

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: 116-8301

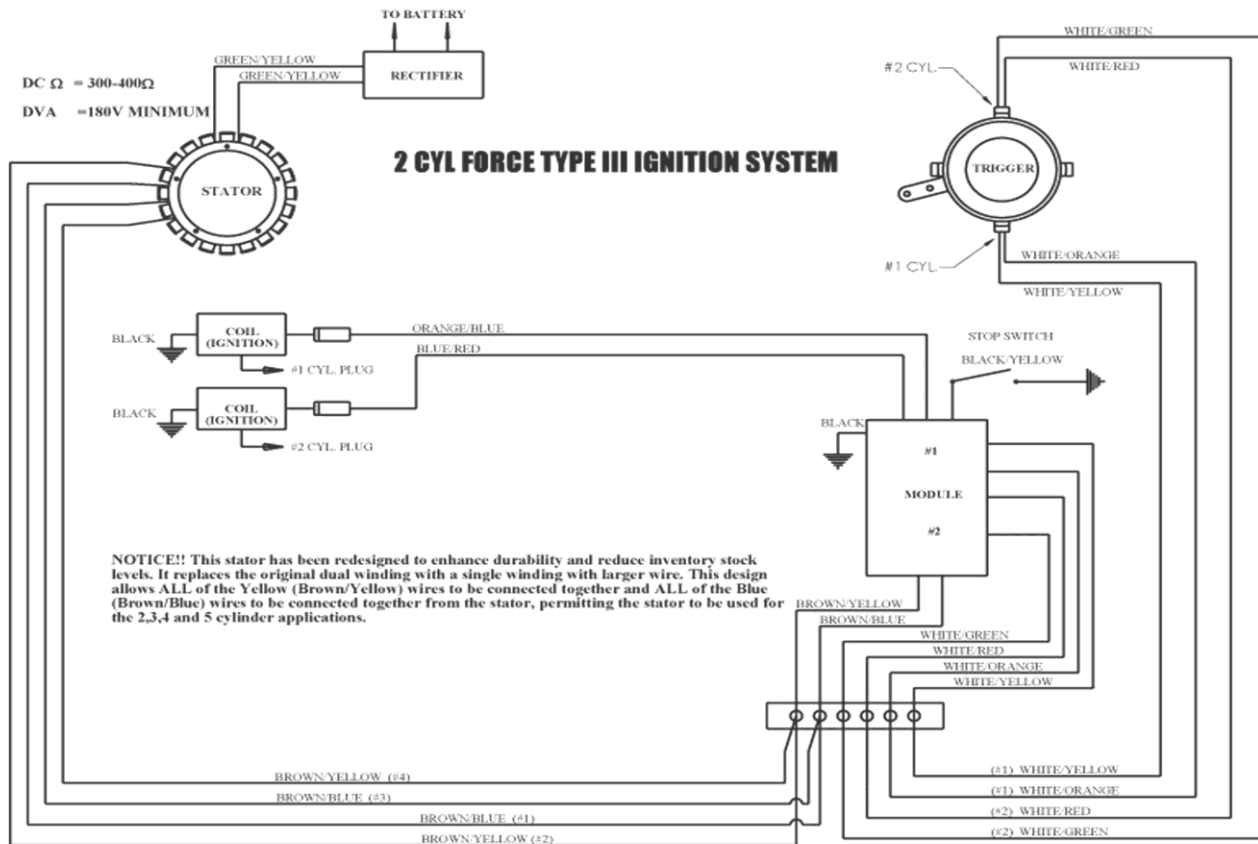
This unit will replace the following P/N's: 658301-2, 300-F658301-2, 685301-2, 300-888788, and 300-F685301-2.

**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 Switchboxes.
3. Disconnect the old Switchbox wires and remove it from the mounting plate, saving the mounting bolts.
4. Clean and inspect the Ignition coil, Switchbox, and mounting plate ground points and wires.
5. Install the new Switchbox on the mounting plate using the bolts previously removed. Make sure the ground wire is on a clean ground point.
6. Connect the new Switchbox as the old one was connected. Use the connection guides below as a template.
7. Reconnect the Negative battery cable.

