TOYOTA

Technical Service BULLETIN

March 9, 2001

Title:
ECU FLASH REPROGRAMMING PROCESS

Models:
Applicable Models

> **TSB REVISION NOTICE:**
> - **September 22, 2003: Models added – 2002 (and later) Solara, 2003 (and later) Corolla and Matrix, and 2004 models; Operation Procedures updated for CAN Interface Module with the latest Diagnostic Tester software (v. 10.1a and 10.2a), Calibration Update Wizard (v. 6.0), and calibration files.**
> - **June 20, 2003: Camry and Tacoma models added; Special Service Tools table updated (page 2). The previous TSB should be discarded.**

Introduction

Electronic Control Unit (ECU) is a Toyota term used to describe integrated computerized devices responsible for managing the operation of a system or sub–system. For the purposes of this bulletin, the term "ECU" is used as a generic label for the following SAE J1930 standard references:

- Powertrain Control Module (PCM)
- Engine Control Module (ECM)
- Transmission Control Module (TCM)
- or any other Toyota specific control unit

Flash reprogramming allows the ECU software to be updated for changes in vehicle calibrations without removing the ECU from the vehicle. Flash calibration updates for specific vehicle models/ECUs will be released as field fix procedures described in individual service bulletins. This bulletin details the ECU flash reprogramming process and the applications within the Technical Information System (TIS) and the Toyota Diagnostic Tester used for reprogramming.

Flash calibration updates can only be applied to the vehicle/ECU combination for which they are intended. ECUs have internal security that will not allow them to be programmed with another ECU's information.

Applicable Vehicles

- **2001** (and later) model year **4Runner, Highlander, Land Cruiser, RAV4, Sequoia** and **Tundra** vehicles.
- **2002** (and later) model year **Camry, Solara** and **Tacoma** vehicles.
- **2003** (and later) model year **Corolla** and **Matrix** vehicles.
- **All 2004** (and later) model year **Toyota** vehicles **<u>except</u>** Celica, MR2 Spyder, Avalon, and Tacoma (3RZ–FE engine)

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Toyota Supports ASE Certification

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
N/A	00451–00001–LBL	Authorized Modifications Label

> **NOTE:**
> **Authorized Modifications Labels may be ordered in packages of 25 from the Materials Distribution Center (MDC) through the TDN Dealer Support Materials System, 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
CAN Interface Module*		01002744	1
12 Megabyte Diagnostic Tester Program Card with version 10.2a Software (or later)*		01002593-005	1
Midtronics Battery Tester*		00002–MP815–T	1

*   Essential SSTs.

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

Process Overview

ECU Flash Reprogramming is a 4-step process:

1. **Locate the desired calibration file on TIS (Technical Information System).**
   Calibration files may be found in two areas:
      a. Search by model and year for a Technical Service Bulletin addressing a specific product issue.
      b. Search by model under the *ECU Flash Reprogramming* section.

2. **Download the calibration file from TIS to the Diagnostic Tester.**
   The Calibration Update Wizard (CUW) is an application on TIS which downloads calibration files from TIS to the Diagnostic Tester Program Card. This step is only required when the calibration file is not currently stored on the Diagnostic Tester Program Card.

3. **Reprogram the vehicle ECU with the Diagnostic Tester.**
   Diagnostic Tester Software now incorporates a function to update a vehicle's ECU calibration through flash reprogramming.

4. **Confirm successful flash update and affix calibration update sticker.**
   Modifications to ECU calibration files must be recorded and properly displayed on the vehicle using the calibration update sticker.

Process Overview
(Continued)

> **NOTE:**
>
> **The calibration file contains the Calibration ID number(s) for a specific vehicle ECU (see Figure 1).**

FIGURE 1. SAMPLE CALIBRATION FILE

CAL ON TESTER

01 RAV4
AT   ENG:1AZ-FE

[ENTER] TO SELECT
[EXIT] TO RETURN

Calibration File

CAL ON TESTER

VEHICLE:
01 RAV4
AT   ENG:1AZ-FE

CALIBRATION ID
45001100
65001100

[EXIT] TO RETURN

Calibration ID Numbers
(1 to 3 ID numbers may be displayed)
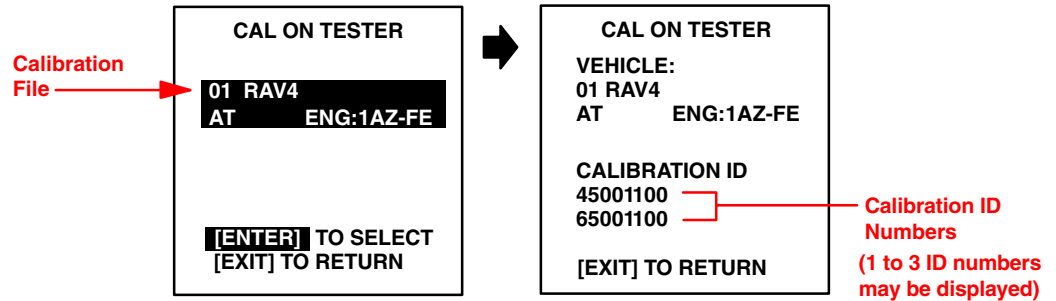
> **NOTE:**
>
> **The total number of Calibration ID numbers corresponds to the number of reprogrammable processors in the ECU (see Figure 2).**

FIGURE 2. ECU FLASH REPROGRAMMING PROCESS

Scan Tool Side

Cal. ID No. 3
Cal. ID No. 2
Cal. ID No. 1

Calibration File
(CAL ON TESTER)

Vehicle Side

Processor 3
Processor 2
Processor 1

ECU

Operation Procedure   The following steps in this bulletin describe how to properly flash reprogram an ECU.

LOCATE CALIBRATION FILE

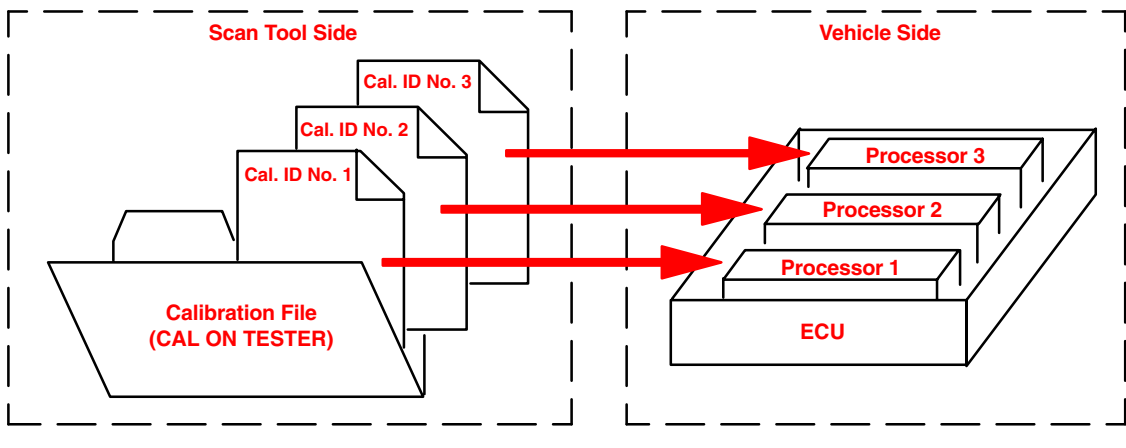**1. Locate calibration file on TIS.**
    Calibration files may be found in two areas (see Figure 3):

   A. Search by model and year for a Technical Service Bulletin addressing a specific Product issue.

     • Within the TSB, click on the link for the calibration file.

   B. Search by model under the *ECU Flash Reprogramming* Section.

     • Under the *ECU Flash Reprogramming* section on TIS, a drop–down list of the latest calibration files will be displayed.

   C. Proceed to step 2 for instructions on how to download the calibration file from TIS to the Diagnostic Tester Program Card.

