

# EVEN BRAKE™

patent pending

Portable Proportional Braking System

## Owner's Manual

*Entire contents of manual must be read by owner*



Part number 9400



Quality Towing Systems since 1974  
ROADMASTER, Inc. • 5602 N.E. Skyport Way • Portland, OR 97218  
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# WELCOME TO THE ROADMASTER FAMILY!



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

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

Your Even Brake 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 20 days of purchase.**

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

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## Statement of FCC compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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## IMPORTANT NOTICE!

### Safety Definitions

Statements in this manual followed by or preceded by the following words are of special significance:

#### WARNING

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

**Red type is used to emphasize warnings of particular significance.**

#### CAUTION

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

**Red type is used to emphasize cautions of particular significance.**

#### CAUTION

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

**Red type is used to emphasize cautions of particular significance.**

#### NOTE

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

### Even Brake specifications

|   |              |
|---|--------------|
| Height .....                              | 12 inches    |
| Width .....                               | 11.25 inches |
| Length .....                              | 16 inches    |
| Weight .....                              | 17.5 pounds  |
| Voltage .....                             | 12 volts DC  |
| Length of standard power cord .....       | 42 inches    |
| Maximum amperage draw .....               | 10.8 amps    |
| Idle amperage draw .....                  | 47mA         |
| Approximate maximum air pressure .....    | 60 psi       |
| Maximum force extended on brake pedal ... | 106 lbs.     |
| Minimum space Even Brake can fit .....    | 16 inches    |

### Even Brake serial number

Your Even Brake 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: \_\_\_\_\_

# COMPONENTS



| part number | description                            |
|-------------|--|
| 1           | 650997 ..... brake pedal clamp         |
| 2           | n/a ..... air cylinder shaft           |
| 3           | n/a ..... touch pad control panel      |
| 4           | 450098 ..... air relief button         |
| 5           | 650996 ..... adjustable seat pad       |
| 6           | 450952 ..... adjustment knob           |
| 7           | 450105 ..... adjustable feet           |
| 8           | 300104-00 ..... 12-volt power cord     |
| 9           | 9420 ..... ICX transmitter             |
| 10          | 9410 ..... motorhome monitor           |
| 11          | 650898 ..... break away switch         |
| 12          | 650900 ..... break away wiring harness |

| part number | description                            |
|-------------|--|
| 13          | 8602 ..... break away cable            |
| 14          | ..... Brake-Lite Relay kit (not shown) |



Items not shown to scale.  
Optional equipment is listed on page 20.

**⚠ WARNING**

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

**CAUTION**

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

## Before you begin the initial installation...

**1. Check online at the ROADMASTER website –** [www.roadmasterinc.com/s\\_EvenBrake.html](http://www.roadmasterinc.com/s_EvenBrake.html) – for vehicle-specific information which may not have been available when these instructions were published.

**2. Check the towed vehicle's 12-volt outlet for correct power –** Even Brake 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 vehicle is running. Before you begin the initial installation, verify that you have power in the towed vehicle's 12-volt outlet with the ignition key turned to the "tow" position.

If there is no power, you can install ROADMASTER's 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.

**3. Check the circuit at the towed vehicle's 12-volt outlet –** The circuit must be rated at no less than 15 amps to power Even Brake.

Check the fuse at the outlet – if the fuse is rated at 15 amps or higher, the circuit is adequate to power Even Brake.

If the fuse is rated at less than 15 amps, you can install ROADMASTER's optional 12-volt outlet kit (part number 9332). When installed, this kit will provide adequate power to Even Brake.

**⚠ WARNING**

**If the circuit is rated at less than 15 amps, do not simply replace the outlet's fuse with a higher-amp fuse. This will cause the wiring to over-heat, 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.**

**⚠ WARNING**

The Even Brake 12-volt power cord is always "last in, first out." Never plug in the power cord until Even Brake is completely installed, according to the instructions below.

Once it receives power, any movement of the box could cause Even Brake to activate unexpectedly.

Similarly, never disconnect Even Brake without first unplugging the 12-volt power cord.

Failure to install and operate Even Brake as instructed may cause property damage, personal injury or even death.

**4. 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 Even Brake 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 Even Brake, which may cause intermittent operation or disrupt the Even Brake diagnostic program, causing false alerts.

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

**5. Check the towed vehicle's brake lights –** Even Brake 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. This switch is not supplied; contact an auto parts store.

# INITIAL INSTALLATION



## Step One

### 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 from the motorhome. ROADMASTER’s break away system is called the BrakeAway™.

1. Mount the break away switch (Figure 1) at the front of the vehicle, on the driver’s side. Chose 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 Inter Connect transmitter (“ICX transmitter”) will be attached in a later step. However, since the break away wiring harness will be connected to it, chose a location for the ICX transmitter now. Look for a mounting point on the driver’s side of the towed vehicle, on the lower portion of the dashboard, where the end of the transmitter with the antenna, LED indicator and socket will be visible and accessible.

Chose an area away from pre-existing components or electronics, and where the transmitter will not present an obstruction or hazard to the driver of the vehicle, or interfere with the operation of the vehicle. The mounting surface must be of sufficient strength to hold the transmitter firmly in place, so that an electrical connector can be plugged into and out of the transmitter.

3. Once you have found a location for the ICX transmitter, look for a pre-existing hole in the firewall (or, if there is sufficient space, a pre-existing grommet with other wiring) close to where you will mount the ICX transmitter, to route the break away wiring harness through the firewall.



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.

4. Route the wiring harness (Figure 1) 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.

Connect the wiring harness to the break away switch.

5. Cut through the included grommet (Figure 1) on one side, slide it over the wiring harness, and fit the grommet into the hole in the firewall. Seal the grommet with a silicone sealant.

Feed the remaining length of the wiring harness through the grommet. You will connect the wiring harness to the ICX transmitter in a later step.

## Step Two Install the Brake-Lite Relay

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

### CAUTION

Do not install the Brake-Lite Relay in any Ford vehicle with a 'neutral tow' kit. Using the Brake-Lite Relay in these vehicles may prevent disengagement of the transmission for towing, causing severe non-warranty transmission damage.

Check online at the ROADMASTER website – [www.roadmasterinc.com/s\\_EvenBrake.html](http://www.roadmasterinc.com/s_EvenBrake.html) – before installing Even Brake in any Ford vehicle with a 'neutral tow' kit.

1. First, determine if you must install the Brake-Lite Relay in your towed vehicle:

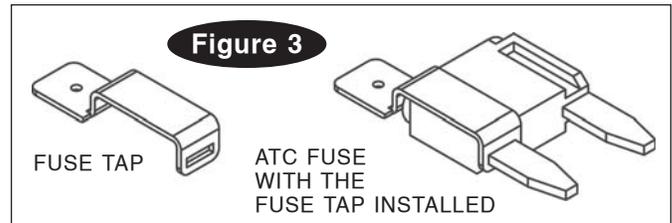
- Without starting the towed vehicle, press the towed vehicle's brake pedal.
- If the brake lights illuminate, you must install the Brake-Lite Relay.

