



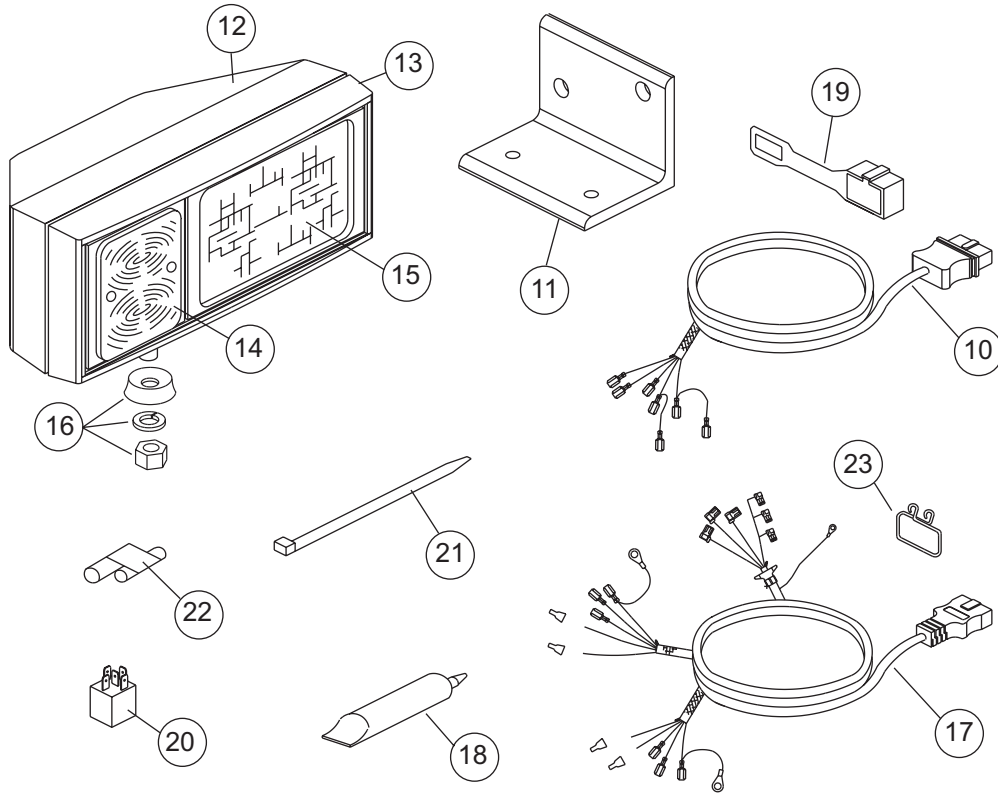
# Ford F700 and F800 1995 - 19\_\_ Peculiar Light Kit

## Parts List and Installation Instructions

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21511 Commercial Light Kit		
Part #	Qty	Description
*	1	Plug -in Harness
21563	1	Battery Cable, 90"
8324	6	Cable Ties, 3/16" x 14"
21651	3	Split Rubber Grommet
21652	3	Rosebud Clip - .413/.500
21288	1	Blade Terminal
5972	1	Flasher, Heavy Duty
* - available as part of kit only		



8430-1 Common Light Kit Parts List				21049 Parts Bag			
Ref #	Part #	Qty Req	Description	Ref #	Part #	Qty Req	Description
10	20680	1	9-Pin Vehicle Harness Commercial	18	8329K	1	Dielectric Grease Tube
11	20679	1	Motor Relay Mounting Bracket	19	8291	2	SEHP Plug Cover
12	8328	2	Headlamp (DS or PS)	20	8293	2	Headlamp Relay
13	6122	1	Bezel w/ Fasteners (DS or PS)	21	3666	25	Cable Tie – 8"
14	6123	1	Lens w/ Fasteners (DS or PS)	22	5776	3	Bullet Receptacle Connector 18-14 AWG - insulated
15	6728	2	2E1 Sealed Beam Light-Glass	ns	90106	2	3/8" x 1-1/4" Cap Screw
16	6128	1	Headlamp Swivel & Fasteners	ns	90352	2	3/8" Locknut
17	8246* or	1	9-pin Snowplow Harness – SEHP	ns	90315	2	3/8" Flat Washer
17	21293	1	9-pin Snowplow Harness – SEHP & Insta-Act® hydraulics	ns	21526	1	Convuluted Tubing, .75 ID, Black, 12" long
ns	6664	1	Sealed Beam Gaskets Set	23	20128	1	Wire Hook
ns	A6153	1	2E1 Retainer Fingers				
ns	21049	1	Parts Bag				
*8430 only				ns = not shown			

