TOYOTA

Technical Service BULLETIN

July 21, 2000

Title:

A/C COMPRESSOR MAINTENANCE FOR STORED VEHICLES

Models:

All Models

TSB

AC002–00

HEATING & AIR CONDITIONING

Introduction

When a vehicle is stored for a long period (more than one month), the volume of oil in the A/C compressor may decrease due to oil flow into the condenser, pipes, etc.

If the A/C system is turned on at high engine RPM after a long storage period, A/C compressor damage may result.

To minimize the possibility of damage to the A/C compressor while storing a vehicle, perform the following recommended maintenance procedure at least once a month to lubricate the compressor.

Maintenance Procedure

Recommended Maintenance Procedure For A/C Compressor Lubrication:

1. Turn off A/C and blower switches prior to starting engine.
2. Start and warm–up engine until engine speed drops below 1,000 RPM.
3. Turn on the A/C system (including the rear A/C) using the following settings:
   - A/C switch: On
   - Blower Speed: High
   - Engine Speed: Below 1,000 RPM
4. Keep A/C on with engine idling for at least 30 seconds.
5. Turn off A/C system and stop engine.

Warranty Information

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

TOYOTA

Technical Service **BULLETIN**

May 16, 1997

Title:

CLEANING CASSETTE TAPE HEADS AND CAPSTANS

Models:

All Models

TSB

AUDIO

AU001–97

REVISED

Introduction

The cassette tape head and capstan should be cleaned regularly to prevent poor sound quality and/or cassettes from jamming.

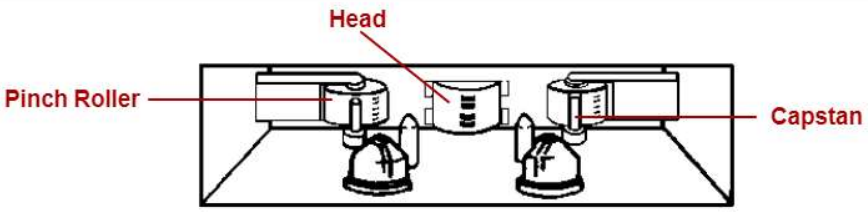


Fig. 1

Conditions

The following conditions can easily be avoided by regularly cleaning the head with a tape cleaner and only using good quality cassettes.

Poor Sound Quality due to Dirty Head

Since the tape head contacts the cassette tape, the tape head accumulates metal oxides and dirt particles from the tape. In time, a layer of dirt forms on the tape head resulting in poor transfer of information between the tape and the tape head. This typically causes a reduction of the higher frequencies or a reduction of the brightness in sound quality.

Tape Speed

Tape speed is controlled by the tape capstan and pinch rollers. If the capstan and pinch rollers accumulate dirt, the tape may slip causing the music to play too fast or too slow.

Jamming

Dirt can make the capstans sticky, causing the tape to become entangled in the cassette mechanism. This can cause the cassette to become jammed in the player.

Cassette Tape Head Cleaners

To reduce the occurrence of these conditions, the following approved cassette cleaners are available through the non–parts system (Material Distribution Center).

TOOLS & MATERIALS	MATERIAL NUMBER	DESCRIPTION
Allsop 3 Cassette Recorder Cleaner	00113–AS710–00	Cleaning Cassette and Cleaning Solution with Instruction Sheet

NOTE:
Allow 15 minutes for the cleaning fluid to evaporate before playing a tape.

CLEANING CASSETTE TAPE HEADSAND CAPSTANS – AU001–97 (Revised) May 16, 1997

Cassette Tape Care Procedure

The following precautions should be taken to keep cassettes in good condition:

1. Remove the cassette from the player when the cassette is not in use.
2. Store the cassette in its case.
3. Store the cassette in a cool, dry area away from direct sunlight and magnetic components such as speakers.
4. Avoid touching the tape itself. This could result in poor sound quality or sound drop out.
5. Keep the tape tightly wound as shown in figure 2. Tape speed can be affected by loosely wound tape.

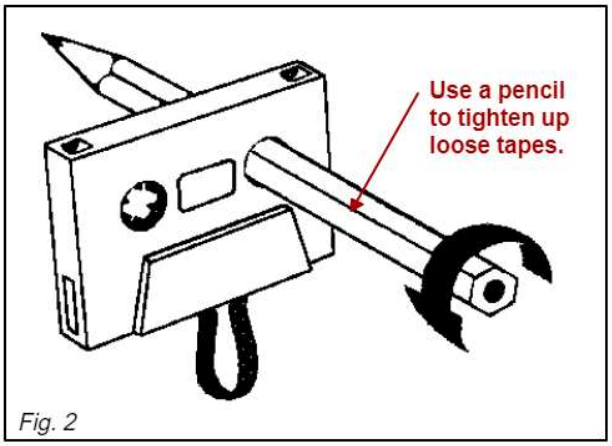


Fig. 2

6. Avoid inserting a cassette into the player if the cassette label is loose or peeling as shown in figure 3. This can cause a cassette to become stuck in the player.

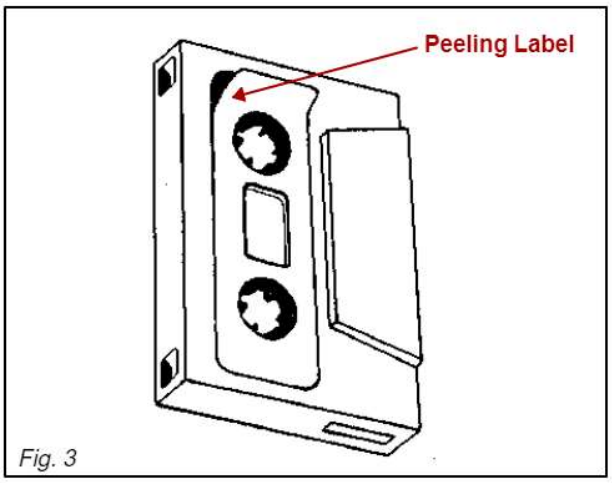


Fig. 3

7. Use cassettes that are 90 minutes or less in length. Cassettes over 90 minutes use extremely thin tape that is subject to stretch, resulting in poor sound quality.

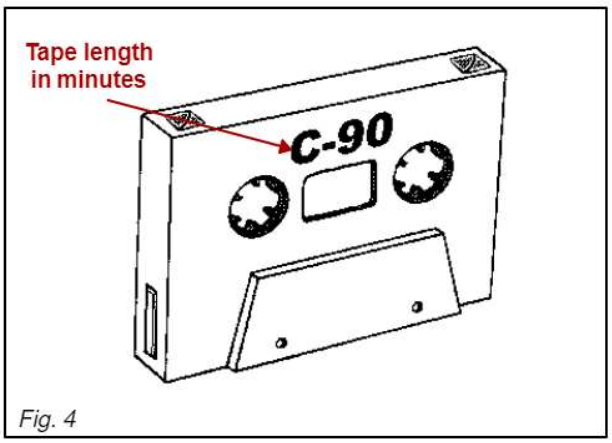


Fig. 4

TOYOTA **TECHNICAL SERVICE BULLETIN**

REF.: AUDIO
NO.: AU002–96
DATE: OCTOBER 25, 1996
MODEL: ALL MODELS

AM STATIC NOISE ON VEHICLES WITH POWER ANTENNAS

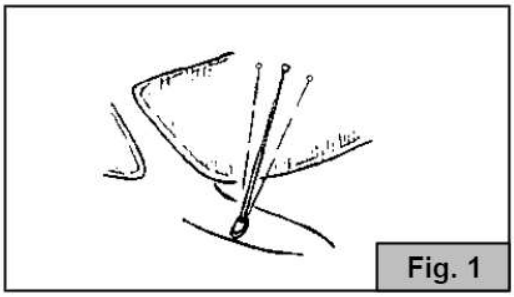
Vehicles with power antennas may exhibit audible electrical noise on weak AM stations when various electrical accessories (turn signals, rear defogger, cruise control, brakes, etc.) are operated.

Poor antenna grounding can cause this condition.

To eliminate or reduce the intensity of the noise, use the following repair procedure:

REPAIR PROCEDURE:

1. Tune the radio to a strong, static–free AM station and slowly move the tip of the antenna mast forward and back approximately 2 inches (Fig. 1). If static noise is not heard, go to Step 2. If static noise is heard during antenna movement, replace the antenna mast and go to Step 3.


Fig. 1

NOTE: Do not touch the antenna mast with your bare hands. Use a glove or nonmetallic object to move the antenna. (If you touch the antenna with your hands, you will change the antenna sensitivity).

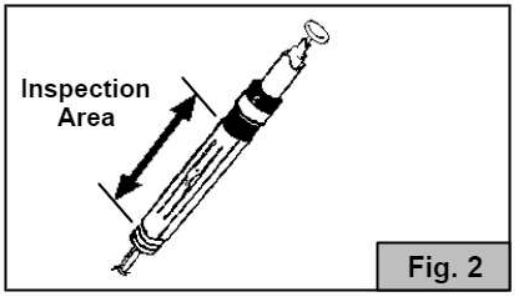
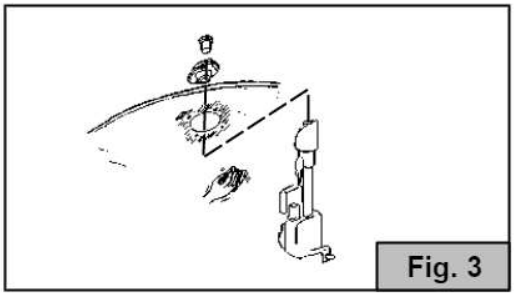


Fig. 2

2. Remove the antenna mast and inspect the base of the mast for corrosion and damage (Fig. 2). Clean with 1500 grit sandpaper.
3. Remove the antenna assembly and inspect the inner fender around the antenna hole for corrosion (Fig. 3). Clean with 1500 grit sandpaper.


