

# HOGTUNES

*Audio Solutions For The Great American Cruiser*



## **NCA 450-RM**

*200 Watt 4-Channel Amplifier*

**FOR USE ON RUSHMORE PLATFORM BIKES**

**INSTALLATION MANUAL**



Thank you for choosing the Hogtunes NCA 450-RM Amplifier for 2014+ Rushmore Platform Bikes. Since positive word of mouth is the best way to grow our business, we want your new system to work as well as it was designed to. If you have any questions or concerns, we are here to help.

**IMPORTANT: The NCA 450-RM makes its best power when powering 2 ohm ( $\Omega$ ) speakers. Running higher impedance speakers (3, 4, 6 or 8 ohm) will reduce the amplifier's power output!**

The NCA 450-RM is rated for 50 watts per channel using 2 ohm speakers at 14.4 volts at 1% Total Harmonic Distortion (THD). Although this amplifier makes its highest power with 2 ohm speakers, if Hogtunes 5.75 ohm speakers or 4 ohm car speakers are used there will still be a noticeable improvement in volume and sound quality.

If you are not using Hogtunes speakers with this amplifier, chances are the speaker connectors are not the same as stock. If you need to change connectors, please note that on all Hogtunes products, the smaller connector (black wire) is positive (+).



*A video version of this manual is available at **[www.hogtunes.com](http://www.hogtunes.com)** If you still need assistance, please consider a professional installation by your motorcycle dealer.*

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### **Hogtunes Contact Information**

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Tel: 705-719-6361

# INSTALLATION INSTRUCTIONS

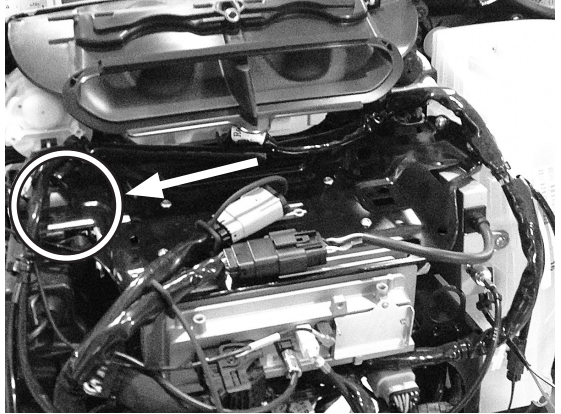
Step #1: Remove the seat and both wires (+ and -) from the battery.

Step #2: Remove your outer fairing/headlamp assembly and set aside. Refer to a service manual if you need help with this. NOTE: Placing a towel or something similar on the front fender can help prevent “dings” or scratches from dropped tools or fasteners. Expletives will also be kept to a minimum!

Step #3: Over top of the radio, pull up to release each wire harness from the black plate via the factory “Christmas Tree” fasteners. If your bike has a factory GPS, the small square antenna will need to be relocated just behind the voltmeter as shown in Fig 1.1.

Remove the four factory T-20 “Torx” screws that go through the top of the black plate and into the top of the radio. Set these screws aside for now.

Step #4: The amplifier comes pre-mounted to a silver mounting plate. Locate and remove the four screws (2 per side) that attach the amp to the silver plate. Put these screws just removed and the amplifier aside for now.



*Figure 1.1 - The white circle shows the new location for GPS Antenna if your bike came factory equipped with this feature.*

Step #5: Sit the supplied silver plate on top of the radio as shown in Fig 1.2. Locate and install one of the supplied "star" washers on each factory screw and re-install the screw/washer through the silver plate, through the factory black plate and into the top of the radio. Locate the main power harness and plug it into the matching "pig-tail" on the side of the amp.

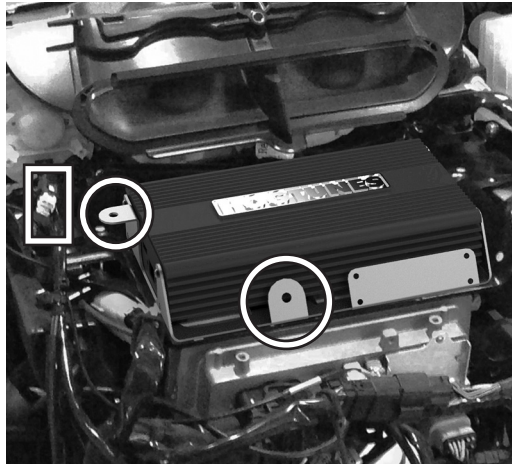


Figure 1.2 - Amplifier and mounting plate correctly oriented. The plate with four small holes is for mounting a popular Harley accessory. The white circles show tabs which are there for the "Christmas Tree" fasteners to re-secure the harnesses lifted earlier.

