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PCM Failures Due to Failed Ignition Coil

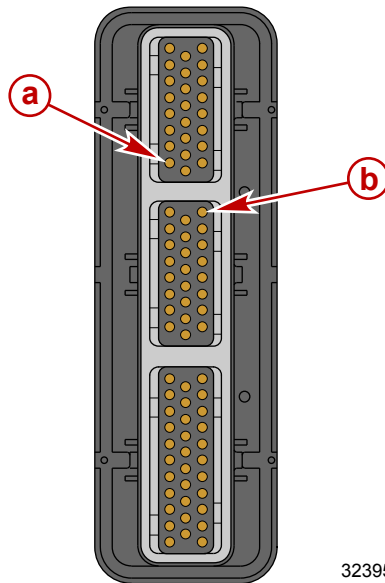
Models Affected

Models Covered	Serial Number
250XS OptiMax	1E002342 and above
300XS OptiMax	1E001867 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) 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.

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 if it has failed. A good PCM will show continuity (very low resistance).



a - Pin C24

b - Pin B1

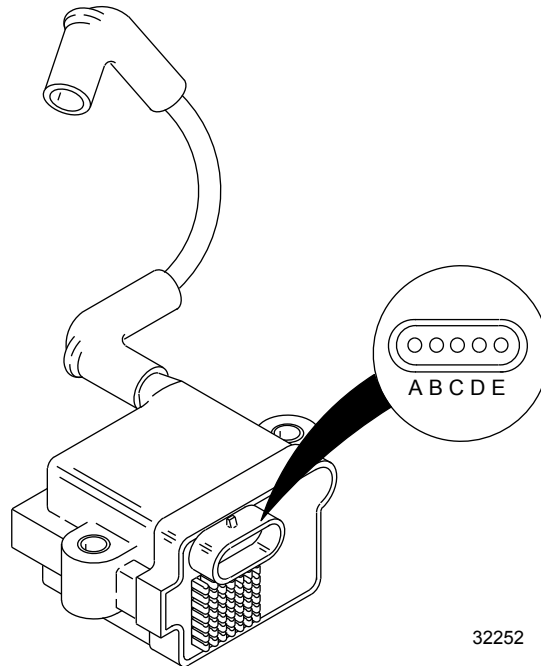
32395

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Correction

If a PCM is diagnosed as the reason for a no spark condition, test all ignition coils following the ohm/pin-out test shown below. Replace any defective coils prior to replacing the PCM. When testing ignition coils, if the value is outside of specified limits by a small amount, the coil is likely good. Normally when a coil is bad, the value will be outside the specified limits by a significant amount.



32252

		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	850 - 1200 ohm	No continuity	No continuity
	EST Pin A	No continuity	X	8500 - 12000 ohm	No continuity	29000 - 39000 ohm	11000 - 21000 ohm
	EST Low Pin B	No continuity	8500 - 12000 ohm	X	No continuity	39000 - 49000 ohm	21000 - 31000 ohm
	Secondary Low Pin C	850 - 1200 ohm	No continuity	No continuity	X	No continuity	No continuity
	Primary Ground Pin D	No continuity	20000 - 30000 ohm	31000 - 41000 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: Ohms values will vary depending on the style and type of ohmmeter used. If an ohm reading is outside of the above listed values but the same readings are found on all or most of the ignition coils for that engine, it's likely there is nothing wrong with the coil, but just variations due to the meter style.

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