Fig. 3

AM STATIC NOISE ON VEHICLES WITH POWER ANTENNAS

REPAIR PROCEDURE (Cont'd):

4. Remove the antenna spacer grommet at the top of the antenna assembly and inspect for corrosion (Fig. 4). Clean with 1500 grit sandpaper.

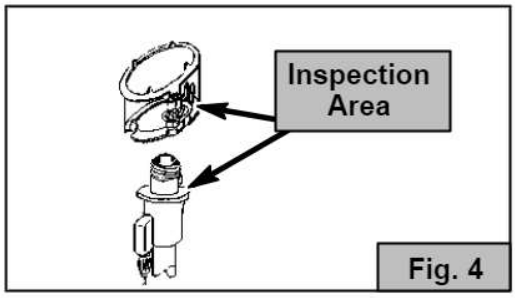


Fig. 4

5. Reinstall the antenna assembly. Be sure to install the external antenna nut (escutcheon) first. Then install the nut which holds the assembly to the inner bracket (Fig. 5).

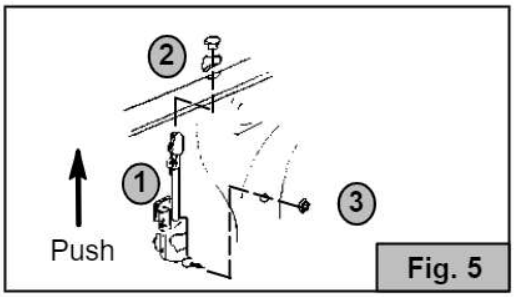


Fig. 5

6. Check to make sure that the teeth on the antenna spacer grommet make good contact with the inner fender well (Fig. 6).

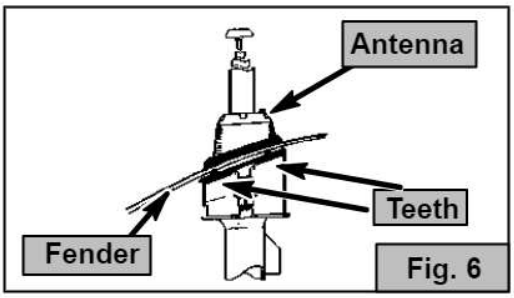


Fig. 6

7. Inspect the antenna cable connection and clean as necessary (Fig. 7). Reconnect the antenna cable, the wire harness and the drain hose.

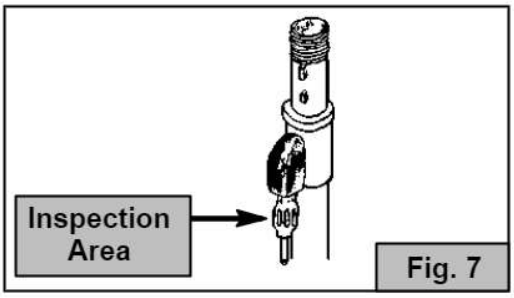


Fig. 7

WARRANTY INFORMATION:

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
AU6001	Listed repair procedure (All items)	1.0	86300–XXXXX	76	73

TOYOTA

Technical Service BULLETIN

March 17, 2000

Title:

TOYOTA "DINGHY" TOWING GUIDE

Models:

All Models

TSB

ACCESSORIES

AX001–00

Introduction The chart on the next page indicates which Toyota vehicles can be Dinghy towed (towed with four wheels on the ground) behind a Motorhome.

CAUTION:

Dinghy towing a vehicle behind a Motorhome requires special towing equipment and accessories. Please see your Motorhome Manufacturer / Service Outlet for recommended towing equipment.

Warranty Information

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

TOYOTA "DINGHY" TOWING GUIDE – AX001–00 March 17, 2000

Affected Vehicles

- **All Models**

YEAR	MODEL	DINGHY TOWABLE		SPEED/DISTANCE LIMITS
		M/T	A/T	
1995 – 2000	Avalon	Not Towable		–
1992 – 2000	Camry	Yes	No	None
1999 – 2000	Solara	Yes	No	None
1994 – 1999	Celica	Yes	No	None
2000	Celica GT	Yes	No	None
2000	Celica GT–S	Yes	–	None
		–	Yes	55 MPH / 200 Miles
1993 – 2000	Corolla	Yes	No	None
2000	ECHO	Yes	No	None
1992 – 2000	Land Cruiser	Not Towable		–
2000	MR2 Spyder	Yes	N/A	None
1996 – 1998	Paseo	Yes	No	None
1992 – 1997	Previa 2WD	Not Towable		–
1992 – 1997	Previa 4WD	Not Towable		–
1998 – 2000	Sienna	Not Towable		–
1994 – 1999	Supra	Not Towable		–
1996 – 2000	RAV4 2WD	Yes	No	None
1996 – 2000	RAV4 4WD	Yes	No	None
1995 – 1998	Tercel	Yes	No	None
1996 – 2000	4Runner 2WD	Not Towable		–
1996 – 2000	4Runner 4WD	Not Towable		–
1995 – 2000	Tacoma 2WD	Not Towable		–
1995 – 2000	Tacoma 4WD	Not Towable		–
1993 – 1999	T100 2WD	Not Towable		–
1993 – 1999	T100 4WD	Not Towable		–
2000	Tundra 2WD	Not Towable		–
2000	Tundra 4WD	Not Towable		–

NOTE:

After "Dinghy" Towing, or at the recommended distance limits, let the Engine idle for more than 3 minutes before operating the vehicle or resuming towing.

NOTE:

Vehicles that are Dinghy towable will not sustain internal damage to the transmission or transfer components, as long as speed/distance limits are observed. The transmission must be placed in the "neutral" position when Dinghy towing. Dinghy towing these vehicles does not eliminate the possibility of damage to other vehicle systems (Body, Chassis, Electrical Systems, etc.).

TOYOTA

Technical Service BULLETIN

March 9, 2001

Title:

RETRO-FIT INTERNAL TRUNK RELEASE KITS

Models:

All Applicable '90 – '00 Models

TSB

ACCESSORIES

AX001-01

Introduction

In order to respond to requests of our valued customers, we are offering Retro–Fit Internal Trunk Release Kits. These kits allow the trunk to be opened from the inside in case of entrapment.

Applicable Vehicles

MODEL	MODEL CODE	MODEL YEAR	# CLAMPS
Avalon	MCX10	1995 – 1999	4
	MCX20	2000	4
Camry	SXV10, MCV10, VCV10	1992 – 1996	4
	SXV20, MCV20	1997 – 2000	4
Celica (Coupe)	AT200, ST204	1994 – 1999	4
Corolla (Sedan)	AE10#	1993 – 1997	4
	ZZE110	1998 – 2000	5
ECHO	NCP12	2000	4
MR2	SW20, 21	1990 – 1995	2
Paseo	EL44	1992 – 1995	4
	EL54	1996 – 1999	4
Solara	SXV20, MCV20	1999 – 2000	4
Tercel	EL42	1991 – 1994	4
	EL53	1995 – 1999	4

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
–	64640–33030	Trunk Release
–	64610–17040	Trunk Release (MR2 Only)
–	90464–00551	Clamp
–	MDC 00107–00316–TR	Installation Instructions

Installation Procedure

Order the appropriate trunk release, at least as many clamps as listed above, and a set of installation instructions. Follow the installation procedure detailed in the installation instructions. Installation time is 0.7 hours.

Warranty Information

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

Toyota Supports ASE Certification

TOYOTA

Technical Service BULLETIN

March 31, 2000

Title:

PORT INSTALLED RS3000 TVIP TRUNK COURTESY CONNECTION

Models:

'99 Camry

T3B

ACCESSORIES

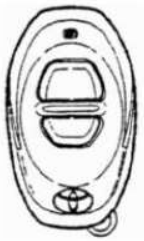
AX003–00

Introduction

The trunk courtesy connection for 1999 model year Camry vehicles equipped with a Port Installed Option RS3000 (V3) has been relocated from the luggage compartment light switch to below the dash (lower finish panel) on the driver's side in the Instrument Panel J/B. (Refer to Illustrations A & B on page 2.)

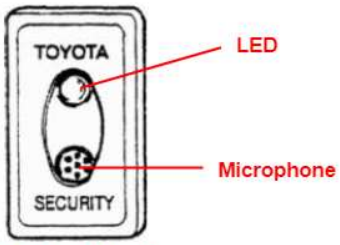
- The location was changed to improve the installation process.
- A splicing connector is used for the new trunk courtesy wire installation (blue) to the vehicle's wire harness at Instrument Panel J/B (red/yellow).
- The previous location is the same as the dealer installed RS3000 trunk courtesy connection to the luggage compartment light switch connection.

For service related purposes, this bulletin describes the procedures to locate the new trunk courtesy connection at Instrument Panel J/B in vehicles equipped with PIO RS3000.



Remote Control

- **The remote transmitter** has two buttons, Top and Bottom.



Status Monitor

- **The status monitor** has a Toyota label, LED, and microphone.

Applicable Vehicles

- **1999** model year **Camry** vehicles equipped with PIO (V3) TVIP.

