



Time Tested • Time Proven

855303-06 06-23

Taillight Wiring Instructions Diode Kit

included with 9284-2, 9243-1, 9243-3, and 9252

Installation Instructions

All specifications are subject to change without notice.

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WARNING

Read the instructions before installing the kit components. Failure to understand how to install this product could result in property damage, personal injury or even death.



ATTENTION

Do not install this diode kit in any vehicle with variable voltage taillights. For those applications, use a bulb and socket kit.

If you are unsure if your vehicle has either of these features, visit fitmaster.roadmasterinc.com, enter your vehicle information, and view the 'Additional Details' section.

Step A

Identify the vehicles' lighting systems; determine if additional components are required

1. The vehicle will be wired for towing according to the type of brake and turn signals in both vehicles. There are two types – combined or separate. In a **combined** system (Figure 1), the brake light does the flashing for the turn signal; in a **separate** system (Figure 1), there are amber or red turn signal lights which are separate from the brake lights.

Note: If the motorhome has a separate lighting system, a 3-to-2 converter must be installed in order to use this kit. A 3-to-2 converter converts a separate system to a combined system.

Many late-model motorhomes come with converters already installed – test for this before installation: if the motorhome's trailer plug energizes the same pins for both brake lights and turn signals, then a 3-to-2 converter is

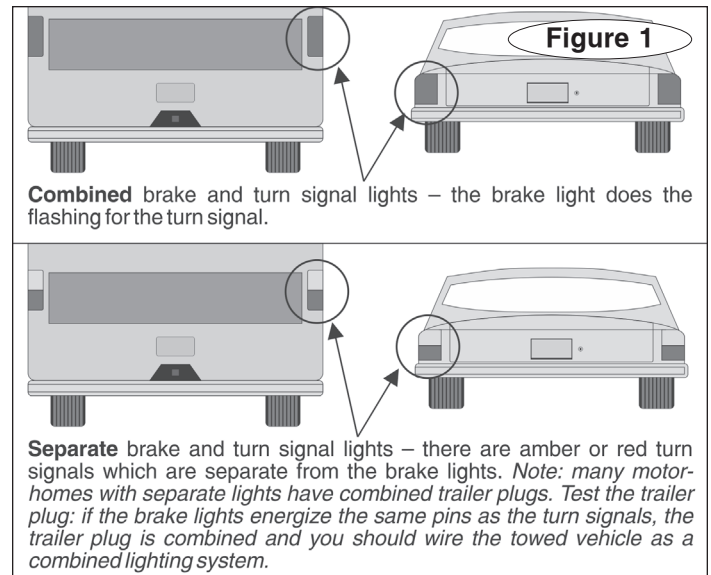
already installed and the motorhome should be treated as combined.

If a converter is needed, install ROADMASTER's Brite-Lite™, part number 732.

2. Based on the type of brake and turn signals, additional components may be required...

- If both the motorhome and the towed vehicle have combined lighting systems, no additional components are necessary.
- If the motorhome has a combined lighting system and the towed vehicle has a separate lighting system, no additional components are necessary.
- If the motorhome has a separate lighting system and the

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IMPORTANT NOTICE!

Safety Definitions

These instructions contain information that is very important to know and understand. This information is provided for safety and to prevent equipment problems. To help recognize this information, observe the following:

WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, could result in property damage, serious personal injury or even death.

CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in property damage, or minor or moderate personal injury.

CAUTION

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

NOTE

Refers to important information and is placed in italic type. It is recommended that you take special notice of these items.

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towed vehicle has a combined lighting system, a Brite-Lite™ 3-to-2 wiring converter (part number 732) is required. Installation instructions are included with the converter.

• If both the motorhome and the towed vehicle have separate lighting systems, two additional diodes (part number 792) and one 10 ga. x .250 female spade connector are required.

Step B

Wire the vehicle for towing

1. Expose the wires behind both taillight assemblies. (It may be necessary to remove the taillight assemblies from the exterior of the vehicle to gain access.)

2. With a circuit tester, identify the brake light, taillight and turn signal wiring.

3. Attach the diodes according to the appropriate schematic on page four.

Note: The wiring schematics apply to the majority of vehicles; however, applications vary. Before wiring, refer to the owner's manual or call the dealership for vehicle-specific information. (Wiring information for many vehicles is available at fitmaster.roadmasterinc.com and search for your vehicle.)

