Installation and Troubleshooting Guide

NOTE: This installation is to be completed by an Authorized Dealer or Professional Service Technician. For questions regarding installation or warranty, call CDI Tech Support at 866-423-4832. **Do not return to the Dealer or Distributor where the part was purchased. Contact CDI Electronics Directly for Return Material Authorization**.

CDI P/N: 184-0005 Ignition Coil

This unit replaces P/N: 339-850227, 339-856991, 339-856991A 1, 850227, 856991 and 18-5187.

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 3 pin connector going to the defective ignition coil. Be careful and to not damage the connector.
2. Remove the sparkplug wire from the Ignition Coil.
3. Loosen the electrical mounting plate to gain access to the rear locknuts.
4. Remove and retain the mounting bolts.
5. Remove the Coil.
6. Insert the new Ignition Coil into the plate.
7. Use the old mounting bolt and torque to the correct specifications. Please refer to the appropriate service manual for your engine.
8. Apply a small amount of dielectric grease to the rubber seal of the 3 pin connector and plug it into the new Ignition Coil, making sure it is fully seated. SERVICE NOTE: You can use a Q-Tip to apply the Dielectric Grease.
9. Apply a small amount of dielectric grease to the inside of the sparkplug boot plug it onto the new Ignition Coil, making sure it is fully seated.

TROUBLESHOOTING

NO FIRE ON ANY CYLINDER:

1. Check the Battery voltage at cranking. You should have at least 10.5 V at the Yellow/Red wire going to the coil. Low voltage may not allow the PCM or Ignition Coil to operate.
2. Make sure the sparkplug wires are pushed onto the sparkplug and ignition coils securely.
3. Back probe the Red/Yellow wire in the 3 pin connector going to one of the Ignition Coils. Be careful to not damage the connector. There should be 12 V at key on (remember the ECU may timeout after 8-10 seconds, turning off the main power relay, therefore the 12 V will drop out on the Red/Yellow wires).
4. If you have the 12 V on the Red/Yellow wire connected, check the Green wire in the 3 pin connector (must be connected). You should read 12 V (remember the time out). If not, cycle the Key Switch. If no change, disconnect the 3 pin connector and check the ignition coil's 3 pin center pin to the pin for the Red/Yellow. You should read approximately 0.5 Ω. If you read an open circuit, the ignition coil is likely defective.
5. If you do not have the 12 V on the Red/Yellow wire,
    A. Check the fuse block for blown fuses.
    B. Check the main power relay. You should feel/hear it click when the Key Switch is turned on. If there is no click, verify both of the Red wires have a constant 12 V on them. Short the Yellow/Purple Stripe to engine ground. If the relay now works, check for spark. If the engine now has spark, check the Yellow/Purple Stripe wire for continuity between the PCM and the main power relay.
    C. Swap the PCM with a known good unit if possible. Verify the PCM has 12 V going to it on the Purple/White wire from the key switch.
    D. If the main power relay works, you should have 12 V on the Red/White wires going to the fuse block.
    E. If you have 12 V on the Red/White going into fuse block, check the Red/Yellow wires. If there is not the 12 V expected, the fuse holder may be damaged or have a defective fuse.
6. Clean and inspect all ground wires for the ignition coils and the engine. Pull on the Black wires and see if the wires pop out of the connector. If so, replace the single ring terminal with individual ring terminals (solder if possible).
7. Check the resistance between pins A and the high tension post. You should read approximately 8K Ω. If you read an open circuit, the ignition coil is likely defective.
8. Inspect the ignition for possible cracks or signs of arcing through the sides of the coils.

NOTE: This installation is to be completed by an Authorized Dealer or Professional Service Technician. For questions regarding installation or warranty, call CDI Tech Support at 866-423-4832. **Do not return to the Dealer or Distributor where the part was purchased. Contact CDI Electronics Directly for Return Material Authorization**.

