



Wiring a Ford 'neutral tow' vehicle for supplemental braking and towing

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To wire the vehicle for supplemental braking...

CAUTION

If a supplemental braking system is to be installed in any Ford vehicle with a 'neutral tow' kit, do not install a Brake-Lite Relay. Using a Brake-Lite Relay in these vehicles may prevent disengagement of the transmission for towing, causing severe damage to the transmission.

Install a diode, rather than a Brake-Lite Relay, according to the instructions below.

1. Locate the towed vehicle's brake light switch and, with a test light, find the "cold" side of the brake light switch. (The "cold" side of the switch does not register voltage unless the brakes are applied.) Then, remove the brake light fuse, located in the vehicle's fuse panel.

CAUTION

Failure to remove the brake light fuse from the vehicle's fuse panel may activate the vehicle's theft deterrent system, or other electrical system indicators, if the brake pedal is pressed during the installation. This may require non-warranty repair to the vehicle.

2. Next, cut the brake light wire, a few inches downstream from the "cold" side of the brake light switch.

3. Install the diode in line, as shown in Figure 1. Mount the diode under the dashboard, a few inches away from the brake light switch.

4. Reinstall the brake light fuse, which you removed in step 1.

5. Test to verify that the diode has been properly installed – the towed vehicle's brake lights will illuminate when the brake pedal is pressed.

To wire the vehicle for towing...

There are three methods available which will allow a towed vehicle's turn signals, brake lights and running lights to work in conjunction with the motorhome's: 1) install a taillight wiring kit (also called a 'bulb and socket kit,' part number 155); 2) install magnetic tow lights (part number 2100 or 2120); or 3) wire the vehicle's turn signals, taillights and brake lights for towing.

Instructions for the third method are below; instructions for the first two methods are included with the _____ continued on next page

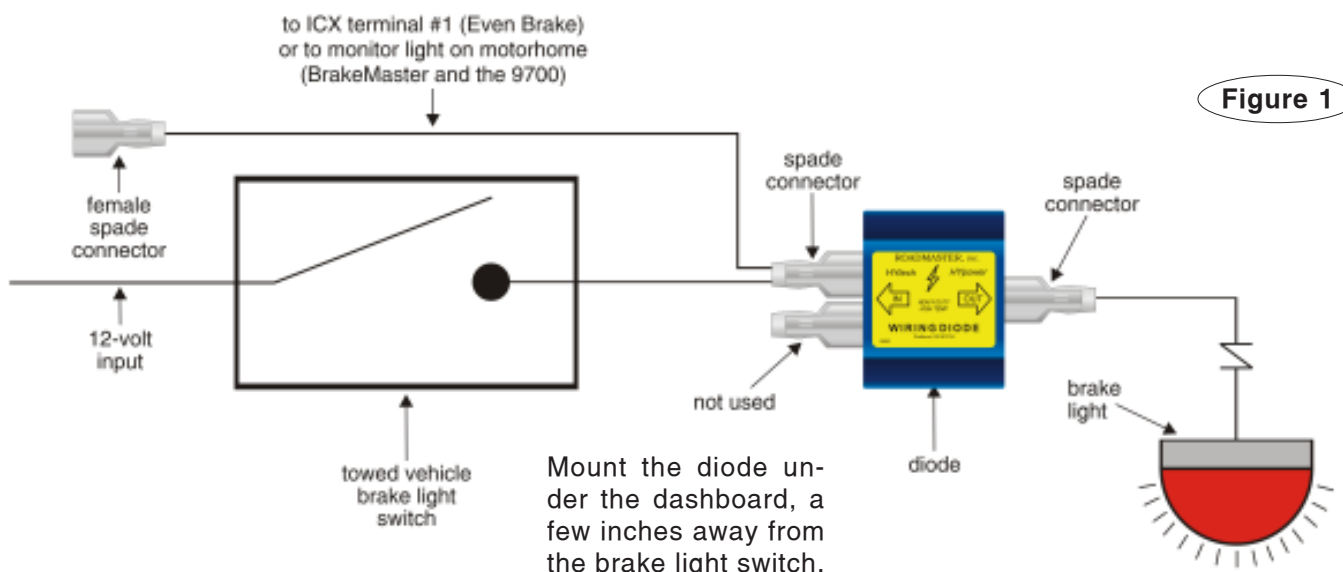


Figure 1

To wire the vehicle for towing...

continued from preceding page

kits. (The diodes required for this installation are available from ROADMASTER; a wiring kit with diodes – the Universal Wiring Kit, part number 154 – is also available.)

