



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: 213-6665

Warning! This product is designed to be installed 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.

Replaces P/N's 213-6212K1 (133-3533, 173-3117, 213-6212), 213-4037K1 (133-3533, 173-3117, 213-4037).

The 213-6665 Power Pack requires the 233-4586 Digital Timer Base. These parts cannot be used with the factory Power Pack, Timer Base, or other aftermarket OEM replacements.

This kit will work on 1988 through 2001 Johnson & Evinrude 185, 200, and 225 HP carbureted two stroke engines. The Power Pack has a 6700 RPM Rev Limiter.

This system does not use the Power Coil from the Stator. If your Stator has a Power Coil implemented, it will need to be removed or the Stator will need to be replaced with the CDI Electronics P/N 173-3117.

THIS IGNITION REQUIRES THE FACTORY RECOMMENDED QL77JC4 OR QL78YC SPARK PLUGS.

This ignition system uses battery voltage to operate. Do not use maintenance free batteries with this engine because of a tendency to overcharge in this application. This system will compensate for slow cranking speed caused by a dragging starter. Low voltage (below 10 V) at cranking or high voltage (above 15.8 V) at high speed may cause problems.

INSTALLATION

1. Disconnect the Negative battery cable.
2. Remove the Power Pack mounting bolts and disconnect all of the wires going to the old Power Pack.
3. Disconnect the Purple wire going to the Voltage Regulator (if the Purple wire is in a Deutsch connector instead of having a bullet connector, cut the Purple wire and crimp a female bullet on the end from the harness and a male terminal on the end from the Voltage Regulator). Connect the male & female bullet terminals from the 213-6665 Power Pack to the male & female bullet terminals on the Purple wire going to the Voltage Regulator. Use a small amount of dielectric silicone grease in the bullet connectors. Tape off the remaining Purple wire so it will not short to engine ground.
4. Connect the Timer Base's 4 and 5 pin connectors to the 4 and 5 pin connectors from the new Power Pack. Use a small amount of dielectric silicone grease on the male connectors.
5. Connect the Stators charge coil Brown wire sets to the new Power Pack.
6. On 1993-2001 engines, connect the kill wires in the 2 pin connector to the 2 pin connector from the harness.
7. On 1988-1992 engines, use the original Power Pack as a guide and crimp and solder the new Amphenol sockets on the two Black/Yellow wires from the new Power Pack. The original Power Pack may have a Black/Yellow and Black/Orange wires where the new Power Pack has two Black/Yellow wires. Remove and re-use the two 1 pin Amphenol connectors from the old Power Pack.
8. Connect the Tan and White/Black wires to their respective wires going to the Temperature sensor and switch located in the Port Cylinder Head, matching wire colors.
9. Position the Stator wire connectors in the lower slot provided in the electrical bracket.
10. Position the Timer Base wire connectors in the slot above the Stator wire connectors in the electrical bracket.
11. Tape off the Yellow/Red wire from the harness, as it is not needed for this application.
12. Mount the new Power Pack using the original bolts, grounding the Black wire to engine ground. Be careful to avoid pinching the wires when setting down the Power Pack into position.
13. Connect the Orange wires to the Ignition coils. Remember that the blue striped wires go to cylinders #1 and #2, the solid Orange wires go to cylinders #2 and #3, and the green striped wires go to cylinders #5 and #6).
14. Reconnect the Negative battery cable.
15. Connect a timing light to #1 spark plug high-tension lead and set the ignition timing according to the service manual.

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

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

All rights reserved. Reproduction or use of content, in any manner, without express written permission by CDI Electronics, LLC., is prohibited.



TROUBLESHOOTING

NO SPARK ON ANY CYLINDER:

1. Disconnect the Black/Yellow stop wire plug from the Power Pack and retest. If the engine's ignition now has spark, the stop circuit has a fault. Check the key switch, harness, and shift switch (if present).
2. Perform a visual inspection of all ground wire connections to make sure that they are clean and tight.
3. Check all of the Amphenol connectors of each component to assure that all of the pins are seated securely in the connectors and that the pins themselves are clean and free of corrosion.
4. Disconnect the Yellow wires from the Stator to the Voltage Regulator and retest. If the engine now has spark, replace the Voltage Regulator.
5. Check the cranking RPM. A cranking speed of less than 250 RPM 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.
6. Check the Trigger and Charge coil magnets in the flywheel. A loose or broken magnet can cause this problem.
7. Check the DVA of the Stator as follows:

Read from	Read to	Ohms	DVA (Connected)	DVA (Disconnected)
Brown (Stator)	Brown/Yellow (Stator)	865-1056 Ω	150-400 V	150-400 V
Brown (Stator)	Brown/Yellow (Stator)	865-1056 Ω	150-400 V	150-400 V

8. Check the DVA on the Black/Yellow kill wires coming out of the Power Pack. You should have a reading of at least 150 DVA or more. The Stator and Timer Base should be connected to the Power Pack for this test. If you do not, check the DVA on the Stator and Timer Base. If the DVA on the Stator and Timer Base is good but the DVA on the Black/Yellow Kill wires coming out of the Power Pack is low, the Power Pack is likely faulty.
9. Check to make sure the Purple wire going to the Power Pack has at least 10.5 VDC at cranking.
10. Check to make sure the Purple wire going to the Timer Base has at least 10.5 VDC at cranking (if the reading going to the Timer Base is lower but within specification on the Purple wire to the Power Pack, the Power Pack is faulty).

