



# Installation and Troubleshooting Guide

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**CDI P/N: 116-8301**

**NOTE: 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.

## Troubleshooting the CD Module

1. DVA readings should always be taken with everything hooked up.
2. Check for broken wires and terminals, especially inside the terminals.
3. Check the flywheel for broken or loose magnets.
4. Disconnect the kill wires from the CD and connect a DC voltmeter between the kill wires and engine ground, turn the ignition switch on and off several times. If, at any time, you see voltage appearing on the meter, there is a problem in the harness or ignition switch. **AT NO TIME SHOULD YOU SEE BATTERY VOLTAGE ON A KILL CIRCUIT.**
5. Visually inspect stator for burned or discolored areas. If found, replace the stator. Burned areas on the battery charge windings indicate a possible problem with the rectifier.

### IF NO FIRE ON ANY CYLINDER:

1. Disconnect the kill wire AT THE PACK. Check for broken or bare wires on the unit, stator and trigger.
2. Using the Fluke meter with the 511-9773 peak reading adapter, or CD-77 and 511-9770 piercing probes, measure DVA voltage of the stator between the output wire sets. With everything connected, readings should be approximately 180 volts or more. Resistance readings between the stator wire sets is from 680-800 ohms (CDI will read 300-400 ohms).
3. Disconnect the rectifier and retest. If the engine fires, replace the rectifier.

### NO FIRE OR INTERMITTENT ON ONE CYLINDER:

1. Check stator and trigger resistance, trigger wire sets read approximately 50 ohms between the wire sets (DVA .5V or more), OEM stator will read 680-800 ohms (DVA 180V or more) from blue to yellow. (CDI Stators will read 400-500 ohms).
2. Disconnect kill wire from one pack. If the dead cylinder starts firing, the problem is likely the blocking diode in the other pack.

### NO FIRE ON TWO CYLINDERS:

If two cylinders from the same CD unit will not fire, the problem is usually in the stator. Test per above.

### ENGINE WILL NOT KILL:

Check kill circuit in the pack by using a jumper wire connected to the kill wire coming out of the pack and shorting it to ground. If this kills the pack, the kill circuit in the harness or on the boat is bad, possibly the ignition switch.

### COILS ONLY FIRE WITH THE SPARK PLUGS OUT:

Check for dragging starter or low battery causing slow cranking speed. DVA test stator and trigger.

### HIGH SPEED MISS:

1. Using the Fluke meter with the 511-9773 peak reading adapter, (or CD-77) and 511-9770 piercing probes, DVA check stator voltage to each pack at high speed. If it exceeds 400 volts, replace the pack.
2. Disconnect the rectifier and retest. If the miss is gone replace the rectifier.

## 2 & 3 Cylinder Connections:

### Color Code Cross Reference

FUNCTION	OLD	NEW
Trigger	Orange	White/Orange Stripe
Trigger	Green	White/Yellow Stripe
Trigger	Red	White/Red Stripe
Trigger	White/Green Stripe	White/Green Stripe

### Pack #1 (Firing #1 and #2 cylinders)

Trigger: Orange (White/Orange)	Pack: White/Orange Stripe
Green (White/Yellow Stripe)	White/Yellow Stripe
Red (White/Red)	White/Red stripe
White/Green Stripe	White/Green Stripe
Stator: Yellow (Brown/Yellow Stripe)	Pack: Brown/Yellow Stripe
Blue (Brown/Blue Stripe)	Pack: Brown/Blue Stripe
Coil #1: White (Orange/Blue Stripe)	Pack: Orange/Blue Stripe
Coil #2: White (Orange/Blue Stripe)	Pack: Blue/Red stripe

### Color Code Cross Reference

FUNCTION	OLD	NEW
Stator	Blue	Brown/Blue Stripe
Stator	Yellow	Brown/Yellow Stripe
Ignition Coil	White	Orange/Blue
Stop (Kill) Circuit	White (Brown)	Black/Yellow

### Pack #2 (Firing #3 cylinder)

Trigger: Orange (White/Orange)	Pack: White/Orange Stripe
Green (White/Yellow Stripe)	White/Yellow Stripe
No Connection	White/Red Stripe
No Connection	White/Green Stripe
Stator: Yellow (Brown/Yellow Stripe)	Pack: Brown/Yellow Stripe
Blue (must be connected to the Brown/Blue stripe on pack 1)	Pack: Brown/Blue Stripe
Coil #3: White (Orange/Blue Stripe)	Pack: Orange/Blue Stripe

