



DODGE RAM W1500/2500/3500 1994 & LATER UNDER-HOOD INSTALLATION INSTRUCTIONS

**Model No. 989
Hydraulics Box No. 56588
Harness Kit No. 62525, 62917, 63396,
use with Headlamp Kit No. 61540-1
Harness Kit No. 63400 and 63404
use 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.

CAUTION

Always disconnect the battery before removing or replacing electrical components such as a motor relay or battery cable.

TORQUE CHART

CAUTION

Read instructions before assembling. Bolts should be finger tight until instructed to tighten according to the torque chart. Use standard methods and practices when attaching snowplow including wearing safety glasses during cutting, drilling and welding.

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	202	378	591
1-8	300	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 mount assembly fasteners except those noted in the instruction.

UNDER HOOD INSTALLATION

HARNESS KIT SELECTION

NOTE: Plow may be removed from vehicle for installation of electrical components.

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

1994 and later vehicles with cab marker lights and/or dual rear wheels require the installation of 61185 Park or Turn Lamp Harness Kit in the park light circuit. This will prevent electrical overloading of the vehicle headlamp switch or wiring harness.

1999 and Later Without DRL's	
	Dual Type HB-1
Harness Kit	62917
Headlamp Kit No.	61540-1
	Quad HB-5/HB-1
Harness Kit	63396
Headlamp Kit No.	61540-1

1999 and Later With DRL's (All require 61584 Kit)	
	Dual Type HB-1
Harness Kit No.	63400
Headlamp Kit No.	61550-1
	Quad HB-5/HB-1
Harness Kit No.	63404
Headlamp Kit No.	61550-1

1994-1998 (All require 61584 Kit)	
	Dual Type HB-1
Harness Kit	62525
Headlamp Kit No.	61540-1