*Note: a few vehicles do not require a Brake-Lite Relay, even if the brake lights illuminate when the brake pedal is pressed. Ask the dealership or the manufacturer if this is the case with your vehicle.*

2. Locate the towed vehicle's brake light switch, and determine the "cold" side of the brake light switch. 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 on-board computer to send a signal to the vehicle's "check engine" indicator. The "check engine" indicator may illuminate, requiring non-warranty repair to the vehicle.



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

### CAUTION

In order to prevent a short circuit, the 10-amp fuse and holder assembly must be within six inches of the electrical connections. If the 10-amp fuse assembly is farther than six inches, a short circuit may cause an electrical fire, resulting in severe damage to the vehicle.

4. Install the Brake-Lite Relay in line, as shown in Figure 2.

5. Using the included fuse tap (Figure 3), connect the red wire from the Brake-Lite Relay to the "hot" side of any fuse which is powered only when the towed car's ignition is turned on.

*Note: the "hot" side of the socket is the one that registers voltage when the fuse is pulled, the ignition switch is on, and the tester is connected between the socket and ground.*

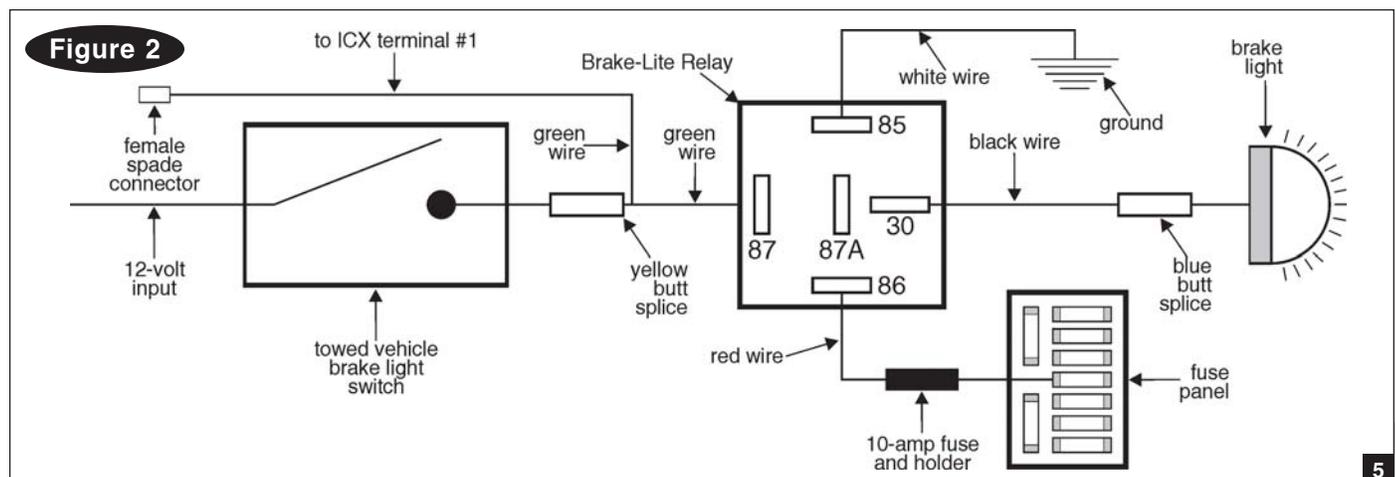
6. Connect the white wire from the Brake-Lite Relay to any good chassis ground.

7. Secure the Brake-Lite Relay in place, using the included zip ties.

8. Reinstall the brake light fuse, which you removed in step 2.

9. Test to ensure that the Brake-Lite Relay has been properly installed:

- When the towed vehicle's engine is running, the brake lights function normally.
- When the towed vehicle's ignition key is in the "tow" position, the brake lights do not function.



## Step Three

### Wire and attach the ICX transmitter

Once installed, the ICX transmitter will transmit braking activity and system status information from Even Brake to the motorhome monitor.

1. Before attaching the ICX transmitter, first connect the break away system harness and the towed vehicle's brake switch wire to the ICX transmitter. Then, connect a 12-volt power source, as well as a suitable ground, to the ICX transmitter –

a. Connect the break away system – plug the end of the break away wiring harness, which you routed through the vehicle's firewall in step one, into the flat, two-prong molded plug in the ICX transmitter (Figure 4).

b. Connect the brake switch wire – push the female spade connector extending from the Brake-Lite Relay (at the end of the green wire) into the terminal marked "1" on the ICX transmitter (Figure 4).

*Note: if the Brake-Lite Relay was not installed, connect the "cold" side of the brake light switch to the terminal marked "1" on the ICX terminal (Figure 4).*

c. Connect a power source – using the included fuse tap (Figure 3), connect the red wire from the ICX transmitter to the "cold" side of any fuse with a continuous source of power.

*Note: determine which side of the fuse is "cold" – the "cold" side of the socket is the one that registers no voltage when the fuse is pulled.*

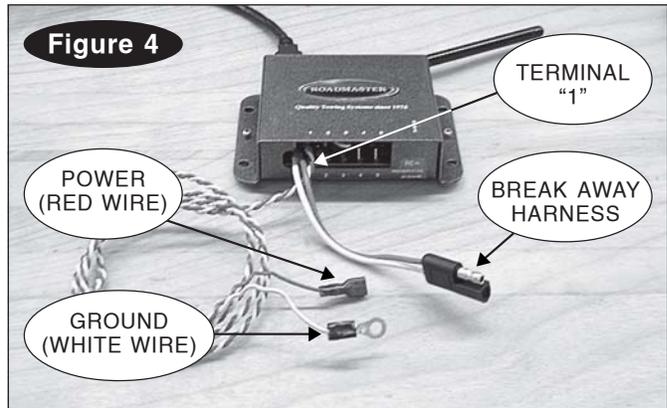
d. Connect to a suitable ground – connect the white wire from the ICX transmitter to any good chassis ground.

2. Once you have connected the break away system harness, the vehicle's brake switch wire, and the 12-volt power source and ground to the ICX transmitter, attach the ICX transmitter to the driver's side dashboard, at the mounting point you chose in step one (page four).

Attach the transmitter so that the end of the transmitter with the antenna, LED indicator and socket will be facing the rear of the vehicle.

Use either the supplied screws (one at each corner) or the two strips of Velcro to mount the transmitter.

3. Ensure that the wiring for the break away system, the brake switch wire, and the power and ground connections will not present an obstacle or hazard to the driver of the vehicle, or interfere with the operation of the vehicle. Use the included zip ties, if necessary, to secure the wiring out of the way.



## Step Four

### Attach the pedal clamp

1. Remove Even Brake from the box, using the adjustable seat pad as a handle.

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

3. Position Even Brake between the driver's seat and the brake pedal, in the approximate position it will sit in when connected to the brake pedal.

