

2007 – 2009 PSI ENGINE CODES

BLINK CODE FUNCTION

Although the DST is considered a required tool to access the DTC codes, codes may be retrieved without a laptop computer using the blink code function. To enable this function, follow the steps below:

- Jump pins 1 and 4 at the DLC connector. (Orange and Black wires on the 4 Pin Connector)
- Turn the ignition key to the on position
- The system will now enter the self-diagnostic blink code mode. Be ready with pen and paper to write down any codes that may be stored.
- The ECM will flash the MIL indicator with a pause between represented numbers that represent DTC codes. The sequence starts with code 1654. Code 1654 confirms the system has entered the blink code mode. The ECM will flash code 1654 (3) times before displaying the actual DTC code that may be set.

Example:

One short blink (pause) six short blinks (pause) five short blinks (pause) four short blinks.

- If no DTC codes are found, the ECM will continue to flash 1654 only. This means no stored DTC codes were found.
- If one of the numbers in the DTC code is zero (0), no flash will occur to represent the zero value—it will be represented as a short pause.

CODE LIST

DTC 16 - Never Crank Synchronized at Start

- Crankshaft Position sensor
- Check Condition- Engine cranking
- Fault Condition- Cranking rpm above 90 and more than 4 cranking revolutions without synchronization
- Adaptive Disabled
- MIL Command-ON

DTC 107-MAP Low Voltage

- Manifold Absolute Pressure Sensor
- Check Condition-Engine cranking or running
- Fault Condition-MAP voltage less than 0.050 with throttle position greater than 5.0% and engine RPM less than 3000.
- MIL-ON
- Adaptive-Disabled
- Fueling is based on RPM and TPS Limp-Home Condition during this fault.

DTC 108-MAP High Pressure

- MAP pressure test
- Check condition-engine running
- Fault Condition-MAP greater than 12.00 psia with TPS less than 10% and engine rpm greater than 700.
- MIL-ON
- Adaptive-disabled

DTC 111-IAT Higher Than Expected 1

- Intake Air Temperature
- Check Condition-Engine Running
- Fault Condition-Intake Air Temperature greater than 200 degrees F. with engine rpm greater than 700
- MIL-ON
- Adaptive-Disabled during active fault
- Power derate level 1

DTC 112-IAT Low Voltage

- Intake Air Temperature
- Check Condition Engine Cranking or Running
- Fault Condition-IAT Sensor Voltage less than 0.050
- MIL-ON during active fault
- Adaptive-Disabled during active fault

DTC 113-IAT High Voltage

- Intake Air Temperature
- Check Condition-Engine Running
- Fault Condition-IAT Sensor Voltage greater than 4.950 volts
- MIL-ON during active fault
- Adaptive-Disabled during active fault

DTC 117-ECT/CHT Low Voltage

- Engine Coolant Temperature
- Check Condition-Engine Running
- Fault Condition-ECT sensor voltage less than 0.050
- MIL-ON during active fault
- Adaptive-Disabled during active fault

DTC 118-ECT/CHT High Voltage

- Engine Coolant Temperature
- Check Condition-Engine Running
- Fault Condition-ECT sensor voltage exceeds 4.950 volts
- MIL-ON during active fault
- Adaptive-Disabled

DTC 121-TPS 1 Lower Than TPS 2

- Throttle Position Sensor 1 & 2
- Check Condition-Key ON
- Fault Condition-TPS 1 20% lower than TPS 2
- MIL-ON for remainder of key on cycle
- Engine shutdown

DTC 122-TPS 1 Signal Voltage Low

- Throttle Position Sensor 1
- Check Condition-Cranking or Running
- Fault Condition-TPS sensor less than 0.200 volts
- MIL-ON during active fault
- Engine shutdown

DTC 123-TPS 1 Signal Voltage High

- Throttle Position Sensor 1
- Check Condition-Cranking or Running
- Fault Condition-TPS sensor voltage exceeds 4.800 volts
- MIL-ON during active fault
- Engine shutdown

