



Lit. No. 64571
December 15, 2003



VEHICLE SPECIFIC ELECTRICAL Installation Instructions

1369

Ford Bronco, Ford F-150 4X4 1992–1996

1379

Ford F-250/350 4X4 1992–1997
Ford F-250 2WD (over 8,500 GVWR) 1992–1997
Ford F-350 2WD (over 10,000 GVWR) 1992–1997
Ford Super Duty 1992–1997

Straight Blade

Hydraulics Box No. 56588
Harness Kit No. 61590 • Headlamp Kit No. 61540-1

MVP® Blade

Hydraulics Box No. 56777
Harness Kit No. 61591 • Headlamp Kit No. 66640-1

⚠ 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 minor 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

HARNESS KIT SELECTION

Straight Blade

- For DUAL replaceable bulb type HB-5 headlamps use: Box No. 61540-1 Headlamp Kit 9-Pin and 61590 Harness Kit HB-5 9-Pin.

DRL's require the use of 61584 DRL Kit on headlamp relays.

MVP® Blade

- For DUAL replaceable bulb type HB-5 headlamps use: Box No. 66640-1 Headlamp Kit MVP 12-Pin and 61591 Harness Kit HB-5 -A.

DRL's require the use of 61584 DRL Kit on headlamp relays.

VEHICLE HARNESS AND MOTOR RELAY

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

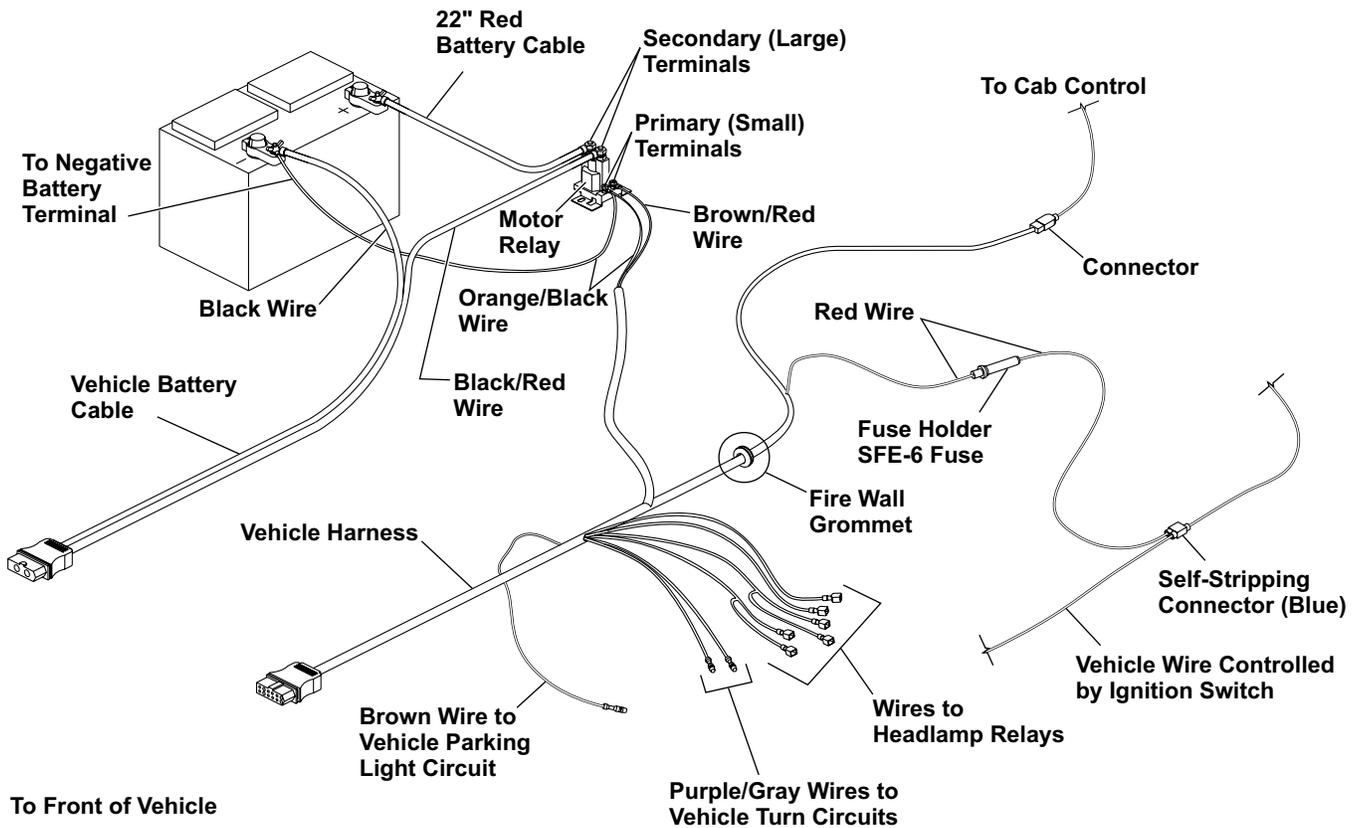
Plow may be removed from vehicle for installation of electrical components.

