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Service bulletin

Section: General
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Date: Apr.,2014
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Area Application : Europe, General, G.C.C. Countries, Australia

Model Name : LFA, LS600hL, LS600h, LS460L, LS460, LS430, LS400, GS250, GS300, GS350, GS400, GS430, GS460, GS450h, SC430, SC400, SC300, ES350, ES330, ES300, ES250, ES240, IS200, IS250, IS300, IS350, IS200d, IS220d, IS250C, IS300C, IS350C, IS F, HS250h, LX450, LX470, LX570, GX470, GX460, RX270, RX300, RX330, RX350, RX400h, RX450h, CT200h, ES300h, IS300h, GX400, GS300h, NX300h, NX200t

Model Code : ALL MODELS

Subject : REPROGRAMMING METHOD OF ECU USING GLOBAL TECHSTREAM

This Service Bulletin explains general ECU reprogramming methods using the Global TechStream. Should you have to reprogram an ECU for any modifications, please always refer to the specific instructions provided together with the Calibration ID files.

Part No. Information :

New Part No.	New Part Name	Qty
NA	NA	NA

Production Effective :

VIN	Production Date
NA	NA

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PREPARATION

Vehicles with an ECU that uses FLASH MEMORY

NECESSARY PARTS AND TOOLS

Part Or Tool Name	Remark Or Function
Authorized Modification Label (Part No. 89685-20010)	After reprogramming, this label should be attached on the ECU cover. This certifies that this modification to ECU software was done according to the manufacturer's specification.
Calibration Data file	This contains the modified ECU program that is provided from TMC.
CUW (Later)	The Calibration Update Wizard (CUW) is included with the Global TechStream software.
Vehicle Interface Module or J2534 Device	Reprogramming of the ECU
Personal Computer	Operate the CUW with a personal computer.
USB cable	Connect the PC and Vehicle interface module.
Standard tools	-

OPERATION FLOW CHART

Notice:

The procedures 3, 6 and 10 are only for diesel engines, so skip these procedures for non diesel engines.

1	CHECK WHETHER OR NOT VEHICLE VIN IS IN AFFECTED VIN RANGE (ALWAYS REFER TO SPECIFIC MODIFICATION REQUEST)
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NO

NO FURTHER ACTION IS NEEDED

YES

2	USING GLOBAL TECHSTREAM, CHECK IF ECU HAS ALREADY BEEN REPROGRAMMED FOR NEW CID
----------	---

YES

NO FURTHER ACTION IS NEEDED

NO

3	READ CATALYST RECORD IF VEHICLE IS EQUIPPED WITH DPNR OR DPF
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The catalyst thermal deterioration record should be saved before conducting the ECU reprogram. This will ensure that the correct records can be saved into a replacement ECU in case of a reprogramming failure. (Refer to the appropriate chapter in the vehicle repair manual for the detailed procedure).

NEXT

4 REPROGRAM ECU FOR NEW CID

NEXT

5 CHECK THAT REPROGRAMMING WAS SUCCESSFUL

NG

GO TO STEP 9

OK

6 REMOVE EFI FUSE FOR MORE THAN 1 MINUTE IN ORDER TO RESET ENGINE ECU

Hint:

Alternatively, the cable from the negative (-) battery terminal can be disconnected for more than 1 minute.

NEXT

7 CONFIRM VEHICLE CONDITION AFTER REPROGRAMMING OF ECU

NEXT

8 ATTACH ENGINE CONTROL COMPUTER NAME LABEL ON ECU

NEXT

END

9 REPLACE ENGINE ECU

NEXT

10 INPUT INJECTOR COMPENSATION CODES AND TRANSFER CATALYST RECORD TO NEW ECU

Notice:

If the injector compensation code is not correctly registered, it may cause malfunctions.

