

# AddaBRAKE<sup>®</sup>

PORTABLE SUPPLEMENTAL BRAKING SYSTEM

## Owner's Manual

*Entire contents of manual must be read by owner*



Part number 8800



Towing and Suspension Solutions  
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# WELCOME TO THE ROADMASTER FAMILY!

This manual has been prepared to acquaint you with the installation and operation of your AddaBRAKE, and to provide you with important safety information.

Read your owner's manual cover to cover. Understand how to install and operate your AddaBRAKE, and carefully follow the instructions and safety precautions.

Your AddaBRAKE has a one-year limited warranty. To qualify for your warranty, fill out and return the enclosed product registration card within 30 days of purchase. **As a bonus, we'll extend your warranty to a total of two years at no additional cost, if we receive the product registration card within 30 days of purchase.**

We thank you for your patronage and greatly appreciate your discerning taste.

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## AddaBRAKE specifications

Height ..... 12 inches  
Width..... 11.25 inches  
Length..... 16 inches  
Weight..... 15.5 pounds  
Voltage..... 12 volts DC  
Operating temperature range  
..... -2° to +150° F (-19° to +66° C)  
Length of standard power cord..... 42 inches  
Maximum amperage draw ..... 10.8 amps  
Idle amperage draw..... 11mA  
Approximate maximum air pressure ..... 60 psi  
Maximum force extended on brake pedal ..... 106 lbs.  
Minimum space AddaBRAKE can fit ..... 16 inches

## The AddaBRAKE serial number...

...is on a label on the underside of the unit. You will need this number when you fill out your product registration card.

Write down the serial number in the space below and retain for future reference...

Serial number: \_\_\_\_\_

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## IMPORTANT NOTICE!

### Safety Definitions

This manual contains 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 symbols:



### 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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### WARNING

**Read all instructions before installing or operating AddaBRAKE. Failure to understand how to install or operate AddaBRAKE could result in property damage, personal injury or even death.**

### CAUTION

Not for use on older vehicles without power brakes. AddaBRAKE is designed to work with vehicles that have a power brake system (even though the power brakes are not activated while towing). Using AddaBRAKE on vehicles that do not have power brakes will result in over-braking and severe non-warranty brake damage.

### CAUTION

Do not install AddaBRAKE in a vehicle with an 'active' braking system.

'Active' (or, 'continuous power assist') braking systems are a safety feature on some new vehicles. This feature allows the brakes to always have power, even with the ignition off. The only supplemental braking system that ROADMASTER manufactures for these vehicles is BrakeMaster, with the addition of a Brake Pressure Reducer (part number 900002).

If any ROADMASTER supplemental braking system other than a BrakeMaster with a Brake Pres-

sure Reducer is installed, the vehicle will brake with excessive force, which will damage the tires. Other non-warranty damage may also occur.

It is the owner's responsibility (or if professionally installed, the installer's responsibility) to determine if the vehicle being equipped with supplemental brakes has an active braking system – refer to the owner's manual, the vehicle manufacturer or the dealership.

ROADMASTER expressly disallows any and all claims relating to tire damage, brake damage, or any other damage to vehicles with 'active' braking systems caused by: 1) installation of any ROADMASTER supplemental braking system other than BrakeMaster; or 2) failure to install a Brake Pressure Reducer with the BrakeMaster.

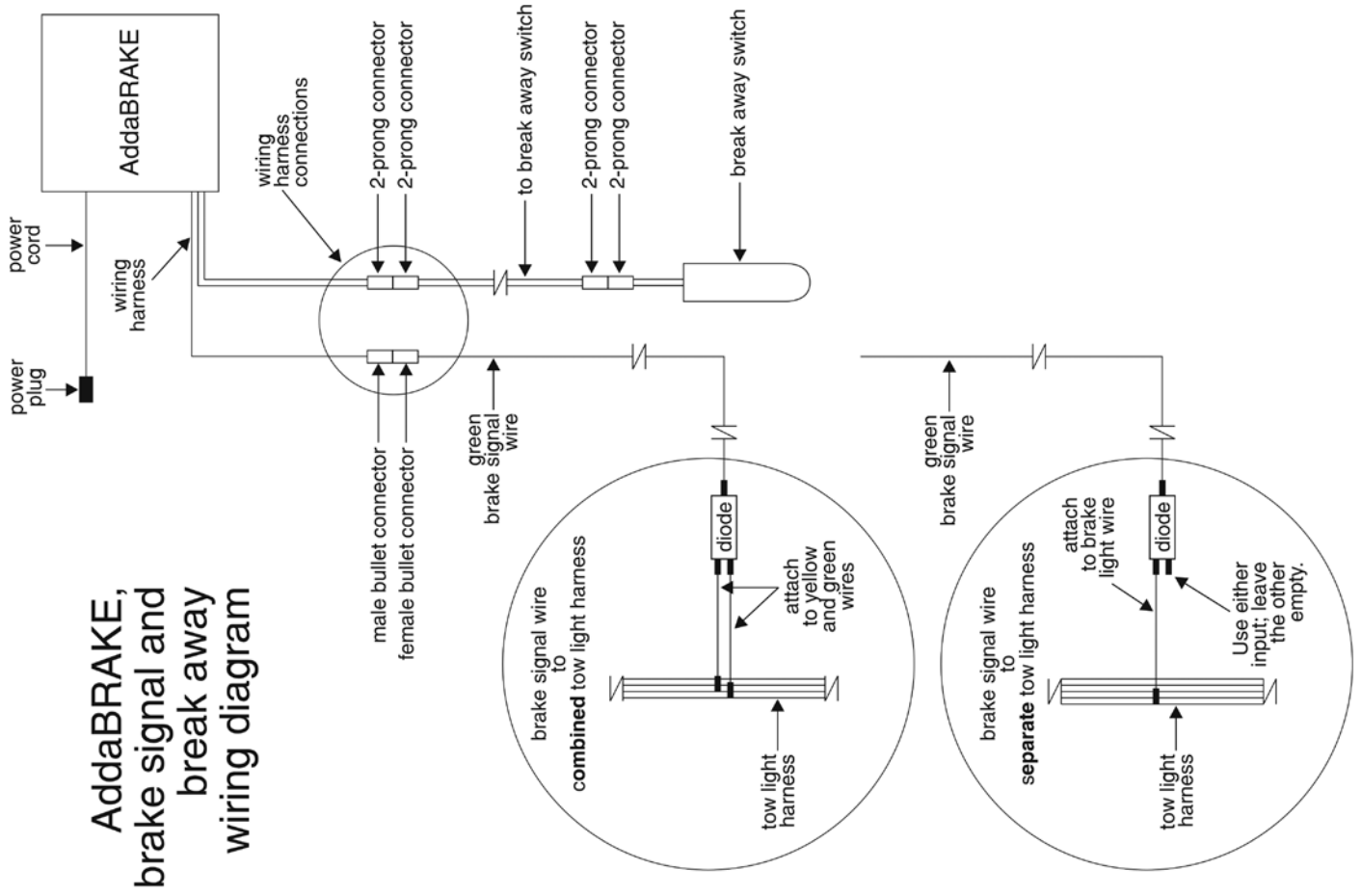
# COMPONENTS

part number	description
1	9329 .....brake pedal clamp
2	n/a .....air cylinder shaft
3	n/a .....pressure gauge
4	n/a .....regulator control knob
5	n/a .....air relief button
6	n/a .....test button
7	650996.....adjustable seat pad (handle assembly)
8	450952.....adjustment knob
9	450105.....adjustable feet
10	450103.....12-volt power cord

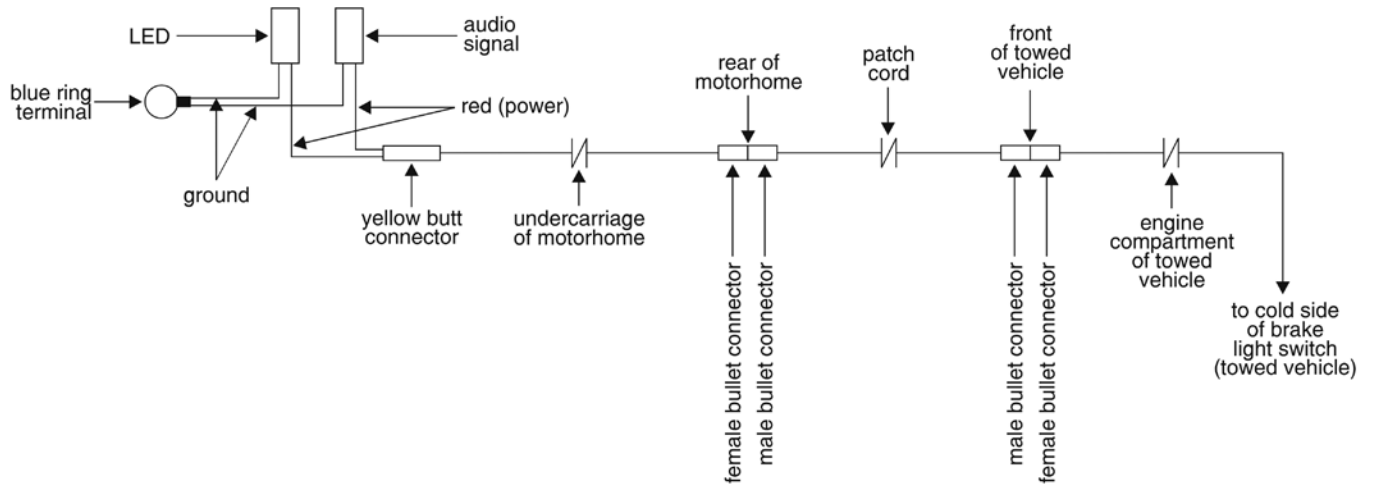
part number	description
11	650906.....AddBRAKE wiring harness
12	650900.....break away wiring harness
13	8602 .....break away cable
14	650898.....break away switch
15	650906-01 .....brake signal wire
16	300065-00 .....motorhome monitor LED
17	9325 .....audio signal circuit board
18	450008.....motorhome monitor patch cord (not pictured)

Items not shown to scale.  
Optional equipment is listed in the  
"Optional Equipment" section.





### Motorhome monitor wiring diagram





# Before you begin the initial installation...

1. **ALWAYS CHECK THE ROADMASTER WEB SITE** – [www.roadmasterinc.com](http://www.roadmasterinc.com) – for vehicle-specific information. Select ‘Vehicle-Specific Info,’ enter the motorhome and towed vehicle make, model and year, then select ‘Braking Systems.’

2. **If the battery must be disconnected** for towing, a 12-volt outlet kit (part number 9332) and a stop light switch must be installed. ROADMASTER manufactures stop light switch kits for a number of vehicles; to see if one is available for any specific vehicle, visit [www.roadmasterinc.com](http://www.roadmasterinc.com) and select ‘Vehicle-Specific Info,’ enter the vehicle make, model and year, then select ‘Braking Systems’ and scroll down the page.

*Note: if a stop light switch kit is listed on the web site for any particular vehicle, it is required.*

*Note: an Automatic Battery Disconnect (part number 765) is available for vehicles which must be towed with the battery disconnected. If you choose to install the Automatic Battery Disconnect, a 12-volt outlet kit and a stop light switch are still required; the Brake-Lite Relay (see below) is not required.*

3. **If fuse(s) must be removed from the vehicle before it can be towed** – verify that removing the fuse(s) will not disrupt power to AddaBRAKE, or otherwise affect the installation or operation.

4. **Check the towed vehicle’s 12-volt outlet for correct power** – AddaBRAKE is powered through the 12-volt outlet, with the ignition key turned to the “tow” position. However, some vehicles only have power at the 12-volt outlet when the engine is running. Before you begin the initial installation, verify that you have power at the towed vehicle’s 12-volt outlet with the ignition key turned to the “tow” position.

If there is no power, you can install the optional 12-volt outlet kit (part number 9332). When installed, this kit will provide power to the 12-volt outlet even when the engine is off.

5. **Check the 12-volt outlet socket** to make certain that: a) the socket has been wired correctly; and b) the socket is not corroded.

a. **Make certain that the socket has been wired correctly** – the contact point at the bottom of the socket should be positive, and the outer shell around the top of the socket should be negative.

## CAUTION

**If the socket’s positive and negative connections have been reversed, the fuse in the AddaBRAKE power cord will blow when the cord is plugged into the 12-volt outlet.**

b. **Make certain that the socket is not corroded or otherwise damaged** – a corroded socket may not provide constant power to AddaBRAKE, which may

cause intermittent operation.

If the socket is corroded or damaged, you can install the optional 12-volt outlet kit (part number 9332). When installed, this kit will provide constant power to AddaBRAKE.

