



**Technical Service  
Information Bulletin**

August 11, 2003

Title:

# ECM CALIBRATION: SHIFT FEELING ENHANCEMENT

Models:

'04 - '05 RX 330

REVISED

TC005-03

TRANSMISSION & CLUTCH

## TSIB REVISION NOTICE:

- February 9, 2006:
  - The Calibration Identification Chart has been updated to include **ALL** 2005 model year RX 330 calibration IDs. Previous versions of this TSIB would not allow updating of RX 330 vehicles built in the later part of 2005 model year.  
NOTE: If a vehicle has already been reprogrammed following a previous version of TSIB No. TC005-03, further updates are NOT required.
  - A note has been added at the beginning of Repair Procedure step 4 regarding connection of a battery charger during reprogramming.
  - OFPs have been updated in Warranty Information.
- May 20, 2005: The following changes have been implemented since first publication: 2005 model year RX 330 vehicles added to Applicable Vehicles. Introduction and Note updated on page 1. New part, Brake Actuator Assembly, added. Calibration Identification Chart updated to include 2005 model year RX 330 calibration IDs. Repair Procedure expanded with instructions for vehicles with laser cruise control.

Previous versions of this TSIB should be discarded.

**Introduction** To improve the transmission shift feeling during specific operating modes, the Engine Control Module (ECM) (SAE term: Powertrain Control Module/PCM) calibration has been revised. These improvements include:

- Reduced downshift lag when accelerating at speeds from 10 to 20 mph.
- Less gear hunting when driving on/off accelerator pedal at 20 to 30 mph (for example: during heavy rush-hour traffic).
- Improved response rate during heavy acceleration from a stop.

## NOTE:

- Version 13.2a or later Diagnostic Tester software is required to perform this procedure.
- Before proceeding, verify the ECM (PCM) calibration has NOT been updated by checking for the Authorized Modifications Label (shown in step 1 of the Repair Procedure).
- Harsh ATM shifting may result if any Repair Procedure steps are omitted (specifically steps 5 and 11 on page 6).

## Applicable Vehicles

- 2004 - 2005 model year RX 330 vehicles.



**Warranty Information**

OP CODE	DESCRIPTION	TIME	OFF	T1	T2
TC3001	Recalibrate ECM Engine & Transmission	0.8	89661-4847# 89661-4848# 89661-4849# 89661-4850#	27	99
Combo A	R & R Brake Actuator Assembly, (Vehicles Equipped With Laser Cruise Control)	1.2	89661-0E010 89661-0E0#1 89661-0E052 89661-0E062		

**Applicable Warranty\*:**

**This repair is covered under the Lexus 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.



**Parts Information**

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
44050-48070	44050-48071	<b>RX 330 2WD</b> Actuator Assembly, Brake (With VSC ECU)	1
44050-48080	44050-48081	<b>RX 330 4WD</b> Actuator Assembly, Brake (With VSC ECU)	1
N/A	00451-00001-LBL	Authorized Modifications Label	1

**NOTE:**

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

**Required SSTs**

ITEM NO.	SPECIAL SERVICE TOOLS (SSTs)	PART NUMBER	QTY	DRW**
1	<b>Lexus Diagnostic Tester Kit*</b> NOTE: <ul style="list-style-type: none"> <li>All components from this kit/set are required</li> <li>12 Megabyte Diagnostic Tester Program Card (P/N 01002593-005) with version 13.2a Software (or later) is required</li> </ul> 	LEX220036	1	8
2	<b>CAN Interface Module Kit*</b> NOTE: <ul style="list-style-type: none"> <li>All components from this kit/set are required</li> </ul> 	01002744	1	8

\* Essential SSTs.

\*\* Refers to drawer number in SST Storage System.

