

Toyota Engine Trouble Codes

Common Toyota Engine Trouble Codes (and What They Mean)

When that alarming warning light on your dash illuminates to alert you to "service engine soon" or "check engine", your Toyota is trying to tell you something.

A light on the dash signifies that your Toyota's engine control module, or ECM, has logged a problem. This is logged as a engine trouble code, and the codes are somewhat mysterious. While the list of codes below isn't comprehensive, it's a decent place to start learning about what could be wrong with your vehicle whenever a particular code is set.

Table of Contents

P0100	P0115	P0130	P0170	P1155	P1349	P1565
P0101	P0116	P0133	P0401	P1200	P1400	P1600
P0105	P0120	P0135	P0440	P1300	P1410	P1630
P0106	P0121	P0136	P0442	P1310	P1500	P1656
P0110	P0125	P0153	P1135	P1335	P1520	P1780

P0100 - Mass Air Flow Circuit

This basically indicates a problem with the the MAF sensor or circuit. The MAF may be disconnected, the wiring to the MAF may be bad, or the MAF sensor could be faulty.

Possible Solutions:

- Check the wiring and connection for the MAF
- Unplug and reconnect the MAF wiring harness
- Check the voltage of the MAF sensor
- Replace/repair any faults found

P0101 - Mass Air Flow Circuit Range/Performance

This code is triggered when high or low voltage is sent to the engine control module (ECM) from the mass air flow (MAF) sensor.

Likely causes:

- Faulty MAF
- Dirty MAF
- Air intake system leaks

Visit <https://carmanualsclub.com/> for more information

- MAF harness is open or shorted
- MAF circuit has a poor electrical connection

P0105 - Manifold Absolute Pressure Circuit

Those code is detected when excessively low or high voltage is sent from the manifold absolute pressure sensor to the ECM.

Most common causes:

- Faulty sensor
- Open or short in the sensor's harness
- Poor electrical connection from the sensor

P0106 - MAP/BARO Circuit Range/Performance

When excessively high or low voltage is sent from the manifold absolute pressure sensor, this code is triggered.

Causes include:

- Faulty sensor
- Harness for sensor is open or shorted
- The electrical connection with the sensor is poor
- Leaking or damaged vacuum line

P0110 - Intake Air Temperature Circuit

Excessively high or low voltage from the intake air sensor (IAT) will trigger this code.

Possible causes:

- Faulty IAT sensor
- Dirty air filter
- There's a short in the IAT sensor harness
- The electrical connection with the IAT sensor's circuit is poor

P0115 - Engine Coolant Temperature Circuit

When voltage from the engine coolant temperature (ECT) sensor is very low or high, this code will be triggered. This is usually due to low coolant level or a faulty ECT sensor. Other causes include a bad thermostat or problems with the sensor's wiring harness.

Common causes:

- Low engine coolant level
- Faulty ECT sensor
- Faulty thermostat
- Short or poor electrical connection in the ECT sensor harness

P0116 - Engine Coolant Temperature Range/Performance

When the data sent to the ECM about the coolant temperature is not within the specified range, this code will appear. In most cases, the sensor or connections to it are bad, coolant is low, or the engine thermostat is faulty. Check the coolant first, then test the voltage of the sensor to narrow down if the problem is related to the sensor or the thermostat.

P0120 - Throttle Pedal Sensor Switch "A" Circuit

This is a very common Toyota code. Try cleaning the throttle body and resetting the light, then waiting to see if it comes back before taking further action. Should it come back, you will need to replace the throttle position sensor.

P0121 - Throttle Pedal Sensor Switch "A" Circuit Range/Performance

This code is triggered when a malfunction is detected due to extremely low or high voltage from the sensor. The sensor responds to accelerator pedal movement.

Possible causes of malfunction include:

- Bad throttle position sensor (TPS)
- Short in the TPS
- Poor electrical connection with the TPS
- Problems with the ECM (very uncommon)

P0125 - Insufficient Coolant Temperature for Closed Loop Fuel Control

The ECM monitors engine coolant temperature through a sensor after start-up. If no information is coming from the sensor after the engine is warmed up, this will trigger the code P0125. Possible causes include low coolant, stuck or bad thermostat, or faulty sensor.

