



Mitsubishi FG Harness Kit

Parts List and Installation Instructions For: Straight Blade 63407 MVP® 63409

CAUTION

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



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Harness Kit No. 63407		
PART NO.	QTY	DESCRIPTION
22241	1	PLUG-IN HARNESS 1A & 2A -C
61562	4	JUMPER WIRE
61535K	2	RELAY SPDT
56099	1	DIELECTRIC GREASE
59223	8	CABLE TIE
20681	1	BATTERY CABLE, 50"
26013	1	FUSE HOLDER ASSY
61437	1	VEHICLE HARNESS 9-PIN
61547	1	PARTS BAG (HARNESS KITS – U)

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Abbreviations	
ASSY	Assembly
SPDT	Single Pole Double Throw

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.




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

NC FASTENER TORQUE (FT-LB)			
DIAMETER- THREADS PER INCH	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

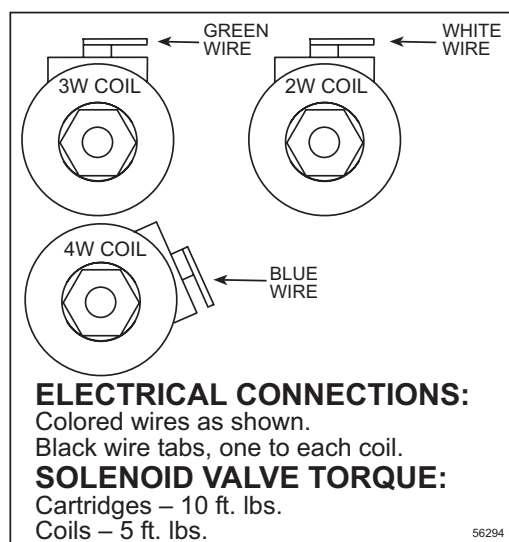
INSTALLATION INSTRUCTIONS

PLOW LIGHT INSTALLATION

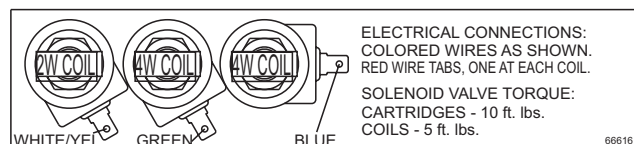
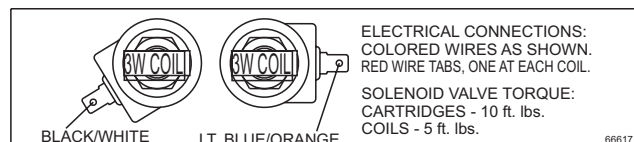
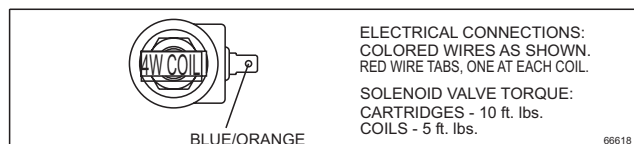
1. Install plow lights according to mount kit installation instructions.
2. Install the solenoid wires according to the label on the inside of solenoid covers.

NOTE: The strain relief(s) must be inside the covers to prevent the connections from coming loose.

Straight Blade

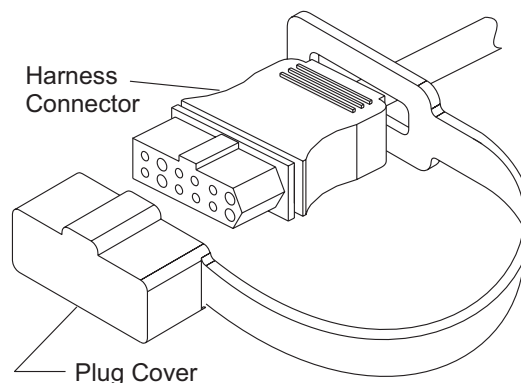


MVP® Snowplow



VEHICLE HARNESS INSTALLATION

1. Stretch the rectangular opening of the plug cover strap over the harness connector end of the vehicle harness. Place the plug cover over the molded connector on the harness.



2. Select a location at a convenient height in driver-side of grill for the connection to the plow plug.
3. Route the vehicle harness through the selected location, into the engine compartment behind the driver-side headlamp(s).
4. On the driver-side of the vehicle, identify the left turn signal wire and parking lamp wires. Attach a black bullet receptacle connector to each wire.
5. Identify the right turn signal wire on the passenger-side of the vehicle. Attach a black bullet receptacle connector to this wire.
6. On the driver-side of the vehicle, insert the gray and brown bullet wires into the black bullet receptacles with the gray wire to turn signal and the brown wire to park lamp.
7. Connect the wires with the 1/4" receptacles to the headlamp relays behind the driver-side headlamp(s) as shown in the relay connections diagram on page 7.