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UNDER HOOD INSTALLATION

VEHICLE HARNESS AND MOTOR RELAY

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

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

2. Remove NEGATIVE battery cable from battery.

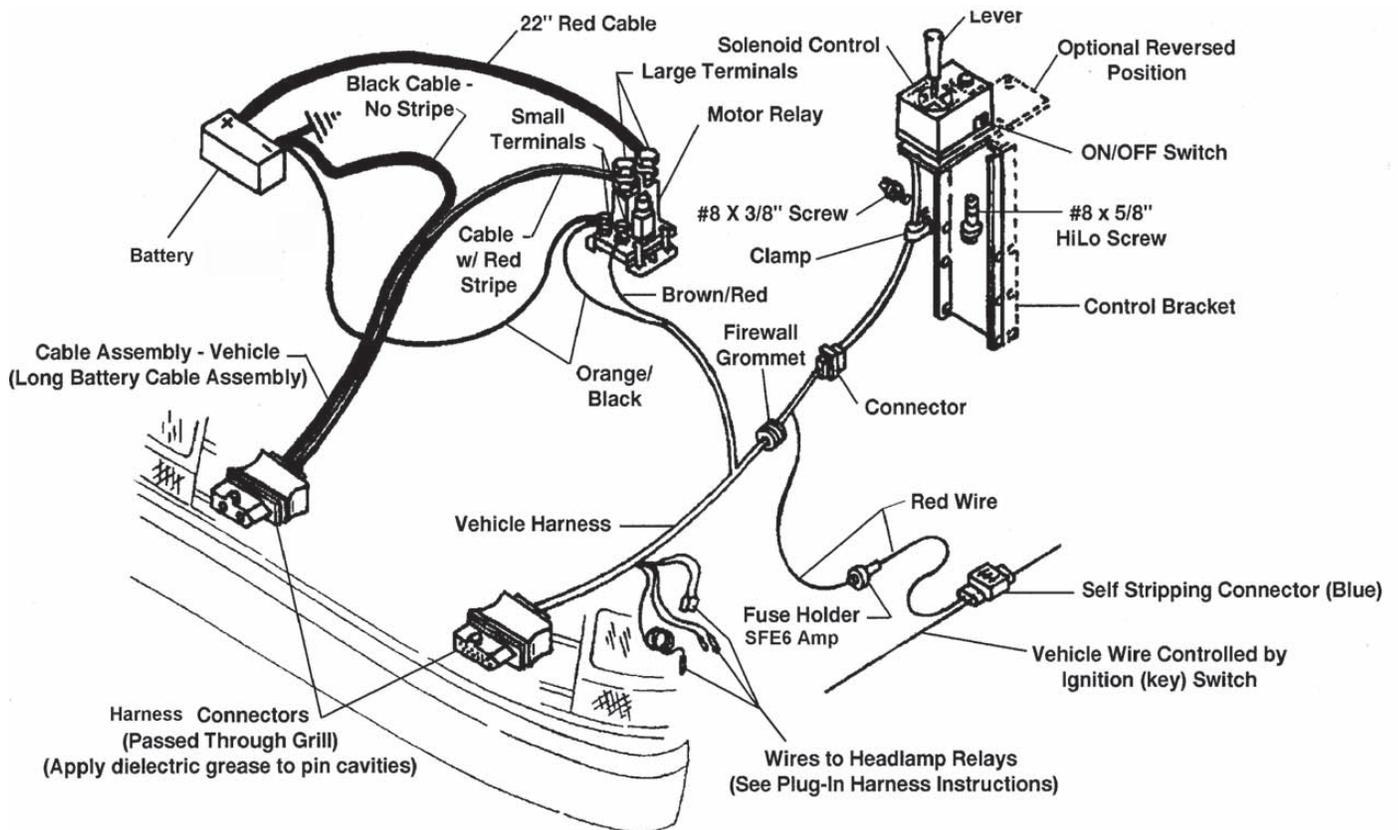
⚠ CAUTION

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 that burns skin, eyes and clothing.

Disconnect the battery before removing or replacing any electrical components.

HARNESS, SOLENOID CONTROL & MOTOR RELAY INSTALLATION DIAGRAM



UNDER HOOD INSTALLATION

VEHICLE HARNESS AND MOTOR RELAY

(Continued)

- 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.

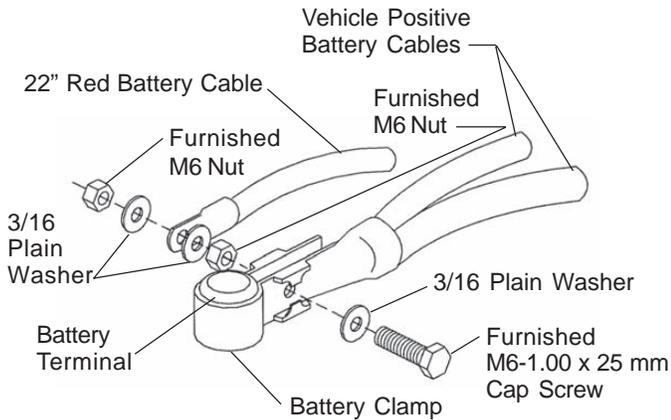
NOTE: Motor relay terminals must be up or horizontal.

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 motor relay terminal and the POSITIVE battery terminal taking care to avoid sharp edges, and hot or moving parts.

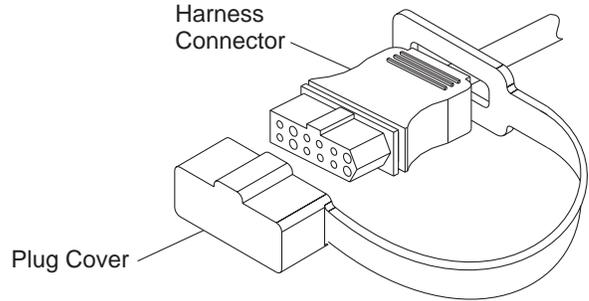
The original equipment battery terminal clamp bolt is not long enough to secure the hydraulic unit 22" red battery cable or black ground cable. Remove the original cap screw and replace it with the blue chromate finished cap screw, washers and nut listed below. First, place the 5/16 ring terminal on the fuse holder assembly, found in harness kit (reference photo on Page 6), onto a large motor relay terminal followed by the end of the 22" red battery cable. Route the fuse holder wires to the area behind the driver-side headlamps.

Attach cable and fuse holder to motor relay terminal with a lock washer and 5/16"-24 jam nut. Attach cable to battery POSITIVE terminal with hardware shown.



Part No.	Qty.	Description
91055	2	M6-1.00X25 HXW CS G8.8
91056	4	M6-1.00 HX NUT
91119	6	3/16 PLAIN WASHER

- 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 harnesses.



- Find a location in the vehicle grill 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 grill at the selected location and through or around the radiator bulkhead to motor relay taking care to avoiding 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 a stripe directly to the NEGATIVE battery terminal (carefully separate the two cables as needed to reach battery). DO NOT attach cable to battery at this time.
- Find a location in grill on driver-side for mounting the vehicle harness (similar position to battery cable mount). See Steps 6 & 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.

(Continued on next page)

UNDER HOOD INSTALLATION

VEHICLE HARNESS AND MOTOR RELAY

(Continued)

11. 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 hot or moving engine parts.

NOTE: 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.

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

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

14. Inside the cab, route vehicle harness connector to solenoid or CabCommand control and couple the connectors together.
15. Reconnect vehicle ground cable to NEGATIVE battery terminal. Attach the hydraulic unit black battery cable and orange/black wire terminal to the negative clamp bolt.

