



## INSTALLATION/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: 213-3605 High Performance Power Pack 3/6 Cylinder**  
**This unit replaces the following P/N's: 113-3605, 583030 and 583605 for High Performance Applications.**

**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.

### INSTALLATION

1. Disconnect the negative battery cable.
2. Disconnect all of the wires going to the old power pack and remove the power pack mounting bolts.
3. Check for DC voltage on the kill (stop) wire (usually Black/Yellow) with the key-switch in the on and off position. At no time should you see over 2 volts DC on this wire as severe damage to the power pack can occur.
4. Connect the wires from the new power pack to the stator and trigger.
5. Connect the Orange/Blue coil lead to the top ignition coil, Orange wire to the middle ignition coil and the Orange/Green coil lead to the bottom ignition coil.
6. Mount the new power pack using the original bolts.
7. Reconnect the battery cable.

### TROUBLESHOOTING

#### NO SPARK ON ANY CYLINDER:

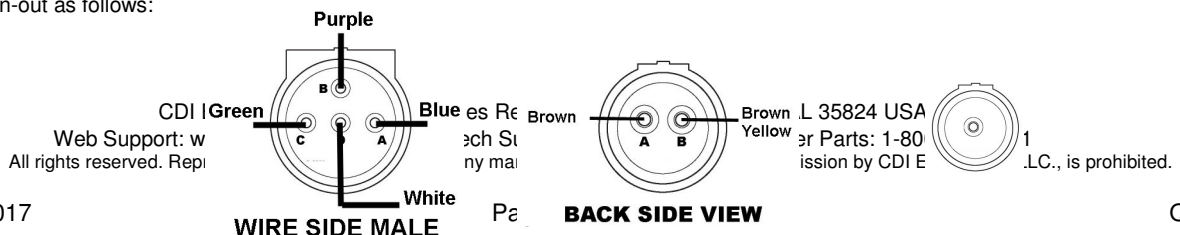
1. Disconnect the black yellow stop wire from the power pack and retest. If the engine's ignition has spark, the stop circuit has a fault-check the key switch, harness and shift switch.
2. Disconnect the yellow wires from the rectifier and retest. If the engine now has spark, replace the rectifier.
3. Check the resistance and DVA output of the Stator and Timer Base:

| WIRE  | READ TO      | OEM Ohms                | CDI Ohms | DVA (Connected) | (Disconnected) |
|-------|--------------|-------------------------|----------|-----------------|----------------|
| Brown | Brown/Yellow | 485-635 (Stock 9 Amp)   | 530-630  | 150-400 V       | 150-400 V (*)  |
| Brown | Brown/Yellow | 485-635 (Racing 9 Amp)  | 260-330  | 150-400 V       | 150-400 V (*)  |
| Brown | Brown/Yellow | 950-1100 (Stock 35 Amp) | 850-1100 | 150-400 V       | 150-400 V (*)  |
| Brown | Brown/Yellow | N/A (Racing 35 Amp)     | 430-530  | 150-400 V       | 150-400 V (*)  |
| White | Purple       | 35-45                   | 38-48    | 0.6 V +         | 0.6 V + (#)    |
| White | Blue         | 35-45                   | 38-48    | 0.6 V +         | 0.6 V + (#)    |
| White | Green        | 35-45                   | 38-48    | 0.6 V +         | 0.6 V + (#)    |

(\*) This reading can be used to determine if a stator or pack has a problem. For instance, if you have no spark on any cylinder and the stator's DVA reading is out of spec – disconnect the stator wires and recheck the DVA output. If the reading is still out of spec – the stator is bad. If the reading is now within spec – the pack is bad.

(#) This reading can be used to determine if a pack has a problem in the triggering circuit. For instance, if you have no spark on one cylinder and the timer base's DVA reading for that cylinder is low – disconnect the timer base wires and recheck the DVA output. If the reading stays low – the timer base is bad. If the reading is now within spec – the pack is bad.

