

HEADLAMP ASSEMBLY

Service and Wiring Instructions with Diagrams

⚠ CAUTION

Read this document before installing the snowplow.

⚠ CAUTION

See your sales outlet for application recommendations. The Kit Selection Guide/ Selection List has specific vehicle and snowplow requirements.

TABLE OF CONTENTS

Safety Information	3
Converting Headlamp to Opposite Side	4
Replacing Complete Headlamp Assembly or Plow Harness	4
Wiring Diagrams	6
7 or 9-Pin Headlamps	6
11-Pin Headlamps	7
12-Pin Headlamps (Black Strain Relief)	8
12-Pin Headlamps (White Strain Relief)	9
V-Plow 12-Pin Headlamps	10
Headlamp Beam Aiming	11

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.

TORQUE CHART

⚠ CAUTION

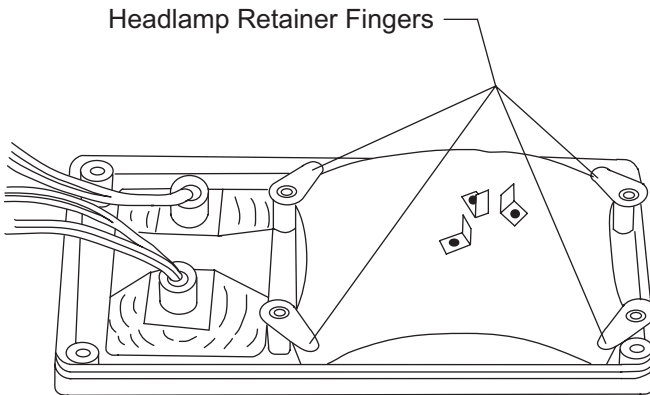
Read instructions before assembling. Fasteners should be finger tight until instructed to tighten according to the torque chart. Use standard methods and practices when attaching snowplow, including wearing proper personal protective safety equipment.

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.			

HEADLAMP SERVICE AND WIRING INSTRUCTIONS

CONVERTING HEADLAMP TO OPPOSITE SIDE

1. Remove the four bezel screws. Remove the bezel from the housing.
2. On the back side of the bezel, loosen the screws on all four headlamp retainer fingers approximately 1/2 turn. Swing retainer fingers off to the side.
3. Lift the headlamp out of the bezel. Rotate the headlamp 180° and reinstall into the bezel. Rotate the fingers over the corners of the headlamp and tighten the screws.
4. Rotate the bezel 180° and reinstall into the housing.



REPLACING HEADLAMP ASSEMBLY OR PLOW HARNESS

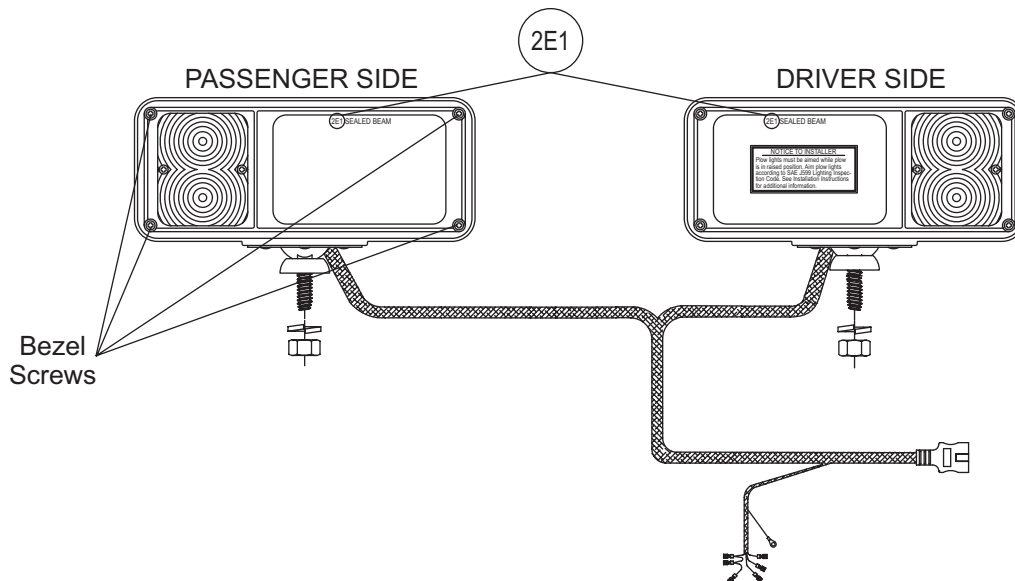
Bezel Removal and Disconnecting Wires

1. Remove and save the four bezel screws from the headlamp housing. Separate the bezel from the housing.
2. Disconnect and remove the following:
 - Remove and save the screw holding the black/orange ground wire(s) to the park turn lamps base plate.
 - Remove the headlamp connector from the back of the sealed beam.
3. Park/Turn wiring:

Older Style: Remove the four pairs of insulated quick disconnects by cutting the wires as close to the disconnects as possible.

