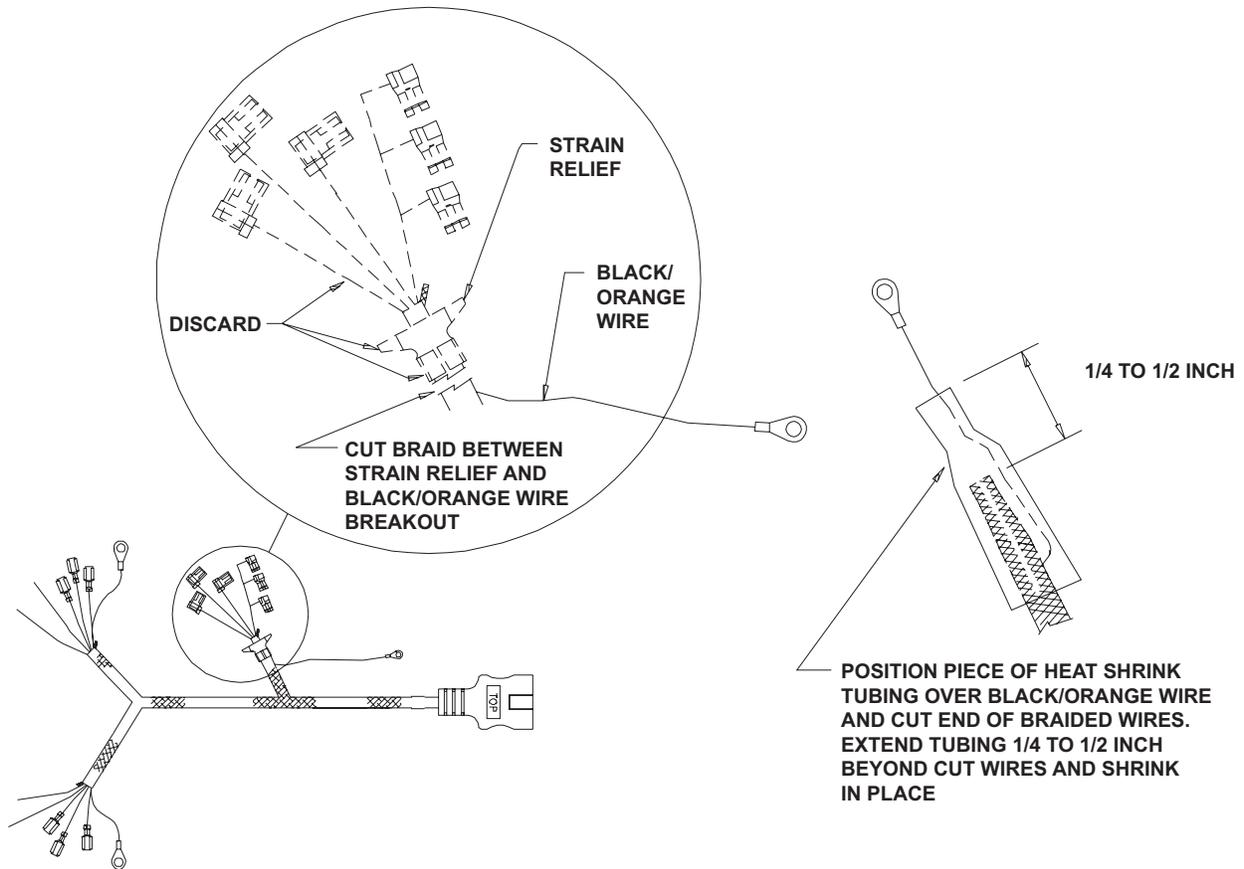
Table 1

Wire Color	Pin No.
Light Blue With Orange Stripe	1
Blue With Orange Stripe	2
Black With White Stripe	3
Light Green	4
Light Blue	5
White With Yellow Stripe	6
Brown With Red Stripe	7
Red	8
Orange With Black Stripe	9
Brown With Green Stripe	10

18. Secure the connector to the bracket with the provided #6-32 x 1/4" tapping screws and lock washers.
19. Locate an accessory wire that is controlled by the ignition switch (power is turned off when the ignition switch is in the OFF position).
20. Route the 10-amp fuse holder red wire to this location and trim excess length (leave the 10-amp fuse holder in the system).
21. Open the blue, self-stripping connector and place the end of the red wire against the inner groove stop (end of wire must not extend from the connector when it is closed) and the accessory wire in the outer groove. Close the connector over the wires using a pliers and snap the locking tab into place.
22. Install grommet around the harness at the firewall hole if drilled. Install second grommet if hole was drilled in radiator bulk head. Cable tie harness as required.
23. Under hood near motor relay, connect the female spade terminal on the small red wire from the vehicle cable to the male spade terminal on the red wire from the vehicle harness.
24. Attach the black hydraulic unit battery cable and the orange/black wire ring terminal to the NEGATIVE (-) battery terminal with the second battery cable adapter. Position cable and wire, and tighten battery adapter to 124–178 in-lb. Attach OEM battery cable to adapter, position cable and hold adapter while tightening original battery bolt to 124–178 in-lb.
25. According to the headlamp kit to be installed for your vehicle, return to the appropriate page (8-15) to install plug-in harness.

