



## INSTALLATION/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: 273-4643RS High Performance Stator 6 Cyl. 35 Amp

This stator will replace the following part number for racing applications: 584643, 763779, 18-5877.

**WARNING!** This product is designed for installation 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, requiring service.

### 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 according to the factory specifications and procedures.
6. Connect the new stator to the power pack and to the regulator/rectifier.
7. Replace the flywheel according to the service manual.
8. Replace the battery cable.

### TROUBLESHOOTING

#### NO FIRE ON ANY CYLINDER:

1. Disconnect the Black/Yellow kill wire at the power packs and retest. If the ignition now has fire, check the kill circuit.
2. Check the Black/Yellow kill wire from the harness for DC voltage. If over 2V, check the keyswitch and harness.
3. Disconnect and clean ALL engine grounds.
4. Check the stator resistance and DVA voltage in each connector as follows:

Red meter lead	Black meter lead	Ohms	DVA voltage (connected)
Brown	Brown/Yellow	400-550	150V or more
Orange	Orange/Black	93-103	10-22V

5. Disconnect the yellow wires from the stator to the rectifier and retest. If the engine fires, replace the rectifier.
6. Check the DC voltage on the Black/White wire going to the Timer Base. You should have 6-12 volts at cranking. No reading may mean a bad stator.
7. Check the stator and trigger resistance and DVA output as given below for each bank:

Wire Color	Check to Wire Color	Resistance	DVA Reading
Brown wire	Brown/Yellow wire	400-550	150V or more Connected
Orange	Orange/Black	93-103	10-24V Connected
White wire	Purple wire	(a)	0.6V or more Connected
White wire	Blue wire	(a)	0.6V or more Connected
White wire	Green wire	(a)	0.6V or more Connected
White wire	Purple wire 2 <sup>nd</sup> connector	(a)	0.6V or more Connected
White wire	Blue wire 2 <sup>nd</sup> connector	(a)	0.6V or more Connected
White wire	Green wire 2 <sup>nd</sup> connector	(a)	0.6V or more Connected
White wire	Black/White wire 2 <sup>nd</sup> connector	215-225	5 V or more Connected

(a) Use a comparison reading as different brands of meters will give different readings. The typical range is 1M to 5M ohms. As long as you have approximately the same ohm reading on all six tests and the correct output with the DVA meter, the Timer-Base should be good. The

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exception would be if one of the scr's inside the Timer-Base is breaking down while the engine is running. This can be found indexing the flywheel and checking the timing on all cylinders. If the readings are off, reverse the meter leads and retest to see if the readings are corrected.

8. Check the center hub triggering magnet in the flywheel. A loose magnet can cause this problem.
9. 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.

**NO SPARK ON ONE CYLINDER:**

*NOTE: These engines use a gear reduction starter which results in a lower cranking RPM than usual. If you have one or more cylinders intermittent at cranking: Try starting the engine and checking to see if ALL of the cylinders now fire correctly. If so, the engine's ignition should be good. Make sure the battery is sized correctly as the cranking capacity can affect the cranking speed.*

1. Check the timer base's resistance and output (see NO SPARK ON ANY CYLINDER above).
2. 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. A continued low reading indicates a bad power pack or Timer-Base.

3. Check the power pack resistance given below:

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

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

4. Check the spark plug wires for breaks and abrasions.

**NO FIRE ON ONE BANK:**

1. Check the stator resistance and DVA voltage in each connector as follows:

Red meter lead	Black meter lead	Ohms	DVA voltage (connected)
Brown	Brown/Yellow	400-550	150V or more

2. Swap sides with the stator leads to see if the no fire problem follows one side of the stator. If it does, the stator is likely defective.

3. Check the trigger resistance and DVA voltage in each connector as follows:

Red meter lead	Black meter lead	Ohms	DVA voltage (connected)
Blue	White	15-50(a)	0.5 V or more
Green	White	15-50(a)	0.5 V or more
Purple	White	15-50(a)	0.5 V or more

(a) Ohms readings should be close together, typically less than 2 ohms difference (DVA voltage will be the same).

4. Disconnect the Black/Yellow Kill wires at the PACKS. If fire returns to all cylinders, the pack that was firing likely has a defective blocking diode and needs to be replaced.
5. Disconnect and clean ALL engine grounds.

**HIGH SPEED MISS OR WEAK HOLE SHOT:**

1. Connect a DVA meter between the stator wire sets in each connector, one at a time and do a running test. AT NO TIME SHOULD THE VOLTAGE EXCEED 500v. If it does, the control circuit in the power pack is bad. The voltage should show a smooth climb and stabilize, gradually falling off at high RPM (above 7000). 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.

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3. Do a high speed shut down and read the sparkplugs. A difference in color could indicate a fuel problem, weak/no fire or overheating.

**ENGINE WILL NOT ACCELERATE BEYOND 2500 RPM (Runs smooth below that RPM) :**

1. Use a temperature probe and verify that the engine is not overheating.
2. Disconnect the tan temperature wire from the pack and retest. If the engine now performs properly, test and replace the defective temperature switch.
3. Make sure the tan temperature switch wire is not located next to a spark plug wire.
4. Disconnect the VRO sensor from the engine harness and retest. If the engine performs correctly, replace the VRO or sensor.

**ENGINE DIES WHEN QUICKSTART DROPS OUT:**

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

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