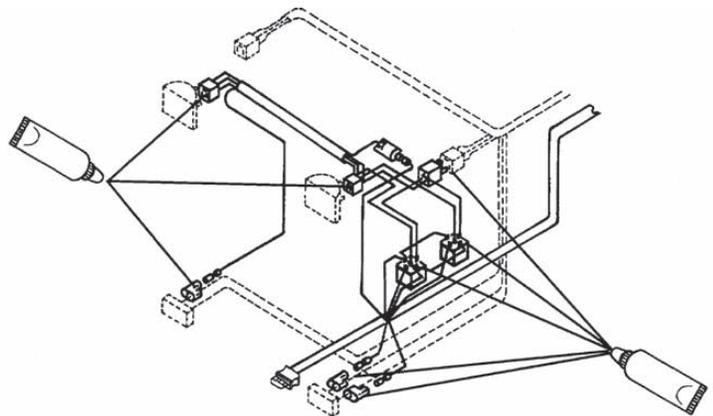
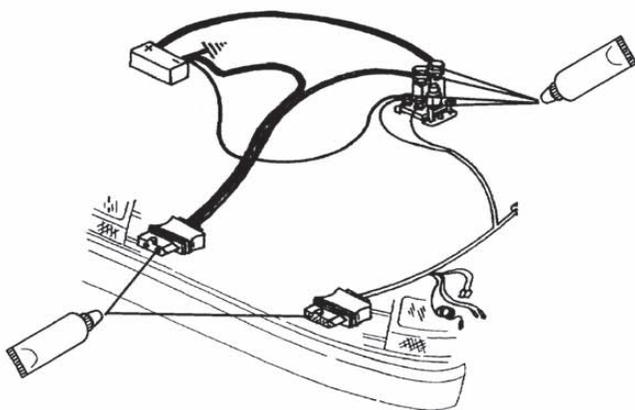
Batteries with steel strip battery clamp connect same as POSITIVE cable. (See step 4.)

16. Locate an accessory wire capable of carrying 7 amps in addition to existing circuit loads 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). If used, DRL pink wire requires .4 amps.

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 closed 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.

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

**DIELECTRIC GREASE
P.N. 56099**



UNDER HOOD INSTALLATION

NON-DRL INSTALLATION INSTRUCTIONS

NOTE: This installation uses the vehicle headlamp circuits to activate relays, which allow the plow headlamps to be powered directly off the battery.

1. Locate the end of the plug-in harness with the four wires (six on quads) with blade receptacles behind the driver-side headlamp. Route the other end of the harness with the purple wire bullet end to the area behind the passenger-side headlamp.
2. On the passenger-side, remove the headlamp connector from the vehicle headlamp and mate the vehicle socket with the male connector on the plug-in harness. Mate the plug-in harness socket with the vehicle headlamp.

On quad lamps: you will have two male and two socket ends to connect, the three wire connectors go to the outside headlamps and the two wire connectors go to the in-board headlamps.

Connect the purple wire bullet to the black bullet receptacle attached to the passenger-side turn signal wire on the vehicle.

3. On the driver-side, make the same connections to the vehicle headlamps and sockets as you made on the passenger-side.
4. Connect the purple wire bullet from the vehicle harness to the purple wire bullet receptacle on the plug-in harness.

NOTE: Tape the four (five on quads) headlamp relays together with electrical tape to ease wire installation.

5. Attach wires from the vehicle harness, the plug-in harness and the fuse holder assembly to the four relays (five on quad installations) as shown in the diagram for your vehicle.