## 4 Cylinder Connections:

### Pack #1 (Firing #1 and #2 cylinders)

Trigger: Orange (White/Orange)	Pack: White/Orange Stripe
Green (White/Yellow Stripe)	White/Yellow Stripe
Red (White/Red)	White/Red stripe
White/Green Stripe	White/Green Stripe
Stator: Yellow (Brown/Yellow Stripe)	Pack: Brown/Yellow Stripe
Blue (Brown/Blue Stripe)	Pack: Brown/Blue Stripe
Coil #1: White (Orange/Blue Stripe)	Pack: Orange/Blue Stripe
Coil #2: White (Orange/Blue Stripe)	Pack: Blue/Red stripe

### Pack #2 (Firing #3 and #4 cylinders)

Trigger: Orange (White/Orange)	Pack: White/Orange Stripe
Green (White/Yellow Stripe)	White/Yellow Stripe
Red (White/Red)	White/Red Stripe
White/Green Stripe	White/Green Stripe
Stator: Yellow (Brown/Yellow Stripe)	Pack: Brown/Yellow Stripe
Blue (Brown/Blue Stripe)	Pack: Brown/Blue Stripe
Coil #3: White (Orange/Blue Stripe)	Pack: Orange/Blue Stripe
Coil #4: White (Orange/Blue Stripe)	Pack: Blue/Red stripe

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## 5 Cylinder Connections:

### Pack #1 (Firing #1 and #2 cylinders)

Trigger: Orange (White/Orange)	Pack: White/Orange Stripe
Green (White/Yellow Stripe)	White/Yellow Stripe
Red (White/Red)	White/Red stripe
White/Green Stripe	White/Green Stripe
Stator: Yellow (Brown/Yellow Stripe)	Pack: Brown/Yellow Stripe
Blue (Brown/Blue Stripe)	Pack: Brown/Blue Stripe
Coil #1: White (Orange/Blue Stripe)	Pack: Orange/Blue Stripe
Coil #2: White (Orange/Blue Stripe)	Pack: Blue/Red stripe

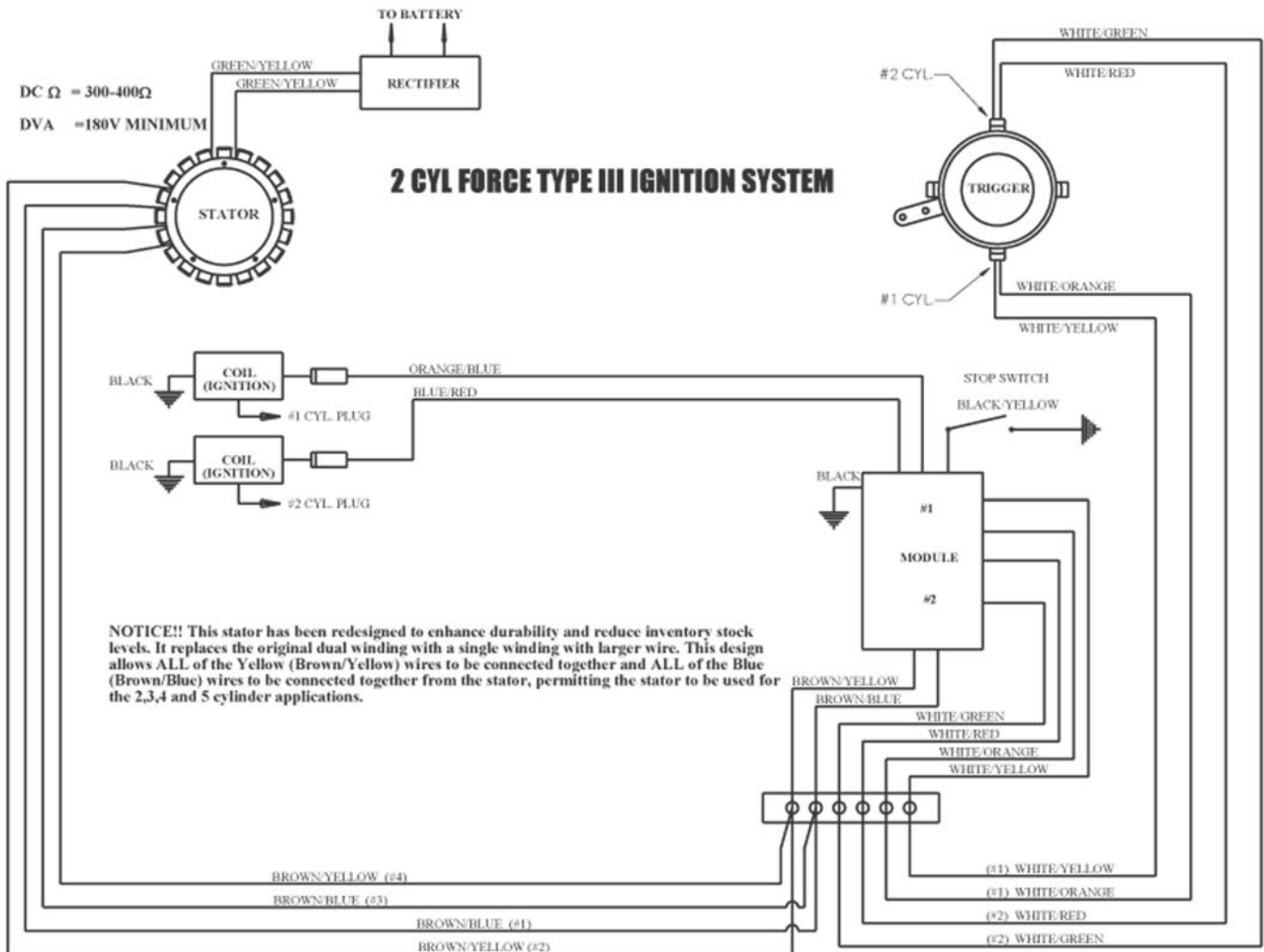
### Pack #2 (Firing #5 cylinder)

