If the towed vehicle's brake lights override the turn signal...

There are a variety of methods available which will allow the towed vehicle’s brake lights and turn signals to work in conjunction with the motorhome’s. These methods are based on the type of lighting systems in both the motorhome and the towed vehicle. There are two types: combined or separate.

In a combined system, the brake light does the flashing for the turn signal; in a separate system, there are amber or red turn signal lights which are separate from the brake lights (see Figure 1).

If both vehicles have separate lighting systems, the towed vehicle’s brake lights should not override the turn signal. The other three possibilities are:

1. The motorhome has a combined system, and the towed vehicle has a separate system.
2. The motorhome has a separate system, and the towed vehicle has a combined system.
3. Both vehicles have separate systems.

Continued on next page.

Connections at the diode...

Figure 2

Green = combined brake and right turn
Yellow = combined brake and left turn
Brown = taillights
White = ground

Specifications subject to change without notice.

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.

Connections at the diode:

- Green: Original factory wiring from motorhome
- Yellow: Wiring from motorhome
- Blue: “IN” indicates the source of electricity; “OUT” is always to the bulb
- Brown: Use spade connectors to attach the wiring to the diode
- White: Original factory wiring to the bulb

Use diodes to jump the diodes.
ed vehicle has a separate system; or
2. Both vehicles have combined systems; or
3. The motorhome has a separate system and the
towed vehicle has a combined system.

Methods which will allow the towed vehicle’s brake
lights and turn signals to operate in tandem with the
motorhome’s, for each of these three possibilities, are
described below.

Note: the following instructions apply 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 on this
website, under “Vehicle Specific Information.”

Combined (motorhome)
to separate (towed vehicle)

If the motorhome has a combined lighting system and
the towed vehicle has a separate lighting system, there
are three alternatives. The first two methods are non-
intrusive—they bypass the towed vehicle’s wiring.

1. Disconnect the towed vehicle’s lighting system
(towing only) and install magnetic tow lights (part number
2100 or 2120).
2. Disconnect the towed vehicle’s lighting system
(towing only) and install a taillight wiring system (part
number 155).
3. Rewire the towed vehicle’s turn signals, taillights
and brake lights (a Universal Wiring Kit, part number 154,
plus two additional Hy-Power™ diodes, part number 792).
Refer to Figure 2.

To rewire the towed vehicle’s turn signals, taillights and
brake lights...

A. First, cut the factory turn signal, taillight and brake
light wires, as close to the lights as possible.
B. Next, install the six diodes in line, as shown in
Figure 2, 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 turn signal or 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.

CAUTION

Failure to install diodes, as shown in Figure 2, will
create a backfeed through the electrical system,
which will allow electrical current from the towed
vehicle to disrupt one or both of the vehicles’
 electrical systems. Also, the supplemental braking
system (if installed) may function improperly. Other
consequential damage may also occur.

C. On each side, jump the brake and turn signal
diodes, as shown in Figure 2.

CAUTION

Unless the brake and turn signal diodes are jump-
ed, the towed vehicle’s brake light circuits will over-
ride the motorhome’s turn signals – the towed vehi-
cle’s turn signals will not operate in conjunction with
the motorhome’s turn signals.

D. Test to verify that the diodes have been properly
installed...
1. The towed vehicle’s turn signals and brake lights
will both flash when one of the motorhome’s turn signals
is on; and
2. When the motorhome’s turn signal and brake
lights are both on, the towed vehicle’s brake lights will
stay illuminated, while the turn signal flashes.

Combined or separate (motorhome)
to combined (towed vehicle)

If both the motorhome and the towed vehicle have
combined lighting systems, or if the motorhome has a
separate system and the towed vehicle has a combined
system, there are four alternatives. The first two methods
are non-intrusive—they bypass the towed vehicle’s
wiring.

1. Disconnect the towed vehicle’s lighting system
(towing only) and install magnetic tow lights (part number
2100 or 2120).
2. Disconnect the towed vehicle’s lighting system
(towing only) and install a taillight wiring system (part
number 155).
3. Install an on-off toggle switch that, when the vehicle
is being towed, will disable power from the cold side of the
brake light switch.

CAUTION

If the towed vehicle is equipped with either a
BrakeMaster or 9700 supplemental braking system,
the toggle switch must be attached downstream from
the connection to the motorhome monitor wire. If the
toggle switch is installed upstream from the connec-
tion, it will disable the monitor light.

⚠️ WARNING

After towing, toggle the switch back.
The vehicle’s brake lights and turn signals will be
disabled if the switch is not toggled back. Drivers
behind the vehicle will not be alerted when the
vehicle stops or turns, which may cause an accident.
Failure to follow these instructions may cause
property damage, personal injury or even death.

4. Install a Brake-Lite Relay (part number 88400).
Refer to the installation instructions on this website.

ROADMASTER
Towing and Suspension Solutions
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