FIGURE 3. LOCATING CALIBRATION FILE
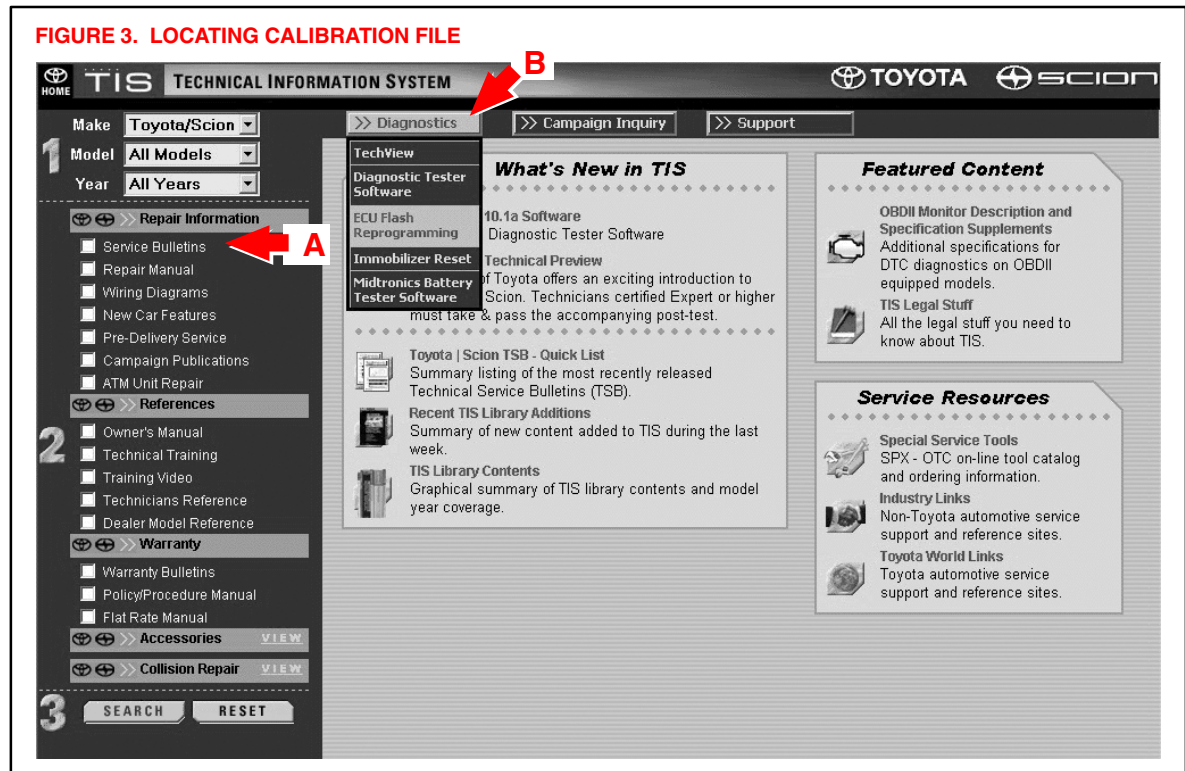
Operation Procedure
(Continued)

DOWNLOAD FILE TO TESTER

2. Download the calibration file to the Diagnostic Tester.
The Calibration Update Wizard (CUW) is a new application on TIS which downloads calibration files from TIS onto the Diagnostic Tester Program Card.

> **NOTE:**
>
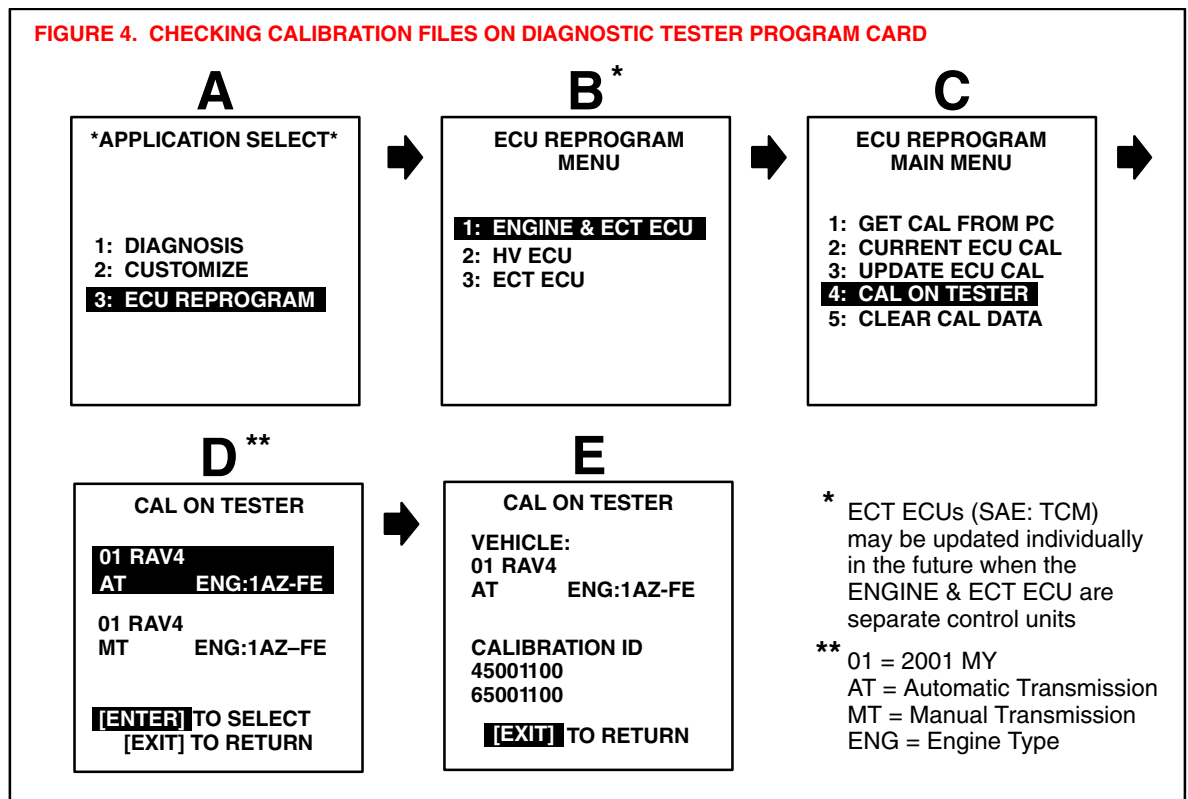> **Before you begin, ensure that the Diagnostic Tester is equipped with software version 8.0a, or later. Only a 12 MB program card (P/N 01002593–005) may be used for this process.**

A. Before downloading a new calibration file from TIS, check the current calibration files stored on the Diagnostic Tester Program Card by following the screen flow below (Figure 4).

FIGURE 4. CHECKING CALIBRATION FILES ON DIAGNOSTIC TESTER PROGRAM CARD

A

APPLICATION SELECT

1: DIAGNOSIS
2: CUSTOMIZE
3: ECU REPROGRAM

B *

ECU REPROGRAM MENU

1: ENGINE & ECT ECU
2: HV ECU
3: ECT ECU

C

ECU REPROGRAM MAIN MENU

1: GET CAL FROM PC
2: CURRENT ECU CAL
3: UPDATE ECU CAL
4: CAL ON TESTER
5: CLEAR CAL DATA

D **

CAL ON TESTER

01 RAV4
AT   ENG:1AZ-FE

01 RAV4
MT   ENG:1AZ–FE

[ENTER] TO SELECT
[EXIT] TO RETURN

E

CAL ON TESTER

VEHICLE:
01 RAV4
AT   ENG:1AZ-FE

CALIBRATION ID
45001100
65001100

[EXIT] TO RETURN

* ECT ECUs (SAE: TCM) may be updated individually in the future when the ENGINE & ECT ECU are separate control units