4. Jump the diodes attached to the taillights, as shown in the schematic.

Note: Use a yellow female spade connector to jump the diodes.

5. Following the schematic, separate the bonded wires in the wiring harness and attach the appropriate wires to the diodes at either one of the taillight assemblies.

Peel off the appropriate wires and route them to the other side.

Attach those wires to the other diodes.

6. Use the included ring terminal and self-tapping screw to attach the ground wire.

Note: To avoid grounding problems, attach the wire to a good chassis ground, preferably directly to the frame.

CAUTION

Refer to the owner's manual before attaching the ground wire. Some manufacturers stipulate that ground wires must be attached at specific locations.

Significant damage to the vehicle's electrical system, as well as other consequential, non-warranty damage will occur if the ground wire is not attached at one of these points.



WARNING

lights as possible, to avoid interaction with other circuits which may be tied into the center brake light or other wires. Attaching the diodes farther away may cause the towed vehicle's lights to work improperly, as well as cause damage to other electrical components in the vehicle.

CAUTION

Failure to attach diodes as indicated in the wiring diagrams will create a backfeed through the

vehicle's electrical system, which will allow current from the towed vehicle to disrupt one or both of the vehicles' electrical systems.

Also, if a supplemental braking system is installed it may not operate, or may only operate intermittently.

Step C

Route the wiring harness

1. You will route the other end of the wiring harness to the front of the vehicle. Before you begin, plan a route that avoids the possibility of fraying or melting the wiring against moving parts, sharp edges, the fuel lines or hot components. (If the OEM wiring harness is accessible, consider routing the harness alongside it.)

2. Route the wiring harness. Where appropriate, use a section of the included split loom to protect the wires; use one or more of the included wire ties to secure the wiring in place.



WARNING

Route the wiring to avoid moving parts, sharp edges, the fuel lines or hot components such as the engine or exhaust system.

Wiring exposed by moving parts, sharp edges or hot components may cause a short circuit, which can result in damage to the vehicle's electrical system as well as other, consequential damage.

Wiring which is attached in close proximity to the fuel lines may ignite the fuel.

3. If it was necessary to drill a hole, seal it with silicone sealant (not provided) after you have routed the wires through.

Step D

Attach the wiring harness

1. After you route the wiring harness to the front of the vehicle, choose a mounting point for the socket.

If the towed vehicle has a Roadmaster baseplate, attach the socket to the built-in mounting posts on the main cross brace.

Otherwise, choose a suitable point to attach the socket at the front of the vehicle.

CAUTION

The socket should be mounted near the center. If it's attached too far to either side, it may be pulled away when the motorhome turns.

2. Disassemble the socket and route the wire harness through the socket bracket and socket housing.

Attach the wiring to the inner plug. Refer to Figure 2.

CAUTION

The color codes listed are the most commonly used. However, color coding is not standard with all manufacturers.

Use the color code for initial reference only; con-

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firm the function of each wire with a circuit tester.

The towed vehicle's lighting system may not function, or function improperly, if the wires are not connected correctly. Cross-wiring may also cause a short circuit, a blown fuse or other non-warranty damage.

Note: Leave a 12-inch service loop at the socket for future modifications. Secure the service loop with one of the wire ties.

Apply a clear silicone sealant around each wire entry and set screw indentation to help weatherproof the socket and secure the set screws.

Reassemble the socket, using all the components that you removed.

