



# Patriot<sup>®</sup>

## Braking System

### Owner's Manual

A new level of braking confidence.



Patent Pending

BRK2010  
(Patriot<sup>®</sup>)

## THANK YOU

for purchasing a Patriot<sup>®</sup> braking system from Blue Ox. We've organized this manual to make your installation simple and as trouble-free as possible. Insure it is read. Keep your sales receipt and this manual in a safe place so that both are available for future use if needed.

Read and understand fully these instructions prior to the use of this product.



## One-Year Limited Warranty

Automatic Equipment Manufacturing Company ("Automatic") warrants to the original (first) retail purchaser that this product, manufactured by Automatic, shall be free from defect in material and workmanship under normal use and service for a period of one year from the date of delivery.

During said one-year period, Automatic will repair or replace any parts that have been returned by the original purchaser, to the factory, transportation prepaid, and in Automatic's sole and absolute opinion found to be defective.

### Limitations on Warranty Coverage:

Coverage under this warranty will be valid only if the customer warranty card is returned by the original purchaser within 30 days of purchase.

Coverage under this warranty will be effective only when a copy of the original invoice, showing date and place of purchase, accompanies any claim for warranty. This warranty is NON TRANSFERABLE.

This limited warranty will not cover, in any way or form, any alleged damages caused by incorrect or improper installation, improper use, modification or neglect of product, failure to properly service and maintain, misuse, act of God, accident or failure of the user to follow guidelines contained in the instructional material provided by Automatic.

This warranty does not cover normal wear and tear, paint or rust.

Warrantor assumes no responsibility to the owner for loss of use of product, loss of time, inconvenience or any other damage consequential or otherwise. Including, but not limited to mileage, expense of transporting of product, return shipping expense, mechanics travel time, telephone, road service, towing, and rental during repairs, travel, lodging, loss or damage to personal property or loss of earnings.

**REPAIR OR REPLACEMENT AS SET FORTH IN THIS LIMITED WARRANTY IS THE SOLE EXCLUSIVE REMEDY OF THE PURCHASER. AUTOMATIC SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ON THIS PRODUCT. EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ON THIS PRODUCT IS LIMITED IN LENGTH TO THE DURATION OF THIS WARRANTY.**

Some states do NOT allow the exclusion of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so previous limitations or exclusions may NOT apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Automatic reserves the right to make changes or add improvements to its product at any time without any obligation to make such changes to previously manufactured equipment.

No liability is assumed for bodily injury that may be inflicted on the purchaser, operator, spectator or general public who is in the general area while this equipment is in use.

### WARRANTY REQUEST PROCEDURE:

If your Automatic product develops a defect during the warranty period, promptly notify Automatic Customer Care. Until such notice is received, Automatic will not be responsible for any repairs or replacement.

Upon receipt of notice from you, Automatic will have a choice of options in repairing or replacing any part it determines in its sole and absolute discretion to be defective. 1.) Customer Care may require you, at your own expense, to deliver or ship the part to the factory for evaluation. They will issue a "Return Merchandise Authorization" (RMA) number if this is required.

2.) Any part that is, in Automatic's sole and absolute judgment, found to be defective in material or workmanship, will be repaired or replaced, at Automatic's option without charge for parts or labor. At Automatic's option, new, refurbished or improved parts may be used in the repair or replacement of warranted items or replacement products.

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10/16/09



# Product Information & Table of Contents

## Equipment Information Record

Customer Name: \_\_\_\_\_  
 Date Purchased: \_\_\_\_\_  
 Purchased From: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
 Phone Number of Dealership: \_\_\_\_\_  
 Installed By: \_\_\_\_\_  
 Service #: \_\_\_\_\_  
 Model #: \_\_\_\_\_  
 Serial #: \_\_\_\_\_  
 Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## WARNING

**-FOR YOUR SAFETY-**

Fully understand these instructions before installing. Improper installation and/or operation can create a hazard which can cause serious injury, property damage or death. Improper installation and/or operation will void the warranty.