** 01 = 2001 MY
AT = Automatic Transmission
MT = Manual Transmission
ENG = Engine Type

> **NOTE:**
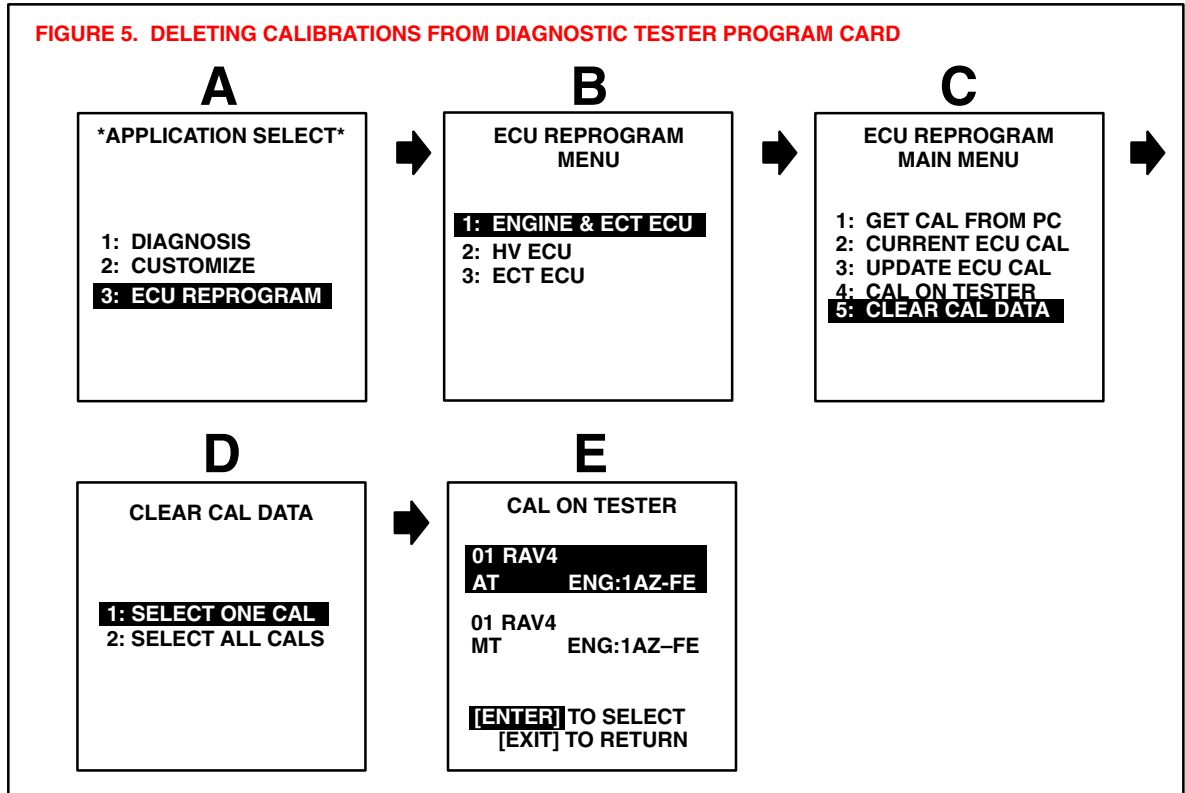> - **Screen D may be blank if no calibrations are stored on the Diagnostic Tester Program Card.**
> - **If the desired calibration file is already on the Diagnostic Tester, proceed to Step 3 (page 16 of this bulletin).**
> - **A maximum of <u>two</u> calibration files may be loaded on the tester at one time with Diagnostic Tester software version 10.2a and later. Prior versions may store up to four calibration files.**

**Operation
Procedure**
(Continued)

**DOWNLOAD
FILE TO TESTER**

B. You have the option to delete calibrations off the tester before downloading a new calibration. The CUW also provides this option if there is not enough memory for the new calibration. To delete one or all of the calibrations, follow the screen flow below (Figure 5).

FIGURE 5. DELETING CALIBRATIONS FROM DIAGNOSTIC TESTER PROGRAM CARD

A
```
*APPLICATION SELECT*



1: DIAGNOSIS
2: CUSTOMIZE
3: ECU REPROGRAM
```
→

B
```
ECU REPROGRAM
    MENU


1: ENGINE & ECT ECU
2: HV ECU
3: ECT ECU
```
→

C
```
ECU REPROGRAM
  MAIN MENU


1: GET CAL FROM PC
2: CURRENT ECU CAL
3: UPDATE ECU CAL
4: CAL ON TESTER
5: CLEAR CAL DATA
```
→

D
```
CLEAR CAL DATA



1: SELECT ONE CAL
2: SELECT ALL CALS
```
→

E
```
CAL ON TESTER

01 RAV4
AT        ENG:1AZ-FE

01 RAV4
MT        ENG:1AZ–FE


[ENTER] TO SELECT
  [EXIT] TO RETURN
```
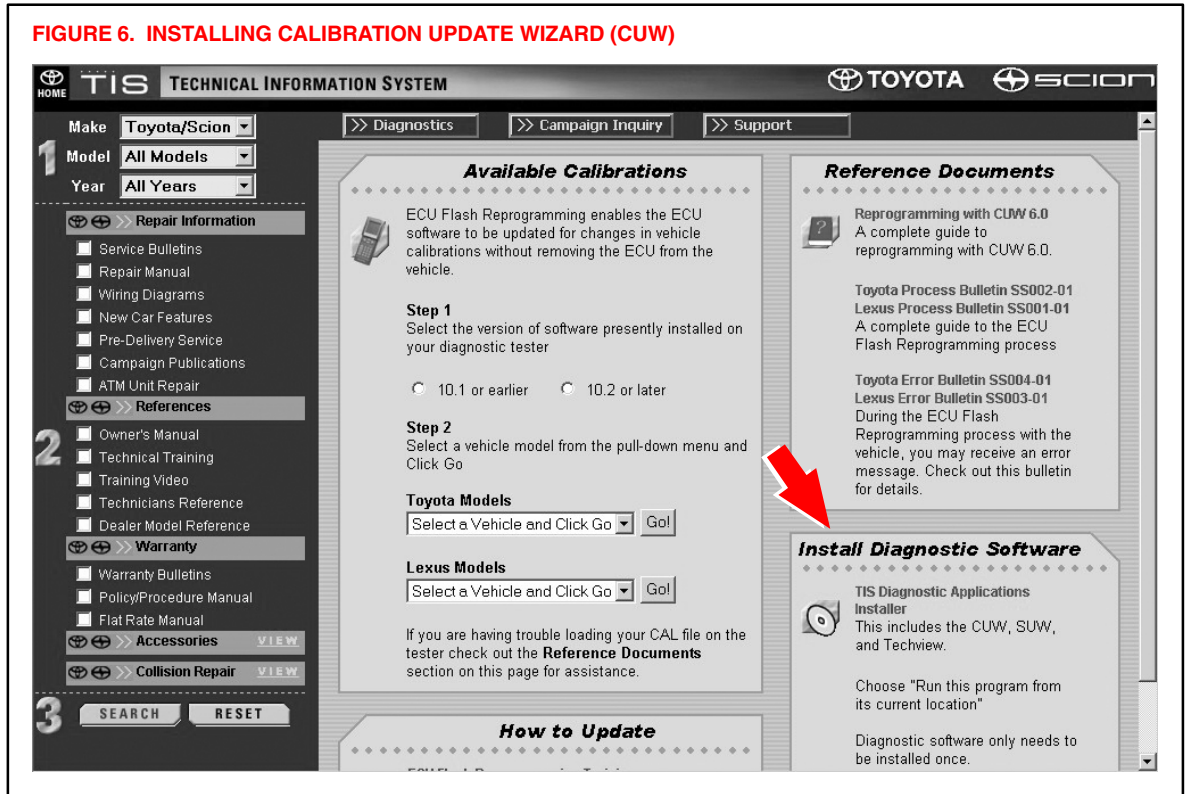
Operation Procedure
(Continued)

DOWNLOAD FILE TO TESTER

C. If this is the first time you have downloaded a calibration file from TIS to the Diagnostic Tester Program Card, you MUST first install the latest version of the Calibration Update Wizard (CUW) onto your TIS workstation PC, as shown in Figure 6.
This step is also required if you are using a version of CUW earlier than version 6.0. CUW 6.0 is the only version compatible with Diagnostic Tester software version 10.2a and later. If necessary, select the link to the TIS Diagnostic Applications Installer and follow the on–screen prompts to install or reinstall CUW.

FIGURE 6. INSTALLING CALIBRATION UPDATE WIZARD (CUW)

**Operation
Procedure**
(Continued)

**DOWNLOAD
FILE TO TESTER**

D. The Calibration Update Wizard (CUW) launches automatically when a calibration file link is selected (or clicked).
Verify that the CUW version is 6.0 or higher. If not, refer to the Note below.
The CUW will guide you through the steps to download the calibration file to the Diagnostic Tester Program Card. Click **NEXT** on the first screen (Figure 7).

