Headlamp Electrical Schematics
for Straight Blades
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Headlamp Index

<table>
<thead>
<tr>
<th>Headlamp Type</th>
<th>Harness Type</th>
<th>DRLs (Yes/No)</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A/2A</td>
<td>9-Pin, A</td>
<td>No</td>
<td>18</td>
</tr>
<tr>
<td>1A/2A</td>
<td>9-Pin, C</td>
<td>No</td>
<td>22</td>
</tr>
<tr>
<td>2B/2D</td>
<td>9-Pin, A</td>
<td>No</td>
<td>15</td>
</tr>
<tr>
<td>2B/2D</td>
<td>9-Pin, A</td>
<td>Yes</td>
<td>21</td>
</tr>
<tr>
<td>2B/2D</td>
<td>9-Pin, C</td>
<td>No</td>
<td>16</td>
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<td>9-Pin, C</td>
<td>Yes</td>
<td>20</td>
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<tr>
<td>2B/2D</td>
<td>12-Pin, A</td>
<td>Nissan w/ and w/o DRLs; Toyota w/ DRLs</td>
<td>31</td>
</tr>
<tr>
<td>2B/2D</td>
<td>12-Pin, B</td>
<td>No</td>
<td>24</td>
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<tr>
<td>2B/2D</td>
<td>12-Pin, B</td>
<td>Yes</td>
<td>27</td>
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<td>2E</td>
<td>9-Pin, A</td>
<td>No</td>
<td>18</td>
</tr>
<tr>
<td>2E</td>
<td>9-Pin, C</td>
<td>Yes</td>
<td>20</td>
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<tr>
<td>2E</td>
<td>12-Pin, B</td>
<td>Yes</td>
<td>27*</td>
</tr>
<tr>
<td>HB1</td>
<td>7-Pin, A</td>
<td>No</td>
<td>12</td>
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<tr>
<td>HB1</td>
<td>7-Pin, A</td>
<td>Yes</td>
<td>13</td>
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<td>HB1</td>
<td>9-Pin, A</td>
<td>No</td>
<td>15</td>
</tr>
<tr>
<td>HB1</td>
<td>9-Pin, A</td>
<td>Yes</td>
<td>21</td>
</tr>
<tr>
<td>HB1</td>
<td>9-Pin, C</td>
<td>No</td>
<td>16</td>
</tr>
<tr>
<td>HB1</td>
<td>9-Pin, C</td>
<td>Yes</td>
<td>20</td>
</tr>
<tr>
<td>HB1</td>
<td>12-Pin, A</td>
<td>No</td>
<td>25</td>
</tr>
<tr>
<td>HB1</td>
<td>12-Pin, A</td>
<td>Nissan w/ and w/o DRLs; Toyota w/ DRLs</td>
<td>31</td>
</tr>
<tr>
<td>HB3/HB4</td>
<td>9-Pin, A</td>
<td>No</td>
<td>17</td>
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<td>Yes</td>
<td>19</td>
</tr>
<tr>
<td>HB3/HB4</td>
<td>12-Pin, B</td>
<td>Yes</td>
<td>28</td>
</tr>
<tr>
<td>HB3/HB4</td>
<td>12-Pin, D</td>
<td>Yes (Automatic, DRL kit not required)</td>
<td>26</td>
</tr>
<tr>
<td>HB5</td>
<td>7-Pin, A</td>
<td>No</td>
<td>12</td>
</tr>
<tr>
<td>HB5</td>
<td>9-Pin, A</td>
<td>No</td>
<td>15</td>
</tr>
<tr>
<td>HB5</td>
<td>9-Pin, A</td>
<td>Yes</td>
<td>21</td>
</tr>
<tr>
<td>LF/UF</td>
<td>12-Pin, B</td>
<td>Yes</td>
<td>29</td>
</tr>
</tbody>
</table>

* Early GM applications used two harnesses spliced together.
INTRODUCTION

The purpose of this book is to provide the trained mechanic with a comprehensive reference to assist in diagnosis and repair of FISHER® Minute Mount® snowplow electrical systems. It contains schematics, diagrams and charts which supply information for the various types of vehicle and plow headlamp systems. Although intended primarily as a diagnostic tool for headlamp systems, the straight blade hydraulic system circuitry is also included to show the complete electrical system.

