

MIL "ON" DTC P0500

Service Category Engine/Hybrid System

Section Engine Control

Market USA

Toyota Supports
ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2005 – 2006	Camry	Engine(s): 2AZ VDS(s): BE30K, BE32K
2006	Solara	Engine(s): 2AZ VDS(s): CE30P, CE38P

Introduction

Some 2005 – 2006 model year Camry and 2006 model year Solara vehicles may exhibit a MIL "ON" condition with Diagnostic Trouble Code (DTC) P0500 – Vehicle Speed Sensor "A". The Engine Control Module/ECM (SAE term: Powertrain Control Module/PCM) logic has been modified to reduce the possibility of this condition occurring. Use the following repair procedure to address this condition.

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
EG9022	Recalibrate ECM (PCM) Engine & Transmission	0.6	89661-#####	8A	99

APPLICABLE WARRANTY

- This repair is covered under the Toyota Federal Emission Warranty. This warranty is in effect for 96 months or 80,000 miles, whichever occurs first, from the vehicle's in-service date.
- For 2005 – 2006 Camry 4-cylinder models certified as PZEVs (Partial Zero Emission Vehicles) that are sold, registered, and operated in California, Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont, this repair is covered under the California Emissions Warranty. This warranty is in effect for 180 months or 150,000 miles, whichever occurs first, from the vehicle's in-service date.
- Warranty application is limited to occurrence of the specified condition described in this bulletin.

MIL "ON" DTC P0500

Parts Information

MODEL	MODEL YEAR	TRANS	PRODUC-TION	SPEC	PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
Camry	2005	5AT	NAP	Non-PZEV	89661-06B30	89661-06B31	Computer, Engine Control (ECM/PCM)	—
				PZEV	89661-06B50	89661-06B51		—
			Japan	Non-PZEV	89661-33B10	89661-33B11		—
				PZEV	89661-33B20	89661-33B21		—
	2006		NAP	Non-PZEV	89661-06D90 89661-06D91	89661-06D92		—
				PZEV	89661-06E00 89661-06E01	89661-06E02		—
			Japan	Non-PZEV	89661-33D00 89661-33D01	89661-33D02		—
				PZEV	89661-33D10 89661-33D11	89661-33D12		—
Solara	2006	NAP	—	89661-06C00 89661-06C01	89661-06C02	—		
—	—	—	—	—	00451-00001-LBL	Same	Authorized Modification Labels	1

NOTE

- The ECM (PCM) should NOT be replaced as part of the repair procedure.
- Authorized Modification Labels may be ordered in packages of 25 from the Materials Distribution Center (MDC) through Dealer Daily – Dealer Support Materials Orders.

Calibration Information

MODEL	ENGINE	SPEC	MODEL YEAR	PREVIOUS CALIBRATION ID	NEW CALIBRATION ID	VDS
Camry	2AZ-FE	Non-PZEV	2005	33358000	33358100	BE30K BE32K
			2006	33382000 33382100	33382200	
		PZEV	2005	33359000	33359100	
			2006	33383000 33383100	33383200	
Solara		–	2006	30641000 30641100	30641200	CE30P CE38P

MIL "ON" DTC P0500

Required Tools & Equipment

REQUIRED EQUIPMENT	SUPPLIER	PART NUMBER	QTY
TIS Techstream* NOTE: Software version 4.20.018 or later is required.	ADE	TSUNT	1

* Essential SST.

NOTE

- Additional TIS Techstream units may be ordered by calling Approved Dealer Equipment (ADE) at 1-800-368-6787.
- The Diagnostic Tester is NOT recommended for flash reprogramming with this calibration file. Please use TIS Techstream or an approved J2534 interface to perform this update. Visit techinfo.toyota.com for more information regarding J2534 reprogramming.



SPECIAL SERVICE TOOLS (SST'S)	PART NUMBER	QTY
GR8 Battery Diagnostic Station*	00002-MCGR8	1

* Essential SST.

NOTE

Additional SSTs may be ordered by calling 1-800-933-8335.

MIL "ON" DTC P0500

Inspection Procedure

1. Inspect the Freeze Frame Data stored under "Engine and ECT" with the DTC P0500.
(See Figure 1.)

Figure 1.

Parameter	-3	-2	-1	0	1	Unit
Vehicle Speed	3	2	2	2	2	MPH
Engine Speed	852	835	825	835	853	rpm
Calculate Load	25.8	26.2	26.6	27.0	27.4	%
Vehicle Load	13.7	14.1	15.6	15.2	14.9	%
MAF	2.82	2.81	3.10	3.07	3.06	gm/sec
Atmosphere Pressure	-0	-0	-0	-0	-0	psi(gauge)
Coolant Temp	196	196	196	196	196	F
Intake Air	99	99	99	99	99	F
Engine Run Time	1352	1353	1353	1354	1354	s
Initial Engine Coolant Temp	162.5	162.5	162.5	162.5	162.5	F
Initial Intake Air Temp	135.5	135.5	135.5	135.5	135.5	F
Battery Voltage	13.1	13.1	13.1	13.1	13.1	V
Accel Sens. No.1 Volt %	15.6	15.6	15.6	15.6	15.6	%
Accel Sens. No.2 Volt %	31.7	31.7	31.7	31.7	31.7	%
Throttle Sensor Volt %	16.0	16.0	16.4	16.4	16.4	%
Thrott Sensor #2 Volt %	48.2	47.8	48.2	48.2	48.2	%
Throttle Sensor Position	0.0	0.0	0.0	0.0	0.0	%