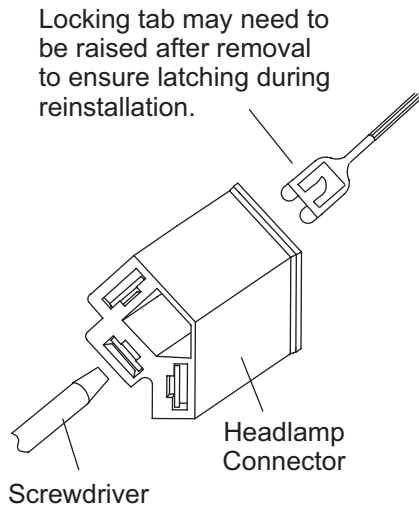
Newer Style: Remove the two closed end connectors by cutting the wires as close to the connectors as possible.

SAE Type 2E1 (molded in lens) **must be** at top of the lens when installed on the vehicle.

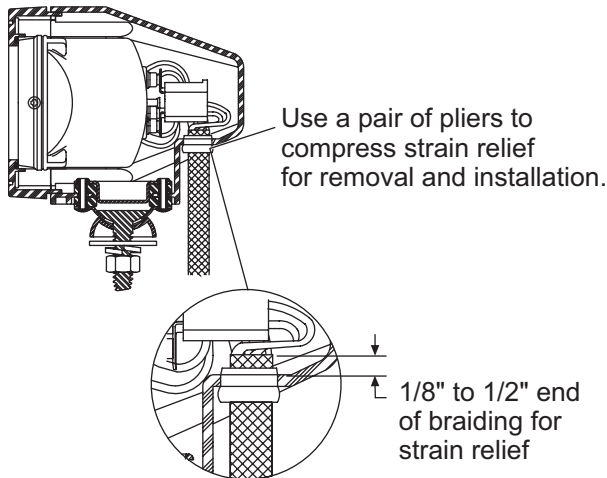


HEADLAMP SERVICE AND WIRING INSTRUCTIONS

4. Insert a small flat screwdriver blade into the leg of the "T" shaped terminal opening to release the locking tab on the terminal. This may require twisting the tool.



5. Remove all wires from headlamp connector.
6. Remove harness as shown.



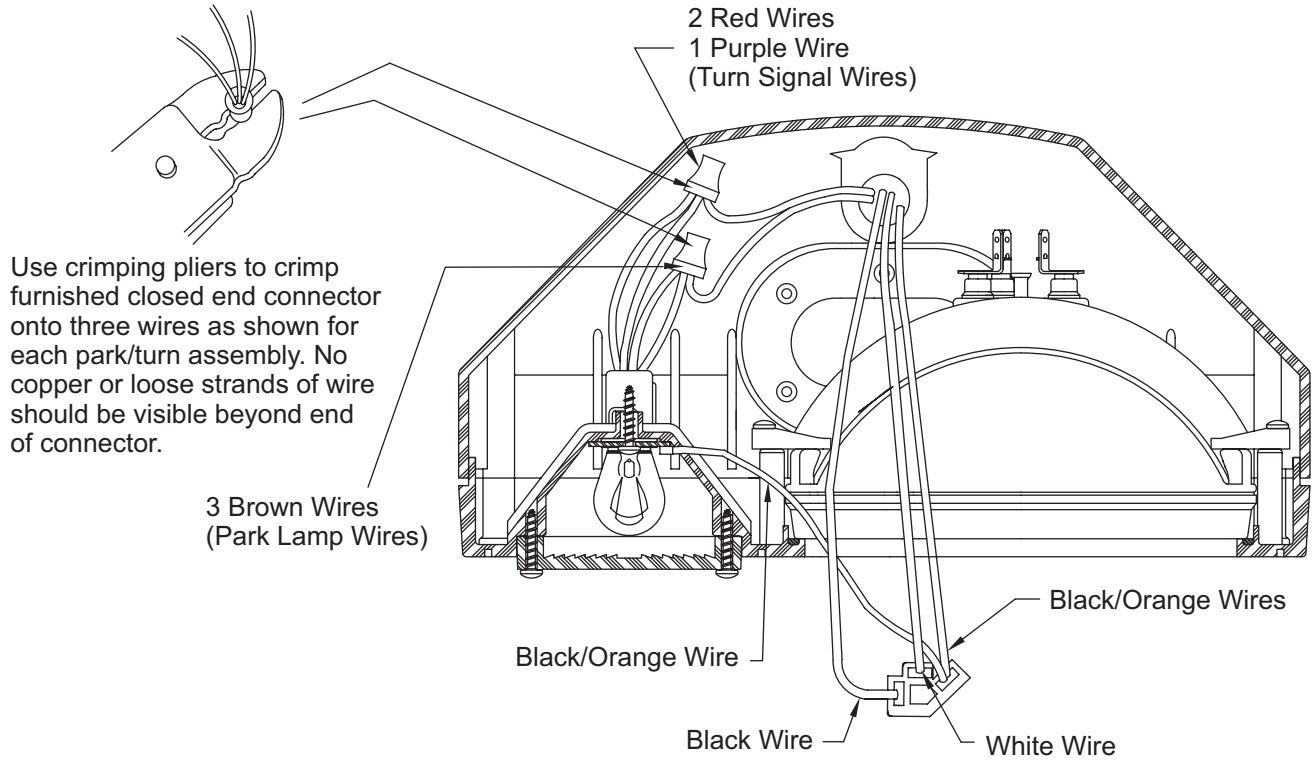
Harness Installation and Headlamp Assembly