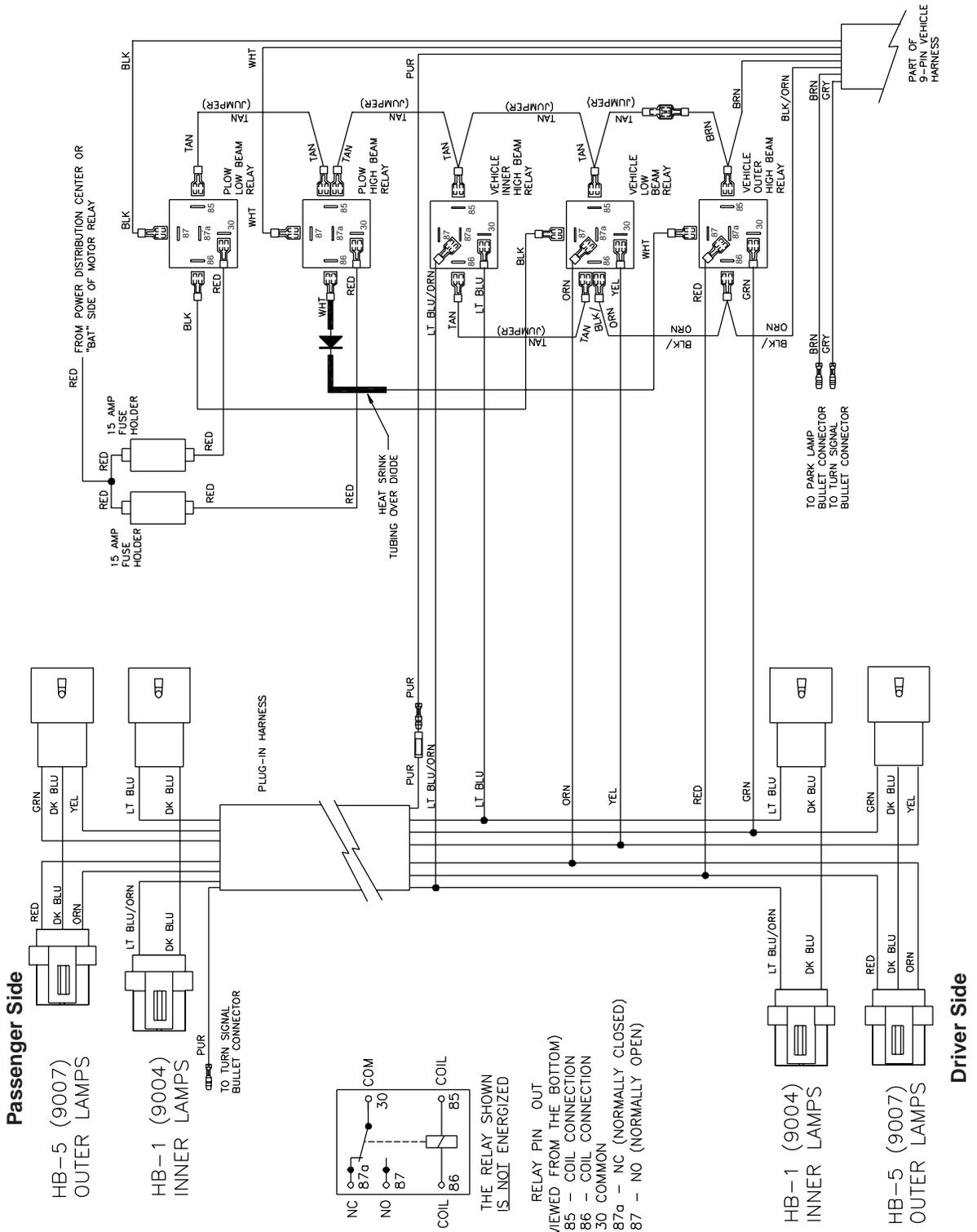
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WIRING DIAGRAM

Ram Quad HB-5/HB-1 63396 Harness Kit 9-Pin Headlamps



NOTE: The white jumper wire contains a diode and must be installed correctly. Connect the white wire receptacle without the *heat shrink* to terminal 87 of the vehicle high beam relay. The white wire receptacle with the *heat shrink* covered diode connects to terminal 86 of the plow high beam relay.



UNDER HOOD INSTALLATION

DRL INSTALLATION INSTRUCTIONS

NOTE: This installation uses the vehicle headlamp circuits to activate relays, which allow the plow headlamps to be powered directly off the battery.

1. Locate the end of the plug-in harness with the four wires (six on quads) with blade receptacles behind the driver-side headlamp. Route the other end of the harness with the purple wire bullet end to the area behind the passenger-side headlamp.
2. On the passenger-side, remove the headlamp connector from the vehicle headlamp and mate the vehicle socket with the male connector on the plug-in harness. Mate the plug-in harness socket with the vehicle headlamp.
 - **On Quad Lamps:** you will have two male and two socket ends to connect, the three wire connectors go to the outside headlamps and the two wire connectors go to the in-board headlamps.

Connect the purple wire bullet to the black bullet receptacle attached to the passenger-side turn signal wire on the vehicle.
3. On the driver-side, make the same connections to the vehicle headlamps and sockets as you made on the passenger-side.

4. Connect the purple wire bullet from the vehicle harness to the purple wire bullet receptacle on the plug-in harness.
5. At the motor relay, remove the nut, lock washer, and 22" red battery cable from the large terminal and install the 5/16" ring terminal of the fuse holder assembly, found in this kit, to the motor relay terminal. (See diagram below.) Reinstall the 22" red battery cable, lock washer, and nut. Secure nut.
6. Install the 61184 DRL Kit following instructions furnished with the kit except for the relay connections.

