

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 PN: 194-0001 Regulator/Rectifier 25 Amp

Replaces: 881346T, 6D3-81960-00-00 and 68V-81960-00-00.

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.**

INSTALLATION

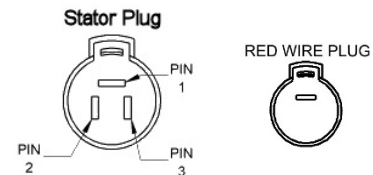
1. Disconnect the negative battery cable.
2. Remove any cover over the ECU and Regulator/Rectifier. If the cover does not allow air flow over the Regulator/Rectifier, create a couple of air holes 1 inch (or larger) near the bottom and 2 near the top of the cover.
3. Disconnect and remove the old regulator/rectifier.
4. Install the new regulator/rectifier, using the original mounting bolts.
5. Connect the Black wire to a clean engine ground.
6. Connect the stator's 3 wire connector to the new regulator/rectifier.
7. Connect the Red wire with the Round connector from the harness to the mating connector from the regulator/rectifier.
8. Reconnect the negative battery cable.

TROUBLESHOOTING

BATTERY IS NOT BEING CHARGED:

1. Clean all Battery cables, engine and battery connections, both on the engine and on the battery.
2. Install a clamp on ammeter capable of reading at least 30 amperes on the Red battery cable connected to the starter solenoid. Start the engine and see if the ammeter is showing a charge going into the battery. If so, swap out the battery for a known good one. If the engine now shows a charge going into the battery, the old battery is defective.
3. Disconnect and check the resistance between the stator's White wires as follows:

Read From	Read To	Ohms Disconnected
White 1	White 2	0.2 to 0.8 Ω
White 1	White 3	0.2 to 0.8 Ω
White 2	White 3	0.2 to 0.8 Ω
White 1	Eng Ground	Open or No Reading



4. Disconnect all connections to the Regulator/Rectifier. Then, using a Multimeter set to diode scale, check the Diodes between the Regulator/Rectifier's White wires and the Red Wire as follows:

Red Meter Lead Connection	Black Meter Lead Connection	Reading
White 1	Red Lead from Regulator/Rectifier	0.35 to 0.65
White 2	Red Lead from Regulator/Rectifier	0.35 to 0.65
White 3	Red Lead from Regulator/Rectifier	0.35 to 0.65
Red Lead from Regulator/Rectifier	White 1	Open or No Reading
Red Lead from Regulator/Rectifier	White 2	Open or No Reading
Red Lead from Regulator/Rectifier	White 3	Open or No Reading

5. Next, check the Diodes between the Regulator/Rectifier's White wires and the Black Ground Wire as follows:

Black Meter Lead Connection	Red Meter Lead Connection	Reading
White 1	Black Lead from Regulator/Rectifier	0.35 to 0.65
White 2	Black Lead from Regulator/Rectifier	0.35 to 0.65
White 3	Black Lead from Regulator/Rectifier	0.35 to 0.65
Black Lead from Regulator/Rectifier	White 1	Open or No Reading
Black Lead from Regulator/Rectifier	White 2	Open or No Reading
Black Lead from Regulator/Rectifier	White 3	Open or No Reading

6. If the Regulator/Rectifier fails any of the above tests, replace it.

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Web Support: www.cdielectronics.com • Tech Support: 1-866-423-4832 • Order Parts: 1-800-467-3371

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Installation and Troubleshooting Guide



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7. Check the DVA voltage on stator's White wires while disconnected as follows:

Read From	Read To	@Cranking	@ 1500 RPM	@ 3500 RPM
White 1	White 2	9.3 V	37 V	89 V
White 1	White 3	9.3 V	37 V	89 V
White 2	White 3	9.3 V	37 V	89 V

*Connected to the Regulator/Rectifier. If the voltage is too high, the Regulator/Rectifier may be defective. If the voltage is too low, the stator is likely defective.

8. Check the DVA Voltage of the stator's White wires while connected to the Regulator/Rectifier.

Read From	Read To	@Cranking	@Idle and up	@ 1500 RPM	@ 3500 RPM
White 1	White 2	7.4 V	16 - 24 V	37 V	89 V
White 1	White 3	7.4 V	16 - 24 V	37 V	89 V
White 2	White 3	7.4 V	16 - 24 V	37 V	89 V

9. Check the DVA Voltage of the Regulator/Rectifier's Red while connected to the Battery.

Read From	Read To	@Idle	@ 1500 RPM	@ 3500 RPM
Red	Engine Ground	12.5-15.5 V	13 -16 V	13 -16 V

Maximum Output Test

1. Install a clamp on 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 Dynometer, start the engine and bring the RPM up to approximately 6000 in gear.
4. Turn on the load bank switches to increase the battery load to equal at least 30 Amps.
5. Check the ammeter, you should see at least 22 Amps. If the amperage is too low, check the stator resistance and DVA. If the stator checks out OK, replace the Regulator/Rectifier.