## 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.

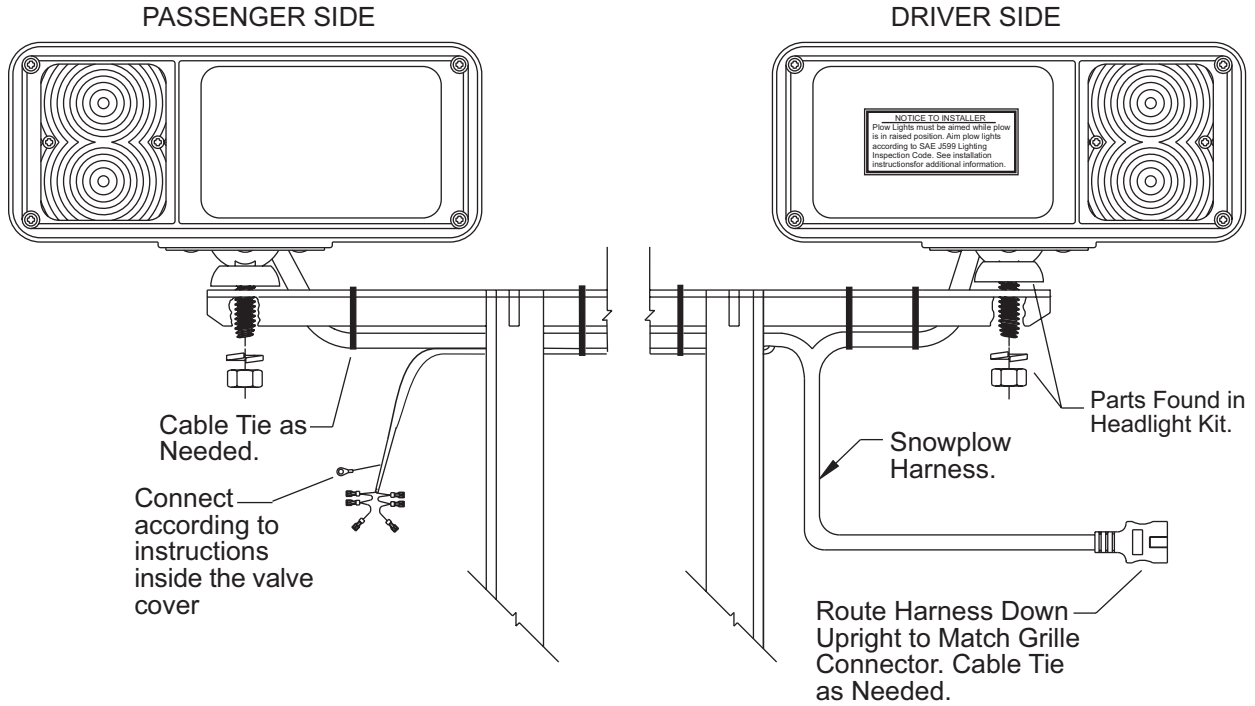
**NOTE:** Identifies tips, helpful hints and maintenance information the reader should know.

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

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

**SNOW PLOW LIGHT INSTALLATION**

1. Attach snowplow lamps with harness to the headgear with the park turn lamps toward the outside. Route the harness down the driver-side upright on the headgear.
2. Remove the plastic cover from the valve and install the solenoid wires according to the instructions on the inside of the cover. With the harness strain relief in place, install the plastic valve cover.

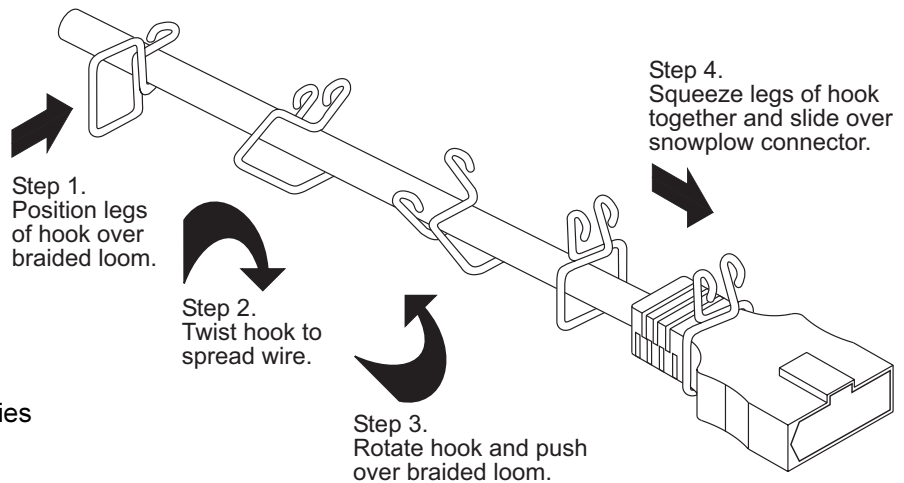


3. Attach the snowplow cable assembly to the motor terminals. Connect the black and red striped wire to the positive terminal. Connect the black wire to the negative terminal. Connect the smaller black wire with the orange stripe to the negative terminal of the motor.

