



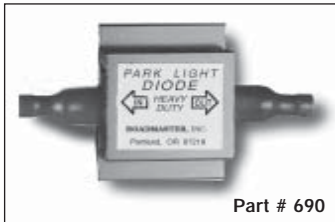
FLEXO-COIL™
WIRING KITS

Connects electricity between towed vehicle and motorhome. Cable expands to over 8' and conveniently contracts for storage. One model consists of four 16 gauge wires while the other model consists of four 16 gauge *and* two 14 gauge wires. Both models are vinyl coated & spring coiled. Plugs are injected with silicone to prevent corrosion. The wires are water, oil and chemical resistant.



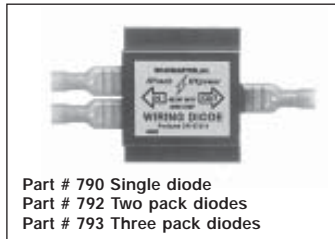
BRITE-LITE™
3 TO 2 WIRE CONVERTER

The **BRITE-LITE™** converts a 3-wire (amber turn) towing vehicle to a 2-wire towed vehicle. Lab tests have shown the **ROADMASTER HEAVY-DUTY BRITE-LITE™** makes turn signals 65% brighter and the brake lights 25% brighter than other brands. The **BRITE-LITE™** can help prevent rear-end collisions when traffic is heavy or under adverse road conditions.



PARK LIGHT DIODE

Electrical damage can occur to the towed vehicle if its headlights are turned on while still connected to the motorhome. The **Park Light Diode** will prevent any power from the car from reaching the motorhome. There is no interaction between the two park light systems thereby preventing any electrical damage. **ROADMASTER** recommends the use of the **Park Light Diode** on all vehicles.



HY-POWER™ DIODE

By preventing electrical feedback, **ROADMASTER's HY-POWER™ DIODES** allow you to splice into the towed car's wiring system without damaging expensive electronic dash components. Reduces wiring hassles. Trouble-free operation. Heat sink dissipates heat with a 350° temperature tolerance. Two-pack required for most vehicles. Includes instructions.

Part # 790 Single diode
Part # 792 Two pack diodes
Part # 793 Three pack diodes

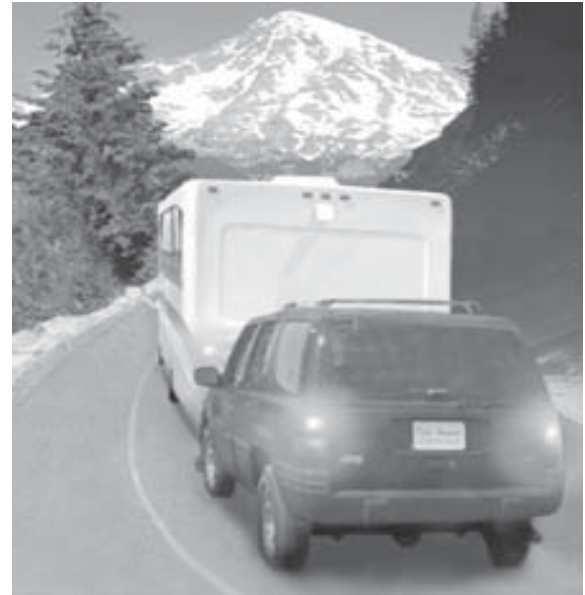
WARNING
WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION
CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.



Universal Wiring Kit
FOR THE TOWED VEHICLE

PART #150

INSTALLATION INSTRUCTIONS



Thank you for purchasing this fine **ROADMASTER** product.

"Always Setting New Standards for the Towing Industry"

ROADMASTER, INC.

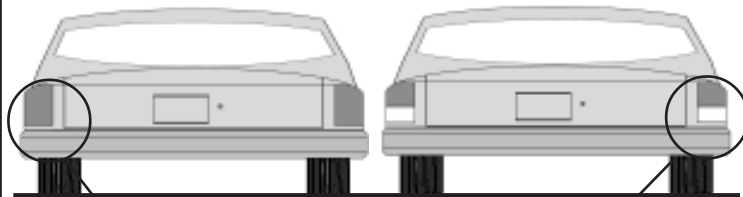
The Finest Tow Bars and Towing Accessories on the Planet

5620 NE Skyport Way Portland, Oregon 97218 1-800-669-9690 www.roadmasterinc.com

WIRING INSTRUCTIONS**STEP 1**

READ THROUGH ALL OF THE INSTRUCTIONS BEFORE INSTALLING ANY OF THE KIT COMPONENTS. DO NOT CUT ANY WIRING IN THE KIT OR ON THE VEHICLE UNTIL INSTRUCTED TO DO SO!