Warranty Information

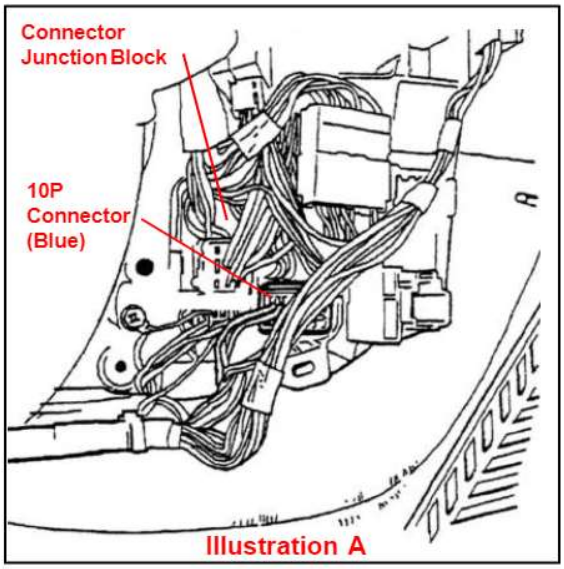
OP CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Locating Procedure

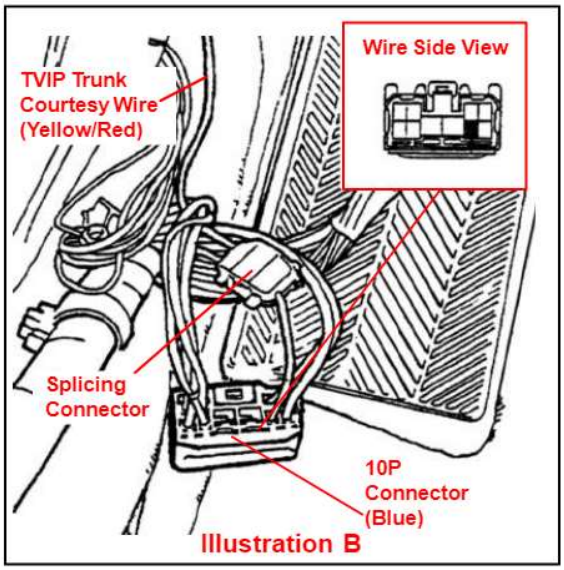
New Location:

These steps below are to be followed to locate the new trunk courtesy connection when servicing Camry vehicles equipped with the PIO RS3000 TVIP.

1. Remove the negative battery cable.
2. Remove the driver's step cover.
3. Remove the driver's cowl cover (1 nut).
4. Locate the Connector Junction Block in the driver's cowl area. You will notice a RED/YELLOW wire routed to the Blue 10P connector which terminates at an adjacent splicing connector. This is the TVIP Trunk Courtesy Wire.



5. Disconnect the Blue 10P connector from the Connector Junction Block. With the tab of the Blue 10P connector facing up, look at the back (wire side) and locate the wire in the bottom row, second space from the right, which has the splicing connector attached to it. This is the Vehicle's Trunk Courtesy Signal Wire.
6. After completing the parts inspection and repairs if applicable, reconnect the Blue 10P connector and install all previously removed parts.



Previous Location:

The White 1P connector for the Vehicle's Trunk Courtesy Signal is located at the trunk courtesy lamp switch near the trunk latch in the vehicle's trunk.

TOYOTA

Technical Service BULLETIN

March 19, 1999

Title:

TOYOTA "DINGHY" TOWING GUIDE

Models:

All Models

TSB

AX004–99 ACCESSORIES

Introduction

The following chart indicates which Toyota vehicles can be Dinghy towed (towed with four wheels on the ground) behind a Motorhome.

CAUTION:

Dinghy towing a vehicle behind a Motorhome requires special towing equipment and accessories. Please see your Motorhome Manufacturer / Service Outlet for recommended towing equipment.

Affected Vehicles

- **All Models**

YEAR	MODEL	DINGHY TOWABLE		SPEED/DISTANCE LIMITS
		M/T	A/T	
1995–1999	Avalon	Not Towable		–
1992–1999	Camry	Yes	No	None
1993–1999	Corolla	Yes	No	None
1995–1998	Tercel	Yes	No	None
1996–1998	Paseo	Yes	No	None
1994–1999	Celica	Yes	No	None
1994–1998	Supra	Not Towable		–
1996–1999	RAV4 2WD	Yes	No	None
1996–1999	RAV4 4WD	Yes	No	None
1995–1999	Tacoma 2WD	Not Towable		–
1995–1999	Tacoma 4WD	Not Towable		–
1996–1999	4Runner 2WD	Not Towable		–
1996–1999	4Runner 4WD	Not Towable		–
1993–1998	T100 2WD	Not Towable		–
1993–1998	T100 4WD	Not Towable		–
1992–1999	Land Cruiser	Not Towable		–
1992–1999	Previa 2WD	Not Towable		–
1992–1999	Previa 4WD	Not Towable		–
1998–1999	Sienna	Not Towable		–

NOTE:

Vehicles that are Dinghy towable will not sustain internal damage to the transmission or transfer components. The transmission must be placed in the "neutral" position when Dinghy towing. Dinghy towing these vehicles does not eliminate the possibility of damage to other vehicle systems (Body, Chassis, Electrical Systems, etc.)

Warranty Information

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

Toyota Supports ASE Certification

TOYOTA

Technical Service **BULLETIN**

April 25, 1997

Title:

1997 CAMRY REAR SPOILER INSTALLATION

Models:

'97 Camry

TSB

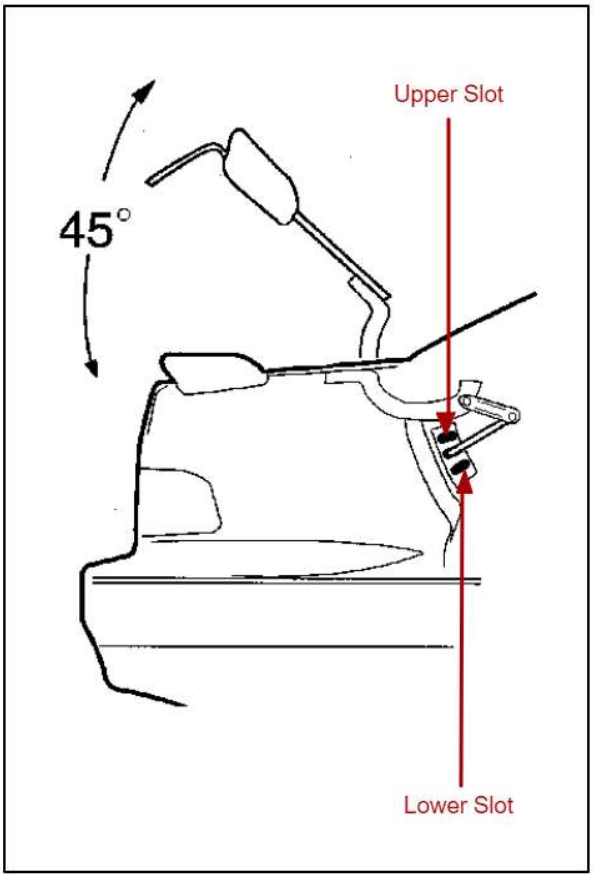
ACCESSORY AX005-97

Introduction Upon installation of the rear spoiler, as outlined in the Dealer Installation Instruction sheet enclosed with the spoiler, please follow the outlined procedure for verification of the trunk lid operation:

Affected Vehicles 1997 Model Year Camry.

Procedure

1. Reinstall the carpet trim panel on the inside of the trunk lid with the appropriate fasteners.
2. The trunk lid must remain **open** and **hold its position**, up to approximately 45 degrees from horizontal as shown.
3. If the trunk lid does **not** hold its open position and the trunk lid **closes:**
   a. Move the end of one of the torsion rods to the next upper open slot.
   b. Verify that the trunk lid functions as outlined above.
   c. If the condition is not corrected, adjust the other torsion bar to the next upper open slot position.
4. If the trunk lid does **not** hold its open position and the trunk lid **opens fully forcibly:**
   a. Move the end of one of the torsion rods to the next lower open slot position.
   b. Verify that the trunk lid functions as outlined above.
   c. If the condition is not corrected, please adjust the other torsion bar to the next lower open slot position.



NOTE:
Upon completion of the procedure described in this bulletin, please refer to the Dealer Installation Instructions for final checks.

Toyota Supports ASE Certification

TOYOTA

Technical Service BULLETIN

April 9, 1999

Title:

TOYOTA VIP RS3000 PROGRAMMING

Models:

All Models

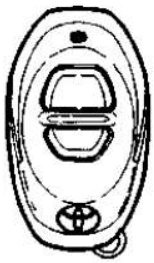
TSB

ACCESSORIES AX005–99

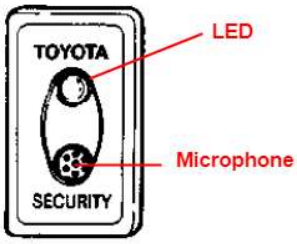
Introduction

This bulletin describes the procedures that are used to program the two–button remote control for vehicles that are equipped with the dealer or port installed option (PIO), not the factory security system. For factory security system remote control programming, refer to the appropriate vehicle repair manual.

Verification of the dealer or PIO Toyota VIP can easily be performed by identifying the status monitor or remote transmitter.



Remote Control



Status Monitor

- **The remote transmitter** has two buttons, Top and Bottom.
- **The status monitor** has a Toyota label, LED, and microphone.

Starting with 1998 MY, the remote controls for the RS3000 System were revised with new coding logics. The color of the remote control cases was changed from Black to Gray to help identify the new remote controls. The new (Gray) remote controls will not work with the RS3000 ECU's produced prior to 1998 MY. The old (Black) remote controls are still available for Service Parts.

NOTE:

The TVIP is programmed to operate with the two remote controls that come with the vehicle. The ECU (computer) can be programmed to operate with up to four different remote controls. For customer satisfaction, request that any existing remote be furnished when programming a new or replacement unit.

Affected Vehicles

- **All models with dealer or PIO equipped Toyota VIP (RS3000)**

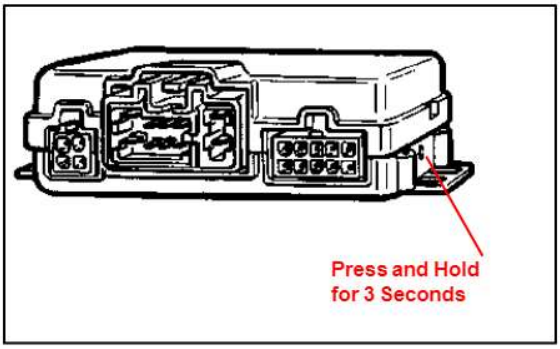
Warranty Information

CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not applicable to warranty	–	–	–	–

Programming Procedure For location of the RS3000 ECU, refer to ECU Mounting Locations, Page 4.