**There are two options for the way the amp will be used. Please identify which one you will use before proceeding.**

### **OPTION 1:**

**If amp is being used to power front and rear speakers in stock locations on an Ultra Classic:**

- The rear wire harness you need is the longest in your kit. Locate this harness and plug the 4 pin plug labeled "rear out" into the "rear out" socket on the side of the amp. You will see a switch labeled "fader/no fader" Make sure this switch is on "fader".

### **OPTION 2:**

**If this amp will have the rear channels powering speaker lids, fairing lower speakers or rears speakers on a Street Glide or other "non Ultra" model:**

- In the kit you will see a 4 pin "rear accessory harness" with four short brown/black and blue/black wires labeled L+, L-, R+ and R-. Install this into the rear out socket on the side of the amp. You will need to run the wires for your second set of speakers and splice into this harness. Please do a good job!

- You will see a “fader/no fader” switch on the side of the amp. In this option you will put the amp to the “no fader” setting. Also on the side of the amp is a switch to adjust the volume of the rear channels (compare to the volume of the front speakers) In most cases, you will leave this adjustment at the middle (“0”) setting.  
NOTE: As Hogtunes releases more speaker kits for Rushmore bikes, they will come with the correct harnesses, so the supplied rear accessory harness described in this section may not be used.

- Step #6: Locate the harness with blue/black and brown/black wires, and insert the 4 pin plug into the “front out” socket on the side of the amp. Locate the harness with the green/black and yellow/black wires and install the rectangular 8 pin socket into “audio in” on the side of the amp. Note: If your installing this amplifier on an Ultra where the radios fader will control the volume between the front and rear speakers, you will need to join the plug marked “rear in” on the rear speaker harness to the plug marked “rear in” on the input harness noting they will only go in one way. Make sure to have the “fader/no fader” switch set to “fader”! Sit the amp on top of the silver plate so when standing in front of the bike you can read the Hogtunes logo on top of the amp. Re-install the amp to the plate using the four screws removed earlier.
- Step #7: Also in Fig 1.2 is a white square which shows a smaller black 2 pin factory plug. The orange wire from the amp has a plug that goes directly into this factory harness. On the factory plug we are describing, there maybe a factory plug with no wires already installed into it which will have to be removed. The factory wire colors going into the plug are Purple/blue stripe and black and can be see under the factory sheathing. The orange wire is the amplifier’s “turn on” lead and tells the amp to turn on/off with the bike’s ignition. The amplifier will not turn on if this wire is not hooked up to this (or any) switched B+ source!
- Step #8: If you have not done so already, separate the molex plugs that go directly into each speaker cabinet. The plug with the blue/black wires will install into the factory plug that goes directly into the brake side speaker cabinet. The plug with green/black wires will install into the factory connector that originally plugged directly into the brake side speaker cabinet (has pink/pink black wires).
- Step #9: The plug with the brown/black wires will install into the factory plug that goes directly into the clutch side speaker cabinet. The plug with yellow/black wires will install into the factory connector that originally plugged directly into the clutch side speaker cabinet (has pink/pink black wires).

# **ROUTING THE POWER AND LONG REAR SPEAKER HARNESS FOR ULTRA STOCK LOCATION SPEAKERS**

Step #1: The power/ground harness and supplied long rear harness for Ultras will pass together under the inner fairing where the main wire harness passes through on the brake side of the bike. Loosen the tank's "chrome console" and run wires up and over the gas tank, but under the tank's chrome console. There is a provision on the front of the tank console for wires to pass. NOTE: Although not necessary, the power and rear harnesses can go under the gas tank if you choose to remove and re-install the tank.



**Figure 1.3 - Stock Harness and Amplifier's Harnesses Passing From Fairing To Just In Front Of Tank (Arrow A). Cable Tying the 2 Amp Harnesses To The Main Bike Harness Just In Front Of The Tank (Arrow B) Allows The Amp Harnesses To Go Up Towards The Tank's Chrome Console Easier And Makes For a Cleaner Install.**

- When correctly installed, the power and ground wires are the right length to connect to the battery. If used, the supplied rear harness for Ultras is the right length so that its two ends can sit on the middle of the back fender just behind the threaded insert for the bolt that holds the back of your seat in place.

Step #2: Just behind the threaded insert that holds the seat bolt on the back fender, you will see a large factory wire plug. One side of the plug has wires that go to each rear speaker pod. Separate this large factory plug. One plug from the Houghtunes rear harness will plug into each side of the factory plug just separated. They will only go together one way.