## CAUTION

**If the towed vehicle has a single 12-volt outlet which has been used to heat a cigarette lighter plug, install the optional 12-volt outlet kit for the AddaBRAKE power supply.**

**Using a cigarette lighter plug in a 12-volt socket will corrode the contact points. The socket will not supply sufficient voltage to be used as the AddaBRAKE power source – AddaBRAKE may not operate, or may only operate intermittently.**

6. **The circuit at the towed vehicle’s 12-volt outlet must be rated at NO LESS THAN 15 AMPS** to power AddaBRAKE. Check the fuse at the outlet – if the fuse is rated at 15 amps or higher, the circuit is adequate to power AddaBRAKE. If the fuse is rated at less than 15 amps, install the optional 12-volt outlet kit (part number 9332). When installed, this kit will provide power to AddaBRAKE.

## CAUTION

**If the circuit at the 12-volt outlet is rated at less than 15 amperes, install the optional 12-volt outlet kit. Depending on the available current during towing, AddaBRAKE may not function, or may function incorrectly, without at least 15 amps.**

## WARNING

**If the circuit is rated at less than 15 amps, do not simply replace the outlet’s fuse with a higher-ampere fuse. This will cause the wiring to overheat, which can cause wiring damage, an electrical fire, or other consequential, non-warranty damage.**

**Failure to follow these instructions may cause property damage, personal injury or even death.**

7. **Check the towed vehicle’s brake lights** – AddaBRAKE must function with the ignition key turned to the “tow” position. However, some vehicles’ brake lights only operate with the key turned to the “on” position. Check to see if this is the case: turn the ignition key to the “tow” position, apply the brakes, and check to see if the brake lights illuminate. If the brake lights do not illuminate, a two-prong stop light switch and 10-amp fuse must be installed.

*Note: check the owner’s manual to see if the vehicle is equipped with an “automatic shut down” feature.*  
*continued on next page*

## **Before you begin the initial installation...**

*continued from preceding page*

*this is the case, ensure that the vehicle is not in automatic shut down mode before performing this test.*

ROADMASTER manufactures stop light switch kits for a number of vehicles; to see if one is available for any specific vehicle, visit [www.roadmasterinc.com](http://www.roadmasterinc.com) and select 'Vehicle-Specific Info,' enter the vehicle make, model and year, then select 'Braking Systems' and scroll down the page.

*Note: if you must install a Brake-Lite Relay – see step 9, below – a stop light switch is not required.*

**8. If the towed vehicle has a magnetic tow light system** – modifications will be necessary, in order to permanently attach the brake signal wire. Refer to Step D under "Initial Installation" – "Attach the brake signal wire," step 2c.

**9. An optional Brake-Lite Relay may be required.** See page seven for instructions on how to determine if the relay must be installed.

*Note: a stop light switch (see steps 2 and 7 above) and a Brake-Lite Relay are mutually exclusive – if you use one, the other is not necessary.*

**10. If the towed vehicle will be (or has been) wired for towing** – diodes must be attached to the wires.

The electrical circuit that turns the towed vehicle's brake lights on and off also turns AddaBRAKE on and off. If diodes are not attached, electrical feedback through the brake light wire will prevent AddaBRAKE from releasing braking pressure. AddaBRAKE will be activated with the brake lights, but will not release braking pressure until the extended braking protection mode overrides the brake signal, after approximately 15 seconds.

## **CAUTION**

**If the vehicle will be wired for towing, diodes must be attached in order for AddaBRAKE to release the towed vehicle's brakes in tandem with the motorhome. If diodes are not attached, AddaBRAKE will apply braking pressure for approximately 15 seconds each time the motorhome brakes are applied, regardless of when the motorhome brakes are released.**

**Damage to the towed vehicle's braking system, as well as other consequential damage, may occur.**

Additional diodes are not required if...

- ... a Brake-Lite Relay (part number 88400) must be installed in the towed vehicle; or
- ... a non-intrusive wiring method is selected – either a taillight wiring kit (part number 155) or magnetic tow lights (part number 2100 or 2120).

A wiring kit with diodes is available from ROADMASTER – the Universal Wiring Kit, part num-

ber 154. Additional diodes may also be purchased separately. Wiring diagrams are under 'Support' at [www.roadmasterinc.com](http://www.roadmasterinc.com).

# INITIAL INSTALLATION

In addition to wiring and connection instructions, this section contains information about the components of your supplementary braking system, and how they function. For that reason, read this section, even if you will not be installing these components yourself.

## Step A

### Install the break away system

“Break away” systems are secondary safety devices, required by law in many states, which will brake the towed vehicle if it separates (“breaks away”) from the motorhome.

1. Mount the break away switch (Figure 1) at the front of the vehicle, on the driver’s side. Choose an area you can easily reach, with a surface of sufficient strength to hold the switch firmly in place, so that the break away pin (Figure 1) will pull freely from the switch. Mount the switch in a horizontal position, with the break away pin facing toward the motorhome.

Ensure that the break away pin can be pulled freely away from the towed vehicle, without any obstructions.

### WARNING

**Do not attach the break away switch to the tow bar or the tow bar bracket. If the tow bar or bracket fails, the break away switch will separate with it, preventing the break away system from activating. If the towed vehicle separates, the brakes will not be applied, which may cause property damage, personal injury or even death.**

2. The break away wiring harness (Figure 1) connects the break away switch to AddaBRAKE. It will be routed through the firewall, on the driver’s side.

Look for a pre-existing hole in the firewall (or, if there is sufficient space, a pre-existing grommet with other wiring) close to the floor on the driver’s side, to route the break away wiring harness through the firewall.

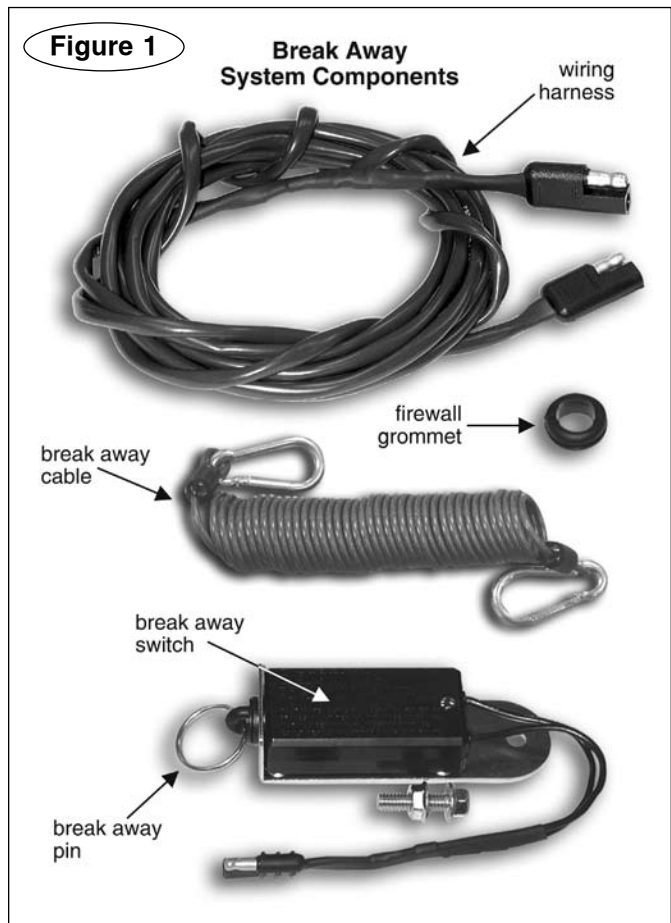
*Note: the motorhome monitor wiring harness (Step C) and the brake signal wire (Step D) will also be routed through this hole.*

If there is no pre-existing hole or grommet with sufficient space, drill a 1/2" hole through the firewall.

Drill from the engine compartment or from the interior of the vehicle, whichever is more convenient. Before drilling, make certain you will not damage any components on the other side of the firewall.

3. Route the wiring harness from the break away switch to the firewall (or, from the firewall to the break away switch, whichever is more convenient), avoiding lines, hoses, moving parts or “hot” components such as exhaust systems.

Where appropriate, use wire ties to secure the break



away wiring harness.

At the front of the vehicle, connect the wiring harness to the break away switch.

You will connect the break away wiring harness to AddaBRAKE in a later step.

## Step B

### Modifications to the towed vehicle’s lighting system

A supplemental braking system will affect the operation of the vehicle’s tow lighting system. Use the following information to determine if optional accessories must be installed in a vehicle which has been wired for towing – or, if no lighting system has been installed, which systems are appropriate.

1. First, identify the type of brake and turn signals in the vehicle. There are two types – combined or separate. In a **combined** system (Figure 2), the brake

*continued on next page*



# INITIAL INSTALLATION

## Modifications to the towed vehicle's lighting system

*continued from preceding page*

light does the flashing for the turn signal; in a **separate** system (Figure 2), there are amber or red turn signal lights which are separate from the brake lights.

2. Next, test to see if the towed vehicle's brake lights will illuminate with the engine off – turn the ignition key to the "tow" position, press the brake pedal, and check the brake lights.

3. Based on whether or not the brake lights illuminate, and the type of brake and turn signals, there are three possibilities: 1) the brake lights illuminate and the towed vehicle has combined lighting; 2) the brake lights illuminate and the towed vehicle has separate lighting; or 3) the brake lights do not illuminate. Choose from the appropriate list below to install either an optional accessory or another lighting system.

(If you choose to install a system of diodes and rewire the vehicle's turn signals, taillights and brake lights for towing, wiring diagrams are available at [www.roadmasterinc.com](http://www.roadmasterinc.com).)

### 1. If the brake lights illuminate and the towed vehicle has combined lighting...

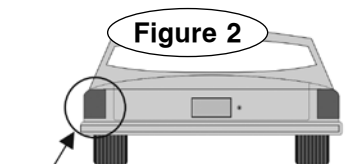
...one of the three alternatives below is required.

A. A system of diodes (the vehicle's turn signals, taillights and brake lights have been rewired for towing) **with** an optional Brake-Lite Relay.

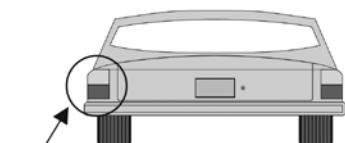
(This method cannot be used in Ford vehicles with 'neutral tow' kits. See "Ford 'neutral tow' vehicles," in this manual, for wiring instructions.)

B. Install a "bulb and socket set" (also called a "taillight wiring kit," part number 155).

C. Install a magnetic tow light system (part number 2100 or 2120).



**Figure 2**  
**Combined** brake and turn signal lights – the brake light does the flashing for the turn signal.



**Separate** brake and turn signal lights – there are amber or red turn signals which are separate from the brake lights.

### 2. If the brake lights illuminate and the towed vehicle has separate lighting...

...one of the four alternatives below is required.

A. A system of diodes (the vehicle's turn signals, tail-lights and brake lights have been rewired for towing) **with** an optional Brake-Lite Relay.

(This method cannot be used in Ford vehicles with

'neutral tow' kits. See "Ford 'neutral tow' vehicles," in this manual, for wiring instructions.)

B. A system of diodes **with the diodes jumped**. This method is also used to wire Ford vehicles with 'neutral tow' kits. See Figure 15.

C. Install a "bulb and socket set" (also called a "taillight wiring kit," part number 155).

D. Install a magnetic tow light system (part number 2100 or 2120).

### 3. If the brake lights do not illuminate...

...an optional stop light switch **must** be installed. ROADMASTER manufactures stop light switch kits for a number of vehicles; visit [www.roadmasterinc.com](http://www.roadmasterinc.com) for the most current list of available kits.

Any one of the following tow lighting systems must also be installed with the stop light switch:

- a system of diodes (the vehicle's turn signals, tail-lights and brake lights have been rewired for towing)
- a "bulb and socket set" (also called a "taillight wiring kit," part number 155)
- a magnetic tow light system (part number 2100 or 2120)

## Step C

### Install the motorhome monitor wiring harness in the towed vehicle

When the components of the motorhome monitor are installed and connected, an LED on the motorhome dashboard will illuminate each time AddaBRAKE is activated, confirming that the towed vehicle's brakes have been applied.

*Note: there are two lengths of black wire in this kit, each with a female bullet connector at one end. Use the short length of wire in this step.*

1. Choose a mounting point at the front of the vehicle, near the electrical socket, for the end of the harness with the female bullet connector. Attach the connector with one or more of the included wire ties. Allow enough slack so that a male bullet connector can be plugged into and out of it.

*Note: if there is an open terminal available on both electrical sockets, you can use the existing electrical cord to connect the monitor wiring between the two vehicles. This method eliminates a separate patch cord, included with AddaBRAKE for the same purpose. If you choose this method, cut the female bullet connector off, and attach the monitor wire to the open terminal on the towed vehicle's electrical socket. Later, you will use the matching terminal on the motorhome's electrical socket to complete the connection.*

*continued on next page*

# INITIAL INSTALLATION

## Install the motorhome monitor wiring harness in the towed vehicle

*continued from preceding page*

*Note: if you choose this method, keep the patch cord. If a second towed vehicle is added later, it may not have an open terminal available on the electrical socket.*

2. Once the female bullet connector is attached, route the monitor wiring harness through the engine compartment, to the driver's side of the firewall. Use the same route as the break away wiring harness, if that is convenient. As before, avoid lines, hoses, moving parts or "hot" components such as exhaust systems. Where appropriate, use wire ties to secure the wiring harness in place.