1. Insert the end of the plow harness through the hole in the bottom of the headlamp housing. Pull the harness through the housing to easily make wire connections.
2. Strip 7/16" of insulation from the ends of the park/turn wires.
3. Connect the wires inside the headlamp according to the illustrations on following pages, depending on the type of harness being installed – 7-pin, 9-pin, 11-pin, 12-pin or V-plow.
4. Attach the bezel to the headlamp housing. Secure with the four screws removed earlier.
5. Position the strain relief on the end of the harness braiding as shown above. Insert the strain relief into the housing.
6. Attach the headlamps into the headgear. Aim the headlamps according to SAE J599 Lighting Inspection Code under Headlamp Beam Aiming. The snowplow must be attached to the vehicle and in the raised position.

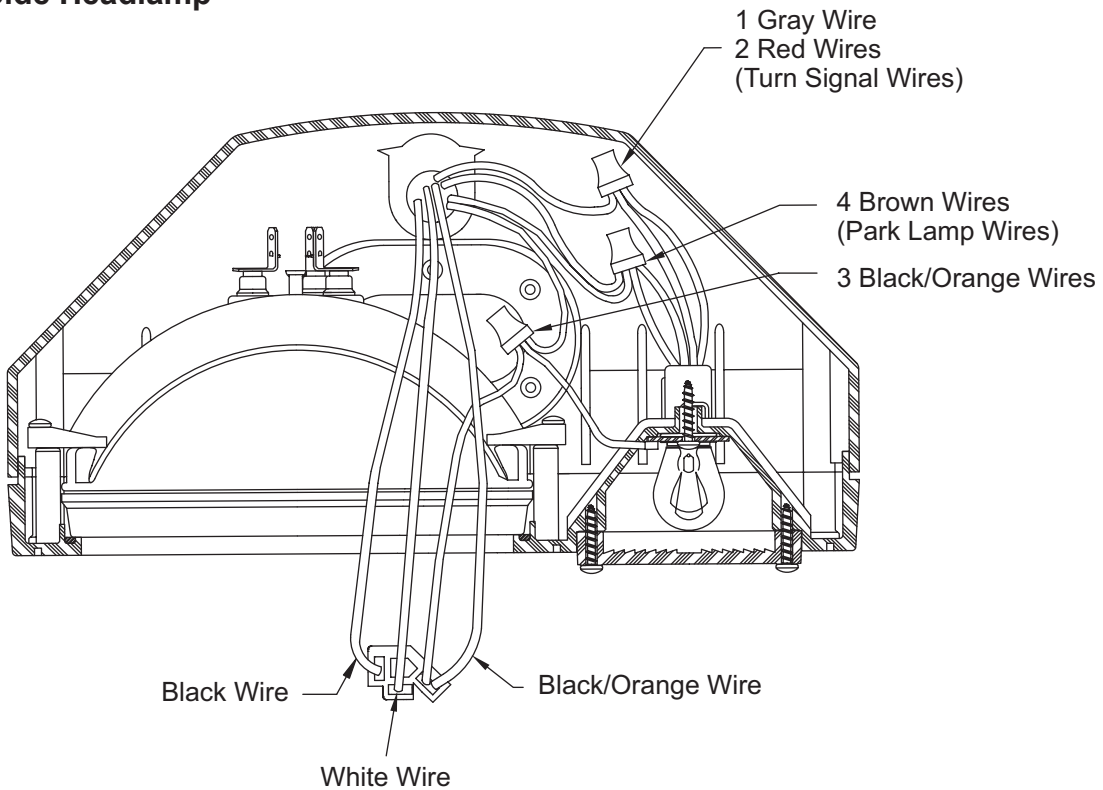
WIRING DIAGRAMS

7 OR 9-PIN HEADLAMPS

Passenger-Side Headlamp



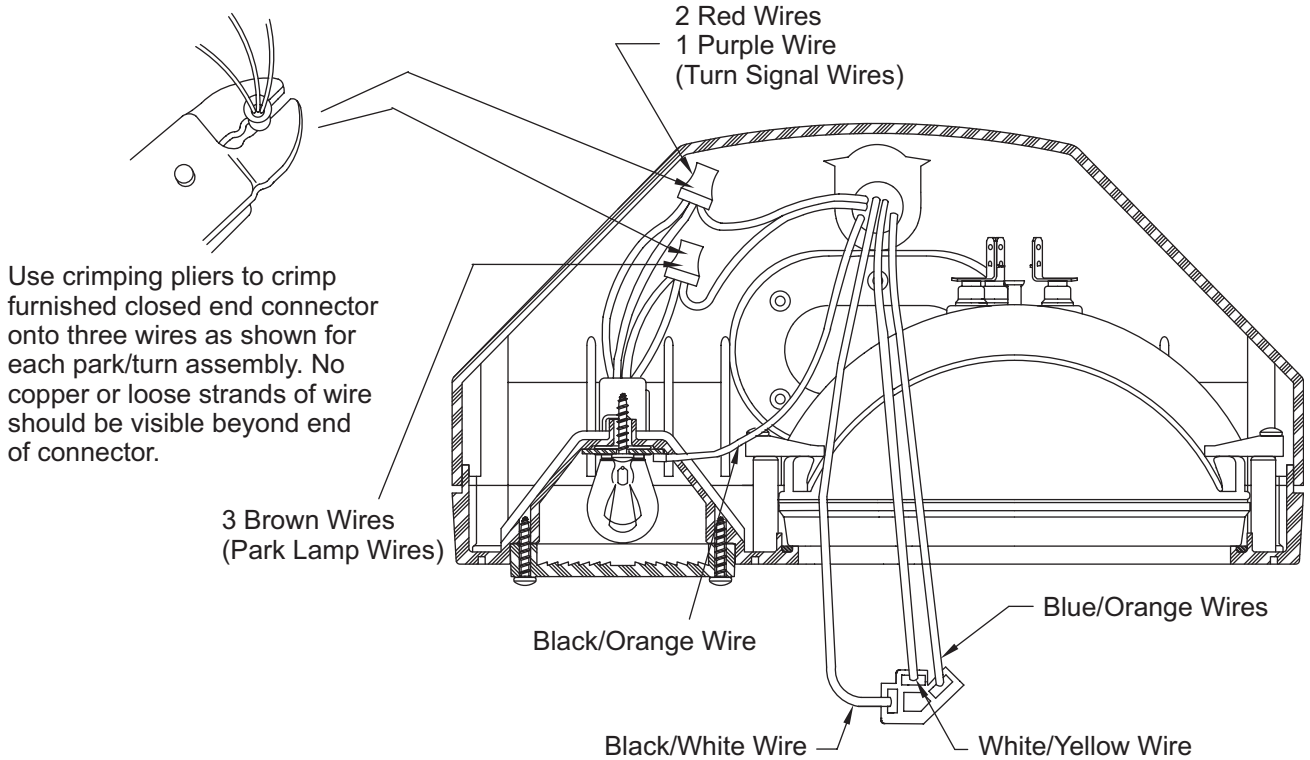
Driver-Side Headlamp



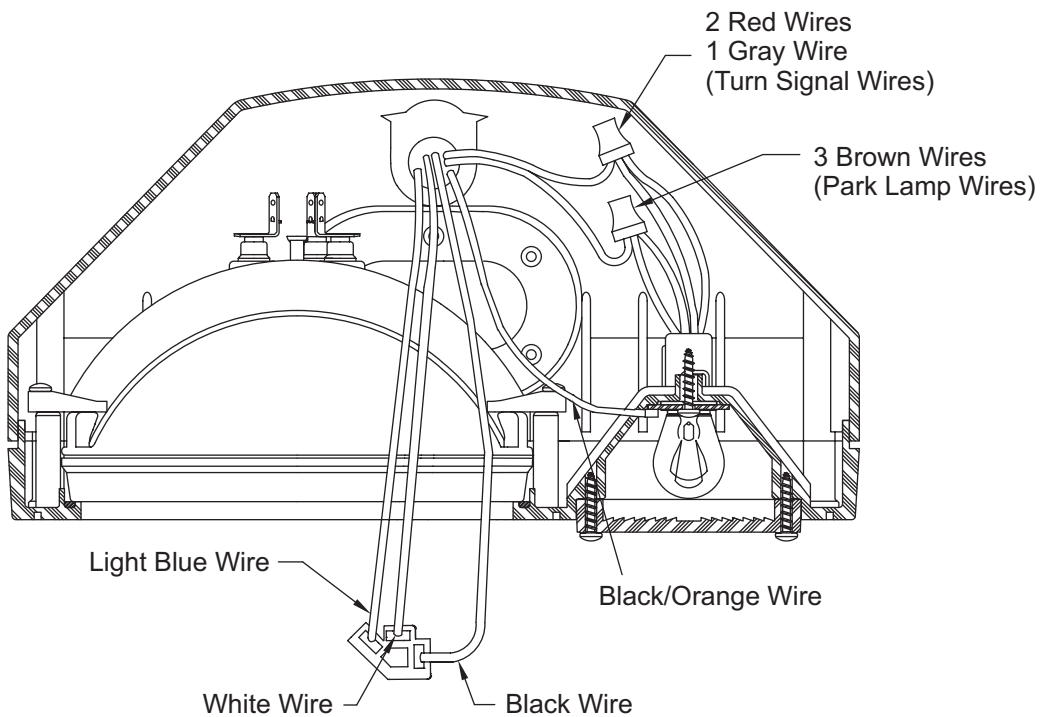
WIRING DIAGRAMS

11-PIN HEADLAMPS

Passenger-Side Headlamp



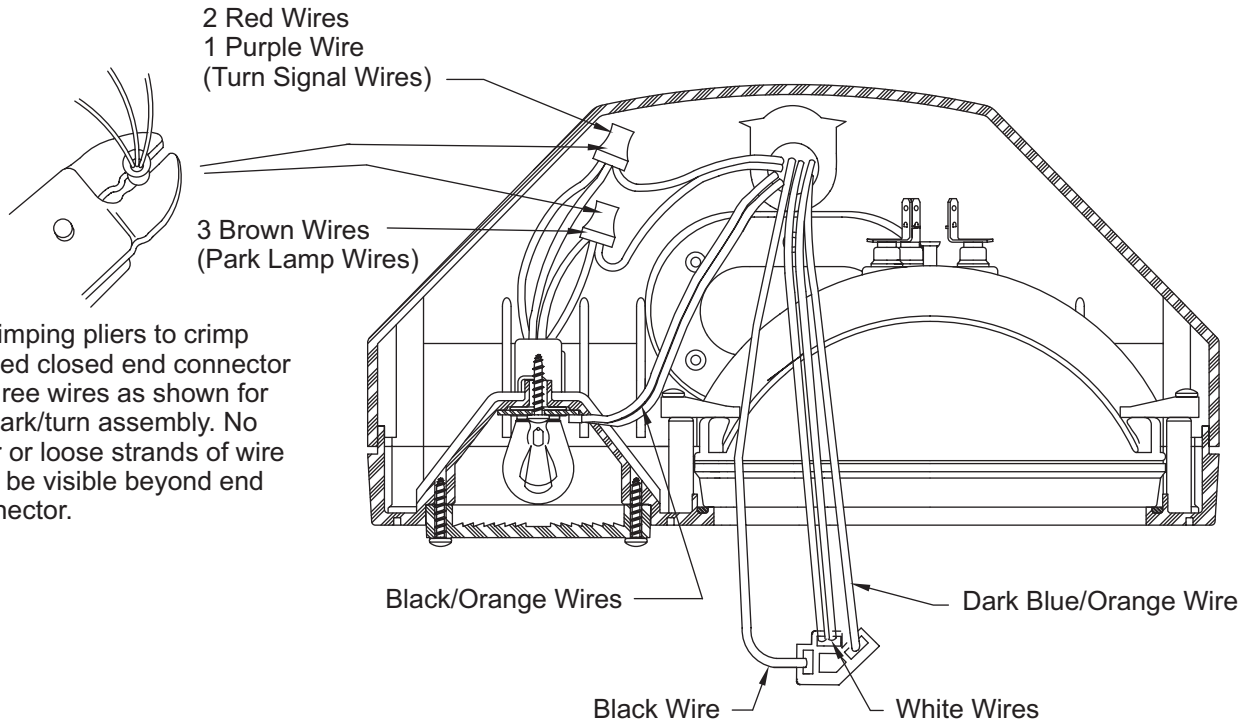
Driver-Side Headlamp



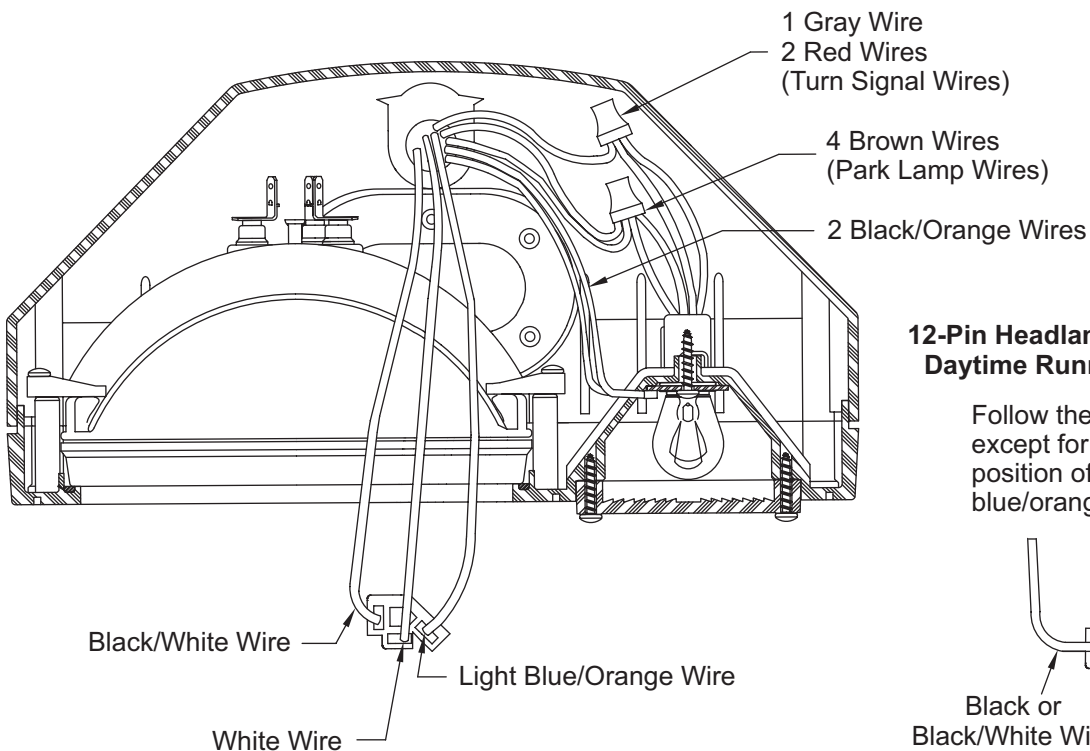
WIRING DIAGRAMS

12-PIN HEADLAMPS (BLACK STRAIN RELIEF)