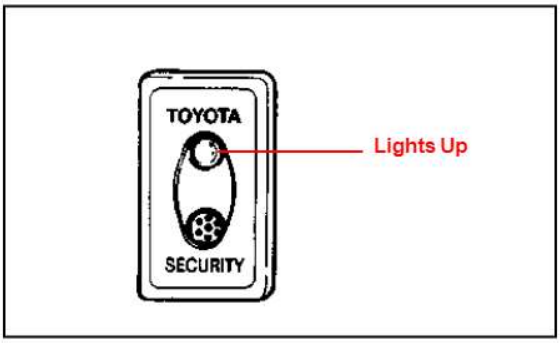
I. To program (add) a REMOTE CONTROL to the system:

1. Insert the key into ignition switch, and turn it to "ON".
2. Press and hold the ECU's PROGRAMMING SWITCH for 3 seconds.



The STATUS MONITOR LED turns on for 5 seconds.

NOTE:
YOU MUST PERFORM THE NEXT STEP WITHIN 5 SECONDS.

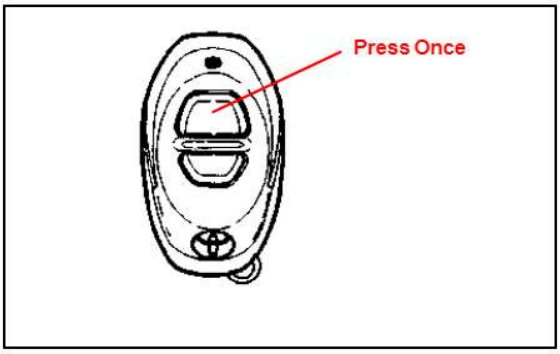


3. Press and release a REMOTE CONTROL's top or bottom button.*

   The STATUS MONITOR LED turns off.

   The Piezo "chirper" chirps once.

   The exterior lights flash once.
4. Turn off the ignition. The ECU will now operate with the REMOTE CONTROL just programmed.

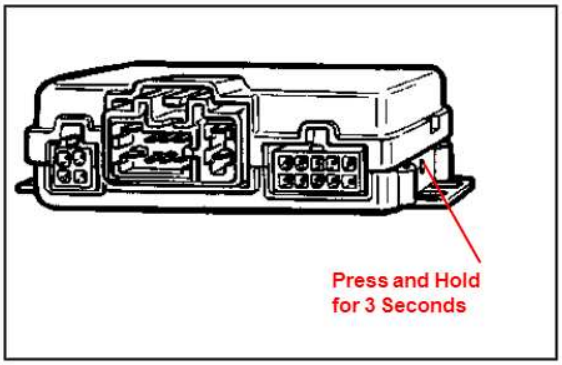


* Either button on your REMOTE CONTROL can be programmed to operate the system. The bottom button can be programmed to operate a second vehicle with the Toyota VIP.

Programming Procedure (Continued)

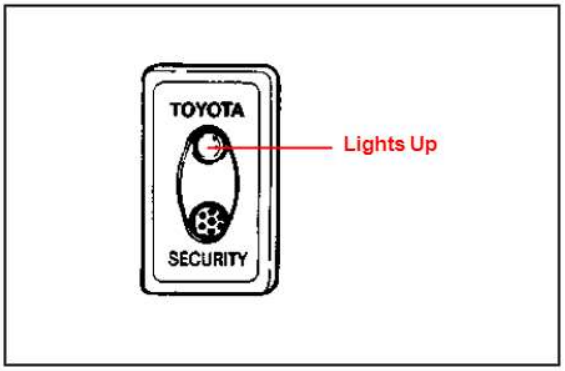
II. To erase all REMOTE CONTROL codes from the system:

1. Insert key into the ignition switch, and turn it to "ON".
2. Press and hold the ECU's PROGRAMMING SWITCH for 3 seconds.



The STATUS MONITOR LED turns on for 5 seconds.

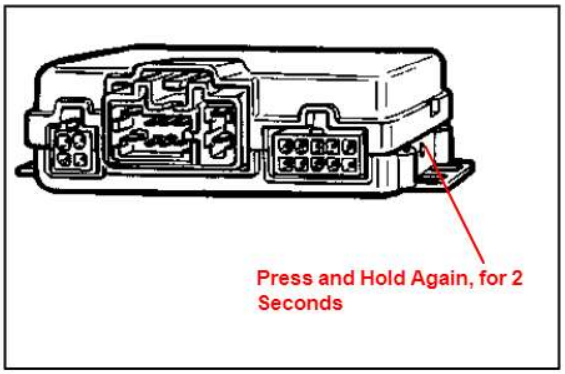
NOTE:
YOU MUST PERFORM THE NEXT STEP WITHIN 5 SECONDS.



3. Press and hold the ECU's PROGRAMMING SWITCH for over 2 seconds again.

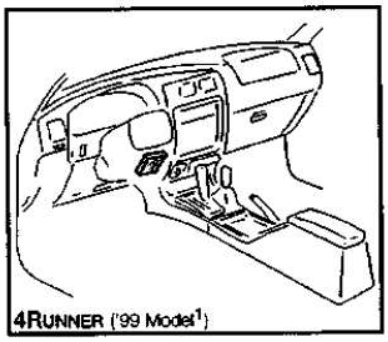
   The STATUS MONITOR LED turns off, then flashes 3 times.

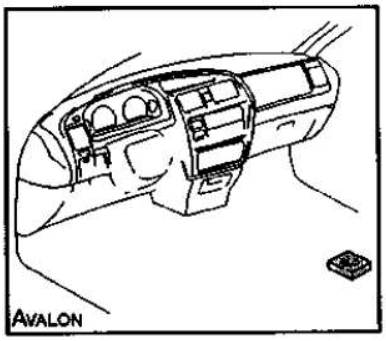
   The Piezo "chirper" chirps three times and the exterior lights flash 3 times.

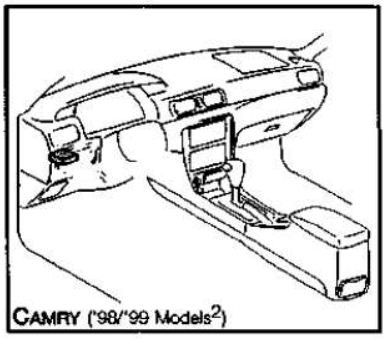


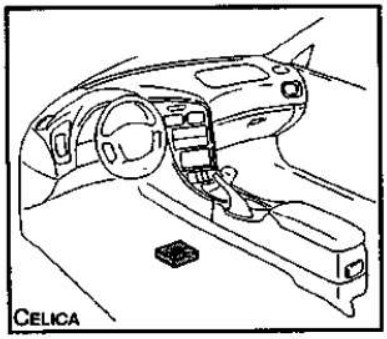
4. Turn off the ignition. The ECU has cleared all REMOTE CONTROL codes; until another REMOTE CONTROL is programmed, the system will not work with any REMOTE CONTROL.

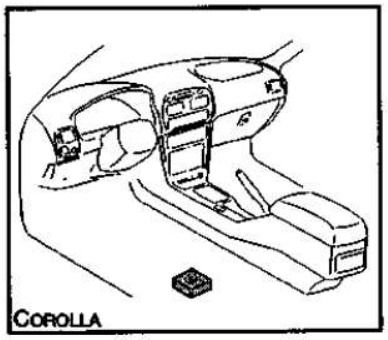
ECU MOUNTING LOCATIONS

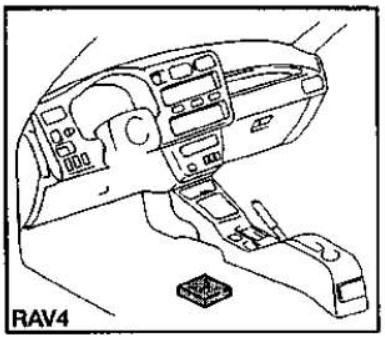


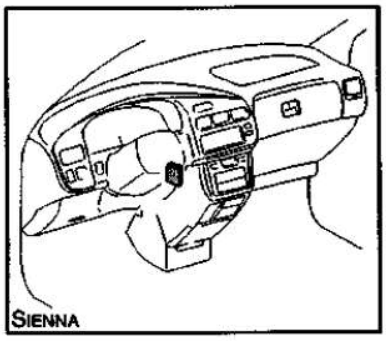


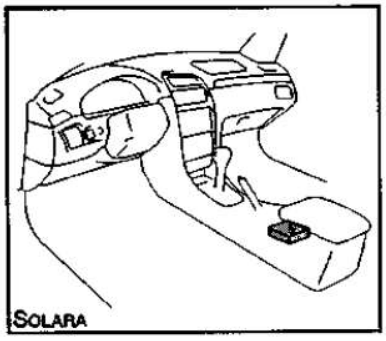


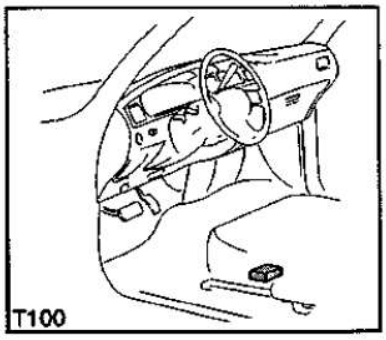


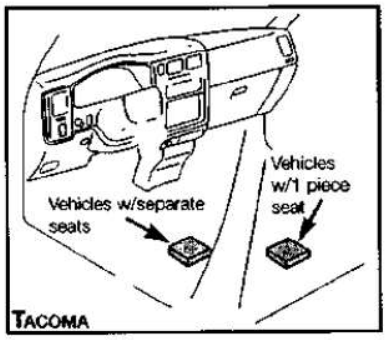


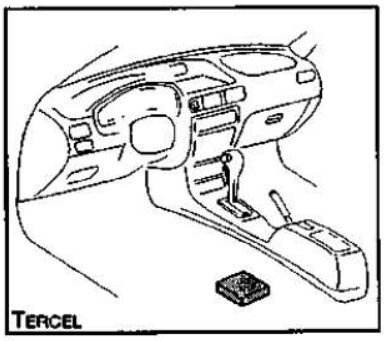












1. '98 Model and prior has ECU located beneath the driver's seat.
2. '97 Model and prior has ECU located beneath the driver's seat.

