



# Installation and Troubleshooting Guide

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**CDI P/N: 113-4488**

This kit will replace the following P/N's: 583663, 583667 and 584488

**WARNING!** This product is designed for installation 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 negative battery cable and clean all battery cable connections and engine grounds.
2. Remove the flywheel.
3. Check for DC voltage on the kill (stop) wire (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 power pack can occur.
4. Disconnect the orange and orange/blue ignition coil wires.
5. Remove the timer base assembly with the old CD module mounted on it.
6. Remove the old power pack from the timer base plate and save the mounting bolts.
7. Disconnect the Charge coil wires from the old CD module.
8. Replace the old charge coil with the new one (Remember to install the shunt plate on the outside of the charge coil **ONLY IF THE OLD CHARGE COIL HAD A SHUNT PLATE INSTALLED**). Bend the top lamination up and the bottom lamination down to wedge the coil in place.
9. Route the charge coil wires and the new sensor wires through the top of the timer base plate.
10. Slide the charge coil and sensor wires through the new sleeving.
11. Install the clamp on top of the armature plate to position and secure the charge coil and sensor coil leads.
12. Slide the sleeving up to the armature plate to protect the wiring and install the cover on the bottom of the plate (align the notch in the cover with the notch in the plate).
13. Install the new sensor and plate assembly (Plate side up). Set the air gap according to the service manual, using PN: 553-4994 Locator Ring.
  - A) Place the 553-4994 Locator Ring over the outside of the sensor and stator assemblies, seating it over the mounting bosses in the armature plate.
  - B) Loosen the mounting screws holding the sensor and stator assemblies in place.
  - C) Slide the sensor and stator assemblies out against the Locator Ring and hold them in place.
  - D) Tighten the screws to 15-22 inch pounds and slide the Locator Ring off of the sensor and stator assemblies.
14. Install the timer base assembly and connect the linkage.
15. Re-install the flywheel according to the service manual.
16. Mount the new power pack to the engine (or to the adapter plate if there are no mounting bosses for the power pack, keeping the wires to the inside edge of the plate). If needed, mount the adapter plate on the port side of the engine at the top of the water jacket.
17. Route the trigger and charge coil wires around and over to the new CD module,
18. Insert the charge wires and sensor wires into the 5 pin connector, matching the wire color pin locations to the power pack connector. The wire colors must be continuous thru both connectors.
19. Connect the orange and orange/blue wires to the ignition coils.
20. Re-connect the battery cable,
21. Reset ignition timing according to the service manual.

## Troubleshooting

### No Fire Any Cylinder

1. Disconnect the Black/Yellow kill wire AT THE POWER PACK. If you now have spark, the stop (kill) circuit has a fault.
2. Check the cranking speed, the engine should be turning 250 RPM or more. (Check the battery and starter).
3. Check the stator resistance (450-850 ohms) and DVA output voltage while the stator is connected to the power pack. You should read 150V or more from the brown wire to the brown/yellow wire while they are connected to the pack. If low, disconnect the brown and brown/yellow wires from the pack and retest. If the voltage jumps to over 225V – the pack is likely bad. A reading that remains below 175V usually indicates a bad stator.
4. Check the trigger resistance and output. From the black/white to the white/black should read 38-43. DVA output should read 0.5V or more from the black/white to the white/black trigger wire, (Connected to the pack) while cranking the engine.
5. Check the stator for signs of leakage out of the charge coil, check stator resistance (450-850 ohms) and DVA output voltage while the stator is connected to the power pack. You should read 150V or more from the brown wire to the brown/yellow wire while they are connected to the pack. If low, disconnect the brown and brown/yellow wires from the pack and retest. If the voltage jumps to over 225V – the pack is likely bad. A reading that remains below 175V usually indicates a bad stator.