- Depending upon the wiring system utilized by your coach and towed vehicle, you may need additional components to successfully wire your vehicle.
- Determine which type of lighting system your coach and towed vehicle have.



Combined Brake / Turn Light System

The brake light does the flashing for the turn signal

Separate Brake / Turn Light System

There are amber or red turn signals which are separate from the brake lights

If your coach has a combined brake and turn signal system, and your towed vehicle has a combined brake and turn signal system, this kit contains the necessary components to wire most vehicles.

If your coach has a combined brake and turn signal system, and your towed vehicle has a separate brake and turn signal system, this kit contains the necessary components to wire most vehicles.

If your coach has a separate brake and turn signal system, and your towed vehicle has a combined brake and turn signal system, you will need a Brite-Lite 3 to 2 wire taillight converter (not included) in addition to this kit.

If your coach has a separate brake and turn signal system, and your towed vehicle has a separate brake and turn signal system, you will need 2 additional diodes and a 6 wire Flexo-coil (not included) in addition to this kit.

IMPORTANT: Although not included with this kit, Roadmaster strongly recommends installing 2 additional diodes in the park light circuit. The addition of these 2 diodes isolates all wiring between the two vehicles eliminating any possible liability or warranty concerns. It will be necessary to install these 2 diodes on any vehicle with daytime running lights. (See Option A on Page 8).

Also, do not use this kit to wire '99 and newer Ford Windstars. These vehicles use a "Low Side Switching" system that will prevent the factory taillights from functioning properly when they receive power from the motorhome. This is still a 12 volt negative ground system except the ground circuit is turned on and off instead of the positive as in conventional systems. This means that feed wires to the bulbs are always "hot". Current trailer wiring products will not work and conventional probing methods do not apply. Use ROADMASTER's Magnetic Tow Light Kit (Part #2120) for these vehicles.

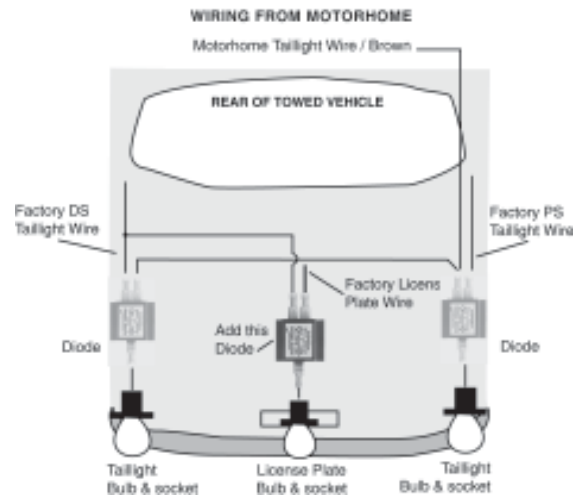
OPTION C

Here is what to do if you wish to have the towed vehicle's license plate illuminated when towing. Please note, that this is an option and that the necessary wiring supplies and diode are not included in this kit.

CAUTION

Due to complex electronics on today's vehicles, this option may not work on all cars. If you are unsure as to whether the license plate can be illuminated on your vehicle, simply run a power wire to the bulb and socket of the taillight and see if it functions properly when temporarily energized.

- Can be teed into Driver's side or Passenger side taillight.
- Must connect upstream of diodes used to isolate taillight bulb.
- Install diode as shown near license plate light.
- If more than one license plate light, then follow both wires back until they join and install diode upstream of their junction.



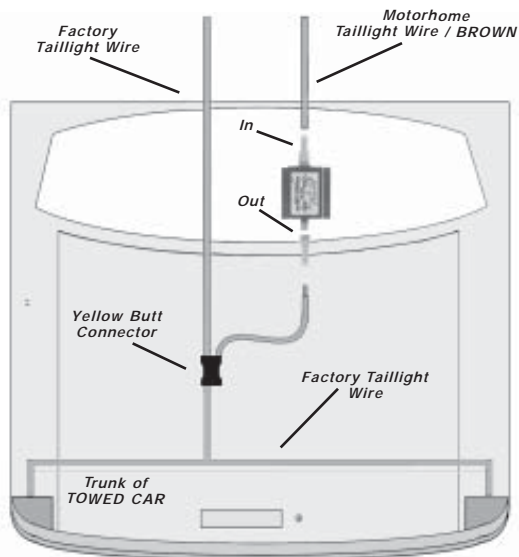
OPTION B

Although not required, ROADMASTER recommends using an OPTIONAL Park Light Diode in the running light circuit.