4. Slide the small pocket of cable boot, found in the hydraulic kit, over the ground clip for later off-truck storage of the harness connectors.

5. Secure the harness with cable ties as needed.

6. Install the wire hook as shown.



## VEHICLE HARNESS AND VEHICLE CABLE INSTALLATION

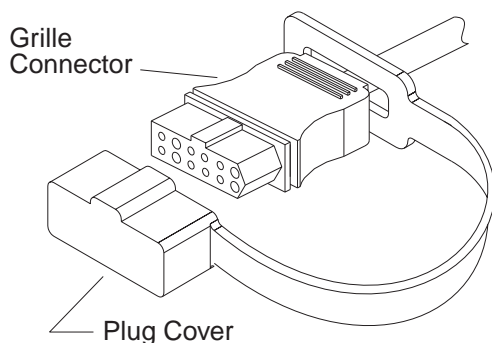
### ⚠ WARNING

Disconnect battery before installing, removing or replacing electrical components such as the motor, motor relay or battery cables.

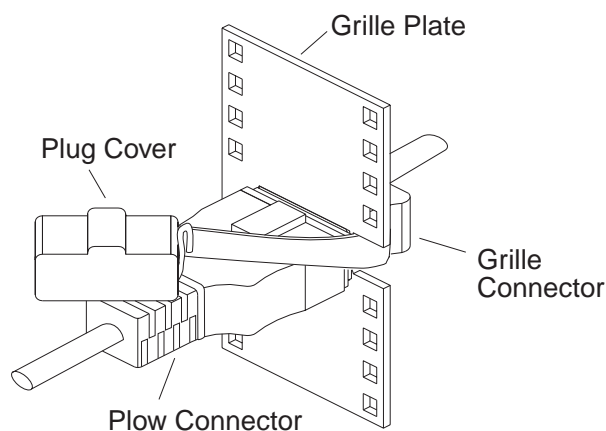
### ⚠ CAUTION

Check for wires, hoses or any other obstructions on the passenger-side frame before drilling.

1. Mount the motor relay mounting bracket to the passenger-side frame using a 3/8" x 1-1/4" cap screw, washer and locknut as shown on page 6. Use one of the existing 3/8" frame holes. If a second mounting bolt is needed, mark the hole location while using the mounting bracket as a template. Loosen or remove the mounting bracket and drill a second 13/32" hole. Reinstall the mounting hardware and tighten.
2. Mount the motor relay to the motor relay mounting bracket with 1/4-20 x 3/4" cap screws, flat washers and locknuts from the hydraulic kit.
3. Stretch the rectangular opening of the plug cover strap over the grille connector end of the vehicle harness. Place the plug cover over the molded connector on the harness. Repeat for the vehicle cable assembly found in the hydraulic kit.

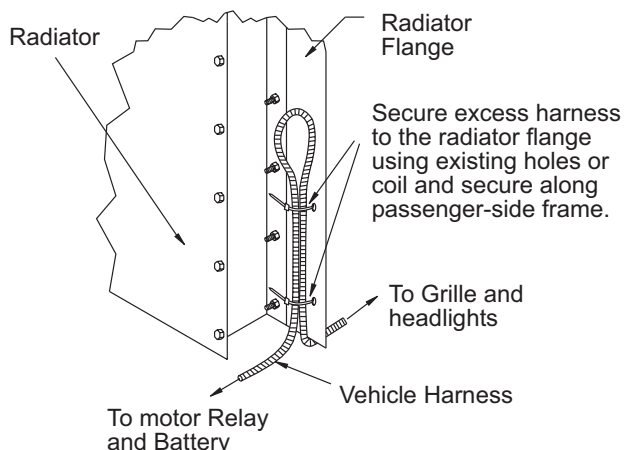


4. Route the vehicle harness grille connector, back to front, through the grille in a convenient location on the driver side. Install the grille plate, found in the hydraulic kit, on the grille connector by sliding it into the groove on the plug. Attach the grille plate to the grille with cable ties.