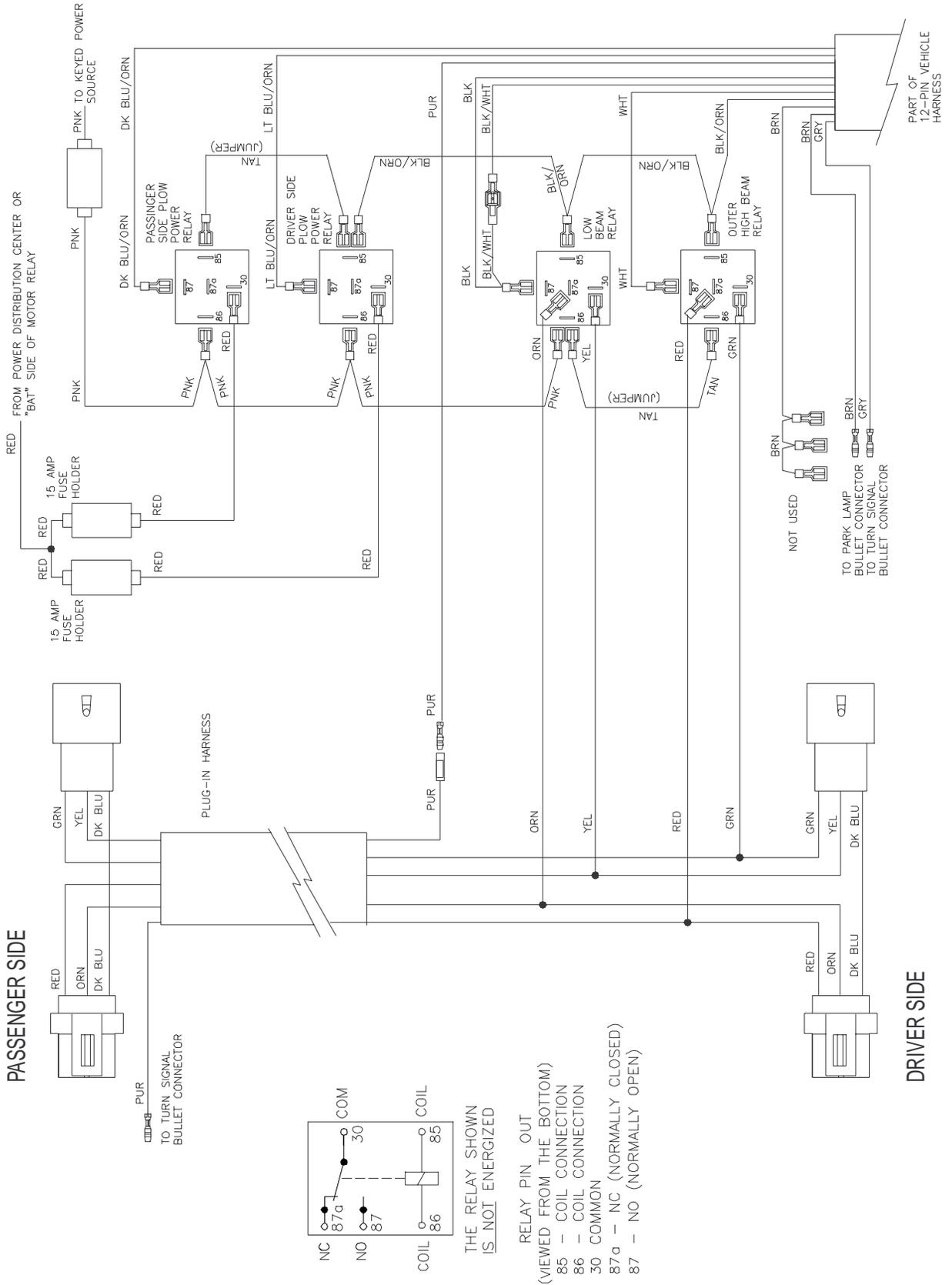
NOTE: Tape the four (five on quads) headlamp relays together with electrical tape to ease wire installation.

7. Attach wires from the vehicle harness, the plug-in harness and the fuse holder assembly to the four relays (five on quad installations) as shown in the diagram for your vehicle.



