



Installation and Troubleshooting Guide

NOTE: This installation is to be completed by an Authorized Dealer or Professional Service Technician.



CDI P/N: 174-5456

This stator replaces the following P/N's:
398-5454A2, A6, A7, A8, A9, A17, A18 and A55.

Warning! 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.

NOTE: Any sign of leakage out of the high voltage coils or bubbling around the battery charge windings indicate a bad stator. Check for burned marks on each pole. If a problem is found on the battery windings, we recommend the rectifier/regulator be closely checked.

INSTALLATION

1. Disconnect the stator wires from the switch box, engine ground and the rectifier/regulator.
2. Remove the flywheel.
3. Mark the position of the mounting screws in relation to where the stator wires come out of the old stator.
4. Remove the old stator.
5. Orient and install the new stator in the same position as the old stator on the engine and install the flywheel, following the service manual instructions.
6. Connect the Yellow stator leads to the rectifier or rectifier/regulator.
7. Connect the stator Black wire to engine ground.
8. Connect the Red and Blue wire to one switch box and connect the Red/White and Blue/White wires to the other switch box.
9. Replace the flywheel according to the service manual.

TROUBLESHOOTING

NO FIRE ON ANY CYLINDER:

1. Disconnect the Black/Yellow kill wire FROM BOTH PACKS.
2. Check for broken or bare wires on the unit, stator and trigger.
3. Check the resistance and DVA voltage of the stator as follows:

READ FROM	READ TO	OHMS	DVA
Blue	Eng Gnd	2000-2500	180V or more
Blue/White	Eng Gnd	2000-2500*	180V or more
Red	Eng Gnd	27-55	20V or more
Red/White	Eng Gnd	27-55	20V or more

4. Check the trigger as follows:

BLACK SLEEVE TO	YELLOW SLEEVE TO	Resistance	DVA Reading
Brown wire	White wire	800-1400	4V or more Connected
White wire	Purple wire	800-1400	4V or more Connected
Purple wire	Brown wire	800-1400	4V or more Connected
Brown wire	-	Engine Ground	Open
White wire	-	Engine Ground	Open
Purple wire	-	Engine Ground	Open
-	Brown wire	Engine Ground	Open
-	White wire	Engine Ground	Open
-	Purple wire	Engine Ground	Open

** Verify the resistance readings are in the same ballpark. i.e, If one coil reads 1200 ohms and the other reads 1500, the trigger is likely defective.

5. Disconnect the rectifier. If the engine has fire, replace the rectifier.

NO SPARK ON ONE BANK (ODD OR EVEN CYLINDERS ON INLINE 6 CYLINDER):

1. Check the resistance and DVA voltage of the stator as follows:

READ FROM	READ TO	OHMS	DVA
Blue	Eng Gnd	2000-2500*	180V or more
Blue/White	Eng Gnd	2000-2500*	180V or more
Red	Eng Gnd	27-55*	20V or more
Red/White	Eng Gnd	27-55*	20V or more

* Verify the resistance readings are in the same ballpark. i.e, If one coil reads 30 ohms and the other reads 50, the stator is likely defective.

2. Swap both sets of the stator wires between the packs. If the problem moves, replace the stator.
3. If the problem stays on the same bank, swap physical location and all connections of the two packs. If the problem stays with one pack, replace the pack. NOTE: If the pack is bad, it is recommended that BOTH packs be replaced AS A SET.