3. Route the motorhome monitor wiring harness through the same hole as the break away wiring harness (Step A).

4. Next, 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. With a 12-volt meter, verify that you have found 12 VDC+. Then, remove the vehicle's 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 cause the vehicle's theft deterrent system, or other electrical system indicators, to be activated if the brake pedal is depressed during the installation. This may require non-warranty repair to the vehicle.**

5. Cut the brake light wire, a few inches downstream from the "cold" side of the brake light switch.

#### If the Brake-Lite Relay is required...

(see the previous section – "Modifications to the towed vehicle's lighting system")

Install the Brake-Lite Relay now. The installation instructions are included with the relay. After the Brake-Lite Relay is installed, proceed to Step D – "Attach the brake signal wire."

*Note: do not install the Brake-Lite Relay unless it is required. Refer to the previous section – "Modifications to the towed vehicle's lighting system."*

#### If the Brake-Lite Relay is not required...

(see the previous section – "Modifications to the towed vehicle's lighting system")

6. If necessary, trim the monitor wiring harness, then

attach the monitor wire to the brake light wire, using the supplied yellow butt connector.

7. Ensure that the monitor wiring harness will not present an obstacle or hazard to the driver of the vehicle, or interfere with the operation of the vehicle. Use one or more wire ties, if necessary, to secure the wiring harness out of the way.

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

## Step D

### Attach the brake signal wire

The brake signal wire is attached to the brake light wire(s) in the towed vehicle's electrical harness. When the brake signal wire is connected to AddaBRAKE (along with the other components of the braking system), AddaBRAKE will be activated when the towed vehicle's brake lights are activated.

*Note: the brake signal wire is a six-foot length of green wire, with a female bullet connector at one end.*

1. Choose a convenient point on the towed vehicle's tow light harness to attach the brake signal wire, and remove the protective loom covering that section of the harness.

2a. If the towed vehicle has **combined** brake and turn signal lights (Figure 2)...

- Cut the yellow wire (left turn/brake) on the harness, and attach the ends with one of the supplied yellow butt connectors (Figure 3). Repeat for the green wire (right turn/brake).

- Then, run a small length of the supplied wire from both butt connectors (Figure 3), and attach both wires to the inputs of the included diode (Figure 3) with two of the supplied spade connectors.

2b. If the towed vehicle has **separate** brake and turn signal lights (Figure 2), the connection is the same as above, except that only one wire (the brake light wire) is attached to the diode...

- With a test light, determine which of the wires in the tow light harness is the brake light wire – when the test light is connected to the brake light wire, the test light will illuminate when the motorhome's brake pedal is depressed.

- Cut the brake light wire, and connect the ends with one of the included yellow butt connectors.

- Then, run a small length of the supplied wire from the butt connector, and attach the wire to the diode with another spade connector. Use either one of the two inputs; leave the other input empty.

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# INITIAL INSTALLATION

## Attach the brake signal wire

*continued from preceding page*

### 2c. If the towed vehicle has **magnetic** tow lights...

*Note: additional connectors and – depending on the application – additional wiring will be necessary to wire a magnetic tow light system.*

- Peel back a section of the protective covering near the plug on the electrical cable – enough to use a test light on the wiring and, later, to attach two butt connectors. Then, using a test light, find the left and right combined brake and turn signal wires.

- Cut one of the combined brake and turn signal wires, and attach the ends with a butt connector. Run a small length of wire from the butt connector, and attach a female bullet connector to the end of the wire.

Attach a male bullet connector to another small length of wire. Using one of the included spade connectors, attach the other end of the wire to one of the inputs on the diode.

Repeat for the other brake and turn signal wire.

Before towing, connect the male and female bullet connectors.

- Trim the protective covering over the electrical cable; wrap any exposed wiring with electrical tape.

- Connect to ground – at both vehicles, connect a wire to any good chassis ground. Before towing, connect the ground wires with a separate cable.

### 2d. If the towed vehicle has a **taillight** (“bulb and socket”) wiring kit...

- Make certain that a ground connection exists between the towed vehicle and the motorhome. Otherwise, the wiring is identical to the combined brake and turn signal light

method (2a, above).

3. Using another of the supplied spade connectors, attach the bare end of the brake signal wire to the output of the diode (Figure 3).

4. Route the brake signal wire through the engine compartment, to the driver’s side of the firewall. Use the same route as the break away wiring harness and/or the motorhome monitor wiring harness, if that is convenient. As before, avoid lines, hoses, moving parts or “hot” components such as exhaust systems. Where appropriate, use wire ties to secure the brake signal wire in place.

5. Route the brake signal wire through the same hole in the firewall as the break away wiring harness and the motorhome monitor wiring harness.

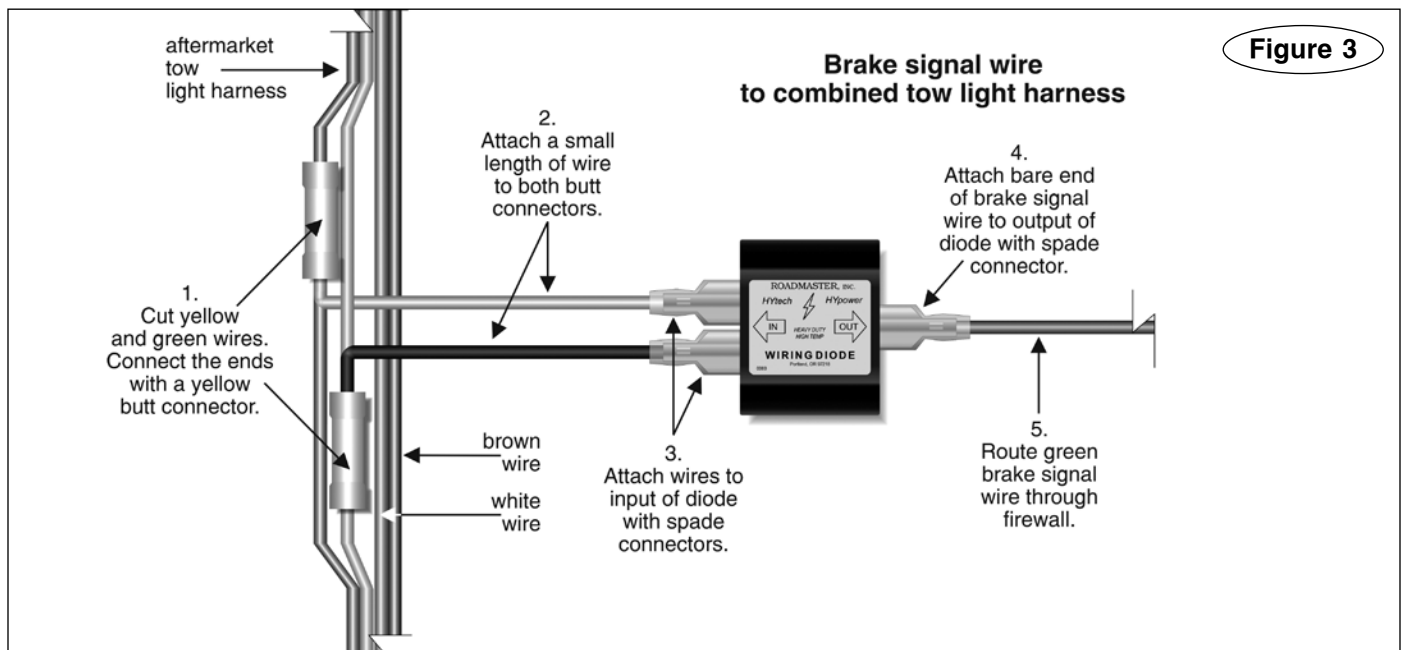
6. Replace the protective loom, which you removed in step one.

## Step E

### Attach the firewall grommet; attach the wiring connectors

1. Cut through the included firewall grommet (Figure 1) on one side, and slide it over the break away wiring harness, the brake signal wire, and the motorhome monitor wiring harness. Fit the grommet into the 1/2" hole you drilled in the firewall. Feed the remaining lengths of the brake signal wire and the break away wiring harness through the grommet. Then, seal the grommet with a silicone sealant.

2. When AddaBRAKE is connected and disconnected, *continued on next page*



# INITIAL INSTALLATION

## Attach the firewall grommet; attach the wiring connectors

*continued from preceding page*

the AddaBRAKE wiring harness will be plugged into and out of the connectors on the break away wiring harness and the brake signal wire.

With this in mind, choose a suitable location for the end of the break away harness and the end of the brake signal wire – both connectors must be within easy reach, but must not present an obstacle or hazard to the driver of the vehicle, or otherwise interfere with the operation of the vehicle.

If necessary, coil the break away harness and/or the brake signal wire. Then, attach them at the point you have selected, using one or more of the included wire ties to secure them in place.

## Step F

### Install the motorhome monitor LED

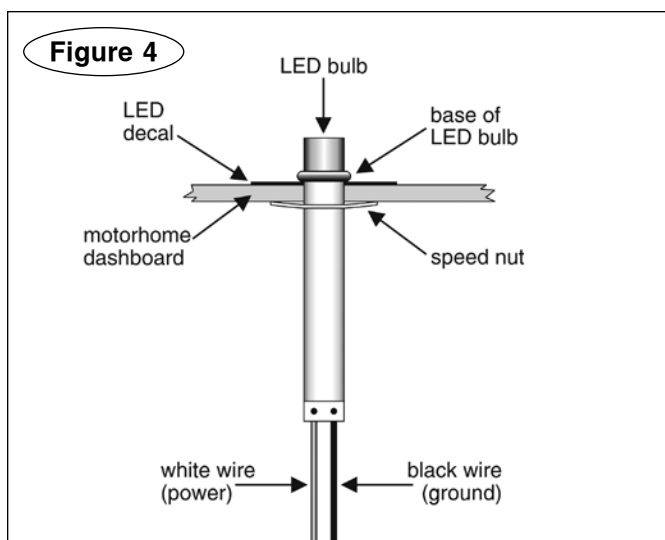
*Note: there are two lengths of black wire in this kit, each with a female bullet connector at one end. Use the long length of wire in this step.*

*Note: some motorhomes are manufactured with auxiliary wires pre-strung from the rear of the motorhome to the dashboard, for aftermarket accessories such as this. Call the manufacturer.*

1. Attach the end of the black wire with the female bullet connector to the back of the motorhome, near the electrical socket.

Attach the connector with one or more of the included wire ties. Allow enough slack so that a male bullet connector can be plugged into and out of it.

*Note: in Step C, you may have chosen to use open terminals on the electrical sockets to connect the*



*monitor wiring between the two vehicles. If this is the case, cut the female bullet connector off, and attach the monitor wire to the open terminal on the motorhome electrical socket.*

2. Once the female bullet connector is attached, route the wire from the back of the motorhome to the underside of the dashboard. Avoid lines, hoses, moving parts (slideouts, sliding generators, sliding battery trays) or “hot” components such as exhaust systems. Where appropriate, use wire ties to secure the wire to the undercarriage.

3. Choose an area on the dashboard to mount the LED. Look for a mounting point away from pre-existing wires or components, where the LED can be easily seen by the driver.

4. Drill a 5/16" hole through the dashboard at the point you have chosen. Before drilling, make certain you will not damage any components on the other side.

5. Center the LED decal (Figure 4) over the hole, and press it down. Or, you may choose to omit the decal, depending on your preferences.

6. From the top of the dashboard, slide the LED through the hole, wires first, until the base of the bulb (Figure 4) is flush to the top of the dash.

7. From the underside of the dash, fit both of the wires through the speed nut (Figure 4). Then push the speed nut up, against the dash, to secure the LED in place.

8. Using one or more of the supplied wire ties, attach the audio signal circuit board (see “Components,” page two) to the underside of the dash, as close to the LED as possible.

9. Connect to power – trim the black wire, which you routed from the back of the motorhome. (Save the excess; you may use it in the next step.) Then, connect the black wire to both the red LED wire and the red audio signal wire, using the included butt connector.

10. Connect to ground – connect the black wire from the LED, as well as the black wire from the audio signal circuit board, to any good chassis ground, using the included ring terminal. (If necessary, use any excess wire from the preceding step to extend the length of the two ground wires.)

## Step G

### Test the braking system

*Note: the motorhome and towed vehicle must be stationary for the system test, and ready for towing – all components of the braking system must be properly connected and receiving power. Then, according to the manufacturer, make all adjustments necessary to pre-*

*continued on next page*



# INITIAL INSTALLATION

## Test the braking system

*continued from preceding page*

pare the vehicle for towing. These adjustments may include: turning the ignition key to the “tow” position; pulling fuses; disconnecting the battery; and setting the transmission to a particular gear or in a particular sequence.