P0130 - Heated Oxygen Sensor Circuit - Bank 1 Sensor 1

This trouble code is usually triggered when the O2 sensor in position bank 1, sensor 1 is bad or has faulty wiring. Replacing the sensor will almost always get rid of the code.

Other causes include:

- Inadequate fuel pressure
- Bad fuel injectors
- Leaks in the air intake
- Exhaust leaks

P0133 - Heated Oxygen Sensor Circuit Slow Response Bank 1 Sensor 1

This trouble code is triggered when there is a problem with the front oxygen sensor on bank 1. This code indicated the air fuel ratio is not being adjusted once the engine is at operating temperature. Most of the time, the oxygen sensor is faulty or the wiring to the sensor is frayed - an exhaust leak may also be present.

P0135 - Heated Oxygen Sensor Circuit - Bank 1 Sensor 1

This code indicates a problem with the front oxygen sensor on bank 1. When this code is triggered, the O2 heater element resistance is high. To repair the problem, you must repair the damage i the wiring harness, harness connectors, or replace the oxygen sensor.

P0136 - Heated Oxygen Sensor Circuit - Bank 1 Sensor 2

This code indicates a problem with the rear oxygen sensor on bank 1. When this code is triggered, the O2 heater element resistance is high. To repair the problem, you must repair the damage i the wiring harness, harness connectors, or replace the oxygen sensor.

P0153 - Heated Oxygen Sensor Circuit Slow Response - Bank 2 Sensor 1

This trouble code is triggered when there is a problem with the rear oxygen sensor on bank 1. This code indicated the air fuel ratio is not being adjusted once the engine is at operating temperature. Most of the time, the oxygen sensor is faulty or the wiring to the sensor is frayed - an exhaust leak may also be present.

P0170 - Fuel Trim malfunction

When the fuel system is not operating properly, or the fuel in the mixture ratio is not correct, this code with be triggered. The most common causes are a dirty air filter, dirty MAF or air filter housing, or faulty MAF.

P0171 - System too Lean

This code usually indicates a dirty or faulty mass air flow (MAF) sensor, or a vacuum leak downstream of the MAF sensor (perhaps in the PCV line or in the valve itself). This code can also signify a bad O2 sensor in bank 1.

Solutions include:

- Cleaning the MAF sensor and the lines
- Inspect all of the lines including the vacuum and PCV hoses
- Check for intake manifold leaks
- Change your air and fuel filter

P0172 - System too Rich

This code is detected when the fuel injection system isn't operating properly or when the amount of fuel in the mixture ratio is too much.

Possible causes:

- Faulty front heated O2 sensor
- Misfiring ignition
- Faulty fuel injectors
- Faulty mass air flow sensor
- Incorrect fuel pressure

P0201 - Injector Circuit - Cylinder 1

When the ECM has detected a fault in the injector for cylinder 1 or a fault in the wiring for the injector, this code is triggered.

Possible causes include:

- Bad injector on cylinder 1
- Open or short in the wiring to injector for cylinder 1
- Bad ECM (rare)

P0202 - Injector Circuit - Cylinder 2

When the ECM has detected a fault in the injector for cylinder 2 or a fault in the wiring for the injector, this code is triggered.

Possible causes include:

- Bad injector on cylinder 2
- Open or short in the wiring to injector for cylinder 2
- Bad ECM (rare)

P0203 - Injector Circuit - Cylinder 3

When the ECM has detected a fault in the injector for cylinder 3 or a fault in the wiring for the injector, this code is triggered.

Possible causes include:

- Bad injector on cylinder 3
- Open or short in the wiring to injector for cylinder 3
- Bad ECM (rare)

P0204 - Injector Circuit - Cylinder 4

When the ECM has detected a fault in the injector for cylinder 4 or a fault in the wiring for the injector, this code is triggered.

