Installation and Troubleshooting Guide

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 Materiel Authorization**.

CDI P/N: 194-8825K 1 Regulator/Rectifier Kit 6 Cyl., 16 Amp

This kit will replace the 88825A 1, 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.***

SERVICE NOTE: DO NOT REMOVE THE Y JUMPER FROM THE RED WIRES AS BOTH RED WIRES HAVE TO BE CONNECTED TO 12V DC IN ORDER FOR THE REGULATOR/RECTIFIER TO WORK.

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 wires from the engine that were connected to the old two post Regulator and Rectifier.
5. Remove the old Red and Yellow wires that went to the old Rectifier as they are no longer needed.
6. Remove the terminals from the wires that were connected to the old Rectifier (the two stator Yellow wires, the Grey tach wire and the Red wire from the harness. Strip approximately 3/16” of insulation from the Red wire end, then crimp and solder the male bullet connector on the wire. Slide the boot up to cover the wire crimp.
7. Slide the male terminal shields onto the Grey tach wire. Strip approximately 3/16” of insulation from the wire end, then crimp and solder the male bullet connector on the wire. Slide the boot up to cover the wire crimp.
8. Slide the female shields on the Yellow stator wires that were connected to the rectifier. Strip approximately 3/16” of insulation from the wire ends, then crimp and solder the female bullet connectors on the two Yellow wires. Slide the shields up to cover the wire crimp.
9. 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.
10. Using the internal lock washers and hex nuts supplied, install the new regulator/rectifier on the mounting plate.
11. Connect all wires to the new Regulator/Rectifier, matching wire colors. **Do not remove the Y jumper from the Red wires as both Red wires on the new Regulator/Rectifier have to be connected to 12V DC in order for the new Regulator/Rectifier to work.** A Grey stripe on the OEM stator can be connected to either Yellow wire of the Regulator/Rectifier.

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

12. Reconnect the battery cables.

INSTALLATION NOTE: *These regulator/rectifiers may 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).*

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TROUBLESHOOTING

BATTERY NOT CHARGING:

1. Verify **Both** Red wires are connected to the battery. Both wires have to have battery voltage in order for the Regulator/Rectifier to work.
2. Remove the flywheel and inspect the heavy battery charge windings for discoloration. If the windings are a dark color, replace the stator.

NO TACHOMETER SIGNAL:

1. At 800-1000 RPM, check output on the Grey wire, reading should be at least 8 DVA. A low reading usually indicates a bad regulator if the system is charging the battery.
2. Check the resistance between the Grey wire and engine ground. You should read about 10K Ω. Grey to Red, and Grey to the Yellow wires should be a high reading, usually in the M range.

MAXIMUN OUTPUT TEST

1. Install an ammeter capable of reading at least 30 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 30 Amps.
5. Check the ammeter.
6. If the amperage is low,
   A) Check the load bank for battery amperage draw.
   B) Reconnect the ammeter between the Red wire from the regulator/rectifier and the terminal strip. Retest. You should show about 15 - 20 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.

OVERCHARGING

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. Clean the battery posts and terminals.
4. Replace the battery with a known good marine battery and retest. If the battery voltage remains ok, install a new battery.

BENCH TEST

METER TESTING:

Test the Regulator/Rectifier as follows:.

Red Meter Lead	Black Meter Lead	Ohms
Yellow Stator Leads (each)	Red Regulator Y Jumper	30K – 50K Ω (α)
Yellow Stator Leads (each)	Case	Open, M Ω or OL(Out of Limit)
Red Regulator (w/Barrel Terminal)	Red Regulator Y Jumper	Open, M Ω or OL(Out of Limit)
Case	Yellow Stator Lead (each)	Open, M Ω or OL(Out of Limit)
Case	Red Regulator Y Jumper	Open, M Ω or OL(Out of Limit)
Case	Grey Terminal	10K Ω

(α) If one of the Yellow wires shows a low reading of about 10K Ω, leave the meter connected for a minute. It should change to the 30K – 50K Ω range.