(continued on next page)

INSTALLATION INSTRUCTIONS

VEHICLE HARNESS INSTALLATION

(Continued)

8. Route the vehicle harness:

Straight Blade: Route the vehicle harness through the same hole as the 4-wheel drive control cables. Feed the fuse holder through first, then the plastic connector and harness.

MVP® Snowplow: Remove the packing material from the end of the harness near the fuse. This will expose ten socket-type terminals. Route the vehicle harness through the same hole as the 4-wheel drive control cables. Feed the fuse holder through first, then the plastic connector and harness.

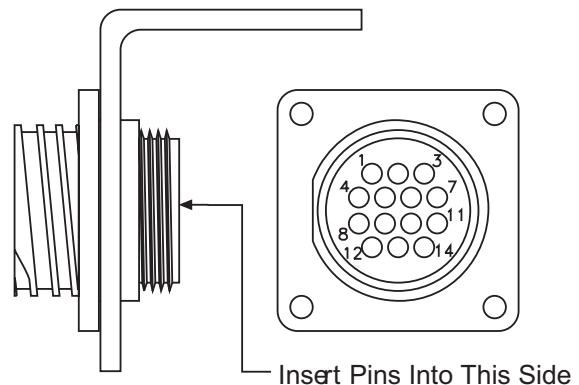
9. Connect the red wire from the fuse holder to a circuit which is on only when the ignition key is on.

CONNECTOR PIN INSTALLATION (MVP® Snowplow only)

1. In the cab, pass the ten socket-type terminals through the connector mount bracket.
2. 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.

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



3. 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.

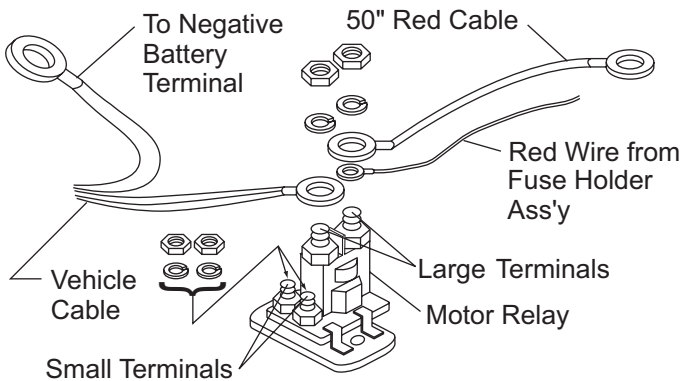
INSTALLATION INSTRUCTIONS

VEHICLE CABLE ASSEMBLY INSTALLATION

1. Find a place on the passenger-side of the vehicle grill to attach the vehicle cable assembly plug within reach of the plow cable plug.
2. Route the vehicle cable through the selected location, across the frame to the driver-side, continue routing the cable along the top of the driver-side frame towards the battery. Cable tie vehicle cable assembly to existing clips or brackets.
3. Mount the motor relay within reach of the vehicle cable leads. Find a location for the motor relay where it will be protected from road splash.

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

4. 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" cap screws, washers and locknuts.



⚠ CAUTION

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Batteries contain sulfuric acid that burns skin, eyes and clothing.

Disconnect the battery before removing or replacing any electrical components.

5. Remove the NEGATIVE battery cable from the battery.

Straight Blades: Connect the black/red stripe cable to one of the large motor relay terminals with one 5/16-24 jam nut and lock washer. Split vehicle cable as required to route cable without a stripe (black lead) to the NEGATIVE battery terminal. **DO NOT connect negative battery connection at this time.**

MVP® Snowplow: 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. Route the black lead to the NEGATIVE battery post. **DO NOT connect negative battery connection at this time.**

6. Attach the 50" battery cable and the red wire from the fuse holder assembly to the second large motor relay terminal with one 5/16-24 jam nut and lock washer. Connect the other end to the POSITIVE battery terminal. Cable tie battery cable away from any sharp edges, hot or moving parts.

(continued on next page)

INSTALLATION INSTRUCTIONS

VEHICLE CABLE ASSEMBLY INSTALLATION (Continued)

7. Route the wires:

Straight Blade: In the engine compartment, route the brown/red wire and the orange/black wire to the motor relay. Attach the ring terminals to the small motor relay terminal with 10-32 nuts and lock washers. Connect the 24" orange/black wire to ground.