⚠ 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, also provide ventilation. Batteries contain sulfuric acid which 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

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

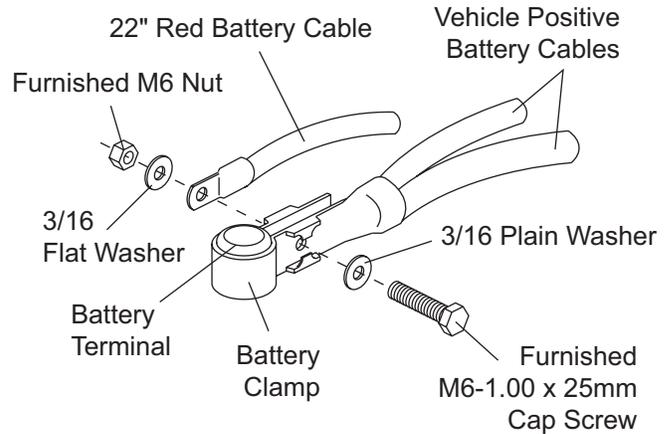
NOTE: During electrical installation, the **LONG BATTERY GROUND CABLE (no stripe) MUST BE GROUNDED TO THE NEGATIVE (-) BATTERY TERMINAL.**

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

NOTE: Motor relay terminals must be up or horizontal.

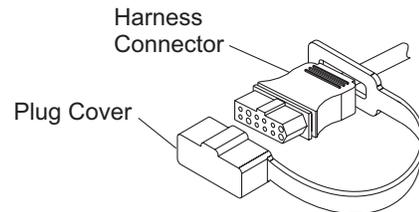
4. Using the motor relay terminal as a template, drill two 9/32" holes, and mount motor relay to holes using 1/4" x 3/4" bolts, flat washers and lock nuts.
5. Route 22" battery cable between a large motor relay terminal and the **POSITIVE (+)** battery terminal taking care to avoid sharp edges and hot or moving parts.
6. Attach cable to motor relay terminal with a lock washer and a 5/16"-24 jam nut. Attach cable to battery **POSITIVE (+)** terminal with hardware provided.

NOTE: 1996-1997 Vehicles – The original battery terminal clamp screw is not long enough to secure the hydraulic unit 22" red battery cable. Remove the original cap screw and replace it with the items shown below.



Part	Qty	Description
91055	2	M6X1.00X25 HEX CAP SCREW G8.8
91056	2	M6-1.00 HEX NUT G10
91119	4	3/16 FLAT WASHER SPECIAL

7. 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 harness connectors.



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

UNDER HOOD INSTALLATION

9. Allow connector of each harness to hang out in front of grille or in bumper openings. Allow enough cable so it is easy to mate and remove connector. Secure with long cable ties (found in mount box).
10. Route battery cable through the grille or bumper 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.
11. 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.
12. Route cable without a stripe directly to the NEGATIVE (-) battery terminal (carefully separate the two cables as needed to reach the battery ground connection). **DO NOT reconnect the battery ground at this time.**
13. Find a grille or bumper location on driver-side for the vehicle harness (similar position to battery cable mount). See Steps 8 & 9 above for how to install. Route vehicle harness through grille or bumper and around, or through radiator bulkhead (drill 5/8" hole if needed) into engine compartment.
14. Route the wires that break out of the vehicle harness to the area behind the driver-side headlamp. Route rest of harness to the fire wall. Drill a 5/8" hole through the fire wall in a convenient location away from hot or moving engine parts.
15. Route brown/red and orange/black wire loom to motor relay.
16. 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.

