

## TROUBLE CODE IDENTIFICATION

The "Service Engine Soon" light will only be "ON" if the malfunction exists under the conditions listed below. It takes up to five seconds minimum for the light to come "ON" when a problem occurs. If the malfunction clears, the light will go out and a trouble code will be set in the ECM. Code 12 does not store in memory. If the light comes "ON" intermittently, but no code is stored, go to section "B" - Symptoms. Any codes stored will be erased if no problem is detected within 50 engine starts. A specific engine may not use all available codes.

The trouble codes indicate problems as follows:

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|------------------------|---|------------------------|---|
| <b>TROUBLE CODE 12</b> | No distributor reference signal to the ECM. This code is not stored in memory and will only flash while the fault is present. This is a normal code with ignition "ON," engine not running. | <b>TROUBLE CODE 34</b> | Vacuum sensor circuit - The engine must run up to two minutes at specified curb idle before this code will set.             |
| <b>TROUBLE CODE 13</b> | Oxygen Sensor Circuit - The engine must run up to four minutes at part throttle under road load before this code will set.  | <b>TROUBLE CODE 41</b> | No distributor reference signal to the ECM at specified engine vacuum. This code will store in memory.                      |
| <b>TROUBLE CODE 14</b> | Shorted coolant sensor circuit - The engine must run two minutes before this code will set.   | <b>TROUBLE CODE 42</b> | Electronic Spark Timing (EST) bypass circuit or EST circuit grounded or open.   |
| <b>TROUBLE CODE 15</b> | Open coolant sensor circuit - The engine must run five minutes before this code will set.   | <b>TROUBLE CODE 43</b> | Electronic Spark Control (ESC) retard signal for too long a time; causes retard in EST signal.                              |
| <b>TROUBLE CODE 21</b> | Throttle Position Sensor (TPS) circuit voltage high (open circuit or misadjusted TPS). The engine must run 10 seconds at specified curb idle speed before this code will set.               | <b>TROUBLE CODE 44</b> | Lean exhaust indication - The engine must run two minutes, in "Closed Loop" and at part throttle before this code will set. |
| <b>TROUBLE CODE 22</b> | Throttle Position Sensor (TPS) circuit voltage low (grounded circuit or misadjusted TPS). Engine must run 20 seconds at specified curb idle speed to set code.                              | <b>TROUBLE CODE 45</b> | Rich exhaust indication - The engine must run two minutes, in "Closed Loop" and at part throttle before this code will set. |
| <b>TROUBLE CODE 23</b> | M/C solenoid circuit open or grounded.  | <b>TROUBLE CODE 51</b> | Faulty or improperly installed calibration unit (PROM). It takes up to 30 seconds before this code will set.                |
| <b>TROUBLE CODE 24</b> | Vehicle Speed Sensor (VSS) circuit - The vehicle must operate up to two minutes at road speed before this code will set.  | <b>TROUBLE CODE 53</b> | Exhaust Gas Recirculation (EGR) valve vacuum sensor has seen improper EGR control vacuum.                                   |
| <b>TROUBLE CODE 31</b> | Canister purge solenoid-voltage high to ECM above idle rpm will set this code.  | <b>TROUBLE CODE 54</b> | M/C solenoid voltage high, at ECM, as a result of a shorted M/C solenoid circuit and/or faulty ECM.                         |
| <b>TROUBLE CODE 32</b> | Barometric pressure sensor (BARO) circuit low.  |                        |   |