Refer to the owner’s manual, or call the dealership or the manufacturer for vehicle-specific information.

1. Connect AddaBRAKE according to the instructions in the next section in this manual – “Day-to-day operation.”

2. Confirm the proper operation of the supplemental braking system: depress and hold the motorhome’s brake pedal down. The AddaBRAKE air cylinder shaft and pedal clamp will extend (after approximately two seconds). Then, release the brake pedal. At the towed vehicle, the AddaBRAKE air cylinder shaft and pedal clamp will retract.

### CAUTION

If the vehicle will be (or has been) wired for towing (as opposed to installing a taillight wiring kit or magnetic tow lights), diodes must be attached in order for AddaBRAKE to release the towed vehicle’s brakes in tandem with the motorhome. If diodes are not attached, AddaBRAKE will apply braking pressure for approximately 15 seconds each time the motorhome brakes are applied, regardless of when the motorhome brakes are released.

Damage to the towed vehicle’s braking system, as well as other consequential damage, may occur.

Refer to step 10 under “Before you begin the initial installation” for additional information.

3. Confirm that the motorhome monitor is functioning: the LED will illuminate after the motorhome’s brake pedal is depressed (after approximately two seconds), and stop illuminating when the brake pedal is released.

### WARNING

#### If the LED does not illuminate...

...it may indicate that AddaBRAKE is wired incorrectly. If AddaBRAKE is wired incorrectly, it will not brake the towed vehicle in tandem with the motorhome. Insufficient braking pressure will lengthen stopping distance, and may also cause a loss of vehicular control.

Refer to the ‘Troubleshooting’ section (under ‘Electrical’) for possible causes. If AddaBRAKE has been incorrectly wired, identify and correct the mistake, then test to ensure that AddaBRAKE

functions properly.

**Failure to follow these instructions may cause property damage, personal injury or even death.**

4. Confirm the proper operation of the extended braking mode: depress and hold the motorhome’s brake pedal down. The AddaBRAKE air cylinder shaft and pedal clamp will extend. After approximately 15 seconds, the air cylinder shaft and pedal clamp will retract.

5. Confirm the proper operation of the audio alert: depress and hold the towed vehicle’s brake pedal down. After approximately 20 seconds, the motorhome monitor will activate the audio alert. (To cancel the audio alert, release the towed vehicle’s brake pedal.)

6. Confirm that the motorhome turn signals do not activate AddaBRAKE.

### CAUTION

An incorrect flasher speed may activate AddaBRAKE unnecessarily, causing excessive brake wear or other consequential, non-warranty damage.

If the turn signals activate AddaBRAKE, check the turn signal flasher rating – it may be inadequate for the motorhome-towed vehicle combination. If this is the case, replace the flasher with one rated at or above the number of bulbs in the motorhome-towed vehicle combination.



## CAUTION – for Saturn Vue and other vehicles – If the towed vehicle’s engine must be started periodically...

Always deplete the vacuum in the vehicle’s power brake system BEFORE YOU RESUME TOWING. If the vacuum is not released, AddaBRAKE will apply excessive force when it is activated, which will cause severe tire and/or brake system damage to the towed vehicle. Refer to the caution statement on pages 19 and 20 for further information.

# DAY-TO-DAY OPERATION

This section contains detailed operating instructions. Refer to this section until you become familiar with each step. (Before connecting or disconnecting AddaBRAKE, also refer to the “Quick Reference Checklist” for additional warnings and cautions.)

## Step A Attach the pedal clamp

1. Connect and attach the tow bar to both vehicles (according to the manufacturer’s instructions). Then, shift the towed vehicle’s transmission into the proper gear for towing (also according to the manufacturer’s instructions).

### CAUTION

To prevent the towed vehicle from rolling, connect and attach the tow bar to both vehicles before shifting the towed vehicle’s transmission into the proper gear for towing.

2. Slide the driver’s seat back, as far as it will go.

3. Attach the adjustable seat pad to AddaBRAKE – screw the adjustment knob (see “Components,” page two) through the seat pad and into either of the two anchor holes at the back of AddaBRAKE. (You will adjust the seat pad in a later step.)

*Note: depending on the available space in the towed vehicle, the adjustable seat pad may be eliminated, if that provides the best fit. Before attaching the seat pad, test-fit AddaBRAKE, according to step 4 below, to see if this is the case.*

4. Now, position AddaBRAKE between the driver’s seat and the brake pedal, at the approximate position it will sit when connected to the brake pedal.

*Note: rubberized floor mats will cause AddaBRAKE to “climb” the driver’s seat. If the vehicle has a rubberized floor mat, remove it when towing.*

*Note: if the towed vehicle has a steering wheel tilt latch, it may be easier to position AddaBRAKE with the steering wheel tilted up.*

### WARNING

Seat and/or pedal positioning systems may affect the towed vehicle braking system.

Determine if the vehicle to be towed is equipped with pedal presets and/or automatic seat adjustments. Proper installation of the braking system may be affected by these presets; if the vehicle is so equipped, note the original installed position and return to that position before towing the vehicle.

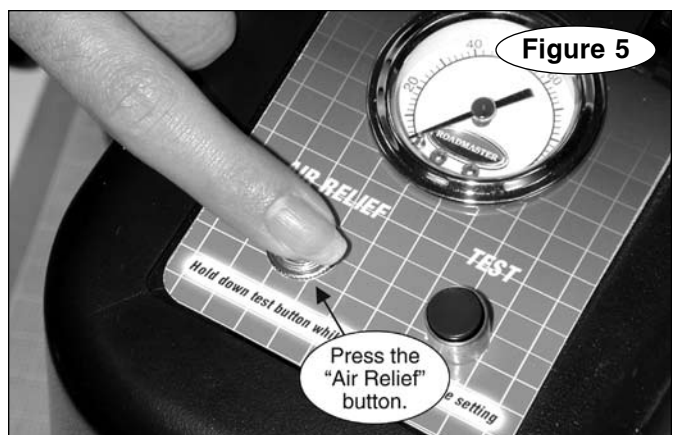
If the seat and/or brake pedal are not at the original installed position when the vehicle is towed, the pedal clamp may apply excessive braking force, which will damage the brake system and/or electrical system and may cause brake or electrical system failure, as well as other non-warranty damage.

Failure to follow these instructions may cause property damage, personal injury or even death.

5. Press the air relief button (Figure 5) to make certain that all of the air in the AddaBRAKE air reservoir has been released. If there is air in the reservoir, continue to hold the button down until the air is released – air in the reservoir will prevent the cylinder from extending when you connect the brake pedal clamp to the towed vehicle’s brake pedal.

6. Continue to hold the air relief button down, and pull forward on the pedal clamp, to extend the air cylinder shaft. Release the air relief button.

*continued on next page*



# DAY-TO-DAY OPERATION

## Attach the pedal clamp

*continued from preceding page*

7. Pull the hairpin clip (Figure 6) out, then lift the slotted arm (Figure 6) up and out of the way.

8. Verify that the pedal clamp is right side up, as shown in Figure 6 – the arrow on the sticker will point “Up” when the pedal clamp is properly positioned.

9. Then, hold the clevis (Figure 7) and pull back on the spring post (Figure 7), until the tabs under the pedal clamp are wide enough to clear the brake pedal.

10. Fit the pedal clamp onto the brake pedal, so that all four tabs are hooked around it (Figure 8). Then, release the spring post.

*Note: on the initial fitting, it may be necessary to adjust the tabs on the pedal clamp – use pliers to bend any or all of the tabs so that they hook around and under the towed vehicle’s brake pedal.*

*Once the tabs have been adjusted to a specific brake pedal, no further adjustment to the pedal clamp is necessary for that vehicle.*

*For every subsequent vehicle, inspect the pedal clamp on the initial fitting. Verify that all four tabs are hooked around and under the brake pedal. If necessary, bend the tabs to fit, as described above.*

## CAUTION

**Make certain that all four tabs on the pedal clamp are securely hooked around the brake pedal. If the tabs are loose, the pedal clamp can rotate out of position and hold the brake pedal down, even when AddaBRAKE is not activated, which will cause brake damage or other consequential, non-warranty damage.**

11. Swing the slotted arm back over the spring post, fit the spring post through one of the slots, and reattach the hairpin clip (Figure 8).

*Note: the spring post may be bent slightly with a pair of pliers, if necessary, in order to fit it through one of the slots.*

## Step B

### Adjust the feet and the seat pad

1. Now that the pedal clamp is in place, move AddaBRAKE forward, until the air cylinder shaft is fully retracted (Figure 9). Make certain that AddaBRAKE is not depressing the towed vehicle’s brake pedal.



**WARNING**

**Do not move AddaBRAKE too far forward, to the**

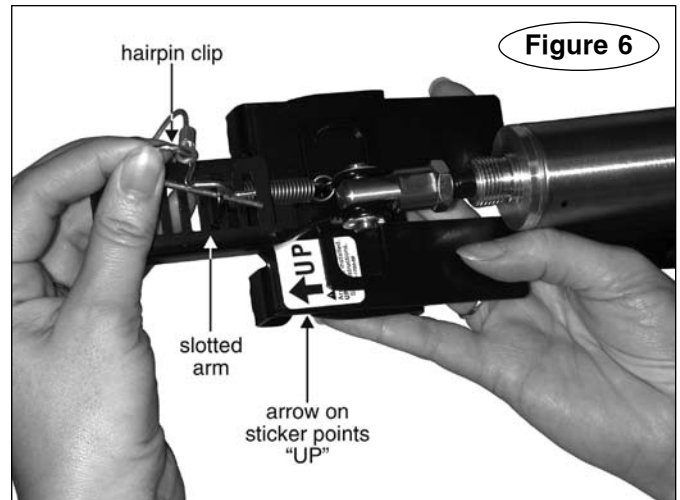


Figure 6

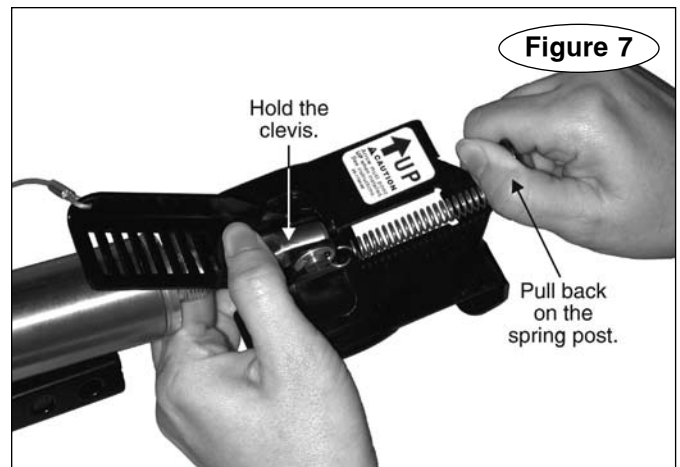


Figure 7

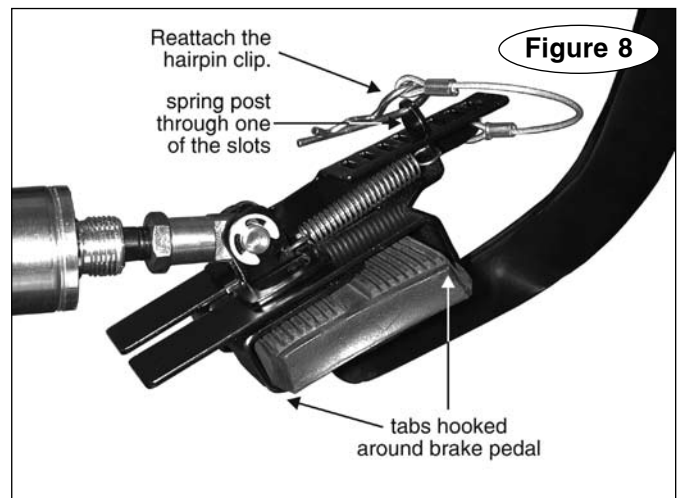


Figure 8

**extent that the pedal clamp is depressing the brake pedal. If the brake pedal is depressed, the brakes will be applied continuously, which will cause severe tire and/or brake system damage, as well as other consequential, non-warranty damage.**

**Failure to follow these instructions may cause property damage, personal injury or even death.**

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# DAY-TO-DAY OPERATION

## Adjust the feet and the seat pad

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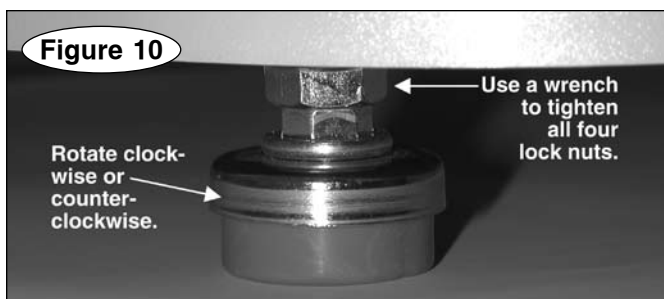
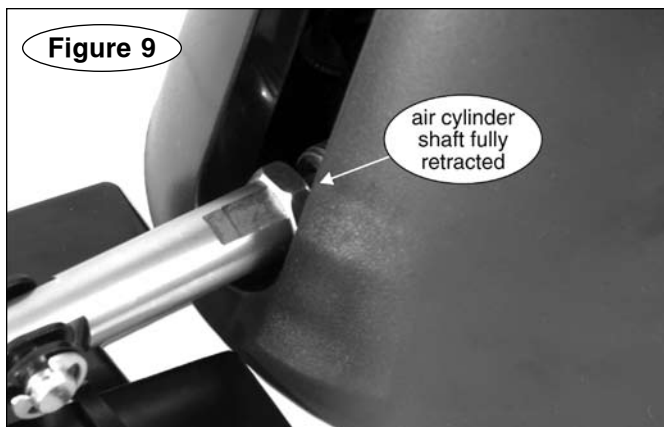
2. If necessary, adjust the feet on the bottom of AddaBRAKE (one at each corner – Figure 10) up or down: with a wrench, loosen the lock nut at the top of each foot, and then turn them clockwise or counterclockwise. Make certain that all four feet are making contact with the floor of the vehicle, and that AddaBRAKE is stationary – it should not rock back and forth. (In some vehicles, it may be necessary to remove one or more of the feet, or it may be necessary to add one or more optional foot extensions – see the “Optional Equipment” section in this manual.)