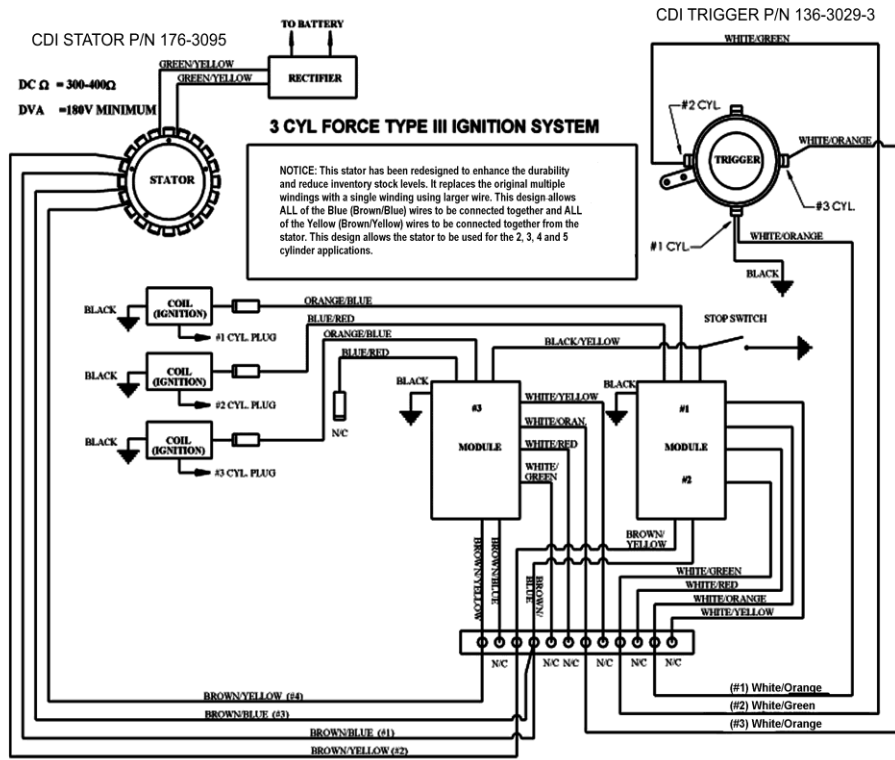
**The following is a wiring diagram for 2 Cylinder Using a Single Switchbox and Two Coils:**



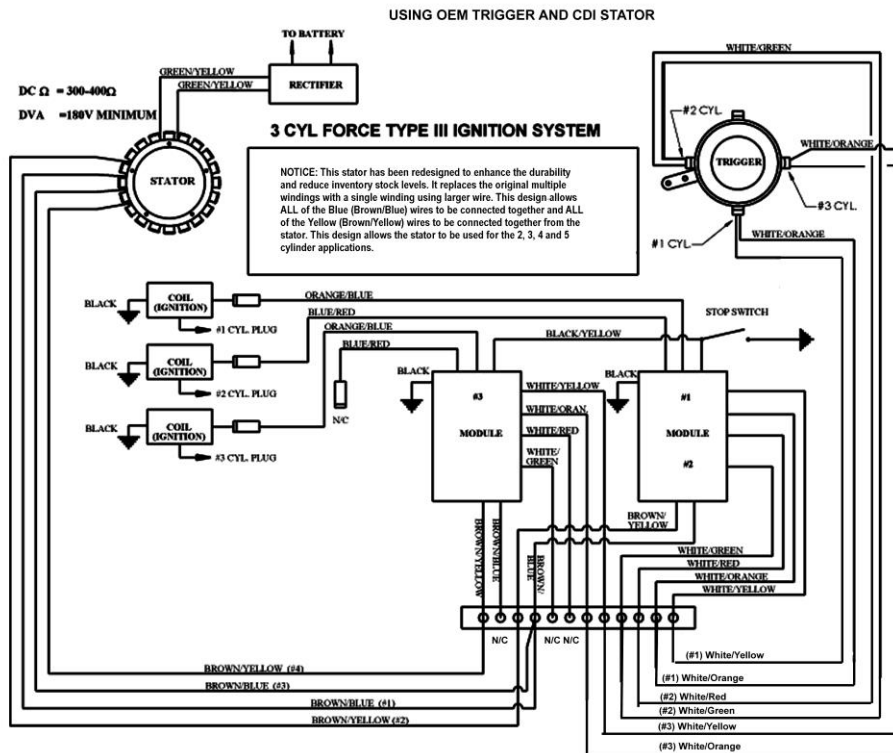
# Installation and Troubleshooting Guide

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The following is a wiring diagram using a CDI Electronics Stator and Trigger:



The following is a wiring diagram for a 3 cylinder engine using a CDI Electronics Stator and an OEM Trigger:



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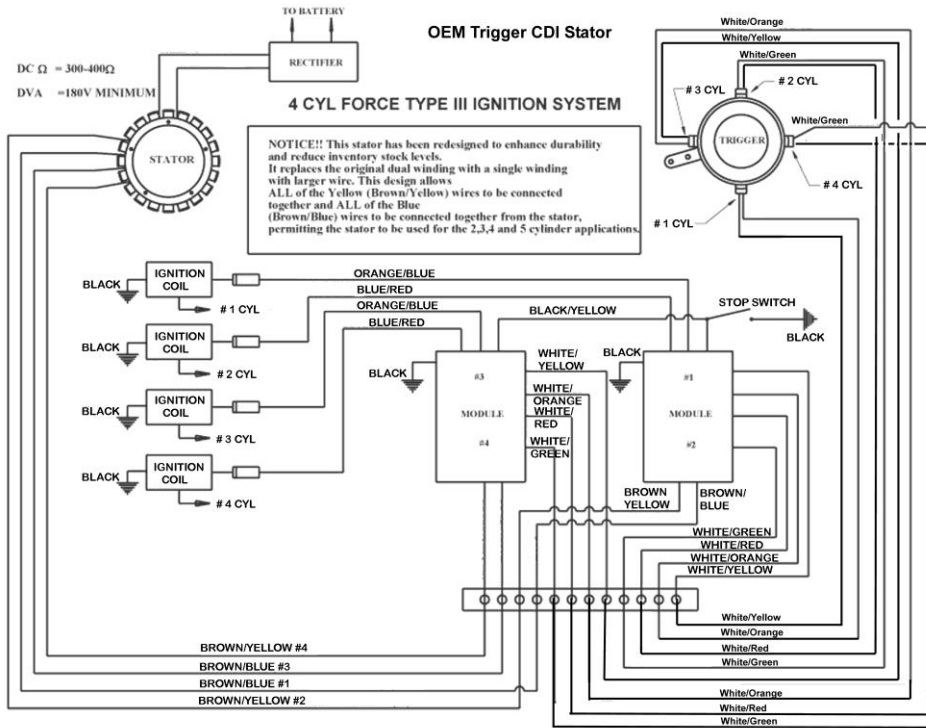
Web Support: [www.cdielectronics.com](http://www.cdielectronics.com) • Tech Support: 1-866-423-4832 • Order Parts: 1-800-467-3371

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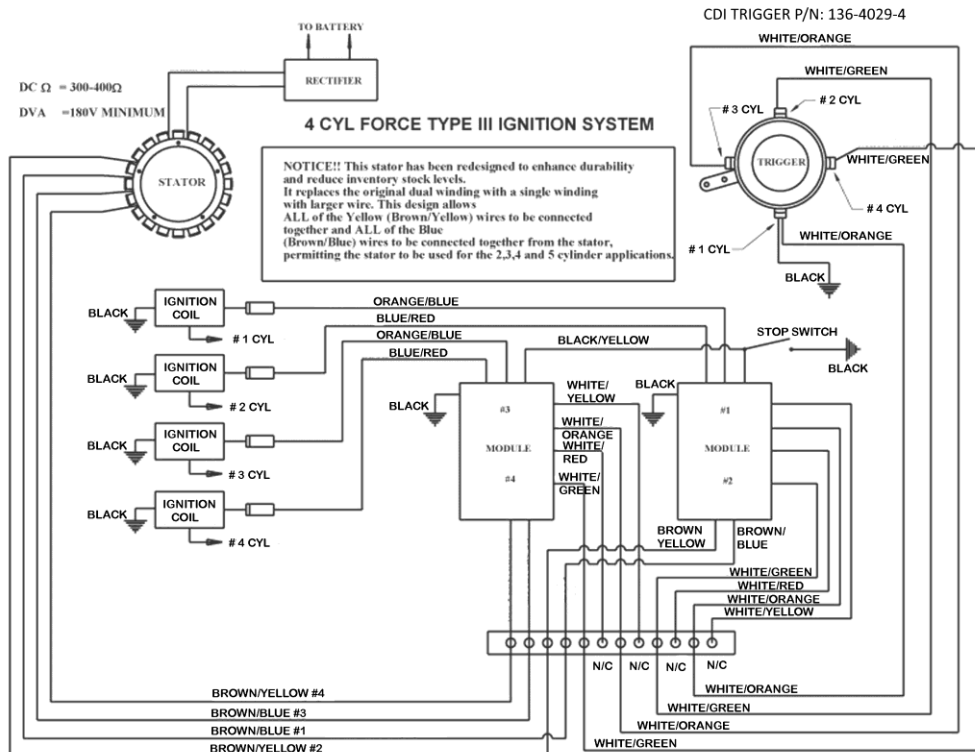
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The following is a wiring diagram for a 4 cylinder engine using a CDI Electronics Stator and a OEM Trigger:



The following is a wiring diagram for a 4 cylinder engine using a CDI Electronics Stator and Trigger:



