



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 Material Authorization.**

CDI P/N: 194-8736K 1 Voltage Regulator Kit 6 Cylinder

This kit will replace all of the 18736 series regulator/rectifiers. **NOTE: This conversion kit requires a 174-9610K2 or 398-9610 stator with 4 yellow wires.**

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/RECTIFIERS. If the boat is equipped with a battery switch, make sure that it is a make before break type.

INSTALLATION

NOTE: This conversion kit requires a stator with 4 yellow wires. Connecting a 2 yellow wire stator to one of the regulators will burn out the regulator (NOT covered under warranty).

1. Disconnect the battery negative post.
2. Disconnect the green wires from the ignition coils and the high tension leads from the spark plugs.
3. Disconnect the old regulator/rectifier.
4. Remove the coil plate covering the regulator/rectifier.
5. Remove the old regulator/rectifier.
6. Clean the gasket area where the o-ring sealed the old regulator/rectifier.
7. Connect the top new regulator/rectifier to the stator's short Yellow wires (please verify the two Yellow stator wires are from the same winding by checking the resistance between the two wires – approximately 0.5 ohms).
8. Connect the Bottom new regulator/rectifier to the stator's long Yellow wires (please verify the two Yellow stator wires are from the same winding by checking the resistance between the two wires – approximately 0.5 ohms).
9. Connect the Grey tachometer lead from the top regulator/rectifier to the terminal strips Grey terminal.
10. NOTE: *The small red wire and the purple wire are not used in this application.*
SERVICE NOTE: It is recommended that dielectric grease (i.e. CDI P/N 991-9705) be used in the bullet nose connectors to help prevent corrosion.
11. Using the new spacers and bolts, mount the new regulator/rectifier plate assembly with the coil plate. (Wires up).
12. Re-install the coil plate assembly.
13. Reconnect the green wires to the ignition coils and the high tension leads to the spark plugs.

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 0.01 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. Try connecting the Grey tach lead to the other regulator/rectifier
2. Check the resistance between the Grey wire and engine ground. You should read above 100K (100,000) ohms. Grey to Red, and Grey to the yellow wires should be a high reading, usually in the M range.

Maximum Output Test

1. Install an ammeter capable of reading at least 40 amps 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 allow it to warm up.
4. Bring the engine RPM up to approximately 4500 in GEAR.
5. Turn on the load bank switches to increase the battery load to equal 40 Amps.
6. Check the ammeter.
7. If the amperage is low,
 - A) Check the load bank for battery draw.
 - B) Reconnect the ammeter between the Red wire from one of the regulator/rectifiers and the terminal strip. Retest. You should show about 20 Amps from each regulator/rectifier.

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- C) If the output is still low, check and clean all connections between the battery and the regulator/rectifier plate.
8. If the amperage is correct, but the battery voltage remains low, replace the 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. Grey to Red, and Grey to the Yellow wires should be a high reading, usually in the M range.