



Delco-Remy Distributors

Instruction manual with visual guide for
Delco 2, 4, and 6 cylinder distributors
Common to Farm Tractors and GM passenger vehicles



Your kit includes:

- (1) Self contained Ignition module
- (2) Adapter plate with hardware, cover gasket, and wrench.
- (3) Encoder wheel with holder, set screws, and wrench
- (4) High resistance spiral wound sparkplug leads
- (5) Color Instructions for wire harness.

Basic installation involves:

- Remove all stock timing and fly weight parts inside distributor
- Install adapter plate and ignition module. Connect wiring.
- Set #1 (front) cylinder to TDC and calibrate timing using the encoder wheel.
- Install new coil pack and sparkplug leads.

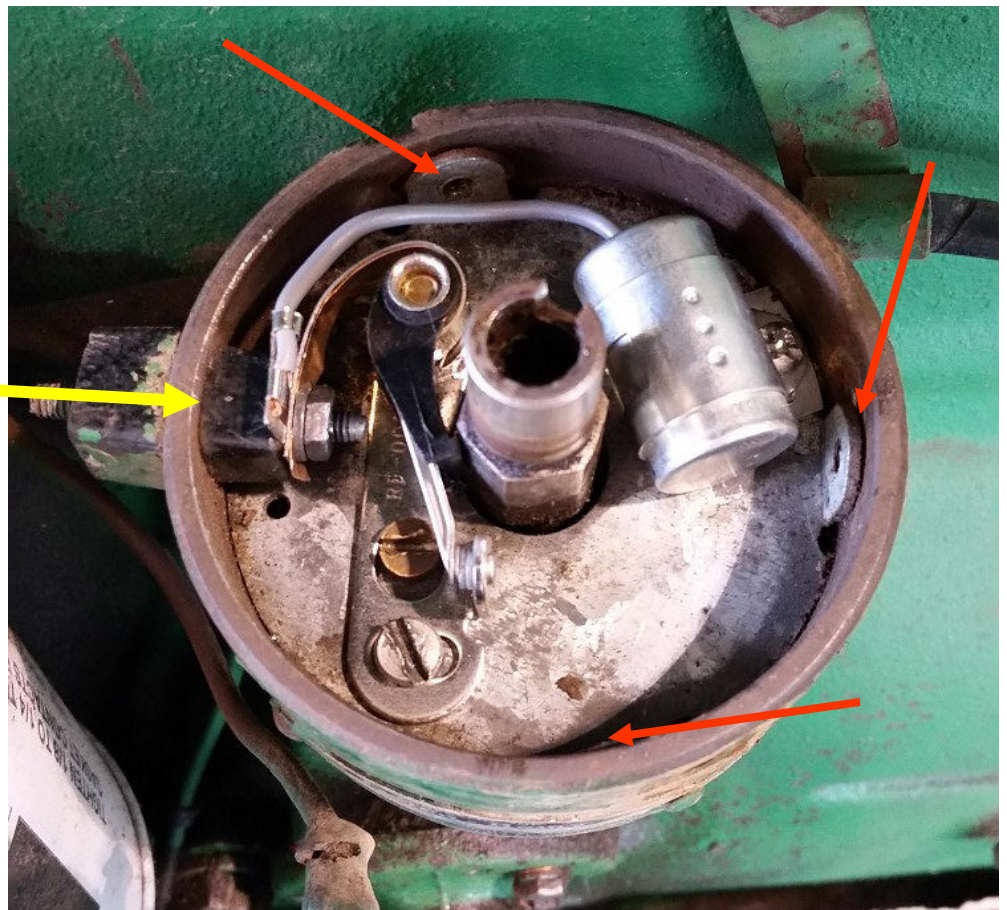
Step 1.

Disconnect your battery.

Remove the distributor cap. Remove all ignition trigger parts (points or electronic) and remove the mounting plate to access timing advance parts.