4. Check wire pin-out as follows:





5. Check the stator input diodes connected inside the power pack using a meter set to diode scale. If the readings show a short or open, replace the power pack.

| Red meter lead     | Black meter lead  | Reading  |
|--------------------|-------------------|--|
| Brown wire         | Black ground wire | 0.500 (The actual reading will vary, depending upon your meter.) |
| Brown/Yellow wire  | Black ground wire | 0.500 (The actual reading will vary, depending upon your meter.) |
| White trigger wire | Black ground wire | 0.500 (The actual reading will vary, depending upon your meter.) |

6. Check the cranking RPM. A cranking speed of less than 250-RPM will not allow the system to fire properly.

**NO SPARK OR INTERMITTENT ON ONE OR MORE CYLINDERS:**

1. Check the flywheel for broken magnets.
2. Check the resistance and DVA output of the stator and Timer Base:

| WIRE  | READ TO      | OEM Ohms                | CDI Ohms | DVA (Connected) | (Disconnected) |
|-------|--------------|-------------------------|----------|-----------------|----------------|
| Brown | Brown/Yellow | 485-635 (Stock 9 Amp)   | 530-630  | 150-400 V       | 150-400 V (*)  |
| Brown | Brown/Yellow | 485-635 (Racing 9 Amp)  | 260-330  | 150-400 V       | 150-400 V (*)  |
| Brown | Brown/Yellow | 950-1100 (Stock 35 Amp) | 850-1100 | 150-400 V       | 150-400 V (*)  |
| Brown | Brown/Yellow | N/A (Racing 35 Amp)     | 430-530  | 150-400 V       | 150-400 V (*)  |
| White | Purple       | 35-45                   | 38-48    | 0.6 V +         | 0.6 V + (#)    |
| White | Blue         | 35-45                   | 38-48    | 0.6 V +         | 0.6 V + (#)    |
| White | Green        | 35-45                   | 38-48    | 0.6 V +         | 0.6 V + (#)    |

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(#) This reading can be used to determine if a pack has a problem in the triggering circuit. For instance, if you have no spark on one cylinder and the timer base's DVA reading for that cylinder is low – disconnect the timer base wires and recheck the DVA output. If the reading stays low – the timer base is bad. If the reading is now within spec – the pack is bad.

3. 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 cylinder, disconnect the orange wire from the ignition coil for that cylinder and reconnect it to a 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 ON ONE BANK:**

1. Swap the stator connections to the power packs. If the problem moves, replace the stator.
2. If no change, swap the powerpacks bank to bank. If the problem moves, replace the powerpack.
3. If no change, replace the timerbase.
4. Check the resistance and DVA output of the stator and Timer Base:

| WIRE  | READ TO      | OEM Ohms                | CDI Ohms | DVA (Connected) | (Disconnected) |
|-------|--------------|-------------------------|----------|-----------------|----------------|
| Brown | Brown/Yellow | 485-635 (Stock 9 Amp)   | 530-630  | 150-400 V       | 150-400 V (*)  |
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(\*) This reading can be used to determine if a stator or pack has a problem. For instance, if you have no spark on any cylinder and the stator's DVA reading is out of spec – disconnect the stator wires and recheck the DVA output. If the reading is still out of spec – the stator is bad. If the reading is now within spec – the pack is bad.

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Web Support: [www.cdielelectronics.com](http://www.cdielelectronics.com) • Tech Support: 1-866-423-4832 • Order Parts: 1-800-467-3371  
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(#) This reading can be used to determine if a pack has a problem in the triggering circuit. For instance, if you have no spark on one cylinder and the timer base's DVA reading for that cylinder is low – disconnect the timer base wires and recheck the DVA output. If the reading stays low – the timer base is bad. If the reading is now within spec – the pack is bad.

**HIGH SPEED MISS:**

1. Using an inductive Tachometer, verify the engine RPM on all cylinders. Check on the Primary and secondary wires. If there is a difference between the readings on the same cylinder, the coil is likely defective. If the RPM is within 300 RPM of the limit, the engine may be hitting the limiter.
2. On the water or connected to a Dynamometer, run the engine up to the point where the miss is occurring and hold it there for a minute or 2. Shut the engine off without moving the throttle. Number and remove the spark plugs. If there are 1 or 2 spark plugs with a dark color to the porcelain (and the rest have a light brown color), swap that coil for one running good. Repeat the test. If the dark color remains on the same cylinder, test the timerbase.