**At Blue Ox® we pride ourselves in offering exceptional customer service to our valued customers.**

**If you have any questions, comments, or concerns please feel free to contact a member of our Customer Care Team by calling (402) 385-3051.**

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## DEALERS AND DISTRIBUTORS:

PLEASE give the instructions to the customer so they fully understand the setup, operation, and safety precautions of this braking system.



# Welcome to the Blue Ox® Experience

**Congratulations! You are now the proud owner of a Patriot® braking system.**

Welcome to the Blue Ox® Family. The braking system that you have purchased combines quality components with the latest in technology and style. We are confident that these design features will provide you with the conveniences you expect during your travels. After you understand how to properly and safely operate and care for your Patriot®, expect years of trouble-free operation and service backed by a one year limited warranty.

In this manual, you will find installation instructions. Please read all of the technical documents, warnings, cautions, tips, and notes in this manual before attempting to operate your Patriot® for the first time. Improper installation, use or maintenance may result in malfunction causing personal injury or property damage. Finally, don't forget to fill out and return your warranty card or registering via our web site at [www.blueox.com](http://www.blueox.com) within ten days of delivery date and upon the original serial number being visible on the product and unaltered. For future reference, your serial number is located on the outside of the manual packaging and is also located on the bottom of your Patriot® unit.

**! WARNING**

Do **NOT** install the Patriot® on Hybrids or vehicles that have continuous power assist brakes. Doing so will cause severe tire damage.

**! WARNING**

Do **NOT** modify your Patriot® in any way **NOT** authorized by Blue Ox®, as it will void the warranty.

## Care & Maintenance

### Care and Maintenance of your Patriot® Braking System

Your Patriot® unit requires a minimal amount of care and maintenance. If you do not feel confident in your ability to perform the occasional maintenance, consult your Blue Ox® Dealer or Professional Installer, or see a Blue Ox representative at a rally or race that you plan to attend. The following will inform you of the areas of your Patriot® that will need periodic inspection and/or care and maintenance.

**- REMINDER -**

**Proper installation and use of this product is the sole responsibility of the purchaser.**

### Care

Do **NOT** use any type of solvent or spray cleaner on the Patriot® braking system. The recommended cleaning procedures for the Patriot® are to wipe down the exterior with a damp cloth. Wipe down with a dry cloth.

Store in a clean, dry place.

### Maintenance

It may be necessary to occasionally lubricate the brake bracket with silicone spray.

**! WARNING**

**- USE ONLY GENUINE FACTORY REPLACEMENT PARTS -**

Do NOT substitute homemade or non-typical parts. This may cause your brake to fail and result in injury or death. If repair parts or components are needed, you may order them through your nearest Blue Ox® Dealer or Distributor, or call our Customer Care Team at (402) 385-3051.



# Unpacking your Patriot®

Remove the Patriot® and accessories from the shipping carton, see parts list and diagram below. Make sure that you have the appropriate items shown below. If **NOT**, please contact a Blue Ox® Dealer or Distributor, or call a member of the Customer Care Team at (402) 385-3051 to order replacement parts.

## Patriot® Braking System

The Patriot® brake system is comprised of the Patriot® (with brake bracket assembly).

Patriot®



## Breakaway System



## Contents:

- 1 Patriot® assembly
- 2 2-Way RF In-Coach Controller
- 3 Brake Feet

- 4 Breakaway Switch
- 5 Breakaway Cable

**Tools Required**

- Phillips Screwdriver
- Wire Ties
- Vise Grip
- Rubber Grommet

**WARNING**

Be sure the breakaway cable is kept clear of the towbar, safety cables, electrical cord or any moving parts.

# BLUE OX Installation

This section will explain how to install the Patriot®.

*Note:*® Prepare the car for towing. Attach the tow bar.

In Towed Vehicle:

1. Open driver side door of towed vehicle, and push driver seat back as far as possible.
2. Place BRK 2010 Patriot® on the floor.



Fig. 1 Place clamp on brake pedal

3. Open "Claw" and place it on the brake pedal. (Fig. 1)

*Note:* Easiest way is to place the bottom claw under the pedal first, then slide the top claw over the top of the pedal.

4. Slide the driver's seat forward to touch push pads.

*Note:* Seat must be as far forward as possible without causing the brake lights to be activated.

