This chapter contains information for testing Toyota, Lexus and Scion vehicles with the Asian Import Vehicle Communication Software (VCS). The following Toyota, Lexus and Scion systems may be available for testing:

- Engine
- Transmission
- Antilock Brake System (ABS)
- Supplemental Restraint System (SRS)

16.1 Identifying 1995 and Earlier Toyota & Lexus Vehicles

Available engine types vary depending on the model and year. In most cases, you can find the engine type by locating the Vehicle Emission Control Information (VECI) sticker, or “emissions decal,” inside the engine compartment. If a VECI sticker is not available, engine type is sometimes noted on the vehicle nameplate (Figure 16-1), which may be:

- In the engine compartment on the bulkhead
- In either fender well area
- On a door or a door post

![Figure 16-1 Toyota vehicle nameplate]

A—Engine type
B—Model number

16.2 Testing Engine Systems

Toyota, Lexus, and Scion engine testing includes:

- “Code Reading Connectors and Locations” on page 230
- “Code Sensitivity—OBD-II and some Pre-OBD-II” on page 231
16.2.1 Code Reading Connectors and Locations

**Figure 16-2** Toyota/Lexus diagnostic connector requiring TOY-1 adapter

A—Use TOY-1 adapter  
B—Optional: Jump E1 to T, T1, or TE1 to flash codes

**Figure 16-3** Toyota/Lexus diagnostic connector requiring TOY-2 adapter

A—Use TOY-2 adapter  
B—Optional: Jump E1 to TE1 to flash codes

**Figure 16-4** Toyota/Lexus diagnostic connectors—other

A—Jump T to E1 to flash codes  
B—CG (Chassis Ground)  
C—A/B  
D—TS  
E—TC
16.2.2 Code Sensitivity—OBD-II and some Pre-OBD-II

Some Toyota and Lexus vehicles can be placed in a test mode where the ECM is more sensitive to diagnostic trouble codes (DTCs). The ECM stays in this mode until the ignition is turned off. For more details, see Fast-Track® Troubleshooter Reference TA044.

NOTE:
This mode will not work for evaporative emissions systems or misfire DTCs.

To place some Toyota and Lexus ECMs in a code-sensitive test mode:
1. With the scan tool connected to the vehicle, turn the key on with the engine off.
2. Select DATA (NO CODES) from the MAIN MENU.
3. Press N.
4. Select AUTO CODE READ.

16.2.3 Data (No Codes)

The DATA (NO CODES) selection displays for vehicles that transmit PCM operating data to the scan tool. Use of this mode is very similar to the CODES & DATA mode except that codes must be read separately using the CODE FUNCTIONS selection.

With DATA (NO CODES) selected, the scan tool does not affect PCM operation and the vehicle can be driven (Figure 16-6).
16.2.4 Manual Code Reading

Table 16-1 Toyota Code Type 09

<table>
<thead>
<tr>
<th>Pattern:</th>
<th>10s and 1s; continuous flashing means system OK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read codes on</td>
<td>CHECK ENGINE lamp</td>
</tr>
<tr>
<td>Start codes by</td>
<td>Connect the vehicle diagnostic connector terminals together and switch on the ignition.</td>
</tr>
<tr>
<td>When done</td>
<td>Turn the ignition off, disconnect the connectors, then clear codes.</td>
</tr>
</tbody>
</table>

Table 16-2 Toyota Code Type 10

<table>
<thead>
<tr>
<th>Pattern:</th>
<th>Straight count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read codes on</td>
<td>CHECK ENGINE lamp</td>
</tr>
<tr>
<td>Start codes by</td>
<td>Connect the vehicle diagnostic connector terminals together and switch on the ignition.</td>
</tr>
<tr>
<td>When done</td>
<td>Turn the ignition off, disconnect the connectors, then clear codes.</td>
</tr>
</tbody>
</table>

Code 1 is pass code (system OK).

16.2.5 Actuator Tests

Some Toyota, Lexus and Scion models have interactive bidirectional actuator tests. Though most actuator tests are best performed with the key on and engine running, the FUEL PUMP and FUEL PUMP RELAY tests must be performed with the key and the engine off.

Most tests automatically display data parameters to help determine actuator or system performance. Some tests, like the FUEL PUMP Test, do not display parameters. For these tests, monitor the selected actuator using a digital multimeter or listen for actuator activation.

For most tests, scrolling up and down switches the actuator on and off. Test completion does not mean that the actuator was activated.
IMPORTANT:
Do not enter any actuator test while driving unless the specific test requires it. Changes to ignition timing, fuel delivery, and other functions may affect operation and vehicle control.

The actuator tests may be grouped into the following test categories:
- EGR, evaporative emissions, secondary air systems
- Turbocharger and supercharger actuators
- Transmission solenoids
- Fuel delivery system
- Intake air delivery system
- Ignition timing
- Air conditioning system

To conduct an EGR system test:
1. Select ACTUATOR TESTS > EGR SYSTEM from the MAIN MENU.
   A screen similar to Figure 16-9 displays.

