Excellence in Compliance Testing

Certification Exhibit

FCC ID: 2AKILBX090
IC: 22194-BX090

FCC Rule Part: 15.247
ISED Canada Radio Standards Specification: RSS-247

ACS Project: 16-2075

Manufacturer: Creed Monarch, Inc.
Model: BX090

User Manual

Patriot II® Braking System

Owner's Manual & Installation Instructions

THANK YOU

for purchasing a Patriot II® braking system from Blue Ox®. We've organized this manual to make your installation simple and as trouble-free as possible. Please read before operating the brake. Keep your sales receipt and this manual in a safe place so that both are available for future use if needed.

Warning: Changes or modifications to this device not expressly approved could void the user's authority to operate the equipment.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

"Cet équipement est conforme aux limites d'exposition aux radiations dans un environnement non contrôlé. Cet équipement doit être installé et utilisé à distance minimum de 20 cm entre le radiateur et votre corps. Cet émetteur ne doit pas être co-localisées ou opérant en conjunction avec tout autre antenne ou transmetteur. "

Welcome to the Blue Ox® Experience

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

Welcome to the Blue Ox® Family. The inertia based 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 II®, expect years of trouble-free operation and service backed by a two year limited warranty.

Please read all of the technical documents, warnings, cautions, tips, and notes in this manual before attempting to operate your Patriot II® for the first time. Improper installation, use or maintenance may result in malfunction causing personal injury or property damage. Please fill out and return your warranty card or register via our web site at www.blueox.com within ten days of delivery. 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.

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

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.

WARNING

Always follow the towing procedures in your vehicle's owners manual.
Do NOT modify your Patriot II® in any way NOT authorized by Blue Ox®, as it will void the warranty.

DEALERS AND DISTRIBUTORS:

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

Patriot II® Braking System

Unpacking your Patriot II®

Remove the Patriot II® and accessories from the shipping carton, review 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 Technical Service Team at (402) 385-3051 to order replacement parts. Please charge the Patriot II® at least 8 hours prior to using.

Contents:

1. Patriot II® Unit
2. 2-Way RF In-Coach Controller
3. Rubber Stand for RF Controller
4. (2) Brake Feet
5. Breakaway Switch
6. Breakaway Lanyard
7. Breakaway Cable
8. XL Top Fangs

Important:
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 Technical Service Team at (402) 385-3051.

Safety & Compliance

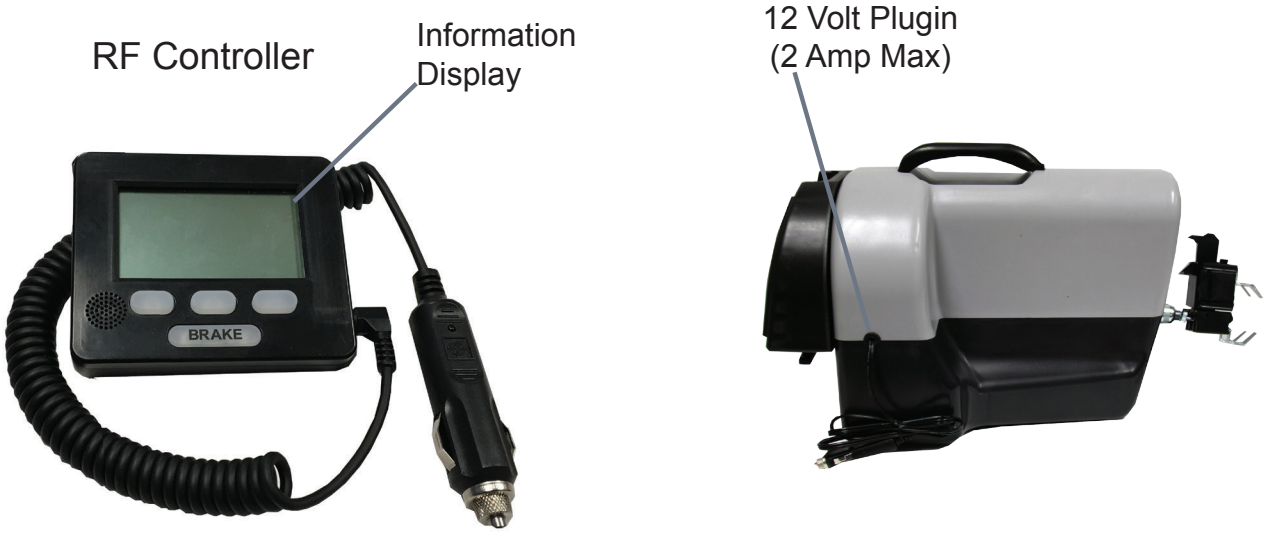
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate 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 in a 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.