3. Use the included 1/2" machine screws and Nylock nuts to attach the socket at the point you chose in Step 1.

4. Test each of the circuits to confirm that the lighting functions correctly. Refer to Figure 2.

Step C

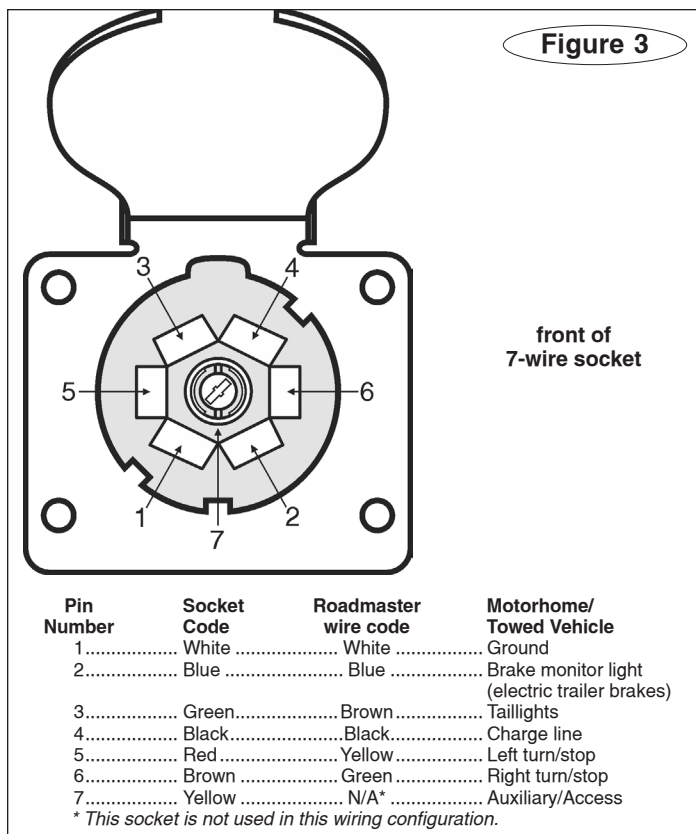
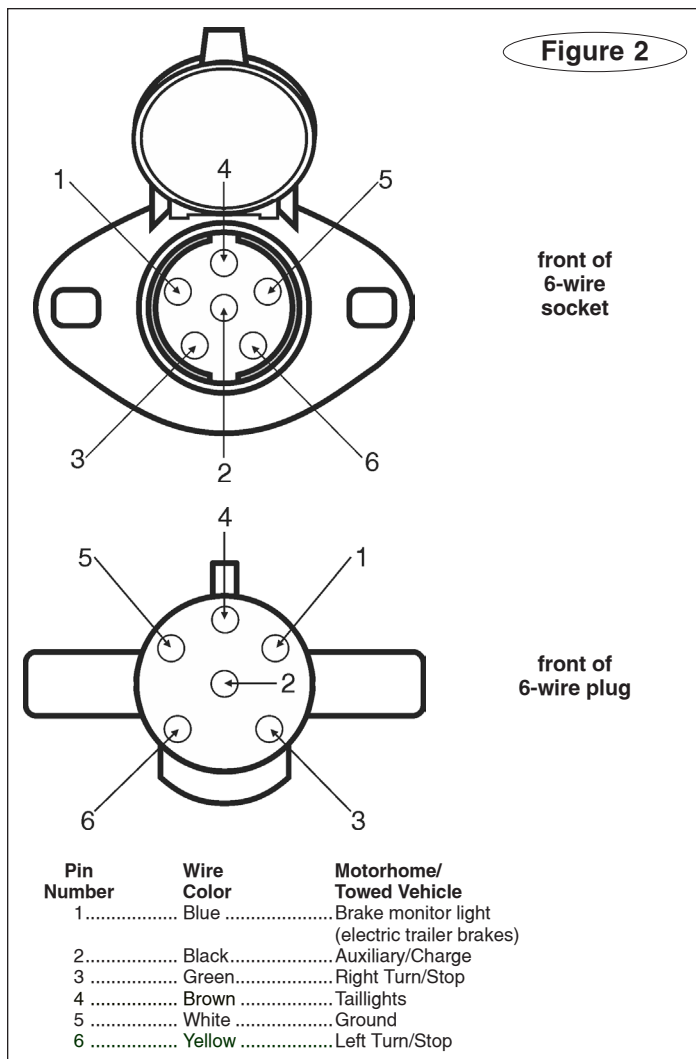
Wire the power cord plug

For Combo Kits with a straight electrical cord – route the bare end of the electrical cord through the driver's side tow bar channel so that the end with the attached seven-way plug will face the motorhome when towing.

1. With a circuit tester, confirm that the wires conducting the left turn/stop, ground, right turn/stop and taillight signals in the motorhome electrical system are to code – See Figure 3.