1. After you have installed a diode downstream from the brake light switch (Figure 1), wire the vehicle's turn signals, taillights and brake lights for towing by installing six diodes.

Two full-page diagrams are attached for this purpose: 1) wiring the vehicle to a motorhome with a 'combined' lighting system (the brake light does the flashing for the turn signal); and 2) wiring the vehicle to a motorhome with a 'separate' lighting system (there are amber or red turn signals which are separate from the brake lights). Follow the appropriate diagram and the instructions below.

Note: if a 3-to-2 converter has been installed in a motorhome with separate brake and turn signals, wire the towed vehicle according to the 'combined' motorhome diagram.

To test for a 3-to-2 converter, use a test light to find the turn signal and brake light circuits on the motorhome electrical socket. If the same circuit energizes both the turn signals and the brake lights, a 3-to-2 converter has been installed. If the turn signal and brake lights have separate circuits, a 3-to-2 converter has not been installed.

2. First, cut the factory turn signal, taillight and brake light wires, as close to the lights as possible.

3. Next, install the six diodes in line, as close to the lights as possible.

CAUTION

Attach the diodes as close to the vehicle's lights as possible, to avoid interaction with other circuits which may be tied into the center brake light, the running lights, the turn signals or the brake light wires.

Attaching the diodes farther away may cause the towed vehicle's lights to work improperly, and may also cause damage to other electrical components in the vehicle.

4. On each side, jump the brake and turn signal diodes, as shown in the accompanying diagrams.

CAUTION

Unless the brake and turn signal diodes are jumped, the towed vehicle's brake light circuits will 'override' the motorhome's turn signals – the towed vehicle's turn signals will not operate in conjunction with the motorhome's turn signals, as required by law.

5. Test to verify that the diodes have been properly installed...

A. If the motorhome has a 'combined' lighting system...

1. The towed vehicle's turn signals and brake lights will both flash (per side) when the motorhome's turn signal is on; and

2. When the motorhome's turn signal and brake signal are both on (per side), the towed vehicle's brake lights will stay illuminated, while the turn signal flashes.

B. If the motorhome has a 'separate' lighting system, the towed vehicle's turn signals and brake lights will illuminate identically to the motorhome's.



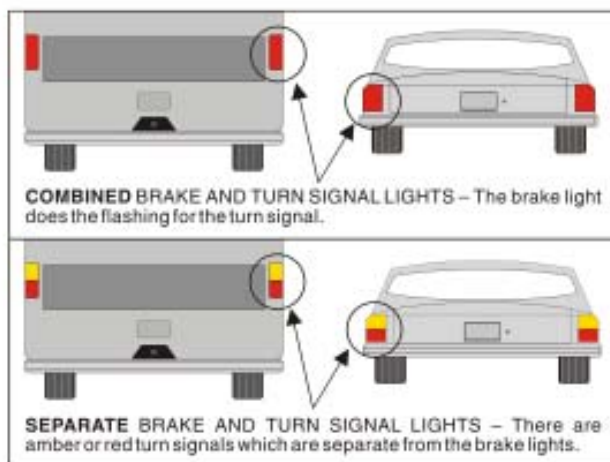
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Wiring a Ford 'neutral tow' vehicle to a 'combined' motorhome

General information

- As of this writing, ROADMASTER has identified all Ford 'neutral tow' vehicles as having 'separate' lighting systems. However, before wiring, check to ensure that the towed vehicle has 'separate' wiring – in a 'separate' system, there are amber or red turn signals which are separate from the brake lights. Also, check to ensure that the motorhome has 'combined' wiring – in a 'combined' system, the brake light does the flashing for the turn signal. Refer to the illustrations to the right.
- Use the diagram below (Figure 2) as a reference to wire the towed vehicle. This diagram applies to the majority of vehicles; however, applications vary. Before wiring, refer to the owner's manual, or ask the dealership or manufacturer, for vehicle-specific information. (Wiring information for many vehicles is also available at this website, under "Vehicle Specific Information.")