5. Adjust the push-pad up or down for proper height position.



Fig. 2 Turn on Power Switch

6. Plug in power cord to cigarette lighter. Be sure there is 12 volt power.

7. Turn on the BRK 2010 Patriot® power switch. (Fig. 2)



Fig. 3 Adjust the brake pedal with the Jog Switch

8. When the display reads "Position Arm," use the JOG switch to push slightly on the brake pedal. (Fig. 3) You want the brake pedal in as far as possible WITHOUT activating the brake lights.

9. Push "SETUP" button.

The brake will stroke 3 (three) times then remain in the ready position.



Fig. 4 Push the Setup Button

*Note:* If the brake extends fully and remains extended without stroking three times, the seat is not far enough forward. Turn the brake off then back on, JOG the arm in as far as possible, and turn the brake off again. Reposition the seat as far forward as possible without causing the brake lights to be activated and continue with Step 5.

## In the Motor Coach:

Find a sturdy, easy-to-reach location to mount the RF in-coach controller. The dashboard is the suggested mounting point, but anywhere that is secure and accessible to the driver will work.



RF in-coach controller mounted on dashboard

There are two options for attaching the controller:

### Option 1: Velcro

Using the Velcro provided, attach one side to the desired mounting point, and the other side to the controller.

### Option 2: Screws

If you decide to use the screw method, place the controller in the desired mounting position, and mark the location of the two screw holes.

Use a screwdriver or a ¼" socket wrench to fasten the self drilling screws.

## BRK 2010 Patriot® Operating Instructions

Note: The Patriot® Brake can be used with and without the RF controller. We recommend using it for the operational feedback, but it can be set without the RF controller if needed (if lost or damaged).

1. Plug the 2-Way RF In-Coach Controller into an available 12 volt outlet.
2. The large number on the display represents the sensitivity setting of the Patriot® Brake; it will automatically be set to 5 when activated.
3. Turn the "Gain" knob to the left or right to adjust this setting. The lowest setting (0) puts the tow brake on stand-by and will apply no pressure to the brake. Settings 1 through 9 will incrementally increase the pressure applied.
4. On the bottom of the RF Controller there is a Manual Override Lever. Pressing down on this lever will cause the Patriot® Brake to press down on the brake pedal.  
  
Note: This is a progressive lever; the lever controls the braking according to the level set on the RF controller. This acts like a trailer brake and is useful in wet weather to keep the towed vehicle in line.
5. If the error light turns on, Check the display screen on the Patriot® Brake unit and refer to the following list of possible display messages for assistance. After addressing the problem, turn off the Patriot® Brake and restart the setup procedure.
6. If a break-away is installed, follow the instructions provided.

## CAUTION

These settings are **GENERAL GUIDELINES ONLY** and may vary depending on conditions, driver and/or the vehicles involved in your particular towing situation.



# Error Messages

Error messages DO show up on the brake itself and NOT on the RF inside the RV. You are notified of an error on the RF, but the error messages are displayed on the brake. In order for the breakaway switch to work properly, it must be plugged into the brake before you turn the brake on.

## Backup bat. Low!

This message appears when you first turn on the brake if the battery inside the brake itself is too low to power an emergency stop.

Remedy: Leave the unit plugged into the 12 volt power source of the vehicle, and internal battery will automatically recharge. [THIS SHOULD NEVER HAPPEN, ANYTIME THE BRAKE IS PLUGGED INTO THE CAR IT WILL BE RECHARGING THE INTERNAL BATTERY.]

## Car battery Low!

This message appears when you first turn on the brake if the vehicle's battery is too low for the brake to operate. This could also happen if the operator turns the brake on before plugging it into the 12 volt power source on the vehicle.

Remedy: The car's battery is dead, or too low to operate; recharge the car battery.

## Unit not level!

This message appears when the brake is too far off level for the accelerometers to function properly.

Remedy: Adjust the feet on the brake in order to level the unit as much as possible.

## Break-away error!

This message appears if the break-away was connected when the brake was turned on and has now lost that connection.