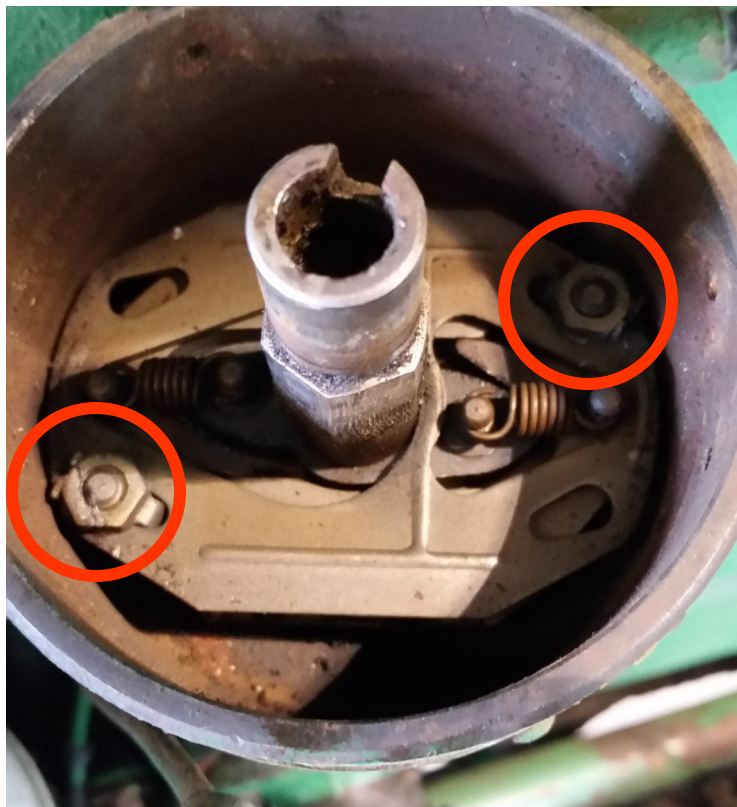
Most Delco distributors with “snap cap” top has three screws that secure the timing plate to the distributor body. Once all parts are removed you will re-

Remove this stud assembly. The hole will be used to route our ignition lead. It MAY be necessary to drill hole slightly larger to avoid damaging the wires



Once timing plate is removed the timing fly weights also need to be removed. Using a small flat blade screw driver or punch, flatten the lock tabs and remove these nuts.

All parts can be removed at this point in preparation for our adapter to be installed.

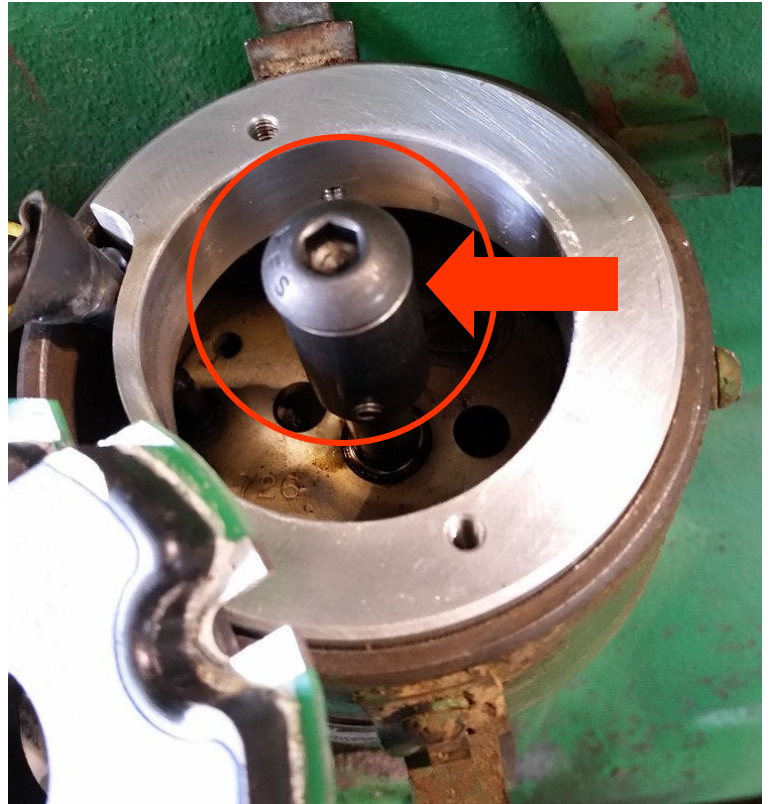


This is what it looks like with all parts removed. Now you will install the adapters and test fit height of encoder disc.