3. With a wrench, tighten the lock nut at the top of each foot extension (Figure 10).

### CAUTION

**Unless the lock nuts are tightened with a wrench, the feet may vibrate loose during towing, and AddaBRAKE may shift from the installed position. Unless AddaBRAKE is properly positioned, it will not function at full capacity – the pedal clamp will not apply the proper braking pressure against the brake pedal.**

4. Find a bracing point on the front of the driver’s seat for the adjustable seat pad – the seat pad stabilizes AddaBRAKE, keeping it down as it presses against the brake pedal. Press the front of the seat to find the firmest point for the seat pad.



*Note: do not brace the adjustable seat pad against plastic trim. The plastic will crack when AddaBRAKE is activated.*

Now that you have selected a bracing point for the adjustable seat pad, loosen the adjustment knob (see “Components,” page two) at the back of the seat pad, and move the seat pad up or down until the top of the seat pad matches the height of the bracing point.

*Note: the seat pad may be rotated 180 degrees or removed entirely for a better fit. There are also two anchor holes that the adjustment knob on the seat pad may be threaded into, for additional fit options.*

Once the height is adjusted, tighten the adjustment knob on the seat pad.

5. Next, slide the driver’s seat forward, until it just touches the adjustable seat pad. If necessary, allow a small gap, rather than allowing AddaBRAKE to depress the brake pedal. Make certain that AddaBRAKE is not depressing the towed vehicle’s brake pedal.

### ⚠ WARNING

**The driver’s seat must not be too far forward, to the extent that the AddaBRAKE pedal clamp is depressing the towed vehicle’s brake pedal.**

**If the brake pedal is depressed, the brakes will be applied continuously, which will cause severe tire and/or brake system damage, as well as other consequential, non-warranty damage.**

**Failure to follow these instructions may cause property damage, personal injury or even death.**

## Step C

### Plug in the power cord

#### CAUTION

Check the 12-volt outlet socket before plugging in the AddaBRAKE 12-volt power cord, to make certain that the socket has been wired correctly. The contact point at the bottom of the socket should be positive, and the outer shell around the top of the socket should be negative. If the positive and negative connections have been reversed, the fuse in the AddaBRAKE power cord will blow when the cord is plugged into the 12-volt outlet.

1. Plug the 12-volt power cord into the 12-volt outlet, and secure it by pressing the cord lock (Figure 11) into the 12-volt outlet.

*continued on next page*



# DAY-TO-DAY OPERATION

## Plug in the power cord

*continued from preceding page*

### CAUTION

**Push the cord lock forward, into the 12-volt outlet, to properly secure the 12-volt power cord. If the cord lock is not over the 12-volt outlet, the power cord may vibrate loose, causing a loss of power or an intermittent power supply. AddaBRAKE will not function without a continuous power supply.**

2. Now, the red light on the 12-volt power cord should illuminate. (One of the four LEDs under the “Pressure” button will also illuminate, to indicate the current brake pressure setting. You will adjust this setting in Step E – “Set the brake pressure.”)

If the red light on the 12-volt power cord does not illuminate, there is no power.

Some vehicles only have power at the outlet when the engine is running. If there is no power, you can install ROADMASTER’s optional 12-volt outlet kit (part number 9332). When installed, this outlet kit will provide power even when the engine is off.

3. When the power cord is plugged in, the air compressor will run until the air reservoir is filled. Wait for the air reservoir to fill before pressing the “Test” button (Step D, next).

## Step D

### Test and adjust positioning; deplete the vacuum in the power brakes

Before towing, always press the “Test” button down, then release it – AddaBRAKE will cycle the pedal clamp up and down three times.

This test cycle is necessary for two reasons: 1) to ensure that AddaBRAKE is positioned correctly; and 2) to deplete any stored vacuum in the towed vehicle’s power brake system.

### CAUTION

**Always deplete the stored vacuum in the towed vehicle’s power brake system before towing – press the “Test” button down, then release it, to cycle the pedal clamp up and down three times.**

Depending on the make and model of the towed vehicle, it may be necessary to repeat the test cycle a second time.

**If the vacuum is not released, AddaBRAKE will apply excessive braking force when it is activated, which will cause severe tire and/or brake system damage to the towed vehicle.**

1. Press down on the “Test” button (Figure 12), then release it. AddaBRAKE will cycle the pedal clamp up and down three times.

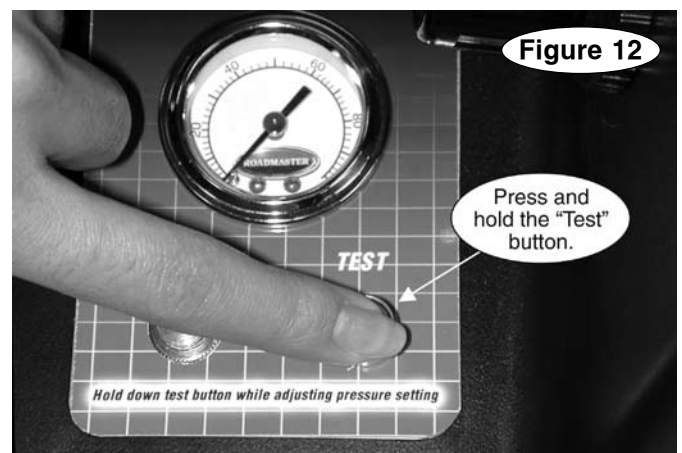
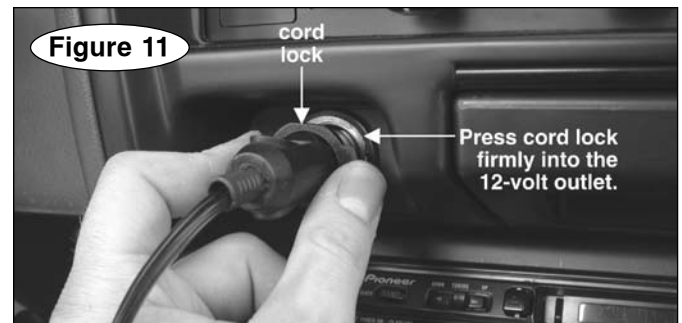
If AddaBRAKE moves excessively, or interferes with seat position controls, adjust its position. Check the adjustable seat pad and readjust it, if necessary.

### CAUTION

**If the adjustable seat pad is not properly positioned, AddaBRAKE can “climb” up the driver’s seat – the rear of the box will rise up off the floor.**

**Unless AddaBRAKE is properly positioned, it will not function at full capacity – the pedal clamp will not apply the proper braking pressure against the brake pedal.**

**Check the adjustable seat pad after the pedal clamp has cycled during a test. If the rear of the box has “climbed” the driver’s seat, readjust the seat pad so that AddaBRAKE cannot “climb.”**



# DAY-TO-DAY OPERATION

## Step E

### Set the brake pressure

The brake pressure setting is the amount of force AddaBRAKE will apply to the towed vehicle's brakes. The setting is based on weight – the weight of the towed vehicle, plus the weight of all its contents.

*Note: 1999 and newer Jeep Grand Cherokees are set to 45 psi, regardless of the weight.*

Refer to the "Brake Pressure Chart" (below) to find the maximum brake pressure setting for your vehicle. Initially, set brake pressure near (but not above) the maximum recommended value.

The degree to which this setting will affect the motorhome will vary, depending on the size and weight of the motorhome in comparison to the size and weight of the towed vehicle. A sharp pull at the motorhome may indicate that the brake pressure is set too high. Or, even if the pressure is set correctly, you may prefer to lower the setting until the towed vehicle brakes with less force.

### WARNING

**Do not set brake pressure above the maximum recommended value. If brake pressure is set above the maximum, AddaBRAKE will apply excessive force to the towed vehicle's brake pedal, which will cause tire and/or brake system damage, as well as other consequential, non-warranty damage.**

**Conversely, do not lower the brake pressure setting to the point that it negates the benefit of the supplemental braking system. Insufficient brake pressure will lengthen stopping distance, and may also cause a loss of vehicular control.**

**Failure to follow these instructions may cause property damage, personal injury or even death.**

1. Pull out on the regulator control knob (Figure 13) to

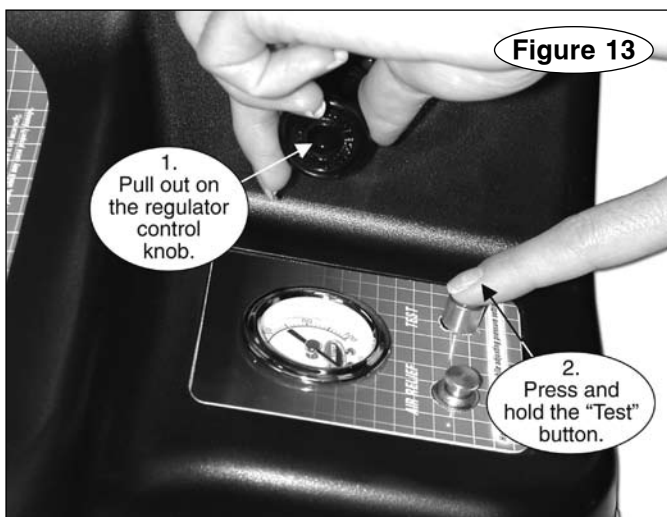


Figure 13

unlock it.

2. Then, press and hold the "Test" button down (Figure 13). If the air reservoir is not completely filled, wait for the air compressor to fill the reservoir.

3. Next, turn the regulator control knob clockwise to increase the braking pressure, or counterclockwise to decrease the braking pressure.

4. When the needle on the pressure gauge matches the pressure setting you have chosen, release the "Test" button. Then, push the regulator control knob down to lock it in place.

It is only necessary to set the braking pressure once – after the pressure has been set, AddaBRAKE will always brake with the same force.

5. To check the brake pressure, press and hold the "Test" button down. As the pedal clamp extends, the needle on the gauge will point to the selected pressure setting.

## Step F

### Connect the wiring harness; test the break away system

1. Connect the AddaBRAKE wiring harness to the break away wiring harness (two-prong connectors) and the brake signal wire (bullet connectors).

2. At the towed vehicle, clip the steel break away cable (Figure 1) to the large ring on the break away pin (Figure 1), then clip the other end of the steel break away cable to the rear of the motorhome, close to the center.

*continued on next page*

### Brake Pressure Chart

Weight of towed vehicle and all its contents	Maximum recommended pressure setting
1,500-2,000 pounds.....	25 psi
2,000-2,500 pounds.....	35 psi
2,500-3,000 pounds.....	35 psi
3,000-3,500 pounds.....	40 psi
3,500-4,000 pounds.....	45 psi
4,000-4,500 pounds.....	50 psi
4,500-5,000 pounds.....	55 psi
over 5,000 pounds.....	60 psi

### For Jeep Grand Cherokee...

Towed vehicle	Maximum recommended pressure setting
Jeep Grand Cherokee .....	45 psi (1999 and newer)



# DAY-TO-DAY OPERATION

## Connect the wiring harness; test the break away system

*continued from preceding page*

3. Periodically, test the break away system – pull the break away pin out of the break away switch. The AddaBRAKE pedal clamp will extend when the pin is pulled. Insert the pin back into the switch. The AddaBRAKE pedal clamp will retract.