NOTE:
If the CUW does not launch, or the version is older than 6.0, install Diagnostic Software *(TIS Diagnostic Applications Installer)*. **Specific installation instructions** *(Reprogramming with CUW 6.0)* **are located under** *Diagnostics* → *ECU Flash Reprogramming* **(Figure 6).**

FIGURE 7. LAUNCHING CALIBRATION UPDATE WIZARD
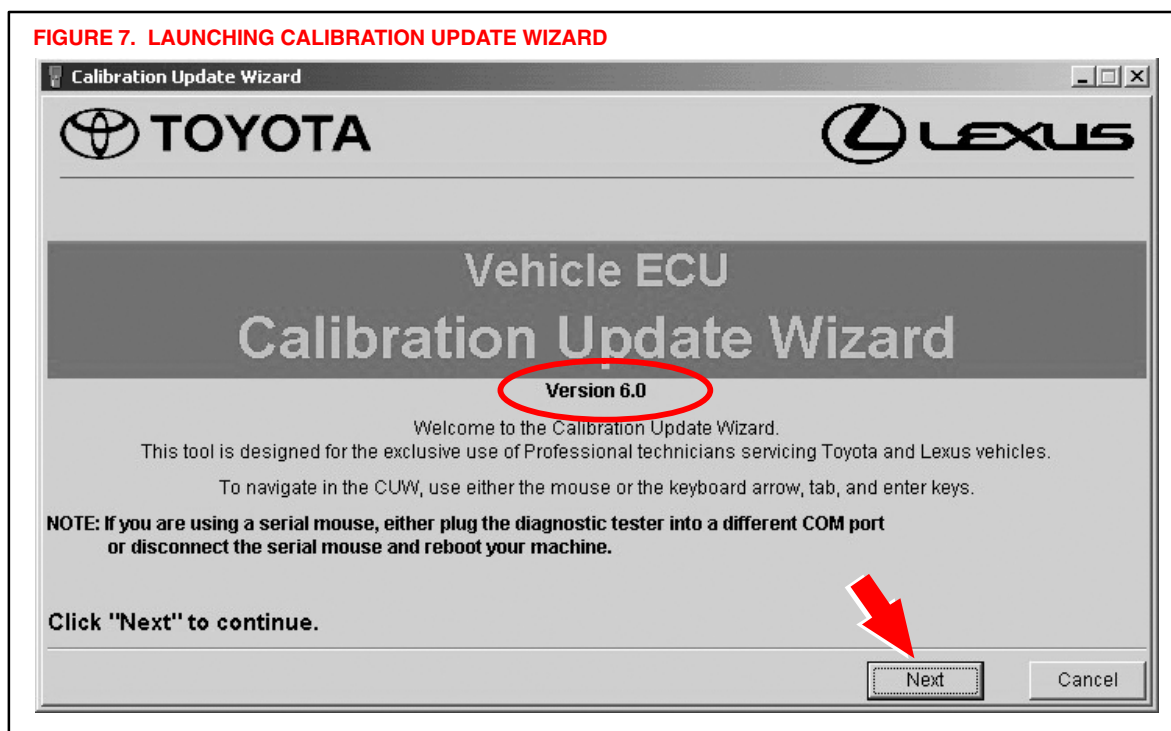
Operation Procedure
(Continued)

DOWNLOAD FILE TO TESTER

E. Confirm the Diagnostic Tester has the appropriate software for the type of calibration file that was downloaded.

FIGURE 8. CONFIRMING CALIBRATION SOFTWARE VERSION
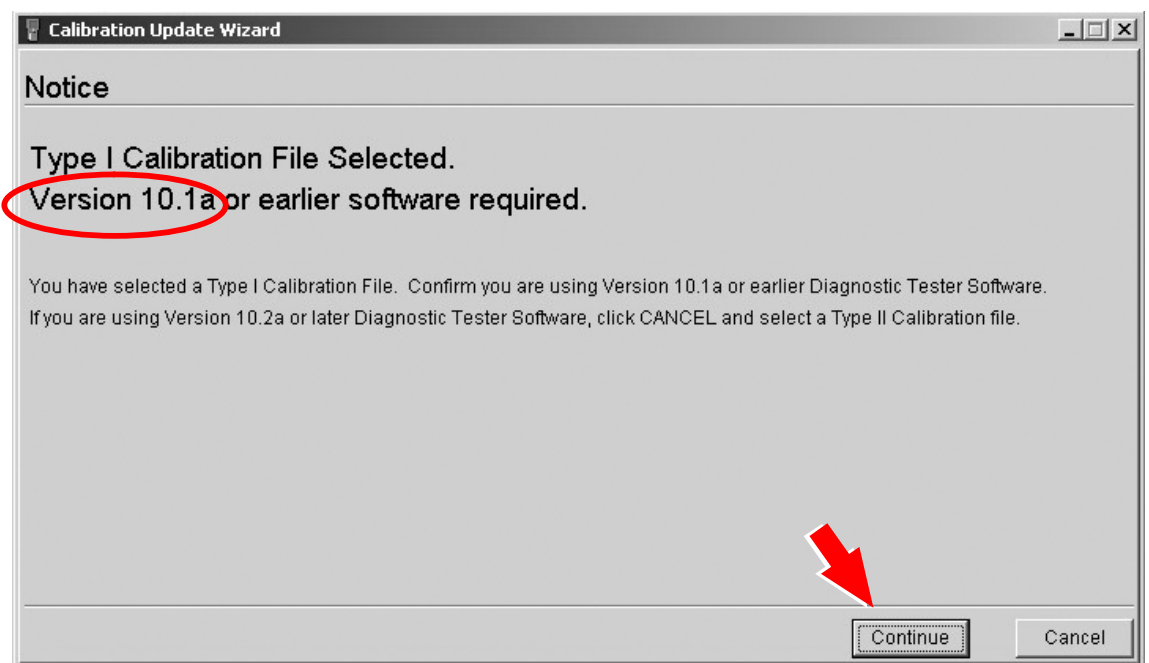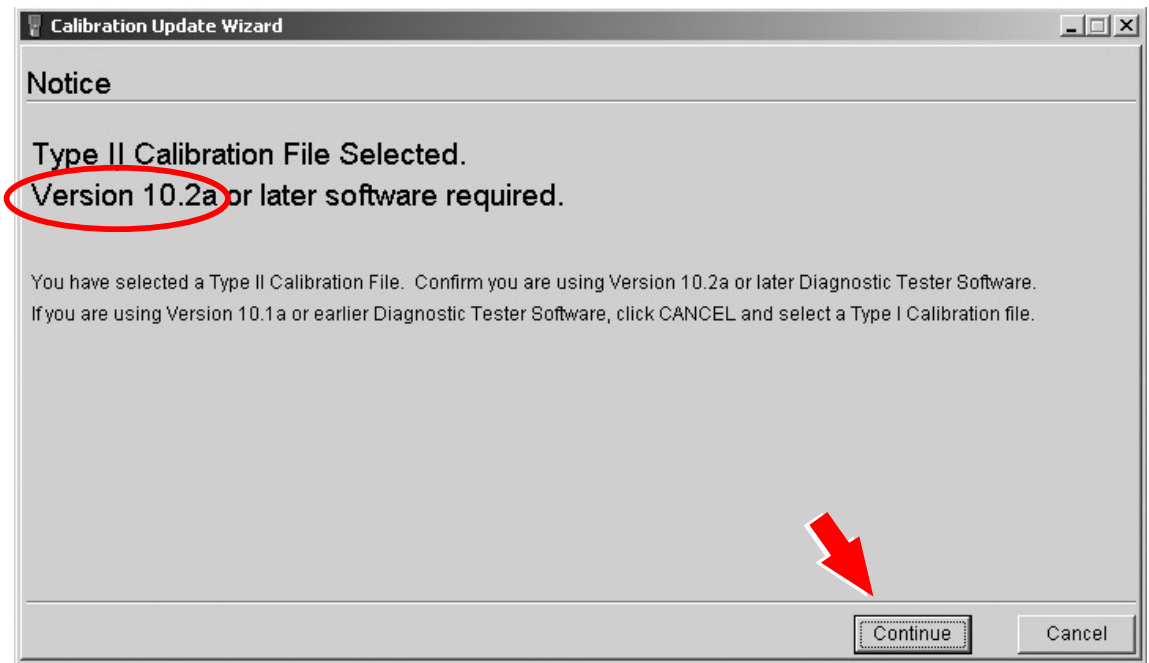
NOTE:

The calibration type is specific to the software version loaded on your Diagnostic Tester. If you selected the wrong version when downloading the calibration file, you will receive an error when attempting to install the file on the Diagnostic Tester.

Operation Procedure
(Continued)

DOWNLOAD FILE TO TESTER

F. Confirm the Diagnostic Tester software version and connections to the TIS workstation are correct.

FIGURE 9. CONFIRMING DIAGNOSTIC TESTER CONNECTIONS

Calibration Update Wizard

Preparing the Tester to receive calibration

Before you begin, you must prepare the Tester to receive the new calibration.

1) Check the software version.(10.1a or earlier) *
2) Confirm the Tester is equipped with a 12 Megabyte Program card.
3) Connect the Tester to an external 12Volt DC power supply.
4) Connect the Tester RS-232 port to the PC serial communication (COM or RS-232) port.
5) Turn the Tester ON and Select ECU REPROGRAM from APPLICATION SELECT Menu.
6) From the ECU REPROGRAM Menu Select the appropriate system.
7) From the ECU REPROGRAM-MAIN MENU, select option 1.GET CAL FROM PC.

Connect the Tester as shown. Click "Next" to continue.