**NOTE:**

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

Calibration  
Identification  
Chart

MODEL YEAR	MODEL	ECM (CPU)	PREVIOUS CALIBRATION ID	NEW CALIBRATION ID
2004 & 2005	RX 330 (2WD) Sequential Shift (Seq) Transmission	Main	34815000 34815100 34815200 34845000 34845100 34845200 34871000	34871100 (Supercedes & includes 34871000)
		Sub	54803000 54803100 54813000 54813100 54825000	54825100 (Supercedes & includes 54825000)
	RX 330 (2WD) Gate Shift (Gate) Transmission	Main	34816000 34816100 34816200 34846000 34846100 34846200 34872000	34872100 (Supercedes & includes 34872000)
		Sub	54804000 54804100 54814000 54814100 54826000	54826100 (Supercedes & includes 54826000)
	RX 330 (4WD) Sequential Shift (Seq) Transmission	Main	34817000 34817100 34817200 34847000 34847100 34873000	34873100 (Supercedes & includes 34873000)
		Sub	54805000 54805100 54815000 54827000	54827100 (Supercedes & includes 54827000)
	RX 330 (4WD) Gate Shift (Gate) Transmission	Main	34818000 34818100 34818200 34848000 34848100 34874000	34874100 (Supercedes & includes 34874000)
		Sub	54806000 54806100 54816000 54828000	54828100 (Supercedes & includes 54828000)

**NOTE:**

- 2004 model year RX 330 vehicles, which have been flash reprogrammed using the procedures in this TSIB will contain upgraded 2005 model year OBD II logic and will require VIN input. Refer to the 2005 model year RX 330 Repair Manual information on the Technical Information System (TIS) when checking Powertrain Diagnostic Trouble Codes (DTCs) on 2004 model year RX 330 vehicles that have been reprogrammed.
- Calibration files on the Diagnostic Tester use the following abbreviations:
  - Seq = Sequential Shift Transmission
  - Gate = Gate Shift Transmission

**Repair Procedure**

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

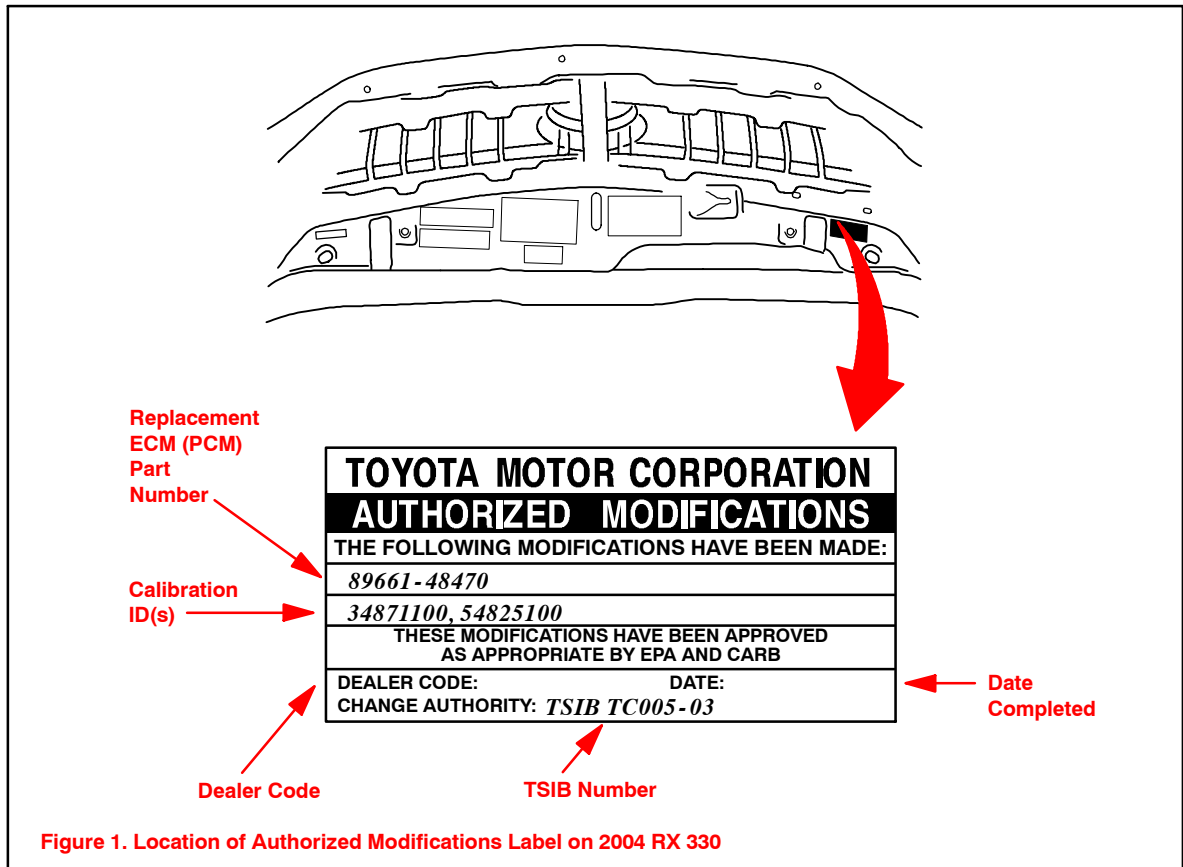
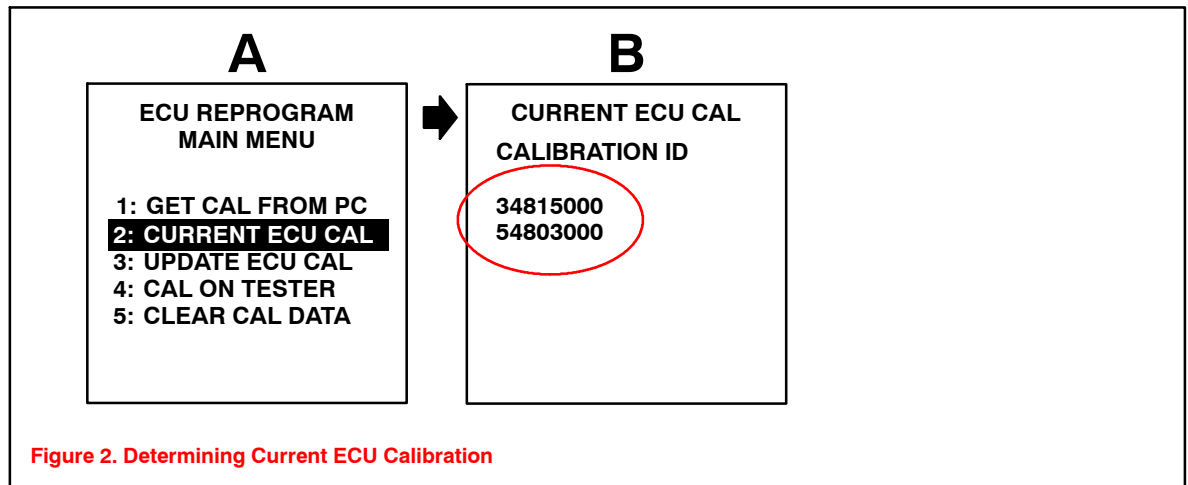


