



Installation and Troubleshooting



NOTE: This installation is to be completed by an Authorized Dealer or Professional Service Technician. **Do not return to the Dealer or Distributor where the part was purchased.** Contact CDI Electronics Directly for Return Materiel Authorization.

CDI P/N: 117-0002 Ignition Pack 4 Cylinder

Replaces P/N: 6N7-85540-00-00 and 6N7-85540-01-00, 858404T 3 and 858404T 4.

WARNINGS: 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 negative battery cable.
2. Disconnect and remove the old Ignition Pack.
3. Install the new Ignition Pack, using the original mounting bolts and the spacers provided with the Ignition Pack.
4. Connect the Black wire to a clean engine ground.
5. Connect the stator's 4 wire connector to the new Ignition Pack.
6. Connect the Pulsar Coil's 4 wire connector to the new Ignition Pack.
7. Connect the 9 pin connector to the mating connector from the engine wiring harness.
8. Connect the Black/White Coil leads to the ignition coils in sequence. #1 to the top cylinder, following down to #4 on the bottom cylinder.
9. Reconnect the negative battery cable.

TROUBLESHOOTING

SERVICE NOTE: When checking for ignition fire (spark), we recommend using a sealed spark tester set to the OEM specification of 0.4 in or 9mm air gap. Failure to fire this gap means the spark is too weak to ignite the fuel/air mixture under compression. The sealed design greatly reduces the likelihood of the tester igniting any gas vapors present. A CDI 511-9766 Spark Tester is recommended.

NO FIRE ON ANY CYLINDER:

1. Clean all Battery cables, engine and battery connections, both on the engine and on the battery.
2. Verify the Yellow wire in the 9 pin connector has 12V on it during cranking and with the key in the run position.
3. Check the White wire (Stop or Kill wire) in the 9 pin connector from the engine harness is not shorted to ground.
4. Check the resistance between the stator's wires as follows:

Read From	Read To	Ohms (Disconnected)	DVA Connected	DVA Disconnected
Brown	Red	592-888 ohms	160V Min	170V Min
Brown	Engine Ground	Open		Less than 2V (Both Brown & Blue disconnected)
Blue	Black/Red	55 to 83 ohms	45V Min	45V Min
Blue	Engine Ground	Open		Less than 2V

NO FIRE OR INTERMITTENT FIRE ON ONE OR MORE CYLINDERS:

1. Check the resistance and DVA output of the Stator and Trigger:

Read from	Read to	OHM Reading	DVA Connected	DVA Disconnected
Brown	Red	592-888 ohms	160 Volts Min	170V Min
Brown	Engine Ground	Open Disconnected		Less than 2V
Blue	Black/Red	55 to 83 ohms	45 Volts Min	45V Min
Blue	Engine Ground	Open Disconnected		Less than 2V
White/Red wire	White/Yellow wire	256-384 ohms	2.5 Volts Min	
White/Red wire	Engine Ground	Open Disconnected		Less than 2V
White/Black wire	White/Green wire	256-384 ohms	2.5 Volts Min	
White/Black wire	Engine Ground	Open Disconnected		Less than 2V

2. Check the DVA voltage to each ignition coil, you should read a minimum DVA at cranking of 125V, 140V at 1500 RPM and 145V at 3500 RPM. Make sure to use a spark tester on the high tension sparkplug lead if checking without using an installed sparkplug. If the reading is low while connected to the sparkplug but OK connected to a spark tester, replace the sparkplug and retest. **NEVER** fire an ignition coil without a ground path for the spark as this WILL damage the ignition coil internally.
3. Check the ignition coil for the problem cylinder. Unscrew the resistor boot from the high tension lead and measure the resistance from the high tension lead to engine ground. You should read between 3.04K – 4.56K ohms. Readings out of this range indicate a defective coil.
4. Test the resistor boot from the screw contact to the inside of the boot contacting the sparkplug. You should read between 4.0K and 6.0K ohms. If outside this range, replace it. When installing the resistor boot, clip off a ¼ inch of the high tension lead. Coat the outside of the high tension lead with a sparkplug grade dielectric grease and screw the



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resistor boot into the wire. Slide the cover over the boot to high tension lead connection point.

ENGINE WILL NOT ACCELERATE ABOVE APPROXIMATELY 2000 RPM:

1. Verify the engine is not overheating and causing the power pack to limit the RPM.
2. Disconnect the Grey/Black wire in the 9 pin connector from the engine harness. If the engine runs normally, replace the power pack. SERVICE NOTE: If you do not have the insertion tool for the connector, you may need to cut the Grey/Black wire approximately 1.5 inches from the connector to isolate the circuit. If the engine now performs correctly, check the overheat sensor, oil level in the oil tank mounted on the engine and the wiring harness.
3. Disconnect the Blue/Red wire in the 9 pin connector from the engine harness. If the engine runs normally, replace the power pack. SERVICE NOTE: If you do not have the insertion tool for the connector, you may need to cut the Blue/Red wire approximately 1.5 inches from the connector to isolate the circuit. If the engine now performs correctly, check the Oil sensor.
4. Check the Stator resistance and DVA output. The DVA on the Brown to Red should show a sharp climb to approximately 250V and stabilize. The DVA on the Blue to Black/Red should equal the DVA on the Brown to Red by 2500 RPM. A sharp drop in DVA on the Brown to Red reading around 1800-2000 usually indicates a problem with the stator.

Read from	Read to	OHM Reading	DVA @ cranking RPM	DVA @1500 RPM	DVA @3500 RPM
Brown	Red	592-888 ohms	160 Volts Minimum	165V Min	170V Min
Blue	Black/Red	55 to 83 ohms	45 Volts Minimum	165V Min	170V Min
White/Red	White/Yellow	256-384 ohms	2.5 Volts Minimum	7V Min	11V Min
White/Black	White/Green	256-384 ohms	2.5 Volts Minimum	7V Min	11V Min

5. Cut the Grey looped wire coming out of the Ignition pack and see if the engine performs as it should. If so, it may be defective.

TACHOMETER DOES NOT WORK:

1. Disconnect the Green wire in the 9 pin connector from the Ignition Module and connect it to the sense terminal of another Tachometer (with power and ground supplied to it). (SERVICE NOTE: If you do not have the insertion tool for the connector, you may need to cut the Green wire approximately 1.5 inches from the connector to isolate the circuit.)
2. If the test Tachometer works at the engine, reconnect the Green wire in the 9 pin connector and move the test Tachometer to the dash and connect it in place of the mounted Tachometer. If it works at the engine but not at the dash, check the power, ground and Green wire for connection to the Tachometer in the dash.