*Note: Rubberized floor mats will cause Even Brake to "climb" the driver's seat. If the vehicle has a rubberized floor mat, remove it when towing.*

*Note: The adjustable seat pad at the back may be removed, if that provides the best fit.*

### **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 brake pedal may apply unnecessary braking force, which will damage the brake system and/or electrical system, causing brake system failure, electrical system failure or other non-warranty damage.**

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

4. Press the air relief button (Figure 5) to make sure that all of the air in the Even Brake air reservoir has been released. If there is air in the reservoir, it will prevent the cylinder from extending when you connect the brake pedal clamp to the towed vehicle's brake pedal.

*continued on next page*

## Attach the pedal clamp

*continued from preceding page*

5. 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.

6. Release the catch (Figure 6) on the pedal clamp thumb lever – with your index finger *under* the top and your thumb *over* the bottom of the thumb lever (Figure 6), rotate the thumb lever until the catch is released.

7. Position the pedal clamp over the towed vehicle’s brake pedal.

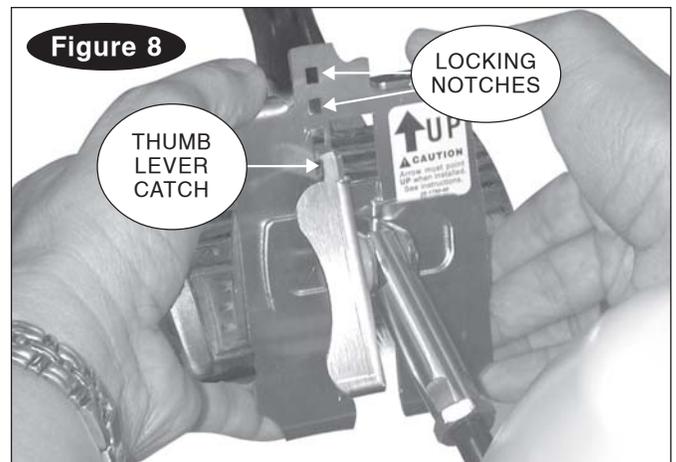
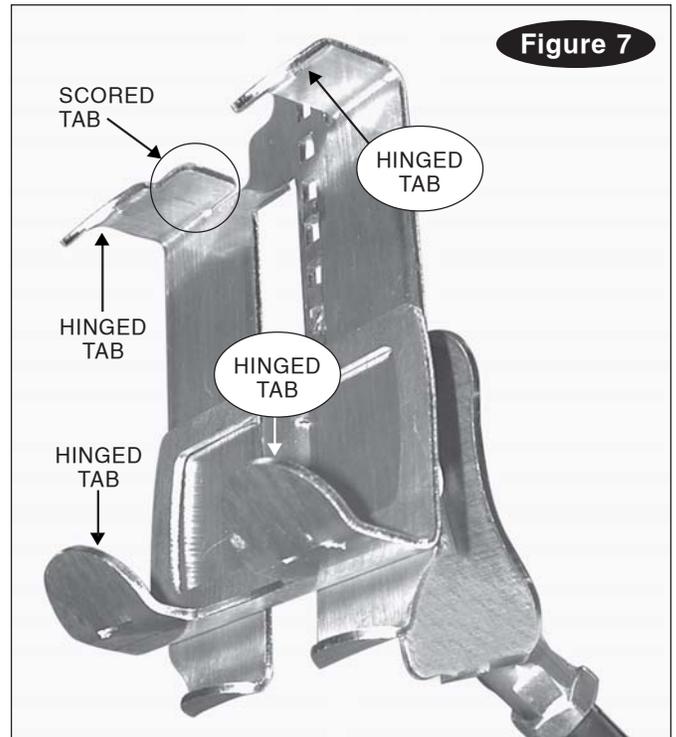
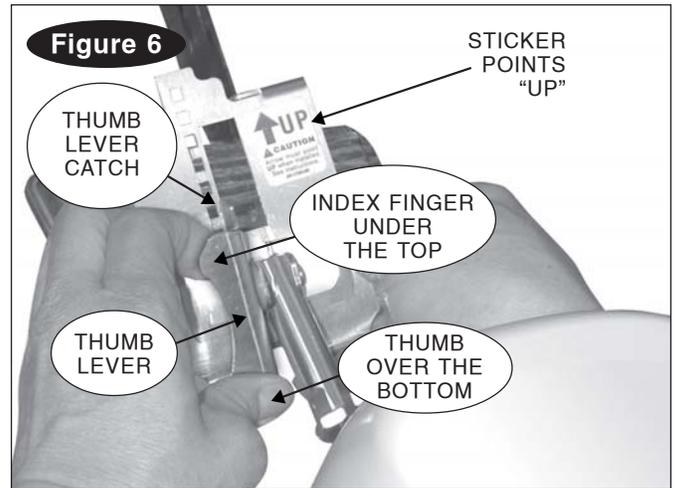
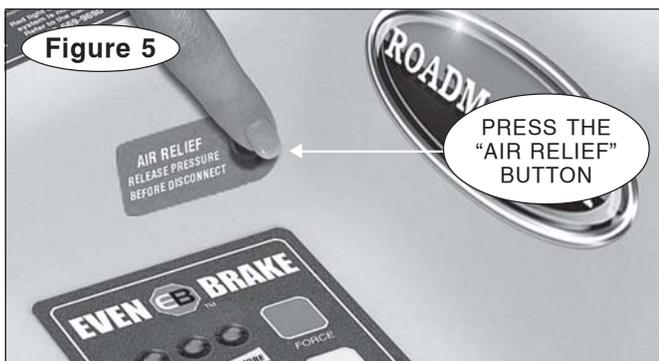
8. There are two hinged tabs at the top of the pedal clamp, and two at the bottom (Figure 7). Fit all four of the tabs over the brake pedal.

Now, compress the pedal clamp at the top and the bottom, and ratchet it down, until all four tabs are hooked onto the brake pedal, and the catch at the top of the thumb lever is fully indented into one of the locking notches (Figure 8). If necessary, use pliers to bend any or all of the hinged tabs, to better fit the vehicle’s brake pedal.

*Note: In addition to the four hinged tabs, there is a scored tab at the top of the pedal clamp (Figure 7), which may also be bent to secure the pedal clamp to the towed vehicle’s brake pedal.*

### CAUTION

Make sure that the tabs on the pedal clamp are securely hooked and tightened 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 Even Brake is not activated, which may cause brake system failure or other non-warranty damage.



## Step Five

### Adjust the feet and the seat pad

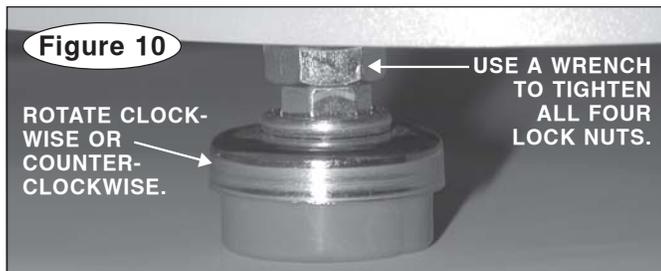
1. Now that the pedal clamp is in place, move Even Brake forward, until the air cylinder is fully retracted. (Figure 9). Make certain that Even Brake is not depressing the towed vehicle's brake pedal.

