



Technical Service BULLETIN

July 19, 2004

Title: **M.I.L. "ON" DTC P0420**
Models: **'03 - '04 Corolla**

TSB

REVISSED
EG028-04
ENGINE

TSB REVISION NOTICE:

October 8, 2004: Part number for replacement ECM (PCM) in Figure 2 on page 5 has been updated; Reference to section in Technical Information System (TIS) has been updated in "ECM (PCM) Replacement Procedure" on page 5. The previous TSB should be discarded.

Introduction

Some 2003 - 2004 model year Corolla vehicles equipped with a 1ZZ-FE engine may exhibit a M.I.L. "ON" condition with Diagnostic Trouble Code P0420 (Catalyst System Efficiency Below Threshold) stored in the Engine Control Module (ECM) (SAE term: Powertrain Control Module/PCM). Follow the repair procedure to reflash the ECM (PCM) and replace the catalytic converter assembly.

NOTE:

The repair procedure in this TSB is the same as TSB No. EG016-04 "Excessive Sulfur Dioxide Odor." This repair should only be performed once.

Applicable Vehicles

- **2003 - 2004** model year **Corolla** vehicles equipped with the **1ZZ-FE engine** produced **BEFORE** the Production Change Effective VINs shown below.

Production Change Information

MODEL	PLANT	PRODUCTION CHANGE EFFECTIVE VIN
Corolla	Shokki	JTDBR3#E#52048919
	NUMMI	1NXBR3#E#4Z339353
	TMMC	2T1BR3#E#4C312392

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
EG4004	Recalibrate ECM (PCM) Engine	0.8	89661-##### 89666-#####	8A	99
Combo A	R & R Catalytic Converter Assembly	0.2	17410-0D150 17410-22470		
895011	R & R ECM (PCM) 2003 model year Corolla ATM with Delco ECM (P/N 89666-02150)	0.4	89666-02150		

Applicable Warranty*:

This repair is covered under the Toyota Specified Major Emission Control Component Warranty. This warranty is in effect for 96 months or 80,000 miles, whichever occurs first, from the vehicle's in-service date.

* Warranty application is limited to correction of a problem based upon a customer's specific complaint.



Parts Information

ORIGINAL PART NUMBER*	REPAIR PART NUMBER*	PART NAME	QTY
17410-0D150 17410-22470	17410-0D360	Pipe Assembly, Exhaust Front	1



* The original part (17410-0D150 or 17410-22470) is currently used in vehicle production and is still available as a service part. The repair part (17410-0D360) should be used when the customer complains of sulfur dioxide odor and/or M.I.L. "ON" DTC P0420.

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
89666-02150	89666-02154	Delco ECM (PCM)	1
N/A	00451-00001-LBL	Authorized Modification Labels	1

NOTE:

Authorized Modification Labels may be ordered in packages of 25 from the Materials Distribution Center (MDC) through Dealer Daily or by calling the MDC at 1-800-622-2033.

Required SSTs

SPECIAL SERVICE TOOLS (SSTs)	PART NUMBER	QUANTITY
Toyota Diagnostic Tester Kit* 	01001271	1
12 Megabyte Diagnostic Tester Program Card with version 10.2a Software (or later)* 	01002593-005	1

* Essential SSTs.

NOTE:

Additional Diagnostic Tester Kits, Program Cards or other SSTs may be ordered by calling SPX/OTC at 1-800-933-8335.