Trigger: Orange (White/Orange)	Pack: White/Orange Stripe
Green (White/Yellow Stripe)	White/Yellow Stripe
No Connection	White/Red Stripe
No Connection	White/Green Stripe
Stator: Yellow (Brown/Yellow Stripe)	Pack: Brown/Yellow Stripe
Blue (must be connected to the Brown/Blue stripe on pack 1)	
Coil #5: White (Orange/Blue Stripe)	Pack: Orange/Blue Stripe

### Pack #3 (Firing #3 and #4 cylinders)

Trigger: Orange (White/Orange)	Pack: White/Orange Stripe
Green (White/Yellow Stripe)	White/Yellow Stripe
Red (White/Red)	White/Red stripe
White/Green Stripe	White/Green Stripe
Stator: Yellow (Brown/Yellow Stripe)	Pack: Brown/Yellow Stripe
Blue (Brown/Blue Stripe)	Pack: Brown/Blue Stripe
Coil #3: White (Orange/Blue Stripe)	Pack: Orange/Blue Stripe
Coil #4: White (Orange/Blue Stripe)	Pack: Blue/Red stripe

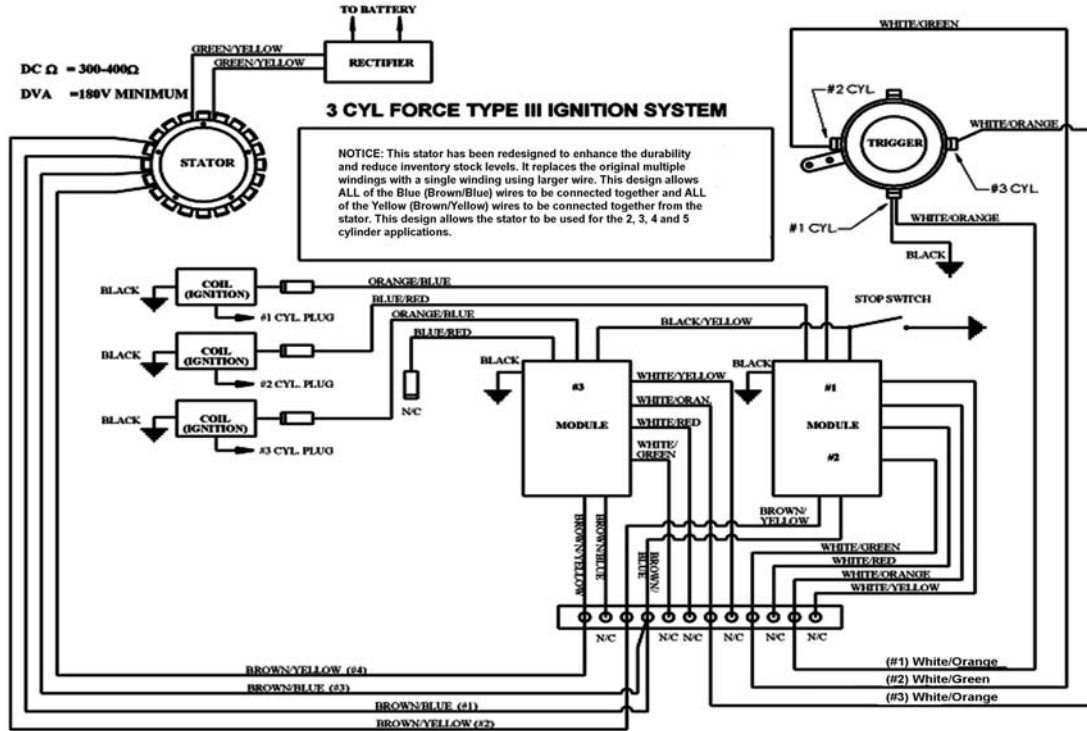
NOTICE: The color codes listed above may appear on the packs, stators or triggers. Some packs have solid colors and some triggers have striped wires. If you need further assistance, please call our technical support department.