Step 2

Install the adapter parts and test fit. It is critical that the encoder disc “float” at a height where it cannot touch the ignition or optical reader. The center adapter can be adjusted for proper fitment before final assembly. Use a quality locking agent and avoid over tightening and damaging threads.



This picture shows correct disc height. We have designed the center piece so that if you slide it over the distributor shaft with the center screw installed, it should be at the correct height. If not, adjust as needed. Once you verify, apply locking agent and tighten set screws using the wrench provided.



Step 3

Set timing.

The #1 cylinder must be exactly at Top Dead Center (TDC) to set the timing. It is not critical that it be on the compression stroke.

For John Deere twins use the left cylinder as #1.

DO NOT set timing for the Firing mark if there is one.

Rotate the engine in the direction it normally turns, to remove any slack from the distributor gear.

Our ignition relies on exact TDC location to function correct.

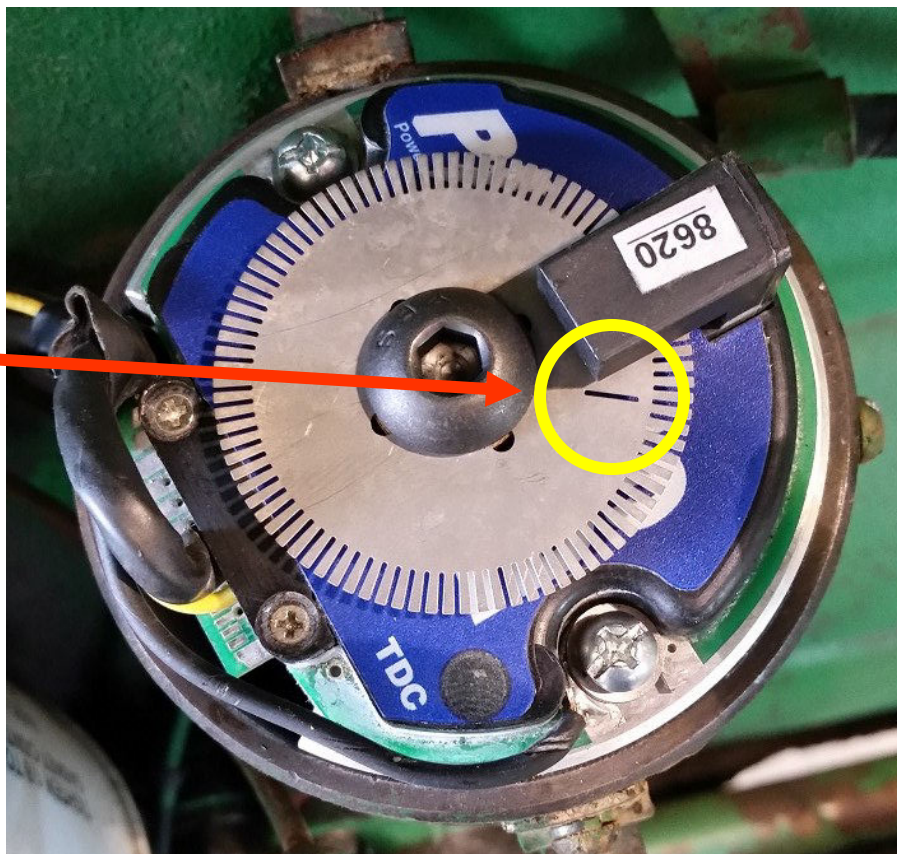
Engines typically have timing marks on the flywheel (viewable via a port) or on the crankshaft pulley. Removal of sparkplugs is recommended. We recommend using a small flashlight to verify the piston is at the top of its travel when the timing marks are aligned.

Once TDC is located you apply 12 volt power to the red ignition power lead with the coil power still DISCONNECTED. Rotate the encoder disc in the opposite direction of engine rotation until the single slot is under the reader. When the red LED comes on, carefully hold in position and secure using the top screw with a small amount of low strength thread locking agent.

Do not over tighten the top screw or you may end up damaging the set screws of the center adapter.