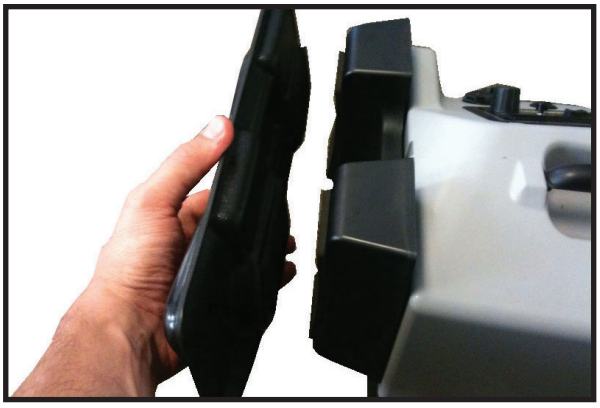
Patriot II® Braking System

Patriot II® Brake Unit



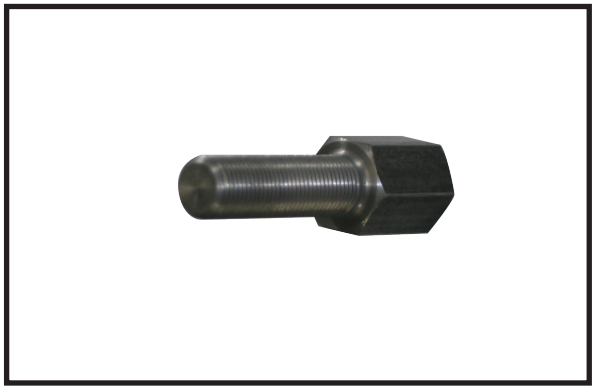
Patriot II® Accessories

If **you would like to order any of these accessory parts for your Patriot®**, please contact a Blue Ox® Dealer or Distributor, or call a member of the Technical Service Team at (402) 385-3051 to order these parts.



BRK2503: The seat stiffener works with any drop in tow brake on the market. It provides a larger surface area on the seat for the brake system to push against. This means you get better, more responsive braking.

BRK2502: If the driver seat does not move far enough forward to touch the back of the brake, this brake rod extension can be inserted between the brake claw and the actuator arm. This extender should also be used if there is a low steering column/dashboard which touches and interferes with the brake.



BRK2505: There is one (1) breakaway switch included with your Patriot II®. An additional switch for a second vehicle can be purchased.

Towed Vehicle Set-Up

In Towed Vehicle

1. Open the driver side door of the towed vehicle and push the driver seat back as far as possible.
2. Place the Patriot II® unit on the floor.
3. Open the brake claw and secure it on the brake pedal.
4. The Patriot II can be used with out the feet. If needed the feet can be attached and adjusted for proper height position for uneven floorboards.
5. Slide the driver seat forward against the push pads. Adjust the push pad up or down for proper height position in relationship to the seat.

   Note: The seat should not put any pressure on the back of the brake unit.
6. Plug in the power cord into a constant 12 volt power source. The indicator light on the cord will glow.

   Note: If constant 12V source is not used the brake could experience a low battery error
7. Press the power button. The indicator lights above power and setup will blink in a repeating sequence.

   Note: Make sure tow brake is in Hybrid mode for any continuous power assist brakes or hybrid vehicles. (see Page 9)
8. **Check to make sure the tow vehicle is not running.**

   Note: Any time the towed vehicle is started up, the brake needs to be reset.
9. Push the “SET-UP” button. The brake will stroke five (5) times then remain in the ready position.

