INSTALLATION/TROUBLESHOOTING GUIDE

CDI P/N: 213-4037

This unit replaces the following P/N's: 583476, 584036, 584037, 586217 and 586667 for High Performance Applications.

WARNING! This product is designed to be installed 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.

Installation

1. Disconnect the battery cables.
2. Remove the power pack mounting bolts and disconnect all of the wires going to the old power pack.
3. Connect the wires to the new power pack. Use a small amount of dielectric silicone grease in the bullet connectors.
4. Position the stator wire connectors in the lower slot provided in the electrical bracket.
5. Position the timer base wire connectors in the slot above the stator wire connectors in the electrical bracket.
6. Mount the new power pack using the original bolts (take special care not to pinch any wires).
7. Connect the orange wires to the ignition coils (remember that the blue striped wires go up and the green striped wires go down).
8. Reconnect the battery cables.

Troubleshooting

No Spark at All:

1. Disconnect the black/yellow engine stop wires AT THE PACK and retest. If the engine's ignition now has spark, the stop circuit has a fault-possibly the key switch, harness or shift switch.
2. Disconnect the yellow wires from the stator to the rectifier and retest. If the engine now has spark, replace the rectifier.
3. Check the stator resistance. You should read approximately 1000 ohms from the brown wire to the brown/yellow wires and 100 ohms (45 ohms on some CDI Stators) from the orange to orange/black wires.
4. Check the DVA output from the stator to the pack while connected to the power pack. You should have a reading of at least 150V or more from the brown wire to the brown/yellow wire (while connected to the pack) on each bank and at least 12V or more from the orange to orange/black.
5. Check the timer base's resistance from the white wire to the blue, green and purple wires in both connectors. Reading should be approximately the same on all. If you have no readings, reverse the meter leads and retest to see if you now have a reading.
6. Check the DVA output from the timer base. A reading of at least 0.5V or more from the white wire to the blue, green and purple wires (while connected to the pack) is needed to fire the pack. Read from the white wire to both sides of the timer base's blue, green and purple wires.
7. Check the cranking RPM. A cranking speed of less than 250 RPM will not allow the system to fire the spark plugs properly.

No Spark or Intermittent Spark on One Cylinder:

1. Check the timer base's resistance from the white wire to the blue, green and purple wires in both connectors. Reading should be approximately the same on all. If the readings are off, reverse the meter leads and retest to see if the readings are corrected.
2. Check the DVA output from the timer base. A reading of at least 0.5V or more from the white wire to the blue, green and purple wires (while connected to the pack) is needed to fire the pack. Read from the white wire to both sides of the timer base's blue, green and purple wires.
3. 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 150V 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 pack load resistor. Retest. If the reading is now good, the ignition coil is likely bad. A continued low reading usually indicates a bad power pack.

No Spark or Intermittent Spark on One Bank:

1. Check the stator resistance. You should read approximately 1000 ohms from the brown wire to the brown/yellow wires and 100 ohms (45 ohms on some CDI Stators) from the orange to orange/black wires.
2. Check the DVA output from the stator. You should have a reading of at least 150V or more from the brown wire to the brown/yellow wire (while connected to the pack) on each bank.
3. 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 150V or more. If the reading is low on one bank, disconnect the orange wires from the ignition coil for that bank and reconnect them to a load resistor. Retest. If the reading is now good, one or both of the ignition coils are likely bad. A continued low reading indicates a bad power pack.
4. Disconnect the shift interrupter and retest. If all cylinders now have spark, replace the shift interrupter.

Engine will not rev beyond 2500 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, check both temperature sensors and replace the defective one.
3. Make sure the tan temperature switch wire is not located next to a spark plug wire.

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High Speed Miss:

1. Using the Piercing Probes and DVA adapter, check the DVA voltage at the RPM where the problem is occurring while connected as follows:

Red Lead	Black Lead	DVA	Bank/Cylinder
Brown	Brown/Yellow	150V +	Starboard (1,3,5)
Brown/White	Brown/Black	150V +	Port (2,4,6)

   NOTE: The readings should rapidly increase as the engine RPM increases and stabilize below 500 volts (voltage exceeding 500 V DVA indicates a bad pack). A sharp drop in voltage right before the miss becomes apparent usually indicates a bad stator charge coil.

2. Connect an inductive tachometer to the spark plug wires one at a time and compare the readings. If most of the cylinders show the same reading and one or two show different readings, check the primary wires with the inductive pickup to see if the readings are the same coming out of the power pack. A difference in readings between the primary and secondary coil wires indicate bad ignition wires. No difference indicates a bad power pack.

QuickStart is not working (Timing does not change when temperature exceeds 105 deg F or engine RPM exceeds 1250 RPM):

1. Using the Piercing Probes and DVA adapter, check the DVA voltage while connected as follows:

Red Lead	Black Lead	DVA
Orange	Orange/Black	11-24V
Black/White (Timer Base)	Engine Ground	6 V minimum
Yellow/Red	Engine Ground	9 V minimum

2. Verify engine RPM, QuickStart will not function above 1250 for CDI ignitions.
3. With the engine above 105 degrees F, check the White/Black temperature switch. It should show a short to engine ground. To verify the temperature switch is bad, short the White/Black wire from the power pack to engine ground and reun the engine. If the QuickStart is now working, the switch is bad.

Engine stays in QuickStart All of the Time:

Check the Yellow/Red wire for 12 volts while the engine is running. You should only see voltage on this wire while the starter solenoid is engaged.

Engine Does Stop Firing the Spark Plugs When Ignition Key is Turned Off:

1. Connect a adjustable spark tester (set to a 3/8 inch air gap) to all of the spark plug wires.
2. Disconnect the Black/Yellow stop wires from the power pack and short them to engine ground. Check for spark on all cylinders.
   a. If you do not have spark on any cylinder, reconnect the Black/Yellow stop wires from the power pack to the harness. Disconnect the engine harness and connect a 511-6996 remote starter to the engine and recheck for spark. If the engine now has spark, the problem is likely in the ignition switch or boat-side harness. If there is still no spark, replace the engine harness.
   b. If you have spark on any cylinders, replace the power pack.