DTC 127-IAT Higher Than Expected 2

- Intake Air Temperature
- Check Condition-Engine Running
- Fault Condition-Intake Air Temperature greater than 210 degrees F. with engine speed greater than 700 rpm
- MIL-ON for active fault
- Engine Shut Down

DTC 129-BP Low Pressure

- Barometric Pressure
- Check Condition-Key ON
- Fault Condition-BP less than 8.30 psia
- MIL-ON for active fault
- Adaptive-Disabled

DTC 134-EGO 1 Pre Cat Open/Lazy

- Heated Oxygen Sensor
- Check Condition-Engine running
- Fault condition-EGO 1 pre catalyst persistently cold for more than 55 seconds
- MIL-ON during active fault
- Adaptive-Disabled during active fault
- Closed Loop-Disabled during active fault

DTC 154-EGO 2 Post Cat Open/Lazy

- Heated Oxygen Sensor
- Check Condition-Engine running
- Fault condition-EGO 2 post catalyst sensor cold persistently more than 55 seconds
- MIL-ON during active fault
- Adaptive-Disabled during active fault
- Closed Loop-Disabled during active fault

DTC 187-FT Voltage Low

- Fuel Temperature
- Check Condition-Engine Running
- Fault Condition-FT sensor voltage less than 0.050 volts
- MIL-ON
- Adaptive-Disabled

DTC 188-FT Voltage High

- Fuel Temperature
- Check Condition-Engine Running
- Fault Condition-FT sensor voltage exceeds 4.950
- MIL-ON
- Adaptive-Disabled during active fault

DTC 219-Max Govern Speed Override

- Max Govern Speed Override
- Check Condition-Engine Running
- Fault Condition-Engine rpm greater than set limit
- MIL-ON during active fault

DTC 221-TPS 1 Higher Than TPS 2

- Throttle Position Sensor 1 & 2
- Check Condition-Key ON
- Fault Condition-TPS 1 20% higher than TPS2
- MIL-ON for remainder of key on cycle
- Engine shutdown

DTC 222-TPS 2 Signal Voltage Low

- Throttle Position Sensor 2
- Check Condition-Cranking or Running
- Fault Condition-TPS 2 sensor voltage less than 0.200 volts
- MIL-ON during active fault
- Engine shutdown

DTC 223-TPS 2 Signal Voltage High

- Throttle Position Sensor 2
- Check Condition-Cranking or Running
- Fault Condition-TPS 2 sensor exceeds 4.800 volts
- MIL-ON during active fault
- Engine shutdown

DTC 336-Crank Sync Noise

- Crankshaft Position sensor
- Check Condition- Engine running
- Fault Condition- 1 invalid crank re-sync in less than 800 ms
- Adaptive- Disabled
- MIL- On during active fault

DTC 337-Crank Loss

- Crankshaft position sensor
- Check Condition- Engine cranking
- Fault Condition- 6 cam pulse signals without crankshaft activity
- MIL- On during active fault
- Adaptive- Disabled

DTC 341-Camshaft Sync Noise

- Camshaft position sensor (Distributor Module)
- Check Condition-Cranking or Running
- Fault Condition-1 invalid cam re-sync in 700ms or less
- MIL-ON

DTC 342-Camshaft Sensor Loss

- CMP (Camshaft Position Sensor/Distributor Module)
- Check Condition-Engine Cranking or Running
- Fault Condition-No cam pulse in 2.5 cycles with engine speed greater than 700 rpm
- MIL-ON for active fault
- Adaptive-Disabled

DTC-359 Fuel Run-out Longer Than Expected

- LPG shut off valve
- Check Condition-Key OFF
- Fault Condition-Engine run down time greater than 20 seconds
- MIL-ON

DTC 524-Oil Pressure Low

- Engine Oil Pressure low.
- Check Condition-Engine running for 20 seconds or more with engine speed greater than 600 rpm.
- Fault Condition-Closed pressure switch circuit/voltage less than 2.500 volts.
- MIL-ON during active fault and for 3 seconds after active fault.
- Engine Shut Down.