Next   Cancel

* NOTE:
This screen displays the required version of Diagnostic Tester software that is compatible with the selected calibration file, and the other required steps to properly connect the Diagnostic Tester to your PC.
- **Type I calibration files are only compatible with software version 10.1a and older versions.**
- **Type II calibration files are only compatible with software version 10.2a and newer versions.**

**Operation
Procedure**
(Continued)

**DOWNLOAD
FILE TO TESTER**

G. Place the Diagnostic Tester in the "GET CAL FROM PC" mode to receive the calibration file (Figure 10).
Click **NEXT** on the TIS workstation. Once communications begin between the PC and the Diagnostic Tester, the Diagnostic Tester display will flash **CONNECTED**.

FIGURE 10. PLACING DIAGNOSTIC TESTER IN "GET CAL FROM PC" MODE

A

APPLICATION SELECT

1: DIAGNOSIS
2: CUSTOMIZE
3: ECU REPROGRAM

B

ECU REPROGRAM
MENU

1: ENGINE & ECT ECU
2: HV ECU
3: ECT ECU

C

ECU REPROGRAM
MAIN MENU

1: GET CAL FROM PC
2: CURRENT ECU CAL
3: UPDATE ECU CAL
4: CAL ON TESTER
5: CLEAR CAL DATA

D

GET CAL FROM PC

PC COMMUNICATION

DISCONNECTED

PRESS [EXIT] WHEN
COMPLETE

E

GET CAL FROM PC

PC COMMUNICATION

CONNECTED

PRESS [EXIT] WHEN
COMPLETE
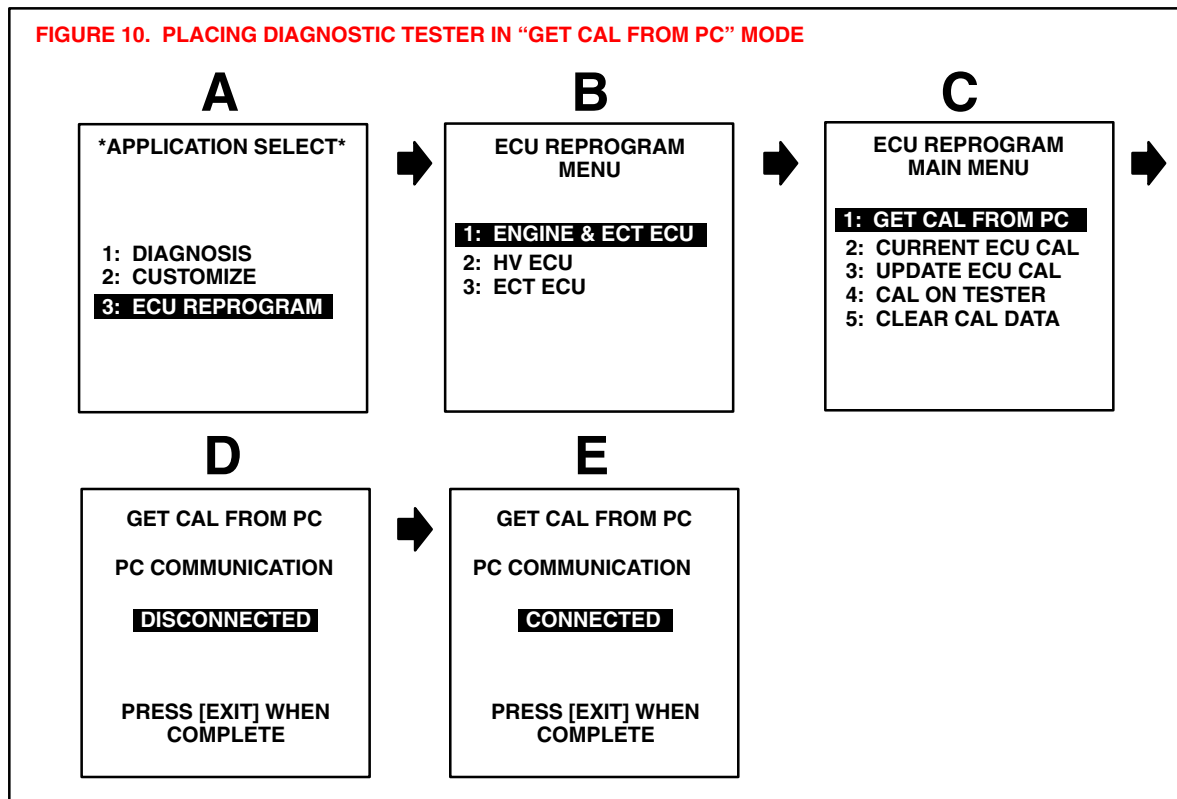
**Operation
Procedure**
(Continued)

**DOWNLOAD
FILE TO TESTER**

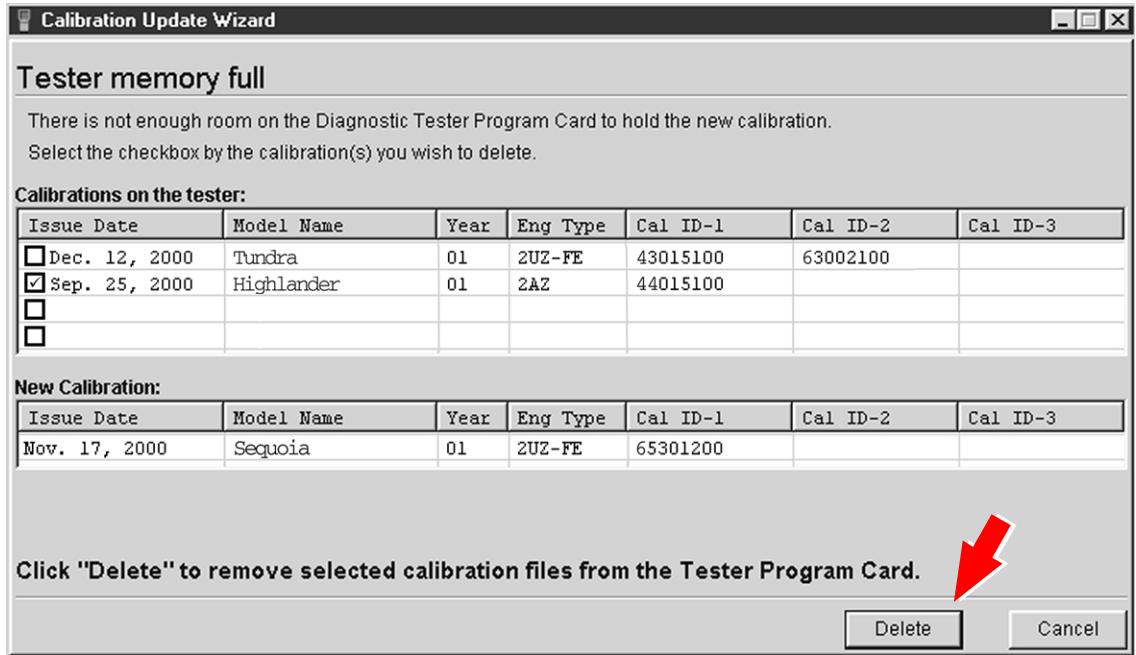H. The CUW determines if there is enough memory to store the calibration file on the Diagnostic Tester Program Card. If there is insufficient memory, the CUW will ask you to select the calibration file(s) to delete from the Diagnostic Tester Program Card to make room for the new calibration file.
If necessary, check the calibration file(s) to delete, as shown in Figure 11.
Click **DELETE**.

NOTE:

If there is adequate memory to store the calibration file, skip to Step J, page 13.

FIGURE 11. DELETING SELECTED CALIBRATION FILES

Calibration Update Wizard

Tester memory full

There is not enough room on the Diagnostic Tester Program Card to hold the new calibration.
Select the checkbox by the calibration(s) you wish to delete.

