



ELECTRICAL INSTALLATION INSTRUCTIONS

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⚠ CAUTION

Read this manual before installing or operating
the snowplow.

ASSEMBLY INSTRUCTIONS

Safety Information

Read this manual and labels on the snowplow before installing or operating the snowplow.

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 personal injury and/or damage to product or property.

NOTE: Identifies tips, helpful hints and maintenance information the reader should know.

Torque all fasteners according to the torque chart. For proper fit, do not tighten fasteners until instructed to do so.

DIAMETER- THREADS PER INCH	NC FASTENER TORQUE (FT-LB)		
	GRADE		
			
	G2	G5	G8
1/4 - 20	6	9	13
5/16 - 18	11	18	28
3/8 - 16	19	31	46
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

Vehicle Harness and Battery Cable Installation

NOTE: This is a “low side” drive electrical system. With a “low side” drive system, positive potential is provided continuously, and the ground is switched on and off to control the solenoids.

⚠ 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.

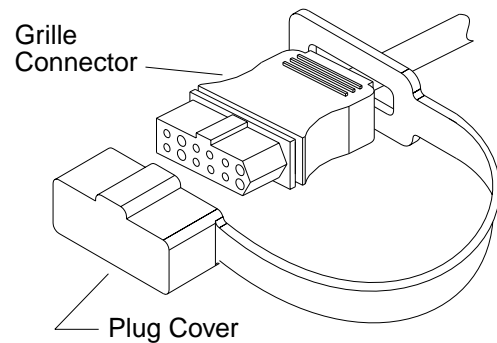
1. Turn off the vehicle ignition.
2. Disconnect both the positive (+) and the negative (-) battery cables.
3. Identify the wires for the parking lamp on the driver side and for the turn signals on both sides. Attach a black, self-stripping bullet receptacle connector to each of these three wires.
4. Find a location for the motor relay where it will be protected from road splash and will be within 18" of the primary vehicle battery.

NOTE: The motor relay must be mounted either at or between vertical and horizontal.

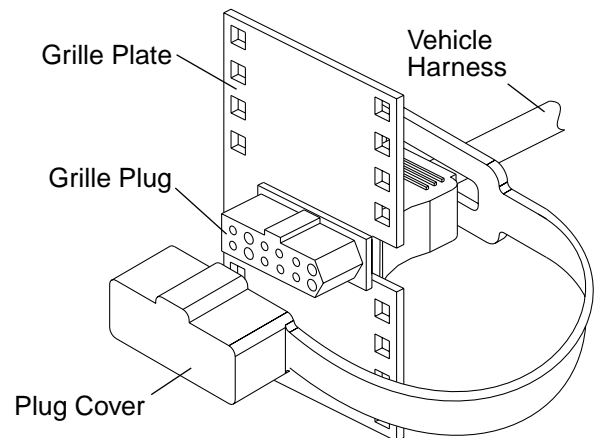
5. Drill two 9/32" holes using the motor relay mounting plate as a template. Mount the motor relay to the holes using 1/4 x 3/4" bolts, washers and locknuts.

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

6. Stretch the rectangular openings of the plug cover straps over the vehicle cable and vehicle harness grille connectors. Place the plug covers over the molds on the cable and harness.

