

NOTE: This installation is to be completed by an Authorized Dealer or Professional Service Technician. For questions regarding installation or warranty, call CDI Tech Support at 866-423-4832. **Do not return to the Dealer or Distributor where the part was purchased. Contact CDI Electronics Directly for Return Material Authorization.**

## CDI P/N: 152-9209 Universal Rectifier

NOTE: This universal rectifier can be used to replace Chrysler/Force P/N: F474471, F404470-1, F510450, F510450-1, FA617450, FA650450, FK650450, F684450, and other applications as needed.

This product is designed for installation by a professional marine mechanic. CDI cannot be held liable for injury or damage resulting from improper installation, abuse, neglect or misuse of this product.

**DO NOT USE A MAINTAINENCE FREE OR AGM BATTERY WITH THIS RECTIFIER AS DAMAGE TO ELECTRICAL PARTS MAY OCCUR!!!**

### Installation

1. Disconnect the battery negative cable.
2. Disconnect the old rectifier (note the color of the stator wires).
3. Remove the old rectifier, saving the original mounting screw.
4. Mount the new rectifier, using the original screw. It is recommended you use a small amount of heat-sink compound (989-8109) on the backside of the new rectifier to aid in heat transfer to the metal mounting boss.
5. Connect the black engine ground wire to the ENG GND terminal.
6. Connect the red jumper wire from the starter solenoid to the + BAT terminal.
7. Connect the wires from the stator to the AC 1 and AC 2 terminals.



### Troubleshooting

Using a digital Volt/Ohm meter, Check the resistance of the rectifier as follows:

Red Meter Lead	Black Meter Lead	Reading
ENG GND	AC 1	over 1 M Ohms
ENG GND	AC 2	over 1 M Ohms
AC 1	+ BAT	over 1 M Ohms
AC 2	+ BAT	over 1 M Ohms
AC 1	ENG GND	Open
AC 2	ENG GND	Open
+ BAT	AC 1	Open
+ BAT	AC 2	Open

\* Diode readings are to be read one way, then reverse the leads and read again. You should get a low reading in one direction and a higher reading in the other.

#### CHECKING MAXIMUM OUTPUT:

1. Install an ammeter capable of reading at least 15 amperes in-line on the red wire from the rectifier to the starter solenoid.
2. Connect a load bank to the battery.
3. In the water or on a Dynometer, start the engine and bring the RPM up to approximately 4500 in gear.
4. Turn on the load bank switches to increase the battery load to equal stator capacity and check the ammeter.
5. If the amperage is low,
  - A) Check the load bank connections and meter for battery draw.
  - B) If the output is still low, check and clean all connections between the battery and the rectifier. Inspect stator windings for burned or discolored windings.
6. If the amperage is correct, but the battery voltage remains low, replace the battery.

#### BATTERY OVER-CHARGGING:

1. Using a voltmeter, check the voltage on the battery and compare it to the voltage on the red wire connected to the starter solenoid to engine ground.
2. If the voltage is high on the engine compared to the voltage on the battery, do a voltage drop test and try to isolate the area where the problem is.
3. If the voltage is the same on the battery and the engine, but is over 15.5 volts at 4500 RPM, replace the battery with a known good high quality **FLOODED CELL MARINE** battery.
4. A continued high voltage reading may indicate the need for a regulator/rectifier combination instead of an rectifier only.