NO SPARK OR INTERMITTENT SPARK ON ONE CYLINDER:

1. Check the DVA on the Orange Primary wires from the Power Pack while connected to the Ignition coils. You should have a reading of at least 150 V Minimum. If the reading is low on one cylinder, disconnect the Orange wire from the Ignition coil for that cylinder and reconnect it to a Pack Load resistor. Retest. If the reading is now good, the Ignition coil is likely bad. A continued low reading usually indicates a bad Power Pack.

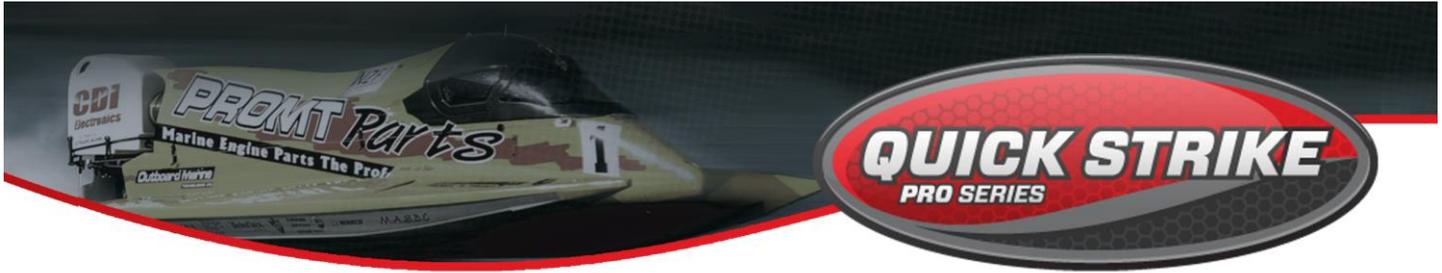
NO SPARK OR INTERMITTENT SPARK ON ONE BANK:

1. Disconnect the Black/Yellow stop wire plug from the Power Pack and retest. If the engine's ignition now has spark, the stop circuit has a fault. Check the key switch, harness, and shift switch (if present).
2. Perform a visual inspection of all ground wire connections to make sure that they are clean and tight.
3. Check all of the Amphenol connectors of each component to assure that all of the pins are seated securely in the connectors and that the pins themselves are clean and free of corrosion.
4. Check the Stator resistance and DVA (see **NO SPARK ON ANY CYLINDER**).
5. Swap the Stator Amphenol connectors from one side to the other (do not remove the wires from the connectors). If the problem moves, replace the Stator because one of the Stator's Charge coils is defective .
6. Check the DVA on the Orange Primary wires from the Power Pack while connected to the Ignition coils. You should have a reading of at least 150 V Minimum. If the reading is low on one bank, disconnect the Orange wires from the Ignition coils for that bank and reconnect them to a Pack Load resistor. Retest. If the readings are now good, one or more of the Ignition coils are likely bad. A continued low reading indicates a bad Power Pack.
7. Disconnect the shift switch and retest. If all cylinders now have spark, replace the shift switch.

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

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

All rights reserved. Reproduction or use of content, in any manner, without express written permission by CDI Electronics, LLC., is prohibited.



ENGINE WILL NOT ACCELERATE BEYOND 2500 RPM (Runs smooth below that RPM) :

1. Use a temperature probe and verify that the engine is not overheating.
2. Disconnect the Tan temperature wire from the Power Pack and retest. Make sure to cut the key switch off killing the engine, and then crank the engine back again. This resets the circuit board inside the Power Pack. If the engine now performs properly, check the temperature switch, the VRO Pump, remote oil tank, blocking diode built into the engine harness, and System Check Gauge.
3. Make sure the Tan temperature switch wire is not located next to a spark plug wire (RF interference can activate the S.L.O.W function without sounding the warning horn).
4. If the engine will not rev above 2500 RPM and the Tan wire is disconnected from the Power Pack (and not near a spark plug wire), the Power Pack is likely defective. Make sure to cut the key switch off killing the engine, and then crank the engine back again. This resets the circuit board inside the Power Pack. Retest. If no change, the Power Pack is likely defective.

ENGINE WILL NOT STOP (KILL):

1. Disconnect the Black/Yellow wires at the Power Pack. Connect a jumper wire to the stop wires from the Power Pack and short it to engine ground. If this stops the Power Pack from sparking, the stop circuit has a fault. Check the key switch, harness, and shift switch.

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

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

All rights reserved. Reproduction or use of content, in any manner, without express written permission by CDI Electronics, LLC., is prohibited.