

Toyota Supports

MIL "ON" DTC P0500

Service Category Engine/

Category	Engine/Hybrid	System
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Section	Engine Control	Market USA	ASE Certification
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Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION	
2007 – 2009	Camry	Engine(s): 2AZ Transmission(s): 5AT VDS(s): BE46K	

Introduction

Some 2007 – 2009 model year Camry 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) 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
EG9021	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 2007 2009 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, Oregon (starting with '09 MY), 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.

Parts Information

MODEL	TRANS	SPEC	PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
Comru	۶∧T	Non-PZEV	89661-06G11	89661-06G12	Computer, Engine	-
Camry	5AT	PZEV	89661-06G41	89661-06G42	Control (ECM/PCM)	-
-	N/A		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	TRANS	SPEC	PREVIOUS CALIBRATION ID	NEW CALIBRATION ID	VDS	
				333A5100			
			Non-PZEV	333A5000	00045000		
	Camry 2AZ-FE 5AT		NON-PZEV	33366100	<u>333A5200</u>		
Commu			- A-T	_	33366000		
Carniry				333A7100		BE46K	
					333A7000	22247200	
		PZEV	33368100	<u>333A7200</u>			
				33368000			

Required Tools & Equipment

REQUIRED EQUIPMENT	SUPPLIER	PART NUMBER	QTY
TIS Techstream*		TOUNT	1
NOTE: Software version 4.12.001 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.

Inspection Procedure

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

Figure 1.