WIRING DIAGRAM

**RAM DUAL HB-1 DRL'S
 63400 HARNESS KIT
 12-PIN HEADLAMPS**

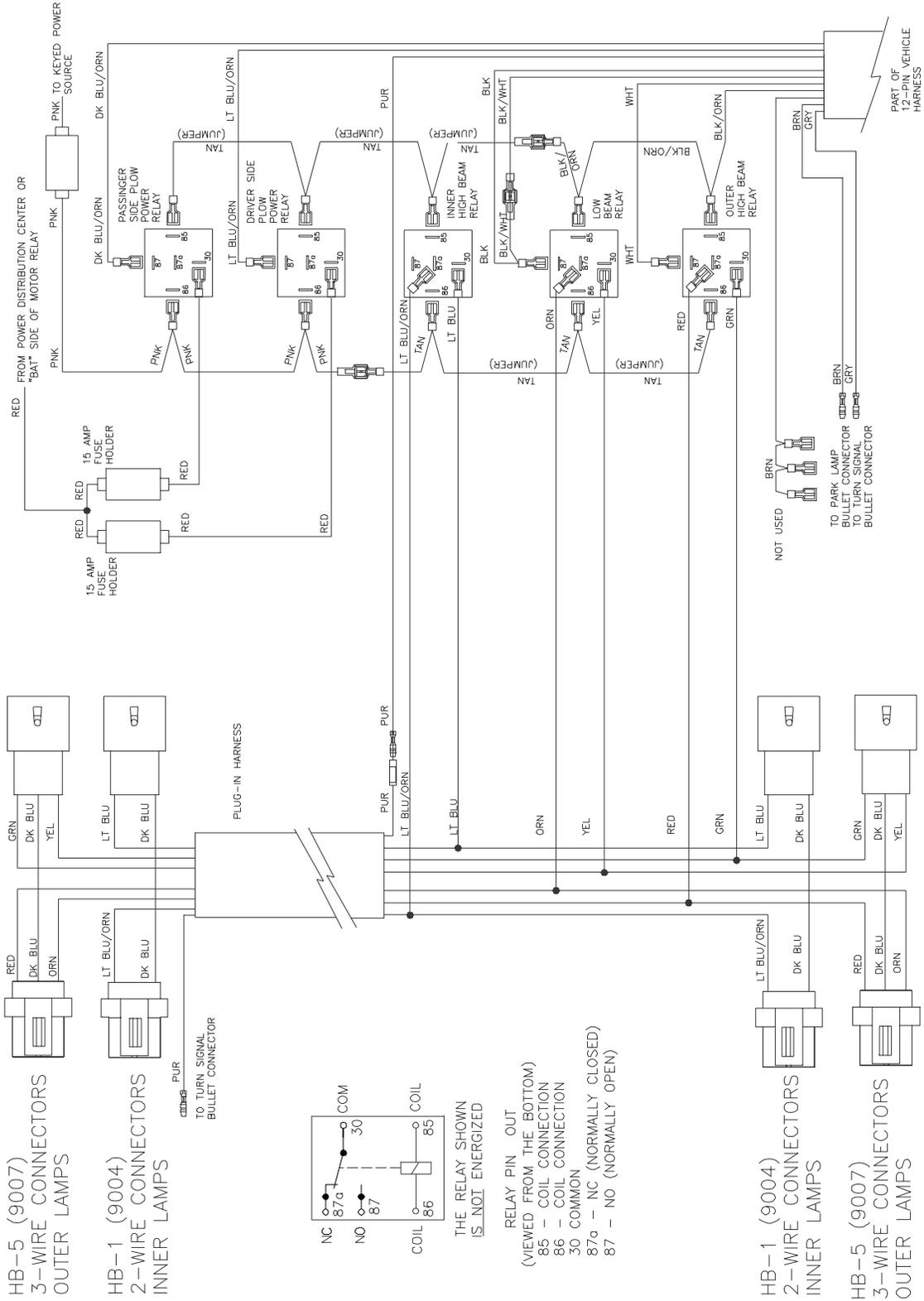


WIRING DIAGRAM

**RAM QUAD HB-5/HB-1 with DRL'S
 63404 HARNESS KIT
 12-PIN HEADLAMPS**



Passenger Side



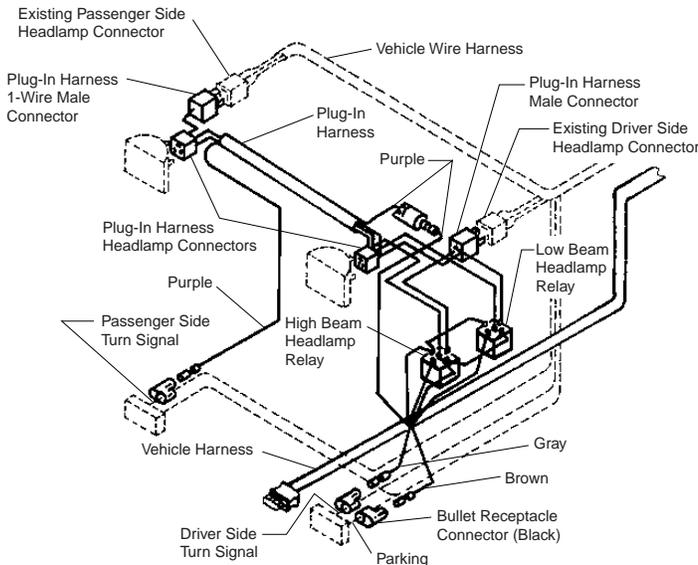
Driver Side

UNDER HOOD INSTALLATION

1994-98 NON-DRL & DRL PLUG-IN HARNESS AND HEADLAMP RELAY INSTALLATION

(Add 61185 relay kit on vehicles with cab marker lights.)

VEHICLE HEADLAMP WIRING DIAGRAM

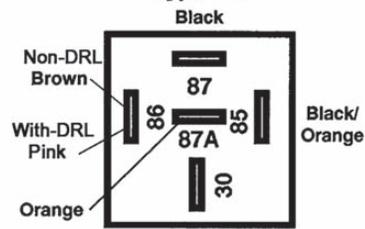


NOTE: Use dielectric grease to prevent corrosion on all connections. Fill receptacles and lightly coat ring terminals and blades before assembly.

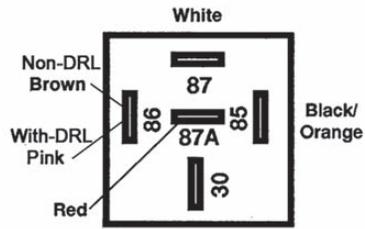
- In the engine compartment behind the driver-side headlamp, insert wire bullets from vehicle harness into black bullet connectors (installed in step one of previous section) as follows:
 - Brown wire to parking lamp wire on driver-side.
 - Gray wire to left turn signal wire on driver-side.
- At the 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. Couple matching connector with plug-in harness 1-wire male plug. Attach plug-in harness headlamp connector to headlamp terminals.