   BEFORE RUNNING TEST, ENSURE THAT KEY IS ON AND ENGINE IS RUNNING
   PRESS Y TO ACTIVATE TEST

   Figure 16-9 EGR SYSTEM selected

2. Press Y.
   A screen similar to Figure 16-10 displays.

   EGR SYS__ON    EGR TEMP(°F) __97
   ST TRIM B1(%) _12    ST TRIM B2(%) _0
   SCROLL UP/DOWN TO TURN ON/OFF
   PRESS N TO ABORT THE TEST

   Figure 16-10 EGR Test

3. Raise the engine to 2500 RPM.
   Scroll up and down to command the valve that switches vacuum to the EGR valve on and off. Use the EGR TEMP and ST TRIM parameters on the screen to determine if exhaust gas is indeed being recirculated.
   When EGR SYS reads OFF, expect low EGR TEMP. When EGR SYS reads ON, the EGR TEMP should rise and the ST TRIM values should change.

4. When you have completed testing the EGR system, press N.
   The display indicates that the test is completed (Figure 16-11).
To conduct a fuel pump test:

1. Select **ACTUATOR TESTS > FUEL PUMP** from the MAIN MENU.
   A screen similar to Figure 16-12 displays.

   ![Figure 16-12 FUEL PUMP selected](image)

2. Press **Y**.
   A screen similar to Figure 16-13 displays.

   ![Figure 16-13 Fuel Pump Test](image)

   "IN PROGRESS" flashes and an operational pump vibrates and makes noise for 30 seconds, after which a screen similar to Figure 16-14 displays.

   ![Figure 16-14 Fuel Pump Test complete](image)

### 16.3 Testing Transmission Systems

Toyota, Lexus and Scion transmission systems provide code information.

#### 16.3.1 Code Reading Connectors

Transmission diagnostic connectors and adapters are shown in Figure 16-15 on page 235.

### 16.4 Testing ABS Systems

Toyota, Lexus and Scion ABS provides code information.
16.4.1 Code Reading Connectors

ABS diagnostic connectors and adapters are shown in Figure 16-16 on page 235.

Figure 16-15 Transmission connectors

A—Positive meter lead to pin DG
B—Jump to ground (ignition and OD switches on)
C—Use TOY-1 adapter
D—Use TOY-2 adapter

Figure 16-16 Antilock brake system connectors

A—Disconnect service wire (some models)
B—Disconnect Wa to Wb jumper (some models)
C—Use TOY-2 adapter
D—Use TOY-1 adapter
16.5 Testing Supplemental Restraint Systems (SRS)

Toyota, Lexus and Scion SRS provides code information.

16.5.1 Reading SRS Codes

For all models except 2000 and later Celica, Echo, and MR2, use AUTO CODE READ while connected to the diagnostic link connector.

To read codes for all vehicles except 2000 and later Celica, Echo, and MR2:
1. Turn the key on with the engine off and wait 20 seconds.
2. Select CODE FUNCTIONS > AUTO CODE READ.

NOTE:
Pay attention to the terminal connecting position to avoid a malfunction.

To read codes for 2000 and later Celica, Echo, and MR2, and most 2001 and later models:
1. Turn the ignition switch on and wait for approximately 20 seconds.
2. Connect DLC3 terminal Tc to terminal CG (Figure 16-17).

To read codes for 2000 and later Celica, Echo, and MR2:
1. Connect a jump wire between terminals Tc and CG of the DLC3 (Figure 16-17).
2. Turn the ignition switch on and wait for approximately 20 seconds.
No Codes Set Confirmation

The following signs indicate that the airbag system functions properly:

- The SRS lamp is unlit prior to connecting the scan tool.
- After selecting AUTO CODE READ, the SRS lamp flashes continuously and the display reads: NO CODES PRESENT.
- After exiting AUTO CODE READ, the SRS lamp turns off.

Low Source Voltage

The following signs indicate low source voltage in the airbag system:

- The SRS lamp flashes or is continuously lit before connecting.
- After entering AUTO CODE READ, the SRS lamp flashes continuously and the display reads: NO CODES PRESENT.
- After exiting AUTO CODE READ, the SRS lamp resumes flashing or turns on continuously.

NOTE:
A discharged battery or a faulty airbag sensor assembly may cause low source voltage.

16.5.2 Code Clearing

To clear SRS codes from 2000 and later Echo, Celica, and MR2, and most 2001 and later models:

1. Connect two jumper wires to terminals #13 and #6 of DCL3 (16-pin OBD-II) (Figure 16-18).
2. Turn the ignition switch on and wait approximately six seconds.
3. Starting with the Tc terminal, alternately ground terminal Tc then terminal A/B twice each in cycles of 1.0 second (Figure 16-19). Ensure that terminal Tc remains grounded.

Several seconds after the clearing procedure is complete (Step 3), the SRS warming lamp blinks in a 50 ms/second cycle to indicate codes have been cleared (Figure 16-19)

Figure 16-18 Ground DCL3 terminals

A—Terminal # 6 - A/B
B—Terminal #13 - Tc
To clear SRS codes on most other vehicles:

1. Switch the ignition on without starting the engine.
2. Connect a jumper wire between terminals #4 and #13 of the DLC3 (16 pin OBD-11) (Figure 16-17 on page 236). Codes should now display.
3. Some vehicles may require this method:
   a. Within 10 seconds after codes begin to display, remove the jumper.
   b. Wait up to 3 seconds for the ABS warning lamp to light up.
   c. Reconnect the jumper between terminals #4 and #13 of the DLC3 within 2 to 4 seconds after ABS warning lamp lights.
   d. Disconnect the jumper after the ABS warning lamp is on for 2 to 4 seconds.
4. Switch the Ignition off while jumper wire is till in place.