DTC 562-System Voltage Low

- System Voltage to ECM
- Check Condition-Key on with engine speed greater than 700 RPM
- Fault Condition-Battery voltage at ECM less than 9.50
- MIL-ON for active fault
- Adaptive-Disabled

DTC 563-System Voltage High

- System Voltage to ECM
- Check Condition-Cranking or Running
- Fault Condition-System battery voltage at ECM greater than 16 volts
- MIL-ON for active fault
- Adaptive-Disabled

DTC 601-Flash Checksum Invalid

- Engine Control Module
- Check Condition-Key on
- Fault Condition-Internal microprocessor error
- MIL-ON
- Adaptive-Disabled for the remainder of the key-ON cycle
- Power Derate level 2

DTC 604-RAM Failure

- Engine Control Module
- Check Condition-Key on
- Fault Condition-Internal microprocessor error
- MIL-ON
- Adaptive-Disabled for the remainder of the key-ON cycle
- Power Derate level 2

DTC 606-COP Failure

- Engine Control Module
- Check Condition-Key on
- Fault Condition-Internal microprocessor error
- MIL-ON
- Adaptive-Disabled Power Derate level 2

DTC 642-External 5 Volt 1 Reference Low

- External 5 volt reference
- Check Condition-Engine cranking or running
- Fault Condition-5 volt reference voltage lower than 4.60 volts
- MIL-ON during active fault
- Adaptive-Disabled during active fault

DTC 643-External 5 Volt 1 Reference High

- External 5 volt reference
- Check Condition-Engine cranking or running
- Fault Condition-5 volt reference higher than 5.40 volts
- MIL-ON during active fault
- Adaptive-Disabled during active fault

DTC 650-MIL Control Open

- MIL check
- Check Condition-Key ON engine OFF
- Fault Condition-ECM MIL circuit open
- MIL Command-ON

DTC 652-External 5 Volt 2 Reference Low**Conditions for Setting the DTC**

- External 5 volt reference
- Check Condition-Engine cranking or running
- Fault Condition-5 volt reference voltage lower than 4.00 volts
- MIL-On during active fault
- Adaptive-Disabled during active fault

DTC 653-External 5 Volt 2 Reference High

- External 5 volt reference
- Check Condition-Engine cranking or running
- Fault Condition-5 volt reference higher than 5.40 volts
- MIL-On during active fault
- Adaptive-Disabled during active fault

DTC 685-Relay Coil Open

- Power relay check
- Check Condition-Key ON
- Fault Condition-Relay coil open

DTC 686-Relay Control Ground Short

- Power relay ground control
- Check Condition-Key ON
- Fault Condition-Relay control shorted to ground

DTC 687-Relay Coil Short to Power

- Power relay check
- Check Condition-Key ON
- Fault Condition-Relay coil shorted to power

DTC 1111-Fuel Rev Limit

- Fuel Rev Limit
- Check Condition-Engine Running
- Fault Condition-Engine rpm greater than set limit
- MIL-ON during active fault

DTC 1112-Spark Rev Limit

- Spark Rev Limit
- Check Condition-Engine running
- Fault Condition-Engine rpm greater than set limit
- MIL-ON during active fault
- Engine Shut Down

DTC 1121 FPP 1 And 2 Redundancy Lost

- Foot pedal position sensor 1 and 2
- Check Condition-Key ON
- Fault Condition-FPP1 and FPP 2 redundancy lost
- MIL-ON
- Force idle
- Low rev limit

DTC 1151-Closed Loop Multiplier High LPG

- Heated Oxygen Sensor
- Check Condition-Engine running
- Fault Condition-Closed Loop multiplier out of range (greater than 35%)
- MIL-ON

DTC 1152-Closed Loop Multiplier Low LPG

- Heated Oxygen Sensor
- Functional Fault-Closed Loop multiplier out of range (at limit of -35%)
- MIL Disabled

DTC 1161-Adaptive Learn High LPG

- Heated Oxygen Sensor
- Check Condition-Engine Running
- Fault Condition-Adaptive multiplier out of range greater than 30%
- MIL-ON

DTC 1162-Adaptive Learn Low (LPG)