Calibrations on the tester:

	Issue Date	Model Name	Year	Eng Type	Cal ID-1	Cal ID-2	Cal ID-3
☐	Dec. 12, 2000	Tundra	01	2UZ-FE	43015100	63002100	
☑	Sep. 25, 2000	Highlander	01	2AZ	44015100		
☐							
☐							

New Calibration:

Issue Date	Model Name	Year	Eng Type	Cal ID-1	Cal ID-2	Cal ID-3
Nov. 17, 2000	Sequoia	01	2UZ-FE	65301200		

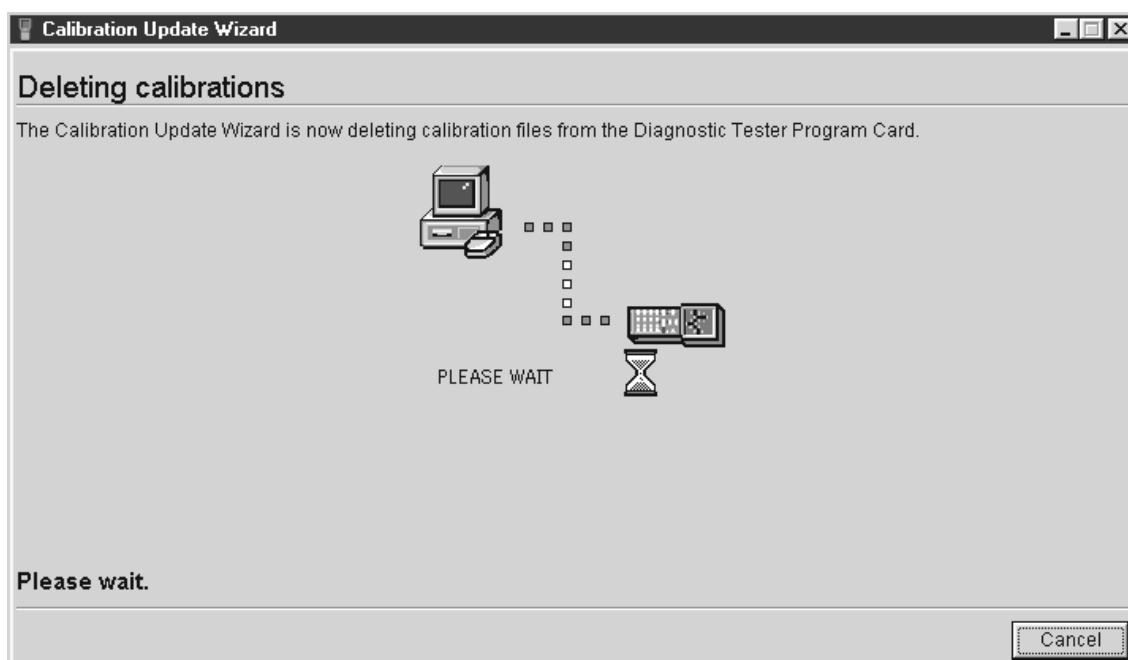Click "Delete" to remove selected calibration files from the Tester Program Card.

| Delete | Cancel |

Operation Procedure
(Continued)

DOWNLOAD FILE TO TESTER

I. The CUW will now delete the calibration file(s) selected (see Figure 12).

FIGURE 12. DELETION OF CALIBRATION FILES IN PROCESS

Calibration Update Wizard

Deleting calibrations

The Calibration Update Wizard is now deleting calibration files from the Diagnostic Tester Program Card.

PLEASE WAIT

Please wait.

Cancel

J. The top half of the CUW screen displays the calibrations currently stored on the Diagnostic Tester Program Card. The bottom half of the screen displays the new calibration to be loaded onto the Diagnostic Tester Program Card (see Figure 13). Click **NEXT** to continue the process.

FIGURE 13. DISPLAY OF CALIBRATION FILES ON DIAGNOSTIC TESTER PROGRAM CARD

Calibration Update Wizard

Calibrations on the tester

Calibrations on the Tester Program Card:

Issue Date	Model Name	Year	Eng Type	Cal ID-1	Cal ID-2	Cal ID-3
Dec. 12, 2000	Tundra	01	2UZ-FE	43015100	63002100	

New Calibration:

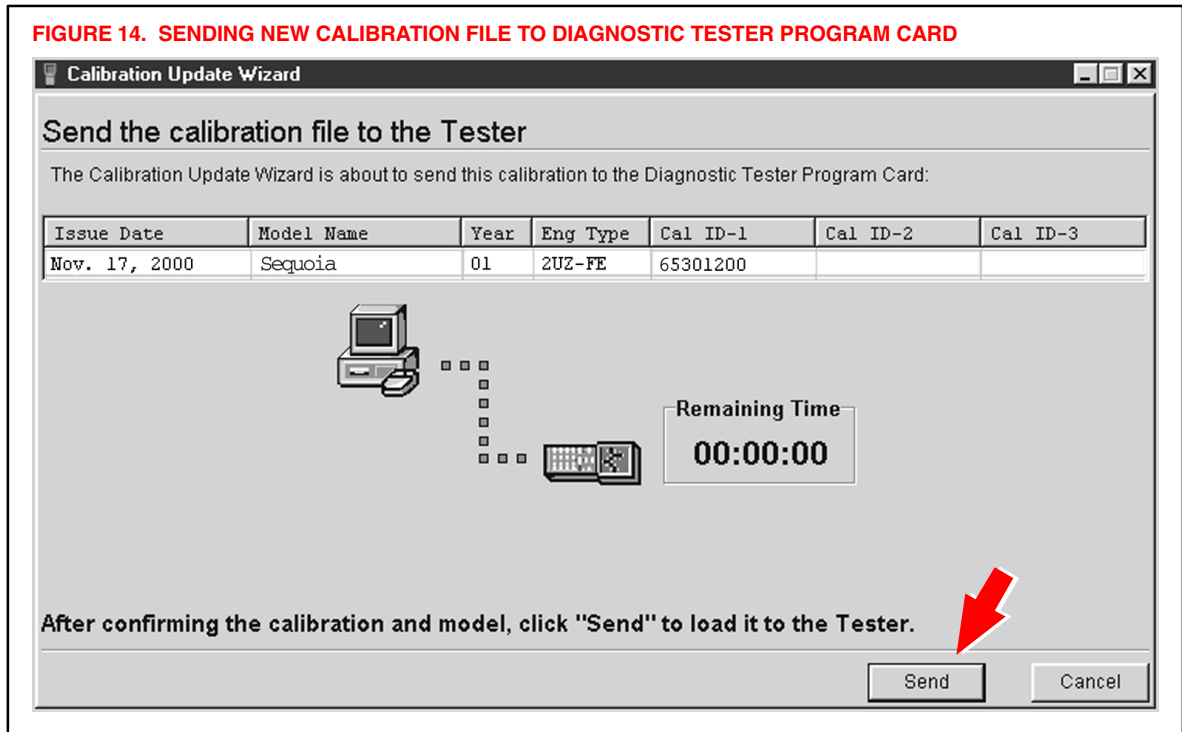| Issue Date	Model Name	Year	Eng Type	Cal ID-1	Cal ID-2	Cal ID-3
Nov. 17, 2000	Sequoia	01	2UZ-FE	65301200		

Click "Next" to continue.

Next   Cancel

**Operation
Procedure**
(Continued)

**DOWNLOAD
FILE TO TESTER**

K. Confirm the calibration file to be sent to the Diagnostic Tester Program Card (Figure 14). Click **SEND**.

FIGURE 14. SENDING NEW CALIBRATION FILE TO DIAGNOSTIC TESTER PROGRAM CARD

Calibration Update Wizard

Send the calibration file to the Tester

The Calibration Update Wizard is about to send this calibration to the Diagnostic Tester Program Card:

Issue Date	Model Name	Year	Eng Type	Cal ID-1	Cal ID-2	Cal ID-3
Nov. 17, 2000	Sequoia	01	2UZ-FE	65301200		

Remaining Time
00:00:00

After confirming the calibration and model, click "Send" to load it to the Tester.

Send   Cancel

L. The calibration file will now be downloaded to the Diagnostic Tester Program Card. This process takes approximately 2-6 minutes (see Figure 15).

FIGURE 15. DOWNLOADING OF CALIBRATION FILE IN PROCESS

Calibration Update Wizard

Send the calibration file to the Tester

The Calibration Update Wizard is about to send this calibration to the Diagnostic Tester Program Card:

Issue Date	Model Name	Year	Eng Type	Cal ID-1	Cal ID-2	Cal ID-3
Nov. 17, 2000	Sequoia	01	2UZ-FE	65301200		

Remaining Time
00:02:10

PLEASE WAIT

Please wait.