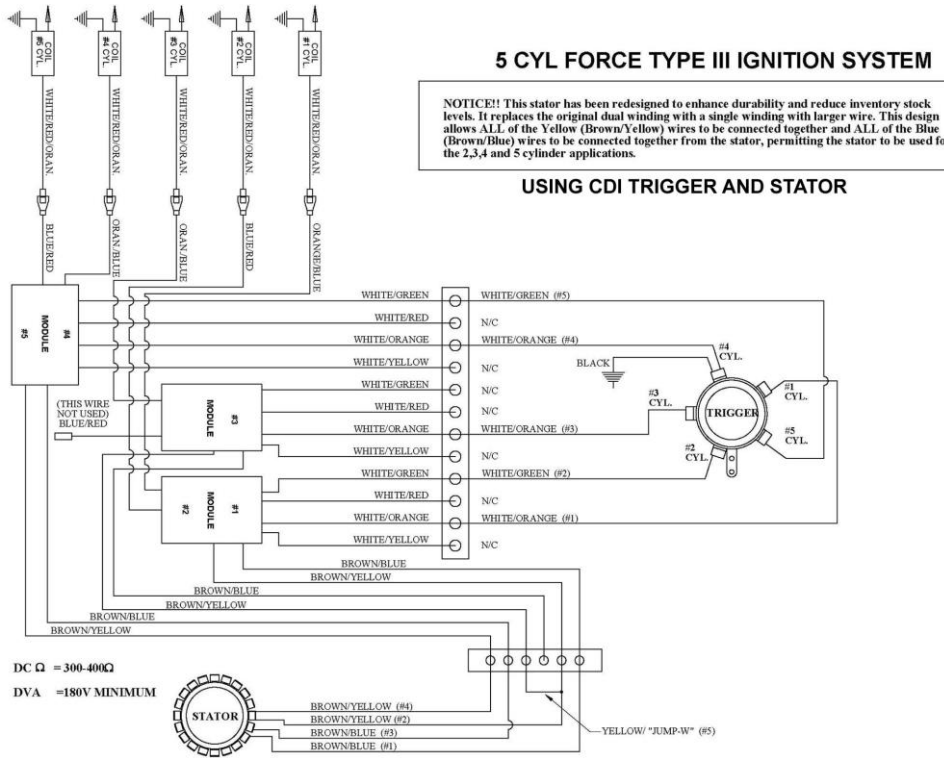
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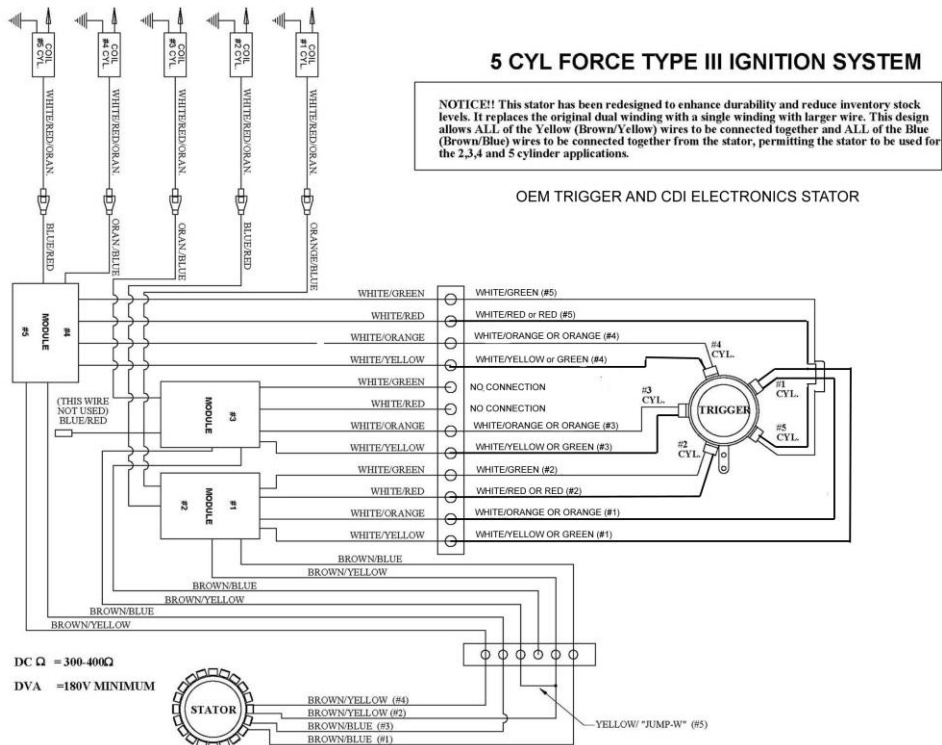
# Installation and Troubleshooting Guide

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The following is a wiring diagram for a 5 cylinder engine using a CDI Electronics Stator and Trigger.