#### WARNING

Do not depress the vehicle's brake pedal with the Even Brake pedal clamp before installation is complete. If the brake pedal is depressed before installation is complete, Even Brake will apply unnecessary braking force when the vehicle is being towed, which will damage the brake system and/or other components, and may cause brake system failure or other consequential, non-warranty damage.

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

2. If necessary, adjust the feet on the bottom of Even Brake (one at each corner – Figure 10) up or down, by turning them clockwise or counterclockwise. Make sure that all four feet are making con-



tact with the floor of the vehicle, and that Even Brake is stationary – it should not rock back and forth.

(It may be necessary to remove one or more of the feet for some installations, or it may be necessary to add one or more optional 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 Even Brake may shift from the installed position. Unless Even Brake 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 Even Brake, 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 Even Brake is activated.*

Now that you have selected a bracing point for the adjustable seat pad, loosen the knob 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.

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

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

5. Next, slide the driver's seat forward, until it just touches the Even Brake adjustable seat pad. If necessary, allow a small gap, rather than allowing Even Brake to depress the brake pedal.

Lock the seat. Make certain that Even Brake is not depressing the towed vehicle's brake pedal.

#### CAUTION

**Make certain that the driver's seat is not too far forward – Even Brake should not be depressing the towed vehicle's brake pedal.**

**If the driver's seat is too far forward, it will cause Even Brake to activate unnecessarily or to brake for an extended period, which may result in non-warranty brake system or tire damage.**

## Step Six Connect Even Brake to the ICX transmitter

1. Connect the ICX transmitter cord from Even Brake to the ICX transmitter (Figure 11).

*Note: the LED on the ICX transmitter illuminates intermittently, as a normal communications function.*



## Step Seven Plug in the power cord

### ⚠ WARNING

The Even Brake 12-volt power cord is always “last in, first out.” Never plug in the power cord until Even Brake is completely installed.

Once it receives power, any movement of the box could cause Even Brake to activate unexpectedly.

Similarly, never disconnect Even Brake without first unplugging the 12-volt power cord.

Failure to install and operate Even Brake as instructed may cause property damage, personal injury or even death.

### CAUTION

Check the 12-volt outlet socket before plugging in the Even Brake 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 Even Brake 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 into the 12-volt outlet (Figures 12 and 13).

### 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 12-volt power cord may vibrate loose, causing a loss of



power or an intermittent power supply.

Even Brake will not function without a continuous power supply.

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

Some newer vehicles only have power at the outlet when the vehicle is running.

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

## Step Eight

### Install the motorhome monitor

1. Find a suitable location for the monitor, near the motorhome driver's seat, which will allow the driver to clearly see the monitor.

2. Before attaching the monitor, test the reception...

a. With Even Brake installed and fully functional, plug the monitor power cord into the motorhome's 12-volt outlet.

*Note: Press the cord lock on the motorhome monitor power cord into the motorhome's 12-volt outlet – follow the instructions on this page (step one under “Plug in the power cord”) to properly secure the 12-volt power cord.*

b. Start the motorhome engine.

\_\_\_\_\_ continued on next page

## Install the motorhome monitor

*continued from preceding page*

c. Hold the monitor where you plan to attach it. The LCD text display will read “Even Brake ready to test ↓” to confirm that the monitor is receiving the signal.

3. After you have confirmed that the monitor is receiving the signal, attach the monitor with the supplied Velcro – peel back the sticker on the Velcro strip, press it into place, and attach the monitor to it by pressing the two pieces of Velcro together.

4. If you have unplugged the monitor power cord to attach the monitor, plug it back into the motorhome’s 12-volt outlet and secure the cord lock.

## Step Nine

### Test and adjust Even Brake

1. Press the green “Test” button (Figure 14) on the touch pad control panel. Even Brake will begin a self-diagnostic test.

As part of the test, Even Brake will cycle the pedal clamp up and down three times.

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

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

### CAUTION

**If the adjustable seat pad is not properly positioned, Even Brake can “climb” up the driver’s seat. This will cause the rear of the box to rise up off the floor, making Even Brake more sensitive.**

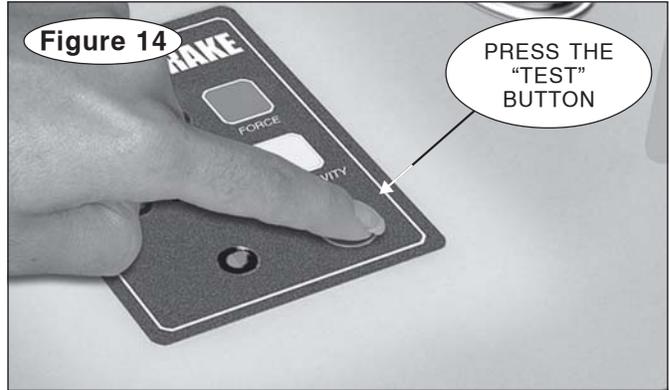
**If this occurs, the towed vehicle will brake excessively and unnecessarily, which may cause non-warranty brake damage.**

**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 Even Brake cannot “climb.”**

2. After Even Brake has completed the self-diagnostic test, the test light will illuminate green to indicate the system is ready, or red to indicate the system is not ready.

If the test light is green, proceed to the next step – programming brake force and sensitivity.

If the test light is red, check the motorhome monitor LCD text display for detailed information. You can also refer to the “Communications” section on pages 17 through 20.



## Step Ten

### Set braking force and braking sensitivity preferences

(Even Brake is a proportional system, and will always brake the towed vehicle in tandem with the motorhome. The range of its response to the motorhome is virtually infinite. Setting braking preferences will program Even Brake to respond with the appropriate force and sensitivity within that range.)

It is not necessary to set braking force and sensitivity preferences – if no preferences are selected, Even Brake will revert to the “average” setting for both, which is the default value.

It is also not necessary to select braking preferences every time you connect Even Brake. It will always revert to the last preferences selected (or the default values, if none were selected), when you connect it to the towed vehicle.

1. Set the braking force. This setting tells Even Brake **how hard** to apply the brakes. There are three choices: “less;” “average;” or “more” force.

Press the red “Force” button on the touch pad control panel (Figure 15) once to select “less” force, twice to select “average” force, or three times to select “more” force. One of the three LED lights to the

*continued on next page*



## Set braking force and sensitivity

*continued from preceding page*

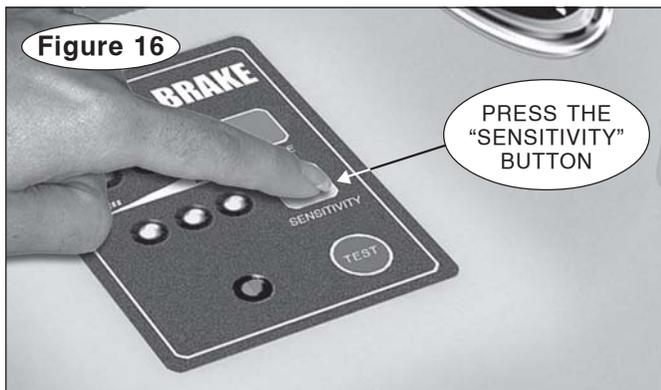
left of the “Force” button will illuminate to confirm your choice.