TOYOTA

Technical Service BULLETIN

April 14, 2000

Title:

RS3000 TVIP AUTOMATIC DOOR LOCK FEATURE PROGRAMMING

Models:

All Models

TSB

ACCESSORIES AX005–00

Introduction

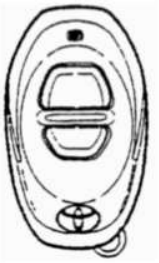
As a convenience feature, the RS3000 TVIP system is programmed to automatically lock all of the vehicle's doors (for vehicles equipped with power door locks) when the ignition key is turned to "ON" or "START", and unlock them when the key is turned back to "ACC" or "LOCK". The initial factory setting of this programmable feature is "ON". For some customers however, this feature is not desirable due to instances of passenger lockout when the driver enters the vehicle first and starts the ignition.

For vehicles equipped with RS3000 TVIP, this bulletin advises the dealers to communicate the following information to the customers at vehicle delivery:

1. Inform the customers of the RS3000 system's automatic (ignition controlled) door lock/unlock feature.
2. Inquire about the customers' preference for it to be set "ON" or "OFF".
3. Reprogram the feature's setting according to the customer's preference.

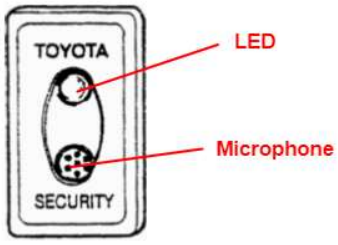
To change the feature's operation mode, follow the programming procedures on page 2.

Verification of the Dealer–Installed Option (DIO) or Port–Installed Option (PIO) RS3000 TVIP System can easily be performed by identifying the status monitor and remote transmitter.



Remote Control

- **The remote transmitter** has two buttons, Top and Bottom.



Status Monitor

- **The status monitor** has a Toyota label, LED, and microphone.

Applicable Vehicles

- **All models** equipped with DIO or PIO RS3000 TVIP.

Warranty Information

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

Programming Procedure

AUTOMATIC (IGNITION–CONTROLLED) DOOR LOCKING/UNLOCKING FUNCTION

The factory setting for the Automatic Door Locking/Unlocking Function is “ON”.

To change this feature’s operation, follow the steps below:

1. Sit in the driver’s seat with driver’s door open.
2. Insert the key into the ignition switch, and turn it to “ON” position (not “ACC”) 5 times (ON > LOCK > ON > LOCK > ON > LOCK > ON > LOCK > ON) within a 10 second period.

System Response: The STATUS MONITOR’s LED turns on, and the PIEZO BUZZER sounds once.

> **NOTE:**
> **You must perform the next steps within 30 seconds.**

3. Select the customer’s preferred operating mode.

Mode	Programming Step	Programming Completion
AUTOMATIC DOOR LOCKING/UNLOCKING **“ON”**	Close the driver’s door.	Turn the ignition switch to the “LOCK” position. **System Response:** The PIEZO BUZZER sounds once, and the exterior lights flash once.
AUTOMATIC DOOR LOCKING/UNLOCKING **“OFF”**	Close the driver’s door, then open and close it one more time.	Turn the ignition switch to the “LOCK” position. **System Response:** The PIEZO BUZZER sounds twice, and the exterior lights flash twice.

TOYOTA

Technical Service BULLETIN

April 23, 1999

Title:

RS3000 TVIP PROGRAMMING CHANGES FOR GBS

Models:

All Models

TSB

ACCESSORIES

AX006–99

Introduction

Starting with 1999 MY, the programming in the RS3000 ECU for the Glass Breakage Sensor (GBS) to trigger the alarm has been changed to improve the Toyota Vehicle Intrusion Protection (TVIP) system's theft warning feature when glass breakage or impact to the glass is detected.

Previous operation of GBS (for 1998 MY and prior):

- Upon (first) detection of breakage of the vehicle's glass, the GBS will sound the security system for 5 seconds (3 horn honks).
- If there is a second detection of glass breakage, within 5 seconds of the first detection, the security system will sound for the full duration of 59 seconds.

Improved operation of GBS (from 1999 MY):

- Upon (first) detection of breakage of the vehicle's glass, the GBS will sound the security system for 20 seconds.
- If there is a second detection of glass breakage, the security system will sound for the full duration of 59 seconds, regardless of time between the first and second detections.
- After the first detection, any subsequent detection will trigger the alarm for the full duration of 59 seconds as long as the security system is armed. The GBS trigger cycle will reset once the security system is disarmed and then rearmed.

This improvement is intended to enhance the previous trigger cycle of the security system and ward off an intruder.

The color of the previous (1998 MY and prior) RS3000 ECU was black. The new RS3000 ECU color is gray.

Affected Vehicles

- **All Models**

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
08585–00921	SAME	RS3000 Base Kit

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not applicable to warranty	–	–	–	–

RS3000 TVIP PROGRAMMING CHANGES FOR GBS – AX006–99 April 23, 1999

Repair Procedure

When performing the RS3000 System Test, check the Glass Breakage Sensor sensitivity as follows:

1. Press and release the Remote Control's top button to arm the system.
2. Wait two seconds.
3. With the tip of the ignition key (or striker tool), softly tap the center of the driver's door window glass.
   - If the system is triggered (horn sounds for **20 seconds**), the sensitivity must be adjusted. Turn the Glass Breakage Sensor ECU's adjustment screw clockwise one notch, and repeat this step again.
4. If the system is not triggered, repeat the glass tapping with moderate force.
   - The system should trigger when the glass is tapped with moderate force. If it is not triggered, turn the Glass Breakage Sensor ECU's adjustment screw clockwise one notch, and repeat this step again.

CAUTION:

Use caution when performing the step above. Do not tap the window glass with too much force, or the glass may crack or break. Use extra caution when the temperature is extremely cold.

NOTE:

The Owner's Guide included in the RS3000 Base Kit is changed to reflect the (GBS logic) improvement. There is no change to the GBS ECU itself.

TOYOTA

Technical Service BULLETIN

September 22, 2000

Title:

INTERCHANGEABILITY OF ACCESSORY ALLOY WHEELS

Models:

'99 – '01 Avalon, Camry, Solara & Sienna

TSB

ACCESSORIES AX007–00

Introduction

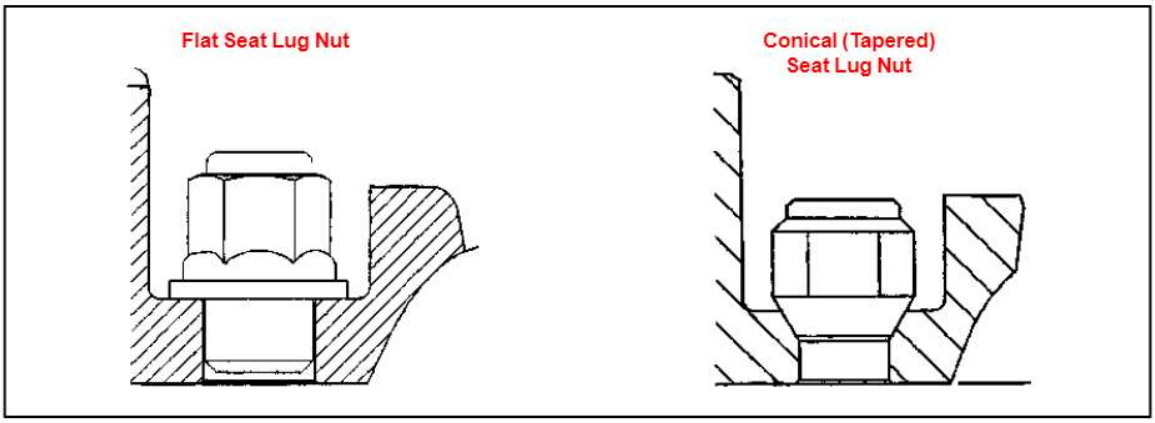
This bulletin introduces a new accessory alloy wheel for 1999 through 2001 model year Avalon, Camry, Solara and Sienna vehicles. This new wheel is similar in appearance to an existing alloy wheel. This bulletin points out that the two wheels are not interchangeable.

Applicable Vehicles

- **1999 – 2001** model year **Avalon, Camry, Solara & Sienna.**

Parts Information

WHEEL	WHEEL PART NUMBER	REMARK
Style 1, Split 5 Spoke	PT351–00990	Conical (Tapered) Seat Lug Nut
Style 2, Split 5 Spoke	PT351–00991	Flat Seat Lug Nut



Every applicable vehicle must be installed with all four wheels of the same part number. In cases where replacement of one wheel is necessitated, it must be replaced by a wheel of the same part number. Replacement of one part number with the other is permitted only as a set of four wheels.

The service part numbers for the lug nuts are not interchangeable.

WHEEL PART NUMBER	LUG NUT PART NUMBER	LUG NUT DESCRIPTION
PT351–00990	PT351–00990–LN	Conical (Tapered) Seat
PT351–00991	PT351–12009–01	Flat Seat

The service part numbers for the center caps are not interchangeable.