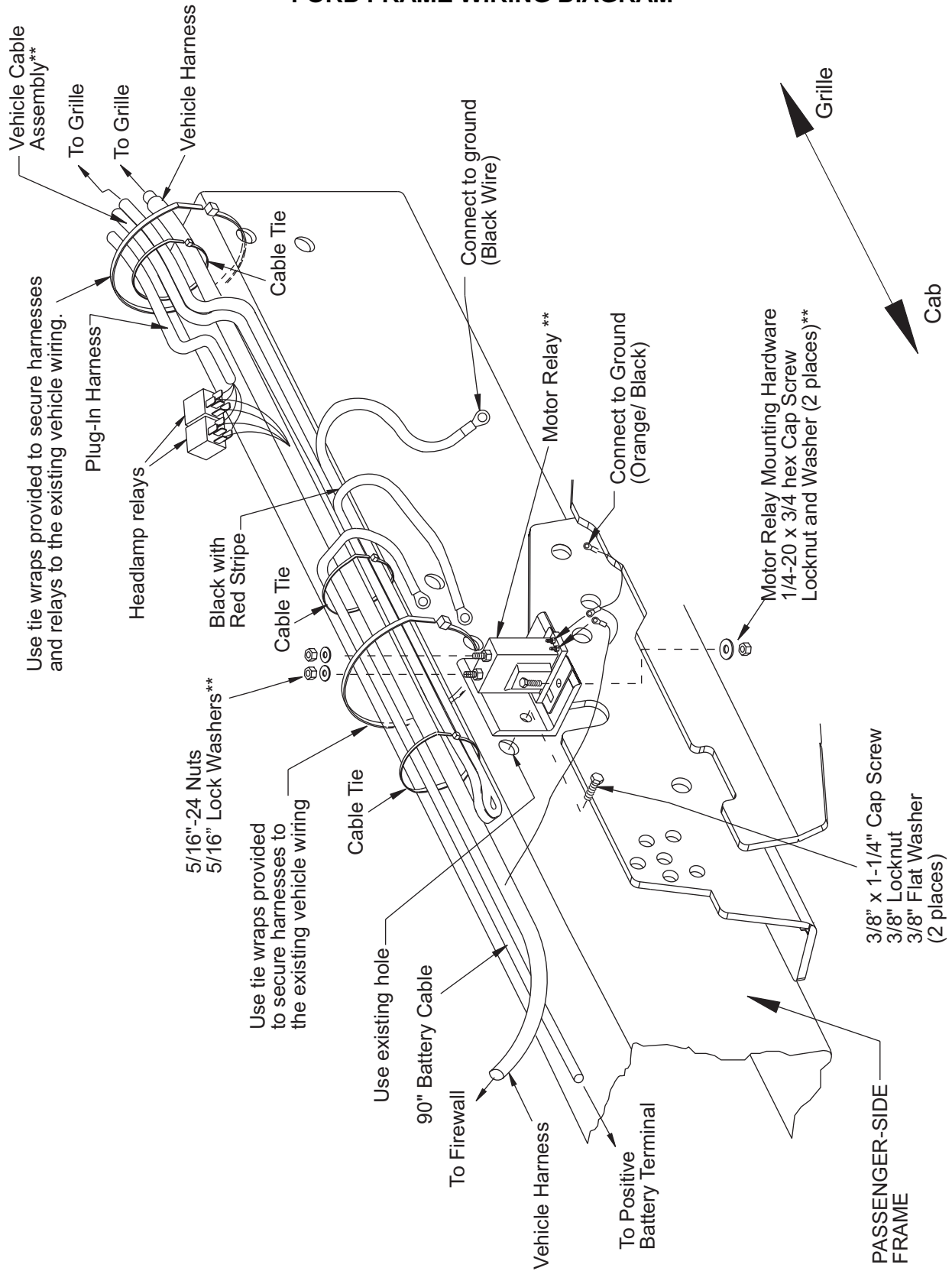


5. Route the vehicle harness from the selected location in the grille, down into the lower radiator support channel, allow for a service loop when the vehicle harness passes from the tilt nose to the frame (no service loop is needed on vehicles with a fixed center section grille). Continue routing the vehicle harness along the channel exiting the channel at the passenger-side frame, along the top of the frame past the motor relay mounting bracket to the base of the fire wall. Do not attach vehicle harness to the top of the frame at this time.

### FORD-RADIATOR SUPPORT WIRING DIAGRAM



FORD FRAME WIRING DIAGRAM



Use tie wraps provided to secure harnesses and relays to the existing vehicle wiring.

5/16"-24 Nuts  
5/16" Lock Washers\*\*

Use tie wraps provided to secure harnesses to the existing vehicle wiring

Use existing hole

90" Battery Cable

To Firewall

Vehicle Harness

To Positive Battery Terminal

PASSENGER-SIDE FRAME  
3/8" x 1-1/4" Cap Screw  
3/8" Locknut  
3/8" Flat Washer (2 places)

\*\* Found in hydraulic kit

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**NOTE: Secure the vehicle harness using the existing holes in the radiator support channel with cable ties . If no holes are available, drill holes as needed along the front edge of the channel.**

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6. Connect the vehicle harness to the motor relay (small ring terminals on brown/red and orange/black wires) using #10-32 nuts and lock washers from the hydraulic kit. Connect the 24" orange/black lead to ground. Clean away any paint or dirt to ensure a good ground connection.
7. Drill a 7/8" hole in a convenient location on the fire wall, free of any obstructions on both the engine side and the cab side .
8. Route the remaining half of the vehicle harness from the base of the fire wall to the drilled hole. Feed the fuse holder and then the vehicle harness through the hole. Route the harness to the area inside the cab where the control will be mounted. Connect the red wire from the fuse holder to a switched accessory line—a line that has power only when the ignition switch is on—using fuse taps and insulated receptacles from the hydraulic kit, or blade terminals.

