



Installation and Troubleshooting Guide

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CDI P/N: 173-4981

This stator replaces P/N's: 584109 and 584981.

WARNING! This product is designed to be installed by a professional marine mechanic. CDI Electronics cannot be held liable for injury or damage resulting from improper installation, abuse, neglect or misuse of this product.

SERVICE NOTE: Discoloration of all the battery windings is an indication of a problem in the rectifier/regulator. Discoloration of only one post of the battery windings indicates a problem in the stator.

INSTALLATION

1. Remove the negative battery cable.
2. Remove the regulator/rectifier, power pack and timing covers.
3. Disconnect the timing sensor.
4. Disconnect the stator leads from the power pack and regulator/rectifier.
5. Carefully disconnect and remove the throttle linkage connected to the flywheel cover.
6. Remove the flywheel cover. Watch for the bendix washers and do not lose them.
7. Unbolt the flywheel.
8. Using the correct flywheel puller, remove the flywheel.
9. Disconnect the original stator plug from the power pack.
10. Remove the original stator, saving the mounting bolts.

SERVICE NOTE: At this time, it would be a good idea to replace the bendix bushing in the engine block.

11. Install the new stator using the original bolts with a good thread-locker applied (CDI 989-3977 is recommended) to the bolts and tightened to the factory torque specifications.
12. Connect the new stator to the power pack.
13. Replace the flywheel according to the service manual, using new bolts in the hub.
14. Replace the flywheel cover. Be sure the bendix washers are in place and that the bendix is lubricated.
15. Carefully connect the throttle linkage connected to the flywheel cover.
16. Connect the timing sensor.
17. Verify the ignition timing and reset according to the service manual.
18. Replace the battery cable.

TROUBLESHOOTING

NO FIRE ON ANY CYLINDER:

1. Disconnect the 5 wire harness connector from the power pack, if the engine now fires – the kill circuit or harness is likely bad.
2. Check resistance for the 2 sets of brown wires. Brown to Brown/Yellow and Brown/White to Brown/Black should read approximately 550 ohms for one set. DVA (peak voltage) should be 150v or more on each set while connected to the power pack.
3. Orange to orange/black should read about 55 ohms. DVA (peak voltage) should be 15V or more while connected to the power pack.
4. Inspect the flywheel outer and trigger magnets to see if they are loose or broken.
5. Disconnect the rectifier/regulator and retest. If the fire returns, replace the rectifier/regulator.

NO FIRE ON ONE BANK:

Check resistance for the 2 sets of brown wires. Brown to Brown/Yellow and Brown/White to Brown/Black should read approximately 550 ohms for one set. DVA (peak voltage) should be 150v or more on each set while connected to the power pack.

HIGH SPEED MISS-FIRE OR WEAK HOLE SHOT:

1. Connect DVA meter to each set of brown wires and do a running test. AT NO TIME SHOULD THE VOLTAGE EXCEED 400v. If it does, the regulator circuit in the power pack is bad. The voltage should show a smooth climb and stabilize, gradually falling off at high RPM (above 5000). If you see a sudden drop in voltage right before the miss becomes apparent, swap stator leads to see if the problem is in the stator or power pack.
2. Disconnect rectifier/regulator and retest. If the problem disappears, replace the rectifier/regulator and retest.

QUICKSTART DOES NOT ENGAGE:

1. Check the resistance from the Orange to the Orange/Black wires. You should read about 55 ohms.
2. Check DVA voltage from the Orange to the Orange/Black wires while connected to the power pack. The reading should be between 8 and 24V. A reading above 24V indicates a problem in the power pack while a reading below 8 volts usually indicates a problem in the stator.

NOT CHARGING THE BATTERY:

1. Check the voltage on the purple wire while the engine is running, you should see the same voltage as the battery.
2. With all wires connected and the engine running at approximately 1500 RPM, check the DVA voltage from each yellow wire to engine ground. The two readings have to be within 2 volts of each other (i.e. if one is reading 20 volts, the other should be 18 to 22 volts). If the readings are not equal, go to step 4. If they are equal, go to step 3.



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3. Check the DVA voltage from the yellow wires to the red wire going to the solenoid. The two readings must be within 2 volts of each other. If the readings are unequal, go to step 4. If they are equal on this step and step 1, the rectifier (or rectifier/regulator) and battery charging portion of the stator are OK.
4. If the readings are unequal, mark across the connection between the stator and rectifier on the low side. Turn the engine off and swap the stator leads. Crank the engine up and retest. The component that has the marked wire with the low reading is bad.
5. 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.

CHECKING MAXIMUM BATTERY CHARGE OUTPUT:

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 and bring the RPM up to approximately 3500.
4. Turn on the load bank switches to increase the battery load to match the rated output of the stator (35 amps).
5. Check the ammeter.
6. 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 keyswitch.
7. If the amperage is correct, but the battery voltage remains low, replace the battery.