17. Route the 24" long orange/black wire with 3/8" ring terminal to battery NEGATIVE (-) post. **DO NOT attach wire to battery at this time.**

NOTE: All vehicles with DRL's - Insert fuse holder on pink wire of DRL Adapter Kit (PN 61584) through fire wall first. Route end of pink wire with receptacles to area of driver-side headlamp.

For MVP® Blade Installations, Continue on Page 8 to Complete Cab Installation.

18. 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.
19. Inside the cab, route vehicle harness connector to solenoid or CabCommand control and couple the connectors together.
20. Reconnect vehicle ground cable to NEGATIVE (-) battery terminal. Also attach the black battery cable and the orange/black wire to the NEGATIVE (-) clamps.
21. 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 0.4 amps.

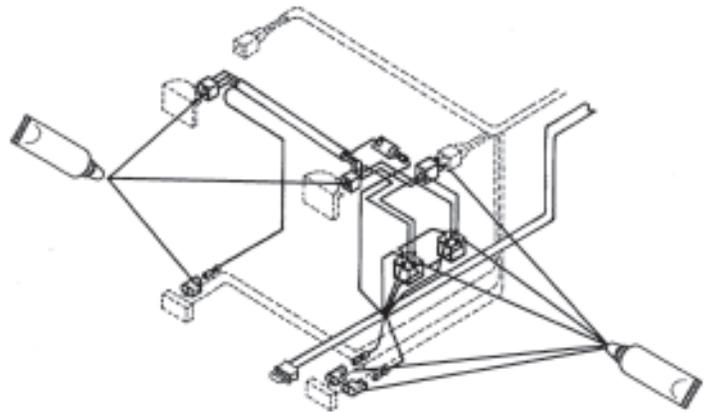
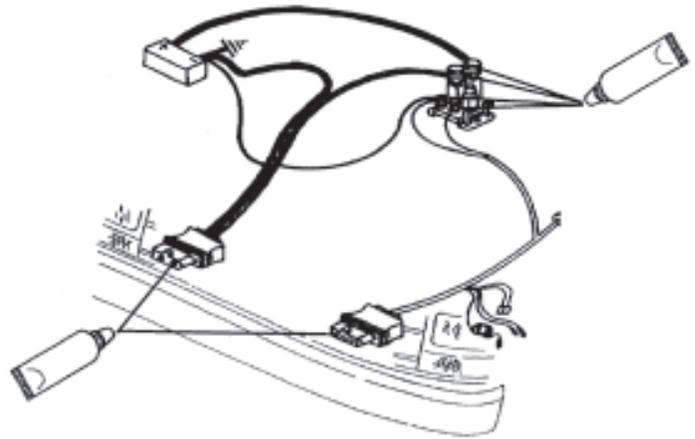
UNDER HOOD INSTALLATION

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

NOTE: A larger tube of dielectric grease is available. PN 49326.