### **WARNING**

**When connecting the break away system, always check the following:**

- **Connect the cable at the rear of the motorhome, close to the center. Connecting the cable toward either side of the motorhome may cause the break away pin to be pulled when the motorhome turns, activating the break away system.**
- **Be certain there are no obstructions which would prevent the cable from pulling freely away from the break away switch. Do not wrap the cable around anything – doing so could keep the cable from pulling the break away pin, preventing the system from activating in a break away.**
- **Make sure the cable is the correct length...**
  - **The cable must be long enough to prevent the break away pin from being pulled out during normal towing – make certain there is enough slack to allow for sharp turns. If the cable is not long enough, the break away system will activate even though the towed vehicle has not detached.**
  - **The break away cable must be longer than the safety cables. This will prevent the break away system from activating if a component of the towing system has separated, but the towed vehicle is still held by the safety cables.**
  - **Make certain that the cable is not too long – it should not hang down to the extent that it may catch on obstructions, or drag on the ground. This much slack could allow the cable to be pulled inadvertently, activating the break away system.**
  - **If you have a telescoping tow bar, allow enough slack for the tow bar arms to be fully extended.**
- **Leave the break away pin in place, even when the vehicle is not being towed. If the pin is not in place when AddaBRAKE is connected, the break away system will be activated – the air cylinder will extend and will not retract.**

**Failure to follow these instructions may cause property damage, personal injury or even death.**

## Step G Connect the motorhome monitor patch cord

*Note: if both ends of the monitor wiring harness were connected to open terminals on the electrical sockets, the motorhome monitor patch cord is unnecessary. Refer to Steps C and F under “Initial Installation.”*

1. At the towed vehicle, connect a male bullet connector on the patch cord to the female bullet connector on the motorhome monitor wiring harness.

At the back of the motorhome, connect the other male bullet connector on the patch cord to the female connector on the motorhome monitor wiring harness.

Allow enough slack to prevent the patch cord from being pulled loose when the motorhome turns. If the cord is too long, wrap it around the towed vehicle-to-motorhome electrical cord.

## Step H Test the braking system

*Note: the motorhome and towed vehicle must be stationary for the system test, and ready for towing – all components of the braking system must be properly connected and receiving power. Then, according to the manufacturer, make all adjustments necessary to prepare the vehicle for towing. These adjustments may include: turning the ignition key to the “tow” position; pulling fuses; disconnecting the battery; and setting the transmission to a particular gear or in a particular sequence.*

*Refer to the owner’s manual, or call the dealership or the manufacturer for vehicle-specific information.*

1. Confirm the proper operation of the supplemental braking system: depress and hold the motorhome’s brake pedal down. The AddaBRAKE air cylinder shaft and pedal clamp will extend (after approximately two seconds). Then, release the brake pedal. At the towed vehicle, the AddaBRAKE air cylinder shaft and pedal clamp will retract.

2. Confirm that the motorhome monitor is functioning: the LED will illuminate after the motorhome’s brake pedal is depressed (after approximately two seconds), and stop illuminating when the brake pedal is released.

### **WARNING**

#### **If the LED does not illuminate...**

**...at any time when the motorhome brake pedal is depressed, it may indicate that AddaBRAKE is not functioning. If AddaBRAKE is not functioning,**

*continued on next page*

# DAY-TO-DAY OPERATION

## Test the braking system

*continued from preceding page*

**it will not brake the towed vehicle in tandem with the motorhome, which will lengthen stopping distance, and may also cause a loss of vehicular control.**

**Refer to the 'Troubleshooting' section (under 'Electrical') to identify and correct the cause of the malfunction, then test to ensure that the LED and AddaBRAKE are both operating properly.**

**Failure to follow these instructions may cause property damage, personal injury or even death.**

3. Confirm the proper operation of the extended braking mode: depress and hold the motorhome's brake pedal down. The AddaBRAKE air cylinder shaft and pedal clamp will extend. After approximately 15 seconds, the air cylinder shaft and pedal clamp will retract.

4. At the initial installation, and periodically thereafter, confirm the proper operation of the audio alert: depress

and hold the towed vehicle's brake pedal down. After approximately 20 seconds, the motorhome monitor will activate the audio alert. (To cancel the audio alert, release the towed vehicle's brake pedal.)

5. At the initial installation, and periodically thereafter, confirm that the motorhome turn signals do not activate AddaBRAKE.

### CAUTION

**An incorrect flasher speed may activate AddaBRAKE unnecessarily, causing excessive brake wear or other consequential, non-warranty damage.**

**If the turn signals activate AddaBRAKE, check the turn signal flasher rating – it may be inadequate for the motorhome-towed vehicle combination. If this is the case, replace the flasher with one rated at or above the number of bulbs in the motorhome-towed vehicle combination.**

# PROTECTION MODES

AddaBRAKE has two built-in safeguards to protect the towed vehicle's brakes. These protection modes are described below.

## Extended braking protection

To protect the towed vehicle's brakes, AddaBRAKE will automatically release braking pressure after an extended period of continuous braking.

To regain supplemental braking in the towed vehicle, release and depress the motorhome's brake pedal.

*Note: activating the exhaust brakes in some motorhomes may also illuminate the motorhome brake lights. If this is the case, AddaBRAKE will be activated with the exhaust brakes, and will automatically release braking pressure after an extended period of continuous braking.*

*To regain supplemental braking in the towed vehicle, and use an exhaust brake system of this type, cycle the exhaust brakes on and off.*

## Responding to an audio alert

If, for any reason, AddaBRAKE is depressing the towed vehicle's brake pedal continuously for approximately 20 seconds, the motorhome monitor will signal you with an audio alert.

In addition to the audio alert, the monitor LED will be illuminated continuously.

Stop immediately after an audio alert from the monitor. The audio alert and illuminated LED are indicating that the towed vehicle's brake pedal is being depressed. Significant brake system damage to the towed vehicle, as well as other consequential damage, may result.

Identify and correct the cause of the audio alert before using AddaBRAKE.

### WARNING

**If the monitor signals you with an audio alert, stop immediately. Identify and correct the cause of the audio alert before using AddaBRAKE.**

**Failure to respond to an audio alert, as indicated above, may cause property damage, personal injury or even death.**

# QUICK REFERENCE CHECKLIST

Once the other components of your supplementary braking system have been installed, follow the steps below to connect AddaBRAKE to the towed vehicle; see the next page to disconnect AddaBRAKE. For more detailed information, refer to the appropriate section under “Day-to-day operation.”

## Connecting AddaBRAKE

1. Slide the driver’s seat back, as far as it will go.
2. Position AddaBRAKE between the driver’s seat and the brake pedal, at the approximate position it will sit when connected to the brake pedal.
3. Press the air relief button (Figure 5) to make certain that all of the air in the AddaBRAKE air reservoir has been released.
4. Attach the pedal clamp to the brake pedal.
5. Move AddaBRAKE forward, until the air cylinder shaft (Figure 9) is fully retracted.
6. Slide the driver’s seat forward, until it just touches the AddaBRAKE adjustable seat pad. If necessary, allow a small gap, rather than allowing AddaBRAKE to depress the brake pedal.

### WARNING

**The driver’s seat must not be too far forward, to the extent that the AddaBRAKE pedal clamp is depressing the towed vehicle’s brake pedal.**

**If the brake pedal is depressed, the brakes will be applied continuously, which will cause severe tire and/or brake system damage, as well as other consequential, non-warranty damage.**

**Failure to follow these instructions may cause property damage, personal injury or even death.**

7. Plug in the 12-volt power cord, and secure it by pressing the cord lock (Figure 11) into the 12-volt outlet.

When the power cord is plugged in, the air compressor will run until the air reservoir is filled.

8. Once the air reservoir is filled, press and release the “Test” button (Figure 12). The pedal clamp will cycle up and down three times.

If AddaBRAKE moves excessively, or interferes with seat position controls, adjust its position. Check the adjustable seat pad and readjust it, if necessary.

### CAUTION

**Always deplete the stored vacuum in the towed vehicle’s power brake system before towing – press the “Test” button down, then release it, to cycle the pedal clamp up and down three times.**

**Depending on the make and model of the towed vehicle, it may be necessary to repeat the test cycle a second time.**

**If the vacuum is not released, AddaBRAKE will apply excessive braking force when it is activated, which will cause severe tire and/or brake system damage to the towed vehicle.**

9. Connect the AddaBRAKE wiring harness to the break away wiring harness and the brake signal wire.
10. Connect the break away cable to the front of the towed vehicle and to the rear of the motorhome. Periodically, test the break away system.
11. Connect the monitor patch cord to the front of the vehicle and to the rear of the motorhome.

*Note: this step is unnecessary if the monitor wiring was connected to the electrical sockets in the towed vehicle and the motorhome. Refer to Steps C and F under “Initial Installation.”*

12. Test to confirm the proper operation of the pedal clamp, the motorhome monitor LED, and the extended braking protection mode. (Periodically, confirm the proper operation of the monitor audio alert, and that the motorhome turn signals do not activate AddaBRAKE.)

13. Make certain that the towed vehicle’s emergency brake is released.

### WARNING

**Failure to release the towed vehicle’s emergency brake before towing will result in severe tire and brake damage, or a brake system fire, or other consequential damage. Damage caused by towing a vehicle with its emergency brake on is not covered under warranty.**

**Failure to follow these instructions may cause property damage, personal injury or even death.**

### CAUTION

**AddaBRAKE is designed to work with a ‘dead’ brake pedal. Do not leave the vehicle’s engine running while towing, as this will allow the power brakes to function. The power brakes will cause excessive braking in the towed vehicle, resulting in non-warranty brake system and tire damage. Disconnect AddaBRAKE if, for any reason, you must tow with the engine running.**

### CAUTION

**If the towed vehicle’s engine must be started periodically (according to the manufacturer’s instruc-**

*continued on next page*

# QUICK REFERENCE CHECKLIST

## Connecting AddaBRAKE

*continued from preceding page*

tions), and AddaBRAKE is installed, stop the motorhome while the towed vehicle's engine is running.

Once the towed vehicle's engine is turned off, press the AddaBRAKE "Test" button down, then release it, to cycle the pedal clamp up and down three times.

Depending on the make and model of the towed vehicle, it may be necessary to repeat the test cycle a second time.

If the stored vacuum in the towed vehicle's power brake system is not released in this manner, AddaBRAKE will apply excessive braking force when it is activated, which will cause severe tire and/or brake system damage to the towed vehicle.

## CAUTION

Charge the towed vehicle's battery (with a battery charger or by running the engine) after towing.

AddaBRAKE draws power from the towed vehicle's battery. Depending on the age and condition of the battery, AddaBRAKE may drain the battery completely if it is not charged.

## Disconnecting AddaBRAKE

1. Pull on the cord lock (Figure 11) to release it, and unplug the 12-volt power cord.

2. Disconnect the AddaBRAKE wiring harness from the break away wiring harness and the brake signal wire.

3. Move the driver's seat back, as far as it will go.

4. Press and hold the air relief button (Figure 5) until all the air in the air reservoir is released. If necessary, continue to hold the air relief button and move AddaBRAKE back, to allow easier access to the brake pedal.

5. Detach the pedal clamp from the brake pedal.

6. Wrap the 12-volt power cord and the wiring harness around the cord holder, and lift AddaBRAKE out of the vehicle. (The adjustable seat pad can be used as a handle.)

7. Disconnect the motorhome monitor patch cord from the towed vehicle and the motorhome.

*Note: this step is unnecessary if the monitor wiring was connected to the electrical sockets in the towed vehicle and the motorhome. Refer to Steps C and F under "Initial Installation."*

8. Disconnect the break away cable (Figure 1) from the front of the towed vehicle and the motorhome. Do not remove the large ring and pin from the break away switch.

## CAUTION

Leave the break away pin in place (on the ring), even when the vehicle is not being towed.

If the pin is not in place when AddaBRAKE is connected, the break away system will be activated – the air cylinder will extend and will not retract.

# TROUBLESHOOTING

## Symptom

AddaBRAKE doesn't fit properly in the towed vehicle.

The pedal clamp doesn't fit the brake pedal securely.

The air cylinder shaft will not extend to connect the pedal clamp to the brake pedal.

The pedal clamp does not extend to the brake pedal, when AddaBRAKE is properly installed.

The brake pedal clamp comes into contact with the AddaBRAKE housing.

The towed vehicle's seat moves after AddaBRAKE depresses the brake pedal.

AddaBRAKE "climbs" up the seat.

After towing, there is excessive brake dust on the wheels of the towed vehicle, and/or an unusual odor near the towed vehicle's brakes.

## Question

How do I increase or decrease braking power?

## Symptom

The first time AddaBRAKE is activated, the towed vehicle brakes with excessive force, 'flat-spotting' the tires.

## Solution

### Positioning

Use one or more foot extensions to elevate AddaBRAKE over obstructions such as duct work, a door jamb or a center console that juts into the available space. (Refer to the "Optional Equipment" section.)

