



INSTALLATION/TROUBLESHOOTING GUIDE

CDI P/N: 213-6665K1

The 213-6665K1 digital ignition kit consists of a 213-6665 ignition pack and a 233-4586 digital crankshaft position sensor that replaces the stock timer base. This system is NOT compatible with the factory ignition power pack and timer base. The 213-6665 and 233-4586 must be used together as a kit.

This kit will work on 1988 through 2000 Johnson & Evinrude 185, 200 and 225 HP 6 cylinder engines.

WARNING! A professional marine mechanic should install this product. CDI Electronics cannot be held liable for any injury or damage resulting from improper installation, abuse, neglect or misuse of this product.

Installation

1. Disconnect the battery cables.
2. Remove ignition pack mounting bolts and disconnect all of the wires from the old power pack.
3. Disconnect the yellow wires from the stator to the regulator/rectifier.
4. Remove the flywheel and remove the stator, taking note of its mounting orientation.
5. Remove the power coil (*the one with the Orange and Orange/Black wires*) from the stator as it is not used in this application. Alternately, you can cut the orange wires from the coil, but removing it will reduce flywheel drag. Be careful not to damage the battery charge windings.
6. Remove the original Timer Base.
7. Remove the linkage retainer from the old Timer Base and install it on the 233-4586 crank shaft position sensor.
8. Lubricate the inside bearing area of the 233-4586 CPS and install it on the engine.
9. Connect the timing linkage to the 233-4586 CPS.
10. Install the stator and connect the Yellow wires to the regulator/rectifier and anchor the connector to the bracket.
11. Depending on the model year: a) Connect the 213-6665's purple wire to the terminal strip where the regulator's purple wire is connected using the supplied fork adapter, **OR** b) disconnect the purple wire going to the regulator and connect the male & female bullet terminals from the 213-6665 ignition pack between the regulator's male & female bullet terminals.
12. Connect the 233-4586's 4 and 5 pin connectors to the 4 and 5 pin connectors from the new ignition pack.
13. Connect the stator charge coils (brown wire sets) to the new ignition pack.
14. Terminate the kill/stop circuit wires (Black/Yellow) with supplied male bullet terminals.
15. Connect the Tan and White/Black temperature sensor wires to their respective wire colors in the harness.
16. Position the stator wire connectors in the lower slot provided in the electrical bracket. Ensure that all wires are secured such that they will clear the flywheel.
17. Position the timer base wire connectors in the slot above the stator wire connectors in the electrical bracket.
18. Tape off the Yellow/Red wire from the harness to prevent it from contacting ground as it is not used.
19. Mount the new ignition pack using the original bolts, grounding the Black wire's ring terminal to engine ground.
20. Connect the orange wires with boots to the ignition coils. The blue striped wires go to the top (#1 & #2) and the green striped wires go to the bottom (#5 & #6).
21. Reconnect the battery cables.
22. Disconnect the spark plug high-tension leads from the spark plugs and connect a spark tester such as the 511-9766 to the spark plug high-tension leads.
23. Connect a timing light to # 1 spark plug high-tension lead and set the ignition timing according to the service manual. Timing **MUST** be verified at 5000 RPM.

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

Troubleshooting

No Spark at All:

1. Disconnect the black/yellow engine stop wires at the ignition pack and retest. If the ignition now has spark, the stop circuit has a fault. This could be the key switch, harness, or shift switch.
2. Disconnect the yellow wires from the stator to the regulator/rectifier and retest. If the engine now has spark, replace the regulator/rectifier.
3. Check the stator resistance. You should read approximately 1000 ohms from the Brown wire to the Brown/Yellow wire.
4. Check the DVA output from the stator to the pack while connected to the power pack. You should have a reading of at least 150V or more from the brown wire to the brown/yellow wire (while connected to the ignition pack) on each bank.
5. Check to make sure the Purple wire going to the power pack has at least 10 volts on it during cranking.
6. Check to make sure the Purple wire going to the timer base has at least 10 volts on it during cranking. It is normal for the reading here to be **0.5V** less than the Purple wire feeding the ignition pack.
7. Check engine cranking speed. Speeds less than 200-RPM may not generate sufficient charge voltage (150 DVA) to fire the spark plugs properly.

No Spark or Intermittent Spark on One Cylinder:

Use a DVA to measure the ignition pack's output voltage to the ignition coils (orange wires). Do this with the pack connected to the coils. You should have a reading of at least 150V or more. 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 and retest. If the reading is now good, replace the ignition coil. If the reading is still low, replace the ignition pack.

No Spark or Intermittent Spark on One Bank:

1. Disconnect the kill/stop wires at the ignition pack and retest. If good spark is restored, there is a problem in the kill/stop or shift circuits.
2. Check the stator resistance. You should read approximately 1000 ohms from the brown wire to the brown/yellow wires.
3. Swap the Brown & Brown/Yellow stator wire connections and retest. If the problem moves to the other bank, replace the stator. If the problem remains unchanged, go to step 4.
4. Check the DVA output on the orange wires from the power pack while connected to the ignition coils. You should have a reading of at least 150V or more. If the reading is low on one bank, disconnect the orange wires from the ignition coils for that bank, connect them to load resistors and retest. If the DVA readings are now good, one or more of the ignition coils may be bad. A continued low reading indicates a damaged power pack.
5. Disconnect the shift interrupter and retest. If all cylinders now have spark, replace the shift interrupter.

Engine will not rev beyond 2500 RPM:

1. Use a temperature probe and verify that the engine is not overheating.
2. Disconnect the tan temperature wire from the pack and retest. If the engine now performs properly, replace the temperature switch.
3. Make sure the tan temperature switch wire is not routed too close to the spark plug wires.