**⚠ CAUTION**

**Avoid any sharp, hot or moving parts when securing a harness to the vehicle.**

9. Plug the mounted control into the vehicle harness. Use cable ties to attach the vehicle harness to the existing vehicle wiring and/or existing brackets. Place a rubber grommet around the vehicle harness and into the drilled opening in the fire wall.

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**NOTE: Mount the control according to the control installation instructions.**

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10. Route the vehicle cable assembly grille connector, back to front, through the grille in a convenient location on the passenger side. Install the grille plate by sliding it into the groove on the molded connector. Attach the grille plate to the grille with cable ties.

11. Route the vehicle cable through the selected location in the grille, down to the bottom of the tilt nose and to the passenger-side frame. Allow for a service loop where the vehicle cable assembly passes from the tilt nose to the frame (no service loop is needed on vehicles with a fixed center section grille). Continue routing the vehicle cable assembly along the top of the frame to the motor relay. Do not cable tie the vehicle cable assembly to the frame at this time.
12. Connect the black/red striped cable to one of the large motor relay terminals with one 5/16"-24 jam nut and lock washer from the hydraulic kit. Split the vehicle cable assembly as required to attach the cable without a stripe (black lead) to a ground bolt on the frame or on the engine. When using the frame as a ground, remove any paint or dirt from around the hole or bolt. Loop or fold back any extra cable and cable tie as needed.
13. Attach the 90" battery cable to the second large motor relay terminal with one 5/16"-24 jam nut and lock washer from the hydraulic kit. Route the battery cable toward the battery box. Secure to existing vehicle wiring and/or existing brackets with cable ties. Be sure to avoid any sharp, hot or moving parts. Remove the battery box cover and connect the cable to the "Positive" terminal of battery. Reinstall the battery box cover.

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**NOTE: On vehicles with the batteries located under the cab, passenger side, the battery cable supplied will be long. Coil and cable tie extra length in the battery box or shorten cable as needed.**

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14. Cable tie vehicle harness and vehicle cable assembly to existing vehicle wiring. On vehicles that do not have wiring along the passenger-side frame, use the long cable ties to secure the vehicle harness and the vehicle cable assembly to the top of the frame as shown on page 6.
15. Lubricate the grille connector with dielectric grease. Save the tube for future lubrication of the grille connectors.

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**PLUG-IN LIGHT HARNESS INSTALLATION**

1. Remove the driver-side outer headlamp molding, the park-turn lamp assembly, the sealed beam retainer and the sealed beam.

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**NOTE: Move the vehicle headlight wiring and connector to one side before going to the next step.**

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2. Drill a 1" hole in the back of the headlight housing using the 1/8" existing hole as a guide. Route the end of the plug-in harness with a male and female connector into the driver-side headlamp housing.
3. Connect the plug-in harness male connector to the vehicle harness female connector removed from the sealed beam. Connect the plug-in harness female connector to the sealed beam. Reinstall the sealed beam and the sealed beam retainer. Install a rubber grommet around the plug-in harness and insert it into the drilled hole in the headlamp housing.
4. Route the gray and brown wires from the plug-in harness under the existing park/turn grommet according to the illustration. Identify the driver-side park/turn signal wires. Attach a black bullet receptacle to each wire. Make these connections inside of the park/turn connector area. Insert the purple wire bullet connector from the plug-in harness into the turn signal black bullet receptacle. Insert the brown wire bullet connector from the plug-in harness into the parking light black bullet receptacle. Reinstall the park/turn lamp assembly and the outer headlamp molding.
5. Route the plug-in harness through the inner fender, along the existing vehicle wiring to the passenger-side headlamp housing. Cable tie as needed.
6. Remove the passenger-side outer headlamp molding, the park-turn lamp assembly, the sealed beam retainer and the sealed beam.