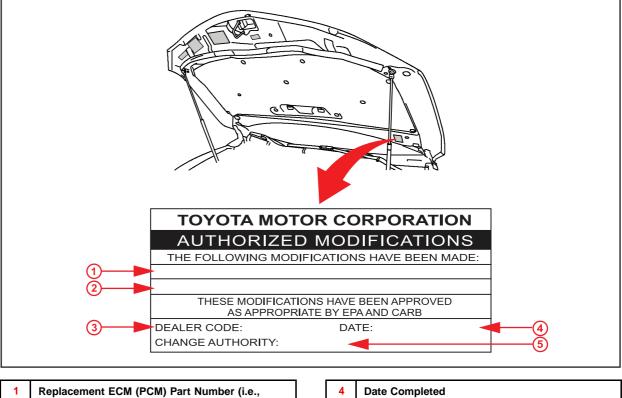
2007_Camry_2A Vehicle Speed 3 2 2 2 2 MPH File Notes Health Checl Data 1 Engine Speed 852 835 825 835 853 rpm Data 1 Engine and I OTC/Monit Vehicle Load 13.7 14.1 15.6 15.2 14.9 % MAF 2.82 2.81 3.10 3.07 3.06 gm/sec MAF 2.82 2.81 3.10 3.07 3.06 gm/sec Atmosphere Pressure -0 -0 -0 -0 -0) psi(gauge)) Coolant Temp 196 196 196 196 F intake Air si intial Engine Coolant Temp 162.5 162.5 162.5 162.5 F intial 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 13.1 V Accel Sens. No.1 Volt % 15.6<	and the second se								
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File Notes Engine Speed 852 835 825 835 863 rpm Bealth Check Data 1 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 0 0 Coolant Temp 196 196 196 196 196 F intake Air sintial Engine Coolant Temp 162.5 162.5 162.5 162.5 162.5 F Initial Engine Coolant Temp 135.5 135.5 135.5 135.5 135.5 135.5 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 % % Throttle Sensor Volt % 16.0 <t< th=""><th></th><th></th><th>-3</th><th>-2</th><th>-1</th><th>0</th><th>1</th><th>Unit</th><th></th></t<>			-3	-2	-1	0	1	Unit	
Expand>> Expand>> Expand>> Expand>> 10.00 <td></td> <td></td> <td></td> <td></td> <td>and the second second</td> <td></td> <td></td> <td>MPH</td> <td></td>					and the second			MPH	
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Engine and F Figure and F 13.7 14.1 13.6 13.2 14.3 % MAF 2.82 2.81 3.10 3.07 3.06 gm/sec DTC/Monit Data 2 Atmosphere Pressure -0 -0 -0 -0 -0 psi(gauge) Coolant Temp 196 196 196 196 196 196 F Intake Air 99 99 99 99 99 99 99 99 F Engine Run Time 1352 1353 1353 1354 1354 s Initial Engine Coolant Temp 162.5 162.5 162.5 162.5 162.5 152.5 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 13.1 V Accel Sens. No.1 Volt % 15.6 15.6 15.6 15.6 15.6 % Throttle Sensor Volt % 16.0 16.0 16.4 16.4 %		Calculate Load	25.8	26.2	26.6	27.0	27.4		
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Expand>> Intake Air 99 99 99 99 99 99 99 99 99 F Intake Air 99 99 99 99 99 99 99 F Engine Run Time 1352 1353 1353 1354 1354 s Initial Engine Coolant Temp 162.5 162.5 162.5 162.5 162.5 162.5 155.5 135.5 <td>and the second se</td> <td>Atmosphere Pressure</td> <td>-0</td> <td>-0</td> <td>-0</td> <td>-0</td> <td>-0</td> <td>psi(gauge)</td> <td></td>	and the second se	Atmosphere Pressure	-0	-0	-0	-0	-0	psi(gauge)	
Expand>> Interform Interform <thinterform< th=""> <thinterform< th=""> <thin< td=""><td></td><td>Coolant Temp</td><td>196</td><td>196</td><td>196</td><td>196</td><td>196</td><td>F</td><td>1</td></thin<></thinterform<></thinterform<>		Coolant Temp	196	196	196	196	196	F	1
Initial Engine Coolant Temp 162.5		Intake Air	99	99	99	99	99	F	1
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Battery Voltage 13.1 13.1 13.1 13.1 13.1 V Expand>> Accel Sens. No.1 Volt % 15.6 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 16.4 16.4 % Throttle Sensor #2 Volt % 48.2 47.8 48.2 48.2 %		Initial Engine Coolant Temp	162.5	162.5	162.5	162.5	162.5	F	8
Expand>> Accel Sens. No.1 Volt % 15.6 15.6 15.6 15.6 15.6 15.6 15.6 15.6 16.4 <t< td=""><td></td><td>Initial Intake Air Temp</td><td>135.5</td><td>135.5</td><td>135.5</td><td>135.5</td><td>135.5</td><td>F</td><td>1</td></t<>		Initial Intake Air Temp	135.5	135.5	135.5	135.5	135.5	F	1
Expand>> Accel Sens. No.2 Volt % 31.7 31.7 31.7 31.7 31.7 % TIS Keyword Throttle Sensor Volt % 16.0 16.0 16.4 16.4 % TIS Keyword Throttle Sensor #2 Volt % 48.2 47.8 48.2 48.2 %		Battery Voltage	13.1	13.1	13.1	13.1	13.1	V	1
TIS Keyword Accel Sensor Volt % 31.7 <th< td=""><td></td><td>Accel Sens. No.1 Volt %</td><td>15.6</td><td>15.6</td><td>15.6</td><td>15.6</td><td>15.6</td><td>%</td><td></td></th<>		Accel Sens. No.1 Volt %	15.6	15.6	15.6	15.6	15.6	%	
TIS Keyword Throttl 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 %	Expand>>	Accel Sens. No.2 Volt %	31.7	31.7	31.7	31.7	31.7	%	1
Throttle Sensor Position 0.0 0.0 0.0 0.0 %		Throttle Sensor Volt %	16.0	16.0	16.4	16.4	16.4	%	1
Throttle Sensor Position 0.0 0.0 0.0 0.0 %	TIS Keyword	Throttl Sensor #2 Volt %	48.2	47.8	48.2	48.2	48.2	%	
Print J. Landau and J.	Print	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.

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 2007 - 2009 Camry



1	Replacement ECM (PCM) Part Number (i.e., 89661-06G12)
2	New Calibration ID(s) (i.e., 333A5200)
3	Dealer Code

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.

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 Repair Manual:

<u>2007</u> / <u>2008</u> / <u>2009</u> Camry, 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.