If you are unsure which setting to select, set Even Brake to “average” (by pressing the red “Force” button twice) and readjust the setting later, if you find that you prefer more or less braking force.

2. Set the braking sensitivity. This setting tells Even Brake **when** to apply the brakes. There are three choices: “less;” “average;” or “more” sensitivity. If Even Brake is “more” sensitive, it will brake more of the time; if Even Brake is “less” sensitive, it will brake less often.

Press the yellow “Sensitivity” button on the touch pad control panel (Figure 16) once to select “less” sensitivity, twice to select “average” sensitivity, or three times to select “more” sensitivity. One of the three LED lights to the left of the “Sensitivity” button will illuminate to confirm your choice.

If you are unsure which setting to select, set Even Brake to “average” (by pressing the red “Sensitivity” button twice) and readjust the setting later, if you find that you prefer more or less braking sensitivity.



## Step Eleven

### Connect the break away cable and test the break away system

1. 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 cable to the rear of the motorhome, close to the center.

2. Test the break away system – pull the break away pin (Figure 1) out of the break away switch. Even Brake should activate when the pin is pulled. Insert the pin back into the switch. The Even Brake pedal clamp will retract. Now, unplug the motorhome monitor, then plug it back in.

### **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 sure 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...**
  - **If the cable is too short, the break away system will activate even though the towed vehicle has not detached.**
  - **The cable must be long enough to prevent the break away pin from being pulled out during normal towing.**
  - **Make sure the cable is not too long – it should not hang down to the extent 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 Even Brake is installed, the break away system will be activated.**

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

# OPERATING INSTRUCTIONS



Once Even Brake and the other components of your supplementary braking system have been installed, follow the steps below to connect them to the towed vehicle; see the next page to disconnect the components of your supplementary braking system. For more detailed information, refer to the appropriate section under “Initial Installation.”

## Connecting the towed vehicle

1. Slide the driver’s seat back, as far as it will go.
2. Position Even Brake between the driver’s seat and the brake pedal, in the approximate position it will sit in when connected to the brake pedal.
3. Attach the pedal clamp to the brake pedal – with your index finger *under* the top and your thumb *over* the bottom of the thumb lever (Figure 6), rotate the thumb lever until the catch is released. Fit the pedal clamp over the brake pedal. Then, compress the pedal clamp at the top and the bottom, and ratchet it down, until all four tabs are hooked onto the brake pedal, and the catch (Figure 8) at the top of the thumb lever is fully indented into one of the locking notches.
4. Slide the driver’s seat forward, until it just touches the Even Brake adjustable seat pad. If necessary, allow a small gap, rather than allowing Even Brake to depress the brake pedal.

### WARNING

Once you have fully installed Even Brake, make certain that the pedal clamp is not depressing the towed vehicle’s brake pedal – if necessary, move the driver’s seat back.

If the brake pedal is depressed before installation is complete, the brake pedal will apply unnecessary braking force when the vehicle is being towed, which will damage the brake system and/or other components, and may cause brake system failure or other consequential, non-warranty damage.

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

5. Connect the ICX transmitter cord.
6. Connect the 12-volt power cord.
7. Press the “Test” button. After the self-diagnostics test, verify that the “Test” light is green.
8. Make certain that the towed vehicle’s emergency brake is released.
9. Connect the break away cable (Figure 1) to the front of the towed vehicle and the motorhome.

10. Release the towed vehicle’s emergency brake.

### WARNING

Failure to release the towed vehicle’s emergency brake before towing will result in severe brake damage, or a brake system fire. 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

Even Brake is designed to work with a ‘dead’ brake pedal. Do not leave the vehicle’s engine running while towing it, 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 Even Brake if, for any reason, you must tow with the engine running.

### CAUTION

If the towed vehicle’s engine is ever started while Even Brake is installed, disconnect the Even Brake power cord, once the engine is turned off. Then, plug the power cord back in, and press the “Test” button on the control pad before towing.

During the test mode, Even Brake will extend and retract the brake pedal clamp, which will release the vacuum in the towed vehicle’s power brake system.

If the vacuum is not released, Even Brake will apply excessive braking force when it is activated, which may cause severe tire damage to the towed vehicle.

# OPERATING INSTRUCTIONS



Once Even Brake and the other components of your supplementary braking system have been installed, follow the steps below to disconnect them from the towed vehicle; see the preceding page to connect the components of your supplementary braking system. For more detailed information, refer to the appropriate section under “Initial Installation.”

## Disconnecting the towed vehicle

1. Pull on the cord lock (Figure 12) to release it, and unplug the Even Brake 12-volt power cord. Then, unplug the ICX transmitter cord.

2. Press the air relief button (Figure 5).

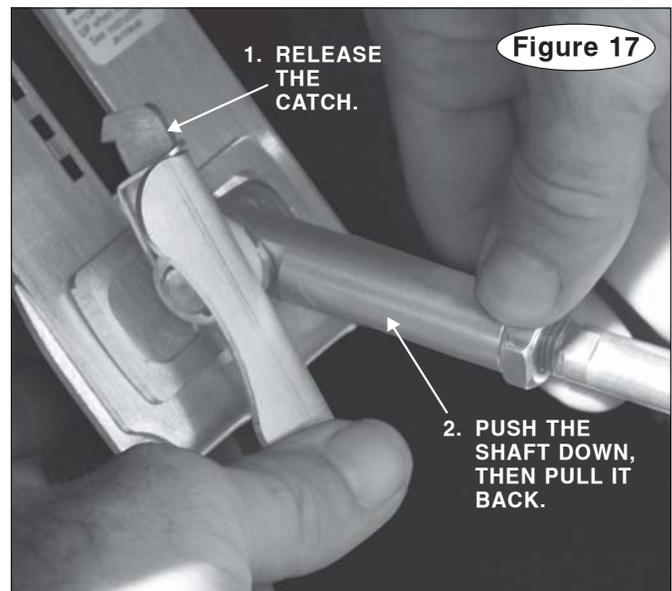
3. Slide the driver’s seat back, as far as it will go.

4. Detach the pedal clamp from the brake pedal – Compress the top and the bottom of the pedal clamp slightly, to release tension. Then, with your index finger *under* the top and your thumb *over* the bottom of the thumb lever (Figure 6), rotate the thumb lever until the catch is released.

Once the catch is released, move your index finger under the pedal clamp. With your other hand, first push the air cylinder shaft down, and then pull it back (Figure 17) to release the pedal clamp.

5. Wrap the 12-volt power cord and the ICX transmitter cord around the cord holder, and lift Even Brake out of the vehicle.

6. 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.



# COMMUNICATIONS

# CONNECTION and BRAKING



## Monitor messages

Even Brake will report system status at the motorhome monitor as you connect it to the towed vehicle, and also when it applies the brakes. The chart below shows which color LED will illuminate for each condition or activity, the LCD text message(s) that will accompany it, and if there will be an audio alert.