Passenger-Side Headlamp

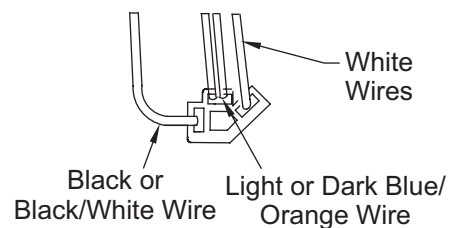


Driver-Side Headlamp



12-Pin Headlamps for Toyotas with Daytime Running Lights (DRL's)

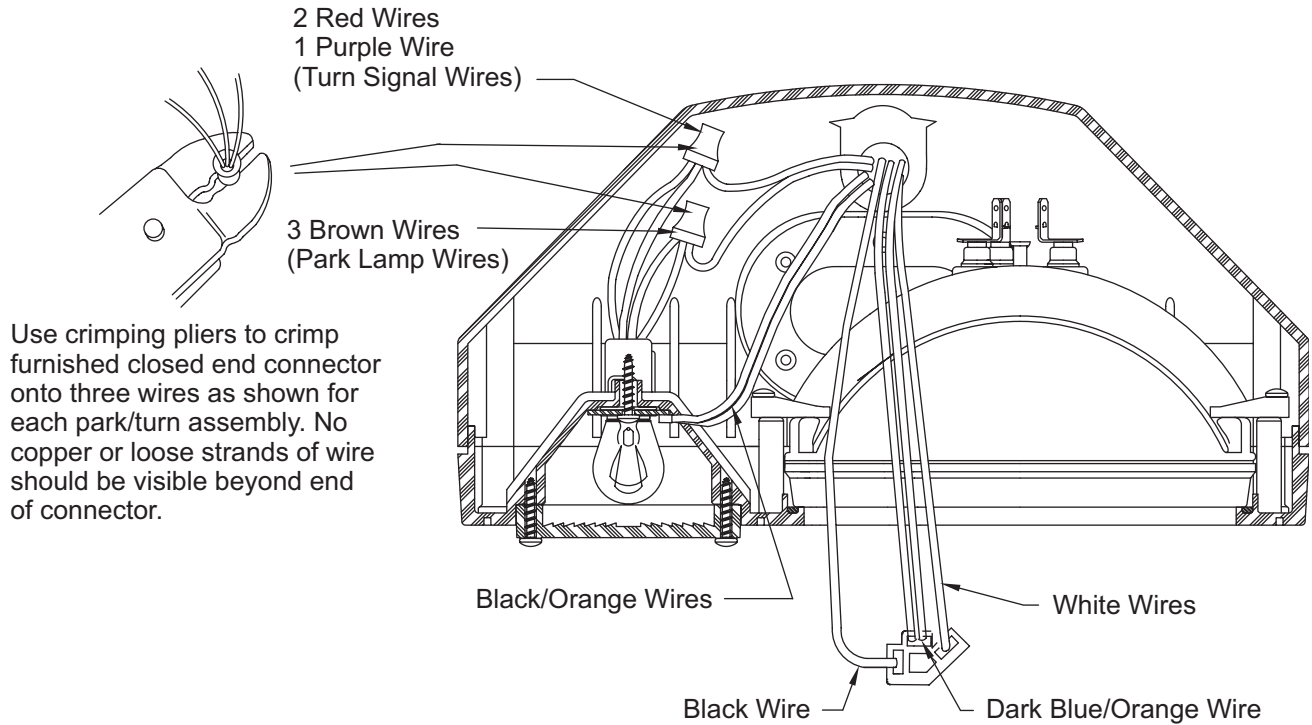
Follow the 12-pin diagram except for the change in position of the light or dark blue/orange wire.