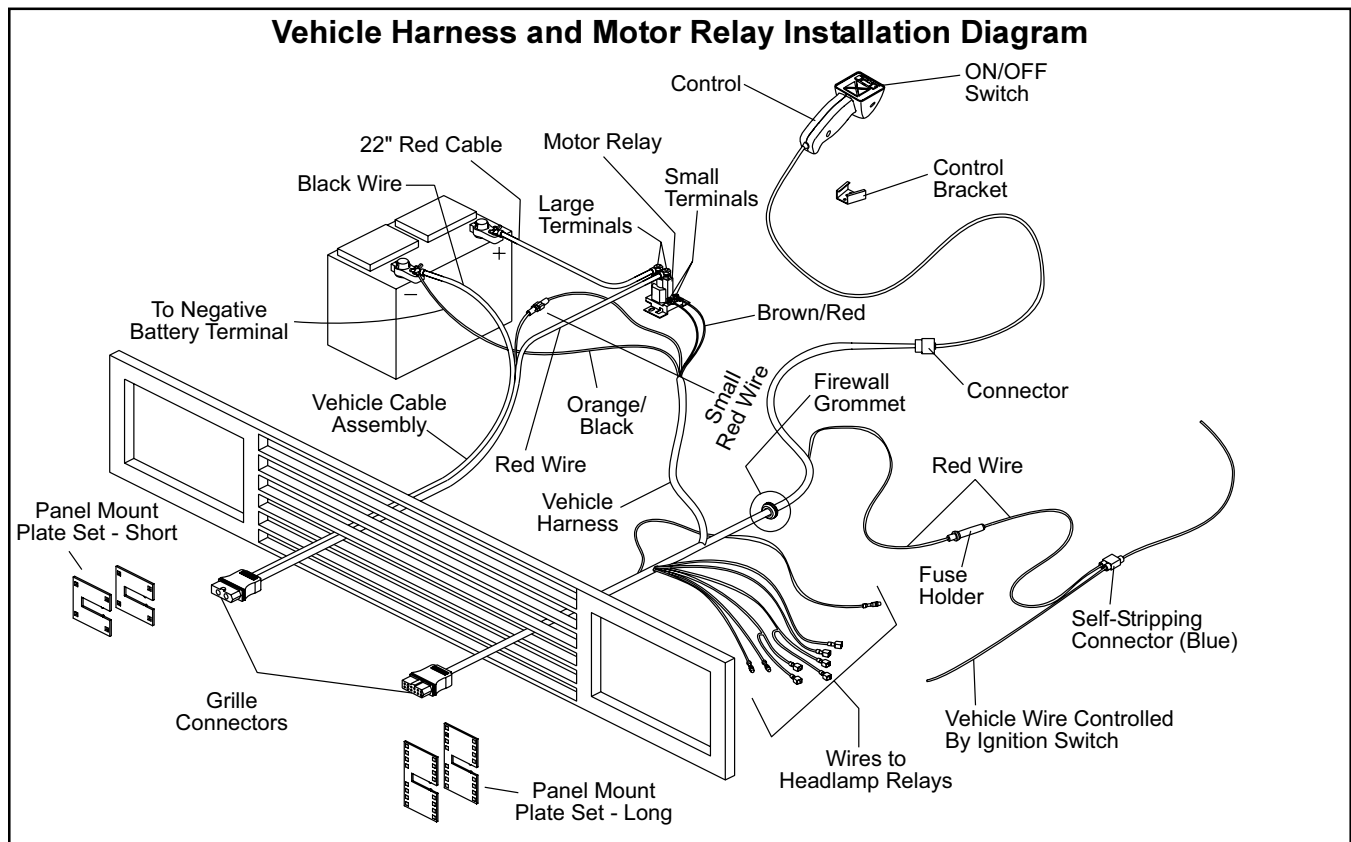


7. Find a convenient location in the grille, on the battery side, for the battery cable. Slide the grille plate onto the plug. Attach the grille plate to the grille with cable ties.

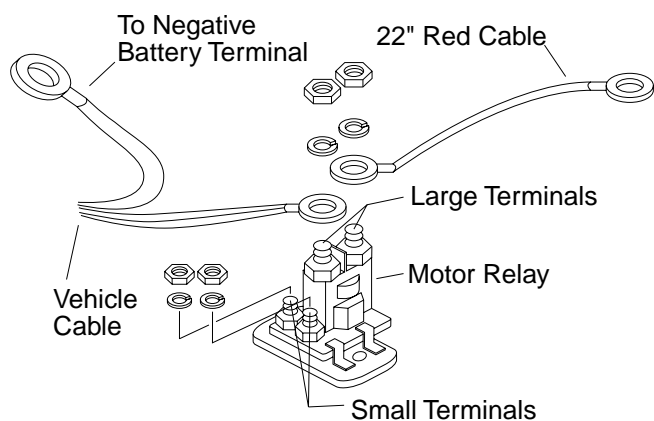


8. Route the vehicle cable through the grille at the selected location and through or around the radiator bulkhead to the motor relay. Be sure to avoid sharp edges and hot or moving parts.

ASSEMBLY INSTRUCTIONS



9. Attach the red wire from the vehicle cable to one of the large terminals on the motor relay. Secure with a lock washer and 5/16" jam nut.



10. Attach the black wire from the vehicle cable to the negative (-) battery terminal.

11. Find a location in the grille on the driver side for routing the vehicle harness.

12. Route the vehicle harness through grille and around or through the radiator bulkhead.

13. Route the vehicle harness break out to the area behind the driver-side headlamp. Route the rest of harness to the firewall.

