

P0012: "A" CAMSHAFT POSITION - TIMING OVER-RETARDED (BANK 1)

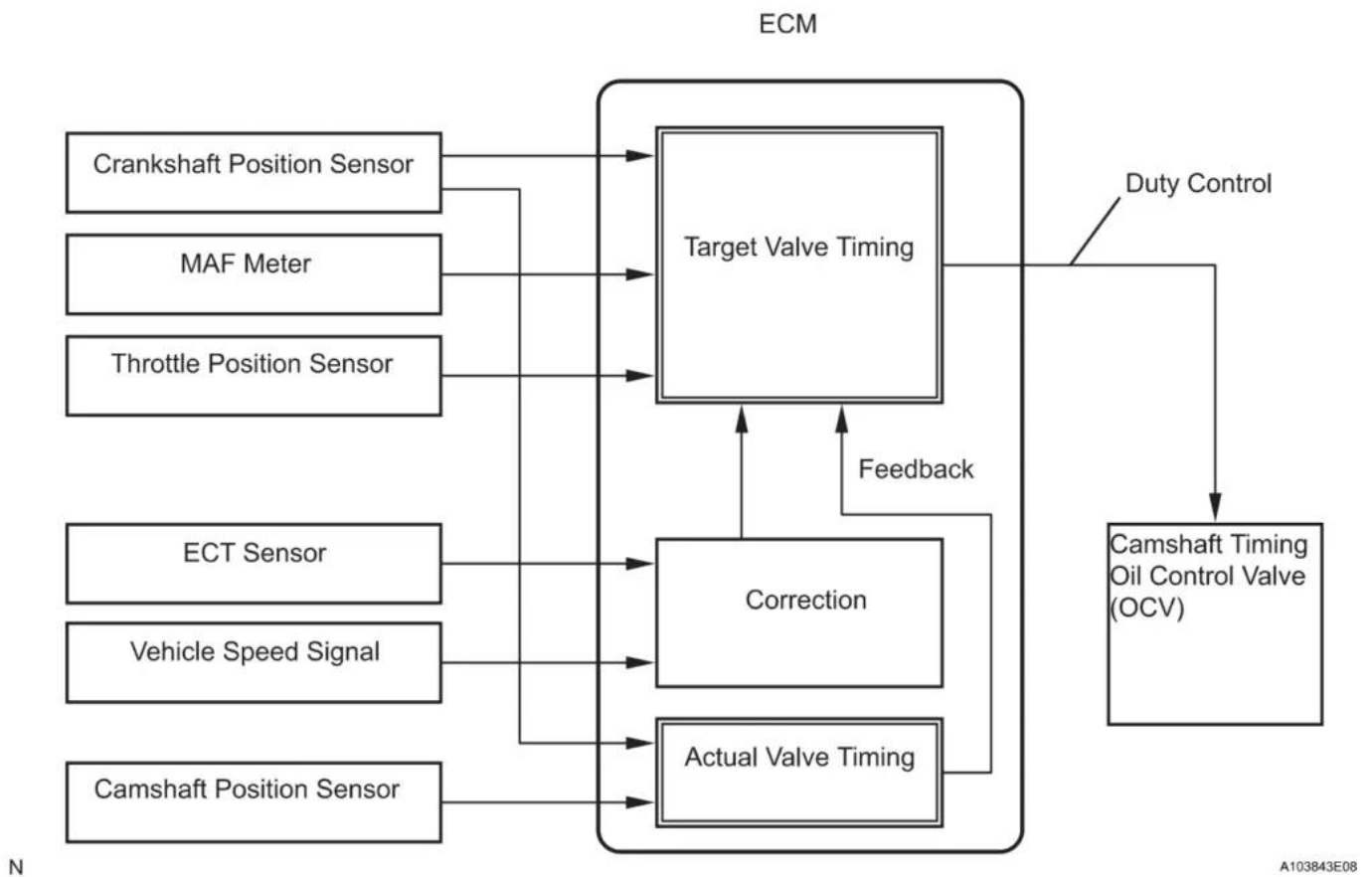
OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Intermediate
Repair Cost	:	\$35-\$450
Can I Still Drive?	:	Yes (Short-term only)

What Does The P0012 Code Mean?

A P0012 code refers to the VVT (variable valve timing) or VCT (variable camshaft timing) components and the car's PCM (powertrain control module) or ECM (engine control module). VVT is a technology used in the engine to allow it to get greater power or efficiency at different running points.

That consists of a few different components but the P0012 DTC specifically refers to the camshaft (cam) timing. In this case, if the cam timing is over-retarded, the engine light will be illuminated and the code will be set. The "A" camshaft is either the intake, left, or front camshaft. This code is specific to bank 1. Bank 1 is the side of the engine that contains cylinder #1.



P0012 wiring diagram

What Are The Symptoms Of The P0012 Code?

Most likely a P0012DTC will result in one of the following:

- Hard starting
- Poor idle and/or
- Stalling

There are potentially other symptoms as well. Of course, when trouble codes are set, the MIL (malfunction indicator lamp, a.k.a. the check engine light) illuminates.

What Are The Potential Causes Of The P0012 Code?

A P0012 DTC trouble code may be caused by one or more of the following:

- Incorrect camshaft timing
- Wiring problems (harness/wiring) in intake timing control valve control solenoid system
- Continuous oil flow to VCT piston chamber
- Failed timing valve control solenoid (stuck open)

How Can You Fix The P0012 Code?

The main thing to check is to verify the operation of the VCT solenoid. You're looking for a sticking or stuck VCt solenoid valve caused by contamination. Refer to vehicle specific repair manual to perform component tests for the VCT unit. Notes: Dealer techs have advanced tools and the ability to follow detailed troubleshooting steps, including the ability to test components using a scan tool.

Other related DTCs: [P0010](#)– [P0011](#)– [P0020](#)– [P0021](#)– [P0022](#)

Reference Sources

[2GR-FE ENGINE CONTROL SYSTEM SERVICE MANUAL for P0012](#) - Toyota RAV4