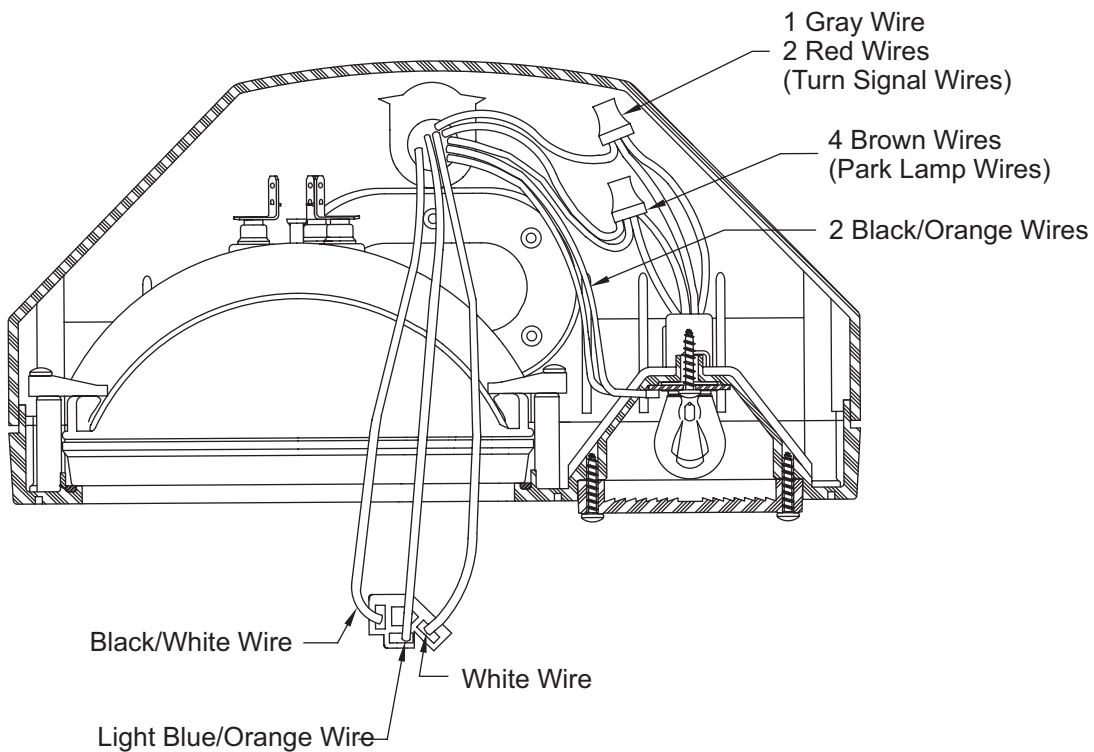
WIRING DIAGRAMS

12-PIN HEADLAMPS (WHITE STRAIN RELIEF)

