



Installation and Troubleshooting Guide

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CDI P/N: 116-5301

NOTE: This unit will replace the following P/N's: 475301, F475301-1, 300-888787 and 300-F475301-1.

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.
2. Loosen the mounting plate for the ignition coils and power packs.
3. Disconnect the old power pack wires and remove it from the mounting plate, saving the mounting bolts.
4. Clean and inspect the ignition coil, power pack and mounting plate ground pints and wires.
5. Install the new power pack on the mounting plate using the bolts removed previously. Make sure the ground wire is on a clean ground point.
6. Connect the new power pack as the old one was connected. Use the connection guides below as a template. NOTE: Due to the changes in the wire colors by the original manufacturer, the following chart is used as a guide.

TROUBLESHOOTING

GENERAL

1. DVA readings should always be taken with everything hooked up.
2. Check for broken wires and terminals, especially inside the plastic plug-in connectors. We recommend that you remove the pins from the connectors using the 97-6 pin removal tool and visually inspect them.
3. Check the flywheel for broken or loose magnets.
4. Disconnect the kill wires from the CD and connect a DC voltmeter between the kill wires and engine ground, turn the ignition switch on and off several times. If, at any time, you see voltage appearing on the meter, there is a problem in the harness or ignition switch. **AT NO TIME SHOULD YOU SEE BATTERY VOLTAGE ON A KILL CIRCUIT.**
5. Visually inspect stator for burned or discolored areas. If found, replace the stator. If the areas are on the battery charge windings, it indicated a possible problem with the rectifier.

NO SPARK ON ANY CYLINDER:

1. Disconnect and separate the White kill wire(s) AT THE PACK. If spark comes back, touch the White kill wires together and check for spark. If no spark, replace the packs. If you still have spark with the White wires touching together, there is a problem in the harness, key switch or the other ignition pack.
2. Check for broken or bare wires on the unit, stator and trigger.
3. Check the resistance (Ohms) and DVA of the stator.

Read From	Read To	OEM Ohms	CDI Ohms	DVA (connected)	DVA (disconnected)
Blue	Yellow	680-900	250-450	180V or more	180V or more
Yellow	Engine ground	OPEN	OPEN	180 V or more	2V or less
Blue	Engine ground	OPEN	OPEN	180 V or more	2V or less

NOTE: If the DVA is low, check the flywheel magnet to see if it has come loose from the flywheel.

NO SPARK ON ONE CYLINDER:

1. Disconnect and separate the kill wires. If spark returns to the dead cylinder, replace the pack that was firing correctly as it likely has a problem in the blocking diode.
2. Check resistance of the Trigger wires as follows:

Read from	Read to	Ohms	DVA	Cylinder #
Green (Pin 1)	Orange (Pin 2)	46-56	0.5 V	1
Red (Pin 3)	White/Green (Pin 4)	46-56	0.5 V	2
Green (Pin 1)	Orange (Pin 2)	46-56	0.5 V	3
Red (Pin 3)	White/Green (Pin 4)	46-56	0.5 V	4

3. Check resistance of the Stator wire sets as follows:

Read from	Read to	Ohms (OEM)	Ohms CDI	DVA (connected)	DVA (disconnected)
Yellow	Blue	680-900	250-450	180 V or more	180 V or more
Yellow	Engine ground	OPEN	OPEN	180 V or more	2V or less
Blue	Engine ground	OPEN	OPEN	180 V or more	2V or less

NOTE: If the voltage is correct between the wires, but exceeds 10% different to engine ground, swap the Yellow wire leads with the Blue wires to see if the problem moves. If it does, replace the stator.

4. Swap the trigger wires for the cylinder not firing with another cylinder. If the problem moves, replace the trigger. If the problem stays on the same cylinder, swap ALL connections between the two packs. If the problem moves, replace the defective pack. If the problem stays on the same cylinder, replace the ignition coil.



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NO SPARK ON TWO CYLINDERS:

1. If two cylinders from the same ignition pack will not fire, the problem is usually in the stator. Test per above.
2. If the #1 and #3 cylinders are not firing, disconnect the Brown/Yellow wire from the #1 pack and retest. If you now get fire on #3, replace the #1 pack. If still no fire on #3, disconnect the Brown/Yellow wire from the #2 pack and retest. If you now get fire on #1, replace the #2 pack.

MIS-FIRING AT ANY RPM:

1. Try using Champion QL77JC4 sparkplugs gapped at 0.030.
2. Check the flywheel outer magnet for cracks or breaks.
3. Use an inductive tachometer and isolate the problem cylinder. Swap coils and see if problem moves. If it does, replace the coil. If no change, test trigger and stator per above.

ENGINE WILL NOT STOP RUNNING:

1. Disconnect the kill wires (normally White or Black/Yellow Stripe) from pack and short them to engine ground. If the engine loses all spark, there is a problem in the harness, Stop switch or key switch. If only one pack stops firing, replace the one that continued to fire.

2 & 3 Cylinder Connections:

Pack #1 (Firing #1 and #2 cylinders)		Pack #2 (Firing #3 cylinder)	
Trigger: Orange	Pack: Orange	Trigger: Orange	Pack: Orange
Green	Green	Green	Green
Red	Red stripe	No Connection	Red
White/Green Stripe	White/Green Stripe	No Connection	White/Green Stripe
Stator: Yellow	Pack: Yellow	Stator: Yellow	Pack: Yellow
Blue	Blue	No Connection	Blue
Coil #1: White	Pack: Orange/Blue Stripe	Coil #3: White	Pack: Orange/Blue Stripe
Coil #2: White	Pack: Blue/Red stripe		

4 Cylinder Connections:

Pack #1 (Firing #1 and #2 cylinders)		Pack #2 (Firing #3 and #4 cylinders)	
Trigger: Orange	Pack: Orange	Trigger: Orange	Pack: Orange
Green	Green	Green	Green
Red	Red	No Connection	Red
White/Green Stripe	White/Green Stripe	No Connection	White/Green Stripe
Stator: Yellow	Pack: Yellow	Stator: Yellow	Pack: Yellow
Blue	Pack: Blue	Blue	Blue
Coil #1: White	Pack: Orange/Blue Stripe	Coil #3: White	Pack: Orange/Blue Stripe
Coil #2: White	Pack: Blue/Red stripe	Coil #4: White	Pack: Blue/Red stripe