14. Route the harness breakout with the orange/ black stripe, brown/red stripe, and brown/green stripe wires to the motor relay.

15. Install the brown/red stripe and brown/green stripe wires to the small terminals of the motor relay. Secure with #10 lock washers and 10-32 nuts.

16. Connect the female spade terminal on the small red wire from the vehicle harness to the male spade terminal on the small red wire from the vehicle battery cable.

17. Connect the orange/black stripe ring lug to the negative (-) battery terminal.

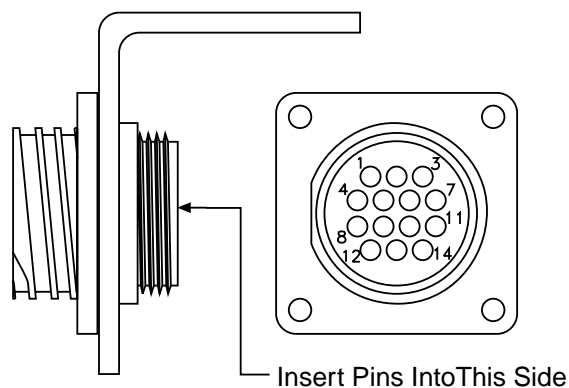
ASSEMBLY INSTRUCTIONS

- Route the 22" red battery cable between a large motor relay terminal and the positive (+) battery terminal avoiding sharp edges, and hot or moving parts. Attach the cable to the motor relay terminal with a lock washer and 5/16" jam nut.
- Attach the cable to the positive (+) battery terminal with the existing terminal fastener.
- Drill a 5/8" hole through the firewall of the vehicle in a convenient location away from sharp edges, and hot or moving parts.
- Remove the packing material from the end of the harness near the fuse. This will expose ten socket type terminals.
- Push the fuse through the firewall hole and then feed the end of the harness with the ten terminals through to the cab. Use a grommet to seal the firewall around the harness.

Under-Dash Vehicle Harness Connector Pin Assignments

- In the cab, pass the ten socket-type terminals through the connector mount bracket.
- Insert each of the ten socket-type terminals into the connector housing.

NOTE: You will feel a snap as the terminals are successfully inserted. An extraction tool is provided for removing pin terminals if necessary. Keep this tool for future use.



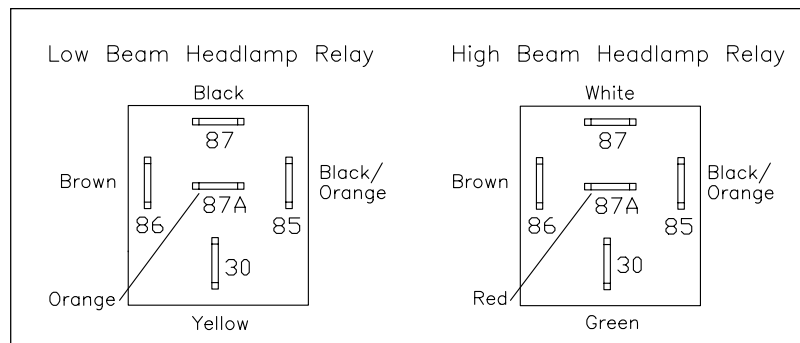
- Mount the connector bracket to the vehicle with the supplied #6 sheet metal screws and washers. Secure the connector to the bracket with the 6-32 screws, lock washers and nuts.
- Locate an accessory wire that is controlled by the ignition switch.
- Route the 10-amp fuse holder red wire to this location and trim any excess length. Leave the 10-amp fuse holder in the system.
- Open the blue, self-stripping connector and place the end of the red wire against the inner groove stop. The end of the wire must not extend from the connector when it is closed. Place the accessory wire in the outer groove. Use a pair of pliers to close the connector over the wires. Snap the locking tab into place.