HOW TO USE THIS BOOK

Use the information in the Table of Contents to locate the electrical schematic for the vehicle. All headlamp harnesses are tagged with the harness part number. The schematic is an abstract drawing showing the purpose of each component in the system. Where possible, component locations are indicated by enclosures on the schematic. The Lamp Type, Wire Color and Connector Identification charts and diagrams will give specific wire colors, their function and locations in connectors. Any special notes are found in the upper right corner of the schematic. Further information and a specific troubleshooting guide may be found in the Mechanic’s Guide for the SEHP system.

The 9- and 12-pin Vehicle Side schematics contain all vehicle headlamp and harness types. The 7-pin Vehicle Side Schematics show only a few representatives applications. For other 7-pin vehicle headlamp and harness types, refer to the corresponding 9-pin Vehicle Side schematic and use only the headlamp circuitry.

EARLY REVISION VEHICLE HARNESSSES

All 9- and 12-pin vehicle harnesses are labeled with a white tag indicating the harness part number and revision level. Early 9-pin harness revisions 1-9 and 12-pin harness revisions 1-7 have a ground circuit in which the control, motor relay, and headlamp relays all ground through the 9- or 12-pin connector. Some of these early revision harnesses also have a diode in the ground wire to the headlamp relays. Complete 9- and 12-pin system schematics showing this early revision ground configuration are included in the front of the book. These schematics are for early revision harnesses using only the solenoid control. If a hand-held control has been installed, the ground circuit has been modified into the later revision configuration, in which only the headlamp relays ground through the 9- or 12-pin connector and the control and motor relay ground separately to the battery. Early revision harnesses may be easily identified by a single black/orange wire on one of the motor relay primary terminals which does not continue on to the negative battery terminal. All vehicle side schematics in this book show only the later revision circuitry.

NOTE: To verify the correct light kit/plug-in harness on a particular vehicle, refer to the appropriate Kit Selection Guide.
Lamp Types and Harness Connectors

<table>
<thead>
<tr>
<th>LAMP TYPE</th>
<th>LAMP SIZE</th>
<th>CONFIGURATION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A / 2A</td>
<td>4” x 6.5”</td>
<td></td>
<td>Quad Rectangular Lamp</td>
</tr>
<tr>
<td>2B</td>
<td>5.5” x 7.88”</td>
<td></td>
<td>Dual Rectangular Lamp</td>
</tr>
<tr>
<td>2D</td>
<td>7” DIA.</td>
<td></td>
<td>Dual Round Lamp</td>
</tr>
<tr>
<td>2E</td>
<td>4” x 6.5”</td>
<td></td>
<td>Dual Rectangular (Small Halogen Lamp)</td>
</tr>
<tr>
<td>HB1</td>
<td>Can Vary</td>
<td></td>
<td>Dual Rectangular Halogen Lamp</td>
</tr>
<tr>
<td>HB3 / HB4</td>
<td>Can Vary</td>
<td></td>
<td>Quad Composite Halogen Lamp</td>
</tr>
<tr>
<td>HB5</td>
<td>Can Vary</td>
<td></td>
<td>Dual Rectangular Halogen Lamp</td>
</tr>
<tr>
<td>LF / UF</td>
<td>3.64” x 5.93”</td>
<td></td>
<td>Quad Rectangular Halogen Lamp</td>
</tr>
</tbody>
</table>

NOTE: The lamp type is usually embossed in the headlamp lens.