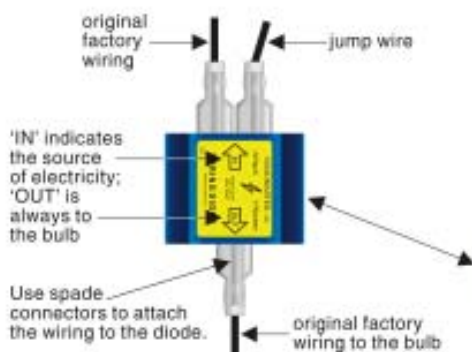


Warnings and Cautions

- Attach the diodes as close to the towed vehicle's lights as possible, to avoid interaction with other circuits which may be tied into the center brake light, the running lights, the turn signals or the brake light wires. Attaching the diodes farther away may cause the towed vehicle's lights to work improperly, and may also cause damage to other electrical components in the vehicle.
- Wire the towed vehicle according to the instructions above, and the diagram below. Improperly wiring the towed vehicle may cause electrical malfunction or other damage, which may result in property damage, personal injury or even death.

**Figure 2 –
wiring a Ford 'neutral tow'
vehicle to a
'combined' motorhome**

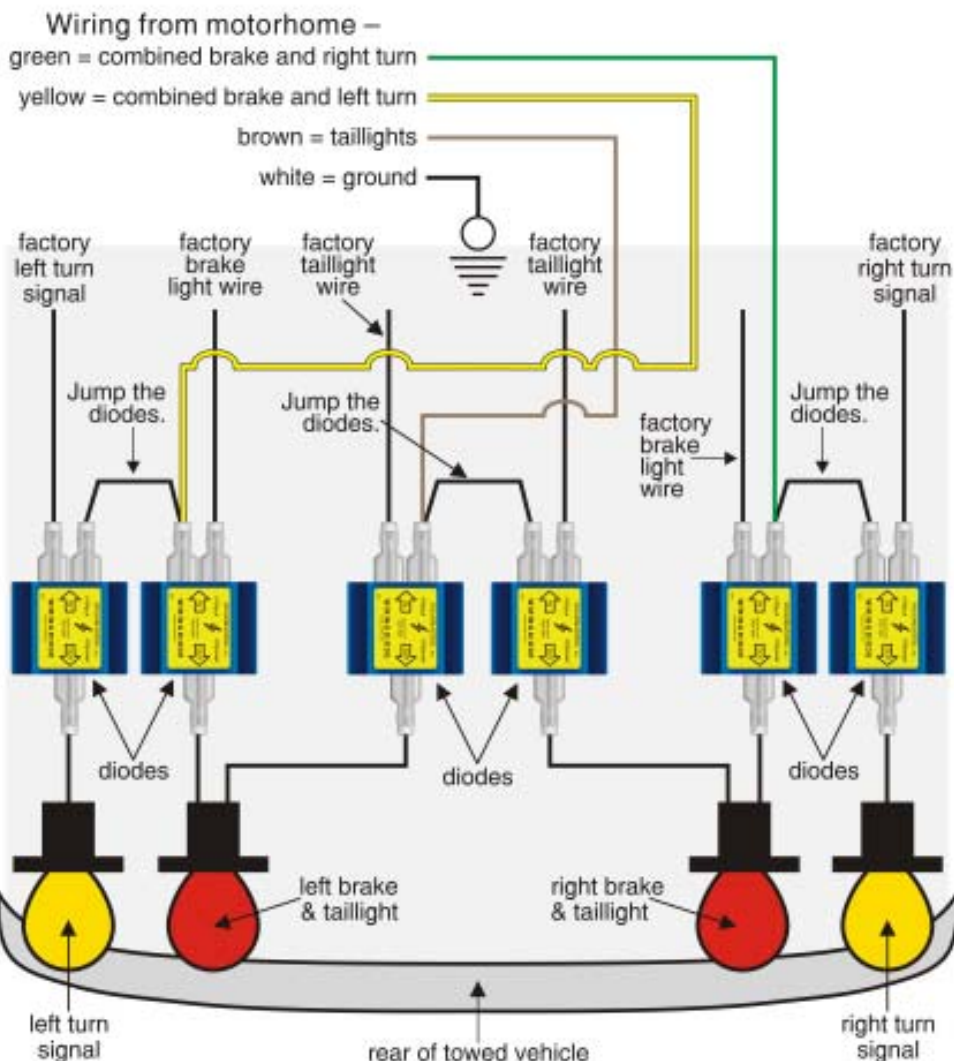
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If you're using a diode, why not use the best? ROADMASTER's Hy-Power™ diodes have a heavy-duty, anodized aluminum heat sink, and each diode is protected against the elements – all components are housed inside an epoxy-sealed, anodized aluminum case.