The LEDs on the Even Brake control pad may also illuminate to indicate a certain activity or condition.

(Even Brake will also report conditions or activities which require an adjustment. See the “Communications – Overview” section, pages 17-19, and the reference chart on page 20.)

The LCD text display will first report the activity or condition. (The “1st message” column in the chart below lists the initial messages.) If the first message ends with a flashing down-

ward pointing arrow (↓), a specific action is required. Press the button with the right-hand arrow (>) on the motorhome monitor to scroll to the second message (Figure 18), which will display the required action (the “2nd message” column in the chart below).

## Expanded descriptions

A description of the connection and braking messages follows.

### 1. System is ready to test

Even Brake has been installed, and the ICX transmitter cord and the power cord are connected. The LCD display will read “Even Brake ready to test ↓.” An audio alert at the motorhome monitor will accompany this message; it will stop when you press the right-hand arrow (>) on the motorhome monitor to scroll to the second message, which will prompt you

to “Press (the) Even Brake Test button” on the Even Brake control pad.

### 2. Passed test – system ready

When the “Test” button is pressed, Even Brake will run a self-diagnostic test. To indicate that the braking system is operational and ready to brake the towed vehicle, the LCD display will read “Test is good – System ready.”

### 3. System is fully operational (no braking)

When towing, the green LED on the motorhome monitor will stay illuminated constantly, to indicate that Even Brake is fully operational and ready to brake.

### 4. Normal braking

When Even Brake is activated, the LCD display will read “Braking” and the red LED on the motorhome monitor will illuminate, to indicate that the towed vehicle’s brakes are being applied.

**E**ven Brake will report system status at the motorhome monitor as you connect it to the towed vehicle, and also when it applies the brakes. Refer to the section above for an expanded description of each message.

| MOTORHOME LCD TEXT DISPLAY   | MOTORHOME LED DISPLAY |                                |     | AUDIO | REPORTED ACTIVITY OR CONDITION   | EVEN BRAKE CONTROL PAD |       |     |       |
|------------------------------|-----------------------|--------------------------------|-----|-------|--|------------------------|-------|-----|-------|
|                              | 1st MESSAGE           | 2nd MESSAGE                    | RED |       |  | YELLOW                 | GREEN | RED | GREEN |
| "Even Brake ready to test ↓" |                       | "Press Even Brake Test button" |     | ●     | 1. System is ready to test (power and ICX transmitter cords connected) |                        | ●     |     | ●     |
| "Test is good System ready"  |                       |                                |     |       | 2. Passed test – system ready  |                        | ●     |     |       |
|                              |                       |                                |     |       | 3. System is fully operational (no braking activity)                   |                        | ●     |     |       |
| "Braking"                    |                       |                                | ●   |       | 4. Normal braking (Even Brake has activated)                           |                        |       | ●   |       |

# TROUBLESHOOTING



Even Brake will report symptoms and solutions through the motorhome monitor's LED display, the LCD text display, and also, in some instances, with an audio alert. Refer to the "Communications – Overview" section on pages 17 through 19, as well as the reference chart on page 20, for further information. The solutions to other symptoms, as well as answers to frequently-asked questions, are listed below.

| Symptom  | Solution   |
|--|--|
| Even Brake doesn't fit properly in the towed vehicle.                                      | Use one or more foot extensions to elevate Even Brake 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.  |
| The pedal clamp doesn't fit the brake pedal securely.                                      | 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 cylinder will not extend to connect to the pedal clamp.                            | The air reservoir is full of air. Release the air by pressing the air relief button (Figure 5).  |
| The pedal clamp does not extend to the brake pedal, when Even Brake is properly installed. | Use an optional cylinder arm extension to extend the reach of the cylinder arm. (Refer to the "Optional Equipment" section.)   |
| The brake pedal clamp comes into contact with the Even Brake housing.                      | Brake pedals that are somewhat horizontal cause the pedal clamp to tilt, and to interfere with the Even Brake housing when it retracts. Use an optional air cylinder extension to gain additional clearance. (Refer to the "Optional Equipment" section.)  |
| Nothing happens after proper installation.   | <ul style="list-style-type: none"><li>• Check the fuse on the end of the 12-volt power cord.</li><li>• Check for power at the 12-volt outlet, with the ignition key in the "tow" position. If there is no power, install the optional 12-volt outlet kit. (Refer to the "Optional Equipment" section.)</li><li>• Polarity at the 12-volt outlet may be crossed, with positive connected to ground, and ground to positive. This will blow the fuse at the end of the 12-volt power cord. Correct the wiring, and replace the fuse in the 12-volt power cord.</li></ul> |
| Even Brake is not running.   | <ul style="list-style-type: none"><li>• Check for a red light on the 12-volt power cord. If there is no light, there is no power. Install the optional 12-volt outlet kit. (Refer to the "Optional Equipment" section.)</li></ul> <p>If there is a red light on the power cord, check the fuse at the 12-volt outlet. (Refer to the owner's manual for the location of the fuse.)</p> <ul style="list-style-type: none"><li>• Check the towed vehicle's battery voltage. If the battery doesn't have sufficient power, Even Brake will not operate.</li></ul>          |
| The towed vehicle's seat moves after Even Brake depresses the brake pedal.                 | Readjust the seat and/or the adjustable seat pad. Refer to step five ("Adjust the feet and the seat pad"). After adjusting the seat, make sure it is locked. Press the "Test" button (Figure 14) and watch the seat as the air cylinder arm extends and retracts.  |
| Even Brake "climbs" up the seat.   | <ul style="list-style-type: none"><li>• If there are floor mats under Even Brake, remove them.</li><li>• Check the position of the adjustable seat pad. The seat pad serves as an anchor point, to keep Even Brake down as it presses the brake pedal. Adjust the seat pad up or down, if necessary.</li></ul>   |

## Symptom

## Solution

A quick acceleration of the motorhome sometimes activates Even Brake, even though I have not applied the motorhome brakes.

Lower the braking sensitivity preference by one setting. Refer to step ten – “Set braking force and braking sensitivity preferences.”

The brakes are being applied before I want them to, or when I don't think they should.

Lower the braking sensitivity preference. Refer to step ten – “Set braking force and braking sensitivity preferences.”

The towed vehicle's brakes are being applied when they should not be.

Readjust the braking sensitivity preference to a lower setting. Refer to step ten – “Set braking force and braking sensitivity preferences.”

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

Check the 12-volt outlet fuse size. Even Brake uses a 15 amp fuse. If the towed vehicle's fuse is not sufficient, install the optional 12-volt outlet kit. (Refer to the “Optional Equipment” section.)

If the fuse is of sufficient size, unplug the BrakeAway connection at the ICX transmitter. If the fuse stops blowing, you have a short in the BrakeAway wiring harness. Inspect the wire for possible grounding.

A few minutes after beginning to tow, the motorhome monitor indicates the towed vehicle has a low battery, even though the battery is charged.