Figure 1. Location of Authorized Modifications Label on 2004 RX 330

**Repair Procedure**  
(Continued)

2. Connect the Diagnostic Tester to the vehicle and select CURRENT ECU CAL from the ECU REPROGRAM MAIN MENU. Determine the vehicle's current ECU calibration (see Figure 2).
  - The sample screen prints seen below are the 13.2a software version and may differ from subsequent software versions.



**NOTE:**

- If Calibration ID matches “Previous Calibration ID” as shown in Calibration Identification Chart on page 3, proceed with flash reprogramming.
- If Calibration ID matches “New Calibration ID” as shown in Calibration Identification Chart, this vehicle has already been programmed. Refer to TIS for diagnostic procedures applicable to any stored DTCs.

3. If ECU calibration ID is NOT the same as the “New Calibration ID” listed previously, proceed to Flash Reprogram ECM (PCM).

**4. Flash Reprogram ECM (PCM)**

**NOTE:**

A battery charger **MUST** be connected to the battery and set at a medium charge setting during the Flash Reprogram procedure in order to maintain proper battery voltage and prevent damage to the ECM (PCM).

Follow the procedures outlined in Lexus TSIB No. SS001-01, “*ECU Flash Reprogramming Process*,” and flash the ECM (PCM) with the new calibration file update.