- Heated Oxygen Sensor
- Check Condition-Engine running
- Fault Condition-Adaptive multiplier out of range greater than -30%
- MIL-ON

DTC1171-EPR Pressure Higher Than Expected

- EPR delivery pressure
- Check Condition-Engine running or cranking
- MIL-ON during active fault
- Fault condition-EPR actual pressure greater than 1.0 inches above commanded pressure
- Adaptive disabled

DTC1172-EPR Pressure Lower Than Expected

- EPR delivery pressure
- Check Condition-Engine running or cranking
- MIL-ON during active fault
- Fault condition-EPR actual pressure less than 1.0 inches below commanded pressure
- Adaptive disabled

DTC1173-EPR Communication Lost

- EPR CAN communication
- Check Condition-Engine running or cranking
- MIL-On during active fault
- Fault condition-No packets received within 500 ms
- Adaptive disabled

DTC1174-EPR Supply Voltage High

- EPR supply voltage
- Check Condition-Engine running or cranking
- MIL-ON during active fault
- Fault condition-internal EPR supply voltage too high
- Adaptive disabled
- Closed loop disabled

DTC1175-EPR Supply Voltage Low

- EPR supply voltage
- Check Condition-Engine running or cranking
- MIL-ON during active fault
- Fault condition-EPR internal supply voltage low
- Adaptive disabled

DTC1176-EPR Internal Actuator Fault

- EPR internal actuator test
- Check Condition-Engine running or cranking
- MIL-ON during active fault
- Fault Condition-Failed actuator
- Adaptive disabled

DTC 1177-EPR internal Circuitry Fault

- EPR internal circuitry test
- Check Condition-Engine running or cranking
- MIL-ON during active fault
- Fault condition-
- Adaptive disabled

DTC 1178-EPR Internal Communication Error

- EPR internal communication test
- Check Condition-Engine running or cranking
- MIL-ON during active fault
- Fault condition-
- Adaptive disabled

DTC 1511 Aux Analog PU1 High

- Aux analog PU1 voltage
- Check Condition-Engine cranking or running
- Fault Condition-Aux analog PU1 greater than 4.95 volts
- MIL-ON

DTC 1512 Aux Analog PU1 Low

- Aux analog PU1 voltage
- Check Condition-Engine cranking or running
- Fault Condition-Aux analog PU1 less than 0.00 volts
- MIL-ON

DTC 1515 Aux Analog PD1 High

- Aux analog PD1 voltage
- Check Condition-Engine cranking or running
- Fault Condition-Aux analog PD1 greater than 5.100 volts
- MIL-ON

DTC 1516 Aux Analog PD1 Low

- Aux analog PD1 voltage
- Check Condition-Engine cranking or running
- Fault Condition-Aux analog PD1 less than 0.00 volts
- MIL-ON

DTC 1521-CHT Higher Than Expected 1

- Cylinder head temperature
- Check Condition-Engine running
- Fault Condition-CHT greater than 236 degrees F. with engine rpm greater than 700
- MIL-ON during active fault
- Adaptive-Disabled during active fault.
- Power derate level 1

DTC 1522-CHT Higher Than Expected 2

- Cylinder head temperature
- Check Condition-Engine running
- Fault Condition-CHT greater than 250 degrees F. with engine rpm greater than 700
- MIL-ON during active fault
- Adaptive-Disabled during active fault
- Forced idle

DTC 1612-RTI 1 Loss

- Engine Control Module
- Check Condition-Key on
- Fault Condition-Internal microprocessor error
- MIL-ON
- Adaptive-Disabled for the remainder of the key-ON cycle
- Power Derate level 2

DTC 1613-RTI 2 Loss

- Engine Control Module
- Check Condition-Key on
- Fault Condition-Internal microprocessor error
- MIL-ON
- Adaptive-Disabled for the remainder of the key-ON cycle
- Power Derate level 2

DTC 1614-RTI 3 Loss

- Engine Control Module
- Check Condition-Key on
- Fault Condition-Internal microprocessor error
- MIL-ON
- Adaptive-Disabled for the remainder of the key-ON cycle
- Power Derate level 2