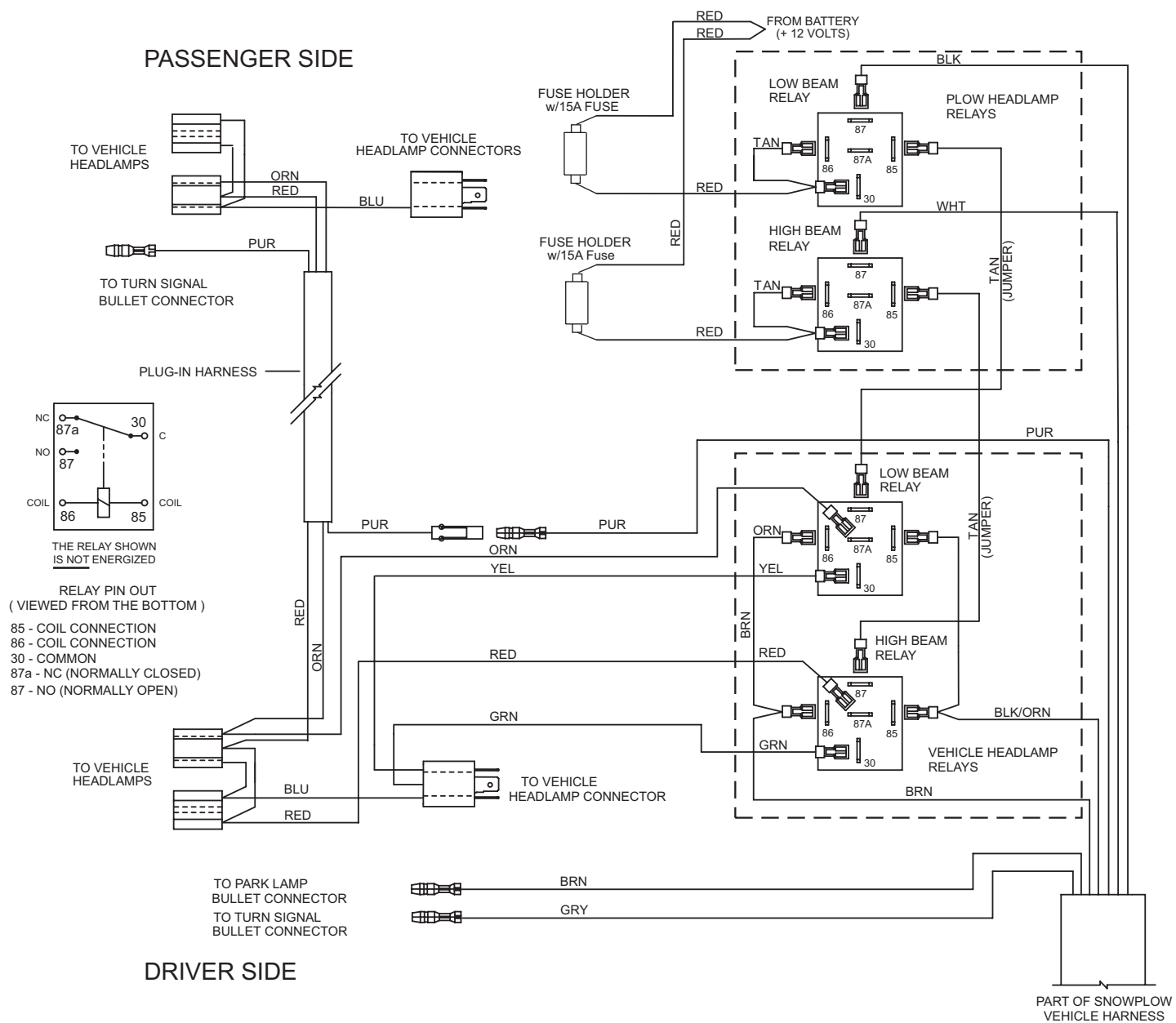
MVP Snowplow: Route the harness breakout with the orange/black stripe, brown/red, and brown/green stripe wires to the motor relay. Install the brown/red stripe and brown/green stripe wires to the small terminals of the motor relay. Secure with #10 lock washers and 10-32 nuts. Connect the 24" orange/black wire to ground. Connect the insulated female receptacle on the small red wire from the vehicle harness to the insulated blade terminal on the small red wire from the vehicle battery cable.