NOTE: Blue ground wires may be LT or DK BLU, w/ or w/o WHT stripe, depending on harness.
Electrical Legend and Wire Colors

Electrical Legend

- CROSSING WIRE
- WIRE SPLICE
- IN LINE CONNECTOR
- RING TERMINAL
- FUSE
- SOLENOID (S1 = SV08-2004, S2 = SV08-30, S3 = SV08-40)
- DIODE
- CIRCUIT GROUND
- MOTOR RELAY
- BATTERY
- MOTOR
- PARK/TURN LAMP
- HEADLAMP
- COMPONENT ENCLOSURE

Wire Color Code

<table>
<thead>
<tr>
<th>Color</th>
<th>Description</th>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLK</td>
<td>Black</td>
<td>LTLBU</td>
<td>Light Blue</td>
</tr>
<tr>
<td>BLK/ORN</td>
<td>Black w/ Orange</td>
<td>LTBLU/ORN</td>
<td>Light Blue w/ Orange</td>
</tr>
<tr>
<td>BLK/RED</td>
<td>Black w/ Red</td>
<td>LTBLU/WHT</td>
<td>Light Blue w/ White</td>
</tr>
<tr>
<td>BLK/WHT</td>
<td>Black w/ White</td>
<td>LTGRN</td>
<td>Light Green</td>
</tr>
<tr>
<td>BLU</td>
<td>Blue</td>
<td>ORN</td>
<td>Orange</td>
</tr>
<tr>
<td>BLU/ORN</td>
<td>Blue w/ Orange</td>
<td>ORN/BLK</td>
<td>Orange w/ Black</td>
</tr>
<tr>
<td>BRN</td>
<td>Brown</td>
<td>PNK</td>
<td>Pink</td>
</tr>
<tr>
<td>BRN/RED</td>
<td>Brown w/ Red</td>
<td>PUR</td>
<td>Purple</td>
</tr>
<tr>
<td>DKBLU</td>
<td>Dark Blue</td>
<td>RED</td>
<td>Red</td>
</tr>
<tr>
<td>DKBLU/ORN</td>
<td>Dark Blue w/ Orange</td>
<td>TAN</td>
<td>Tan</td>
</tr>
<tr>
<td>DKBLU/WHT</td>
<td>Dark Blue w/ White</td>
<td>WHIT</td>
<td>White</td>
</tr>
<tr>
<td>GRN</td>
<td>Green</td>
<td>WHT/YEL</td>
<td>White w/ Yellow</td>
</tr>
<tr>
<td>GRN/WHT</td>
<td>Green w/ White</td>
<td>YEL</td>
<td>Yellow</td>
</tr>
<tr>
<td>GRY</td>
<td>Gray</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations

- DRL: Daytime Running Lights
- MTR RLY: Motor Relay

Harness Type

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
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<tbody>
<tr>
<td>A</td>
<td>Common Ground to headlamps</td>
</tr>
<tr>
<td>B</td>
<td>GM DRL system</td>
</tr>
<tr>
<td>C</td>
<td>Independent Ground to headlamps</td>
</tr>
<tr>
<td>D</td>
<td>GM Enhanced DRL system</td>
</tr>
</tbody>
</table>
**Electrical Connectors**

### Harness Connectors

![Harness Connectors Diagram](image)

<table>
<thead>
<tr>
<th>Pin #</th>
<th>7-Pin</th>
<th>9-Pin</th>
<th>12-Pin</th>
<th>Control Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>—</td>
<td>White/Yellow</td>
<td>White/Yellow</td>
<td>Valve S1(2W)</td>
</tr>
<tr>
<td>2</td>
<td>Black&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Black&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Black</td>
<td>Low Beam 9/12-Pin Rt</td>
</tr>
<tr>
<td>3</td>
<td>—</td>
<td>Lt Green</td>
<td>Lt Green</td>
<td>Valve S2(3W)</td>
</tr>
<tr>
<td>4</td>
<td>—</td>
<td>Lt Blue</td>
<td>Lt Blue</td>
<td>Valve S3(4W)</td>
</tr>
<tr>
<td>5</td>
<td>Black/Orange&lt;sup&gt;c&lt;/sup&gt;</td>
<td>Black/Orange&lt;sup&gt;c,d&lt;/sup&gt;</td>
<td>Black/Orange&lt;sup&gt;c,d&lt;/sup&gt;</td>
<td>Ground</td>
</tr>
<tr>
<td>6</td>
<td>White</td>
<td>White</td>
<td>White</td>
<td>High Beam</td>
</tr>
<tr>
<td>7</td>
<td>—</td>
<td>—</td>
<td>Black/White</td>
<td>Low Beam 12-Pin Lt</td>
</tr>
<tr>
<td>8</td>
<td>—</td>
<td>—</td>
<td>Dk Blue/Orange</td>
<td>Gnd Low Beam 12-Pin Rt</td>
</tr>
<tr>
<td>9</td>
<td>Gray</td>
<td>Gray</td>
<td>Gray</td>
<td>Left Directional</td>
</tr>
<tr>
<td>10</td>
<td>Purple</td>
<td>Purple</td>
<td>Purple</td>
<td>Right Directional</td>
</tr>
<tr>
<td>11</td>
<td>Brown</td>
<td>Brown</td>
<td>Brown</td>
<td>Parking Lights</td>
</tr>
<tr>
<td>12</td>
<td>Orange/Black&lt;sup&gt;b&lt;/sup&gt;</td>
<td>—</td>
<td>Lt Blue/Orange</td>
<td>Gnd Low Beam 12-Pin Lt</td>
</tr>
</tbody>
</table>