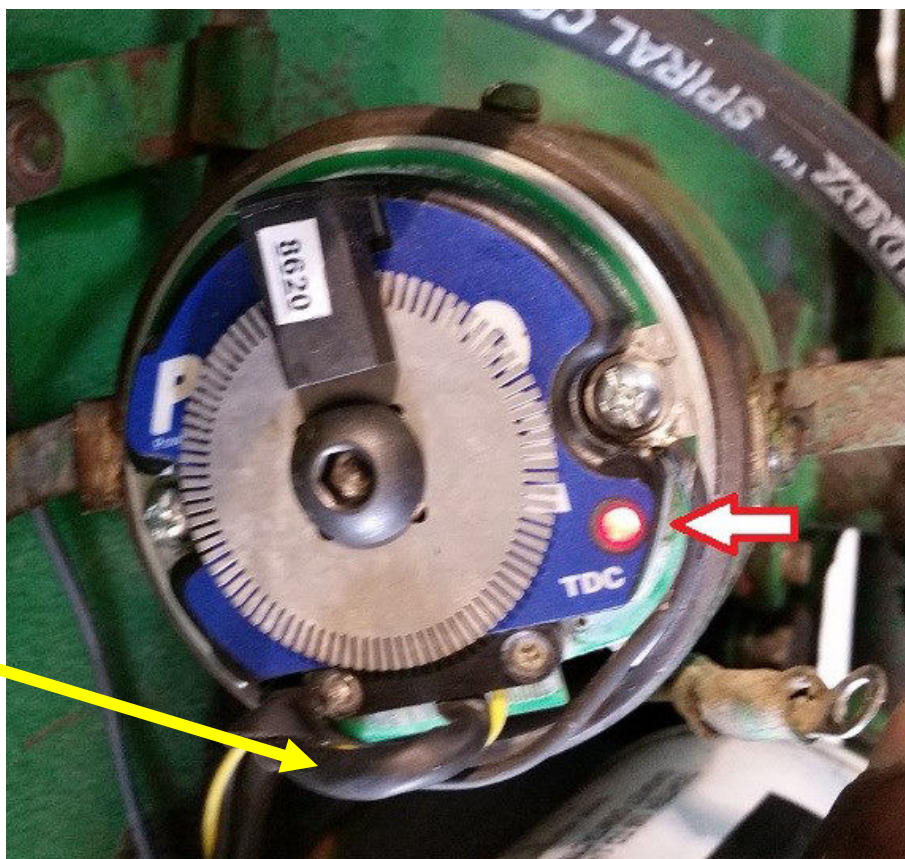
The encoder disc is very thin and light weight. With locking agent the encoder disc should not come loose.

We have a built in timing light. Rotate disc until light comes on, tighten center screw and you are done.



Route wires up and over circuit board so if you need to re-program in the future the wires do not get in the way.

The LED is visible in this photograph.



Step 4

Install ignition coils, route spark plug leads to they do not cross and will not rub on bodywork.

- Mount the coil in a central location so the spark plug leads can be an even length.
- NEVER use any spark plug wire other than what is provided, or call/email us before doing so.
- If you use a plug wire with less than 800 ohms of resistance PER FOOT you risk serious damage or failure of module.
- Use resistor type sparkplugs. One heat range cooler than stock is recommended if available.

On John Deere twin cylinder engines one piston is at TDC and the other is at BDC. Each cylinder has one coil. If you purchased the kit for plugged heads each cylinder will have it's own two tower coil. Connect one coil to the left plugs and another coil to the right side plugs.

On four cylinder engines #1 and #4 (front and rear cylinders) are typically both at TDC at the same time. They will share a coil. The #2 and #3 (inner cylinders) share a coil and should both be on TDC at once.

On 6 cylinder inline engines #1 and #6 share a coil, #2and #5 share a coil, #3 and #4 share a coil.

Each coil will spark the two cylinders on TDC at the same time.

This is called a "wasted spark" system and is common on motorcycles and automobiles using coil packs.

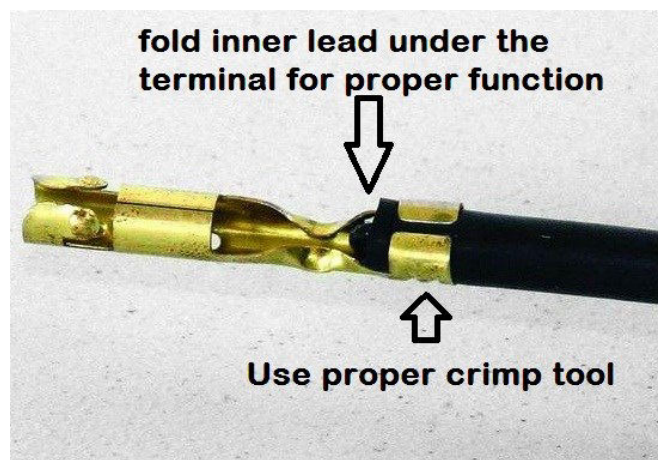
When plug leads are routed and connected to the grounded sparkplugs you may connect power and trigger leads.