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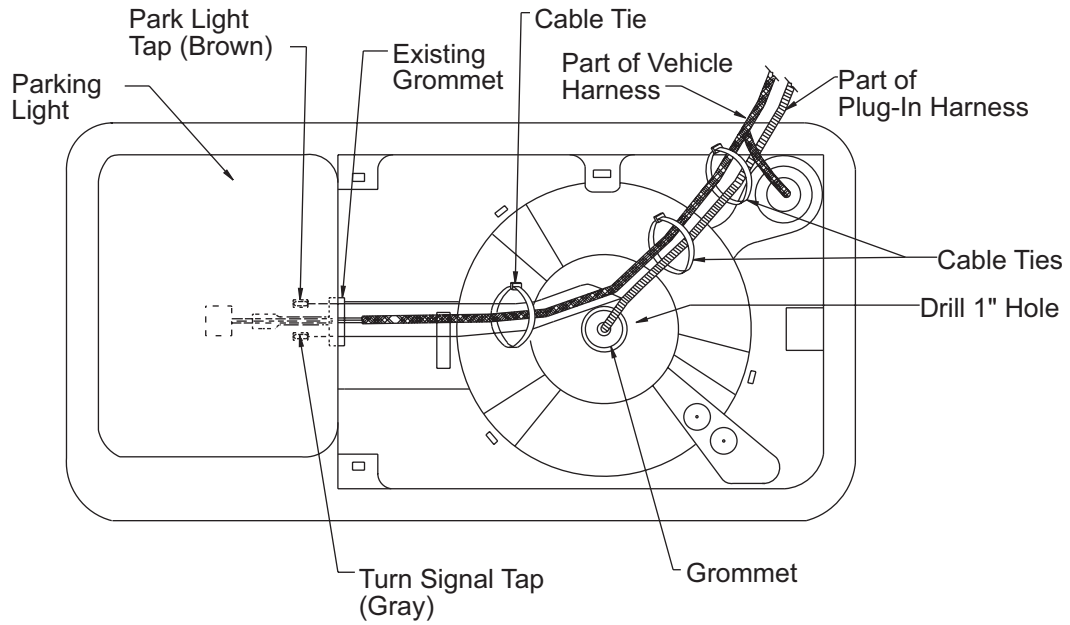
**NOTE: Move the vehicle headlight wiring and connector to one side before going to the next step.**

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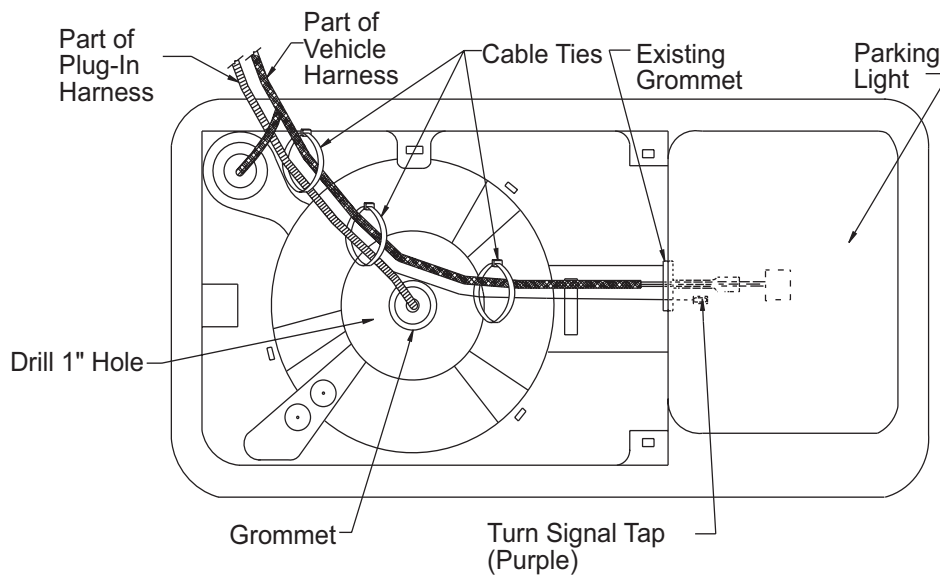
7. Drill a 7/8" hole in the back of the headlight housing using the 1/8" existing hole as a guide. Route the end of the plug-in harness with the female connector into the driver-side headlamp housing.
8. Connect the plug-in harness female connector to the sealed beam. The original female connector from vehicle harness will not be used. Secure the unused connector with cable ties. Reinstall the sealed beam and the sealed beam retainer. Install a rubber grommet around the plug-in harness and insert it into the drilled hole in the headlamp housing.
9. Route the purple wire from the plug-in harness under the existing park/turn grommet according to the illustration. Identify the passenger-side park/turn signal wire. Attach a black bullet receptacle to this wire. Make this connection inside of the park/turn connector area. Insert the purple wire bullet from the plug-in harness into the turn signal black bullet receptacle. Reinstall the park/turn lamp assembly and the outer headlamp molding.