Problem: If the headlights of the towed vehicle are turned on while still connected to the motorhome, the towed vehicle's electronics will try to light up all the park lights on the motorhome. This creates a severe strain on the towed vehicle's electronics and can result in severe damage to its electrical system. Jeep Grand Cherokees and Jeep Cherokees are especially susceptible to this type of damage. **Note:** OPTION A solves this problem and may be used in lieu of OPTION B.

Solution: The design of the Park Light Diode prevents any current from passing through to the motorhome. This eliminates the heavy drain on the car's electrical system and prevents electrical damage. ROADMASTER strongly recommends the use of the Park Light Diode on all vehicles.

We recommend installing the diode directly behind the electrical socket on the front of the vehicle; however, it can be installed anywhere inline BEFORE the connection to the towed car's wiring.



Note: DS = Driver's Side PS = Passenger Side

STEP 2**⚠ WARNING**

- #1** To avoid electrical shorts and damage to wiring, keep the wiring away from all moving parts and secure it with cable ties to locations that are not hot and do not have sharp edges.
- #2** To avoid personal injury and/or property damage, remove ALL metal jewelry before working on any electrical system!
- #3** To avoid personal injury and/or property damage, DO NOT attach wiring to fuel lines!

- Using the 30' roll of molded 4-wire, professionally route the wiring from the front to the PS rear of the vehicle. It may be easier to string the wire if you cut the molded plug off. If you do cut the plug off, be sure to leave a few feet of wire on the plug. Use some split loom at the front of the vehicle to protect the wires and improve appearance. Using the cable ties, fasten the wiring to secure locations.

SUGGESTION

Where sharp edges cannot be avoided, the use of split loom will help to protect wiring from cuts and grounding out problems.

STEP 3

- Expose the vehicle's wires located at the rear of each tail light assembly. On most pickups/sport utility vehicles it is necessary to remove the tail light assemblies to gain access to the wiring. Use proper test equipment to identify and mark the wire for the brake light, the tail light & turn signals.

STEP 4

- Find a suitable point for the wiring to enter the rear PS of the vehicle. Now, run the wiring to the back of the PS taillight assembly. It may be necessary to drill a hole to properly route the wiring. Be sure to seal any holes with a good silicone sealant.
- If you are connecting a Combined Brake & Turn Signal motorhome to a Combined Brake and Turn Signal towed vehicle, go to STEP 5.
- If you are connecting a Combined Brake & Turn Signal motorhome to a separate Brake and Turn Signal towed vehicle, go to STEP 5.
- If you are connecting a Separate Brake & Turn Signal motorhome to a combined Brake and Turn Signal towed vehicle, you must install an optional Brite-Lite 3 to 2 wire taillight converter in the coach's wiring and continue with STEP 5.
- If you are connecting a Separate Brake & Turn Signal motorhome to a Separate Brake & Turn Signal towed vehicle, go to STEP 6.

STEP 5

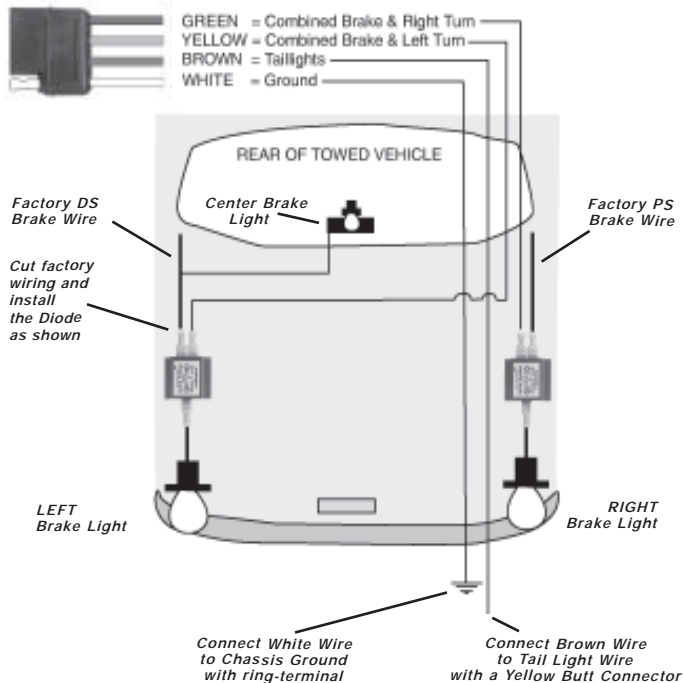
NOTE: If your towed vehicle has a separate brake and turn signal system, this kit does not utilize your factory turn signal lights. Instead your brake lights will function as BOTH brake signal and turn signal for towing purposes only! When driving your vehicle, the amber turn signal will function as they always have.