HARNESS INSTALLATION

1995 AND EARLIER INSTALLATIONS WITH DRL'S



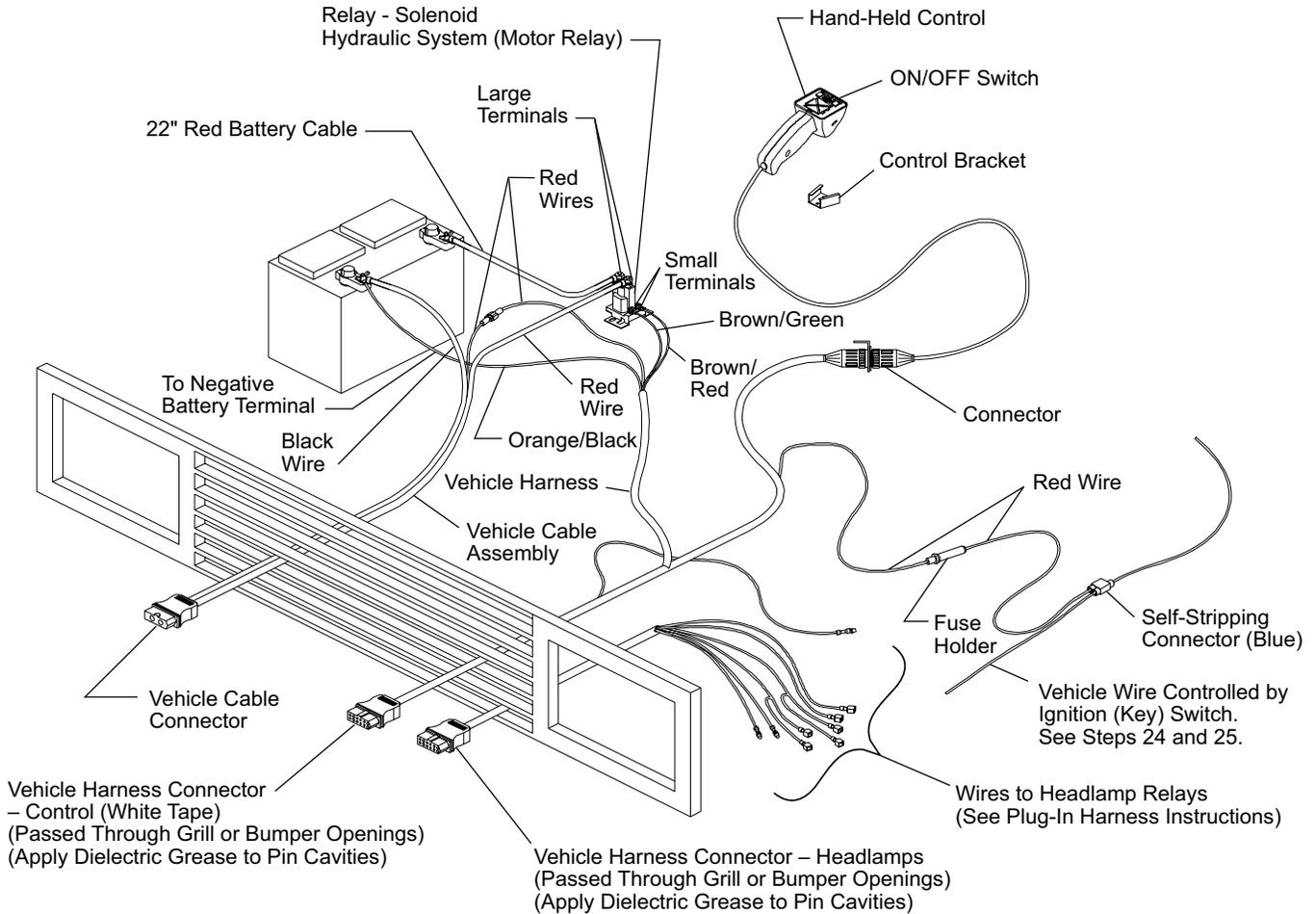
MVP® Installations Only

1. The 61550-1 12-pin headlamp kit plow harness needs to be modified to remove the wires and terminals that normally connect to the hydraulic unit. Follow the diagram above for this modification.
2. The vehicle harness for the headlamps (no white tape on braid behind the mold) has been shortened and should be routed from the bumper/grill area to behind the driver-side headlamps for connection to the headlamp relays.
3. Attach wires from the modified vehicle harness and the plug-in harness as shown in the wiring diagram for your vehicle.
4. Attach the plow harness with the white tape on the mold provided in this kit to the hydraulic unit on the MVP® plow. Secure the harness to the side angle of the lift frame.