Use a pair of pliers to bend the tabs of the pedal clamp for a better fit. If the pedal clamp still doesn't fit, contact ROADMASTER.

The air reservoir is full. Release the air by pressing the air relief button (Figure 5).

Use an optional air cylinder shaft extension to extend the reach of the air cylinder shaft. (Refer to the "Optional Equipment" section.)

Brake pedals that are somewhat horizontal cause the pedal clamp to tilt, and to interfere with the AddaBRAKE housing when it retracts. Use an optional air cylinder shaft extension to gain additional clearance. (Refer to the "Optional Equipment" section.)

Readjust the seat and/or the adjustable seat pad. Refer to Step B in "Day-to-day operation" – "Adjust the feet and the seat pad."

After adjusting the seat, press the "Test" button (Figure 12) down, then release it, to cycle the pedal clamp up and down three times. Watch the seat as the air cylinder shaft extends and retracts – if it still moves, adjust the seat a second time, and repeat the test cycle.

- If there is a rubberized floor mat under AddaBRAKE, remove it during towing.
- Check the position of the adjustable seat pad. The seat pad serves as an anchor point, to keep AddaBRAKE down as it presses the brake pedal. Adjust the seat pad up or down, if necessary.

### Brake pressure setting

Readjust the braking pressure to a lower setting. Refer to Step E in "Day-to-day operation" – "Set the brake pressure."

## Answer

Readjust the braking pressure to a higher or lower setting. Refer to Step E in "Day-to-day operation" – "Set the brake pressure."

## Solution

### Installed in vehicle with 'active' brakes

The vehicle may have an 'active' braking system. Refer to the caution statement on page one for information.



# TROUBLESHOOTING

## Symptom

The fuse for the towed vehicle's 12-volt outlet keeps blowing.

The compressor comes on when AddaBRAKE is plugged in, but not actually being used for braking.

Nothing happens after proper installation.

The motorhome monitor LED does not illuminate, even though the brakes in the towed vehicle are being applied.

AddaBRAKE doesn't stop braking when the motorhome brakes are released. It keeps braking for about 15 seconds.

## Solution

### Electrical

Check the 12-volt outlet fuse size. It must be rated at 15 amps or higher. If the towed vehicle's fuse is not sufficient, install the optional 12-volt outlet kit (part number 9332; refer to the "Optional Equipment" section).

AddaBRAKE's compressor may activate about every 10 minutes due to normal air dissipation. If the compressor activates repeatedly within 10 minutes or less (when not braking), contact ROADMASTER – you may have an air leak in AddaBRAKE.

- AddaBRAKE will activate within two seconds after the motorhome brake pedal has been depressed. Hold the motorhome brake pedal down for at least two seconds; check to see if AddaBRAKE activates.
- Verify that AddaBRAKE is receiving a brake light signal from the motorhome – with a test light, check for voltage at the female bullet connector (at the end of the green brake signal wire) which is plugged into the AddaBRAKE wiring harness. If there is no voltage, check the brake signal wire connections at the towed vehicle's electrical harness (Refer to "Attach the brake signal wire" under "Initial Installation.>").
- Check the towed vehicle's battery voltage. If the battery doesn't have sufficient power, AddaBRAKE will not operate.
- Check for a red light at the end of the 12-volt power cord. If there is no light, there is no power.
  - Check the fuse on the end of the 12-volt power cord. If the fuse is blown, polarity at the 12-volt outlet may be crossed, with positive connected to ground, and ground to positive. Correct the wiring, and replace the fuse in the 12-volt power cord.
- An optional 12-volt outlet kit may be required. Refer to "Before you begin the initial installation," in this manual.
- **The operating temperature range is between -2° and +150° F (-19° to +66° C). AddaBRAKE will not operate at temperatures above or below this range.**
- Hold the towed vehicle brake pedal down, for approximately 20 seconds. If the audio alert activates, then one of the two connections to the LED may have worked loose. Check both the power and the ground connections.
- Make certain that the motorhome monitor patch cord between the two vehicles is securely connected. (Or, if you have connected the monitor wiring to the towed vehicle and motorhome electrical sockets, make certain that the towed vehicle-to-motorhome electrical cord is securely connected.)
- The monitor LED is connected to the towed vehicle's brake light circuit. If the fuse in the circuit is blown, the LED will not operate. Check the towed vehicle's brake lights – if they illuminate when the brake pedal is depressed, the fuse is good.
- Verify that there is an electrical ground between the motorhome and the towed vehicle.
- Did you install the optional Brake-Lite Relay? If so, make certain that the monitor wire is connected to the towed vehicle's brake light wire **after** the brake light switch, but **before** the Brake-Lite Relay – connecting the wire anywhere else will prevent the monitor LED from functioning.

If the towed vehicle has been wired for towing (as opposed to installing a taillight wiring kit or magnetic tow lights), diodes must be attached to the wires. If diodes are not attached, electrical feedback through the brake light wire will prevent AddaBRAKE from releasing braking pressure until the extended braking protection mode overrides the brake light signal, after approximately 15 seconds.

Refer to step 10 under "Before you begin the initial installation" for additional information.

# FORD 'NEUTRAL TOW' VEHICLES

Some Ford vehicles, such as the Ford Explorer, are equipped with a 'neutral tow' kit. Use the instructions below to wire these vehicles for supplemental braking, and for towing.

## To wire the vehicle for supplemental braking...

### CAUTION

If AddaBRAKE 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. With a 12-volt meter, verify that you have found 12 VDC+.

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 14.

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 kits.

1. After you have installed a diode downstream from the brake light switch (Figure 14), wire the vehicle's turn signals, taillights and brake lights for towing by installing six diodes.

Before installing the diodes, verify that the towed vehicle has *separate* brake and turn signals – on each side, there are amber or red turn signal lights which are *separate* from the brake lights (Figure 2).

*Note: if the motorhome has combined brake and turn signals, use Figure 15 to wire the towed vehicle. If the motorhome has separate brake and turn signals, visit [www.roadmasterinc.com](http://www.roadmasterinc.com). Use the 'Separate towed vehicle to 'separate' motorhome' wiring diagram, under 'Support.'*

*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 Figure 15.*

*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*

*continued on next page*

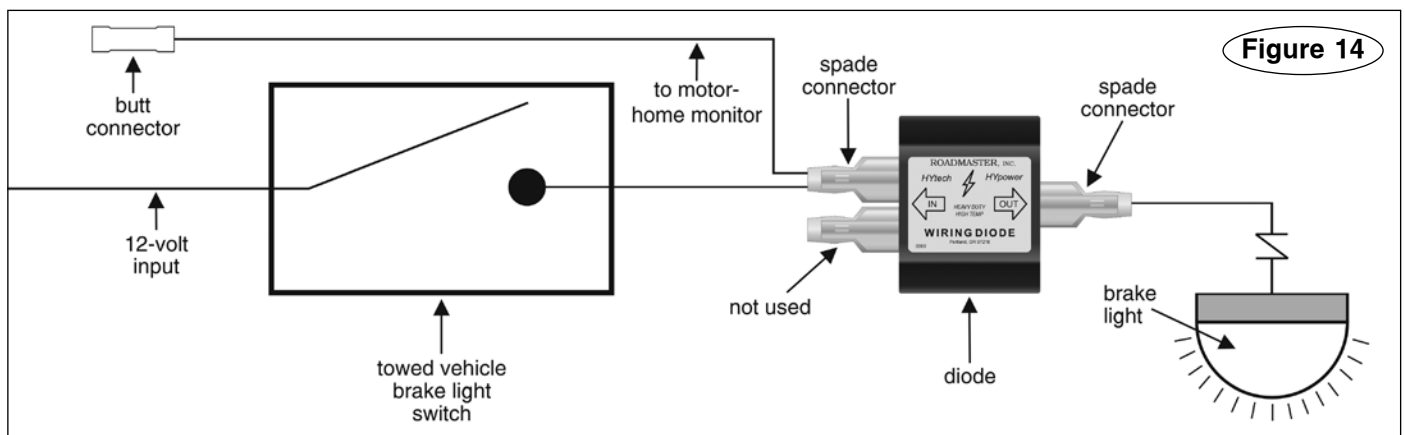


Figure 14

# FORD 'NEUTRAL TOW' VEHICLES

## To wire the vehicle for towing...

*continued from preceding page*

*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 further 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 Figure 15.

### CAUTION

Unless the brake and turn signal diodes are jump-

ed, 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...

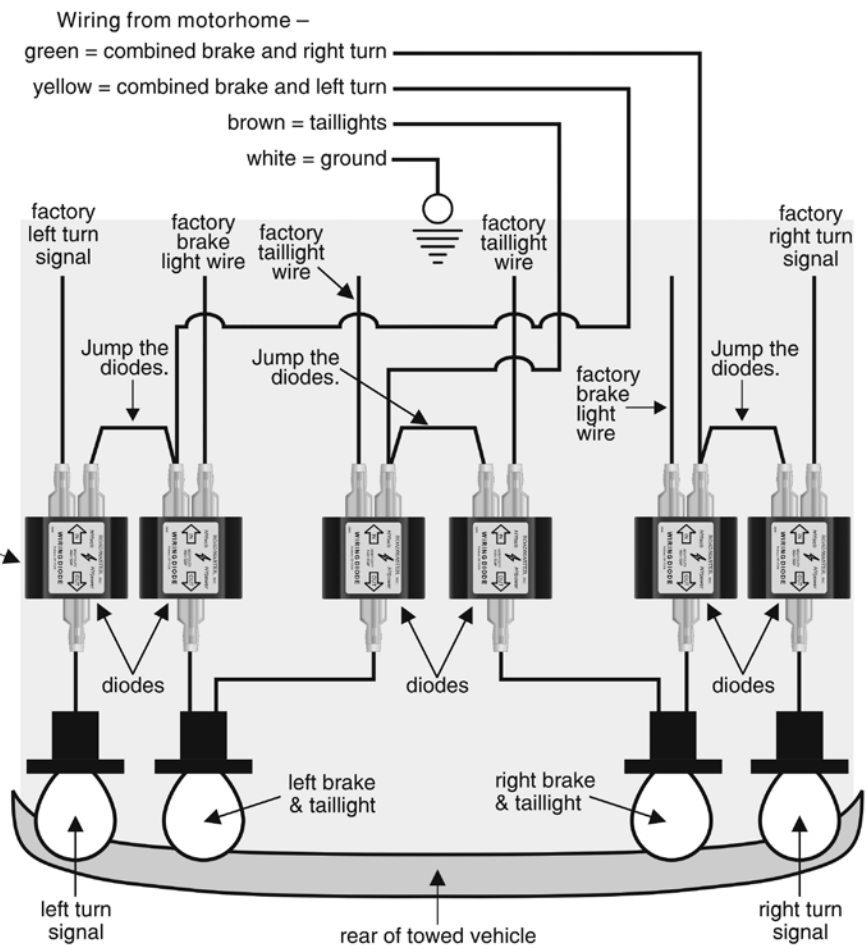
A. If the motorhome has a 'combined' lighting system...

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

2. When the motorhome's turn signal and brake signal are both on (each 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.

**Figure 15**



'IN' indicates the source of electricity; 'OUT' is always to the bulb

Use spade connectors to attach the wiring to the diode.

# OPTIONAL EQUIPMENT

## 12-volt 'Y' adaptor

(part number 9330)

Use this 'Y' adaptor to connect more than one 12-volt accessory to a single 12-volt outlet.



## 12-volt extension cord

(part number 9331)

This extension cord will extend your 12-volt outlet by six feet.



## 12-volt outlet kit

(part number 9332)

AddaBRAKE is powered through the 12-volt outlet, with the ignition key turned to the "tow" position. If your vehicle has no power to the outlet with the key in this position, use this kit.

## Brake-Lite Relay

(part number 88400)

The Brake-Lite Relay allows the towed vehicle's turn signals and brake lights to work simultaneously, in conjunction with the existing towed vehicle-to-motorhome electrical connection.



## Second vehicle kit

(part number 98800)

If you switch AddaBRAKE between two vehicles, install this break away system, and monitor and brake light signal wiring (not pictured) in the second vehicle.



## Air cylinder shaft and foot extensions

Although AddaBRAKE fits most vehicles as is, with no modifications needed, it may be necessary to gain additional clearance over obstructions on the floor, or to extend the reach of AddaBRAKE to ensure a secure and stable fit.

The air cylinder shaft extensions increase the reach of AddaBRAKE. Use an air cylinder shaft extension if the distance between the driver's seat and the brake pedal is too far to maintain a secure anchor point between the seat and the adjustable seat pad.

Use one or more foot extensions to elevate AddaBRAKE over obstructions such as duct work, a door jamb or a center console that juts into the available space.



## 1 1/2" air cylinder shaft extension

(part number 9336)

This option extends the reach of the air cylinder shaft by 1 1/2 inches. It threads between the pedal clamp and the cylinder shaft.