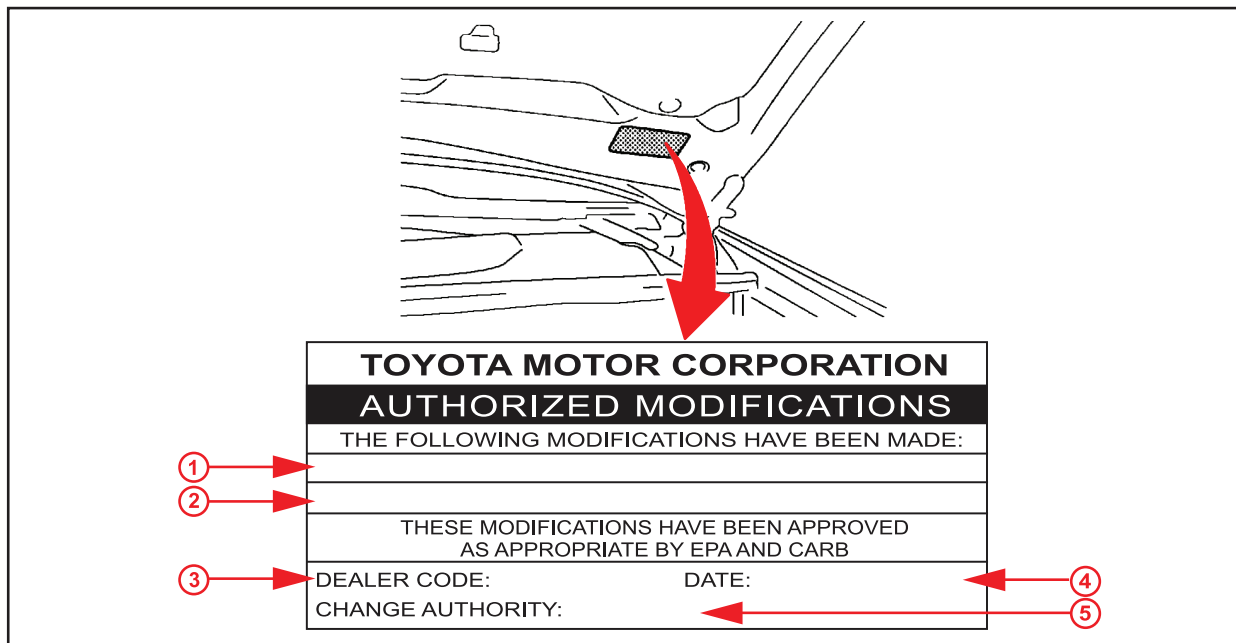
2. Is the stored vehicle speed less than 5 mph (8 km/h)?
 - **YES** — Proceed to the Repair Procedure and flash reprogram the ECM.
 - **NO** — STOP — This TSB may not apply. Proceed with normal Repair Manual diagnostic procedures. If no fault can be found, then proceed to the Repair Procedure and flash reprogram the ECM.

MIL "ON" DTC P0500

Repair Procedure

1. Check for the Authorized Modifications Label affixed to the vehicle in the location shown in Figure 2. Confirm if the ECM (PCM) calibration has been updated. If the calibration ID listed is NOT the latest ECM (PCM) calibration — go to step 2.

Figure 2. Location of Authorized Modifications Label on 2005 – 2006 Camry



1	Replacement ECM (PCM) Part Number (i.e., 89661-06B31)
2	New Calibration ID(s) (i.e., 33358100)
3	Dealer Code

4	Date Completed
5	This TSB Number

2. Flash reprogram the ECM (PCM).

NOTE

- The GR8 Battery Diagnostic Station **MUST** be used in Power Supply Mode to maintain battery voltage at 13.5 volts while flash reprogramming the vehicle.
- For details on how to use the GR8 Battery Diagnostic Station, refer to the [GR8 Instruction Manual](#) located on the Technical Information System (TIS), *Diagnostics – Battery*.

Follow the procedures outlined in TSB No. [SS002-07](#), “Techstream ECU Flash Reprogramming Procedure”, and flash the ECM (PCM) with the NEW calibration file update.

MIL "ON" DTC P0500

Repair Procedure (Continued)

3. Start the engine and warm it up to normal operating temperature before test driving.
4. Test drive the vehicle to confirm proper vehicle operation and ECM (PCM) learning.

Refer to TIS, applicable model year Camry or Solara Repair Manual:

- [2005](#) / [2006](#) Camry, *Drivetrain – Automatic Transmission/Transaxle – “Electronic Controlled Automatic Transaxle [ECT] (U250E): Road Test”*
- [2006](#) Solara, *Drivetrain – Automatic Transmission/Transaxle – “U250E Automatic Transaxle: Automatic Transaxle System: Road Test”*

5. Install the Authorized Modifications Label.

A. Using a permanent marker, enter the following information on the label:

- ECM part number [Refer to the **Parts Information** section for the **CURRENT PART NUMBER**]
- Calibration ID(s) [Refer to the **Calibration Identification Chart** for the **NEW CALIBRATION ID**]
- Dealer Code
- Repair Date
- Change Authority [**This TSB number**]

B. Affix the Authorized Modifications Label to the vehicle at the location shown in Figure 2. The Authorized Modifications Label is available through the MDC, P/N 00451-00001-LBL.