   Note: The power light will illuminate green if the brake is set up properly. Refer to remote for any errors encountered during setup.

Figure 1

Figure 2

Figure 3

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.

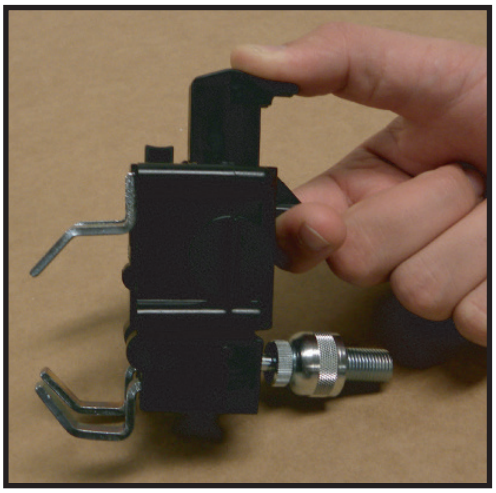
Using the Velcro provided, attach one side to the desired mounting point, and the other side to the controller.

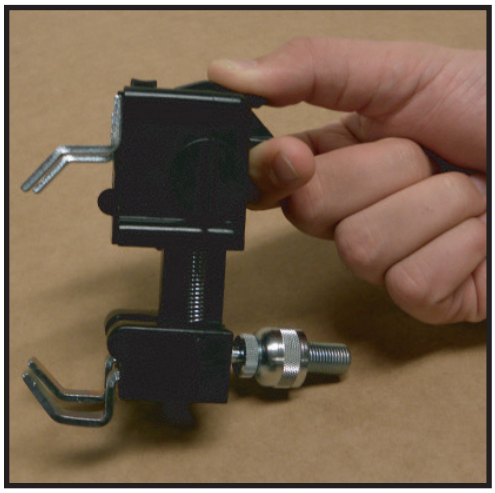
You can also place the remote in the rubber stand provided and rest it on a flat section of the dashboard. Make sure both the dash and the stand are clean and dust free before use.

Note: The Patriot II® Brake should be used with the RF controller. We recommend using the controller for the operational feedback, however, if necessary, the brake can be used without the RF controller present.

Figure 4

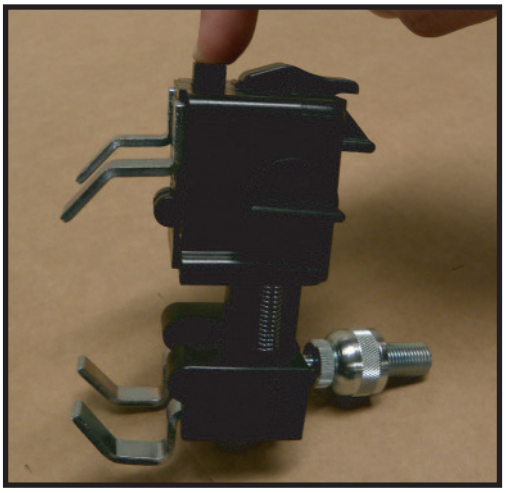
Locking Brake Claw Operating Instructions





To Open:

1. Place your thumb on top of the claw and place your pointer finger under the back ledge (right). Pinch your fingers together until the claw locks in place (left).



To Close:

2. Position the claw onto the brake pedal.

   NOTE: You can adjust the size of the claw by changing where the top fangs are mounted or by switching out the top fangs for the XL fangs.