Possible causes include:

- Bad injector on cylinder 4
- Open or short in the wiring to injector for cylinder 4
- Bad ECM (rare)

P0205 - Injector Circuit - Cylinder 5

When the ECM has detected a fault in the injector for cylinder 5 or a fault in the wiring for the injector, this code is triggered.

Possible causes include:

- Bad injector on cylinder 1
- Open or short in the wiring to injector for cylinder 5
- Bad ECM (rare)

P0206 - Injector Circuit - Cylinder 6

When the ECM has detected a fault in the injector for cylinder 6 or a fault in the wiring for the injector, this code is triggered.

Possible causes include:

- Bad injector on cylinder 6
- Open or short in the wiring to injector for cylinder 6
- Bad ECM (rare)

P0300 - Random Misfire

When this code is present in your ECM, your vehicle's computer has detected that not all cylinders are firing as they should. P0300 indicated a random, or multiple misfires.

A misfire code can be triggered due to:

- Faulty spark plugs or wires
- Faulty coil packs
- Bad O2 sensors

P0301 - Misfire Detected - Cylinder 1

This code indicates that a misfire has been detected on engine cylinder 1.

Here are the possible causes:

- Faulty spark plug for cylinder 1
- Faulty cylinder 1 coil pack
- Bad O2 sensors
- Bad fuel injector for cylinder 1
- Burned exhaust valve
- Faulty catalytic converter

Visit <https://carmanualsclub.com/> for more information

- Fuel deprivation (running out of fuel or blockage in the system)

P0302 - Misfire Detected - Cylinder 2

This code indicates that a misfire has been detected on engine cylinder 2.

Here are the possible causes:

- Faulty spark plug for cylinder 2
- Faulty cylinder 2 coil pack
- Bad O2 sensors
- Bad fuel injector for cylinder 2
- Burned exhaust valve
- Faulty catalytic converter
- Fuel deprivation (running out of fuel or blockage in the system)

P0303 - Misfire Detected - Cylinder 3

This code indicates that a misfire has been detected on engine cylinder 3.

Here are the possible causes:

- Faulty spark plug for cylinder 3
- Faulty cylinder 3 coil pack
- Bad O2 sensors
- Bad fuel injector for cylinder 3
- Burned exhaust valve
- Faulty catalytic converter
- Fuel deprivation (running out of fuel or blockage in the system)

P0304 - Misfire Detected - Cylinder 4

This code indicates that a misfire has been detected on engine cylinder 4.

Here are the possible causes:

- Faulty spark plug for cylinder 4
- Faulty cylinder 4 coil pack
- Bad O2 sensors
- Bad fuel injector for cylinder 4
- Burned exhaust valve
- Faulty catalytic converter
- Fuel deprivation (running out of fuel or blockage in the system)

P0305 - Misfire Detected - Cylinder 5

This code indicates that a misfire has been detected on engine cylinder 5.

Here are the possible causes:

- Faulty spark plug for cylinder 5

Visit <https://carmanualsclub.com/> for more information

- Faulty cylinder 5 coil pack
- Bad O2 sensors
- Bad fuel injector for cylinder 5
- Burned exhaust valve
- Faulty catalytic converter
- Fuel deprivation (running out of fuel or blockage in the system)

P0306 - Misfire Detected - Cylinder 6

This code indicates that a misfire has been detected on engine cylinder 6.

Here are the possible causes:

- Faulty spark plug for cylinder 6
- Faulty cylinder 6 coil pack
- Bad O2 sensors
- Bad fuel injector for cylinder 6
- Burned exhaust valve
- Faulty catalytic converter
- Fuel deprivation (running out of fuel or blockage in the system)

P0325 - Knock Sensor 1 Circuit

This code means that a knock sensor is not working properly. Replacing the knock sensor almost always resolves the problem.

P0330 - Knock Sensor 2 Circuit

This code is alerting you that a knock sensor is not working properly. Replacing the proper knock sensor almost always resolves the problem.

P0335 - Crankshaft Position Sensor "A" Circuit

When the crankshaft position signal is not detected by the ECM right after cranking the engine, this code will be triggered. Sometimes, a low battery voltage or weak started can triggered this code, so check your battery and started first.