HEADLAMP RELAY WIRING DIAGRAM

Type - A



Low Beam Headlamp Relay



High Beam Headlamp Relay

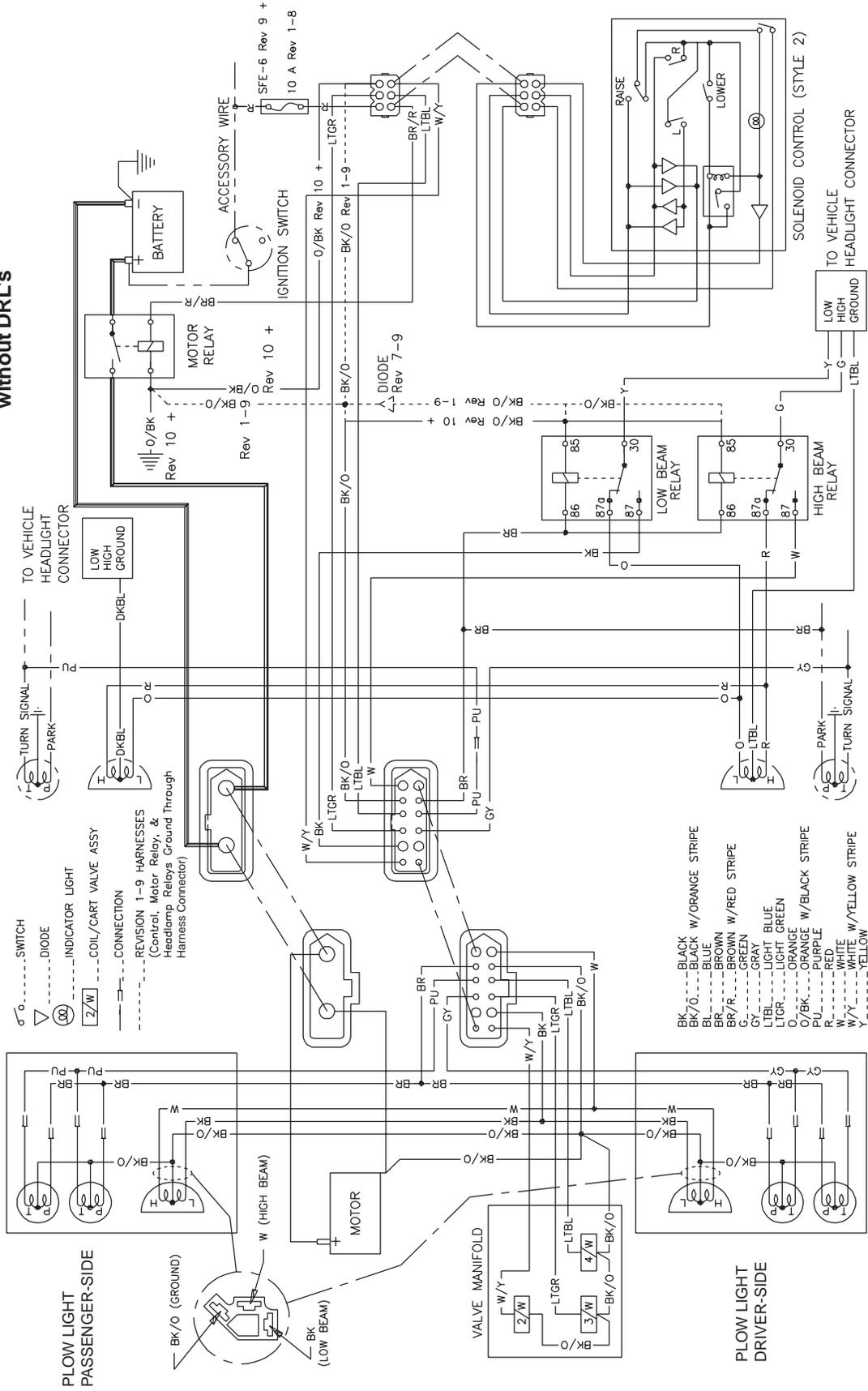
- On the passenger-side, insert purple wire bullet from plug-in harness into vehicle turn signal black bullet connector installed in step one of the previous section.
- At the driver-side headlamp, insert the purple wire bullet from the vehicle harness into the purple wire receptacle on the plug-in harness.
- 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. (If vehicle has DRLs, replace brown wires with pink wire from DRL kit. Brown wires from vehicle harness are not used in DRL installations.)
- Place grommet around vehicle harness and insert into firewall hole (also put a 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.
- Replace vehicle turn signal flasher with flasher furnished in harness kit.
- Lubricate terminal cavities of both harness connectors with dielectric grease. **Give the dielectric grease tube to vehicle owner for future use.**

WIRING DIAGRAM

1998 & Earlier Wiring Diagram Harness Type - C w/9 Pin Headlamp Kit & SAE Headlamp Types 2B/2D, 2E, HB-1 (9004) without DRL's



Solenoid Control — 9-Pin Vehicle Harness Revision 10 & 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 to be on.