Send   Cancel
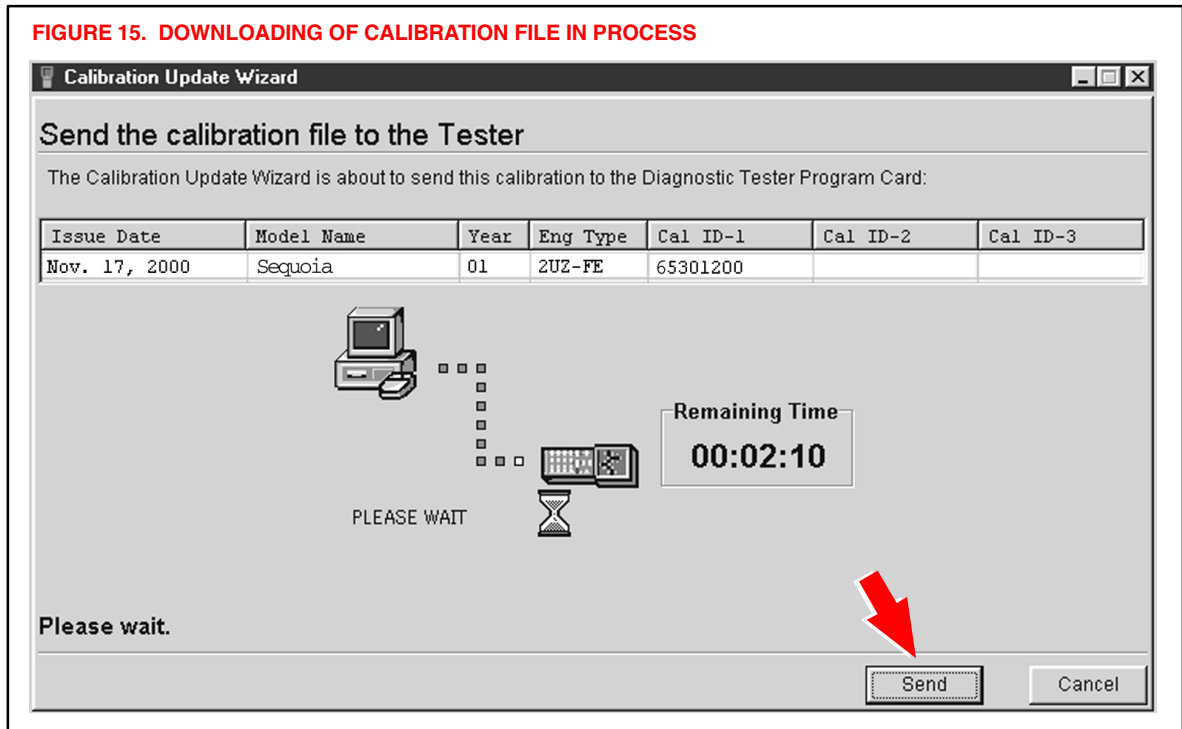
**Operation
Procedure**
(Continued)

**DOWNLOAD
FILE TO TESTER**

M. The CUW will prompt when the calibration file is completely downloaded. Click **OK** to close the CUW (Figure 16).

FIGURE 16.   DOWNLOAD OF CALIBRATION FILE COMPLETED

Finished!   ✕

ⓘ   The Calibration file was downloaded successfully.

You may now disconnect the tester and proceed with reprogramming the vehicle ECU.

The Calibration Update Wizard will now exit.

[OK]

NOTE:

With the calibration file loaded on the Diagnostic Tester Program Card, it is not necessary to repeat the above steps to reprogram a different vehicle needing the <u>same</u> calibration file. The steps above are only required when a new calibration file must be loaded onto the Diagnostic Tester Program Card.

The Diagnostic Tester now has the calibration file stored and you may proceed to the next step to reprogram the vehicle ECU.

Operation Procedure
(Continued)

REPROGRAM ECU WITH TESTER

3. Reprogram the vehicle ECU with the Diagnostic Tester.

NOTICE:

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

• Battery voltage <u>MUST NOT FALL BELOW 11.4 volts</u> during reprogramming.
• Confirm battery voltage is higher than 11.4 volts, but be sure voltage <u>DOES NOT RISE ABOVE 16.0 volts</u> during reprogramming.
• Turn off all electrical accessories (e.g. Audio system, A/C, interior lights, DRL, etc.).
• Do not add to or significantly change the vehicle's electrical load while reprogramming.
• Confirm the hood is open and ensure under hood temperatures do not exceed 158°F.
• Confirm cable connections between the vehicle and Diagnostic Tester are secure. (Reference TSB No. SS004–01, "ECU Flash Reprogramming Error Message.")
• Do not disconnect or turn off the Diagnostic Tester or the vehicle ignition during reprogramming.
• Set the parking brake.
• Complete ALL flash calibration updates provided for each ECU.

If the battery's state of charge or capacity are in question, test with SST No. 00002–MP815–T, "Midtronics Battery Tester," and follow TSB No. PG017–02, "Battery Maintenance for In–Stock Vehicles & Pre–Delivery."

To ensure stable battery voltage, a battery charger may be connected during reprogramming if:
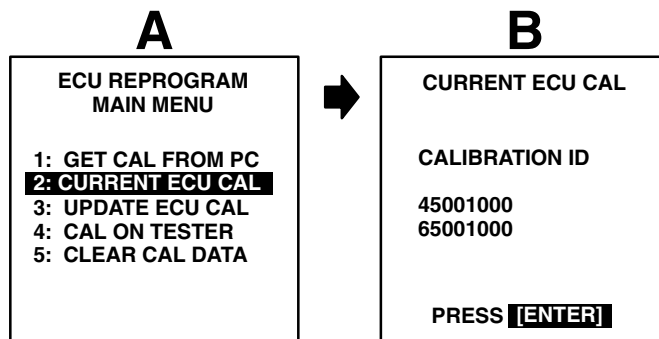• Voltage does not fall below 11.4 volts.
• Voltage does not rise above 16.0 volts.
• Setting is on SLOW charge and <u>not</u> BOOST.

A. 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 17.)

NOTE:

The vehicle may contain up to 3 separate calibration ID numbers. In the example shown below, the vehicle ECU contains only 2 calibration IDs.

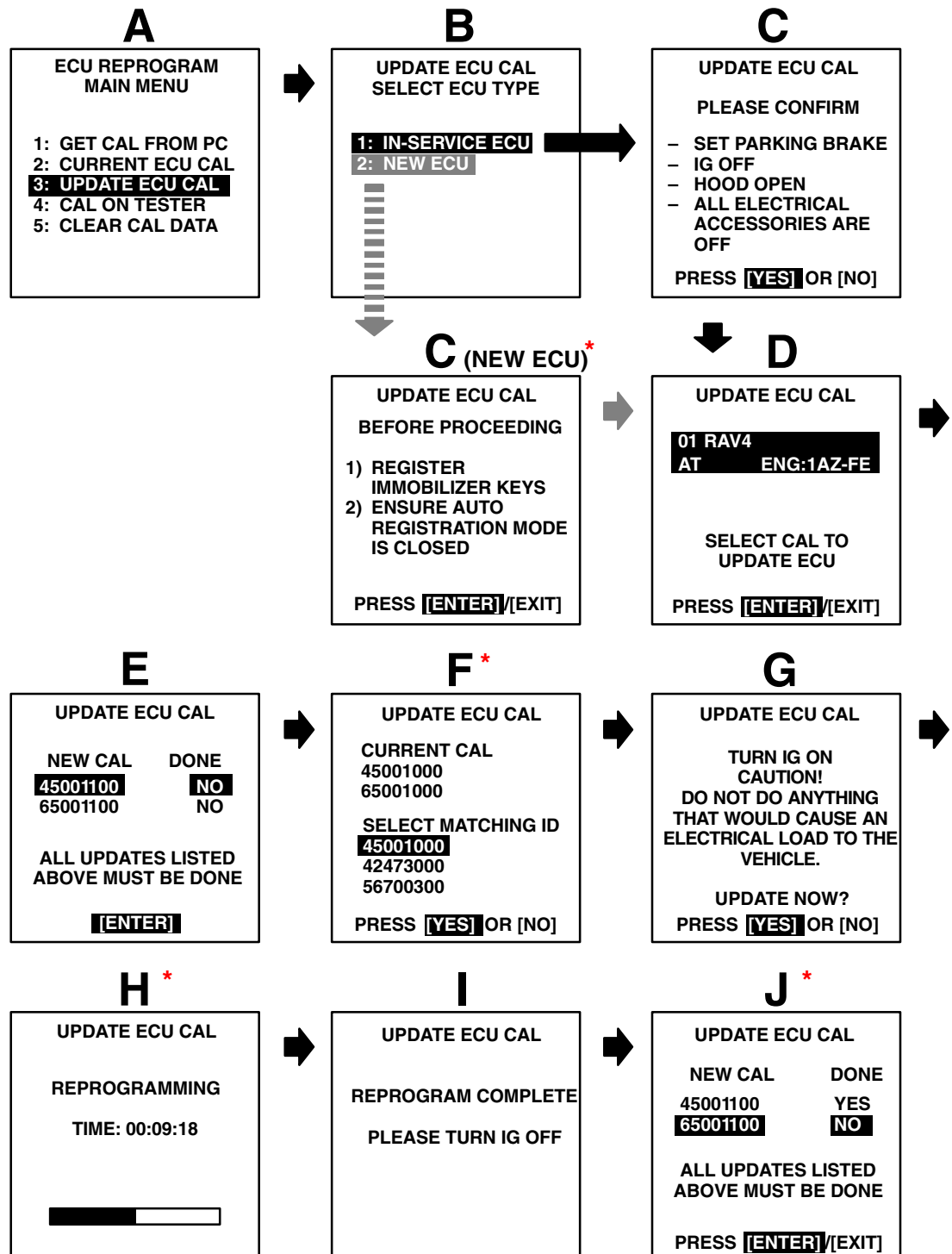**FIGURE 17. DETERMINING CURRENT ECU CALIBRATION**

A

```
ECU REPROGRAM
   MAIN MENU

1:  GET CAL FROM PC
2: CURRENT ECU CAL
3:  UPDATE ECU CAL
4:  CAL ON TESTER
5:  CLEAR CAL DATA
```

B

```
CURRENT ECU CAL


CALIBRATION ID

45001000
65001000


PRESS [ENTER]
```

**Operation
Procedure**
(Continued)

**REPROGRAM
ECU WITH
TESTER**

B. Continue to update the ECU calibration file following the screen flow below
(Figure 18). Details for selected screens are shown in Figure 19.