The following is a wiring diagram for a 5 cylinder engine using a CDI Electronics Stator and an OEM Trigger:





# Installation and Troubleshooting Guide



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## CONNECTION GUIDE

### 2 Cylinder engines using a single Switchbox and two coils & 3 Cylinder engines using 2 Switchboxes:

Connections from #1 Switchbox (Firing #1 and #2 Cylinders) to Trigger, Stator, and Ignition coil:

Switchbox	Trigger	Stator	Ignition coil
White/Orange	White/Orange	-	-
White/Yellow	White/Yellow	-	-
White/Red	White/Red	-	-
White/Green	White/Green	-	-
Brown/Yellow	-	Brown/Yellow	-
Brown/Blue	-	Brown/Blue	-
Orange/Blue	-	-	White
Blue/Red	-	-	White

Connections from #2 Switchbox (Firing #3 Cylinder) to Trigger, Stator, and Ignition coil (3 Cylinder only):

Switchbox	Trigger	Stator	Ignition coil
White/Orange	White/Orange	-	-
White/Yellow	White/Yellow*	-	-
White/Red	No Connection	-	-
White/Green	No Connection	-	-
Brown/Yellow	-	Brown/Yellow	-
Brown/Blue	No Connection (must be connected to the Blue terminal on Switchbox #1)		
Orange/Blue	-	-	White
Blue/Red	-	-	No Connection

### Wire Color Code Reference:

Function	Old	New
Stator	Blue	Brown/Blue
Stator	Yellow	Brown/Yellow
Trigger	Orange	White/Orange
Trigger	Green	White/Yellow
Trigger	Red	White/Red
Trigger	White/Green	White/Green
Switchbox Primary	Orange	Orange/Blue
Switchbox Primary	Red	Blue/Red
Ignition Coil	White	Orange/Blue
Stop Circuit	White	Black/Yellow

### 4 Cylinder engines using 2 Switchboxes:

Connections from #1 Switchbox (Firing #1 and #2 Cylinders) to Trigger, Stator, and Ignition coil:

Switchbox	Trigger	Stator	Ignition coil
White/Orange	White/Orange	-	-
White/Yellow	White/Yellow*	-	-
White/Red	White/Red*	-	-
White/Green	White/Green	-	-
Brown/Yellow	-	Brown/Yellow	-
Brown/Blue	-	Brown/Blue	-
Orange/Blue	-	-	White
Blue/Red	-	-	White



# Installation and Troubleshooting Guide



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## **Connections from #2 Switchbox (Firing #3 Cylinder and #4 cylinders) to Trigger, Stator, and Ignition coil (4 Cylinder only):**

Switchbox	Trigger	Stator	Ignition coil
White/Orange	White/Orange	-	-
White/Yellow	White/Yellow*	-	-
White/Red	White/Red*	-	-
White/Green	White/Green	-	-
Brown/Yellow	-	Brown/Yellow	-
Brown/Blue	-	Brown/Blue	-
Orange/Blue	-	-	White
Blue/Red	-	-	White

## **5 Cylinder engines using 3 Switchboxes:**

### **Connections from #1 Switchbox (Firing #1 and #2 Cylinders) to Trigger, Stator, and Ignition coil:**

Switchbox	Trigger	Stator	Ignition coil
White/Orange	White/Orange	-	-
White/Yellow	White/Yellow*	-	-
White/Red	White/Red*	-	-
White/Green	White/Green	-	-
Brown/Yellow	-	Brown/Yellow	-
Brown/Blue	-	Brown/Blue	-
Orange/Blue	-	-	White
Blue/Red	-	-	White

### **Connections from #2 Switchbox (Firing #3 Cylinder) to Trigger, Stator, and Ignition coil:**

Switchbox	Trigger	Stator	Ignition coil
White/Orange	White/Orange	-	-
White/Yellow	White/Yellow*	-	-
White/Red	No Connection	-	-
White/Green	No Connection	-	-
Brown/Yellow	-	Brown/Yellow	-
Brown/Blue	No Connection (must be connected to the Blue terminal on Switchbox #1 or 2)		
Orange/Blue	-	-	White
Blue/Red	-	-	-

### **Connections from #3 Switchbox (Firing #4 and #5 Cylinders) to Trigger, Stator, and Ignition coil:**

Switchbox	Trigger	Stator	Ignition coil
White/Orange	White/Orange	-	-
White/Yellow	White/Yellow*	-	-
White/Red	White/Red*	-	-
White/Green	White/Green	-	-
Brown/Yellow	-	Brown/Yellow	-
Brown/Blue	-	Brown/Blue	-
Orange/Blue	-	-	White
Blue/Red	-	-	White

\* CDI replacement Triggers do not have a connection for this wire from the Switchbox as the new Trigger uses a common ground wire. This allows the wires going to the Switchbox from the Trigger to be larger and more durable. The Switchbox uses that color as a ground wire for the Trigger.