8. Use cable ties to secure harness and wires away from any sharp, hot or moving parts.

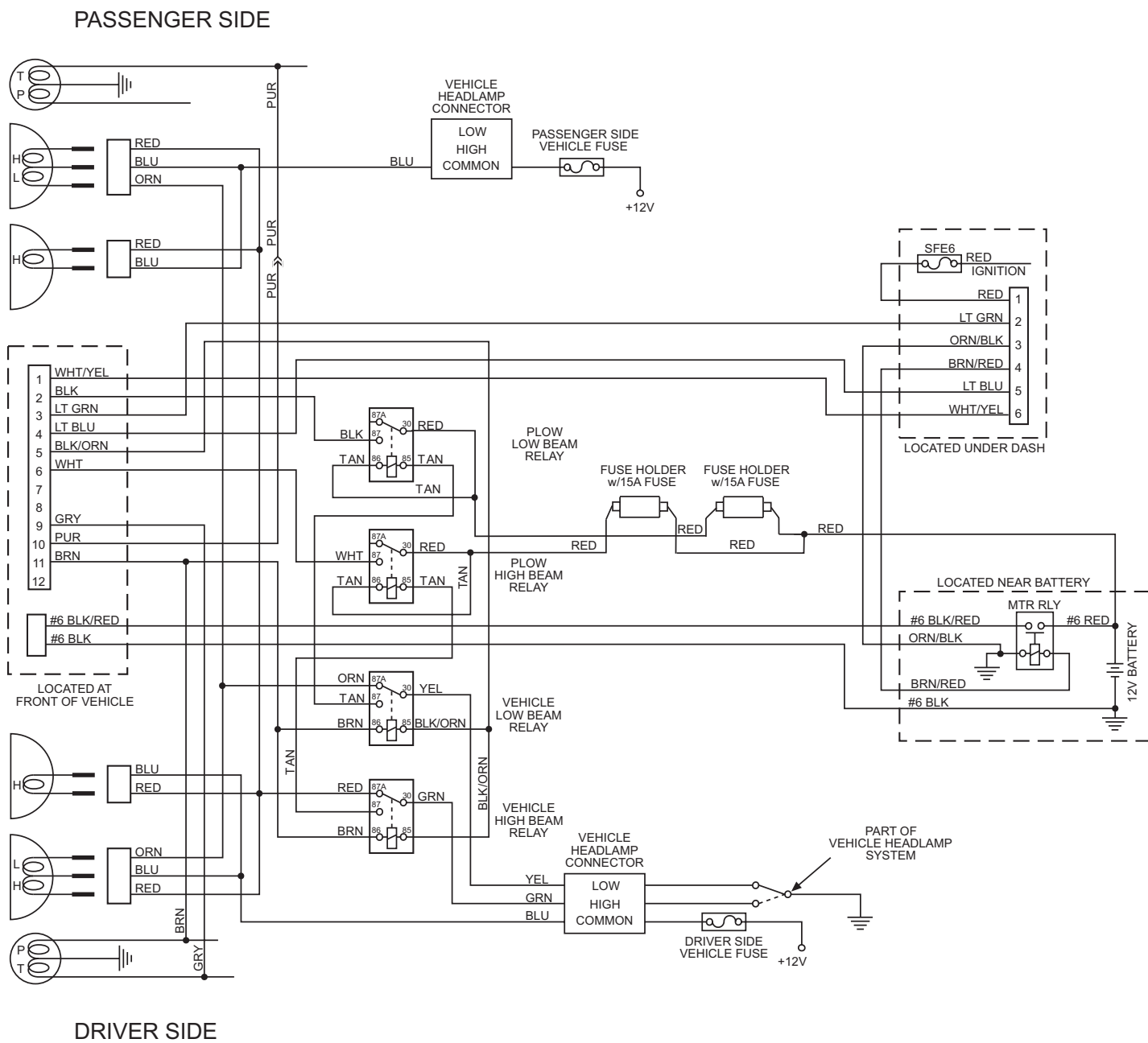
NOTE: Use dielectric grease on all electrical connections to prevent corrosion. Fill receptacles and lightly coat ring terminals and blades before assembly.