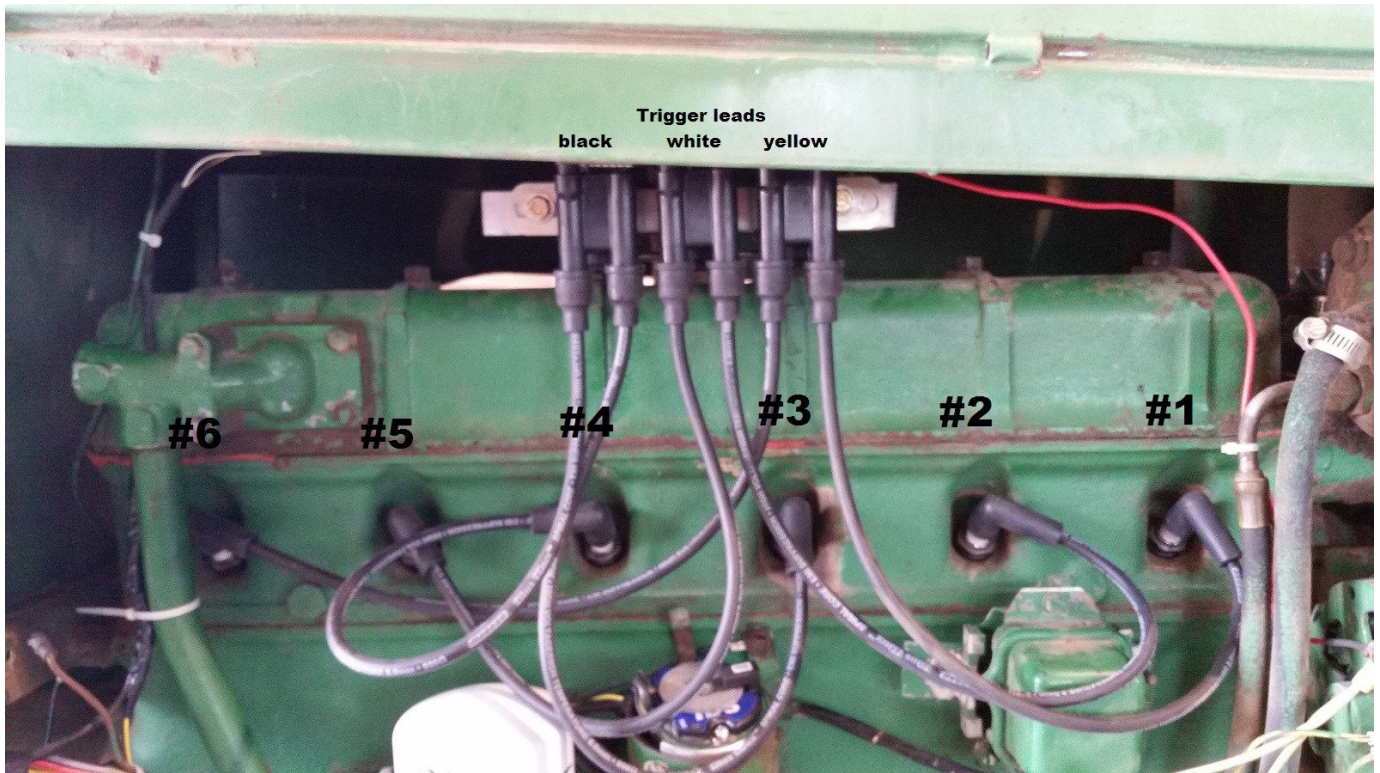
DO NOT CONNECT black coil triggers to anything except the ignition module trigger leads!!

On some kits we may provide longer plug leads that need to be cut/crimped to proper length.