# Installation and Troubleshooting Guide



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## TROUBLESHOOTING

### 2 CYLINDER TROUBLESHOOTING USING SEPARATE SWITCHBOX AND IGNITION COILS:

#### NO SPARK ON ANY CYLINDER:

1. 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.
2. Perform a visual inspection of all ground wire connections to make sure that they are clean and tight.
3. Disconnect the White or Black/Yellow stop wire AT THE SWITCHBOX.
4. Disconnect the Brown (or Black/Yellow) stop wires from the Switchbox. Measure DC voltage from the stop wires (from the harness) to engine ground. Turn the Ignition switch on and off several times. DC voltage should never exceed 2 V. If it does, the stop circuit has a fault. Check the key switch, harness, and shift switch. Potential damage to the switchbox's kill circuit may occur with more than 2 V on the kill wires.
5. Disconnect the Rectifier. If the spark returns, replace the Rectifier.
6. Check for broken or bare wires on the Switchbox, Stator, and Trigger. Check for broken wires and terminals, especially inside the plastic plug-in connectors.
7. Check the Stator and Trigger resistance and DVA as follows:

Read from	Read to	OEM Ohms	CDI Ohms	DVA (Connected)	DVA (Disconnected)
Blue (Stator)	Yellow (Stator)	680-900 Ω	250-350 Ω	180-400 V	-
Blue (Stator)	Engine Gnd	Open	Open	-	Less than 2 V
Yellow (Stator)	Engine Gnd	Open	Open	-	Less than 2 V
Orange (#1 Trigger)	Green (#1 Trigger)	45-55 Ω	45-55 Ω	0.5 V Minimum	-
Red (#2 Trigger)	White/Green (#2 Trigger)	45-55 Ω	45-55 Ω	0.5 V Minimum	-

**NOTE: Remember that the Stator may use Brown/Yellow or Brown/Black/Yellow for Yellow and Brown/Blue or Brown/Black/Blue for Blue.**

#### NO SPARK OR INTERMITTENT SPARK ON ONE CYLINDER:

1. Check the Stator and Trigger resistance and DVA as follows:

Read from	Read to	OEM Ohms	CDI Ohms	DVA (Connected)	DVA (Disconnected)
Blue (Stator)	Yellow (Stator)	680-900 Ω	250-350 Ω	180-400 V	-
Blue (Stator)	Engine Gnd	Open	Open	-	Less than 2 V
Yellow (Stator)	Engine Gnd	Open	Open	-	Less than 2 V
Orange (#1 Trigger)	Green (#1 Trigger)	45-55 Ω	45-55 Ω	0.5 V Minimum	-
Red (#2 Trigger)	White/Green (#2 Trigger)	45-55 Ω	45-55 Ω	0.5 V Minimum	-

**NOTE: Remember that the Stator may use Brown/Yellow or Brown/Black/Yellow for Yellow and Brown/Blue or Brown/Black/Blue for Blue.**

2. If readings are good, disconnect stop wire from one Switchbox. If the dead cylinder starts sparking, the problem is likely the blocking diode in the opposite Switchbox.

#### 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.

#### NO SPARK ON TWO CYLINDERS:

1. If two cylinders from the same Switchbox will not spark, the problem is usually in the Stator. Test per above.
2. If the engine has a CDI Stator installed and if #1 and #3 are the ones not sparking, disconnect the Yellow Stator wire from the #1 Switchbox and see if the #3 cylinder starts sparking. If so, replace the #1 Switchbox. If not, then reconnect the Yellow Stator wire to the #1 Switchbox and disconnect the Yellow Stator wire from the #2 Switchbox and see if the #1 cylinder starts sparking. If so, replace the #2 Switchbox. If #2 and #4 are the ones not sparking, disconnect the Blue Stator wire from the #1 Switchbox and see if the #4 cylinder starts sparking. If so, replace the #1 Switchbox. If not, then reconnect the Blue Stator wire to the #1 Switchbox and disconnect the Blue Stator wire from the #2 Switchbox and see if the #2 cylinder starts sparking. If so, replace the #2 Switchbox.



# Installation and Troubleshooting Guide



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## WILL NOT STOP (KILL):

1. Disconnect all (White or Black/Yellow) stop wires at the Switchbox. Connect a jumper wire to the stop wire from the Switchbox and short it to engine ground. If this stops the Ignition coil from sparking, the stop circuit has a fault. Check the key switch, harness, and shift switch. If this does not stop the Ignition coil from sparking, replace the Switchbox. Repeat test as necessary for additional Switchboxes.

## COILS ONLY HAVE SPARK WITH SPARK PLUGS OUT:

1. Check for dragging starter or low battery causing slow cranking speed. DVA test Stator and Trigger.

## MISS AT ANY RPM:

1. Disconnect the Rectifier from the Stator and retest. If the miss clears, replace the Rectifier.
2. In the water or on a Dynamometer, check the DVA from Switchbox while connected to the Ignition coils. You should have a reading of at least 150 V or more, increasing with engine RPM until it reaches 300-400 V 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.