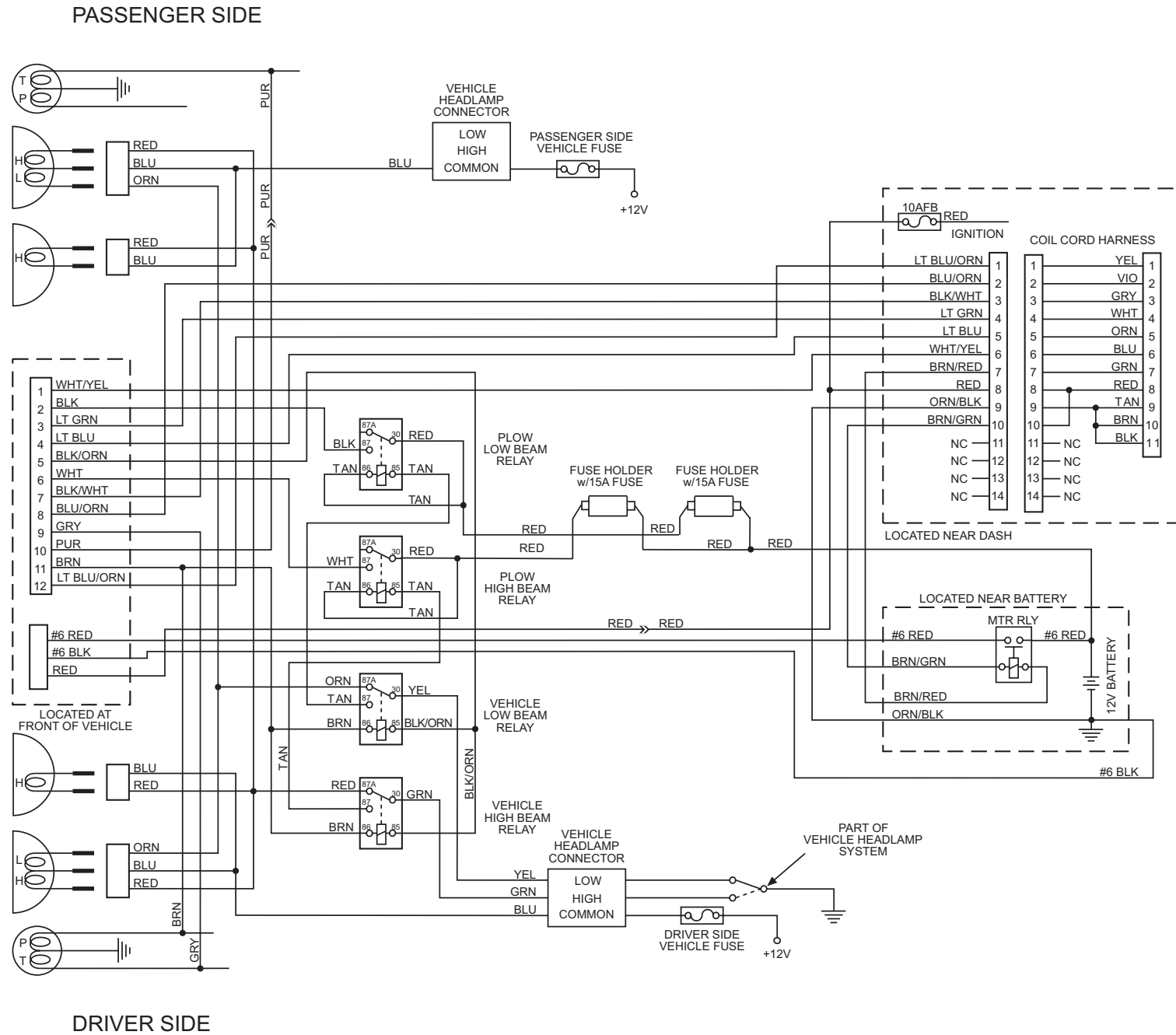
VEHICLE PLUG-IN HARNESS INSTALLATION

1. Remove the headlamp connectors on the driver-side. Connect the plug-in harness male connector to the 3-position female connector removed from the headlamps. Connect the plug-in harness female connectors to the headlamps.
2. Route the other end of the harness along the frame, to the passenger-side headlamps.
3. Remove the headlamp connectors on the passenger-side. Connect the plug-in harness female connectors to the headlamps. Connect the plug-in harness male connector to the 3-position female connector removed from the headlamp. Secure any unused connectors with cable ties.
4. Insert the purple wire bullet into the black bullet receptacle on the passenger-side turn signal wire.
5. On the driver-side, insert the purple wire bullet from the vehicle harness into the purple wire receptacle on the plug-in harness.
6. Connect the remaining wires on the driver-side to the headlamp relays as shown on page 7.
7. Use cable ties to secure the relays and prevent accidental grounding of any connections. Cable tie any harnesses and wires away from any sharp edges, hot or moving engine parts.
8. Reconnect the vehicle battery positive (+) and negative (-) cables.
9. Raise plow and aim plow headlamps according to SAE J599 Lighting Inspection Code (See Service Bulletin SP 608). Add lighting required by state or local regulations.



STRAIGHT BLADE SYSTEM RELAY DIAGRAM







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 A DIVISION OF DOUGLAS DYNAMICS, L.L.C.

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