

Primary Wiring Installation Guidelines

Primary wire, SAE Type GPT, is used for the internal wiring on most 4, 6 and 7-way harnesses. While a 7-way conductor is most often used in heavy duty applications, 4 and 6-way conductors are used for the light duty market and some heavy duty applications. Wire size, also known as wire gauge, on these wires will vary in size depending on the cable type. Each circuit on any 4, 6 or 7-way cable is represented by a different color, and per SAE standards, is the same color no matter who the cable manufacturer is. The charts below indicate which color represents each circuit.

Industry Standard SAE Wiring

4-Way Connector Chart

Color	Circuits
White	Ground Return
Green	Right Turn and Brake Lights
Red (Or)	Left Turn and Brake Lights
Yellow	Brake Lights
Brown	Tail Lights

6-Way Connector Chart

Color	Circuits
White	Ground Return
Brown	Tail Lights
Yellow	Left Turn
Red	Stop
Green	Right Turn
Black	Auxiliary Circuit

7-Way Connector Chart

Color	Circuits
White	Ground Return
Black	Clearance, Marker and ID
Brown	Tail Lights
Yellow	Left Turn
Red	Stop
Green	Right Turn
Blue	Auxiliary/ABS

When working with the electrical system, it is always important to select the proper gauge for the circuit being worked on as well as making all attempts to keep corrosion at bay. Improperly wired electrical systems can lead to failed lighting and auxiliary components as well as corrosion intrusion. To maintain the electrical system and keep corrosion at bay when re-wiring or adding accessories, incorporate the following suggested guidelines into your routine:

- Be sure to select the correct wire gauge when adding new electrical wiring for the installation of add-ons and/or additional accessories. If the selected gauge is inadequate, there will not be enough power supplied to run newly installed add-ons/accessories in addition to existing functions such as lighting or other auxiliary applications. Additionally, there is also a risk of an electrical overload which can cause a fire
- When adding accessories, always be sure that the ground will be able to compensate for the return.
- When making a repair or installing additional add-on(s)/accessories, it is highly recommended that the same colored wiring, for the circuit being worked on, is used. This will help avoid any confusion or delay in the future in determining where the repair or add-on was made.
- When making a repair, always use the same size wire gauge or larger. NEVER use a wire gauge smaller than what is already being used.
- The smaller the wire is in size, the larger the wire gauge number. The larger the wire is in size, the smaller the wire gauge number. Example: 18 ga. is a lot smaller in size than 10 ga.
- If you must make repairs or do any kind of wiring, use heat shrink tubing or heat shrink terminals to seal the connection. This will keep debris and moisture from penetrating the electrical system, which can lead to corrosion.
- Add dielectric grease to any open electrical connection when heat shrink tubing or heat shrink terminals cannot be used.
- If corrosion is present, always cut back wiring until corrosion is completely removed.

TIPS

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- Each circuit on any 4, 6 or 7-way cable is represented by a different color, and per SAE standards, is the same color no matter who the cable manufacturer is.
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