If you do not have a quality sparkplug terminal crimper then purchase or borrow one!!

Many ignition problems are caused by poorly crimped leads.





This is the firing order used on Oliver 770 with inline 6 cylinder (as example)

Twins need the black trigger lead connected to the cylinder that is on TDC of compression stroke when you set timing.

Four cylinder engines have #1, #4 share a coil and #2, #3 share a coil.

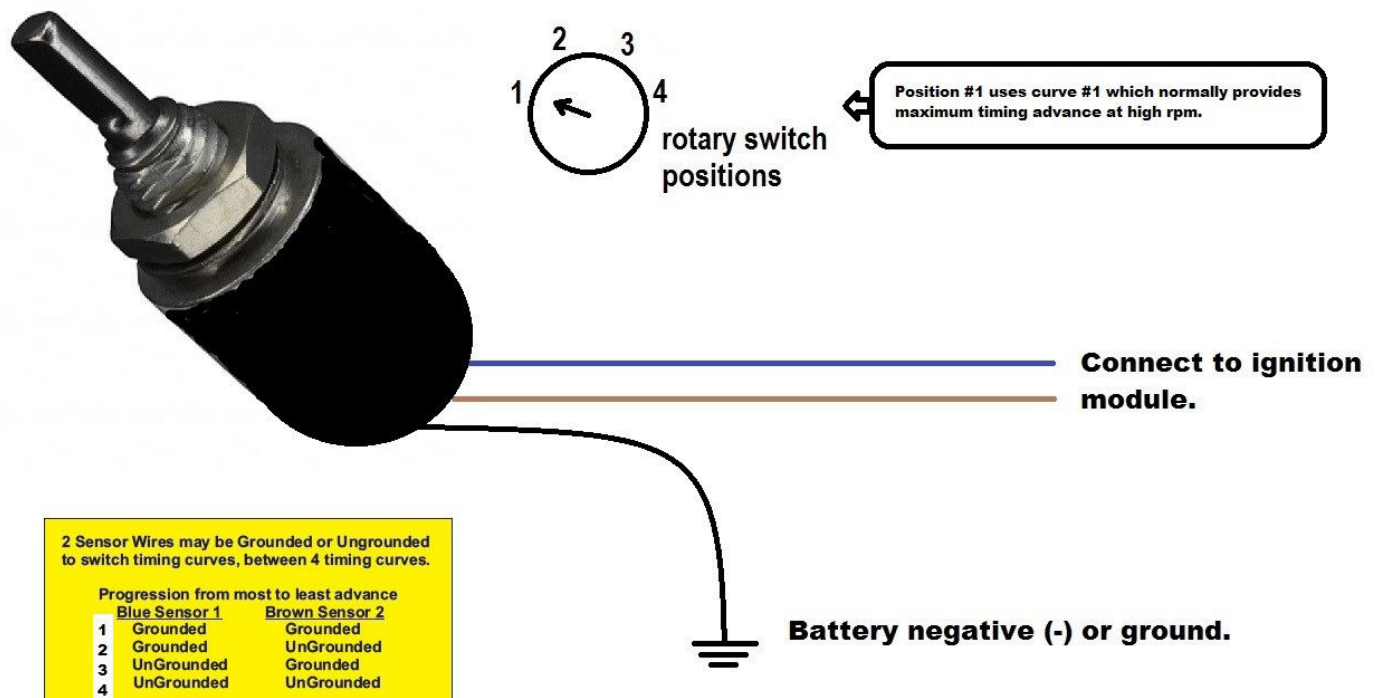
There are two colored leads coming from the ignition module.

Ground both leads (blue and brown) to the battery or engine/frame unless you are installing toggle, rotary, or VOES switches.

The colored leads tell the ignition which timing map it should be following. If you are tractor pulling you can change between maps by selecting a grounding sequence. If you are using for standard farm use you can simply connect both leads to proper ground and forget about this.