Check the power and ground connections at the ICX transmitter – the red wire should be connected to 12 volts positive (power); the white wire should be connected to 12 volts negative (ground).

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

Even Brake's compressor will 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 the air cylinder.

After towing, there is excessive brake dust on the wheels of the towed vehicle.

Readjust the braking sensitivity preference to a lower setting. Refer to step ten – “Set braking force and braking sensitivity preferences.”

After towing, there is an unusual odor coming from the towed vehicle's brakes.

Readjust the braking sensitivity preference to a lower setting. Refer to step ten – “Set braking force and braking sensitivity preferences.”

## Question

## Answer

How do I decrease braking power?

Readjust the braking force preference to a lower setting. Refer to step ten – “Set braking force and braking sensitivity preferences.”

How do I increase braking power?

Readjust the braking force preference to a higher setting. Refer to step ten – “Set braking force and braking sensitivity preferences.”



## Responding to an LCD prompt

Even Brake will report braking activities or system conditions at the motorhome monitor, some of which require a specific action. The LCD text display will prompt you with a flashing downward-pointing arrow (↓) to indicate there is further information.

The LCD text display will first report the activity or condition. (The “1st message” column in the chart on page 20 lists the initial messages.) If the first message ends with a flashing downward-pointing arrow (↓), press the button with the right-hand arrow (>) on the motorhome monitor to scroll to the second message (Figure 18), which will display the required action or additional information (the “2nd message” column in the chart on page 20).

If the second message or a subsequent message ends with a flashing downward pointing arrow (↓), press the button with the right-hand arrow (>) on the motorhome monitor to scroll to the next message.

After the first message, each subsequent message in that series will be displayed for 15 seconds after the button with the right-hand arrow is pressed. If the button is not pressed after that time, the LCD screen will revert to the first message in that series.

## To clear the monitor

After an adjustment in response to an LCD text message, unplug the Even Brake 12-volt power cord at the towed vehicle, then plug it back in. Then, press the “Test” button. This will clear the current message.

*Note: After an adjustment, unless the Even Brake power cord is unplugged and then plugged back in, and the “Test” button is pressed, the motorhome monitor will continue to display the same message.*

*Note: Once Even Brake reverts to the ‘Power Save’ mode (See step six – ‘Power Save’ mode activated – in this section.), unplug the ICX power cord and then plug it back in, as well as the 12-volt power cord, once you have recharged the towed vehicle’s battery. Then, press the “Test” button to clear the message.*

## Audio alerts

In addition to LED and LCD signals, an audio alert will accompany braking activities or conditions of immediate concern. The audio alerts will vary in intensity, depending on the activity or condition.

The audio alert will stop when either the button with the left-hand arrow (<) or the right-hand arrow (>) on the motorhome monitor is pressed.



## Dimmer button

For night time driving, press the “Dim” button on the motorhome monitor to reduce the intensity of the LEDs and LCD display by 40 percent. Pressing the “Dim” button a second time will return the intensity of the LEDs and LCD display to 100 percent.

## Reference chart

The chart on page 20 shows which color LED(s) will illuminate for each condition or activity, the LCD text message(s) that will accompany it, and if there will be an audio alert.

The chart also shows which LED(s) on the Even Brake control pad will illuminate to indicate a certain activity or condition.

## Expanded descriptions

A description of the motorhome monitor messages listed on page 20 follows.

### 1. The Even Brake power cord or ICX transmitter cord has been unplugged

If either the 12-volt power cord or the ICX transmitter cord has been unplugged, Even Brake will shut down until the cord is plugged back in.

The red LED on the motorhome monitor will illuminate, and the LCD text display will read “Even Brake is Turning Off.”

### 2. The break away wiring harness has a short circuit

As part of the self-diagnostic program, Even Brake checks the towed vehicle’s break away system electrical circuit. If the break away harness has

*continued on next page*

## Communications – Overview

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a short circuit, the LCD text display on the motorhome monitor will read “Break Away Cable Not Operational ↓,” and the red and yellow LEDs on the monitor will illuminate. The second message in this series will instruct you to call the factory for further information.

### 3. Battery level is low on initial self-diagnostic test

In order to function, Even Brake draws power from the towed vehicle’s battery. If there is insufficient voltage in the towed vehicle’s battery to power Even Brake, it will not operate.

If the LCD text message at the motorhome monitor reads “Not operational – Low Battery ↓” during the initial self-diagnostic test, recharge the towed vehicle’s battery (with a battery charger or by running the engine) to increase the voltage.

### 4. Battery voltage check

The voltage in the towed vehicle’s battery can be checked at any time. Press the button with the left-hand arrow (<) on the motorhome monitor once, and the voltage will be displayed on the LCD text display.

### 5. Insufficient voltage – low battery

In order to function, Even Brake draws power from the towed vehicle’s battery. If the LCD text message reads “Low battery – Charge battery,” there is insufficient voltage to power Even Brake.

Recharge the towed vehicle’s battery (with a battery charger or by running the engine) to increase the voltage.

An audio alert accompanies this message.

### 6. ‘Power Save’ mode activated

Before the voltage in the towed vehicle’s battery is completely depleted, Even Brake will revert to the ‘Power Save’ mode. In this mode, Even Brake will not draw power from the towed vehicle’s battery, and will not function except in an emergency break away.

An audio alert accompanies this message.

To regain normal braking in the towed vehicle...

- a. Unplug the Even Brake 12-volt power cord and the ICX power cord.
- b. Charge the towed vehicle’s battery (with a battery charger or by running the engine).
- c. Plug the Even Brake 12-volt power cord back into the towed vehicle’s 12-volt outlet, and the ICX power cord back into the ICX transmitter.
- d. Press the “Test” button on the Even Brake control pad.

*Note: Once Even Brake reverts to the ‘Power Save’ mode, unplug the ICX power cord and then plug it back in, as well as the 12-volt power cord, once you have recharged the towed vehicle’s battery. Then, press the “Test” button to clear the message.*

## CAUTION

**If the towed vehicle’s engine has been turned on for any reason, press the “Test” button on the Even Brake control pad once the engine has been turned off and the vehicle is ready to be towed.**

**As part of the test, Even Brake will extend and retract the pedal clamp, which will deplete the residual vacuum in the vehicle’s power brakes.**

**If the vacuum is not depleted, Even Brake will brake excessively, resulting in non-warranty brake system and tire damage.**

### 7. Compressor time limit exceeded

When Even Brake is connected to the towed vehicle, it will run a self-diagnostics test. As part of the test, Even Brake will measure the amount of time it takes to fill the air reservoir. If it takes an inordinate amount of time to fill the reservoir, Even Brake will instruct you to call the factory for further information.

### 8. Brake pedal depressed continuously

As part of the initial self-diagnostic test, Even Brake checks the towed vehicle’s brake light switch. If the brake light switch remains on, indicating that the brake pedal is being depressed continuously, the LCD message will read “Not operational – more info. ↓.” Press the button with the right-hand arrow (>) on the monitor to scroll to the second and subsequent messages, which will display the required action(s).