At this point, all audio connections for this system are made. You will have a left over plug on the amp which is what we call the bypass out. It is there for future expansion of your system as we release more products for Rushmore platform bikes.

- Step #3: Attach the amp's red wire to the positive (+) battery terminal and the amp's black wire to the negative (-) battery terminal. The factory battery wires are also re-installed at this point. When attaching the power and ground wires, it is always a good practice to do the negative first. When the positive connector touches the battery, some sparking is normal. This is a function of the capacitors in the amplifier charging up.
- Step #4: Turn the stereo on and, at low volume, test to make sure all four speakers are working. If on an Ultra where the amp is powering front and rear speakers in stock locations, make sure the radio's fader control is adjusting the volume between front and rear speakers. If not, double check the "Fader/No Fader" switch.
- NOTE: If this amp has the rear channels powering speaker lids, fairing lower speakers or rears speakers on a Street Glide or other "non Ultra" model, the rear channels will not work unless the fader/no fader switch is in the "no fader" position. Don't forget that you can use the 3 position switch on the amp to adjust the rear speakers volume in comparison to the front speaker. This is there to allow you to adjust the "balance" of the system without requiring a radio re-flash to make the radios fader work.
- Step #5: Re-install the seat making sure the amplifier's "+" and "-" connectors are positioned in such away so they will not bend or break when the rider's weight is on the seat.

This is the best time to take a few minutes to "clean up" the wiring and secure using supplied zip-ties.

*Before re-installing outer fairing, turn front wheel to each extreme side making sure any wiring is not impeding the steering of the motorcycle. Failure to do so can result in serious injury or death!*

**Re-install the fairing and your system is now ready to enjoy!**



## **ADJUSTING YOUR SYSTEM-PLEASE READ!**

In order to make your new system perform as good as it was designed, please take a minute to understand and follow these tips:

- 1) Set your "Automatic Volume Control" (AVC) to 3 bars. After extensive on-road testing, we found that this AVC position works and sounds best. Your new amplifier has been specifically set-up for this radio setting.
- 2) Your Hogtunes system is designed specifically for a motorcycle at speed. Exhaust noise and wind noise have been taken into careful consideration in how your system performs. How your new system sounds in a driveway or garage is radically different from how it will sound at highway speeds. Although your system was set-up with a factory radio, with its bass and treble controls in the middle position, if you feel the need to make adjustments please do so (carefully) at your normal cruising speed.

## **TECHNICAL SPECIFICATIONS**

### **Hogtunes NCA 450-RM Amplifier**

Rated Power at 2 Ohms:	50 Watts x 4 Channels
Fuse:	30 amp

## **WARRANTY INFORMATION**

**Please Record Your Amplifier's Serial # Here** \_\_\_\_\_

The NCA 450-RM Amplifier is warranted for 3 years from original purchase date. Proof of purchase is required for all warranty claims. The warranty applies to the original retail customer and is not transferable. Please contact Hogtunes for all warranty claims. Products found to be defective during the warranty period will be repaired or replaced (*with a product deemed to be equivalent*) at Hogtunes sole discretion. Hogtunes complete warranty policy is available on our website at:

**[www.hogtunes.com/warranty.html](http://www.hogtunes.com/warranty.html)**

### **What Is Not Covered:**

- 1) Any expense related to the removal or re-installation of Hogtunes products.
- 2) Repairs to these products performed by anyone other than Hogtunes.
- 3) Subsequent damage to any other components.
- 4) Any product purchased from a non-authorized Hogtunes dealer.
- 5) Damage to Hogtunes products due to an accident or collision.
- 6) Hogtunes Amplifiers with broken or removed "warranty void" stickers.
- 7) Damage due to water from custom installations.
- 8) Damage from incorrect installation, improper use, abuse or modifications.
- 9) Damage to inbound product due to improper packing.

**IMPORTANT: In the event of a warranty claim, please fill out the form in the Warranty section of our website, or contact us by email or by phone. Valid claims will have a Return Authorization Number (RA#) generated which MUST appear on the outside of the box when it arrives to our offices.**

**Goods Arriving Without An RA# Will Be Refused!**

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**Hogtunes products will play much louder than the Original Equipment, which can be a distraction to the rider and/or passenger. Please use caution when adjusting or playing your stereo at high volume, especially in traffic.**

***You are a valued customer so please:***

**Ride Alert  
Arrive Alive!**

**[www.hogtunes.com](http://www.hogtunes.com)**