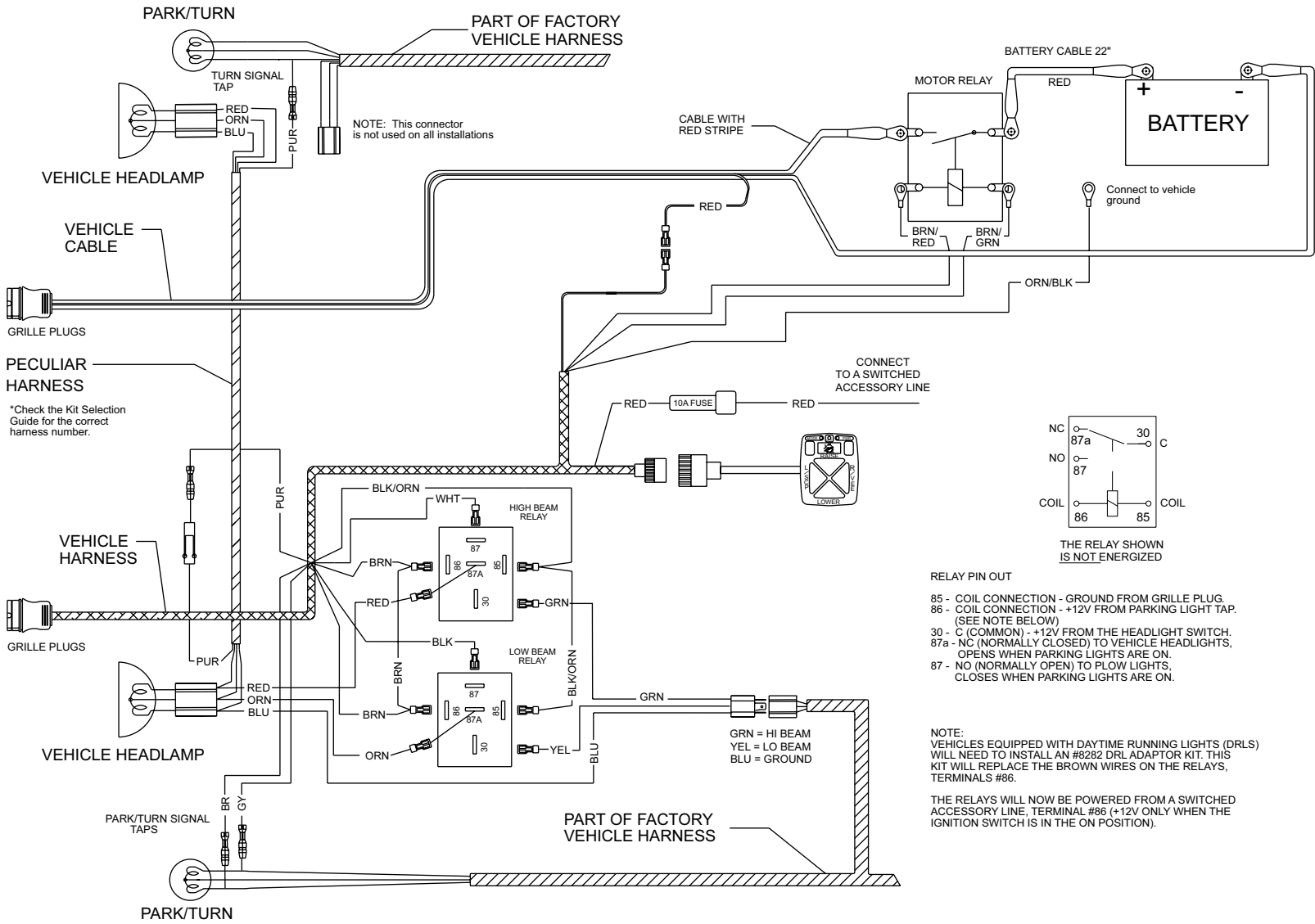
Wire Color	Pin No.
Light Blue w/ Orange Stripe	1
Blue w/ Orange Stripe	2
Black w/ White Stripe	3
Light Green	4
Light Blue	5
White w/ Yellow Stripe	6
Brown w/ Red Stripe	7
Red	8
Orange w/ Black Stripe	9
Brown w/ Green Stripe	10