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.

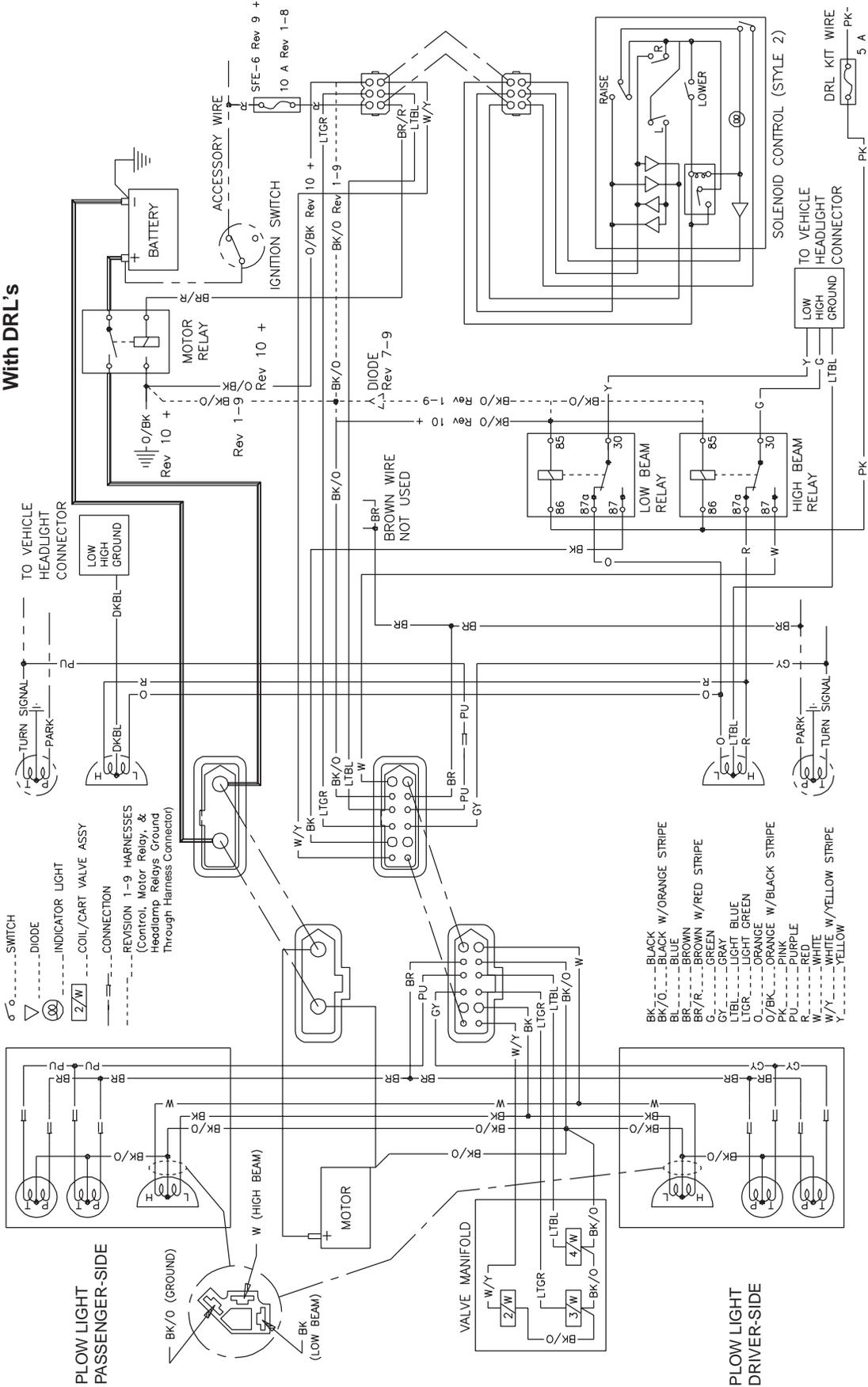
9-Pin Vehicle Harnesses with revision numbers prior to listed revisions at right — The indicator light will also be on when the control and ignition (key) switches are ON and the plow plugs are disconnected. If the parking lights are turned on (with plow plugs disconnected) the indication light will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

WIRING DIAGRAM

1998 & Earlier Wiring Diagram Harness Type - C w/9 Pin Headlamp Kit & SAE Headlamp Types 2B/2D, 2E, HB-1 (9004) With DRL's



Solenoid Control — 9-Pin Vehicle Harness Revision 10 & 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 to be on.



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 indication light will go out.



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