### No Fire on One Cylinder

1. Swap the orange coil wire of the cylinder not firing with the one that does on the pack and see if the fire moves from one coil to the other one. If it does, the pack is likely bad. If the fire stays on the same cylinder, the ignition coil is probably bad.
2. Swap the Black/White trigger wire with the White/Black trigger wire and retest. If the fire moves from one cylinder to the other, replace the trigger. If it does not move, the pack is likely bad.
3. Swap the Brown stator wire with the Brown/Yellow stator wire and retest. If the fire moves from one cylinder to the other, replace the stator coil.

## CD2 DIAGRAM

**113-4488 and 113-4489**

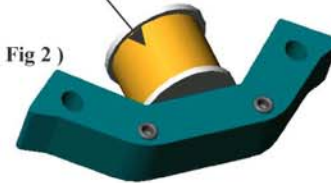
### CD2 USL Conversion Kit Assembly

( FIG:2 )

1. Remove the single charge coil from the timer base plate.
2. Remove original coil from the lamination.
3. Place the new high voltage coil P/N: 173-1670 onto the lamination post.
4. Bend the outer lamination to secure the coil to the lamination.
5. Install the new assembly back on to the plate. Use loctite to secure the bolts.
6. Route the lead wires for the electrical connections.

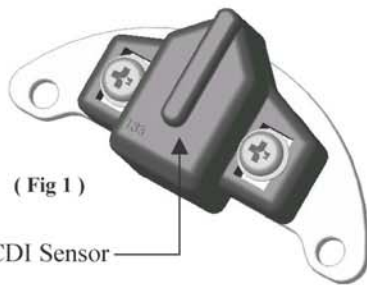
High voltage Coil

( Fig 2 )



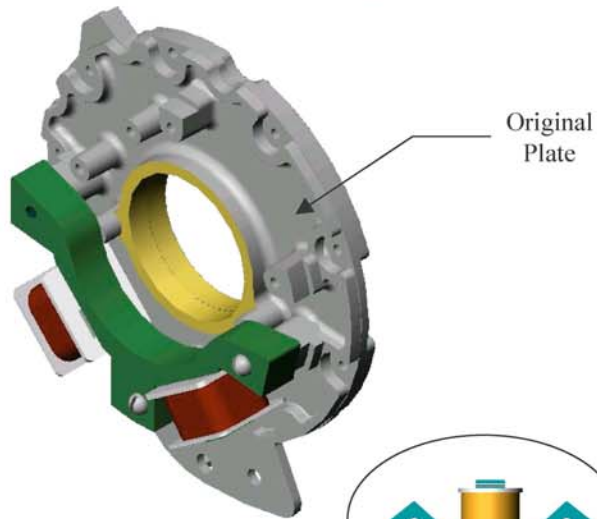
( Fig:1 )

1. Remove flywheel.
2. Remove original CD2 USL from the timer base plate.
3. Mount the CDI sensor on the plate where the original CD2 USL was removed.  
See diagram for proper mounting.
4. Set the air-gap according to the factory service manual using the CDI gauge P/N: 533-4994.
5. Secure the mounting screws using Loctite adhesive.
6. Route the lead wires for the electrical connections.



( Fig 1 )

CDI Sensor

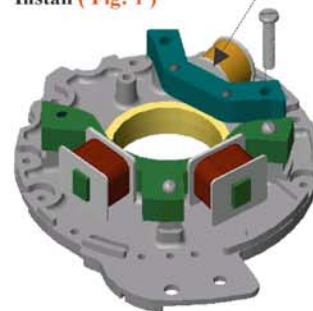
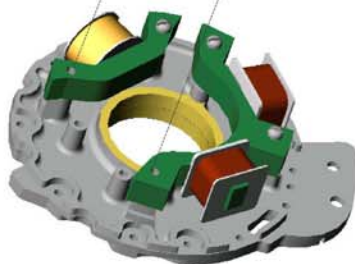
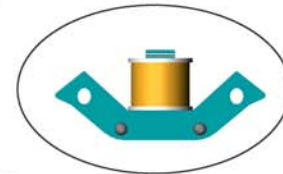


Original Plate

Specifications  
Install ( Fig: 2 )



Specifications  
Install ( Fig: 1 )



Thank you for using CDI Electronics.