## 3 AND 4 CYLINDER ENGINES:

### NO SPARK ON ANY CYLINDER:

1. 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.
2. Perform a visual inspection of all ground wire connections to make sure that they are clean and tight.
3. Disconnect the (White or Black/Yellow) stop wire AT THE SWITCHBOX. If spark comes back, touch the White kill wires together and check for spark. If no spark, replace the Switchboxes. If you still have spark with the White wires touching together, there is a problem in the harness, key switch, or the other Ignition Switchbox.
4. Disconnect the Rectifier. If the engine now has spark, replace the Rectifier.
5. Check for broken or bare wires on the Stator and Trigger.
6. Check the Stator and Trigger resistance and DVA as follows:

Read from	Read to	OEM Ohms	CDI Ohms	DVA (Connected)	DVA (Disconnected)
Brown/Blue (Stator)	Brown/Yellow (Stator)	680-900 Ω	250-350 Ω	180-400 V	-
Brown/Blue (Stator)	Engine Gnd	Open	Open	-	Less than 2 V
Brown/Yellow (Stator)	Engine Gnd	Open	Open	-	Less than 2 V
White/Orange (#1 Trigger)	White/Yellow (#1 Trigger)	45-55 Ω	45-55 Ω	0.5 V Minimum	-
White/Red (#2 Trigger)	White/Green (#2 Trigger)	45-55 Ω	45-55 Ω	0.5 V Minimum	-

**NOTE: Some OEM Stators had Blue and Yellow wires instead of the Brown/Blue and Brown/Yellow wires.**

**NOTE: Some OEM Triggers had Orange and Green and Red and White/Green Wires.**

### NO SPARK OR INTERMITTENT SPARK ON ONE CYLINDER:

1. Check the Stator and Trigger resistance and DVA (see **NO SPARK ON ANY CYLINDER** above).
2. If readings are good, disconnect stop wire from one of the Switchboxes. If the dead cylinder starts sparking, the problem is likely the blocking diode in the opposite Switchbox.
3. If #2 on a (3) cylinder engine is the one not sparking and the engine has a CDI Stator installed, disconnect the Blue wire going to the #2 Switchbox and see if the #2 cylinder starts sparking. If so, reconnect the Blue wire with the Blue wire going to the #1 Switchbox.

### 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** above).
3. Replace the Ignition coil on the cylinder dropping spark.





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## NO SPARK ON TWO CYLINDERS:

1. If two cylinders from the same Switchbox will not spark, the problem is usually in the Stator. Test per above.
2. If the engine has a CDI Stator installed and #1 and #3 are the cylinders not sparking, disconnect the Yellow Stator wire from the # 1 Switchbox and see if the #3 cylinder starts sparking. If so, replace the #1 Switchbox. If not, then reconnect the Yellow Stator wire to the #1 Switchbox and disconnect the Yellow Stator wire from the #2 Switchbox and see if the #1 cylinder starts sparking. If so, replace the #2 Switchbox.
3. If #2 and #4 are the ones not sparking, disconnect the Blue Stator wire from the #1 Switchbox and see if the #4 cylinder starts sparking. If so, replace the #1 Switchbox. If not, then reconnect the Blue Stator wire to the #1 Switchbox and disconnect the Blue Stator wire from the #2 Switchbox and see if the #2 cylinder starts sparking. If so, replace the #2 Switchbox.

## WILL NOT STOP (KILL):

1. Disconnect all stop wires at the Switchbox. Connect a jumper wire to the (White or Black/Yellow) 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, harness, and shift switch. If this does not stop the Switchbox from sparking, replace the Switchbox. Repeat test as necessary for additional Switchboxes.

## COILS ONLY HAVE SPARK WITH SPARK PLUGS OUT:

1. Check for dragging starter or low battery causing slow cranking speed. DVA test Stator and Trigger.

## MISS AT ANY RPM:

1. Disconnect the Rectifier from the Stator and retest. If the miss clears, replace the Rectifier.
2. In the water or on a Dynamometer, check the DVA from the Switchbox primary wires while connected to the Ignition coils. You should have a reading of at least 150 V or more, increasing with engine RPM until it reaches 300-400 V 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** above).
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.

