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PCM Failures Due to Failed Ignition Coil

NOTICE
Revised October 2008. This bulletin supersedes the previous bulletin number 2007-25R1 May 2008.

Models Affected

Models Covered	Serial Number
1.5 Liter OptiMax	0T801000 and above
2.5 Liter OptiMax	1B490866 and above
3.0 Liter OptiMax	1B504989 and above
2.5 and 3.0 Liter EFI	0T409000 and above

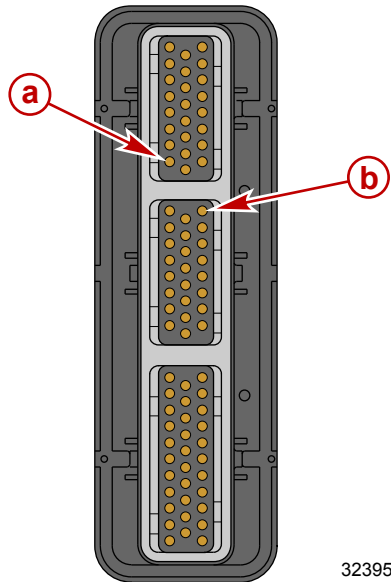
Situation

The PCM can fail due to a faulty ignition coil. The failures are due to a short between the 12 volt supply to the ignition coil and the electronic spark trigger (EST) low or ground circuit of the ignition coil. A short of this type would supply 12 volts directly to the EST ground circuit in the PCM, failing that circuit and resulting in a no spark condition on all cylinders.

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To confirm that the EST ground circuit in the PCM has been damaged, a resistance check between pins B1 and C24 of the PCM connectors should indicate an open circuit or high resistance value if it has failed. A good PCM will measure as a short or very low resistance (normal is 0.5 ohm or less).



a - Pin C24

b - Pin B1

Correction

If a PCM is diagnosed as the reason for a no spark condition, test all ignition coils following the ohm/pinout test shown following. Replace any defective coils prior to replacing the PCM.

Two different 5 pin ignition coils are used on the listed outboards, coil base P/N 883778 and 879984. Following are the ohm values for both. Please note that the value between pin C and the secondary tower are different between the two coils.

NOTE: Ohm values will vary depending on the style and type of meter used. If an ohm reading is outside of the listed values by a small amount, but the same readings are found on all or most of the ignition coils for that engine, it is likely there is nothing wrong with the coil, but just a variation due to the meter. Normally when a coil is bad, the value will be outside the specified limits by a significant amount.

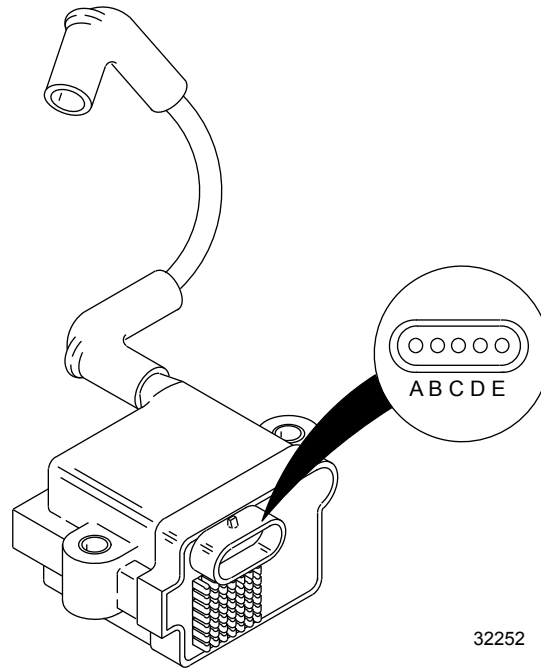
Examples: A test meter that uses a 1.5 volt battery versus a meter that uses a 9 volt battery as its power source will have different readings. An analog meter versus digital meter will have different readings. A high ohms value in the megaohm range may show as infinite or an open circuit on some meters.

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Service Tip

Ignition coil harness service replacement connector P/N 854839T02 can be used to help test the coils by providing better access to the coils connector pins.



		Black Meter Lead					
Red Meter Lead		Secondary Tower	EST Pin A	EST Low Pin B	Secondary Low Pin C	Primary Ground Pin D	Battery + Pin E
	Secondary Tower	X	No continuity	No continuity	See note 1 below	No continuity	No continuity
	EST Pin A	No continuity	X	8500–12000 ohm	No continuity	29000–50000 ohm	11000–21000 ohm
	EST Low Pin B	No continuity	8500–12000 ohm	X	No continuity	39000–51000 ohm	21000–31000 ohm
	Secondary Low Pin C	See note 2 below	No continuity	No continuity	X	No continuity	No continuity
	Primary Ground Pin D	No continuity	20000–50000 ohm	31000–51000 ohm	No continuity	X	13000–23000 ohm
	Battery + Pin E	No continuity	11000–21000 ohm	21000–31000 ohm	No continuity	13000–23000 ohm	X

NOTE: 1. Coil base P/N 883778 ohms value between pin C and secondary tower should be 2–8 megaohms. Coil base P/N 879984 ohms value between pin C and secondary tower should be 850–1200 ohms.

2. Coil base P/N 883778 ohms value between pin C and secondary tower should be an open circuit or very high resistance. Coil base P/N 879984 ohms value between pin C and secondary tower should be 850–1200 ohms.

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