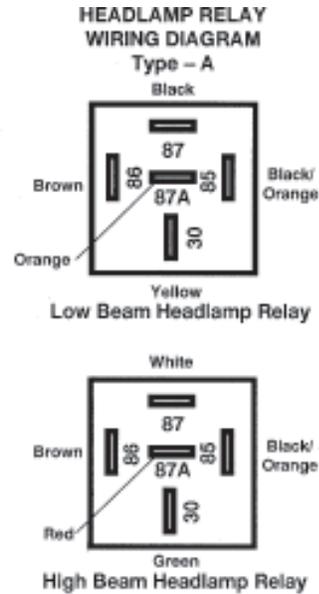
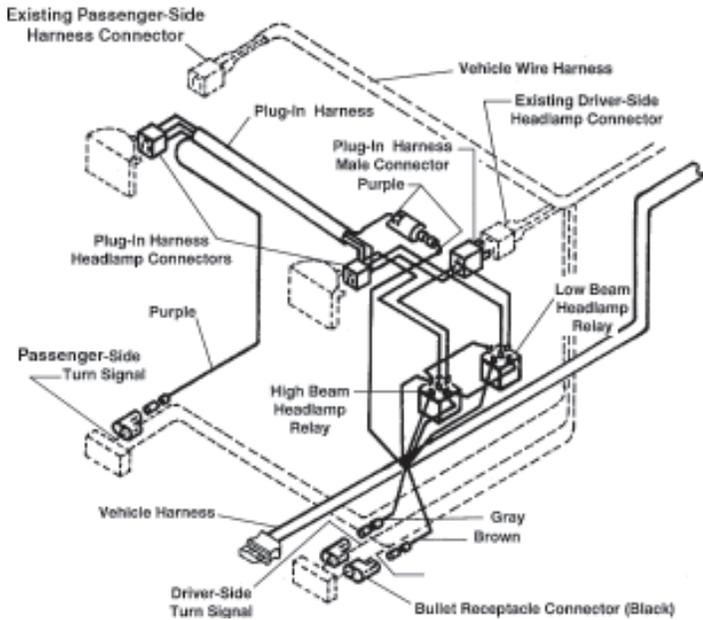
DIELECTRIC GREASE PN 56099



UNDER HOOD INSTALLATION

PLUG-IN HARNESS AND HEADLAMP RELAY INSTALLATION

VEHICLE HEADLAMP WIRING DIAGRAM (TYPE A)