- Now run the molded 4-wire from the PS brake light to the DS brake light. Cut off the excess wiring and peel the GREEN wire back to the PS and make all of the connections as shown below.

CAUTION

Diode must be installed within a few inches of the brake light. Installing the diode prior to the connection for the center brake light will prevent the proper functioning of your brake lights and may result in electrical component damage. If your brake lights fail to function properly, reinstall the diode downstream from the center brake light connection and retest.

- See OPTION A on page 8.



STEP 6 continued

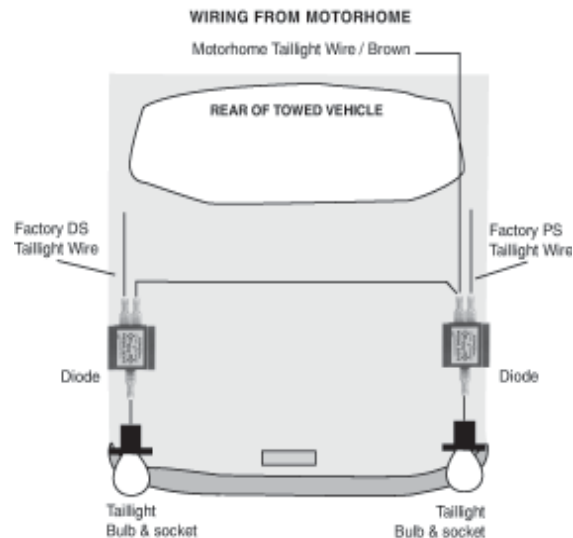
- If no socket exists on the motorhome, the wiring of the socket will be the same as the towed vehicle. Use the 6' umbilical cord with the connectors cut off to wire from the socket to the appropriate wires in the wiring harness at the rear of the coach.
- This completes the wiring for your vehicle. As the very last step, always check for and secure any loose wiring which could be damaged. Test lights for proper operation before each trip.

OPTION A

- Although not included with this kit, Roadmaster strongly recommends installing two additional diodes in the park light circuit. The addition of these two diodes isolates all wiring between the two vehicles eliminating any possible liability or warranty concerns.

If you have daytime running lights, you must install diodes in the taillight circuit as shown below. This wiring is in addition to the wiring you did in STEP 5 or STEP 6.

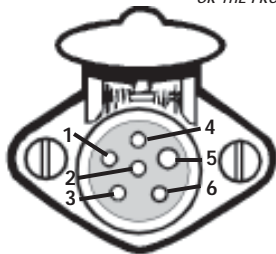
- After wiring the vehicle as shown in Step 5 or Step 6 (depending upon what kind of wiring) install two diodes in the taillight circuit as shown below.



STEP 6 continued

- Find a suitable location and method to install one of the sockets that came with the 6-WIRE **FLEXO-COIL** kit on the front of the towed vehicle in reach of the molded 4-wire. Cut off the connector on the end of the molded 4 wire at the front of the towed vehicle.
- Take the leftover wire that was cut off earlier and peel off several feet of white wire. Use a ring terminal to connect one end of the white wire to any good chassis ground. Route the other end of the white wire to the end of the molded 4-wire at the front of the vehicle.
- Now, strip back about 1/4" of insulation on all 5 wires at the front of the towed vehicle.
- Remove the protective boot on the back of the socket, loosen the set screw and remove the inner plug from the housing. Now run all 5 wires through the back of the boot and housing.
- Loosen all of the set screws on the side of the socket. Connect the wires to the back of the socket as shown in the diagram below.
- Be sure to tighten all set screws and check each wire to see if it is secure. Use some clear silicone around each wire entry and set screw indentation. This will help to weather proof the socket and secure the set screws. Replace the protective boot.

FRONT OF SOCKET AS VIEWED WITH RAISED COVER LOOKING AT THE REAR OF THE MOTORHOME OR THE FRONT OF THE TOWED VEHICLE



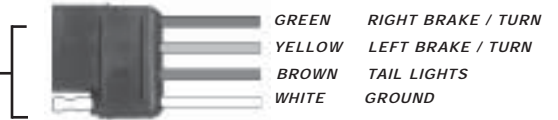
	SOCKET PIN#	WIRE COLOR	MOTORHOME	CAR
MOLDED 4-WIRE	3	GREEN	Right turn	Right turn
	6	YELLOW	Left turn	Left turn
	4	BROWN	Tail light	Tail light
	1	WHITE	Brake Light	Brake Light
Separate WHITE WIRE	5	WHITE	CHASSIS Ground	CHASSIS Ground
	2	NOT USED	NOT USED	NOT USED

- Use the existing socket on the rear of the motorhome if it is the same type of plug. Be sure to use a test light to check for the correct wiring configuration first. Change as needed.
- If the existing socket does not match the 6-wire **FLEXO-COIL**, simply replace the socket with the new one provided in the 6-wire **FLEXO-COIL** kit. Wire it according to the diagram above. If you wish to keep the existing socket, you can run jumper wires from the old socket to the new socket.

