



## Technical Service BULLETIN

October 24, 2003

Title:

### IMMOBILIZER SYSTEM: VEHICLES EQUIPPED WITH TRANSPONDER ECU

Models:

'01 – '03 Prius & '03 4Runner, Camry,  
Land Cruiser & Sequoia

EL016-03



ELECTRICAL

**Introduction** On Toyota vehicles that are equipped with the Immobilizer system, the Immobilizer function is either incorporated in the ECM (SAE term: Powertrain Control Module/PCM) or in a separate Transponder ECU. This TSB clarifies Immobilizer related service procedures on vehicles equipped with a Transponder ECU.

#### Applicable Vehicles

- **2001 – 2003** model year **Prius** vehicles.
- **2003** model year **4Runner, Land Cruiser, and Sequoia** vehicles.
- **2003** model year **Camry** vehicles **equipped with 1MZ-FE engine and 5-speed Automatic Transmission.**

#### Required SSTs

SPECIAL SERVICE TOOLS (SSTs)	PART NUMBER	QUANTITY
Toyota Diagnostic Tester Kit* 	01001271	1
12 Megabyte Diagnostic Tester Program Card with version 10.1a Software (or later)* 	01002593-005	1
Diagnostic Check Wire (or equivalent)	09843-18020	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.**

#### Warranty Information

OP CODE	DESCRIPTION	TIME	OFF	T1	T2
N/A	Not Applicable to Warranty	—	—	—	—

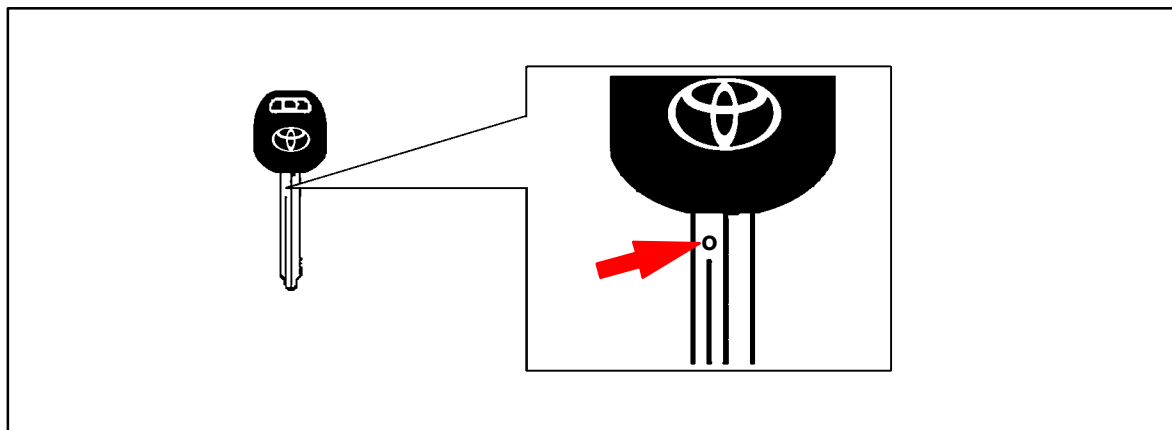


Toyota Supports ASE Certification

**Operation  
Procedure**

For vehicles equipped with the Transponder ECU, the Immobilizer disables the engine from starting (via fuel and spark delivery) utilizing an ignition key with an ID code. Transponder ECU systems communicate with a transponder chip embedded in the grip of the ignition key. This ID code is different for each key and must be registered in the vehicle Transponder ECU.

With the exception of Prius, Immobilizer keys designed for transponder type systems are identified by a dot (“o”) mark on the key shank just below the key grip (see illustration below).

**NOTE:**

The part numbers for these transponder type keys are new; it is recommended that your parts department look up the correct Immobilizer keys for your particular application. Previous model year's Master and Sub keys are incompatible with the models listed in "Applicable Vehicles."

Immobilizer functions vary by model. Use the chart below as an aid when identifying Immobilizer keys and functions.

MODEL YEAR	MODEL	ENGINE	EQUIPPED WITH SEPARATE TRANSPONDER ECU	ECU ID COMMUNICATION REQUIRED ("HANDSHAKE")	IMMOBILIZER RESET AVAILABLE (SEED NUMBER)	IMMOBILIZER DATA AVAILABLE WITH DIAGNOSTIC TESTER
2001–2003	Prius	1NZ	Yes	Yes	No*	No
2003	4Runner	2UZ, 1GR	Yes	Yes	Yes	Yes
2003	Camry**	1MZ–FE	Yes	Yes	Yes	Yes
2003	Land Cruiser	2UZ	Yes	Yes	Yes	Yes
2003	Sequoia	2UZ	Yes	Yes	No*	No

\* Transponder ECU **must** be replaced to register new Master keys. When programming these keys, you must use the most current Repair Manual procedure found on the Technical Information System (TIS).

\*\* Only 5–speed automatic transmission after January 2003 production.

**Operation  
Procedure**  
(Continued)

**Immobilizer Reset and Diagnostic Tester Support:**

For most vehicles, the Diagnostic Tester incorporates support to add, delete or remove keys into the Immobilizer system. To perform the Immobilizer functions it is necessary to have the most current Diagnostic Tester software available. For more detailed Diagnostic Tester information, refer to TSB No. SS003–02, “*Diagnostic Tester Immobilizer Functions.*”

**ECU ID Communication:**

When replacing the ECM (SAE term: PCM) or the Transponder ECU a “handshake” procedure must be performed. This ECU ID communication is necessary to enable the Transponder ECU and the ECM to recognize each other before the vehicle will start.

Complete ECU communication using the following steps:

1. Insert a Master key into the ignition cylinder.
2. Turn the ignition ON (engine OFF).
3. Short Tc and CG terminals of DLC3 using the Diagnostic Check Wire (SST 09843–18020 or equivalent) and leave for 30 minutes.
4. After 30 minutes, turn the ignition OFF and remove check wire from DLC3.
5. Register any additional keys as necessary.
6. Start the vehicle to confirm successful ECU communication.

**Key Programming:**

To program or delete a key, a registered Master key is necessary unless the Transponder ECU has been reset or replaced. The Transponder ECU system incorporates a black “Master” key and a gray “Sub” key. The process during registration of these two keys is identical. The key itself now determines if it functions as Master or Sub, not the registration procedure. The maximum number of allowable Master and Sub keys vary by model. Refer to the chart below.

MODEL YEAR	MODEL	MASTER KEYS	SUB KEYS
2001 – 2003	Prius	4	2
2003	4Runner	5	3
2003	Camry*	5	3
2003	Land Cruiser	5	3
2003	Sequoia	4	2

\* 5–speed automatic transmission.

For additional details related to Immobilizer, refer to the vehicle specific Repair Manual on the Technical Information System (TIS) or TSB No. SS003–02, “*Diagnostic Tester Immobilizer Functions.*”