

This kit will replace the 88825A 7 regulator and the 816770 rectifier.

**WARNINGS:**

**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, AGM OR DRY CELL BATTERY WITH THIS TYPE REGULATOR/RECTIFIER!!!**

**NEVER DISCONNECT THE BATTERY WHILE THE ENGINE IS RUNNING AS THIS MAY BURN OUT THE REGULATOR/RECTIFIER. *If the boat is equipped with a battery switch, make sure that it is a make before break type.***

1. Disconnect the battery negative post.
2. Disconnect and remove the old regulator and rectifier (save the screws you removed from the old regulator).
3. Use a quality heat-sink compound (CDI P/N: 989-8109) on the back of the new mounting plate and mount the plate where the old regulator was mounted, (using the screws you removed from the old regulator).



4. Remove the terminals from the wires that were connected to the old rectifier (the two stator yellow wires, the gray tach wire and the red wire).
5. Slide the male terminal shields onto the gray tach wire and the larger red wire. Then crimp and solder the male bullet connectors on the gray and red wires.
6. Slide the female shields on the yellow stator wires (and the other red wire if needed), then crimp and solder the female bullet connectors on the two yellow (and the red wire if needed).
7. Put a small amount of a quality heat-sink compound (CDI P/N: 989-8109) on the back of the regulator/rectifier before you install it on the mounting plate.
8. Using the internal lock washers and hex nuts supplied, install the new regulator/rectifier on the mounting plate.



9. Connect all wires to the regulator/rectifier, matching color codes (the gray stripe on the OEM stator can be connected to either yellow wire on the regulator/rectifier).

**SERVICE NOTE:** It is recommended that dielectric grease (i.e. RAPAIR/CDI P/N 991-9705) be used in the bullet nose connectors to help prevent corrosion.

9. Reconnect the battery cables.

**INSTALLATION NOTE:** These regulator/rectifiers will cause a small spark when you reconnect the battery and will draw a very small amount of current from the battery (Less than 0.001 amp).

## Troubleshooting

### Tachometer

1. At 800-1000 RPM, check output on the gray wire, reading should be at least 8 volts with a DVA meter. A low reading usually indicates a bad regulator if the system is charging the battery.
2. Check the resistance between the gray wire and engine ground. You should read above 100K (100,000) ohms. Gray to red, and gray to the yellow wires should be a high reading, usually in the M range.



# Installation and Troubleshooting Guide

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## Maximum Output Test

1. Install an ammeter capable of reading at least 20 amperes in-line on the red wire connected to the starter solenoid.
2. Connect a load bank to the battery.
3. In the water or on a Dynamometer, 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 15 to 20 Amps.
5. Check the ammeter.
6. If the amperage is low,
  - A) Check the load bank for battery draw.
  - B) Reconnect the ammeter between the red wires from one of the regulator/rectifiers and the terminal strip. Retest. You should show about 15 - 16 Amps from the regulator/rectifier.
  - C) If the output is still low, check and clean all connections between the battery and the regulator/rectifier plate.
7. If the amperage is correct, but the battery voltage remains low, replace the battery.

## Over Voltage

1. Clean all battery terminals, cables and mounting bosses.
2. Check the voltage on the battery with a digital volt meter and compare it to the dash meter.
3. Compare the voltage at the regulator/rectifier with the voltage at the battery. If the voltage is ok at the regulator/rectifier and not good at the battery, you have a bad connection somewhere.
4. Replace the battery with a known good marine battery (Not a Maintenance-Free!) and retest. If the battery voltage remains ok, install a new battery.

## Bench Test

### *Diode plate check:*

Test the forward diodes between the two yellow wires and the red wire. You should get a reading of about 45K (45,000) on one and a high reading on the other. Check the resistance from each of the yellow wires to case ground, you should get a reading of about 56K (56,000) on one and a high reading on the other. The red wire should read about 14K (14,000) ohms to ground.

### *Tachometer Circuit:*

Check the resistance between the gray wire and engine ground. You should read above 100K (100,000) ohms. Gray to red, and gray to the yellow wires should be a high reading, usually in the M range

Thank you for using CDI Electronics

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