3. Press the button on top of the claw to close the claw or push the front button against the brake pedal.

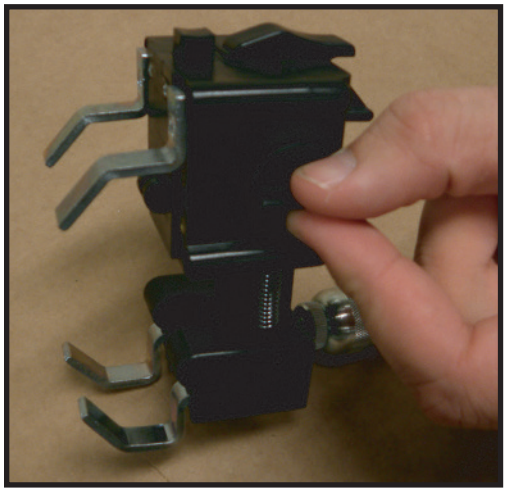
⚠ **Caution:** Make sure your fingers are not between the upper and lower half of the claw when you press the button.

To Lock:

4. If the claw is open, you can turn the knob one quarter turn to the left to lock it open.

   If the claw is closed, you can turn the knob one quarter turn to the left to prevent it from locking open.

   If the claw is locked, turn the knob one quarter turn to the right to unlock it.



Breakaway Installation

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

Mounting the Breakaway Switch

1. With the pin facing the motor home, secure the breakaway 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 side.

   Note: The breakaway switch must be mounted directly on the towed vehicle and not to be installed on the tow bar or bracket. The surface must be strong enough to hold the breakaway 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 interference. Plug the cable into the breakaway switch.
3. Install the breakaway switch using a bolt and lock nut. Do not use a self tapping screw.

Connecting the Breakaway Switch to the Patriot II® Brake

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

Method 1: Through the firewall

1. Look for a pre-existing hole in the firewall, if no hole exists, drill a ½" diameter hole. Insert a grommet into 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 II® Brake.

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

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.

⚠ WARNING

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

Installation Notes

When installing the Patriot II® on hybrids/vehicles with continuous power assist brakes you must do the following:

1. With the brake plugged in and turned on, use the remote to access the “SETUP” menu.
2. Access the hybrid vehicle menu option with the up & down arrows, and select it.
3. Change the Hybrid Vehicle mode to ON

Operating Instructions

1. Plug the 2-Way RF In-Coach Controller into an available 12 volt outlet.
2. The large number on the display represents the FORCE setting of the Patriot II® Brake; it will automatically be set to 5 when activated. In order to adjust how much force the Patriot II® will put on you vehicles brakes you can adjust the “FORCE” setting.
3. Select the “FORCE” button on the display

   “0” should only be used if you want the brake to activate in a breakaway event

   “1” may be used for lighter vehicles (under 3000 GVWR) behind a large motor home (more than 25K GVWR)

   “3” may be used for lighter vehicles (under 3000 GVWR) behind a smaller motor home (under than 25K GVWR) or a mid sized vehicle (under 4000 GVWR) behind a class A motor home

   “5” (standard setting) may be used for mid sized vehicles (under 5000 GVWR) behind a mid sized motor home

   “7” may be used for large vehicles (over 5000 GVWR) behind any size motor home

   “9” may be used if you are having great difficulty stopping the towed vehicle and should used if setting 7 or 8 is not applying enough braking pressure
4. On the bottom of the RF Controller there is a “MANUAL OVERRIDE” button. Pressing down on this button will cause the Patriot II® to press down on the brake pedal.

   Note: This acts like a trailer brake and is useful in wet weather to keep the towed vehicle in line.
5. If the screen on the remote chances color to either yellow or red, an error has occurred. Check the display screen on the Patriot II® remote to see what has happened. Errors with a yellow screen will prevent the brake from working properly, but do not require you to immediately pull over. Errors in red require you to immediately pull over and address them.
6. Insure the Patriot II® is plugged into a constant 12V power source.
7. If a breakaway switch is installed and plugged in, the “BRK/AWAY READY” message will appear on the remote. Follow the instructions provided.
8. **Anytime the towed vehicle is started up, the Patriot II® needs to be reset.**
9. Go through the set-up procedure again if the unit is shut off for any period of time.

Disconnecting

Perform these steps each time you remove the Patriot II®.

1. Turn off the Patriot II®. Unplug the Patriot II® power cord from the 12-volt accessory outlet.
2. Adjust the driver’s seat as far back as possible.
3. Unhook the brake bracket from the brake pedal. Unplug the breakaway cable from the Patriot II® control panel (if applicable).
4. Lift the Patriot II® 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.

