

## CDI P/N: 173-4292

This stator replaces P/N's: 583710 and 584292

**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.

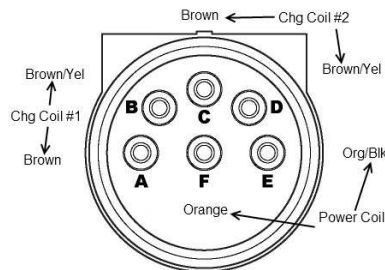
## INSTALLATION

1. Remove the negative battery cable.
2. Remove the flywheel.
3. Disconnect the original stator wires.
4. Remove the original stator, saving the original bolts.
5. 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.
6. Connect the new stator to the power pack.
7. Connect the new stator to the regulator/rectifier (ignore any stripes on the rectifier as the new stator does not require the Yellow wires to be connected to a particular rectifier wire).
8. Replace the flywheel according to the service manual.
9. Replace the battery cable.

## TROUBLESHOOTING

### NO FIRE ON ANY CYLINDER:

1. Disconnect the stop (kill) Black/Yellow wires and retest. If you now have spark, the problem is in the stop circuit.
2. Check resistance between the 2 sets of brown wires. Charge Coil #1, read from Brown to Brown/Yellow (pin locations A & B). Charge Coil #2 read from Brown to Brown/Yellow (pin locations C & D). You should read approximately 950 ohms on each set of wires. DVA (peak voltage) should be 150v or more for each set. The drawing below is the side where the wires are going into the connector, NOT the pin side.



**BACK SIDE VIEW  
NEW STYLE  
6 PIN-FEMALE**

3. Orange to Orange/Black should read about 100 ohms depending on the actual part number of the original. DVA should be 10V to 24V. Voltage readings over 24 Volts indicates a defective power pack.
4. Check the center hub triggering magnet in the flywheel. A loose or broken magnet can cause this problem.
5. Check the cranking RPM. A cranking speed of less than 250-RPM will not allow the system to fire properly. This can be caused by a weak battery, dragging starter, bad battery cables or a mechanical problem inside the engine.
6. Disconnect the rectifier/regulator and retest. If the fire returns, replace the rectifier/regulator.

### NO FIRE ON ONE BANK:

1. Swap the stator charge coil lead sets to see if the no fire problem follows one side of the stator (Brown for Brown and Brown/Yellow for Brown/Yellow). If it does, the stator is bad.
2. Disconnect the 5 pin connector containing the two Black/Yellow wires. If both banks now have fire, check the harness and the shift interrupter switch.

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# Installation and Troubleshooting Guide

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- If the problem remains on the same bank, the power pack is probably bad.

## NO SPARK ON ONE CYLINDER:

- Check the timer base's resistance and output (see NO SPARK ON ANY CYLINDER above).
- Check the DVA output on the orange wires from the power pack while connected to the ignition coils. You should have a reading of at least 130V or more. If the reading is low on one cylinder, disconnect the orange wire from the ignition coil for that cylinder and reconnect it to a load resistor. Retest. If the reading is now good, the ignition coil is likely bad.
- Check the power pack resistance given below:

Wire Color	(CYL)	Check to Wire Color	Resistance
Orange/Blue	(#1)	Blue (in male 4 pin connector with White wire)	110 (a)
Orange	(#3)	Purple (in male 4 pin connector with White wire)	110 (a)
Orange/Green	(#5)	Green (in male 4 pin connector with White wire)	110 (a)
Orange/Blue	(#2)	Blue (in female 4 pin connector with Black/White wire)	110 (a)
Orange	(#4)	Purple (in female 4 pin connector with Black/White wire)	110 (a)
Orange/Green	(#6)	Green (in female 4 pin connector with Black/White wire)	110 (a)
White		Black (Engine Ground)	Shorted
Brown		Black (Engine Ground)	Open or M range
Brown/Yellow		Black (Engine Ground)	Open or M range
Brown/White		Black (Engine Ground)	Open or M range
Brown/Black		Black (Engine Ground)	Open or M range

(a) Use a comparison reading as different brands of meters will give different readings. The typical range is 90 to 150 ohms. You should have approximately the same ohm reading on all six tests. If one of the SCR's inside the power pack is shorted or open, the readings will be quite a bit different.

- Check the spark plug wires for breaks and abrasions.

## QUICKSTART DOES NOT WORK:

- Check the resistance from the Orange to the Orange/Black wires. You should read about 90-105 ohms.
- 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.

## ENGINE DIES WHEN QUICKSTART DROPS OUT:

Check ignition timing at idle with the White/Black temperature wire disconnected. Remember to allow for the 12-15 Degree drop in ignition timing when Quick Start disengages. Verify ignition timing after engine has warmed up, according to the service manual.

## ENGINE WILL NOT STAY IN QUICKSTART OVER 10 SECONDS:

- Verify the engine temperature is below the trip point (89 degrees on some engines and 104 degrees on others) of the temperature switch.
- Disconnect the White/Black Temperature Switch wire FROM the Port Temperature Switch. If the engine now stays in QuickStart, the Temperature Switch is likely defective.

## ENGINE STAYS IN QUICKSTART ON ALL CYLINDERS:

- With the engine idling, check the Yellow/Red wire for DC voltage. If there is DC voltage on this wire while the engine is running, the Quick-Start will not disengage. A voltage over 1.5 volts but less than 7 volts will not engage the starter solenoid, yet will engage Quick-Start.
- Short the White/Black Temperature Switch wire FROM the power pack to engine ground. Start the engine, if the Quick Start drops out after approximately 5 seconds, replace the White/Black Temperature Switch.
- Disconnect the Black/White wire between the power pack and the Timer Base. If the Quick-Start feature is not now working, replace the power pack.

## ENGINE DROPS OUT AND BACK IN QUICKSTART AT IDLE:

- With the engine idling, check the Yellow/Red wire for DC voltage. Intermittent DC voltage on this wire while the engine is running will re-engage Quick-Start. A voltage of less than 7 volts will not engage the starter solenoid, yet will engage Quick-Start.
- With the engine idling, disconnect the Black/White wire from the power pack and short the White/Black Temperature Switch wire FROM the power pack to engine ground. If the Quick Start drops out and stays out after approximately 5 seconds, replace the White/Black Temperature Switch. If the problem is still present, replace the power pack.

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