**NOTE:**

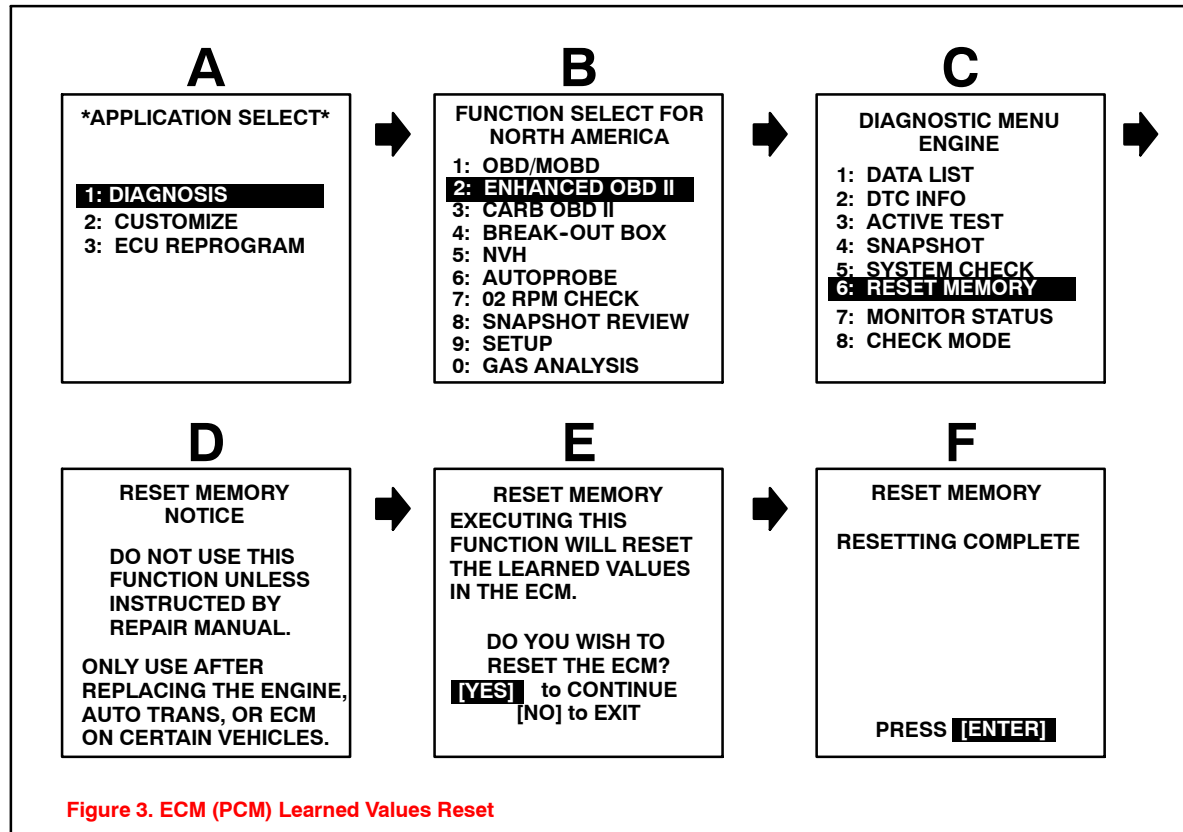
If the “Check Engine” light is ON when the ignition is turned back on to begin the reprogramming process, a scan tool cable problem exists. Refer to TSIB No. SS003-01, “*ECU Flash Reprogramming Error Message*.”

**Repair Procedure**  
(Continued)

5. **Reset the ECM (PCM) learned values** using the Diagnostic Tester. Refer to the procedures below.
- The sample screen prints seen below are the 13.2a software version and may differ from subsequent software versions.

**NOTE:**

Failure to reset the ECM (PCM) memory will result in continued ATM shifting complaints.



6. Follow the procedures outlined in TSIB No. EG012-04, "Entering VIN During ECM (PCM) Replacement and/or DTC P0630," and write the VIN to the ECM (PCM).
7. For vehicles **NOT** equipped with laser cruise control, proceed to step 10.
8. For vehicles equipped with laser cruise control, a NEW Brake Actuator Assembly (with VSC ECU) must be installed at the time of recalibration. If vehicle is equipped with laser cruise control, use the **Parts Information** table on page 2 to order the correct part (2WD or 4WD) and follow the instructions listed on TIS, 2004 or 2005 model year RX 330 Repair Manual: *Brake: ABS & Traction Actuator Assy: Replacement* to replace the Brake Actuator Assembly (with VSC ECU).
9. Follow the procedures outlined in TSIB No. BR001-04, "Zero Point Calibration," to calibrate the sensors affected by the Brake Actuator Assembly replacement.
10. Start the engine and warm it up to normal operating temperature before test-driving.
11. Test-drive vehicle to confirm proper vehicle operation (and proper laser cruise control operation if so equipped).

**Repair  
Procedure**  
(Continued)

12. Enter the required information on the Authorized Modifications Label and affix it to the vehicle at the location shown in Figure 1 (page 4). The Authorized Modifications Label is available through the MDC, P/N 00451-00001-LBL.
13. Calibration update is complete.

**NOTE:**

- Select premium unleaded gasoline with an Octane Rating of 91 or higher for optimum engine performance.
- The effect of the new calibration may become more apparent after several days of driving as the ECM (PCM) “learned values” are re-established from the customer’s driving.