Possible causes of this code include:

- Bad crankshaft position sensor
- Harness for the sensor has an open or short, or has poor electrical connection
- Signal plate might be damaged

P0336 - Crankshaft Position Sensor "A" Circuit Range/Performance

When the ECM does not detect a signal from the crankshaft position sensor at startup, this code will be triggered. A drained battery or bad starter can cause trick the ECM into triggering this code, so check those components first.

Causes of code P0336:

- Bad crankshaft position sensor
- Harness for sensor has an open or short, or has a bad electrical connection
- Signal plate might be damaged

P0340 - CMP Sensor Circuit Malfunction

When the camshaft position sensor signal isn't detected by the ECM at startup, this code is triggered. A weak battery or starter can also trigger this code, so check those first before replacing any other parts.

Causes of this issue include:

- Faulty camshaft position sensor
- Harness for the sensor has a open or short, or poor electrical connection

P0385 - Crankshaft Position Sensor "B" NE2 Circuit

When the signal from the crankshaft position sensor is not detected by the ECM right after cranking the vehicle, this code will be triggered. It's important to note that a weak battery or starter can trick the ECM into throwing this code, so check those components first.

Causes of P0385:

- Faulty crankshaft position sensor
- Short or open in harness for sensor
- Damage signal plate

P0401 - EGR Flow Insufficient

This code is triggered when the EGR flow is low. The EGR is designed to inject the correct amount of exhaust gas into each cylinder prior to combustion. When code P0401 is triggered, it's because the DPFE sensor found too little recirculation.

P0402 - Exhaust Gas Recirculation Flow Excessive Flow Detected

This code indicates that too much exhaust gas recirculation (EGR) is occurring -- the result is an overly-rich mix of oxygen in the air/fuel ratio and higher engine temps. When this code is tripped, it's usually because the EGR valve is stuck in the open position.

How to find the cause:

- Check the voltage of the DPFE sensor
- Remove the EGR valve and bypass tube and check them for obstructions and vacuum leaks
- If problem continues, the EGR valve may need to be replaced

P0420 - Catalyst System Efficiency Below Threshold - Bank 1

Visit <https://carmanualsclub.com/> for more information

If readings from the front and rear oxygen sensors are the same, this code will be stored in your Toyota's ECM. Most of the time, it indicates that the catalytic converter is not working how it should.

Possible code causes:

- Leaded fuel in the system
- Failed O2 sensor
- Faulty catalytic converter
- Possible issues with a coolant sensor, exhaust manifold leak, timing issues, leaking fuel injectors, misfires, or fuel oil contamination

P0430 - Catalyst System Efficiency below Threshold - Bank 2

Code P0430 is triggered when the three way catalytic converter, side bank 1, does not operate properly. Most likely, it does not have enough oxygen storage capacity.

Causes of this problem:

- Bad converter
- Faulty exhaust tube
- Leaks in the air intake
- Bad or leaking fuel injectors
- Worn spark plugs
- Improper engine timing

P0440 - EVAP Control System Malfunction

When this code is triggered, it means there is a fault in the evaporative emission control (EVAP) system.

Check for these issues to narrow down the problem:

- Leaking or faulty gas cap
- Failed purge solenoid
- Plugged canister

P0441 - EVAP Control System Improper Purge Flow

This code is rarer for Toyotas, but when it's triggered it indicates an evaporative emission control system incorrect purge flow. It usually indicates a bad vacuum switch or leak in the EVAP system that is preventing fuel vapors from reaching the canister. This code may also indicate a faulty or stuck PCV, short circuit to the feed circuit, or faulty purge solenoid.

P0442 - Small EVAP System Leak Detected

This is one of the most common evaporative emission control (EVAP) system codes for Toyotas. It is triggered when a small leak is detected. In almost every case, the code is a result of a missing or loose gas cap -- or the cap was replaced with a non-OEM Toyota code. If the problem is not the cap, there may be a pinhole leak in one of the

Visit <https://carmanualsclub.com/> for more information

vapor hoses or tubes that runs from the fuel tank to the charcoal canisters, or one of the seals on the connections for the tubing.

