Installation and Troubleshooting Guide

CDI P/N: 114-7509K 1

NOTE: This unit replaces all 8227795A2, A5, A10, A12, A13 AND A14 series CDM Modules

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.

Installation

1. Disconnect and clean all engine and battery ground wires.
2. Disconnect the old CDM Module and remove the high tension coil wires from the spark plugs.
3. Unbolt and remove the old CDM Module. (Note the direction of the spark plug wire).
4. Check for DC voltage on the kill (stop) wires (usually Black/Yellow) with the key-switch in the on and off position. At no time should you see over 2 volts DC on this wire as severe damage to the CDM Module can occur.
5. Apply a light amount of dielectric grease (i.e. CDI 991-9705) to the seal area of the supplied jumper wire cable.
6. Cut and discard the old harness connector from the existing harness. Terminate the existing harness using the supplied terminal kit. Be sure to use proper gender termination so that the supplied jumper wire cable's terminals will properly mate to the existing harness. Plug the supplied jumper wire cable's terminals into the existing harness' connections you just terminated. Ground the jumper wire cable's solid Black wire to one of the CDM Module's mounting bolts. Bolt the new Adapter Plate onto the engine, using the new bolts supplied.
7. Apply a light amount of dielectric grease to the outside of the new spark plug wire and thread the spark plug wire into the new CDM Module.
8. Bolt the new CDM Module onto the Adapter Plate (Orient the new CDM Module so that the spark plug wire is pointed in the same direction as the original).
9. Plug the jumper wire cable's 4-pin connector into the new CDM Module and connect the spark plug wire to the spark plug.

TROUBLESHOOTING THE 114-7509K 1

No Fire At All:

1. Disconnect the black/yellow kill wires from the harness and retest. If the engine's ignition fires now, the kill circuit has a fault-possibly the key switch, harness or shift switch.
2. Disconnect one CDM module at a time and see if the other modules start firing. If they do, the module you just unplugged is bad.
3. Disconnect the yellow wires from the stator to the rectifier and retest. If the engine fires, replace the rectifier.
4. Check the cranking RPM. A cranking speed less than 250-RPM will not allow the system to fire properly.
5. Check the stator resistance and DVA output as given below:

WIRE	Read To	OEM RESISTANCE	DVA
White/Green	Green/White	500-700	180V or more

6. Check the resistance of the CDM as follows:

	Red Meter Lead	Black Meter Lead	Reading
CDM Pin #	A	C	OEM 2200-2400 Ohms – CDI 1200-1300 ohms
CDM Pin #	D	A	DIODE*
CDM Pin #	A	D	DIODE*
CDM Pin #	D	B	DIODE*
CDM Pin #	B	D	DIODE*
CDM Pin #	A	B	DIODE*
	High Tension Lead	A	OEM 700-1300 Ohms – CDI 2200-2400 Ohms

* Diode readings are to be read one way, then reverse the leads and read again. You should get a low reading in one direction and a higher reading in the other.

No fire or Intermittent on One or More Cylinders:

1. If the cylinders are only acting up above an idle, connect an inductive Tachometer to all cylinders and try to isolate the problem cylinders.
2. Using a set of piercing probes, check the trigger DVA output as given below:

Wire Color	Check to Wire Color	Resistance	DVA Reading
Purple wire	Engine GND	Open	1V or more
White wire	Engine GND	Open	1V or more
Brown wire	Engine GND	Open	1V or more

NOTE: These triggers have the bias circuitry built into them, therefore you cannot measure the resistance like you could the older engines. In addition, there are four triggering coils used.

3. If # 1 is not firing, disconnect #2 CDM module and see if the #1 module starts firing. If it does, the module you just unplugged is bad. If it does not, disconnect #3 CDM module and see if the #1 module starts firing. If it does, the module you just unplugged is bad.
4. If # 2 or #3 are not firing, swap locations with #1 and see if the problem moves. If it does, the module is bad. A continued no fire on the same cylinder indicates a bad trigger.

High Speed Miss:

1. Connect an inductive Tachometer to all cylinders and try to isolate the problem. A high variance in RPM on one cylinder indicates a problem usually in the trigger or CDM module.
2. Perform a high-speed shutdown and read the spark plugs. Check for water. A crack in the block can cause a high speed miss when the water pressure gets high, but a normal shutdown will mask the problem.
3. Remove the flywheel and check the triggering and charge coil flywheel magnets for cracks or broken magnets.

Thank you for using CDI Electronics. 6/23/2010