NO FIRE ON ONE CYLINDER:

1. Back probe the Red/Yellow wire in the 3 pin connector going to one of the Ignition Coils. Be careful to not damage the connector. There should be 12 V at key on (remember the ECU may timeout after 8-10 seconds, turning off the main power relay). If you fail to get the 12 V, check on another ignition coil. If you have the 12 V on another connector, there is a problem with the harness and it will need to be repaired or replaced.
2. If you have the 12 V on the Red/Yellow wire connected, check the Green wire in the 3 pin connector (must be connected). You should also read 12 V (remember the time out). If not, cycle the Key Switch. If no change, disconnect the 3 pin connector and check the ignition coil's 3 pin center pin to the pin for the Red/Yellow. You should read approximately 0.5 Ω . If you read an open circuit, the ignition coil is likely defective.
3. Install a spark tester to the suspect ignition coil (CDI 511-9766 Spark Tester is recommended). Make sure the spark gap tester is connected to a good secure engine ground. SERVICE NOTE: This coil is capable of producing up to a 50,000 volt spark. Keep hands and any fuel source away from the spark.
4. Use a remote starter button or use a diagnostic program like CDI's M.E.D.S. Software and fire the coil. If the coil fires, but the cylinder is not hitting, check the compression on all cylinders. Very low compression on that cylinder compared to the rest of the cylinders indicates a problem possibly with the piston, rings or maybe a blown head gasket.
5. If the compression is OK, replace the sparkplug (make sure the sparkplug number is correct according to the EPA Label on the engine).
6. If the engine is still not hitting on that cylinder, check the Reeds, Air and Fuel Injectors.
7. If the coil does not fire, swap the coil with another cylinder and repeat the test. If the second coil fails to fire on the same circuit yet does fire on another location, verify the Black ground wire is making a good connection on the engine. Swap the Coil Driver (if used) or try another known good PCM if possible.

ENGINE DOWN ON POWER:

1. Switch to shop fuel and purge the fuel system.
2. Check the Fuel/Air pressure. You should have 78-82 PSI Air and 88-92 PSI Fuel. With the Fuel/Air gauge set connected, test per below.
    a. To confirm a good air volume, momentarily pinch off the air discharge hose on the Port side of the engine while running. The Air pressure should quickly to about 120 PSI or higher.
    b. To confirm good fuel volume, momentarily pinch off the fuel return hose on the Port side of the engine while running. The fuel pressure should quickly to about 120 PSI or higher.
    SERVICE NOTE: While the Fuel/Air pressures above are important, the 10 PSI difference between the two pressures is more important. If the pressures are outside the 10 PSI range, you can verify the gauges accuracy by swapping the Fuel and Air connections on the Port Fuel/Air rail. If the pressures remain outside the 10 PSI range, replace the Tracker valve (P/N: 804533) or the Port Fuel rail (P/N: 884429A 5).
3. Check for leaking fuel injector or a leaking injector O-ring.
    a. Connect the Fuel/Air Gauge Set.
    b. Prime the fuel system by pumping up the primer bulb until hard, filling the VST.
    c. Turn the Key Switch on and observe the fuel pressure. It should rise to about 40-45 PSI until the pump stops running (about 3 seconds). The fuel pressure will drop back down to about 20-25 PSI and hold. If the pressure drops quickly below 20 PSI, there is likely a fuel leak.
4. Use a remote starter button or use a diagnostic program like CDI's M.E.D.S. Software and fire the coil. If the coil fires, but the cylinder is not hitting, check the compression on all cylinders. Very low compression on one cylinder compared to the rest of the cylinders indicates a problem possibly with the piston, rings or maybe a blown head gasket.
5. If the compression is OK, replace the sparkplugs (make sure the sparkplug number is the correct number and gapped correctly according to the EPA Label on the engine).
6. Inspect the ignition for possible cracks or signs of arcing through the sides of the coils.