



Installation and Troubleshooting Guide



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: 114-4911

This Switchbox replaces P/N's: 18-5786, 18-5787, 332-4911A 2, 332-4911A 5, 332-4911A 8, and 338-4733A 2.

Warning! 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.

How to test the Engine Stop Circuit (Kill) for DC Voltage:

1. DC voltage present on the kill circuit of the Switchbox due to a faulty key switch, boat harness, or engine harness will severely damage the Switchbox's internal kill circuit. Connect a Digital Multi Meter to the Ignition Stop wire AT THE SWITCHBOX while disconnected from the Switchbox in reference to a known good engine ground. Turn the Ignition switch on and off several times. If, at any time, you see over 2 VDC on the kill wire(s), there is a problem with one or both harnesses and/or the Ignition switch. The Ignition Stop wire should not be connected back to the new Switchbox at any point until the problem is corrected **OR DAMAGE TO THE SWITCHBOX WILL OCCUR!**

INSTALLATION

To replace the 332-4911A 2, A 5, A 8 and 18-5786 with the 114-4911:

1. Disconnect the Negative battery cable.
2. Disconnect the Stator and Trigger wires.
3. Remove the old Switchbox and clean all ground wires and mounting plate.
4. Check all Trigger, Stator, and kill wires for breaks and broken insulation.
5. Install the new Switchbox using the original bolts or bolts supplied with the unit.
6. Connect the Green Primary wire to the #1 Ignition coil, the Green/White Primary wire to the #2 Ignition coil, and the Black wire to the same ground wire location as the Ignition coils Negative side.
7. Connect the Red and Blue wires to the Red and Blue Stator wires.
8. Connect the Brown and White wires to the Brown and White Trigger wires.
9. Connect the Orange Kill (Stop) wire to the Orange wire.
10. Reconnect the Negative battery cable.

To replace the 338-4733A 2 and 18-5787 with the 114-4911:

1. Disconnect the Negative battery cable.
2. Disconnect the Stator and Trigger wires.
3. Remove the old Switchbox and clean all ground wires and mounting plate.
4. Check all Trigger, Stator, and kill wires for breaks and broken insulation.
5. Install the new Switchbox using the original bolts or bolts supplied with the unit.
6. Connect the Green Primary wire to the #1 Ignition coil, the Green/White Primary wire to the #2 Ignition coil, and the Black wire to the same ground wire location as the Ignition coils Negative side.
7. Remove the ring terminals from the Red, Blue, Orange, Brown, and White wires on the new Switchbox, Stator, Trigger, and kill wires. Connect the wires together matching wire colors by using butt splices or bullet connectors.
8. Reconnect the Negative battery cable.

TROUBLESHOOTING

NO SPARK ON ANY CYLINDER:

1. Disconnect the Orange stop wire AT THE SWITCHBOX and retest. If the engine's Ignition now has spark, the stop circuit has a fault. Check the key switch and wiring harness.
2. Disconnect the Yellow wires from the Stator to the Rectifier (if equipped) and retest. If the engine has spark, replace the Rectifier.
3. Check the cranking RPM. A low cranking speed may not allow the system to spark properly. This can be caused by a weak battery, dragging starter, bad battery cables, or a mechanical problem inside the engine.
4. Inspect and clean all engine and ignition ground connections.
5. Check the Stator and Trigger resistance and DVA:

Read from	Read to	OEM Ohms	CDI Ohms	DVA (Connected)	DVA (Disconnected)
Blue (Low speed coil)	Black (Stator Gnd)	5.2K-7K Ω	1.98K-2.5K Ω	180-400 V	180-400 V
Red (High speed coil)	Black (Stator Gnd)	180-340 Ω	45-55 Ω	25-100 V	25-100 V
Brown (Trigger)	White (or Brown)	800-1000 Ω ('73-'74)	800-1000 Ω ('73-'74)	0.5 V Minimum	0.5 V Minimum
Brown (Trigger)	White (or Brown)	140-160 Ω ('76-'78)	140-160 Ω ('76-'78)	0.5 V Minimum	0.5 V Minimum

6. Check the Triggering and Charge coil flywheel magnets for cracked, broken, or loose magnets.

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Web Support: www.cdielelectronics.com • Tech Support: 1-866-423-4832 • Order Parts: 1-800-467-3371

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NO SPARK OR INTERMITTENT SPARK ON ONE CYLINDER:

1. Check the DVA from the Switchbox on the Green Primary wire while it is connected to the Ignition coil. You should have a reading of at least 150 V or more. If the DVA reading is low on one cylinder, disconnect the wires from the Ignition coil for that cylinder and reconnect them to a Pack Load resistor and retest. If the reading is now good, the Ignition coil is likely bad. A continued low reading indicates a possible defective Switchbox.
2. Connect an inductive tachometer to each cylinder and compare the RPM readings at the RPM where the problem is occurring. If only one cylinder is dropping out, swap the Ignition coil locations and retest. If the problem follows an Ignition coil, replace the Ignition coil. If it stays on the same spark plug, replace the Switchbox.
3. Check the Triggering and Charge coil flywheel magnets for cracked, broken, or loose magnets.

ENGINE HAS SPARK BUT WILL NOT RUN:

1. Index the flywheel and check the timing. If it is out by 180°, swap the Trigger wires to the Switchbox because most likely the Trigger is incorrectly wired to the Switchbox.
2. If the timing is off by any other amount, check the flywheel key.

SWITCHBOX OR TRIGGER REPEATEDLY BLOWS ON SAME CYLINDER:

1. Check the Trigger wires for shorts to engine ground as a shorted Trigger wire can destroy a SCR inside the Switchbox.
2. In contrast, a shorted SCR inside the Switchbox can destroy a Trigger coil. Check the Trigger resistance and DVA (see **NO SPARK ON ANY CYLINDER**).
3. Replace the Ignition coil on the cylinder dropping spark.

ENGINE WILL NOT STOP (KILL):

1. Disconnect the stop wire at the Switchbox. Connect a jumper wire to the stop wire from the Switchbox and short it to engine ground. If this stops the Switchbox from sparking, the stop circuit has a fault. Check the key switch and wiring harness. If this does not stop the Switchbox from sparking, replace the Switchbox. Repeat test as necessary for additional Switchboxes.

MISS AT ANY RPM:

1. Disconnect the Yellow wires from the Stator to the Rectifier and retest. If the miss clears, replace the Rectifier.
2. In the water or on a Dynamometer, check the DVA on the Green wires from the Switchbox while connected to the Ignition coils. You should have a reading of at least 150 DVA or more, increasing with engine RPM until it reaches 300-400 DVA maximum. A sharp drop in DVA right before the miss becomes apparent on all cylinders will normally be caused by a bad Stator. A sharp drop in DVA on less than all cylinders will normally be the Switchbox or Trigger.
3. Connect an inductive tachometer to each cylinder in turn and try to isolate the problem. A high variance in RPM on one cylinder usually indicates a problem in the Switchbox or Ignition coil. Occasionally a Trigger will cause this same problem. Check the Trigger DVA (see **NO SPARK ON ANY CYLINDER**).
4. Perform a high speed shutdown and read the spark plugs. Check for water. A crack in the block can cause a miss at high speed when the water pressure gets high, but a normal shutdown will mask the problem.
5. Check the Triggering and Charge coil flywheel magnets for cracked, broken, or loose magnets.