WHEEL PART NUMBER	CENTER CAP PART NUMBER
PT351–00990	PT351–00991–WC
PT351–00991	PT351–00991–CC

Warranty Information

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

Toyota Supports ASE Certification

TOYOTA

Technical Service BULLETIN

January 21, 2000

Title:

SEAT BELT EXTENDER

Models:

'98 – '00 Model Year

TSB

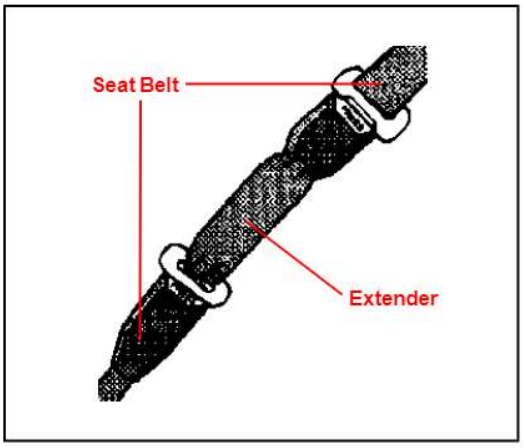
BODY

BO002–00

Introduction

Toyota customers who find it necessary to increase the length of their seat belts may obtain Seat Belt Extenders at **no cost** through their local Toyota dealer.

- The extender is available in 6 inch, 9 inch, 12 inch, 15 inch and 18 inch lengths.
- The extender is available **only in black**.
- Owners are informed of the seat belt extender availability through the Toyota Owner's Manual included in each vehicle.



The customer *(individual requiring the extender)* must visit a Toyota dealership to have the required measurements made and to complete the seat belt extender worksheet. The worksheet will allow the proper fitting and selection of a seat belt extender for the customer. The dealership personnel should then determine the applicable part number and place a ***Critical Order*** through the ***TDN Parts Network.***

The dealership service department should complete the affixed Seat Belt Extender Label and review the "owner instruction sheet" with the customer. The dealership should give a copy of the completed worksheet to the customer and keep the original in the customer's file.

To assure utmost owner satisfaction, it is recommended that a dealership designate one person to coordinate all activities related to the seat belt extender issue.

From past sales history, it is recommended that dealerships **do not stock** Seat belt extenders due to low demand and the need for customer fitting.

This bulletin contains the following information:

Procedure and Sample Label.....Page 2
Application Charts .....Page 3–4
Part Number Information.....Page 5
Owner Instructions.....Page 6
Seat Belt Extender Worksheet.....Page 7

Applicable Vehicles

- All **Toyota** models, **1998** through **2000** model years.

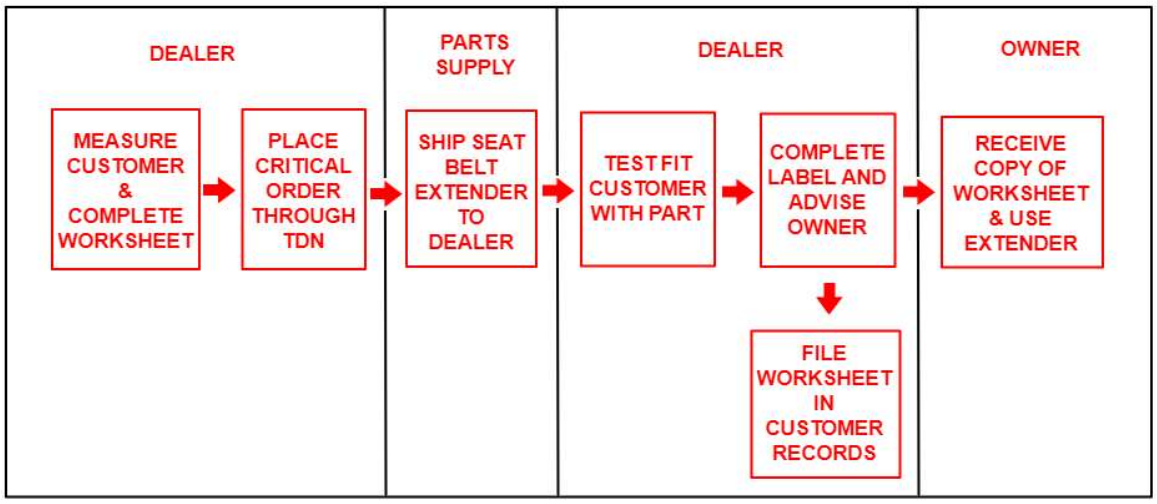
Warranty Information

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

SEAT BELT EXTENDER: '98 – '00 – BO002–00 January 21, 2000

Procedure

1. Owner requests a seat belt extender from dealer.
2. Dealer verifies the need for a seat belt extender and obtains a current copy of this TSB and copies the worksheet.
3. Dealer measures the customer and completes the worksheet. Dealer determines the correct part number and places a Critical Order for the part through the TDN Parts Network.
4. Dealer receives seat belt extender and calls the customer in to check fit of the part.
5. If the seat belt extender fit is good, dealership personnel completes the customer information label on the part, explains usage of the part, and gives the customer a copy of the completed worksheet.
6. Dealer places a copy of the completed worksheet in the customer's records.



Sample Seat Belt Extender Customer Information Label

CAUTION

THIS SEAT BELT EXTENDER IS TO BE USED ONLY BY: _____

ON VEHICLE: _____

VIN: _____

SEATING POSITION: _____

USE BY OTHERS, OR IN ANOTHER SEATING POSITION, OR IN ANOTHER VEHICLE COULD REDUCE SEAT BELT RESTRAINT IN AN ACCIDENT AND RESULT IN PERSONAL INJURY.

SEAT BELT EXTENDER: '98 – '00 – BO002–00 January 21, 2000

Front Seat Belt Extender Applications

FRONT SEAT – EXTENDER APPLICATION				
MODEL	TYPE	'00	'99	'98
RAV4	—	R–5	R–5	R–5
RAV4 EV	—	R–5	R–5	R–5
TERCEL	RH	—	R–5	R–5
	LH			
PASEO	COUPE (RH)	—	R–5	R–5
	COUPE (LH)			
	CONVERTIBLE	—	N–6	N–6
ECHO	—	K–5	—	—
COROLLA	TMMC PRODUCTION	Q–4	Q–4	Q–4
	NUMMI PRODUCTION			
MR2	—	N–6	—	—
CELICA	LIFTBACK & COUPE	N–6	N–6	N–6
	CONVERTIBLE	—		
CAMRY	TMC PRODUCTION	Q–4	Q–4	Q–4
	TMMK PRODUCTION			
CAMRY SOLARA	COUPE	Q–4	Q–4	—
	COVERTIBLE	Q–4	—	—
SUPRA	—	—	—	R–3
AVALON *1	—	T–1	Q–2	Q–2
SIENNA	—	Q–4	Q–4	Q–4
TACOMA *1	—	S–1	S–1	S–1
4RUNNER	—	K–5	K–5	K–5
LAND CRUISER	—	K–5	K–5	K–5
T100 *1	—	—	—	R–5
TUNDRA *1	—	Q–4	—	—

*1 The extender must not be used for the center seat belt of Avalon, Tacoma, T100 and Tundra which have bench seats.

SEAT BELT EXTENDER: '98 – '00 – BO002–00 January 21, 2000

Rear Seat Belt Extender Applications

REAR SEAT – EXTENDER APPLICATION				
MODEL	TYPE	'01	'00	'99
RAV4	W/TOKAI RIKA	R–5*1	R–5*1	R–5*1
	W/QSS	Q–4*2	Q–4*2	Q–4*2
RAV4 EV	—	Q–4	Q–4	Q–4
TERCEL	W/TOKAI RIKA	—	R–5*1	R–5*1
	W/QSS	—	Q–4*2	Q–4*2
PASEO	COUPE	—	R–5	R–5
	CONVERTIBLE (RH)	—	N–3	N–1*3, N–3*4
	CONVERTIBLE (LH)	—	N–6	N–5*3, N–6*4
ECHO	—	R–5	—	—
COROLLA	TMMC PRODUCTION	Q–4	Q–4	Q–4
	NUMMI PRODUCTION	T–1	T–1	T–1
CELICA	LIFTBACK & COUPE	N–6	N–6	N–6
	CONVERTIBLE (RH)	—	N–1	N–1
	CONVERTIBLE (LH)	—	N–5	N–5
CAMRY	TMC PRODUCTION	Q–4	Q–4	Q–4
	TMMK PRODUCTION			
CAMRY SOLARA	COUPE	Q–4	Q–4	—
	CONVERTIBLE	Q–4	—	—
SUPRA	—	—	—	R–3
AVALON	—	T–1	Q–2	Q–2
SIENNA	—	Q–4	Q–4	Q–4
TACOMA	XTRACAB	A–2	A–2	A–2
4RUNNER	—	R–5	R–5	R–5
LAND CRUISER	—	K–5	K–5	K–5
T100	XTRACAB	—	—	K–4
TUNDRA	ACCESS CAB	Q–4	—	—

*1 This seat belt was supplied by TOKAI RIKA. Make sure that the I/D mark on the back side of the seat belt buckle is the same as shown.



*2 This seat belt was supplied by QSS. Make sure that the I/D mark on the back side of the seat belt buckle is the same as shown.



*3 N–1 and N–5 are applied to PASEO convertible from September 1997 to November 1997 production.

*4 N–3 and N–6 are applied to PASEO convertible from December 1997 production.