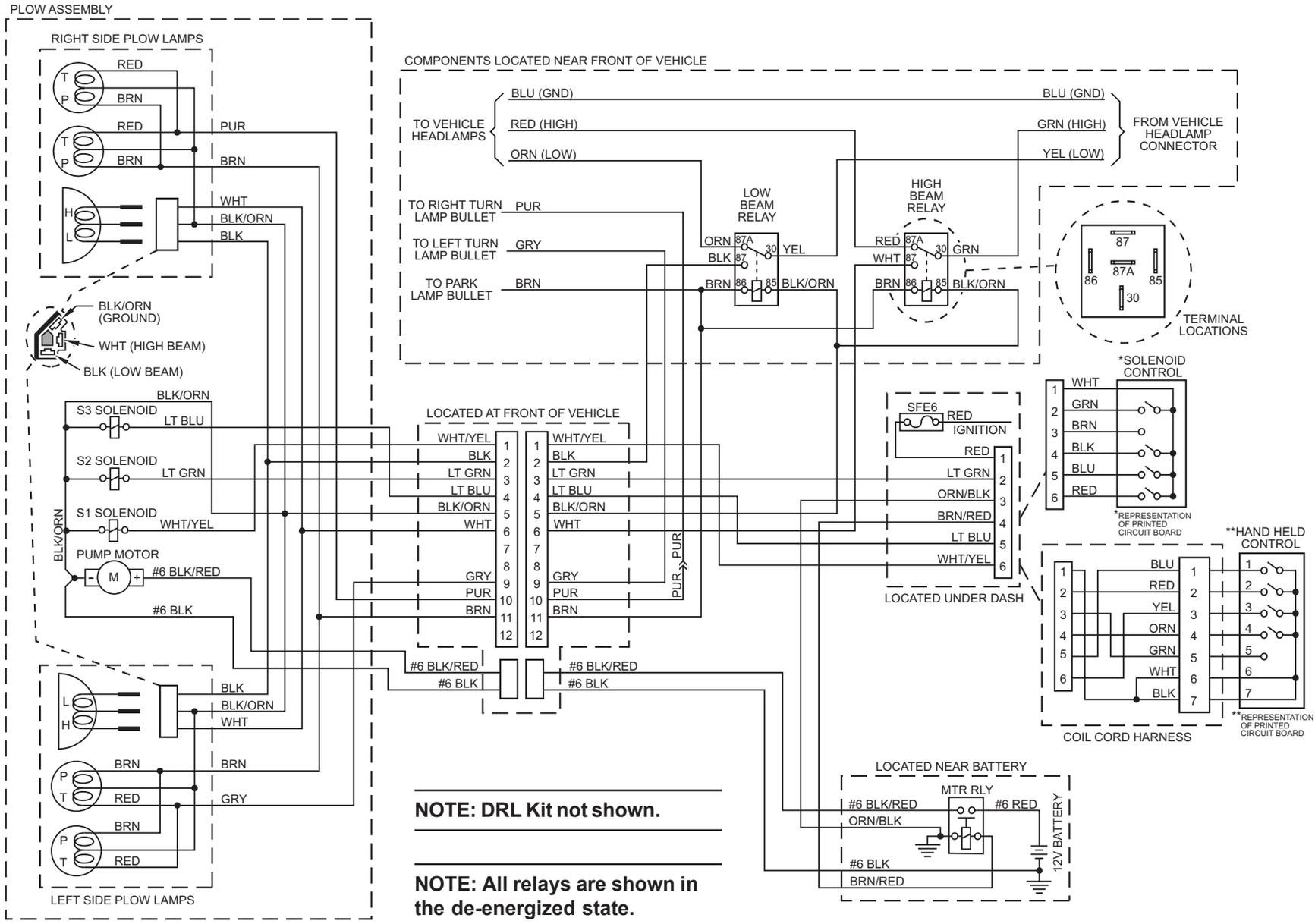


NOTE: Use dielectric grease to prevent corrosion on all connections. Fill receptacles and lightly coat wiring terminals and blades before assembly.

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.
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. Attach plug-in harness headlamp connector to headlamp terminals.
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 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.)
