

Automotive Electrical Systems


Electrical Service Information

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Automotive Electrical Systems

Electrical Circuits

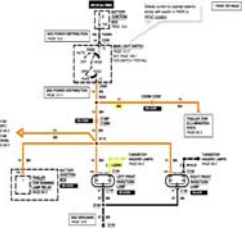
- Today's vehicles have numerous electrical systems and multiple computers
- Wiring diagrams, component locators and trouble shooting guides make diagnosing these systems possible
- What types of information would be useful in diagnosing electrical concerns?



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Service Publications


- Service publications show electrical circuits in a clear and simple fashion to make troubleshooting easier
- This information commonly includes
 - simple pictures of how circuits and components are wired
 - information about component and connector location
 - troubleshooting procedures
 - component testing



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Using Service Information

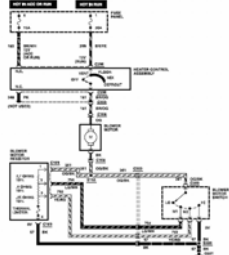
- Be certain you understand what is available in the publication you are using
 - Helpful information about wiring diagrams
 - Wire color abbreviations
 - Troubleshooting tips
 - Special tools for electrical diagnosis
 - Examples of wiring harness concerns
 - Proper wiring splice repair
 - Symbols found in a wiring diagram



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Diagram Power Flow

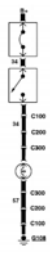
- Wiring diagrams are presented so the current flows in the circuit from top of the page to the bottom
- The fuse or circuit breaker is shown at the top of the page
- Grounds are shown at the bottom of the page
- Circuit related wires, connectors, splices and components are shown in the diagram



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Wiring Information

- Connectors are labeled with a C followed by the connector number
 - C253
- Splices are labeled with an S followed by the splice number
 - S105
- Grounds are labeled with a G followed by the ground number
 - G101



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Wire Colors

- Wiring Diagrams have information about wire colors and the circuit number
- The wire colors are abbreviated and found next to the wire
- Whenever a wire is labeled with two colors, the first color is the basic color of the wire and the second color is the stripe or tracer marking of the wire
- LG/WT means a light green wire with a white stripe

63
R

981
R/W

42
R/W D

383
R/W H

SOLID COLOR

STRIPED WIRE

DOTTED WIRE

HASHED WIRE

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Alternate Paths

- Because of vehicle options, some diagrams show more than one possible circuit path
- Alternate paths are commonly shown with a bracket
- You must select the proper circuit based upon vehicle equipment

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Power Distribution

- Many vehicles are equipped with multiple fuse boxes and/or power distribution centers
- Remember one fuse commonly provides power to multiple circuits

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Component Location

- Location indexes provide information on components, splices, connectors and grounds
- Location views contain illustrations which show the location of components and connectors for the vehicle

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Component Testing

- The component testing section contains testing procedures for various switches
- This section includes schematics, components, terminal locations, and step-by-step procedures

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LF Power Window Down