Parts Information

SERIES	PART NUMBER PREFIX: 73399–				
	LENGTH				
	6 INCH	9 INCH	12 INCH	15 INCH	18 INCH
R–1	–12010	–12020	–12030	–12040	–12050
R–2	–12160	–12170	–12180	–12190	–12200
R–3	–50010	–50020	–50030	–50040	–50050
R–4	–16010	–16020	–16030	–16040	–16050
R–5	–16060	–16070	–16080	–16090	–16100
N–1	–12060	–12070	–12080	–12090	–12100
N–3	–20011	–20021	–20031	–20041	–20051
N–4	–20060	–20070	–20080	–20090	–20100
N–5	–20110	–20120	–20130	–20140	–20150
N–6	–20160	–20170	–20180	–20190	–20200
K–1	–12110	–12120	–12130	–12140	–12150
K–2	–22010	–22020	–22030	–22040	–22050
K–3	–22060	–22070	–22080	–22090	–22100
K–4	–33010	–33020	–33030	–33040	–33050
K–5	–35010	–35020	–35030	–35040	–35050
A–1	–02010	–02020	–02030	–02040	–020050
A–2	–01060*1	–01070	–01080	–01090	–01100
Q–1	–02060	–02070	–02080	–02090	–02100
Q–2	–06010	–06020	–06030	–06040	–06050
Q–3	–06060	–06070	–06080	–06090	–06100
Q–4	–0W010	–0W020	–0W030	–0W040	–0W050
S–1	–04010	–04020	–04030	–04040	–04050
T–1	–01110	–01120	–01130	–01140	–01150

*1 Length: 7 1/4"

SEAT BELT EXTENDER: '98 – '00 – BO002–00 January 21, 2000

Owner Instructions

Failure to follow the recommendations indicated below could result in less effectiveness of the seat belt restraint system in case of vehicle collision, causing personal injury.

The Seat Belt Extender must not be used:

A. By anyone other than for whom it was provided (name recorded on seat belt extender).

B. In any vehicle and/or seat position other than the one for which it was provided.

C. When the Seat Belt Extender is provided for rear seat positions (with automatic locking retractor), make sure the retractor is locked when in use.

If your seat belt cannot be fastened securely because it is not long enough, a personalized seat belt extender is available from your Toyota dealer free of charge.

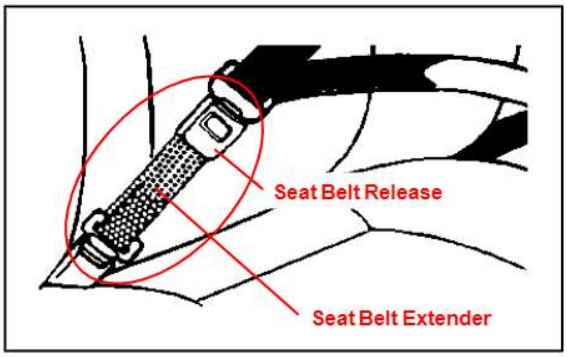
Please contact your local Toyota dealer so that the dealer can order the proper required length for the extender. Bring the heaviest coat you expect to wear for proper measurement and selection of length. Additional ordering information is available at your Toyota dealer.

CAUTION:

When using the seat belt extender, observe the following. Failure to follow these instructions could result in less effectiveness of the seat belt restraint system in case of vehicle accident, increasing the chance of personal injury.

- **Never use the Seat Belt Extender if you can COMFORTABLY fasten the seat belt without it.**
- **The Seat Belt Extender must never be used with any child safety seats.**
- **Remember that the extender provided for you may not be safe when used on a different vehicle, or for another person or at a different seating position than the one originally intended for.**

To connect the extender to the seat belt, insert the tab into the seat belt buckle so that the "PRESS" signs on the buckle–release buttons of the extender and the seat belt are both facing outward as shown.



You will hear a click when the tab locks into the buckle.

When releasing the seat belt, press on the buckle–release button on the extender, not on the seat belt. This helps prevent damage to the vehicle interior and extender itself.

When not in use, remove the extender and store in the vehicle for future use.

SEAT BELT EXTENDER WORKSHEET

PLEASE COPY THIS ORIGINAL WORKSHEET FOR EACH EXTENDER NEEDED

CAUTIONS:

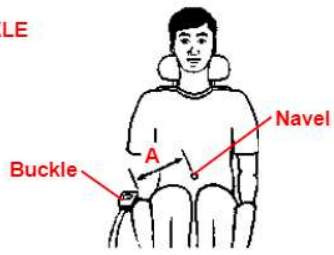
- **To minimize the chance and/or severity of injury in an accident, the seat belt extender must only be used:**
  1 By the person for whom it was provided
  2 In the seat position for which it was provided
- **The seat belt extender must never be used with any child safety seats.**
- **When the seat belt extender is provided for rear seat positions (with automatic locking retractor), make sure the retractor is locked when extender belt is in use.**

DEALER			SEAT BELT EXTENDER APPLICATION	APPLICANT		
DEALER CODE	DEALER NAME			APPLICANT NAME		
ADDRESS				ADDRESS		
CITY & STATE		ZIP		CITY & STATE	ZIP	PHONE
EMPLOYEE NAME	MODEL YEAR	BODY TYPE		SEATING POSITION	VEHICLE IDENTIFICATION NUMBER	

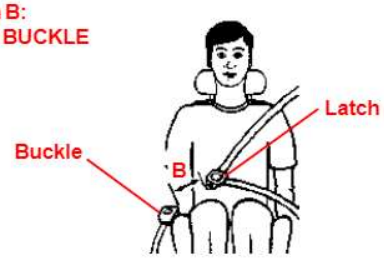
DIRECTIONS FOR DETERMINING PROPER EXTENDER LENGTH

1. **Place the seat in the position the applicant normally uses**
2. **With applicant in the seat, wearing thickest coat expected to be worn, pull belt all the way out and try to buckle belt**
   - **If the belt latches into buckle and feels comfortable against upper chest area, an extender is not needed.**
   - **If belt does not buckle continue with step 3**
   - **If buckle latches but belt has no slack remaining, continue with step 3**
3. **Measure distance between applicant's navel and seat belt buckle (dimension A) and enter on worksheet**
4. **With belt all the way out, measure distance between latch tip and buckle tip (dimension B) and enter on worksheet**
   NOTE: If belt latches but there is no slack enter zero as dimension B
5. **Subtract dimension B from dimension A and record number in check number box on worksheet**
6. **Seat belt extender length is dimension B rounded up to next extender length (without exceeding check number)**
   NOTE: If extender length exceeds check number, an extender can not be provided to the customer

Dimension A:
NAVEL TO BUCKLE



Dimension B:
LATCH TO BUCKLE



SEAT BELT EXTENDER CALCULATION		
DIMENSION A:	DIMENSION B:	CHECK NUMBER:

SEAT BELT EXTENDER AUTHORIZATION

- **The same seat belt extender can be used for right and left seating applications. Each seat belt extender will have a label identifying the owner, VIN and seating position. Seat belt extenders are available only in black.**
- **Applicant's Signature:** _____ **Date:** _____
  (Actual user of seat belt extender)

TOYOTA

Technical Service BULLETIN

January 26, 2001

Title:

SEAT BELT EXTENDER

Models:

'99 – '01 Model Year

TSB

BODY

BO002-01

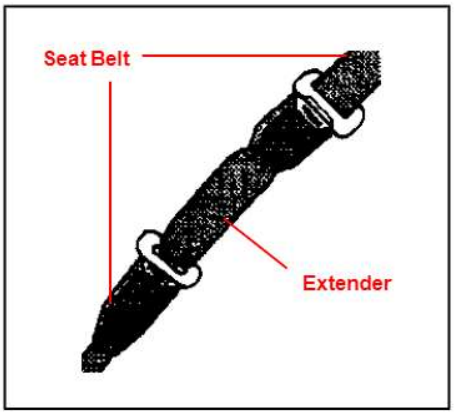
TSB UPDATE NOTICE:

The information contained in this TSB updates BO020–00 dated August 11, 2000. Revised text is red and underlined.

Introduction

Toyota customers who find it necessary to increase the length of their seat belts may obtain Seat Belt Extenders at **no cost** through their local Toyota dealer.

- The extender is available in 6 inch, 9 inch, 12 inch, 15 inch and 18 inch lengths.
- The extender is available **only in black.**
- Owners are informed of the Seat Belt Extender availability through the Toyota Owner's Manual included in each vehicle.



The customer (individual requiring the extender) must visit a Toyota dealership to have the required measurements made and to complete the Seat Belt Extender worksheet. The worksheet will allow the proper fitting and selection of a Seat Belt Extender for the customer. The dealership personnel should then determine the applicable part number and place a ***Critical Order*** through the ***TDN Parts Network.***

The dealership service department should complete the affixed Seat Belt Extender Customer Information Label and review the "Owner Instruction Sheet" with the customer. The dealership should give a copy of the completed worksheet to the customer and keep the original in the customer's file.

To assure utmost owner satisfaction, it is recommended that a dealership designate one person to coordinate all activities related to the Seat Belt Extender issue.

It is recommended that dealerships **do not stock** Seat Belt Extenders due to the need for proper fitting to individual customers.