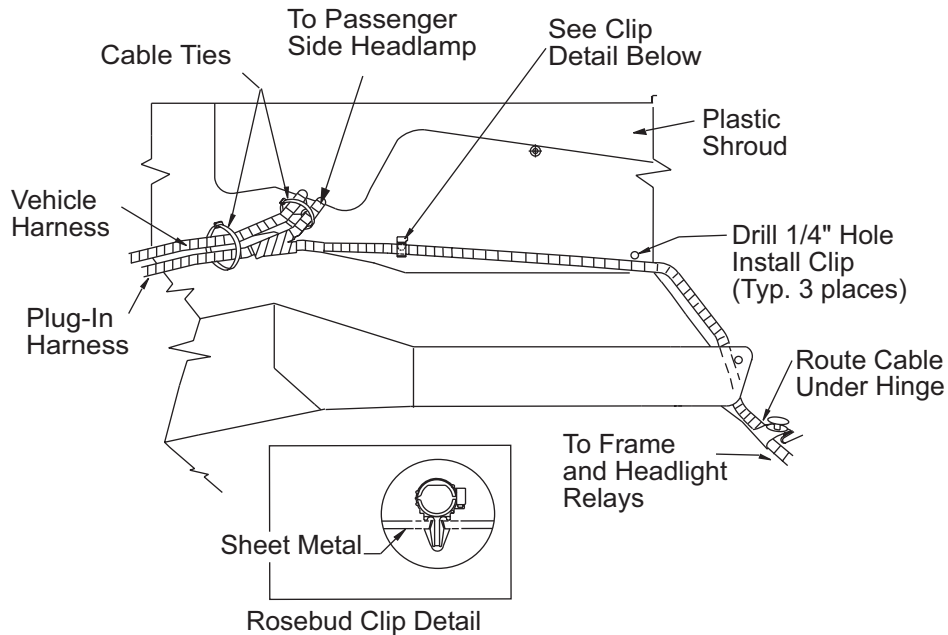
### Driver Side Headlamp



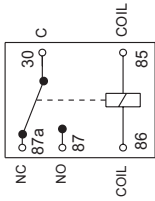
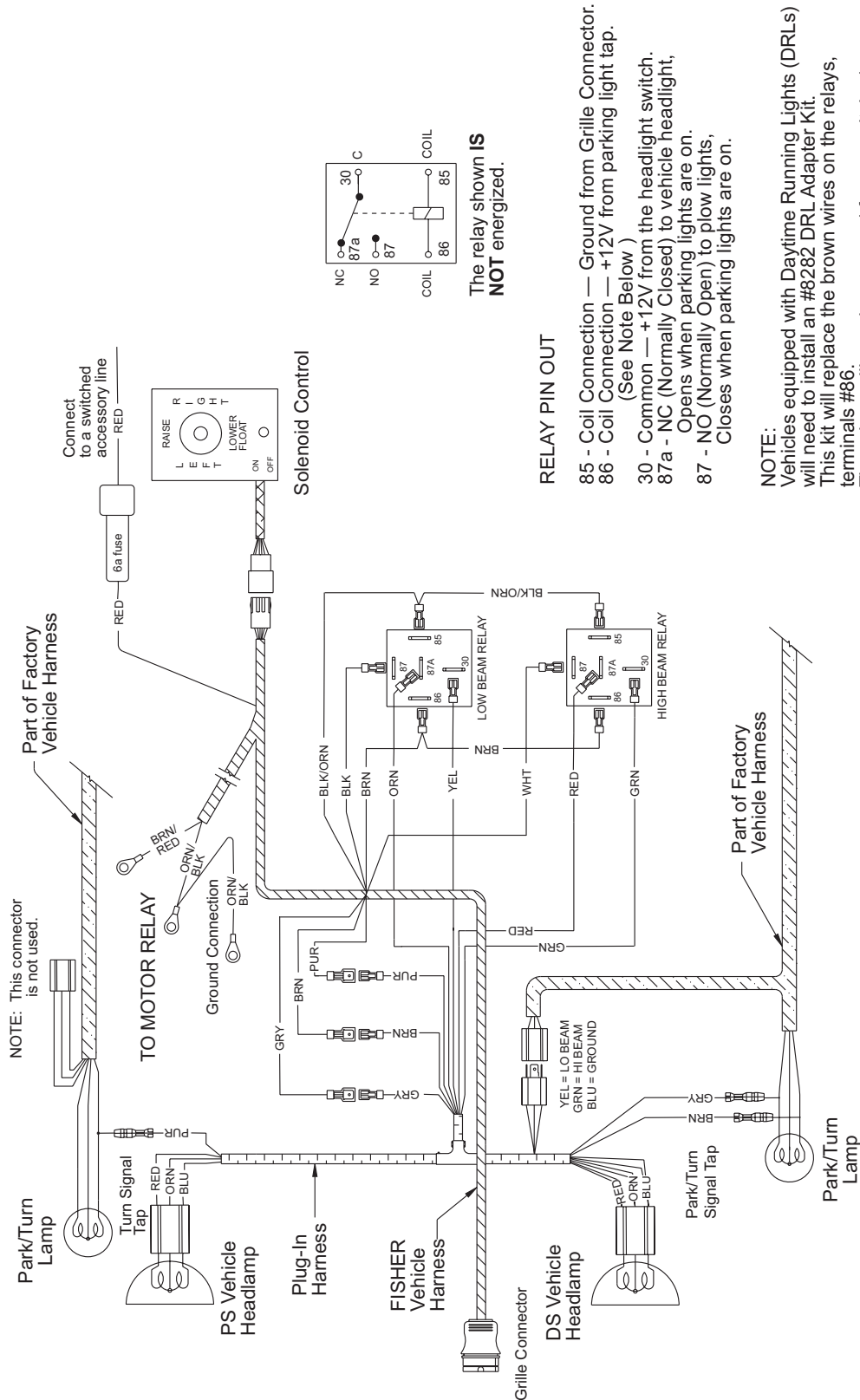
### Passenger Side Headlamp