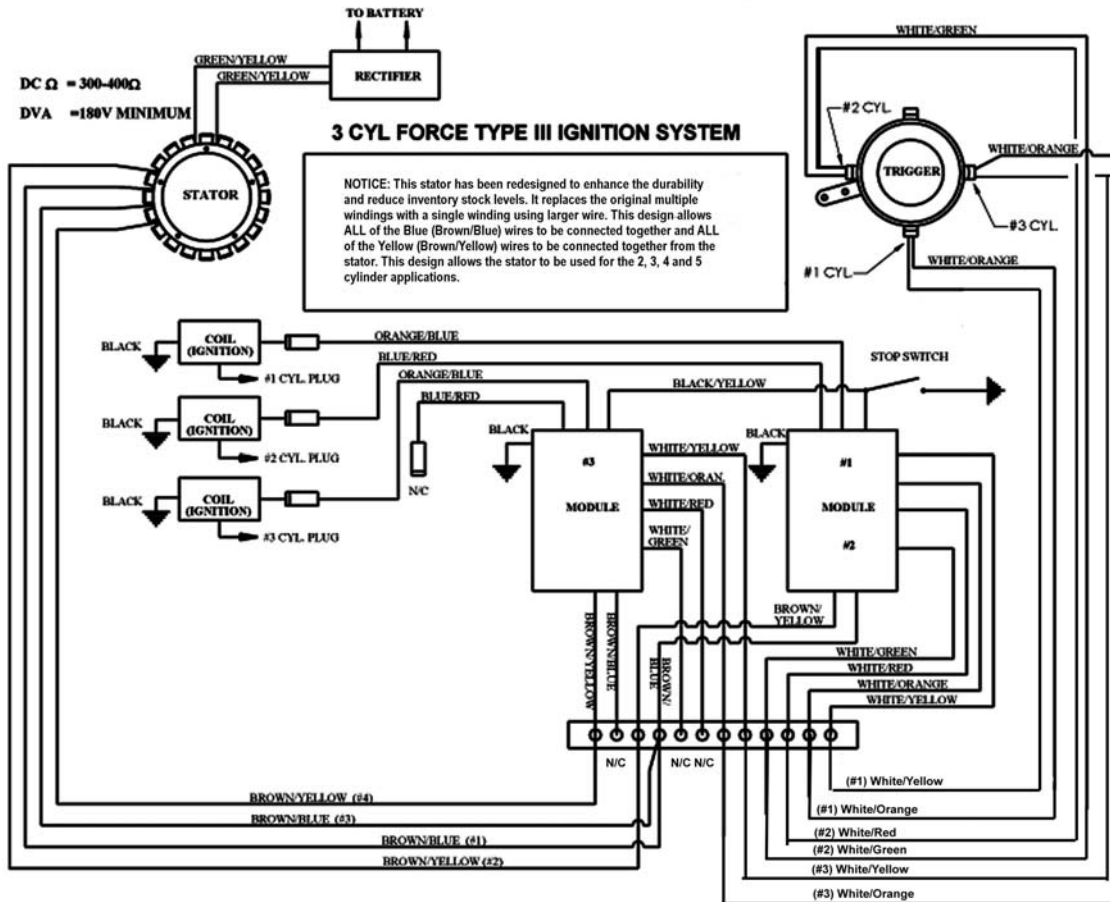
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The following wiring diagrams are for reference when using the CDI Electronics triggers:



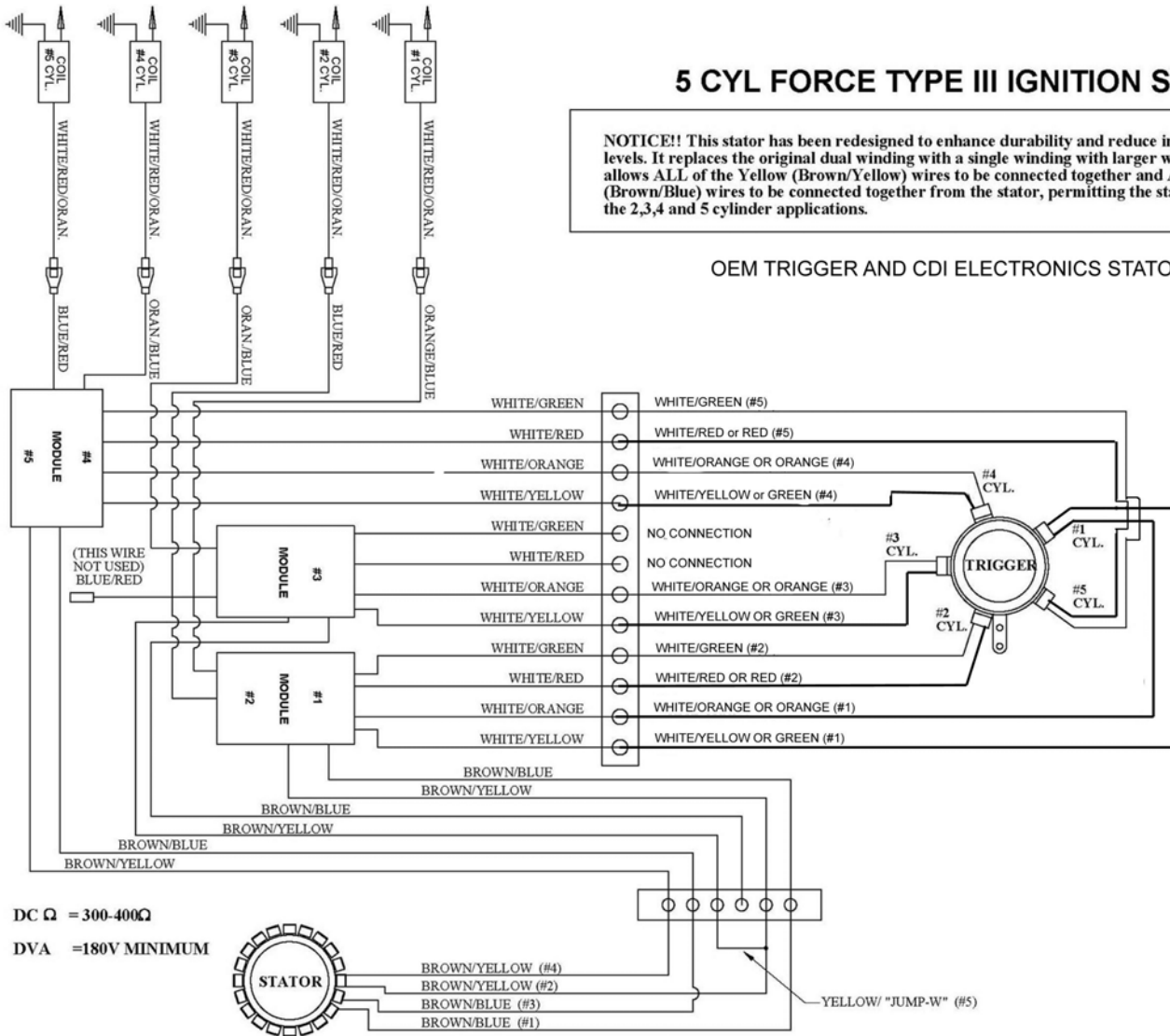
USING OEM TRIGGER AND CDI STATOR





# Installation and Troubleshooting Guide

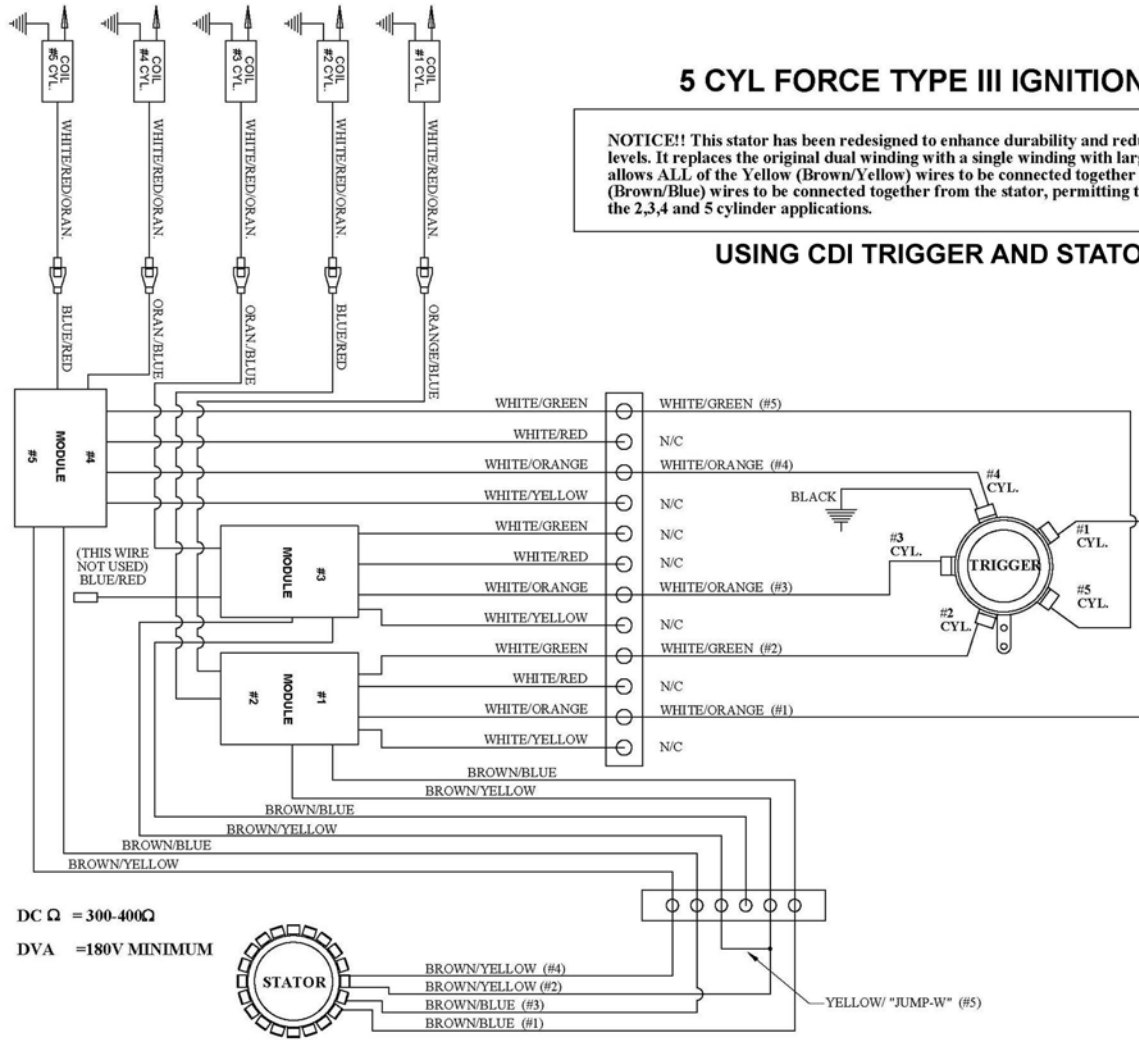
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## 5 CYL FORCE TYPE III IGNITION SYSTEM

**NOTICE!!** This stator has been redesigned to enhance durability and reduce inventory stock levels. It replaces the original dual winding with a single winding with larger wire. This design allows ALL of the Yellow (Brown/Yellow) wires to be connected together and ALL of the Blue (Brown/Blue) wires to be connected together from the stator, permitting the stator to be used for the 2,3,4 and 5 cylinder applications.

### USING CDI TRIGGER AND STATOR