Passenger-Side Headlamp



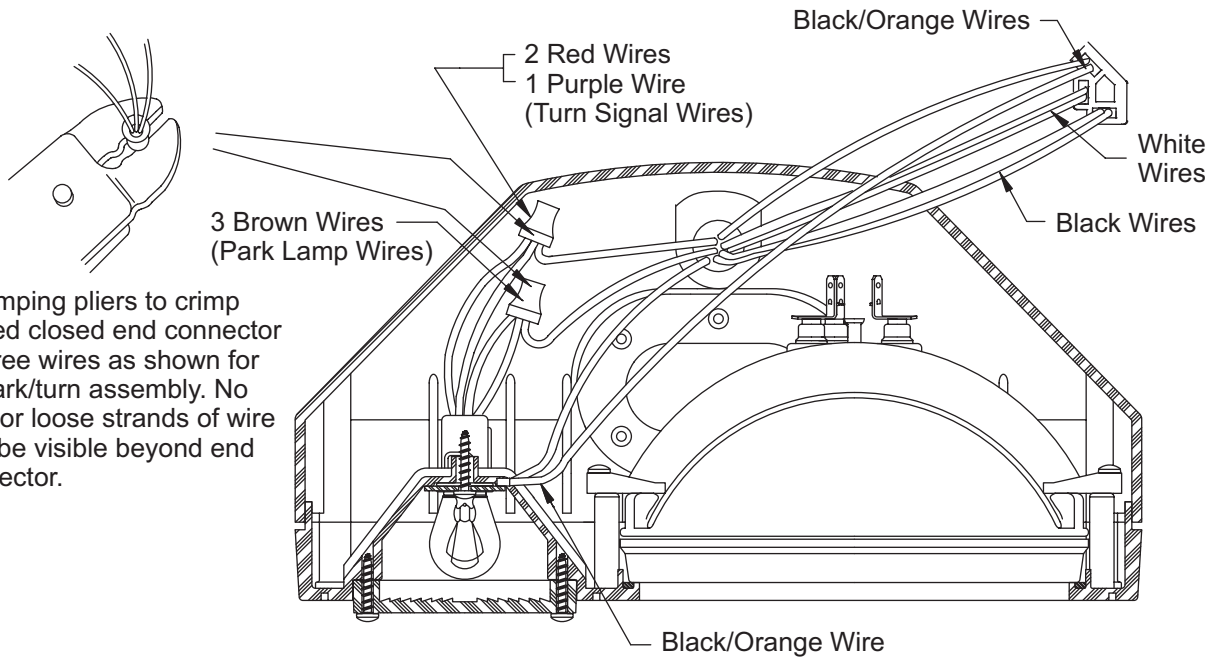
Driver-Side Headlamp



WIRING DIAGRAMS

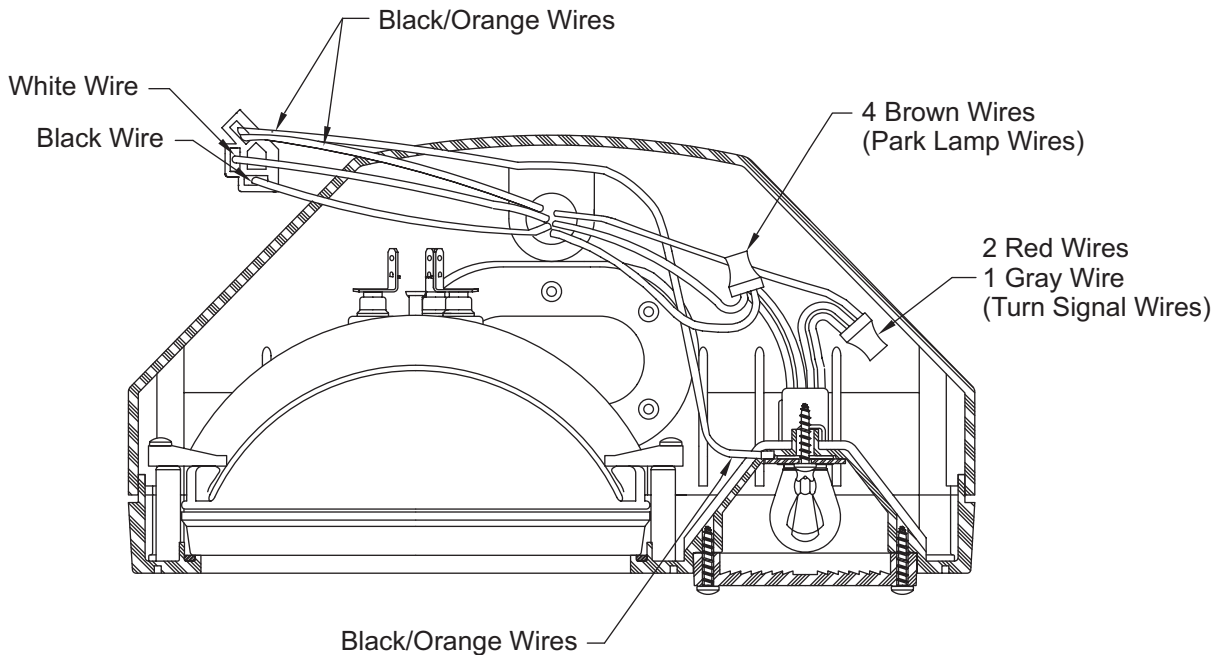
V-PLOW HEADLAMPS

Passenger-Side Headlamp



Use crimping pliers to crimp furnished closed end connector onto three wires as shown for each park/turn assembly. No copper or loose strands of wire should be visible beyond end of connector.

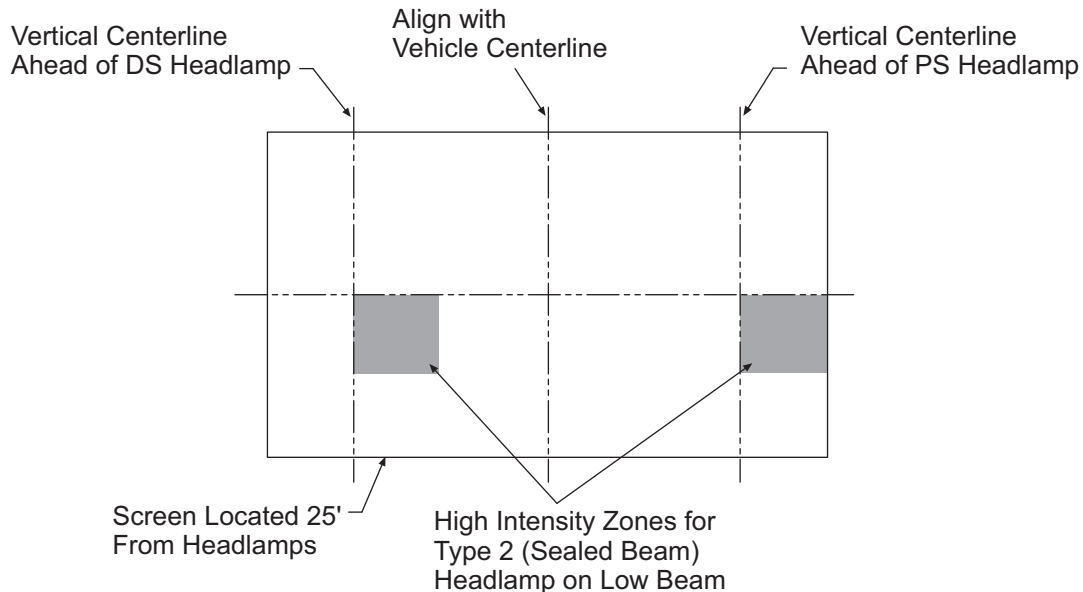
Driver-Side Headlamp



HEADLAMP BEAM AIMING

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.
 - 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.
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:
 - Stabilize suspension by rocking vehicle sideways.
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.
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).



The company reserves the right under its product improvement policy to change construction or design details and furnish equipment when so altered without reference to illustrations or specifications used.

Printed in USA

April 28, 2003

Lit. No. 26363