NEXT

11 USING GLOBAL TECHSTREAM, CHECK IF ECU HAS ALREADY BEEN REPROGRAMMED FOR NEW CID

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YES

NO FURTHER ACTION IS NEEDED

NO

12 REPROGRAM ECU FOR NEW CID

NEXT

13 CONFIRM VEHICLE CONDITION AFTER REPROGRAMMING OF ECU

NEXT

14 ATTACH ENGINE CONTROL COMPUTER NAME LABEL ON ECU

NEXT

END

CAUTION

1. CAUTION FOR REPROGRAMMING

- (a) Do not disconnect the DLC3 cable from the vehicle while reprogramming the ECU.
- (b) Do not turn OFF the IG switch/Engine START push button while reprogramming the ECU.
- (c) Do not apply any electrical load to the vehicle while reprogramming the ECU (e.g. audio, room light, air conditioner, radiator fan, blower etc.). Fluctuation in the battery voltage is prohibited.
- (d) Do not push the brake pedal while reprogramming the ECU.
- (e) Firmly apply parking brake.
- (f) Make sure that the battery voltage is 12 V or more before starting to reprogram the ECU.
- (g) If the battery voltage is below or just 12 V, charge the battery.
Do not keep charging the battery while reprogramming. (Disconnect the charger from the battery.)
- (h) If the ECU is mounted in the engine room, confirm the hood is open and ensure under hood temperatures do not exceed 70°C (158°F).

WORK PROCEDURE

Notice:

Errors during the flash reprogramming process can permanently damage the ECU. Minimize the risks by following the steps mentioned below.

- Confirm battery voltage is between 12 and 14 V.
- If the battery voltage is below or just 12 V, charge the battery.

Do not keep charging the battery while reprogramming. (Disconnect the charger from the battery.)

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- Turn off all electrical components (audio system, heater, defogger, power window, etc.).
- Do not apply any electrical load while reprogramming (fluctuation in battery voltage is prohibited).
- Close the vehicle doors.
- Do not perform any of the following actions while reprogramming: (Stop the procedure, operate the Ignition/Power switch.)
- Firmly apply the parking brake.
- If the ECU is mounted in the engine room, confirm the hood is open and ensure under hood temperatures do not exceed 70°C (158°F).

1. CHECK THE CURRENT ID OF THE ECU



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- (a) Connect the Vehicle Interface Module (hereafter referred to as VIM) or the J2534 device to the personal computer (hereafter referred to as PC) used for diagnostics.
- (b) Connect the VIM or the J2534 device to the DLC3.
- (c) Turn the ignition ON.

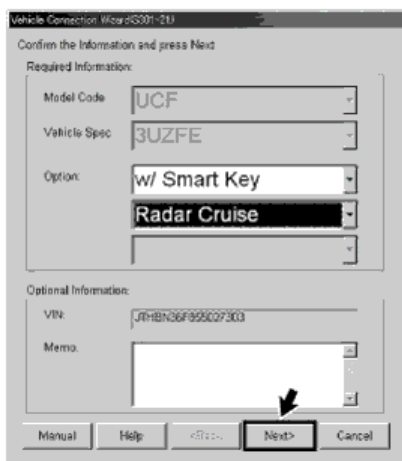
Notice:

- Make sure that the engine is OFF.
 - Make sure that the READY is OFF (for hybrid vehicles).
- (d) Click the "Connect to Vehicle" button.
 - (e) Select the applicable option and click the "Next" button.

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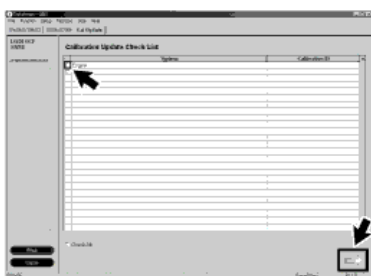
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(f) Click the "ECU Reprogramming" button.