## "C" error!

The letter C will appear on the screen of the RF controller. The 2 way RF in coach controller is no longer communicating with the Patriot® Brake. This may be due to the position of the controller, if problem persists, try repositioning it in the coach.



# Disconnecting

This section will provide disconnecting information about the Patriot®.

Perform these steps each time you remove the Patriot®.

1. Unplug the Patriot®'s power cord from the 12-volt accessory outlet.
2. Adjust the driver's seat back.
3. Unhook the brake bracket from the brake pedal. Unplug the Breakaway clips from the Patriot® control panel (if applicable).
4. Lift the Patriot® out of the vehicle.

**CAUTION**

Shut off the unit and unplug the RF when you stop driving for the day. Don't leave the unit plugged in all night, it could drain your car battery.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

**To satisfy FCC RF exposure requirements for mobile and base station transmission devices, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during operation. To ensure compliance, operation at closer than this distance is not recommended.**

**The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.**



# The Patriot<sup>®</sup> Illustrated



*Clockwise:*

### **Brake Bracket**

The brake bracket attaches to the towed vehicle's brake pedal.

### **Actuator Arm**

When activated, extends to press the brake bracket against the towed vehicle's brake pedal.

**Manual  
Override Lever**



# Breakaway System

## Description of your product.

The Breakaway system automatically activates the Patriot® to apply the brakes on your towed vehicle in the event the motorhome separates from the towed vehicle. This type of emergency system is required by most states and provinces.

## Installation

**This section will explain how to install the Breakaway.**

### Mounting the Break-Away Switch

Note: The break-away switch is not to be installed on the tow bar or bracket.

1. With the pin facing the motor home, secure the break-away switch onto the front of the towed vehicle in a sturdy location. This should be a convenient location which can be easily reached, and if possible, on the driver's side.

Note: The surface must be strong enough to hold the break-away switch and allow for the pin to be pulled out cleanly.

2. Make certain that the switch is securely attached, and that the pin can be removed from the switch without any complication. Plug the cable into the break-away switch.

Note: The break-away cable MUST be connected to the Patriot® brake before turning on the brake.

### Connecting the Break-Away Switch to the Patriot® Brake

There are two different ways to attach the break-away device to the Patriot® Brake. Use the method which is most attractive to you.

#### Method 1: Through the firewall

1. Look for a preexisting hole in the firewall, if no hole exists, drill a 1/2" diameter hole.

Note: Make sure not to damage any components on either side of the firewall while drilling.

2. Find a path for the cable through the engine compartment to the firewall. Use wire ties to secure the cable. Make sure to avoid any hot or moving engine parts.

3. Insert the cable into the grommet and pull the excess slack into the driver's compartment. Seal around and inside of the grommet with silicone sealant.

4. Plug the cable into the Patriot® Brake.

Note: When not in use, the cable can be tucked away under the floor mat.

#### Method 2: Feeding the cable through the door/window

1) Find a path for the cable through the engine compartment to the rear of the hood/base of the windshield, on the driver's side. Use nylon ties to secure the cable so that it is avoiding any hot or moving engine parts.

2) Either roll down the window and thread the cable through, or open the door and thread the cable through. Make sure excess slack is safely coiled inside the driver's cockpit. Once the cable is through and connected, close the door/window.

Don't rely on overburdened brakes. Instead, rely on a complete braking system from the company synonymous with safe, reliable RVing. Blue Ox®.

To find the Blue Ox dealer nearest you, visit [www.blueox.com](http://www.blueox.com) or call 888-425-5382.

### Serial Number



### Customer Service Commitment

Blue Ox® is focused on providing exemplary customer service, as observed in our mission statement and guiding principles. In accordance with this objective, Blue Ox® is proud to provide services such as repairs and general maintenance of Blue Ox® products at over 150 RV Rallies. Look for our Destination America or Blue Ox® service crews at the next rally or race that you attend. If you were not present, you will find an informative, personalized note explaining any services that may have been performed to your Blue Ox® products.

Blue Ox® also offers educational seminars at rallies and through our Parks and Resort teams. In addition, Blue Ox® customers visiting our factory may take advantage of free use of the well-equipped Blue Ox® RV park at no charge to you, our valued and appreciated customer.