DTC 1615-A/D Loss

- Engine Control Module
- Check Condition-Key on
- Fault Condition-Internal microprocessor error
- MIL-ON
- Adaptive-Disabled for the remainder of the key-ON cycle
- Power Derate level 2

DTC 1616-Invalid Interrupt

- Engine Control Module
- Check Condition-Key on
- Fault Condition-Internal microprocessor error
- MIL-ON
- Adaptive-Disabled for the remainder of the key-ON cycle
- Power Derate level 2

DTC 1626-CAN Tx Failure

- CAN Tx
- Check Condition-Engine running
- Fault Condition-CAN Tx error 100 packets lost within 1 second
- MIL-ON

DTC 1627-CAN Rx Failure

- CAN Rx
- Check Condition-Engine running
- Fault Condition-CAN Rx error 100 packets lost within 1 second
- MIL-ON

DTC 1628-CAN Address Conflict

- CAN Rx
- Check Condition-Engine running
- Fault Condition-5 or more address conflict errors
- MIL-ON

DTC 1644-MIL Control Ground Short

- MIL
- Check Condition-Key ON engine OFF
- Fault Condition-ECM MIL output shorted to ground
- MIL Command-ON

DTC 1645-MIL Control Ground Short to Power

- MIL check
- Check Condition-Key ON engine OFF
- Fault Condition-ECM MIL output shorted to voltage
- MIL Command-ON

DTC 2111-Unable to Reach Lower TPS

- Throttle Position Sensor
- Check Condition-Cranking or Running
- Fault Condition-Actual throttle position is 20% greater than the throttle command
- MIL-ON during active fault
- Engine shutdown

DTC 2112-Unable to Reach Higher TPS

- Throttle Position Sensor
- Check Condition-Cranking or Running
- Fault Condition-Actual throttle position is 20% less than the throttle command
- MIL-ON during active fault
- Engine shutdown

DTC 2121-FPP 1 Lower Than FPP 2

- Foot pedal position sensor 1 and 2
- Check Condition-Key ON
- Fault Condition-FPP1 sensor higher than FPP 2
- MIL-ON
- Force idle
- Low rev limit

DTC 2122-FPP 1 High Voltage

- Foot Pedal Position
- Check Condition-Key On
- Fault Condition-FPP1 sensor voltage exceeds 3.800 volts
- MIL-On during active fault
- Low rev limit
- Force idle

DTC 2123-FPP 1 Low Voltage

- Foot Pedal Position
- Check Condition-Key On
- Fault Condition-FPP sensor voltage less than 0.400
- MIL-On during active
- Low rev limit
- Force idle

DTC 2126-FPP 1 Higher Than FPP 2

- Foot pedal position sensor 1 and 2
- Check Condition-Key ON
- Fault Condition-FPP 1 20% higher than FPP 2
- MIL-ON
- Force idle
- Low rev limit

DTC 2127-FPP 2 Low Voltage

- Foot Pedal Position
- Check Condition-Key On
- Fault Condition-FPP sensor voltage less than 0.650
- MIL-On
- Low Rev Limit
- Force Idle

DTC 2128-FPP 2 High Voltage

- Foot pedal position sensor 2
- Check Condition-Key On
- Fault Condition-FPP2 sensor voltage exceeds 4.300 volts
- MIL-On
- Forced idle
- Low rev limit

DTC 2229-BP High Pressure

- Barometric Pressure
- Check Condition-Key ON
- Fault Condition-BP greater than 16 psia
- MIL-ON for active fault
- Adaptive-Disabled

DTC 2300-Primary Loop Open/Low Side Short to Ground

- Ignition Control Check
- Check Condition-Engine running or cranking
- Fault Condition-Adaptive or total dwell greater than 3.0 ms
- MIL-ON during active fault
- Adaptive -Disabled
- Closed Loop-Disabled

DTC 2301-Primary Coil Shorted

- Ignition Control Check
- Check Condition-Engine running or cranking
- Fault Condition-Adaptive or total dwell less than -3.0 ms
- MIL-ON during active fault
- Adaptive -Disabled
- Closed Loop-Disabled