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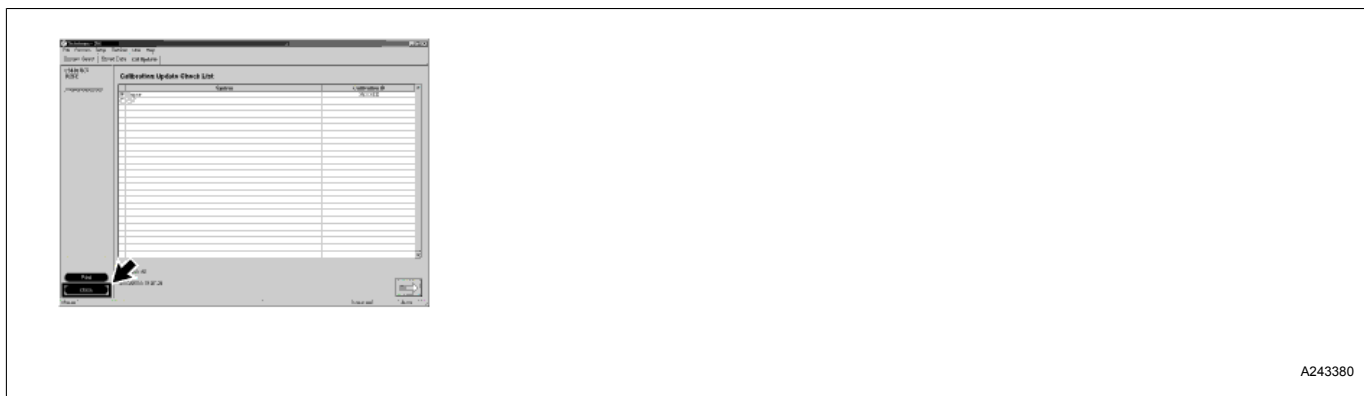
(g) Select available ECU(s) from the Calibration Update Check List.



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(h) Click the arrow button (bottom right of screen).

(i) Confirm whether the current calibration ID of the ECU needs updating or not.

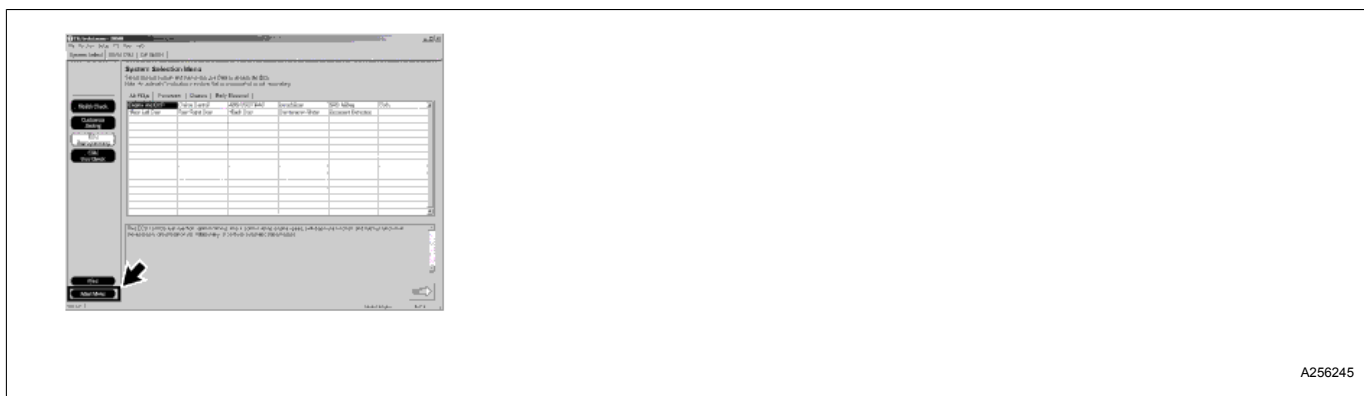
**Hint:**

The calibration displayed on the screen is the current calibration ID.

Compare this with the Service Bulletin to determine whether or not it needs to be updated.

(j) Click the "Close" button.

(k) Click the "Main Menu" button to return to the main menu.

**2. MAKE THE NECESSARY PREPARATIONS FOR REPROGRAMMING**

(a) Make sure that the battery installed in the vehicle is sufficiently recharged.

(b) Follow the "Service Bulletin" as displayed for each vehicle for detailed instructions about things like removing connectors.

(c) Connect the DC plug of the AC adapter to the PC used for diagnostics.

(d) Connect the AC cable to the AC adapter and insert the AC plug into the AC socket.

(e) Confirm the DTCs.

Notice:

It is possible that DTCs will be recorded while reprogramming.

Please check the DTCs before reprogramming. If DTCs are found, please write them down.