**ECM (PCM)
Identification
Chart**

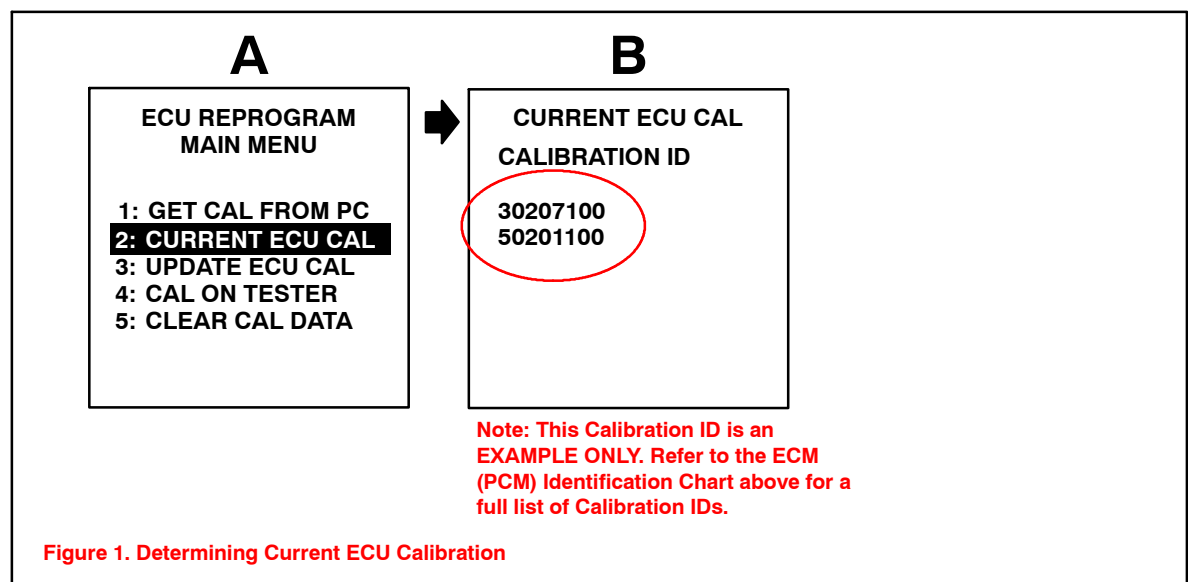
MODEL YEAR	DRIVETRAIN	ECM SUPPLIER	ECM (PCM)	PREVIOUS CALIBRATION ID NUMBERS	NEW CALIBRATION ID NUMBER
2003	MTM	Denso	Main	30201000 30201100 30201200 30201300	30201400
				ATM	
	Delco	Main	30207100		30207200
			Sub	50201100 50201200 50201300	50201400
2004	MTM	Denso		Main	30216000
			ATM		Denso
	Delco	Main		30214000	
			Sub	50203000 50203100	50203200

NOTE:

Some 2003 model year Corolla ATM vehicles with Delco ECM (P/N 89666-02150) are not reprogrammable. If the Diagnostic Tester displays an error message, confirm part number and then refer to the ECM (PCM) Replacement Procedure on page 5 of this TSB.

**ECM (PCM)
Reprogram
Procedure**

1. Check for the Authorized Modification Label affixed to the vehicle in the location shown in Figure 2 on page 5. If there is no label present, proceed to step 2.
2. Connect the Diagnostic Tester to the vehicle and select "CURRENT ECU CAL" from the "ECU REPROGRAM MAIN MENU." To determine the vehicle's current ECM calibration, see Figure 1 shown below.



**ECM (PCM)
Reprogram
Procedure**
(Continued)

3. Proceed to Flash Reprogram the ECM (PCM) by following the procedures in TSB No. SS002-01 titled "*ECU Flash Reprogramming Process*," for 2001 and later applicable models.

NOTE:

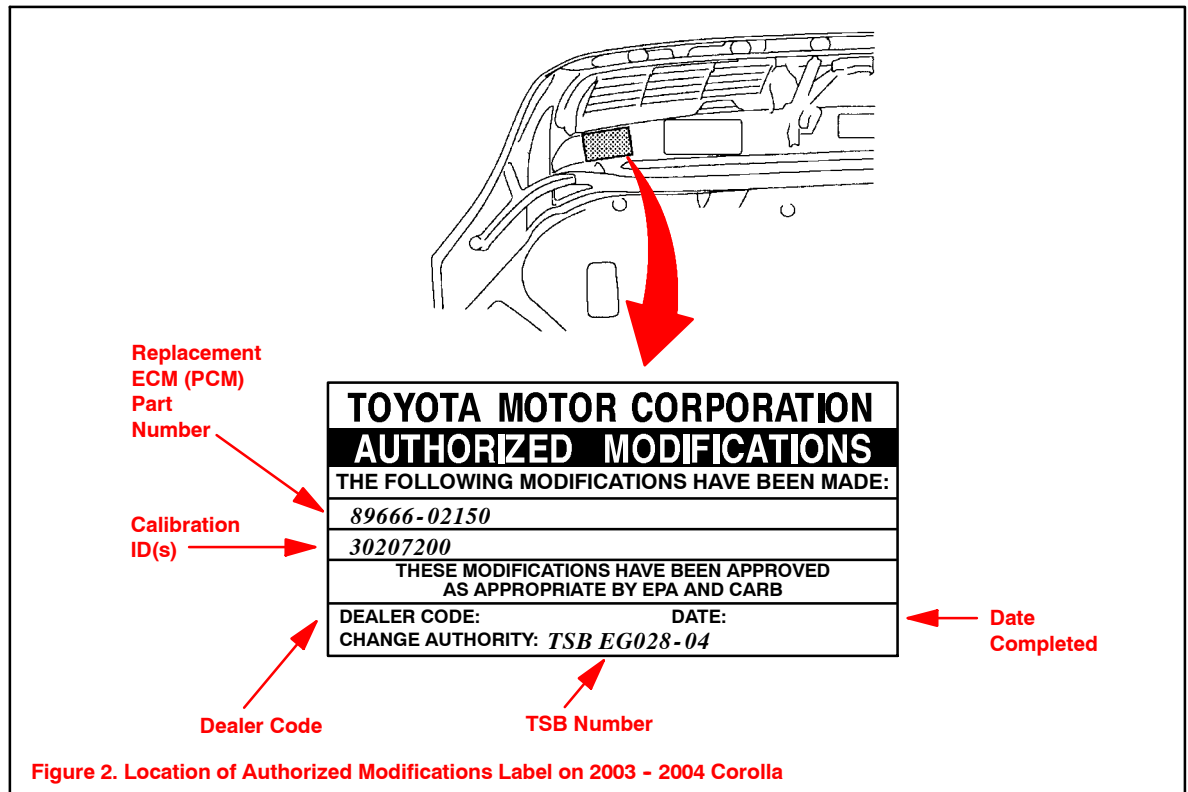
Errors during the flash reprogramming process can **PERMANENTLY DAMAGE** the vehicle's ECM (PCM). In order to minimize this risk follow the steps below:

- Make sure that the current battery voltage is no less than 11.4 volts.
- Install a battery charger and set on a low setting to assure that the battery voltage **DOES NOT FALL BELOW 11.4 VOLTS** during the reprogramming.
- If battery's state of charge is in question, test with SST No. 00002-MP815-T, "Midtronics Battery Tester."
- Confirm that the engine hood is up, parking brake is set and all accessories are OFF (i.e., audio system, A/C, interior lights, headlights, etc).
- **DO NOT** perform the reprogramming process until the engine room temperature is 158°F (70°F) or less.
- Confirm cable connections between the vehicle and the Diagnostic Tester are secured.
- In case of Error Message "Cannot Go To Reprogram Mode," refer to TSB No. SS004-01 "*ECU Flash Reprogramming Error Message*."
- Do not interrupt the vehicle during the reprogramming process, keep all doors closed.

4. Select the proper ECM (PCM) calibration file for the model year vehicle and reprogram the ECM (PCM).
5. Start the engine and warm up the vehicle to normal operating temperatures before test-driving.
6. Test drive vehicle to confirm proper operation and to readjust the ECM (PCM) "Learned Values."
 - Drive the vehicle using light to moderate acceleration in mostly stop and go type driving.
 - Allow the vehicle to shift fully through all gears and at various shifter positions.

**ECM (PCM)
Reprogram
Procedure**
(Continued)

7. Enter the following information on the Authorized Modification Label shown below in Figure 2 using a permanent marker.
- ECM (PCM) part number.
 - New ECM (PCM) calibration number.
 - Your dealer code.
 - Reprogramming date.
 - This TSB number.



**ECM (PCM)
Replacement
Procedure**

1. 2003 model year Corolla ATM vehicles with Delco ECM (PCM) P/N 89666-02150 are not reprogrammable.
2. For the location of the ECM (PCM) refer to the Technical Information System (TIS), 2003 or 2004 model year Corolla Repair Manual: *Engine Control System: ECM (1ZZ-FE)(April, 2003): Replacement (Corolla)*.

**Catalytic
Converter
Replacement
Procedure**

Refer to TIS, 2003 or 2004 model year Corolla Repair Manual: *Exhaust: Exhaust Pipe Assy: Removal and Installation and Disassembly and Reassembly (Corolla)*.