An audio alert accompanies this message.

### 9. Towed vehicle brake electronics are not connected to Even Brake

As part of the initial self-diagnostic test, Even Brake will check the towed vehicle’s brake light switch. If there is no signal from the switch, indicating that the braking system electronics are not connected to Even Brake, the LCD message will read “Not operational – more info. ↓.” Press the button with the right-hand arrow (>) on the monitor to scroll

*continued on next page*

## WARNING

**Some motorhome monitor messages are intended to alert you to potentially dangerous conditions. Ignoring an LCD message to stop the motorhome or call the factory for further information may result in property damage, personal injury or even death.**

## Communications – Overview

*continued from preceding page*

to the second and subsequent messages, which will display the required action(s).

An audio alert accompanies this message.

### 10. Towed vehicle brake pedal depressed; Even Brake has not been activated

If the LCD text display in the monitor reads, "Braking ↓," and the second message reads "Stop ASAP – Brakes are ON! ↓," stop the motorhome immediately – the towed vehicle's brakes may be damaged if you continue.

An audio alert accompanies this message.

After you have stopped, press the button with the right-hand arrow (>) on the monitor to scroll to the subsequent messages, which will display the required action(s).

### 11. Proportional regulator test

As part of the initial self-diagnostic test, Even Brake will check the proportional regulator. If the regulator is not functioning at full capacity, Even Brake will instruct you to call the factory for further information.

An audio alert accompanies this message.

### 12. Extended braking

After an extended period of continuous braking, the LCD text display will read, "Stop ASAP – brakes are ON ↓." Stop immediately – the towed vehicle's brakes may be damaged if you continue.

An audio alert accompanies this message.

After you have stopped, press the button with the right-hand arrow (>) on the monitor to scroll to the subsequent messages, which will display the required action(s).

### 13. Break away mode

The towed vehicle has separated from the motorhome. The LCD text display reads "TOW break away – Emergency STOP." Even Brake has applied maximum pressure to the towed vehicle's brakes to bring it to a stop.

An audio alert accompanies this message.

### 14. Communication link

A component of the communications system is not connected. Press the button with the right-hand arrow (>) on the monitor to scroll to the second and subsequent messages, which will display the required action(s).

An audio alert accompanies this message.

## WARNING

**Some motorhome monitor messages are intended to alert you to potentially dangerous conditions. Ignoring an LCD message to stop the motorhome or call the factory for further information may result in property damage, personal injury or even death.**

# COMMUNICATIONS

# REFERENCE CHART



The chart below shows the motorhome monitor and control pad response to the braking activities or conditions listed in the "Reported Activity or Condition" column – which color LED(s) will illuminate, the LCD text message(s) that will accompany them, and if there will be an audio alert. Refer to pages 17 through 19 for an expanded description of each message, how to access specific information, and how to clear the monitor after an adjustment in response to an LCD text message.

| MOTORHOME LCD TEXT DISPLAY          |                                      | MOTORHOME LED DISPLAY |            |            | AUDIO | REPORTED ACTIVITY OR CONDITION   | EVEN BRAKE CONTROL PAD |               |               |
|-------------------------------------|--------------------------------------|-----------------------|------------|------------|-------|--|------------------------|---------------|---------------|
| 1st MESSAGE                         | 2nd MESSAGE                          | RED                   | YELLOW     | GREEN      |       |  | RED                    | GREEN         | RED/<br>GREEN |
| "Even Brake is Turning Off"         |                                      | •                     |            |            |       | 1. Even Brake power cord or ICX cord has been unplugged                    |                        |               |               |
| "Break Away Cable Not Operational"  | "Fault Detected Call Tech Dept ↓"    | •                     | •          |            |       | 2. The breakaway harness has a short circuit to ground                     |                        |               | •             |
| "Not operational Low battery ↓"     | "Low battery Charge required"        |                       | •          |            |       | 3. Battery level is low on initial self-diagnostic test                    | •                      |               |               |
| "Battery Voltage (value)"           |                                      |                       |            |            |       | 4. Battery voltage check – press the button with the left-hand arrow (<)   |                        |               |               |
| "Low battery Charge battery"        |                                      |                       | •          |            | •     | 5. Insufficient voltage – low battery                                      |                        | • (pulse red) |               |
| "Not operational Power Save mode ↓" | "Low battery Charge battery"         |                       | •          |            | •     | 6. Power Save mode activated   |                        |               | • (pulse)     |
| "Not operational Call Tech Dept ↓"  | "Diagnostic code #14 ↓"              |                       | •          |            |       | 7. Compressor time limit exceeded  | •                      |               |               |
| "Not operational more info. ↓"      | "Brake pedal is depressed ↓"         |                       | •          |            | •     | 8. Brake pedal depressed continuously                                      | •                      |               |               |
| "Not operational more info. ↓"      | "No brake light switch detected ↓"   |                       | •          |            | •     | 9. Towed vehicle brake electronics are not connected to Even Brake         | •                      |               |               |
| "Braking ↓"                         | "Stop ASAP Brakes are ON ↓"          | •                     |            |            | •     | 10. Towed vehicle brake pedal depressed; Even Brake has not been activated | •                      |               |               |
| "Not operational Call Tech Dept ↓"  | "Diagnostic code #15 ↓"              |                       | •          |            | •     | 11. Proportional regulator test  | •                      |               |               |
| "Stop ASAPI! brakes are ON! ↓"      | "Brake Pedal is Depressed ↓"         | •                     | •          |            | •     | 12. Extended braking   |                        | •             |               |
| "TOW break away Emergency STOP"     |                                      | • (strobe)            | • (strobe) | • (strobe) | •     | 13. Break away mode  |                        | •             |               |
| "Check Even Brake stop ASAP! ↓"     | "No communication with Even Brake ↓" | •                     |            |            | •     | 14. Communication link   |                        | •             |               |

# 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)

Even Brake 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.



BREAKAWAY SYSTEM

ICX TRANSMITTER

## Second vehicle kit (part number 98400)

If you switch Even Brake between two vehicles, install this BrakeAway System, ICX transmitter and Brake-Lite Relay (not shown) in the second vehicle.

## Cylinder arm and foot extensions

Although Even Brake 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 Even Brake to ensure a secure and stable fit.

The cylinder arm extensions increase the reach of Even Brake. Use a cylinder arm 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 Even Brake over obstructions such as duct work, a door jamb or a center console that juts into the available space.



## 1.5" cylinder arm extension

(part number 9336)

This option extends the reach of the Even Brake cylinder arm by 1½ inches. It threads between the pedal clamp and the cylinder arm.



## 3.5" cylinder arm extension

(part number 9336-3)

This option extends the reach of the Even Brake cylinder arm by 3½ inches. It threads between the pedal clamp and the cylinder arm.



## Foot extensions

(one extension: part number 9337

four extensions: part number 9337-4)

This option allows Even Brake 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 twenty (20) 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 Oregon, 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., 5602 N.E. Skyport Way, Portland, OR 97218

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

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.



Quality Towing Systems since 1974

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