



Technical Service BULLETIN

October 23, 2002

Title: **M.I.L. "ON" P0770**
Models: '03 Corolla & Matrix

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ENGINE
EG020-02

Introduction Some 2003 model year Corolla and Matrix vehicles may exhibit M.I.L. "ON" with DTC P0770 (Shift Solenoid E Malfunction). Several production changes have occurred to correct this condition. Follow the repair procedure on pages 2 and 3 to address those vehicles that exhibit the condition.

NOTE:
The repair procedure must be followed closely to assure that only the affected part is replaced, as multiple possible causes are listed.

Applicable Vehicles

- 2003 model year **Corolla & Matrix** vehicles produced **BEFORE** the Production Change Effective VINs shown below.

Production Change Information

MODEL	TRANSAXLE	PRODUCTION CHANGE EFFECTIVE VIN
Corolla	A245E	1NXBR32E23Z061836
Matrix	A246E	2T1KR32E13C025931
	U341F	2T1LR32E63C711127

Warranty Information



MODEL	OP CODE	DESCRIPTION	TIME	OFF	T1	T2
Corolla	894051	R & R Speed Sensor	0.5	33403-29395	73	52
	895011	R & R Engine Control Module	0.4	89666-02141 89666-02151 89666-02152 89666-02300		
	369011	R & R Transaxle Assembly	6.2	30500-1A790		
	369041	R & R Torque Converter Clutch Assembly	6.5	32000-12380		
Matrix	894051	R & R Speed Sensor	0.5	33403-19635	73	52
	895011	R & R Engine Control Module	0.5	89666-02160 89666-02162 89661-01030 89661-01031		
	369011	R & R Transaxle Assembly	6.2	30500-1A800		
	369041	R & R Torque Converter Clutch Assembly	6.5	32000-12380		

Applicable Warranty*:
R & R of the Speed Sensor, Transaxle, and Torque Converter Clutch Assembly are covered under the Toyota Powertrain Warranty. This warranty is in effect for 60 months or 60,000 miles, whichever occurs first, from the vehicle's in-service date. R & R of the Engine Control Module is covered under the Toyota Federal Emissions 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.



Required Tools & Material

TOOLS & MATERIAL	PART NUMBER	QUANTITY
Toyota Diagnostic Tester Kit* 	01001271	1
12 Megabyte Diagnostic Tester Program Card with version 9.3a Software (or later)* 	01002593-005	1

* Essential SSTs.

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

Parts Information

The following table provides the applicable part numbers and part identification methods for Corolla and Matrix.

MODELS	ATM	VEHICLE SPEED SENSOR		ECM	**TRANSAXLE
		NO. DRIVEN GEAR TEETH/ GEAR COLOR	*NO. DRIVE GEAR TEETH/ GEAR COLOR		
Corolla	A245E	29/White P/N: 33403-29395	35/White	89666-0214# 89666-0215# 89666-0230#	30500-1A790 ***30510-1A840
Matrix	A246E	30/White P/N: 33403-19635	37/Black	89666-0216#	30500-1A800 ***30510-1A850
	U341F	Not affected	Not affected	89661-0103#	Not affected

* If this part is incorrect, check the transaxle P/N.

** Part Number is printed on the decal on the transaxle case.

*** OEM part number (from factory) – not listed with the supply part number in parts fiche or EPC.

Repair Procedure

1 Using the Diagnostic Tester, retrieve stored Diagnostic Trouble Codes. Print or create a Techview file file of the Freeze Frame data related to DTC P0770 for later reference.



2 Check the vehicle speed sensor driven gear for proper number of teeth.



Replace the speed sensor gear with the correct P/N gear.

3 Check the Engine Control Module (ECM) part number for correct application to the affected vehicle.



Replace the ECM with the correct part number part.

Repair
Procedure
(Continued)

4	Check the transaxle part number for correct application to the vehicle (printed on decal on transaxle case).
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Replace the transaxle with the correct part number part.

5	Check the transaxle for damage resulting in ATF leaks through the transaxle case.
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Replace the transaxle.

6	Using the Diagnostic Tester, monitor the data list and drive the vehicle under conditions similar to those displayed in the Freeze Frame data (vehicle speed, throttle position, etc.). Confirm proper shifts between lock up clutch On and Off by watching for RPM to decrease or increase by 50 to 200 RPM.
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(No lock up operation or lock up clutch "sticking On"). Perform diagnosis per the applicable Repair Manual (RM) to identify the cause of the lock up clutch malfunction (valve body valves, SL solenoid, etc.).

7	Check the transaxle serial No. to identify whether it is between 01MZT18645 and 01MZT22241.
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Perform diagnosis per the applicable Repair Manual (RM) to identify the cause of the lock up clutch malfunction (valve body valves, SL solenoid, etc.).

Replace the torque converter.

NOTE:

Affected torque converters can be identified once removed from the vehicle by checking the torque converter serial number which is printed on a decal affixed to the torque converter front cover. Affected torque converter serial numbers range between 01M07669 and 01M08000.