P0446 - EVAP Control System Vent Control

This code is triggered when there is a malfunction in the evaporative emission control (EVAP) system vent control circuit. Most of the time, this indicates a faulty vent valve, a bad circuit for the valve, or a blocked valve. Test the vent valve circuit to make sure it's receiving power, then proceed to check for a blockage in the valve.

P0450 - EVAP Control System Pressure Sensor

When this code is stored in your ECM, it is likely due to a faulty evaporative emission system (EVAP) vapor pressure sensor. It can also be due to a short in the harness for the sensor, or poor electrical connection with the harness.

P0451 - EVAP Control System Pressure Sensor Range/Performance

When the voltage from the sensor sent to the ECM is out of range, this code will appear. The sensor itself is likely bad. Otherwise, check for a short in the wiring harness or poor electrical connection.

P0500 - Vehicle Speed Sensor

When the speed sensor fails to send data to the ECM, this code is triggered.

Possible causes:

- Faulty speed sensor
- Short in the wiring harness or poor connection

P0505 - Idle Speed Control System

When the ECM does not receive voltage/data from the idle speed control system, it will store this code.

Causes of this problem include:

- Damaged IAC connector
- One of more IAC circuits is open or has a short
- IAC has failed

P0510 - Close Throttle Position Switch

Possible fixes include:

- Adjusting the throttle position switch (TPS)
- Replacing the TPS
- Checking for an open or short, or poor connection in the TPS wiring harness

Visit <https://carmanualsclub.com/> for more information

P1125 - Throttle Control Motor Circuit

When the ECM detects problems with the throttle control motor circuit, this code is triggered.

Possible causes include:

- Faulty throttle control motor
- Throttle control motor harness has an open or short
- Poor electrical connection with the throttle control motor

P1126 - Magnetic Clutch Circuit

If this code is present in your ECM, the likely cause is a bad magnetic clutch. There may also be a problem with the connection or possible short in the harness for the magnetic clutch.

P1127 - ETCS Actuator Power Source Circuit

The likely cause of this code is a faulty throttle control system actuator. There may also be a problem with the connection to the actuator. Another possible cause could be a short in the harness leading to the actuator.

P1128 - Throttle Control Motor Lock

When the ECM detects a short between the ECM and the throttle control motor, this code is triggered.

Possible causes include:

- Faulty throttle control motor
- Throttle control motor has a short in the harness
- Poor connection with the throttle control motor

P1129 - Electric Throttle Control System

When the throttle opening angle continues to vary greatly from the target throttle opening angle, this code is triggered.

Possible causes include:

- Faulty electronic throttle control system actuator
- Electronic throttle control system actuator harness has a short
- Poor connection with the actuator

P1130 - Air/Fuel Sensor Circuit Range/Performance

When the air/fuel sensor output voltage change value is not what it should be, the ECM will store this code.

Possible causes:

- Bad air/fuel ratio sensor
- Incorrect fuel pressure
- Bad fuel injector
- Leaks in the air intake

P1133 - Air/Fuel Sensor Circuit Response

Possible causes of this code include:

- Bad air/fuel ratio sensor
- Short in the circuit
- Poor connection with the sensor

P1135 - Air/Fuel Sensor Heater Circuit Response - Bank 1, Sensor 1

This code represents a general fault in the air/fuel sensor heater circuit for bank 1, sensor 1.

The main causes of this code include:

- Faulty air/fuel ratio sensor in bank 1, sensor 1
- Short or poor connection in the wiring harness to sensor
- Faulty ECM (rare)

P1150 - Air/Fuel Sensor Circuit Range/Performance - Bank 2, Sensor 1

The code is triggered when there is a malfunction in the air/fuel sensor heater circuit for bank 2, sensor 1.

Most often, this code is triggered when one of these problems occur:

- Faulty air/fuel ratio sensor in bank 2, sensor 1
- Short or poor connection in the wiring harness to sensor
- Faulty ECM (rare)

P1155 - Air/Fuel Sensor Heater Circuit - Bank 2, Sensor 1

This code occurs when there is a malfunction in the air/fuel sensor heater circuit for bank 2, sensor 1.