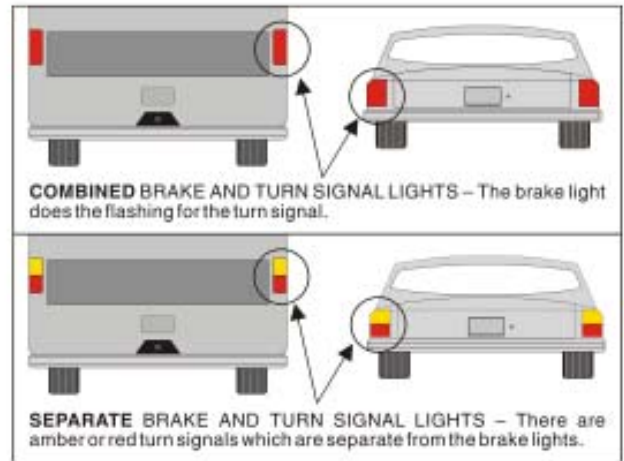
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Wiring a Ford 'neutral tow' vehicle to a 'separate' motorhome

General information

- As of this writing, ROADMASTER has identified all Ford 'neutral tow' vehicles as having 'separate' lighting systems. However, before wiring, check to ensure that both vehicles have 'separate' wiring – in a 'separate' system, there are amber or red turn signals which are separate from the brake lights; in a 'combined' system, the brake light does the flashing for the turn signal. Refer to the illustrations to the right.
- Use the diagram below (Figure 3) as a reference to wire the towed vehicle. This diagram applies to the majority of vehicles; however, applications vary. Before wiring, refer to the owner's manual, or ask the dealership or manufacturer, for vehicle-specific information. (Wiring information for many vehicles is also available at this website, under "Vehicle Specific Information.")

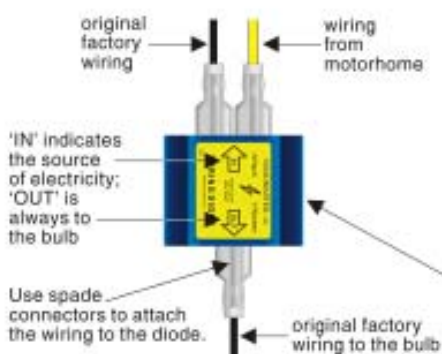


⚠ Warnings and Cautions

- Attach the diodes as close to the towed vehicle's lights as possible, to avoid interaction with other circuits which may be tied into the center brake light, the running lights, the turn signals or the brake light wires. Attaching the diodes farther away may cause the towed vehicle's lights to work improperly, and may also cause damage to other electrical components in the vehicle.
- Wire the towed vehicle according to the instructions above, and the diagram below. Improperly wiring the towed vehicle may cause electrical malfunction or other damage, which may result in property damage, personal injury or even death.

**Figure 3 –
wiring a Ford 'neutral tow'
vehicle to a
'separate' motorhome**

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If you're using a diode, why not use the best? ROADMASTER's Hy-Power™ diodes have a heavy-duty, anodized aluminum heat sink, and each diode is protected against the elements – all components are housed inside an epoxy-sealed, anodized aluminum case.



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