FIGURE 18. ECU REPROGRAMMING OVERVIEW

A

ECU REPROGRAM
MAIN MENU

1: GET CAL FROM PC
2: CURRENT ECU CAL
3: UPDATE ECU CAL
4: CAL ON TESTER
5: CLEAR CAL DATA

B

UPDATE ECU CAL
SELECT ECU TYPE

1: IN-SERVICE ECU
2: NEW ECU

C

UPDATE ECU CAL

PLEASE CONFIRM

– SET PARKING BRAKE
– IG OFF
– HOOD OPEN
– ALL ELECTRICAL
   ACCESSORIES ARE
   OFF

PRESS [YES] OR [NO]

C (NEW ECU)*

UPDATE ECU CAL

BEFORE PROCEEDING

1) REGISTER
    IMMOBILIZER KEYS
2) ENSURE AUTO
    REGISTRATION MODE
    IS CLOSED

PRESS [ENTER]/[EXIT]

D

UPDATE ECU CAL

01 RAV4
AT   ENG:1AZ-FE

SELECT CAL TO
UPDATE ECU

PRESS [ENTER]/[EXIT]

E

UPDATE ECU CAL

NEW CAL   DONE
45001100   NO
65001100   NO

ALL UPDATES LISTED
ABOVE MUST BE DONE

[ENTER]

F*

UPDATE ECU CAL

CURRENT CAL
45001000
65001000

SELECT MATCHING ID
45001000
42473000
56700300

PRESS [YES] OR [NO]

G

UPDATE ECU CAL

TURN IG ON
CAUTION!
DO NOT DO ANYTHING
THAT WOULD CAUSE AN
ELECTRICAL LOAD TO THE
VEHICLE.

UPDATE NOW?
PRESS [YES] OR [NO]

H*

UPDATE ECU CAL

REPROGRAMMING

TIME: 00:09:18

I

UPDATE ECU CAL

REPROGRAM COMPLETE

PLEASE TURN IG OFF

J*

UPDATE ECU CAL

NEW CAL   DONE
45001100   YES
65001100   NO

ALL UPDATES LISTED
ABOVE MUST BE DONE

PRESS [ENTER]/[EXIT]

* See Figure 19 for more detail on these steps.

**NOTE: In step B above a "NEW ECU" is defined as a unit installed from parts inventory that
has not been previously installed into a vehicle and the Immobilizer Registration function has
not been completed.**

Operation Procedure
(Continued)

REPROGRAM ECU WITH TESTER

> **NOTE:**
> - **Each flash calibration update will take approximately 15 to 45 minutes.**
> - **Screens E through J (Figure 18) will need to be repeated for each flash calibration update (calibration ID number).**
> - **All updates must display "YES" to complete the entire calibration file update for the vehicle ECU.**
> - **Failure to complete all updates may result in PERMANENT ECU DAMAGE!**

FIGURE 19. ECU REPROGRAMMING DETAIL

C (NEW ECU)

```
UPDATE ECU CAL

BEFORE PROCEEDING

1) REGISTER
   IMMOBILIZER KEYS
2) ENSURE AUTO
   REGISTRATION MODE
   IS CLOSED

PRESS [ENTER]/[EXIT]
```

This screen is only displayed if attempting to reprogram a new ECU that has not yet had the Immobilizer registered. REPROGRAMMING WILL NOT BEGIN IF THE IMMOBILIZER KEYS ARE NOT REGISTERED FIRST.

- Refer to TSB No. SS001–99, *"Scantool Immobilizer Key Code Utility,"* for instructions on Immobilizer key registration.
- Refer to Repair Manual procedure "Engine Immobilizer System Registration" for vehicles with separate Transponder and Engine ECUs.

F

```
UPDATE ECU CAL

CURRENT CAL
45001000
65001000

SELECT MATCHING ID
45001000
42473000
56700300

PRESS [YES] OR [NO]
```

This screen displays the current ECU calibration. Scroll through the list of matching ID numbers and select a number that matches the current ECU calibration. Press ENTER.

H

```
UPDATE ECU CAL


REPROGRAMMING

TIME: 00:09:18
```

It may take up to 2 minutes for the progress bar to begin moving.

J

```
UPDATE ECU CAL

NEW CAL       DONE

45001100      YES
65001100      NO

ALL UPDATES LISTED
ABOVE MUST BE DONE

PRESS [ENTER]/[EXIT]
```

Flash Calibration Update Completed = "YES"
Flash Calibration Update NOT Completed = "NO"
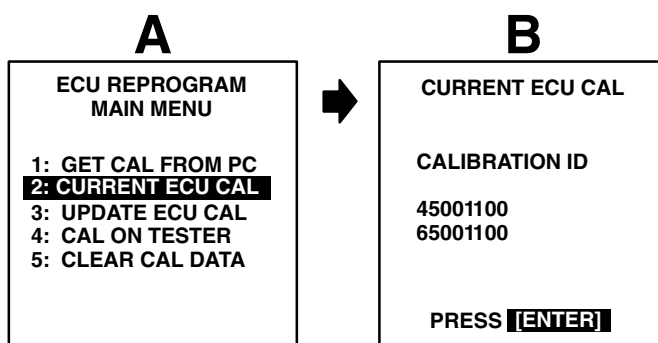(1 to 3 updates may be displayed)

- Scroll down to the update displaying "NO" and press "ENTER" to begin the second flash sequence (see Steps E through J in Figure 18).
- If all updates display "YES", press "EXIT" to complete the reprogramming process.

**Operation
Procedure**
(Continued)

CONFIRM
UPDATE

4. Confirm successful flash calibration update and affix calibration update sticker.
Follow these steps to confirm the calibration was reprogrammed to the ECU.

A. The new calibration file should be displayed as the current ECU calibration file.

FIGURE 20. CONFIRMATION OF ECU REPROGRAMMING

A

ECU REPROGRAM
MAIN MENU

1: GET CAL FROM PC
2: CURRENT ECU CAL
3: UPDATE ECU CAL
4: CAL ON TESTER
5: CLEAR CAL DATA

➡

B

CURRENT ECU CAL

CALIBRATION ID

45001100
65001100

PRESS [ENTER]

B. Using a permanent marker or ball point pen, enter the required information on the Authorized Modifications Label (Figures 21 and 22).

FIGURE 21. AUTHORIZED MODIFICATIONS LABEL

TOYOTA MOTOR CORPORATION
AUTHORIZED   MODIFICATIONS
THE FOLLOWING MODIFICATIONS HAVE BEEN MADE:

THESE MODIFICATIONS HAVE BEEN APPROVED
AS APPROPRIATE BY EPA AND CARB

DEALER CODE: DATE:
CHANGE AUTHORITY:

FIGURE 22. SAMPLE OF COMPLETED AUTHORIZED MODIFICATIONS LABEL

TOYOTA MOTOR CORPORATION
AUTHORIZED   MODIFICATIONS
THE FOLLOWING MODIFICATIONS HAVE BEEN MADE:

Replacement
ECU Part Number ➡ *89661–48241*

Calibration ID(s) ➡ *45001100, 65001100*

THESE MODIFICATIONS HAVE BEEN APPROVED
AS APPROPRIATE BY EPA AND CARB

Dealer Code ➡ DEALER CODE: *31301*   DATE: *6/2/03* ⬅ Date Completed
CHANGE AUTHORITY: *TSB EG###–03*

⬅ TSB or Campaign Number

C. Affix this label under the hood in the location determined by the specific vehicle TSB or Campaign.

NOTE:

Wait 60–90 seconds for ink to set before handling.