Here is the sequence for toggling between the pre-programmed curves from “most timing advance” to “least timing advance”. All timing maps have the same curve during engine start up:

<u>BLUE</u>	<u>BROWN</u>
GROUND	GROUND
GROUND	UNGROUND
UNGROUND	GROUND
UNGROUND	UNGROUND

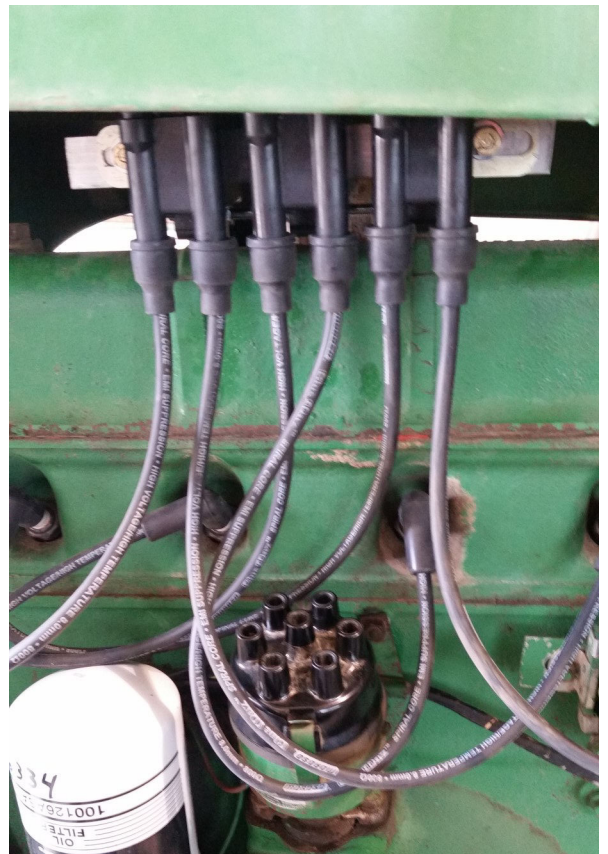
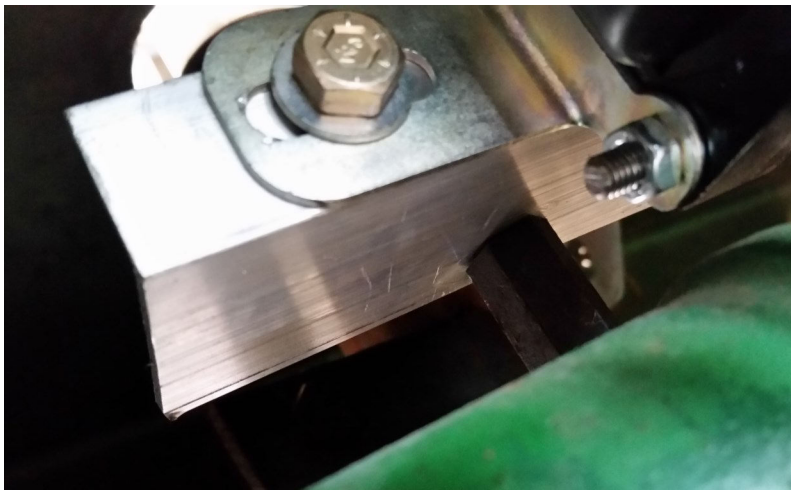


2 Sensor Wires may be Grounded or Ungrounded to switch timing curves, between 4 timing curves.

	Blue Sensor 1	Brown Sensor 2
1	Grounded	Grounded
2	Grounded	UnGrounded
3	UnGrounded	Grounded
4	UnGrounded	UnGrounded

Normal Stock Application
Ground Blue and Brown Wires
 Higher Compression or lower octane fuels may require less advance. This can be achieved by ungrounding the appropriate Sensor wires or the addition of a VOES, vacuum switch.

Example of coil mounting to engine valve cover studs



These photos show the coil towers facing down. We recommend when possible the towers face horizontal or upward to avoid wires slowly sliding out of the coil.

This coil mount was later rotated 90 degrees to prevent that issue.

We hope this guide helps you understand the steps needed for a painless install.

Coil power should go directly to the battery (+) post or starting motor main lug.

We will be shipping systems with a black ground lead. Proper electrical connection is critical to the reliability of any electronic device.

NEVER charge your battery with the key ON. This can easily damage the unit.

If you experience poor starting, erratic idle, or stuttering...recheck connections, verify carb synchronization, and be sure the blue and brown leads are grounded to the frame or engine.

Often the idle will be slightly higher and will need to be adjusted.

This is due to increased efficiency of the ignition.

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