3. REPROGRAMMING THE ECU

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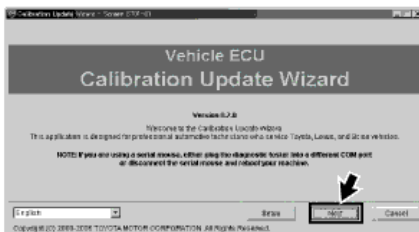
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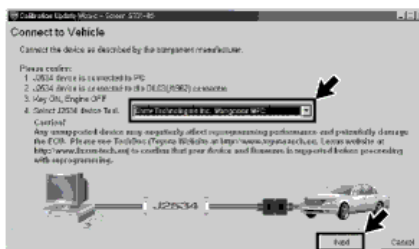
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- (a) Double-click the applicable ECU calibration data.
- (b) When the Calibration Update Wizard finishes starting up, click the "Next" button.



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- (c) Select "J2534 device" and click the "Next" button.



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Notice:

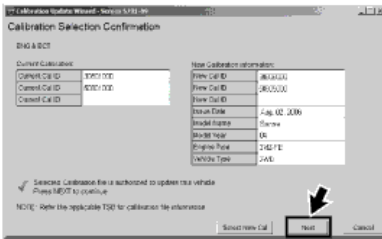
Make sure that the ignition is ON.

- (d) Make sure that the current calibration ID and the new calibration ID are both correct. If they are correct, click the "Next" button.

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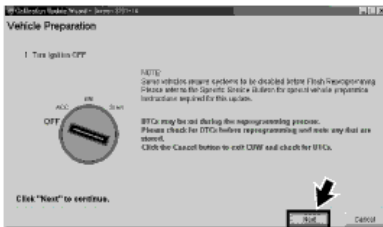
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(e) Turn the ignition OFF and click the "Next" button.



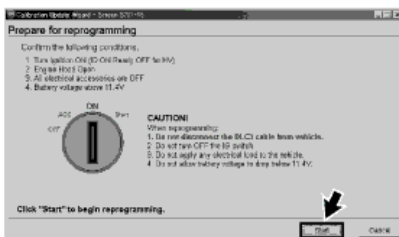
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Notice:

Clicking "Next" will activate the progress bar.

Do not turn the ignition ON while the progress bar is moving.

(f) Turn the ignition ON and click the "Start" button.



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Notice:

- Make sure that the engine is OFF.
- Make sure that READY is OFF (for hybrid vehicles).

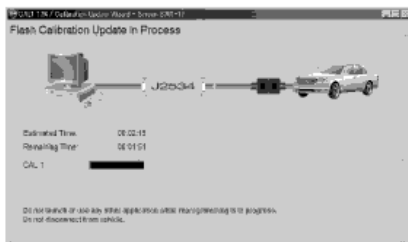
(g) The screen on the left will be displayed while the program is automatically reprogrammed.

The estimated reprogramming time is the time it takes to reprogram one program.

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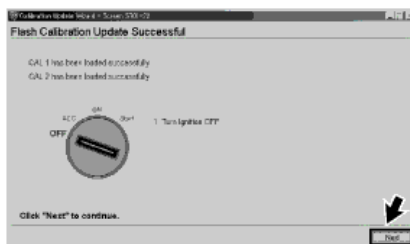


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Hint:

When reprogramming multiple programs, carry out operations according to the instructions on the screen.

(h) When all of the programs have been successfully reprogrammed, turn the ignition OFF and click the "Next" button.



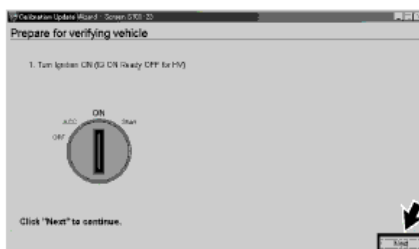
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Notice:

Clicking "Next" will activate the progress bar.

Do not turn the ignition ON while the progress bar is moving.

(i) Turn the ignition ON and click the "Next" button.



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Notice:

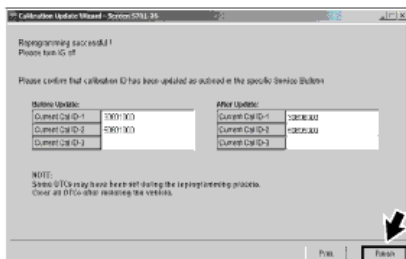
- Make sure that the engine is OFF.
- Make sure that READY is OFF (for hybrid vehicles).

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(j) After the reprogramming is completed, make sure that the post-reprogramming calibration ID is correct, and then click the "Finish" button.



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(k) Clear the DTCs.