These are the most common culprits:

Faulty air/fuel ratio sensor in bank 2, sensor 1

Short or poor connection in sensor harness

Faulty ECM (uncommon)

P1200 - Fuel Pump Relay Circuit

When the code is triggered, it is almost always due to a faulty fuel pump relay. Other problems might be found in the connection with the relay or the wiring for the relay.

P1300 - Igniter Circuit - Number 1

When there is no IGF signal to the ECM from the number 1 ignition coil while the car is running, this code is triggered. Should this code be stored in the ECM, is it likely because the number 1 ignition coil is bad. It may also have poor connection or there may be a short in the harness for the coil.

P1310 - Igniter Circuit - Number 2

When there is no IGF signal to the ECM from the number 2 ignition coil while the car is running, this code is triggered. Should this code be stored in the ECM, is it likely because the number 12 ignition coil is bad. It may also have poor connection or there may be a short in the harness for the coil.

P1335 - No Crankshaft Position Sensor Signal - Engine Running

Possible problems prompting this code have to be with the crankshaft position sensor. Most of time, the issue is a faulty crankshaft position sensor. Other times, it might be a bad connection with the sensor or a short in the wiring harness leading to the sensor.

P1349 - Variable Valve Timing System Malfunction - Bank 1

This code is triggered when there is a problem with the variable valve timing system of your Toyota. Basically, the valve timing isn't changing from the current valve timing state.

Most probable causes:

- Low or contaminated oil
- Improper valve timing
- Faulty oil control valve
- Faulty variable valve timing controller assembly

P1400 - Sub-Throttle Position Sensor

When this code appears to be stored in your Toyota's ECM, the probable causes is a bad sub-throttle position sensor. It may also be an issue with the connection with the sensor, or short in the wiring harness for the sensor.

P1410 - EGR Valve Position Sensor Circuit

Usually, when this code is triggered, the EGR valve position sensor needs to be replaced. This sensor is located on top of the EGR valve. The valve for the EGR may also be stuck open or close.

P1500 - Starter Signal Circuit

Most common causes of this code include:

- Fault started
- Short in starter harness
- Connection problems with the starter

P1520 - Stop Lamp Switch Signal Malfunction

This signal is used to detect when the brakes have been applied. The signal is used to control fuel cutoff to lower engine speed. When there is a problem detecting the signal, this code will be triggered.

Causes include:

- Faulty stop light switch
- Stop light switch is not properly connected
- Short in the harness for the stop light switch

P1565 - Cruise Control Main Switch Circuit

When this code is triggered, it is usually due to a faulty cruise control main switch. There may also be a short in the wiring harness for the switch. Other times, the switch is not properly connected.

P1600 - ECM

This code indicates a problem your Toyota's engine control module, or ECM. When it is triggered, it is almost always due to a faulty ECM. In some cases, there may be a problem with the ECM connection or short in the wiring harness.

P1630 - Traction Control System

The traction control system is responsible for controlling speed when adverse driving condition cause the tires to lose traction.

Reasons this code may be triggered:

- Faulty TCS ECU
- Short in the harness leading to the TCS ECU
- Poor connection with the TCS ECU

P1656 - OCV Circuit

When there is a problem with the oil control valve circuit, this code will be triggered and stored in the ECM. This happens when there is an open or short in the oil control valve circuit. The oil control valve itself may also be bad.

P1780 - Park/Neutral Position Switch

The park/neutral position switch detect the shift lever position and sends the data to the ECM. When the signal is not sent to the ECM, this code is triggered.

Possible causes include:

- Bad park/neutral position switch
- Harness to switch has a short
- The connection with the switch is poor
- The switch needs to be readjusted

While every effort has been made to provide you with detailed information about these common codes, please consult with a professional before making any major mechanical changes. This is meant to be an informative guide about the possible causes of the mentioned diagnostic trouble codes; it is not meant to be a definitive resource for repairs of any kind.