



# Installation and Troubleshooting Guide

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**CDI P/N: 134-7029-3**

This item replaces the following P/N's: 817029A 3, 817029A 9.

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.

## INSTALLATION

1. Disconnect the battery cable and remove the flywheel according to the service manual.
2. Label and disconnect the trigger leads from the switch box.
3. Disconnect the trigger linkage arm from the trigger.
4. Remove the stator bolts and lay the stator out of the way.
5. Remove the old trigger and install the new trigger and the stator according to the service manual.
6. Lightly grease the bushing with a high quality marine grease .
7. Connect the trigger linkage to the trigger.
8. Connect the trigger leads to the switch box, matching wire colors.
9. Replace the flywheel according to the service manual and reconnect the battery cable.
10. Verify and adjust ignition timing as needed.

## TROUBLESHOOTING

### SPARK ON ALL CYLINDERS BUT WILL NOT RUN:

1. Index the flywheel and verify the firing order (There are at least 3 different firing orders on the 3 cylinder engines).
2. Check the timing on all cylinders by connecting a spark tester to all engines and connecting a timing light to each cylinder in turn. If two cylinders are correct and one cylinder is off, the trigger is faulty. If one cylinder is correct and two are off, swap the two Green wires to the cylinders that are off and re-check the timing on all. If timing is now correct, make a note of the firing order and location on the Green, Green/White and Green/Red wires

### NO SPARK ON ANY CYLINDER:

1. Disconnect the black/yellow stop wire AT THE PACK and retest. If the engine's ignition now has spark, the stop circuit has a fault-check the key switch, harness and shift switch.
2. Disconnect the yellow wires from the stator to the rectifier and retest. If the engine has spark, replace the rectifier.
3. Check the cranking RPM. A cranking speed less than 250-RPM will not allow the system to fire properly.
4. Check the stator resistance and DVA output as given below:

#### Flywheel with Bolted-in Magnets

WIRE	Read To	OEM RESISTANCE	CDI RESISTANCE	DVA
Blue Engine	GND	5800-7000	2200-2400	180V or more
Red	Engine GND	135-165	45-55	25V or more

#### Flywheel with Glued-in Magnets

WIRE	Read To	OEM RESISTANCE	CDI RESISTANCE	DVA
Blue Engine	GND	3250-3650	500-600	180V or more
Red	Engine GND	75-90	28-32	25V or more

#### Red Stator Kit

WIRE	Read To	OEM RESISTANCE	CDI RESISTANCE	DVA
White/Green	Green/White	500-700	500-600	180V or more
Blue	Engine GND	OPEN		180V or more

### NO SPARK OR INTERMITTENT SPARK ON ONE OR MORE CYLINDERS:

1. If the cylinders are only misfiring above an idle, connect an inductive Tachometer to each cylinder in turn and try to isolate the problem cylinder.
2. Check the trigger resistance and DVA output as given below:

Wire Color	Check to Wire Color	Resistance	DVA Reading
Brown wire	White/Black	800-1400	4V or more Connected
White wire	White/Black	800-1400	4V or more Connected
Purple wire	White/Black	800-1400	4V or more Connected
Brown wire	Engine GND	Open	1V or more (*)
White wire	Engine GND	Open	1V or more (*)
Purple wire	Engine GND	Open	1V or more (*)



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(\*) This reading can be used to determine if a pack has a problem in the triggering circuit. For instance, if you have no fire on one cylinder and the DVA trigger reading for that cylinder is low – disconnect the trigger wire and recheck the DVA output to ground from the trigger wire. If the reading stays low – the trigger is bad.

3. Check the DVA output on the green wires from the switch box while connected to the ignition coils. Check the reading on the switch box terminal AND on the ignition coil terminal. You should have a reading of at least 150V or more at both terminals. If the reading is low on one cylinder, disconnect the green 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 symptom indicates a bad power pack.

## ENGINE WILL NOT ACCELERATE BEYOND 3000-4000 RPM:

1. Connect an inductive Tachometer to all cylinders and try to isolate the problem. A single cylinder dropping fire will likely be the switch box or ignition coil. All cylinders misfiring usually indicate a bad stator.
2. Connect a DVA meter to the stator's blue wire and engine ground and do a running test. The DVA voltage should jump up to well over 200V and stabilize. A drop in voltage right before the problem occurs indicates a bad stator. (blue to engine ground if the engine has a red stator kit installed).
3. Connect a DVA meter to the stator's red wire and engine ground and do a running test. The DVA voltage should show a smooth climb in voltage and remain high through the RPM range. A reading lower than the reading on the blue wire indicates a bad stator.

## 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 switch box or ignition coil. Occasionally a trigger will cause this same problem. Check the trigger as described above under "*No spark or Intermittent on One or More Cylinders*".
2. Perform a high-speed shutdown and read the spark plugs. Check for water. A crack in the block can cause a miss at high speed 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.
4. Rotate the stator 1 bolt hole in either direction and retest.

## WILL NOT IDLE BELOW 1500 RPM:

1. Check the Bias resistance from the Black/White terminal to engine ground. Reading should be 14-15,000 ohms.
2. Check for air leaks.

Thank you for using CDI Electronics

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