7. Place grommet around vehicle harness and insert into fire wall 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.
8. Replace vehicle turn signal flasher with flasher furnished in harness kit.
9. Lubricate terminal cavities of both harness connectors with dielectric grease. **Give the dielectric grease tube to vehicle owner for future use.**

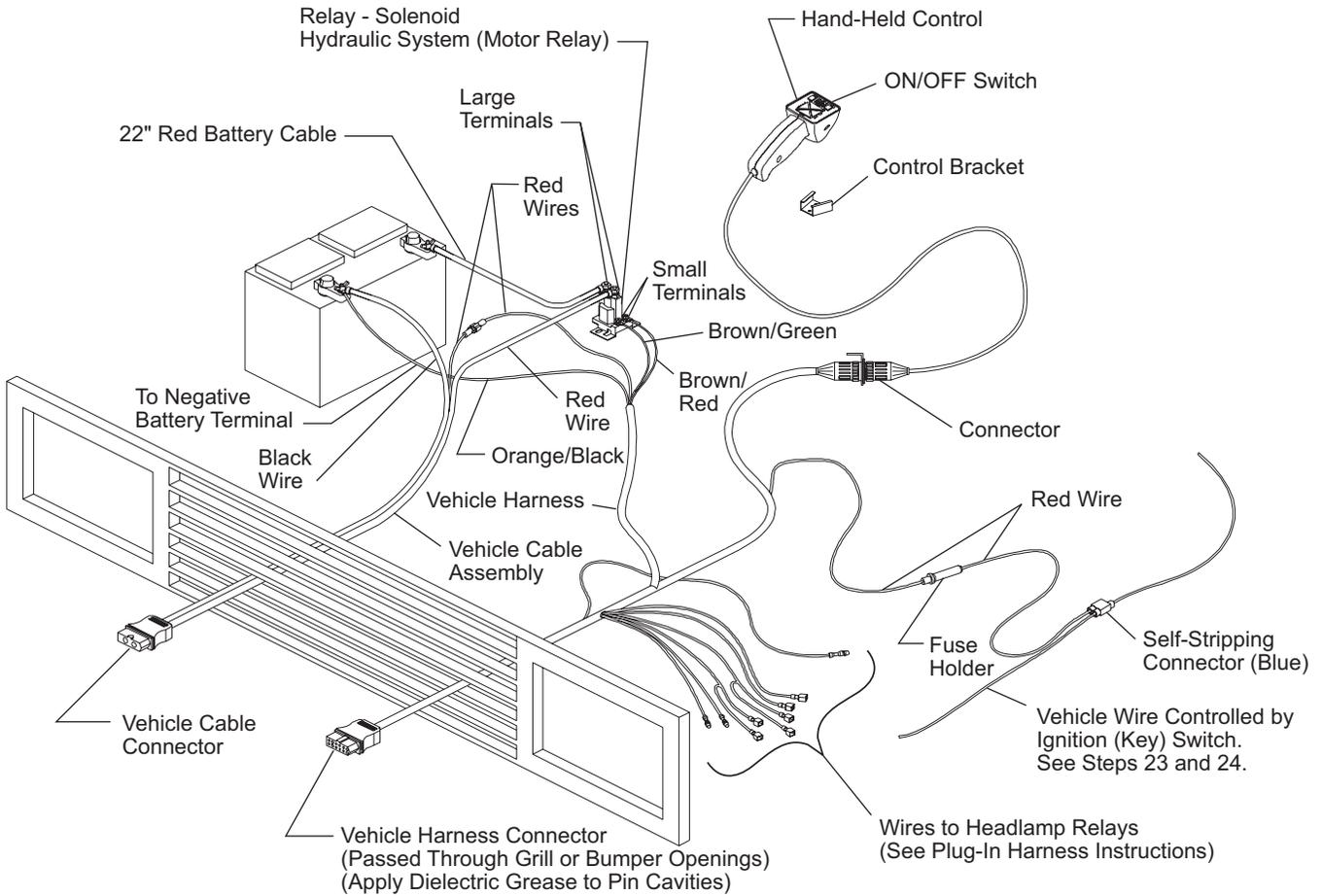
Please refer to AQ&L assembly instructions for additional information on operational tests and adjustments.

