



Tech Notes:

1997-2001 Toyota Camry and Solara 2.2L 5SFE ENGINE

These vehicles are well known in the industry for displaying *false P0420 catalyst codes* more often than not. The resulting problem with a *false code* is there probably is nothing wrong with the original catalyst, and if replaced, there will certainly be nothing wrong with the new one, but the P0420 code is persistent.

We've found fuel trim issues to be at the heart of it all.

The most common problem is a very high Long Term Fuel Trim reading at idle, of 14% or more, which often becomes lower when the RPMs are increased. This usually indicates an “un-metered air” problem, and might very well be in the case of these vehicles (as you’ll see in the excerpts of the bulletin below), but technicians have also found another gremlin. The Throttle Position Switch is sending unreliable information to the ECU (or possibly the ECU is misinterpreting it) with the end result being a high LTFT. Techs report that removing the switch from the throttle body and then removing the bushings where the mounting screws go, allows for a slight adjustment of the switch. Furthermore, they’ve reported that adjusting the switch with the car running at idle, for the lowest Long Term Fuel trim has often eliminated a false P0420 code.

As mentioned above, un-metered air is always a possibility in cases where the fuel trims drop lower as the throttle is opened, and checking for leaks with a smoke machine is always prudent.

Below are excerpts as well, from a bulletin relating to deterioration of an Evaporative system hose. Often, a related code of P0441 or P0446 will be present, but we've had many reports that replacing these hoses on vehicles not displaying the EVAP codes causes LTFT to drop to near zero % at idle, which is perfect.

EVAP SYSTEM DIAGNOSIS: P0441 / P0446

Models:

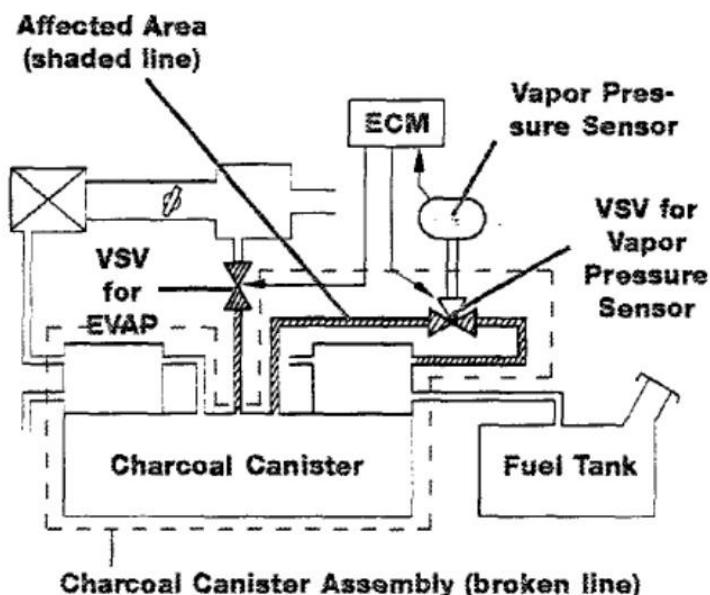
RAV4, Tercel, Paseo, Camry, Avalon,
Tacoma, 4Runner, T-100

Introduction

The following procedure is recommended for repair of MIL "ON" conditions involving confirmed DTC P0441 and P0446.

Affected Vehicles

- All RAV4, Tercel, Paseo, Camry, Avalon, Tacoma, 4Runner, T-100 that display codes Vehicles P0441 or P0446.



Repair Procedure

A. Diagnostics for P0441:

1. Remove Vacuum Hoses between EVAP VSV and Charcoal Canister and discard.
2. If there is a metal vapor pipe between EVAP VSV and Charcoal Canister, clean inside of vapor pipe
3. Replace EVAP VSV and Charcoal Canister assembly with new parts.
4. Install new vacuum hoses between EVAP VSV and Charcoal Canister.

B. Diagnostics for P0446:

1. Inspect vacuum hoses and pipes between EVAP (Purge) VSV and Charcoal Canister for leaks.
2. Replace Vapor Pressure VSV and Canister.

NOTE :When performing diagnostics for an occurrence of a MIL "ON" condition, Diagnostic Trouble Code (DTC) P0441 may be result of debris in Evaporative Emission Control System. This may cause blockage of a vapor line, or a stuck VSV, as described in troubleshooting area of Repair Manual.