## 5 CYLINDER ENGINES:

### NO SPARK ON ANY CYLINDER:

1. 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.
2. Perform a visual inspection of all ground wire connections to make sure that they are clean and tight.
3. Disconnect the (White or Black/Yellow) stop wire AT THE SWITCHBOX.
4. Disconnect the Rectifier. If the engine now has spark, replace the Rectifier.
5. Check for broken or bare wires on the Switchboxes, Stator, and Trigger.
6. Check the Stator and Trigger resistance and DVA as follows:

Read from	Read to	OEM Ohms	CDI Ohms	DVA (Connected)	DVA (Disconnected)
Brown/Blue (Stator)	Brown/Yellow (Stator)	680-900 Ω	250-350 Ω	180-400 V	-
Brown/Blue (Stator)	Engine Gnd	Open	Open	-	Less than 2 V
Brown/Yellow (Stator)	Engine Gnd	Open	Open	-	Less than 2 V
White/Orange (#1,3,5 Triggers)	White/Yellow (Common)	45-55 Ω	45-55 Ω	0.5 V Minimum	-
White/Red (#2 & 4 Triggers)	White/Green (Common)	45-55 Ω	45-55 Ω	0.5 V Minimum	-

**NOTE: Some OEM Stators had Blue and Yellow wires instead of the Brown/Blue and Brown/Yellow wires.**

**NOTE: Some OEM Triggers had Orange and Green and Red and White/Green Wires.**

**NOTE: The DVA reading to engine ground is checking a circuit inside the Switchbox. If the readings are not relatively equal, swap the Stator wires going to the Switchbox and recheck. If the low reading stays on the same wire from the Stator, replace the Stator. Otherwise, replace the Switchbox.**

### NO SPARK OR INTERMITTENT SPARK ON ONE CYLINDER:

1. If readings are good, disconnect stop wire from one Switchbox. If the dead cylinder starts sparking, the problem is likely the blocking diode in the Switchbox you disconnected.



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## SWITCHBOX OR TRIGGER REPEATEDLY BLOWS ON SAME CYLINDER:

1. Check the Trigger wires for shorts to engine ground because 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.

## NO SPARK ON TWO OR THREE CYLINDERS:

1. If two cylinders from the same Switchbox will not spark, the problem is usually in the Stator.
2. Check the Stator and Trigger resistance and DVA as follows:

Read from	Read to	OEM Ohms	CDI Ohms	DVA (Connected)	DVA (Disconnected)
Brown/Blue (Stator)	Brown/Yellow (Stator)	680-900 Ω	250-350 Ω	180-400 V	-
Brown/Blue (Stator)	Engine Gnd	Open	Open	-	Less than 2 V
Brown/Yellow (Stator)	Engine Gnd	Open	Open	-	Less than 2 V
White/Orange (#1,3,5 Triggers)	White/Yellow (Common)	45-55 Ω	45-55 Ω	0.5 V Minimum	-
White/Red (#2 & 4 Triggers)	White/Green (Common)	45-55 Ω	45-55 Ω	0.5 V Minimum	-

**NOTE: Some OEM Stators had Blue and Yellow wires instead of the Brown/Blue and Brown/Yellow wires.**

**NOTE: Some OEM Triggers had Orange and Green and Red and White/Green Wires.**

**NOTE: The DVA reading to engine ground is checking a circuit inside the Switchbox. If the readings are not fairly equal, swap the Stator wires going to the Switchbox and recheck. If the low reading stays on the same wire from the Stator, replace the Stator. Otherwise, replace the Switchbox.**

3. If the engine has a CDI Stator installed and if #1, #3, and #5 are the ones not sparking, disconnect the Yellow Stator wire from the #1 Switchbox and see if the #3 and #5 cylinders start sparking. If so, replace the #1 Switchbox. If not, then reconnect the Yellow Stator wire to the #1 Switchbox and disconnect the Yellow Stator wire from the #2 Switchbox and see if the #1 and #5 cylinders start sparking. If so, replace the #2 Switchbox. If not, then reconnect the Yellow Stator wire to the #2 Switchbox and disconnect the Yellow Stator wire from the #3 Switchbox and see if the #1 and #3 cylinders start sparking. If so, replace the #3 Switchbox.
4. If #2 and #4 are the ones not sparking, disconnect the Blue Stator wire from the #1 Switchbox and see if the #4 cylinder starts sparking. If so, replace the #1 Switchbox. If not, then reconnect the Blue Stator wire to the #1 Switchbox and disconnect the Blue Stator wire from the #2 Switchbox and see if the #2 cylinder starts sparking. If so, replace the #2 Switchbox.

## WILL NOT STOP (KILL):

1. Disconnect all Black/Yellow stop wires 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, harness, and shift switch. If this does not stop the Switchbox from sparking, replace the Switchbox. Repeat test as necessary for additional Switchboxes.

## COILS ONLY HAVE SPARK WITH SPARK PLUGS OUT:

1. Check for dragging starter or low battery causing slow cranking speed. DVA test Stator and Trigger.

## MISS AT ANY RPM:

1. Disconnect the Rectifier from the Stator and retest. If the miss clears, replace the Rectifier.
2. In the water or on a Dynamometer, check the DVA from the Switchbox Primary wires while connected to the Ignition coils. You should have a reading of at least 150 V or more, increasing with engine RPM until it reaches 300-400 V 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.