STEP 5 continued

- Double check the molded 4-wire connector on the front of the car for proper connections, using the diagram below.

CAUTION!
Connect **HOT** wires to shielded terminals **ONLY!**



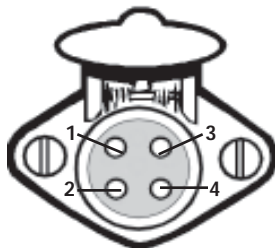
- If your coach is already wired, use a test light to verify that it matches the above diagram. Change as needed.
- If the coach is not wired, install the remaining 4 wire flat connector to wire the coach according to the above diagram.
- Use the 6' umbilical cord (included) to connect between the car and motorhome.
- This completes the wiring for your vehicle. As the very last step, always check for and secure any loose wiring which could be damaged. Test lights for proper operation before each trip.

Use the following instructions to install a 4-WIRE FLEXO-COIL (not included with this kit) instead of using the 6' umbilical cord which is provided in this kit.

- Find a suitable location on the front of the towed vehicle to install one of the sockets that came with the 4-WIRE **FLEXO-COIL** kit. It must be in reach of the molded 4-wire.
- Cut off the connector on the end of the molded 4 wire on the front of the vehicle.
- Now, strip back about 1/4" of insulation on each of the 4 wires.
- Remove the screw on the back of the socket. Using a screw driver, push the connector out of the front. Now run the molded 4-wire through the back of the housing.
- Loosen all of the set screws on the side of the socket. Connect the wires to the back of the socket as shown on the diagram on page 5.
- Be sure to tighten all set screws and check each wire to see if it is secure. Use some clear silicone seal around each wire entry and set screw indentation. This will help to weather proof the socket and secure the set screws. Replace the protective boot.

STEP 5 continued

FRONT OF SOCKET AS VIEWED WITH RAISED COVER
LOOKING AT THE REAR OF THE MOTORHOME
OR THE FRONT OF THE TOWED VEHICLE



SOCKET PIN#	WIRE COLOR	MOTORHOME	CAR
3	GREEN	Right turn/brake	Right turn/brake
1	YELLOW	Left turn/brake	Left turn/brake
4	BROWN	Tail light	Tail light
2	WHITE	Ground	Ground

MOLDED 4-WIRE

- Simply use the existing socket on the rear of the motorhome if it is the same plug. Be sure to use a test light to check for the correct wiring configuration first. Change as needed.
- If the motorhome's existing socket does not match the 4-wire **FLEXO-COIL**, simply replace the socket with the new one provided in the 4-wire **FLEXO-COIL** kit. Wire it according to the diagram above. If you wish to keep the existing socket, you can run jumper wires from the old socket to the new socket.
- If no socket exists on the motorhome, the wiring of the socket will be the same as the towed vehicle. Use the 6' umbilical cord with the connectors cut off to wire from the socket to the appropriate wires in the wiring harness at the rear of the coach.
- This completes the wiring for your vehicle. Always check for and secure any loose wiring which could be damaged. Test lights for proper operation before each trip.
- Skip to OPTION A on page 8.

STEP 6

Only use these instructions when **both** the coach and towed vehicle have **Separate Brake & Turn signal systems**.

- NOTE:** You will need two additional diodes and a **6-WIRE FLEXO-COIL** Kit (not included) if both vehicles have Separate Brake & Turn. Furthermore, towed vehicles with daytime running lights, require 2 additional diodes (not included) for a grand total of 6 diodes. See Option A on page 8.
- Run the molded 4-wire from the PS turn signal to the DS turn signal. Cut off the excess wiring and peel the green wire back to the PS. Now make all the connections as shown below.

NOTE: The Ground wire will be connected as instructed on the next page.

CAUTION

Diode must be installed within a few inches of the brake light. Installing the diode prior to the connection for the center brake light will prevent the proper functioning of your brake lights and may result in electrical component damage. If your brake lights fail to function properly, reinstall the diode downstream from the center brake light connection and retest.