2. Wire the six-way plug according to Figure 2.

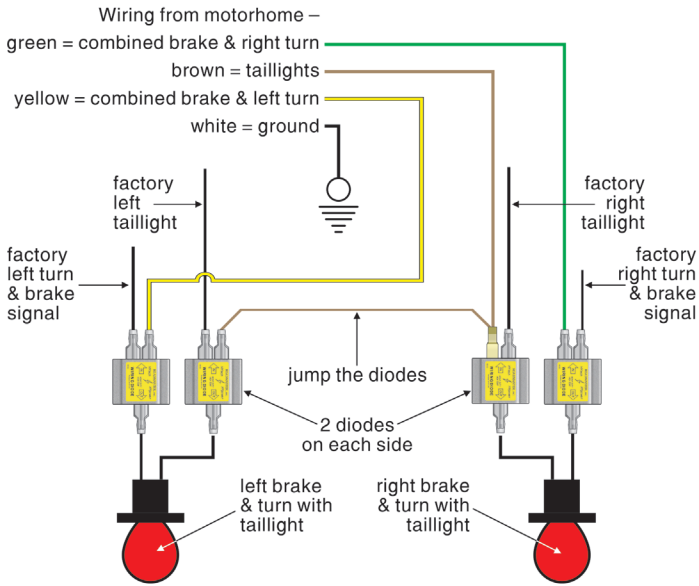
Note: As before, apply a clear silicone sealant around each attachment point on the plug to weatherproof it.



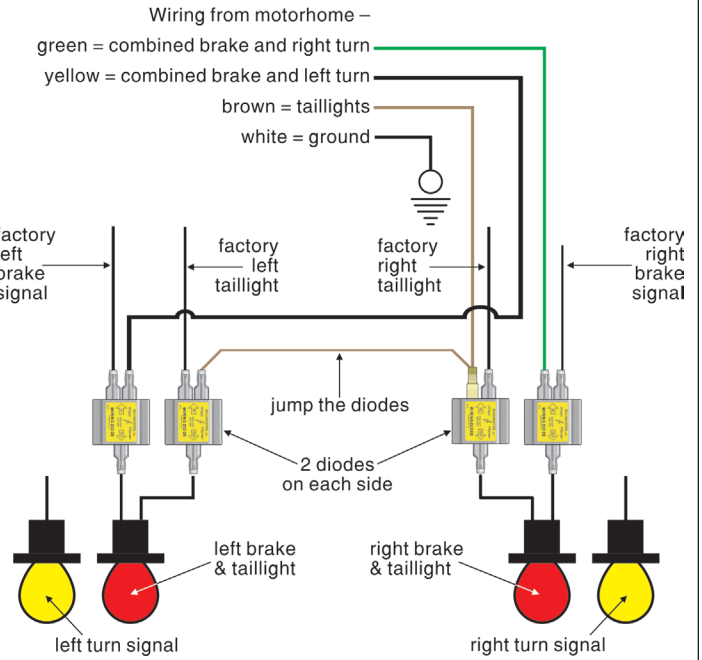
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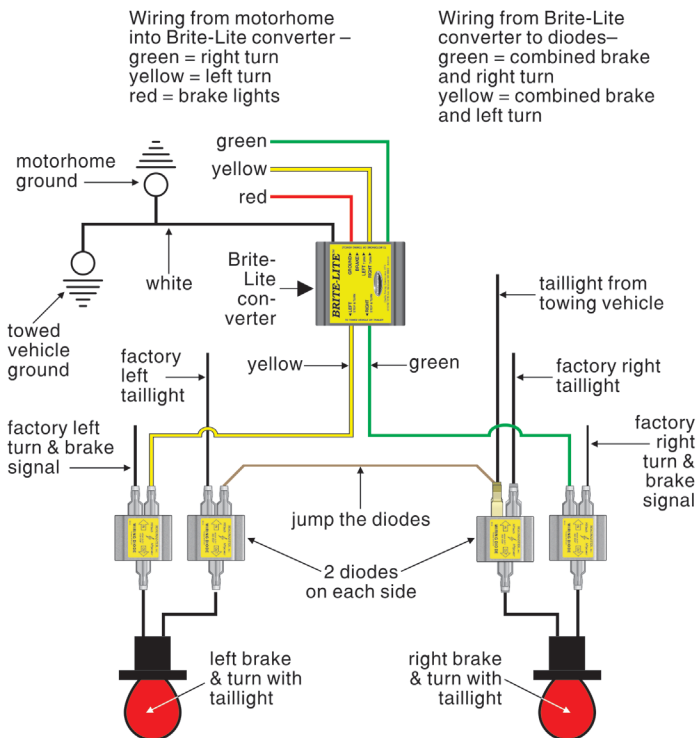
Combined towed vehicle to combined motorhome



Separate towed vehicle to combined motorhome



Combined towed vehicle to separate motorhome



Separate towed vehicle to separate motorhome