Electrical Schematic — Straight Blade 9-Pin Harness



MVP® IN-CAB INSTALLATION INSTRUCTIONS

VEHICLE HARNESS AND VEHICLE CABLE INSTALLATION

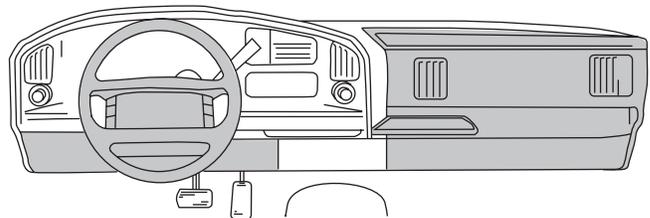


(Continued from page 4.)

18. 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 fire wall hole and then carefully feed the end of the harness with the 10 terminals through to the cab.
19. 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.



MVP® IN-CAB INSTALLATION INSTRUCTIONS

20. Feed the vehicle harness through the bracket.
21. Insert each of the 10 socket-type terminals into the connector housing. **(See illustration 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.

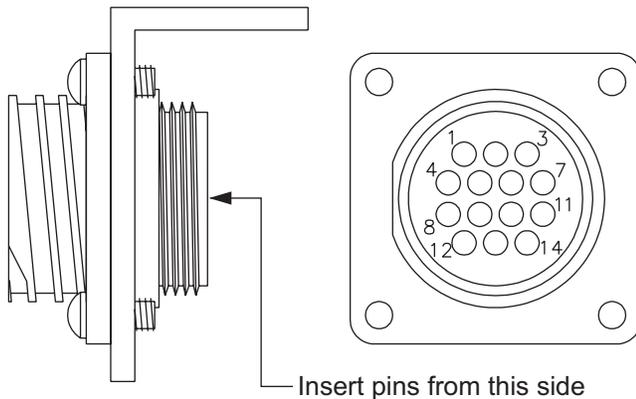


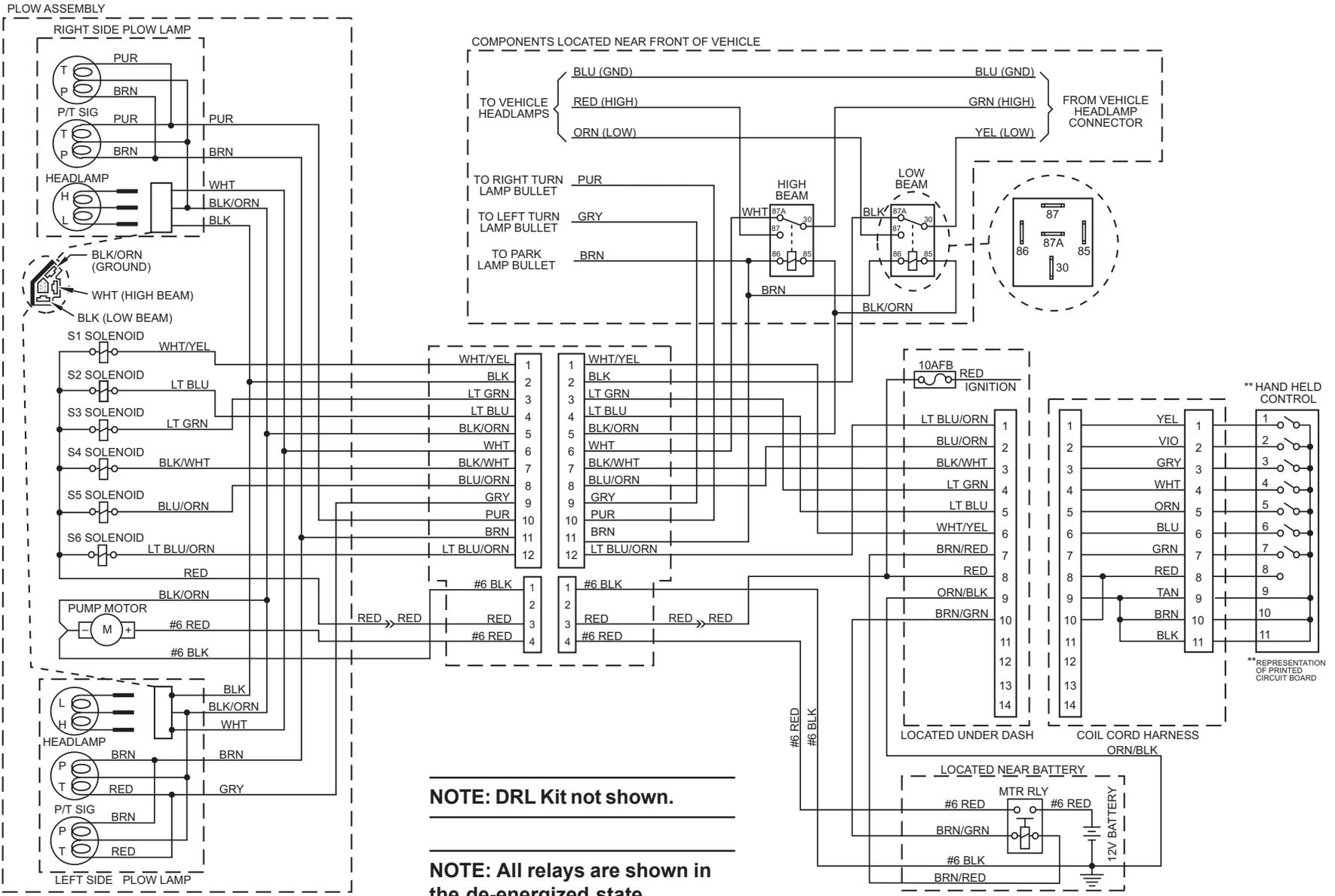
Table 1

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

22. Secure the connector to the bracket with the provided #6-32 x 1/4" tapping screws and lock washers.
23. 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 0.4 amps.
24. Route the 10-amp fuse holder red wire to this location and trim excess length (leave the 10-amp fuse holder in the system).
25. 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.

OPTION: Locate an unused fuse box terminal capable of carrying 7 amps and controlled by the ignition switch and attach a terminal (not furnished) to the red wire and plug into the fuse box.
26. Near the battery and 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.
27. Reconnect the vehicle battery POSITIVE (+) and NEGATIVE (-) cables.
28. Install the plug-in harness and relays as shown on page 6 of these instructions.

Electrical Schematic — MVP 12-Pin Harness



NOTE: DRL Kit not shown.

NOTE: All relays are shown in the de-energized state.

** HAND HELD CONTROL

** REPRESENTATION OF PRINTED CIRCUIT BOARD



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