PAIRING A REMOTE

Issue: If your remote is not receiving a signal or to pair a new or unpaired remote module.

On the Remote:

Press the “SETUP” button to access the setup menu.
Press the “DOWN” to choose the PAIR REMOTE option.
Press the “OK” button to select the PAIR REMOTE option.
Press the “START” button and leave the remote on this screen.

On the Brake Unit:

Hook up the brake in the towed vehicle, and follow the instruction manual to set it up. Once the brake is on and setup, hold the “SETUP” button for 1 second. Return to the remote to ensure the devices have been paired.

If paired successfully, the 4 digit code after “PAIR ACTIVE” will have updated to the new brake ID.
Press the “OK” button to return to the SETUP menu.
Press the “OK” button again to return to the main screen.

Error Codes

Error messages DO NOT show up on the brake itself. Errors are listed on the remote. Errors will change the color of the RF controller screen. If the screen turns yellow, you do not need to immediately address the issues, however, the brake will not function fully until you do. If the screen turns RED, you need to immediately pull over and address the issue. Failure to do so may cause brake damage. Please contact a customer care representative at (402) 385-3051 if you require assistance.

CHECK POWER CONNECTION

This message will appear when the brake reads an input voltage below 10V. This means that the brake has detected that the towed car's battery is very low ***(OR the brake is no longer receiving power from the car receptacle)*** The brake will go into an idle state and not work for normal braking. ***It will work in the event of a breakaway!***

When it is safe to do so, pull over and inspect the towed vehicle. Check the indicator light on the power cord to see if the brake is receiving power. If this is the case, check the towed vehicles car battery voltage. If power is restored, the status light will change back to green, and you are OK to resume your trip.

Anytime the towed vehicle is started up, the Patriot II® needs to be reset.

REPOSITION BRAKE

If the unit fails to successfully setup twice in a row, the following should be done:

- Adjust the push pads up or down to get better contact with the drivers seat
- Make sure the back of the brake unit is resting against the front of the drivers seat.

  Note: The seat should not put any pressure on the back of the brake unit.
- Ensure the brake "Claw" is securely attached to the brake pedal
- A seat stiffener can be used to provide a larger surface area for the brake to push against.

BREAKAWAY

The unit has entered a BREAKAWAY state and the brake is being fully applied. If you believe the vehicle is still firmly attached to the RV and are unable to pull over, you can deactivate the breakaway by holding down both the left and right buttons on the remote.

As soon as it is safe to do so:

Pull over, secure the car, check all breakaway connections. If the error is cleared then you may continue driving.

BRAKE NOT FOUND

The 2 way RF in coach controller is no longer communicating with the Patriot II® Brake. If you are using a new remote, you will need to pair your remote with the brake unit. This may be due to the position of the controller, if the problem persists contact Blue Ox® customer care.

RESET TOW BRAKE

The brake has detected an error and will not activate until you reset the brake. If this error persists, contact customer support.

Care and Maintenance of your Patriot II® Braking System

Your Patriot II® 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 II® that will need periodic inspection and/or care and maintenance.

Care

Do **NOT** use any type of solvent or spray cleaner on the Patriot II® braking system. The recommended cleaning procedures for the Patriot II® 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.

- REMINDER -

Operating temperature of the Patriot II® is between -20ºF and 120ºF

CUSTOMER SERVICE COMMITMENT

Blue Ox® is committed to providing you with exceptional customer care throughout your lifetime with our products. Our team is here to assist you with any questions you may have regarding the performance of your product. Simply call (402) 385-3051 and you can speak with our technical service team.

Additionally, please visit our website to see which rallies our Destination America team will be attending. For a nominal fee, our service technician will service your towing system to ensure it's in proper working condition. Also, as a commitment to our customers, should you visit our factory, you can stay at our full service Blue Ox® campground at no charge along with enjoying a factory tour.

Again, thank you for being our customer and for the confidence you have shown in the performance of our products. It is because of customers like you we enjoy the success we have today.

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