



# 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: 187-0011 Ignition Coil

Replaces P/N: 66T-85570-00-00.

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. Remove the sparkplug lead from the sparkplug.
2. Remove the original coil, saving the original bolts
3. Unscrew and remove the 5K ohm resistor boot from the sparkplug wire.
4. Check the resistance of the 5K ohm resistor boot from the plug terminal inside the boot to the screw that goes into the plug wire. Normal range is 4K-6K ohms (4,000  $\Omega$ -6,000  $\Omega$ ). If outside this range, replace it.
5. Mount the new coil assembly using the original bolts, connecting the Black ground wire terminal onto one of the mounting bolts.
6. Connect the White primary wire to the Black/Orange or Black/White lead from the CD Unit, whichever one was disconnected when removing the old ignition coil.
7. Lightly coat the outside of the sparkplug wires for approximately 0.5 inches. Slide the 5K ohm resistor sleeve onto the sparkplug wire (small end first) and install the 5K ohm resistor boot onto the wire by screwing the post into the wire. Make sure you are screwing the probe into the wire -NOT the rubber insulation! Slide the 5K ohm resistor sleeve up until it covers the junction.
8. Connect the sparkplug wire/boot onto the sparkplug.

### TROUBLESHOOTING

#### NO FIRE ON ANY CYLINDER:

1. Disconnect White Stop wire and retest. If fire returns, there is a problem with the Stop circuit.
2. Check ground connections of CD Unit and Ignition Coils.
3. Check the Stator and Trigger resistance and DVA as follows:

WIRE	Read To	Ohms	DVA Connected	DVA Disconnected
Blue	Brown	600-900 $\Omega$	190V	330V
Blue	Engine Ground	OPEN	-	2V or less
Brown	Engine Ground	OPEN	-	2V or less
White/Red	White/Black	300-425 $\Omega$	4V	7V

#### NO FIRE ON 1 CYLINDER:

1. Swap the Ignition coils. If the fire follows the Ignition Coil, replace it.
2. Swap the Trigger inputs to the CD Switch Box. See the installation portion for terminal removal and insertion.
3. If the problem remains on the same cylinder, replace the Switch Box.
4. If the problem moves to the other cylinder, replace the Trigger.
5. Check the resistance of the coils and DVA output from the CD Unit to the ignition coils as follows:

WIRE	Read To	Ohms	DVA Connected
Black/Orange (Pack)	Black (Engine Ground)		180V
Black/White (Pack)	Black (Engine Ground)		180V
White #1 (Coil)	Black	0.32-0.44 $\Omega$	
Black #1 (Coil)	Hi Tension Lead	5.4K-7.8K $\Omega$ (Resistor Boots Removed if present)	
White #2 (Coil)	Black	0.32-0.44 $\Omega$	
Black #2 (Coil)	Hi Tension Lead	5.4K-7.8K $\Omega$ (Resistor Boots Removed if present)	

6. Check the Resistor boots from the input to the sparkplug terminal (if present). You should read between 4K and 6K ohms. If outside this range, replace the Resistor boot.

#### HIGH SPEED MISS-FIRE OR WEAK HOLE SHOT:

1. Verify the engine has the correct sparkplugs installed and gapped.
2. Connect a DVA meter to the Blue and Brown wires and do a running test. The voltage should show a smooth climb and stabilize, gradually falling off at higher RPM's. If you see a sudden drop in voltage right before the miss becomes apparent, the stator is likely at fault.
3. Make sure the engine is not hitting the RPM Limiter.

CDI Electronics • 353 James Record Road SW • Huntsville, AL 35824 USA

Web Support: [www.cdielectronics.com](http://www.cdielectronics.com) • Tech Support: 1-866-423-4832 • Order Parts: 1-800-467-3371

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4. Check the Stator and Pulsar Coil DVA readings from Idle to WOT as follows.

<u>WIRE</u>	<u>Read To</u>	<u>@1500 RPM</u>	<u>@3500 RPM</u>
Blue	Brown	190V	190V
White/Red	Black	10.0	17.0
White/Black	Black	10.0	17.0

5. Run the engine at the RPM where the miss is occurring and perform a high speed engine shutdown (do not change the throttle setting). Remove and inspect the sparkplug porcelain insulator at the sparkplug gap. A Black plug indicates either a weak fire or a rich fuel/air mix. If the tang electrode has a whitish look to it, that cylinder may be too lean.
6. Swap the ignition coils location and repeat the test. If the problem follows, replace the ignition coil.

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