



# Installation and Troubleshooting Guide



NOTE: This installation is to be completed by an Authorized Dealer or Professional Service Technicia. Do not return to the Dealer or Distributor where the part was purchased. Contact CDI Electronics Directly for Return Materiel Authorization.

## CDI P/N's: 193-4205 Voltage Regulator

NOTE: This unit replaces P/N's: 193-2907, 582907, 583512, 584205, 584675, 585192, 763791 and 878332

### 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 AS THIS WILL VOID THE WARRANTY!!!**

**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.***

## INSTALLATION

1. Disconnect the negative battery cable and all wires from the regulator.
2. Remove the old rectifier/regulator. (Note: On some engines, it may be necessary to remove the flywheel first.)
3. Thoroughly clean all ground connections and regulator mounting area.
4. If two of the mounting bolts do not have stainless steel star washers, scrape the area around two of the mounting bolt holes so clean metal is showing to ensure the rectifier/regulator case is grounded.
5. Install the new regulator using the new gasket. Make sure the mounting bolt's star washer is against the regulator/rectifier case.
6. Connect the new rectifier/regulator to the stator (ignore any stripes on the stator as the new rectifier/regulator does not require the Yellow wires to be connected to a particular stator wire).
7. Reconnect the negative battery cable.

## TESTING REGULATOR/RECTIFIERS ON THE ENGINE

Recommended tools:

CDI multimeter with DVA adapter (CDI 511-9773-NL)

Load bank

Piercing probes (CDI 511-9770)

Jumper wires

1. Install an ammeter capable of reading the maximum output 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.
4. At 800-1000 RPM, check output on the grey wire, the 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 properly and a test tachometer also does not work.
5. Bring the RPM up to approximately 3500.
6. Turn on the load bank switches to increase the battery load to match the rated output of the stator.
7. Check the ammeter.
8. If the amperage is low,
  - A) Check the purple wire for voltage while the engine is running. You should see the same voltage as the battery.
  - B) Connect a jumper wire from the Positive battery cable to the purple wire and recheck the ammeter. If the amperage is now correct, there is a problem in the harness or key switch.
9. If the amperage is correct, but the battery voltage remains low, replace the battery.