ASSEMBLY INSTRUCTIONS

Peculiar Harness Installation

1. Remove the headlamp connector(s) on the driver side. Connect the peculiar harness male connector(s) to the female connector(s) removed from the headlamp(s). Connect the peculiar harness female connector(s) to the headlamp(s).
2. Route the other end of the harness along the radiator bulkhead, or over the radiator shroud, to the passenger-side headlamp(s).
3. Remove the headlamp connector(s) on the passenger side. Connect the peculiar harness female connector(s) to the headlamp(s). Connect the peculiar harness male connector, if supplied, to the female connector removed from the headlamp. Secure any unused connectors with cable ties.
4. Insert the purple wire bullet into the black bullet receptacle (provided in light kit) on the passenger-side turn signal wire.
5. Insert the purple wire bullet from the vehicle harness into the purple wire receptacle on the peculiar harness.
6. Connect the remaining wires on the driver side to the headlamp relays as shown.
7. Use cable ties to secure the relays with terminals facing down, and to prevent accidental grounding of any connections. Cable tie any harnesses and wires away from hot or moving engine parts.
8. Install 8035 relay kit. (See Kit Selection Guide if required for vehicle.)
9. Reconnect the vehicle battery positive (+) and negative (-) cables.
10. Assemble the attachments and hydraulics to complete the installation, if not already done. Aim headlamps according to the instructions.



