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# CPS Trigger Coil Testing

## Task Objective

At the completion of this task the technician will be able to properly test the CPS output. He will also demonstrate his ability to accurately follow the diagnostic procedure.

#### Repair Order Information

#### Engine will not start. There is no spark or fuel pulse.

**Introduction**

CPS / Trigger / Pulse coil

A trigger or pulse coil is used to create a signal or pulse that can be used to control such things as the timing of an ignition spark or the opening and closing of a fuel injector. Basically, a pulse or trigger coil is a small AC generator that produces voltage when a protrusion on the engine’s flywheel or magneto rotor passed by the trigger coil. When the protrusion on the rotor swings past the pulse coil, a pulse of AC current is induced in the pulse coil’s winding. In some cases, the AC pulse itself is used as a signal. In other cases, the AC pulse is ½ wave rectified to a DC pulse. In either case, the signal can be used to trigger an ignition system to create a spark, trigger an engine control module to fire a fuel injector or to simply provide a signal to indicate the position of the crankshaft.

# Procedures

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| 1. Follow the procedures below and record the data. |
| 1. What is the specification for ohms of the CPS? |
| 1. What is the specification for voltage output of the CPS? |
| 1. What are the connector terminal locations of the CPS wires? |
| 1. Compare to the schematic. |
| 1. List what the circuit wire colors are in that circuit:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 1. Test the circuit at the appropriate connector for resistance. |
| 1. Is the test correct? YES NO |
| 1. Test the circuit at the appropriate connector for voltage. |
| 1. Is the test correct? YES NO |
| 1. Check the terminals of wires for grip. |
| 1. Check the continuity of the wires in the circuit. |
| 1. Is the continuity good? YES NO |

### Questions

1. What have you learned from this task?

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2. If the CPS were not operating on this system what would not function?

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4. Is the CPS considered an input or output component to the ECM?

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5. What type of signal is the CPS output??

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# Instructor sign off-- Go \_\_\_\_\_\_\_\_\_