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INTERMITTANT SPARK ON ONE OR MORE CYLINDERS:

1. Disconnect the white/black wire between the packs on a 6 cylinder and retest. If all cylinders now fire, replace both packs as there is a problem in the bias circuitry.
2. On all others, check for low voltage from the stator and trigger. Disconnect the rectifier and retest. If the problem disappears, replace the rectifier.
3. Check the trigger as follows:

BLACK SLEEVE TO	YELLOW SLEEVE TO	Resistance	DVA Reading
Brown wire	White wire	800-1400	4 V or more Connected
White wire	Purple wire	800-1400	4 V or more Connected
Purple wire	Brown wire	800-1400	4 V or more Connected
Brown wire	- Engine Ground	Open	1 V or more Connected
White wire	- Engine Ground	Open	1 V or more Connected
Purple wire	- Engine Ground	Open	1 V or more Connected
-	Brown wire Engine Ground	Open	1 V or more Connected
-	White wire Engine Ground	Open	1 V or more Connected
-	Purple wire Engine Ground	Open	1 V or more Connected

ENGINE WILL NOT STOP RUNNING:

Connect a jumper wire to the Black/Yellow terminal or wire coming out of the pack and short it to ground. If this kills the engine, the kill circuit in the harness or on the boat is bad, possibly the ignition switch.

HIGH SPEED MISS OR WEAK HOLE SHOT:

1. Disconnect the rectifier and retest. If miss is gone, the rectifier is usually at fault. Remember a problem rectifier can damage a stator.
2. DVA check the Blue and Blue/White wires to engine ground and do a running test. The voltage should show a smooth climb and stabilize, gradually falling off at higher RPM's (above 3000). If you see a sudden drop in voltage right before the miss becomes apparent, the stator is likely at fault.
3. Check DVA voltage on the Red wires reference to engine ground of the stator at high speed. **NOTICE:** Use caution when doing this and do not exceed the rated voltage range of your meter. The readings should show a smooth climb in voltage. If there is a sudden or fast drop in voltage right before the miss becomes apparent, the stator is usually at fault. If there is no indication of the problem, it could be mechanical problem.
4. Rotate the stator one bolt hole in either direction and re-test. If the miss is gone, leave the stator as is. If the miss is worse, rotate the stator back where it was.
5. Using extreme caution, on the water or connected to a dyno, take the engine to the RPM where the problem is occurring and hold it for a few seconds, then perform a high speed shutdown at that RPM. Check the sparkplugs for differences in color or the presence of water droplets on the sparkplug (an indicator of a possible crack in the engine block).

NO SPARK WITH THE SPARKPLUGS INSTALLED:

1. Check for dragging starter or low battery causing slow cranking speed. DVA test stator and trigger.
2. Disconnect rectifier, regulator and retest. If the problem goes away, replace the rectifier and/or regulator.

SPARK ON ALL CYLINDERS BUT ENGINE WILL NOT RUN:

Disconnect the White/Black wire and check the bias circuit (White/Black terminals) resistance to engine ground. Readings should be approximately 15,000Ω for standard packs. If the readings are correct on the packs, index the flywheel and check timing on all individual cylinders. If the timing varies, replace BOTH packs.

DESTROYED ONE OR TWO CYLINDERS/PISTONS:

1. Check Bias resistance, from the White/Black stud to engine ground, you should read 13,000-15,000 ohms. Readings above 15,000 ohms or less than 13,000 ohms indicate a defective switchbox. **REPLACE BOTH SWITCHBOXES AS A SET!!!!**
2. Use an ANALOG DC Voltmeter to check the negative DC voltage on the White/Black (Bias) terminal. With everything connected, run the engine at various Rpm's and watch the voltage reading. It should remain steady for a set RPM. Fluctuation in voltage indicates a problem in the bias circuit. If there is a problem, disconnect everything on the White/Black terminal except the jumper from the inside switchbox to the outside switchbox. Retest, if the problem persists, replace BOTH switch boxes. If the problem went away, reconnect the items taken off of the White/Black terminal one at a time, retest after every reconnection until you locate the source of the problem.

OVER-CHARGING THE BATTERY:

1. Verify the cranking battery is not an AGM, Maintenance free or Gel Cell battery. It needs to be a traditional flooded cell battery.
2. Verify the regulator has not been removed from the engine. If so, replace the rectifier with a regulator/rectifier.
3. Swap the battery with a known good one. If no change, check the resistance of the Yellow wires to engine ground. It should read open. A short on one wire can cause over-charging.