## 3 1/2" air cylinder shaft extension

(part number 9336-3)

This option extends the reach of the air cylinder shaft by 3 1/2 inches. It threads between the pedal clamp and the cylinder shaft.



## Foot extensions

(one extension: part number 9337

four extensions: part number 9337-4)

This option allows AddaBRAKE to sit up to one inch higher in the vehicle. Unscrew the included foot, screw the extension in, and then screw the original foot into the extension.



# LIMITED WARRANTY

## 1. WARRANTY

### 1a. WARRANTY OF CONFORMITY AT TIME OF SALE

ROADMASTER, Inc. warrants that at the time of sale of this product it will be free from defects in material and manufacture and will conform to ROADMASTER'S specifications for the product.

### 1b. CONDITIONAL ONE-YEAR WARRANTY

In addition to the preceding time-of-sale warranty, if the product registration card is completely and accurately filled out and mailed to ROADMASTER within thirty (30) days of purchase, ROADMASTER will provide an additional warranty that for a period of one year after sale the product will remain in good working order, PROVIDED THAT the product is installed and maintained in accordance with ROADMASTER'S instructions and is not subjected to: (a) alteration or unauthorized repairs or repairs by anyone other than ROADMASTER or a ROADMASTER-authorized service center, (b) misuse, abuse, commercial use, or improper maintenance, (c) Acts of God (including without limitation hurricanes, tornadoes, floods, or other severe weather or natural phenomena), (d) failures due to products not supplied by ROADMASTER, or (e) other treatments, uses, or installations for which the product was not intended. This warranty extends only to the first retail purchaser-consumer of the product and is not transferable.

**EXTENDED WARRANTY PERIOD:** If ROADMASTER receives the product registration card, completely and accurately filled out, within thirty (30) days of purchase, ROADMASTER will enlarge the one-year warranty period in the preceding paragraph to a period of two years.

## 2. DISCLAIMER OF OTHER WARRANTIES

The preceding warranties are the exclusive and sole express warranties given by ROADMASTER. They supersede any prior, contrary or additional representations, whether oral or written. No agent, representative, dealer or employee has the authority to alter or increase the obligations or limitations of this warranty. Any implied warranties, including the WARRANTY OF MERCHANTABILITY and any WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, are limited in duration to thirty days or the term of the applicable express warranty provided above, whichever is longer.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

## 3. EXCLUSIVE REMEDY FOR ANY NONCONFORMITIES

If during the applicable Warranty Period, the product does not conform to the preceding Warranties, notify ROADMASTER as provided below, and within a reasonable time ROADMASTER will provide, at its option, one of the following: (1) replacement components for any nonconforming or defective product or components or (2) the percentage of the purchase price for the nonconforming product equal to the percentage of the Warranty Period remaining when ROADMASTER is notified of the nonconformity. ROADMASTER will, at its option, (a) use new and/or reconditioned parts in performing warranty repairs and making replacement products, (b) use parts or products of original or improved design in the repair or replacement. If ROADMASTER repairs or replaces a product, its

warranty continues for the remaining portion of the original Warranty Period or 60 days from the date of the return shipment to the customer, whichever is greater. All replaced products and all parts removed from repaired products become the property of ROADMASTER. ROADMASTER will not provide, and will not be liable for, labor, costs of removal or reinstallation of components, disposal, shipping, freight, taxes, or other incidental charges.

## THESE REMEDIES ARE THE EXCLUSIVE AND SOLE REMEDIES FOR ANY BREACH OF WARRANTY.

For any breach of warranty, the Owner must telephone ROADMASTER at 1-800-669-9690 within thirty (30) days after discovering the nonconformity. Do not return any product without first calling ROADMASTER and getting a return authorization number. Returned products must include the return authorization number and a copy of the original invoice, bill or other proof of the date of purchase. The date of purchase must coincide with the original warranty registration card on file. ROADMASTER will authorize (a) shipment of the product to ROADMASTER or (b) repair or replacement at the nearest warranty service center—in both cases with shipping at your expense. Do not purchase replacement parts or pay for repair labor—you will not be reimbursed. Compliance with the requirements of this paragraph is a condition to coverage under the Warranty: if these requirements are not complied with, ROADMASTER will have no obligation to provide any remedy for any breach of warranty.

## 4. DISCLAIMER OF INCIDENTAL AND CONSEQUENTIAL DAMAGES

IN NO EVENT SHALL ROADMASTER BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING FROM NONDELIVERY OR FROM THE USE, MISUSE OR INABILITY TO USE THE PRODUCT OR FROM DEFECTS IN THE PRODUCT.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.

## 5. APPLICABLE LAW

This Warranty will be interpreted, construed, and enforced in all respects in accordance with the laws of the State of Washington, without reference to its choice of law rules. The U.N. Convention on Contracts for the International Sale of Goods will not apply to this Warranty.

## 6. SEVERABILITY

If any provision of this warranty is found to be invalid or unenforceable, then the remainder shall have full force and effect, and the invalid provision shall be partially enforced to the maximum extent permitted by law to effectuate the purpose of the agreement.

## 7. ADDRESS FOR NOTICES TO ROADMASTER

ROADMASTER, Inc., 6110 NE 127th Ave, Vancouver, WA 98682

This warranty gives you specific legal rights, and you may also have other rights which vary from State to State.



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# We're the suspension experts

Very few people would say they bought their motorhome (or truck, van or SUV) for the suspension. For most of us, the suspension is out of sight and out of mind – even though your driving performance, safety and comfort are all riding on those components.

Unequal weight distribution, worn or inadequate components, excessive axle side play or a higher center of gravity can quickly overpower a stock suspension, even in everyday driving. Unfortunately, finding a solution can be just as frustrating as dealing with the consequences.



for more information...  
Call 800-669-9690, or visit [www.roadmasterinc.com](http://www.roadmasterinc.com)

## The primary benefits of ROADMASTER suspension components are...

- **Anti-sway bars** – virtually eliminate ‘body roll’ (the vehicle rolls from side to side, especially during cornering). Anti-sway bars stabilize the vehicle, keeping it level through crosswinds and dramatically improving overall handling.
- **Steering stabilizers** – front tire blow out protection. Stabilizers also automatically compensate for oversteer caused by pot holes, rut tracks and other unfavorable road conditions.
- **Trac bars** – drastically reduce ‘wander’ (the steering feels loose, making it difficult – and physically exhausting – to keep the vehicle in a straight line).

Each of these components will **protect your vehicle** (improved tire life, reduced suspension wear, reduced maintenance costs and improved vehicle performance) and **protect your family** (better driving control, reduced driver fatigue, more control in evasive maneuvers, and improved driver confidence).

## Every ROADMASTER suspension component...

- ...is designed as a custom fit, for a specific chassis. ROADMASTER engineering designs take into consideration chassis and axle manufacturers’ specifications (your warranty will not be affected).

*continued on next page*

## Do you need a custom suspension component?

Every “yes” to the following questions is a “yes” for an anti-sway bar, a steering stabilizer and/or a trac bar...

- Does the vehicle “roll” when cornering?
- Does driving for an extended period of time leave you physically exhausted?
- Is your rig all over the road – can’t keep it between the lines?
- Would you lose control if one of the front tires blew out?
- Does the steering wheel have a mind of its own?
- Do passing 18-wheelers and crosswinds rock your vehicle back and forth?
- Is driving a ‘white knuckle’ experience?

	Shock Absorbers	Air Bags	RSS Anti-Sway Bar	Bell Crank	Davis TruTrac Bar	Generic Steering Dampener	Reflex Steering Stabilizer
<b>Bouncing</b>	X						
<b>‘Porpoising’</b> (up and down movement)	X						
<b>Rough Ride</b>	X	X					
<b>Sway</b> (‘body roll’)			X				
<b>Soft Steering</b>			X	X	X	X	X
<b>Wind Buffeting</b> (crosswinds, wind gusts, passing 18-wheelers)			X		X		X
<b>Wander</b>				X	X		X
<b>Rut Tracking</b>					X		X
<b>Blow Out Protection</b>						X	X
<b>Load Leveling</b>		X					

There are several components that make up a good vehicle suspension system: shocks provide comfort; air bags support weight; anti-sway bars control left-to-right sway; trac bars reduce ‘wander;’ and steering stabilizers provide blow out protection. Use this chart to make an informed decision about what aftermarket suspension product(s) will enhance your vehicle’s stability, handling and maneuverability.

## We're the suspension experts

*continued from preceding page*

### Which component is right for you?

ROADMASTER designs, engineers and manufactures anti-sway bars, trac bars, and steering stabilizers for both original equipment manufacturers and the aftermarket. Anti-sway bars, trac bars and steering stabilizers work in concert with the other components of your suspension system to add stability and control.

Each of these components has a specific role to play.

The graph on the previous page identifies the primary benefits of aftermarket suspension products. Each one has value – for a specific application. It's important to understand and identify what you're experiencing, so you can select the correct product solution.

## RSS Anti-Sway Bars

A remarkable improvement in stability and cornering control – for motorhomes or any large vehicle, especially towing combinations – is just a few bolts away. Anti-sway bars from Roadmaster Suspension Solutions deliver a "Wow!" difference in RV control you'll notice the first time you turn the wheel.

- **20 years of experience** in the RV industry
- for **motorhomes, trucks, vans and SUVs**
- more than 60 kits, each one **custom-designed** for a specific chassis and suspension system
- large diameter, cadmium-plated **4140 chromoly steel bars**, with heavy-duty **polyurethane bushings**
- **easy installation** – in most cases, eight bolts

### What do our customers say?

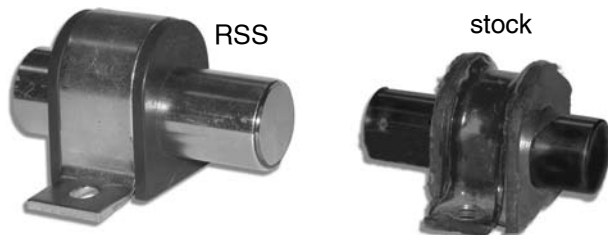
*"I noticed a difference as soon as I stepped into the motorhome – there was no rocking movement.*

*During a recent trip we encountered substantial crosswinds. With the RSS anti-sway bar, I estimate our motorhome's sway was reduced by 90 percent.*

*We don't feel anything now when a tractor trailer blows by us.*

*I'm 100 percent satisfied – everyone should experience the benefit of this product."*

*– Johnny Singleton, Myrtle Beach, South Carolina*



**A HIGH-GRADE ALLOY AND A BETTER PIVOT POINT** – The stock anti-sway bar (on the right) has a small diameter, 1020 grade spring steel, and a rubber bushing. The RSS anti-sway bar (to the left) has a large diameter, 4140 chromoly steel, and a polyurethane bushing, making it many times more resistant to sway.

## Reflex Steering Stabilizers

Your best insurance against the catastrophic consequences of a front tire blow out is a Reflex Steering Stabilizer.

When you blow out a front tire, your vehicle will make an abrupt turn toward that tire, causing you to veer into oncoming traffic or off the road. The Reflex Steering Stabilizer's tempered steel springs, which are attached to the tie rods and undercarriage, automatically compensate for oversteer caused by front tire blow outs, pot holes, rut tracks and other unfavorable road conditions, as well as crosswinds and passing 18-wheelers.

The springs react instantaneously to bring the vehicle back to center.

### What do our customers say?

*"I had a Reflex Steering Stabilizer installed, and the difference was night and day – my Class C motorhome handles like a sports car. The stabilizer keeps the steering centered, no matter what the road throws at me. Ruts, bumps and hairpin curves are no problem.*

*My steering wheel doesn't belong to potholes any more – it belongs to me."*

*– Jerry Miller, Portland, Oregon*

## Davis TruTrac™ Bars

Does your motorhome vibrate from side to side? Are "wandering," "rut tracking" and "lazy steering" a problem? Tired and fatigued trying to keep in line going down the road?

Davis TruTrac bars link the chassis to the front axle, eliminating excessive axle side play, without affecting normal up-and-down suspension travel.

The result is precise, predictable handling. The benefits are an immediate improvement in both vehicle performance and safety, as well as increased driver comfort – more positive control means less driver fatigue.

### What do our customers say?

*"My F53 chassis would vibrate so bad that it shook the whole motorhome. The only way to stop the vibration was to slow down to 20 mph – which almost got me rear-ended twice. Finally my wife told me, 'I'm not riding in that motorhome any more.'*

*A mechanic told me about Davis TruTrac bars. I had one installed and the vibrations stopped immediately. I drove that motorhome for another 150,000 miles (with my wife back on board) and it was solid as a rock."*

*– John Kielty, Reno, Nevada*

“We get your towed car there,  
while stopping safely along the way.”



All illustrations and specifications contained herein are based on the latest information available at the time of publication. ROADMASTER, Inc. reserves the right to make changes, at any time, without notice, in material, specifications and models, or to discontinue models.



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