<sup>a</sup> LEFT AND RIGHT SIDES  
<sup>b</sup> 7-PIN SYSTEM — MAIN GROUND.  
<sup>c</sup> GROUND FOR HEADLIGHT RELAYS ONLY.  
<sup>d</sup> ON EARLY REVISION HARNESSES, BLACK/ORANGE WIRE IS GROUND FOR MOTOR RELAY, CONTROL AND HEADLIGHT RELAYS.

### Control Connectors

![Control Connectors Diagram](image)

#### Pin #

<table>
<thead>
<tr>
<th>Pin #</th>
<th>Solenoid Control Wire Color Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>White</td>
</tr>
<tr>
<td>2</td>
<td>Green</td>
</tr>
<tr>
<td>3</td>
<td>Brown</td>
</tr>
<tr>
<td>4</td>
<td>Black</td>
</tr>
<tr>
<td>5</td>
<td>Blue</td>
</tr>
<tr>
<td>6</td>
<td>Red</td>
</tr>
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#### Pin #

<table>
<thead>
<tr>
<th>Pin #</th>
<th>Wire Color</th>
<th>Control Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Red</td>
<td>+12V</td>
</tr>
<tr>
<td>2</td>
<td>Lt Green</td>
<td>S2(3W)</td>
</tr>
<tr>
<td>3</td>
<td>Orange/Black</td>
<td>Ground</td>
</tr>
<tr>
<td>4</td>
<td>Brown/Red</td>
<td>Motor Relay</td>
</tr>
<tr>
<td>5</td>
<td>Lt Blue</td>
<td>S3(4W)</td>
</tr>
<tr>
<td>6</td>
<td>White/Yellow</td>
<td>S1(2W)</td>
</tr>
</tbody>
</table>

---

**NOTE:** The 7-, 9- and 12-pin harness connector pin #’s are embossed in the molded plug.
Electrical Schematic – 9-Pin Vehicle Harness

**NOTE:** All relays are shown in the de-energized state.
NOTE: All relays are shown in the de-energized state.
NOTE: All relays are shown in the de-energized state.
NOTE: All relays are shown in the de-energized state.
7-Pin Harness

HEADLAMP KIT: 7 PIN

LOCATED AT FRONT OF VEHICLE

PLOW SIDE

LEFT SIDE LAMPS

RIGHT SIDE LAMPS

13775-90
13775-95

1 2 3 4 5 6 7 8 9 10 11 12
BLK ORN/BLK
ORN/BLK RED
BLK/ORN RED
BLK/ORN BLK
BLK/ORN BLK
BLK/ORN BLK
BLK/ORN BLK
BLK/ORN BLK
BLK/ORN BLK
BLK/ORN BLK
BLK/ORN BLK
BLK/ORN BLK

BLK ORN/BLK
ORN/BLK RED
BLK/ORN RED
BLK/ORN BLK
BLK/ORN BLK
BLK/ORN BLK
BLK/ORN BLK
BLK/ORN BLK
BLK/ORN BLK
BLK/ORN BLK
BLK/ORN BLK
BLK/ORN BLK

13775-90
13775-95

No. 22372
May 1998
7-Pin Harness

HEADLAMP KIT: 7 PIN
HARNESS TYPE: A
HEADLAMPS: HB1/HB5
DRLs: NO

For other headlamp configurations using the 7-pin harness, use the appropriate 9-pin vehicle schematic.

