

Restoration Plus Series

~ Premium Ignition Coil ~

Built Like the Originals. Engineered Beyond Them.

Thank you for your purchase of a *Restoration Plus* Series ignition coil. This coil is designed to maintain an OEM-style appearance while incorporating upgraded materials and engineering for improved durability, heat dissipation, and high-voltage reliability. Features include a heavy-gauge steel housing, oil-filled design, premium magnetic core materials, and precision windings utilizing an advanced seven-section bobbin secondary rarely found in traditional canister style coils.

Electrical connections include an alkyd tower with brass high-voltage and primary terminals for excellent conductivity and corrosion resistance. On applicable versions, primary terminals are machined to match with the factory harness connections and allow the harness to lay in the correct position without modification.

Application

The *Restoration Plus* coil is designed for use with breaker-points and aftermarket breaker-point replacement ignition systems. It is a compatible replacement for original equipment coils having a primary resistance in the range of 1.2Ω–1.8Ω and used in conjunction with a ballast resistor or equivalent resistance wire in factory harnesses.

Installation

Before removing the old coil, make a quick sketch of which wires are connected to the (+) and (-) terminals. Install the *Restoration Plus* coil and reattach wires using the new hardware included in this kit.

A small amount of oil residue at the crimp is normal after filling and does not indicate a defective coil. This may be more noticeable on fluted-style crimps which can retain additional oil under the flutes and should subside shortly after installation.

General Information & Troubleshooting

Ballast Resistor

This coil is designed for systems that require use of a ballast resistor. The ballast limits the primary current to prevent coil overheating, rapid breaker-point wear, and premature ignition module failure when used with aftermarket breaker-point replacement ignition systems. The ballast may be built into the vehicle wiring harness as resistance wire, or it may be a small white ceramic block mounted on the firewall or near

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the coil. If the existing coil is not overheating, breaker points are not wearing rapidly, or ignition modules are not failing prematurely, the ballast is likely present and functioning correctly.

To check for a ballast resistor, disconnect the distributor wire from the coil negative (-) terminal. Connect a test light between ground and the coil positive (+) terminal. Turn the ignition key to the RUN position. The test light should be at full brightness. Momentarily ground the coil negative (-) terminal. If the test light dims to approximately half brightness, the ballast is present. If it dims only slightly, or not at all, the ballast may have been removed, bypassed, or altered.

This test can also be performed with a voltmeter. Voltage should change from full battery voltage to roughly half battery voltage when the coil negative (-) terminal is grounded. **Caution:** Do not check voltage with the engine running, as readings will vary widely.

Ballast Bypass

During cranking, the starter will pull battery voltage down by several volts. To compensate, the ballast is bypassed in the START position so the coil receives full battery voltage to develop sufficient voltage to fire the spark plugs. This is typically done with a wire between the starter solenoid and coil positive (+), although other methods may be used.

To check ballast bypass operation, disconnect the distributor wire from the coil negative (-) terminal. Connect a test light between coil positive (+) and ground, then ground the coil negative (-) terminal. With the key in the RUN position, the test light should be at approximately half brightness. When the key is turned to START, the light should become brighter, indicating the coil is receiving full battery voltage and the ballast is being bypassed.

Coil Testing

Secondary winding failure is usually caused by loss of insulation resistance. This can allow high voltage to leak between windings, or between the high-voltage tower and the primary terminals. If leakage is excessive, the coil may not develop enough voltage to fire the spark plugs under all operating conditions.

Because this leakage occurs only above several thousand volts, a battery-operated multimeter cannot reliably diagnose it. The recommended test is to connect a test plug, such as KD Tools part #2757 or equivalent, between the coil wire and ground, then observe the test plug while cranking the engine. This forces the coil to generate a known acceptable voltage, approximately 20 kV.

CAUTION: High voltage can be lethal. Do not touch any ignition components while performing this test. Clean up any spilled fuel and allow accumulated vapors to dissipate before testing.

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Secondary resistance is measured between the negative (-) terminal and the high-voltage tower. Normal resistance range is 7.0 k Ω –9.0 k Ω , depending on coil temperature. An open secondary indicates a break in the winding or connection to the high-voltage tower. In some cases, the coil may still operate, but it should be replaced.

Primary winding failure is typically due by overheating which can melt insulation and short the windings. This is usually caused by operating without a ballast resistor or leaving the ignition on while the engine is not running. The primary can be checked with a multimeter capable of accurately measuring resistance below 2 ohms. Disconnect all wires and measure between the positive (+) and negative (-) terminals. Primary resistance range is 1.25 Ω –1.35 Ω , depending on meter accuracy and temperature. A shorted primary will read very low, usually 0.75 Ω or less. An open primary will read infinite resistance.

Specifications	Value (@25°C)
Primary Resistance	1.25–1.35 Ω
Primary Inductance	7.5–8.5 mH
Secondary Resistance	7.0–8.0 k Ω
Secondary Inductance	50–60 H
Available Voltage	36 kV under load*

* Society of Automotive Engineers, *Ignition System Measurements Procedure*, SAE Recommended Practice J973a (Warrendale, PA: SAE, 1973)

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ONE YEAR LIMITED WARRANTY

M&H Electric Fabricators, Inc. warrants the enclosed product to be free of defects in materials and workmanship for a period of one (1) year from the date of original purchase by the end user.

M&H Electric Fabricators, Inc. will repair or replace the enclosed product in the event of a manufacturing defect as follows:

Parts: Repair or replacement in exchange for defective parts returned to our facility for one (1) year after the date of original purchase.

Labor: Repair or replacement of defective product returned to our facility for one (1) year after the date of original purchase.

This warranty does not cover postage, freight or delivery fees for sending the product to and from our service facility.

Warranty service can be obtained during the warranty period by bringing or shipping the product to:



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A purchase receipt or other proof of date of original end user purchase will be required before warranty service can be rendered. This warranty covers normal consumer use and does not cover damage which occurs in shipment or failure which results from alteration, accident, misuse, abuse, neglect, installation or improper maintenance. Under any circumstances, the liability of the manufacturer shall be limited to the original cost of the product(s) paid by the end user and the manufacturer shall not be liable for any consequential or incidental damages which occur as a result of the use of any of our product(s). This limit on liability may vary in your state and you may have additional rights and/or remedies depending on the state in which you live.



The enclosed product is warranted to fit and operate properly in the specific application for which it is intended.

If the product is tampered with in any way, all warranties are void.

If you experience any difficulties with the installation or the performance of any of our products, do not attempt any modifications without first contacting our technical support department at (562) 926-9562.

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