(Continued on next page.)

HARNESS INSTALLATION

1995 AND EARLIER INSTALLATIONS WITH DRL'S (Continued)

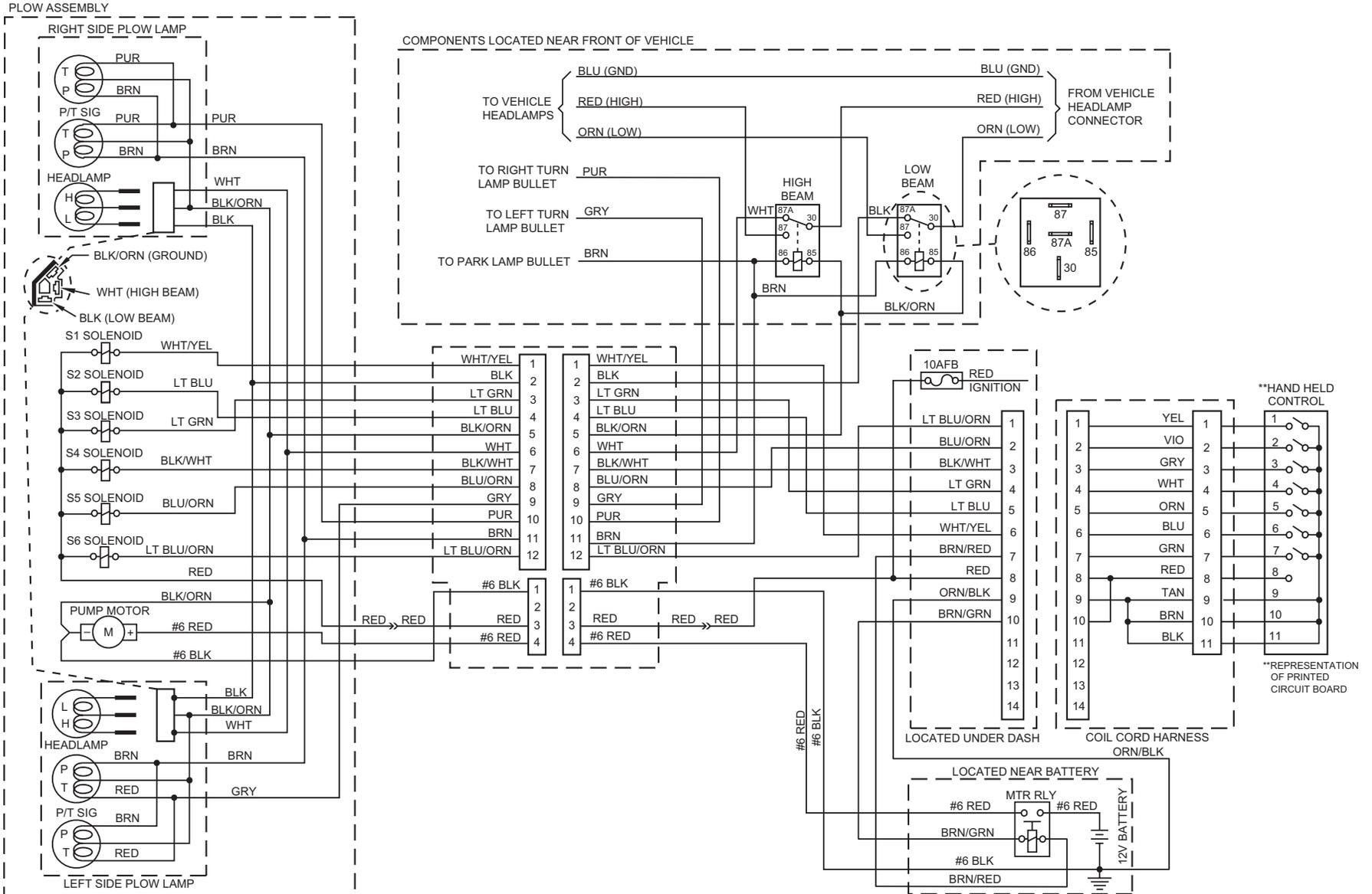


MVP® Installations Only (Continued)

5. On the vehicle, install the modified vehicle harness with the white tape on the braid routing it from the bumper/grill area to the cab and also to the motor relay.
6. Under the hood, make the connections at the motor relay as shown in the instructions on page 4-5 for your vehicle.
7. Secure both special vehicle harnesses behind the bumper/grill area.
8. Pass along to the owner/operator, that when attaching the plow to the vehicle, the two ends with the white tape are to be mated together. The two ends without the white tape are mated together.
9. **Go to page 24 to finish installation.**



Electrical Schematic - MVP® Blade Without DRL's





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