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

HEADLAMP KIT: 7 PIN
HARNESS TYPE: A
HEADLAMPS: HB1/HB5
DRLs: YES

For other headlamp configurations using the 7-pin harness, use the appropriate 9-pin vehicle schematic.

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

Vehicle Side

Headlamp Kit: 9 PIN
Harness Type: A
Headlamps: 2B/2D
HB1/HB5

DRLs: NO

Headlamp kit: 9 pin
Harness type: A
Headlamps: 2B/2D
HB1/HB5

DRLs: NO

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

HEADLAMP KIT: 9 PIN
HARNESS TYPE: A
HEADLAMPS: HB3/HB4
LF/UF
DRLs: NO

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

HEADLAMP KIT: 9 PIN
HARNESS TYPE: A
HEADLAMPS: 1A/2A
DRLs: NO

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

HEADLAMP KIT: 9 PIN
HARNESS TYPE: A
HEADLAMPS: HB3/HB4
DRLs: YES

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

VEHICLE SIDE

HEADLAMP KIT: 9 PIN
HARNESS TYPE: A
HEADLAMPS: 2B/2D
HB1/HB5
DRLs: YES

NOTE: All relays are shown in the de-energized state.
HEADLAMP KIT: 9 PIN
HARNESS TYPE: C
HEADLAMPS: 1A/2A
(Mitsubishi)
DRLs: NO

NOTE: All relays are shown in the de-energized state.
**12-Pin Harness**

**HEADLAMP KIT: 12 PIN**

For All Vehicles Except:
- Nissan w/ and w/o DRLs
- Toyota w/o DRLs

**PLOW SIDE**

- RED
- BLK/ORN
- BRN
- WHT
- DK BLU/ORN
- BLK
- LT BLU/ORN
- LT GRN
- LGT BLU
- BLK/WHT
- WHT/YEL
- LT GRN
- LT BLU
- BRN
- GRY
- BLK/ORN
- RED
- BRN
- BLK/WHT
- GRY
- S3 (4W)
- S2 (3W)
- S1 (2W)
- MOTOR
- #6 BLK/RED
- LOCATED AT FRONT OF VEHICLE
12-Pin Harness

HEADLAMP KIT: 12 PIN
HARNESS TYPE: B
HEADLAMPS: 2B/2D
DRLs: NO

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

HEADLAMP KIT: 12 PIN
HARNESS TYPE: A
(combines 2 harnesses)
HEADLAMPS: HB1
DRLs: NO

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

VEHICLE SIDE

HEADLAMP KIT:  12 PIN
HARNESS TYPE:  D
HEADLAMPS:  HB3/HB4
DRLs:  YES
(Automatic, DRL kit not required)

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

VEHICLE SIDE

HEADLAMP KIT: 12 PIN
HARNESS TYPE: B
HEADLAMPS: 2B/2D
2E
(Early GM applications used two harnesses spliced together)
DRLs: YES

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

VEHICLE SIDE

HEADLAMP KIT: 12 PIN
HARNESS TYPE: B
HEADLAMPS: HB3 /HB4
DRLs: YES

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

PLOW SIDE

HEADLAMP KIT: 12 PIN
Nissan w/ and w/o DRLs
Toyota w/DRLs

LOCATED AT FRONT OF VEHICLE

RIGHT SIDE LAMPS

LEFT SIDE LAMPS

VALVE MANIFOLD

MOTOR
12-Pin Harness

HEADLAMP KIT: 12 PIN
HARNESS TYPE: A
(combines 2 harnesses)
HEADLAMPS: 2B/2D
HB1

DRLs: YES/NO
(Nissan w/ and w/o DRLs;
Toyota w/DRLs)

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