10. Route the plug-in harness from the passenger-side breakout along the inner fender to the hinge. Route the harness under the hinge and onto the passenger-side frame. Allow for a service loop when the plug-in harness passes from tilt nose to the frame. Drill three 1/4" holes for the rosebud clips according to the illustration.
11. Connect the relays to the vehicle harness and the plug-in harness as shown on page 11.
12. On vehicles without any wiring running along the passenger-side frame, use the long cable ties to secure the harnesses to the top of the frame.
13. Reconnect the negative battery cable.
14. Replace the vehicle turn signal flasher if one is included in the peculiar harness kit.
15. Adjust headlamps according to instructions on page 12.



# RELAY CONNECTIONS DIAGRAM



The relay shown is NOT energized.

## RELAY PIN OUT

- 85 - Coil Connection — Ground from Grille Connector.
- 86 - Coil Connection — +12V from parking light tap.
- 30 - Common — +12V from the headlight switch. (See Note Below)
- 87a - NC (Normally Closed) to vehicle headlight, Opens when parking lights are on.
- 87 - NO (Normally Open) to plow lights, Closes when parking lights are on.

**NOTE:** Vehicles equipped with Daytime Running Lights (DRLs) will need to install an #8282 DRL Adapter Kit. This kit will replace the brown wires on the relays, terminals #86. The relays will now be powered from a switched accessory line, terminal #86 (+12V ONLY when the ignition switch is in the on position).

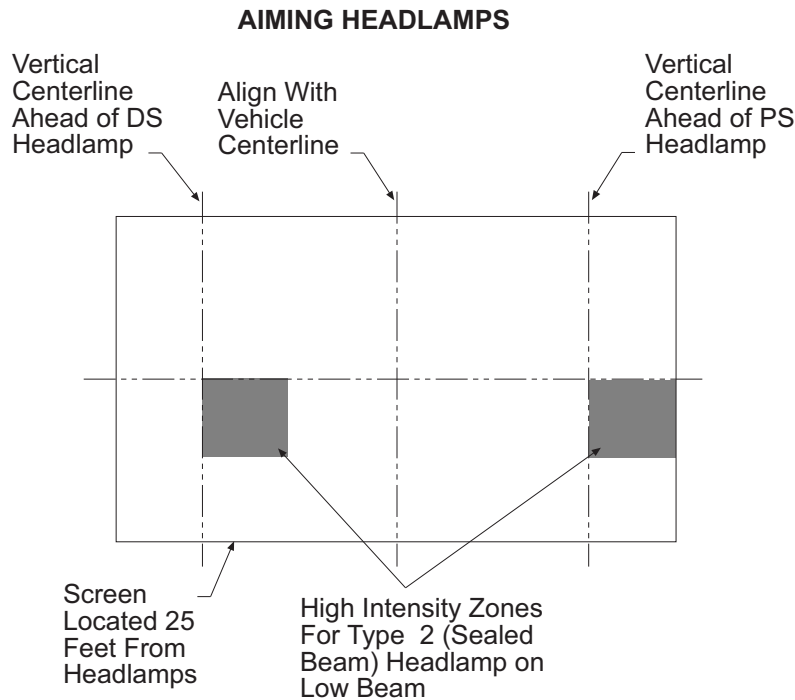
**HEADLAMP BEAM AIMING**

1. Place vehicle on 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 centerline.
2. The vehicle should be equipped for normal operation, the snowplow blade should be in place and in raised position. Below are points 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 shall:
  - Remove ice or mud from under fenders.
  - See that no tire is noticeably deflated.
  - Check springs for sag or broken leaves.
  - See that there is no load in the vehicle other than the driver.

- Check functioning of any “level-ride” control.
- Check lens and aiming pad.
- Check for bulb burn out, broken mechanical aiming pads and proper beam switching.

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)



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