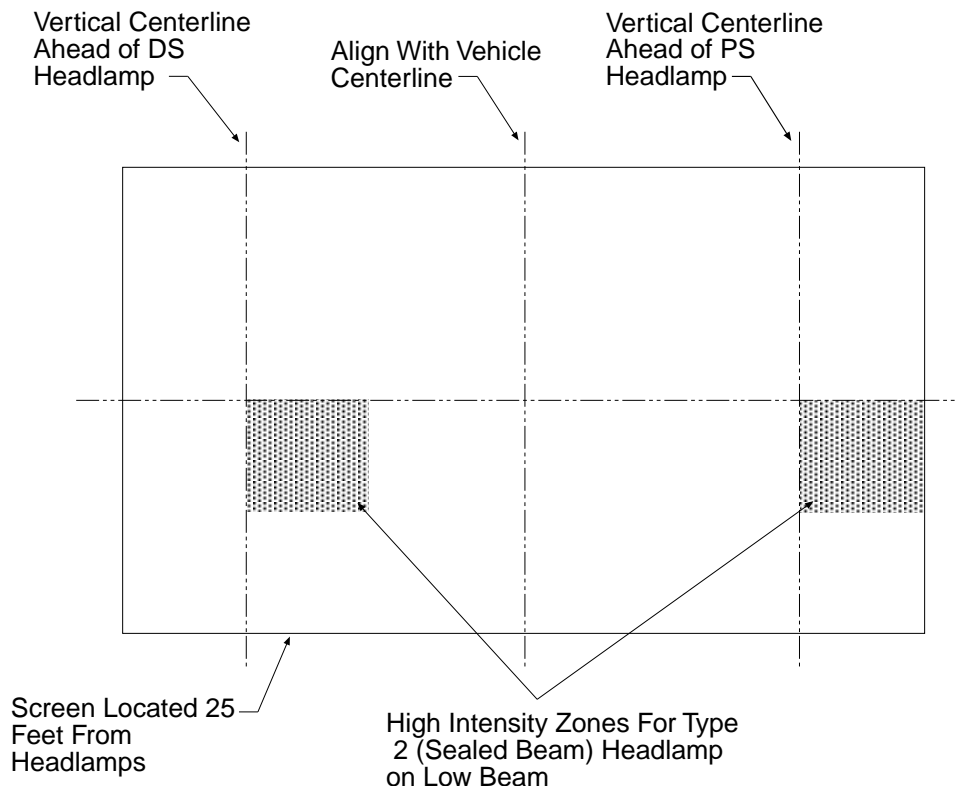


ASSEMBLY INSTRUCTIONS

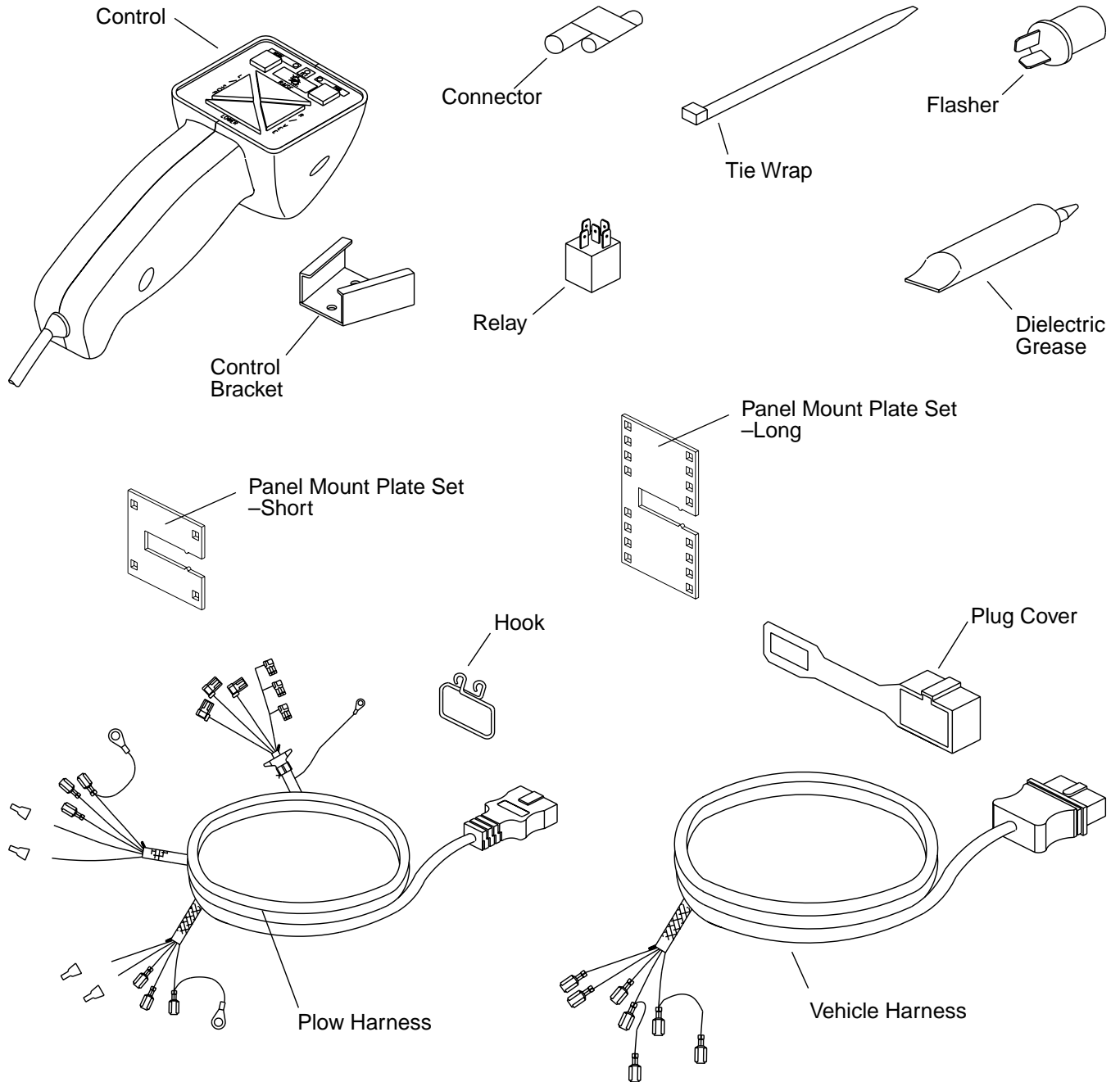
Headlamp Beam Aiming

1. Place vehicle on a level surface 25 feet in front of a matte-white screen, such as a garage door. The screen should be perpendicular both to the ground and to the vehicle center line.
2. The vehicle should be equipped for normal operation, the snowplow blade should be in place and in raised position. Below are steps listed by the Society of Automotive Engineers (SAE) pertinent to headlamp aiming in specification #SAE J599d.
3. Prepare vehicle for headlamp aim or inspection. Before checking beam aim, the inspector will:
 - a. Remove ice or mud from under fenders.
 - b. See that no tire is noticeably deflated.
 - c. Check springs for sag or broken leaves.
 - d. See that there is no load in the vehicle other than the driver.
 - e. Check functioning of any "level-ride" control.
 - f. Check lens and aiming pad.
 - g. Check for bulb burnout, broken mechanical aiming pads, and proper beam switching.
 - h. Stabilize suspension by rocking vehicle sideways.
4. Mark (or tape) the vertical centerline of the headlamps and the vehicle itself on the screen. Mark the horizontal centerline of the headlamps on the screen (distance from ground to headlamp centers).
5. The correct visual aim for type 2 headlamps (snowplow headlamps are type 2; see number on face of sealed beam) is with the top edge of the high intensity zone of the lower beam below the horizontal centerline and the left edge of the high intensity zone on the vertical centerline (see diagram below).

AIMING HEADLAMPS



EZ-V® Snowplow Components





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