This bulletin contains the following information:

Procedure and Sample Label ..... Page 2
Application Charts ..... Pages 3–4
Part Number Information ..... Page 5
Owner Instructions ..... Page 6
Seat Belt Extender Worksheet ..... Page 7

Applicable Vehicles

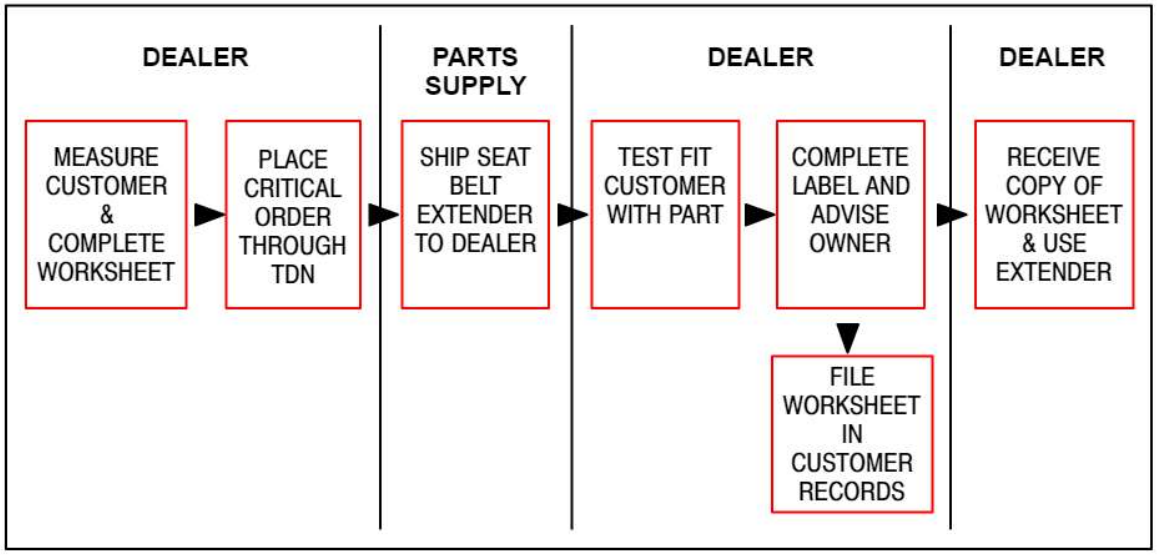
- **1999** through **2001** model year **Toyota** vehicles.

Warranty Information

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

Procedure

1. Owner requests a Seat Belt Extender from dealer.
2. Dealer verifies the need for a Seat Belt Extender and obtains a current copy of this TSB and copies the Worksheet.
3. Dealer measures the customer and completes the Worksheet. Dealer determines the correct part number and places a Critical Order for the part through the TDN Parts Network.
4. Dealer receives Seat Belt Extender and calls the customer in to check fit of the part.
5. If the Seat Belt Extender fit is good, dealership personnel completes the Customer Information Label on the part, explains usage of the part, and gives the customer a copy of the completed Worksheet.
6. Dealer places copy of the completed Worksheet in the customer's records.



Sample Seat Belt Extender Customer Information Label

CAUTION

THIS SEAT BELT EXTENDER IS TO BE USED ONLY BY: _____

ON VEHICLE: _____

VIN: _____

SEATING POSITION: _____

USE BY OTHERS, OR IN ANOTHER SEATING POSITION, OR IN ANOTHER VEHICLE COULD REDUCE SEAT BELT RESTRAINT IN AN ACCIDENT AND RESULT IN PERSONAL INJURY.

Front Seat Belt Extender Applications

FRONT SEAT – EXTENDER APPLICATION				
MODEL	**TYPE**	**'01**	**'00**	**'99**
RAV4	–	R–5	R–5	R–5
ECHO	–	K–5	K–5	–
COROLLA	TMMC PRODUCTION	Q–4	Q–4	Q–4
	NUMMI PRODUCTION			
PRIUS	–	N–7	–	–
MR2 SPYDER	–	N–6	N–6	–
CELICA	LIFTBACK & COUPE	N–6	N–6	N–6
	CONVERTIBLE	–	–	
CAMRY	TMC PRODUCTION	Q–4	Q–4	Q–4
	TMMK PRODUCTION			
CAMRY SOLARA	COUPE	Q–4	Q–4	Q–4
	CONVERTIBLE			–
AVALON*	–	T–1	T–1	Q–2
SIENNA	–	Q–4	Q–4	Q–4
TACOMA*	–	S–2	S–1	S–1
4RUNNER	–	K–5	K–5	K–5
LAND CRUISER	–	K–5	K–5	K–5
SEQUOIA	–	Q–4	–	–
TUNDRA*	–	Q–4	Q–4	–
HIGHLANDER	–	R–5	–	–

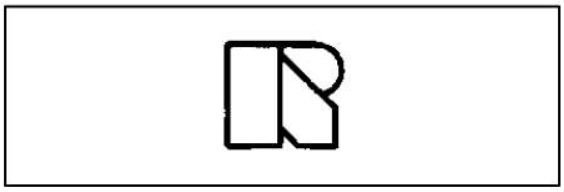
* The extender must not be used for the center seat of Avalon, Tacoma, and Tundra which have bench seats.

SEAT BELT EXTENDER: '99–'01 MODEL YEAR – BO002-01 January 26, 2001

Rear Seat Belt Extender Applications

REAR SEAT – EXTENDER APPLICATION				
MODEL	**TYPE**	**'01**	**'00**	**'99**
RAV4	W/TOKAI RIKA	R–5	R–5*1	R–5*1
	W/QSS	–	Q–4*2	Q–4*2
ECHO	–	R–5	R–5	–
COROLLA	TMMC PRODUCTION	Q–4	Q–4	Q–4
	NUMMI PRODUCTION	T–1	T–1	T–1
PRIUS	–	N–7	–	–
CELICA	LIFTBACK & COUPE	N–6	N–6	N–6
	CONVERTIBLE (RH)	–	–	N–1
	CONVERTIBLE (LH)			N–5
CAMRY	TMC PRODUCTION	Q–4	Q–4	Q–4
	TMMK PRODUCTION			
CAMRY SOLARA	COUPE	Q–4	Q–4	Q–4
	CONVERTIBLE			–
AVALON	–	T–1	T–1	Q–2
SIENNA	–	Q–4	Q–4	Q–4
TACOMA	XTRACAB	A–2	A–2	A–2
4RUNNER	–	R–5	R–5	R–5
LAND CRUISER	–	K–5	K–5	K–5
SEQUOIA	REAR SEAT #1	T–1	–	–
	REAR SEAT #2	Q–4		
TUNDRA	ACCESS CAB	Q–4	Q–4	–
HIGHLANDER	–	R–5	–	–

*1 This seat belt was supplied by TOKAI RIKA. Make sure that the I/D mark on the back side of the seat belt buckle is the same as shown.



*2 This seat belt was supplied by QSS. Make sure that the I/D mark on the back side of the seat belt buckle is the same as shown.



NOTE:

The seat belt extender must not be used for the center rear seat belt.

Part Number Information

PART NUMBER PREFIX: 73399–					
SERIES	LENGTH				
	6 INCH	9 INCH	12 INCH	15 INCH	18 INCH
R–5	–16060	–16070	–16080	–16090	–16100
N–1	–12060	–12070	–12080	–12090	–12100
N–5	–20110	–20120	–20130	–20140	–20150
N–6	–20160	–20170	–20180	–20190	–20200
N–7	–47010	–47020	–47030	–47040	–47050
K–5	–35010	–35020	–35030	–35040	–25050
A–2	–01060*	–01070	–01080	–01090	–01100
Q–2	–06010	–06020	–06030	–06040	–06050
Q–4	–0W010	–0W020	–0W030	–0W040	–0W050
S–1	–04010	–04020	–04030	–04040	–04050
S–2	–04060	–04070	–04080	–04090	–04100
T–1	–01110	–01120	–01130	–01140	–01150

* Length: 7-1/4”

SEAT BELT EXTENDER: '99–'01 MODEL YEAR – BO002-01 January 26, 2001

Owner Instructions

Failure to follow the recommendations indicated below could result in reduced effectiveness of the seat belt restraint system in case of vehicle collision, causing personal injury.

The Seat Belt Extender must not be used:

a. By anyone other than for whom it was provided (name recorded on seat belt extender).

b. In any vehicle and/or seat position other than the one for which it was provided.

c. When the Seat Belt Extender is provided for rear seat positions (with automatic locking retractor), make sure the retractor is locked when in use.

If your seat belt cannot be fastened securely because it is not long enough, a personalized Seat Belt Extender is available from your Toyota dealer free of charge.

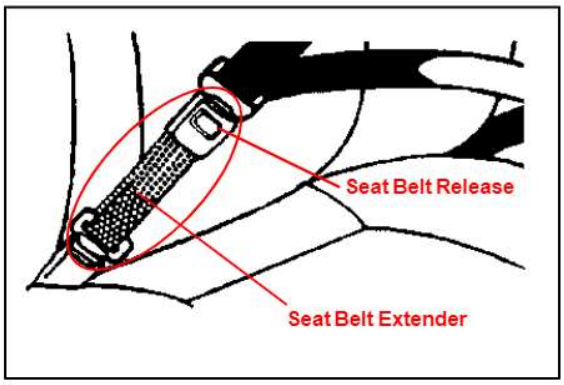
Please contact your local Toyota dealer so that the dealer can order the proper required length for the extender. Bring the heaviest coat you expect to wear for proper measurement and selection of length. Additional ordering information is available at your Toyota dealer.

CAUTION:

When using the Seat Belt Extender, observe the following. Failure to follow these instructions could result in reduced effectiveness of the seat belt restraint system in case of vehicle accident, increasing the chance of personal injury.

- **Never use the Seat Belt Extender if you can COMFORTABLY fasten the seat belt without it.**
- **The Seat Belt Extender must never be used with any child safety seats.**
- **Remember that the extender provided for you may not be safe when used on a different vehicle, or for another person or at a different seating position than the one originally intended for.**

To connect the extender to the seat belt, insert the tab into the seat belt buckle so that the "PRESS" signs on the buckle-release buttons of the extender and the seat belt are both facing outward as shown.



You will hear a click when the tab locks into the buckle.

When releasing the seat belt, press on the buckle-release button on the extender, not on the seat belt. This helps prevent damage to the vehicle interior and extender itself.

When not in use, remove the extender and store in the vehicle for future use.

PLEASE COPY THIS ORIGINAL WORKSHEET FOR EACH EXTENDER NEEDED

CAUTIONS:

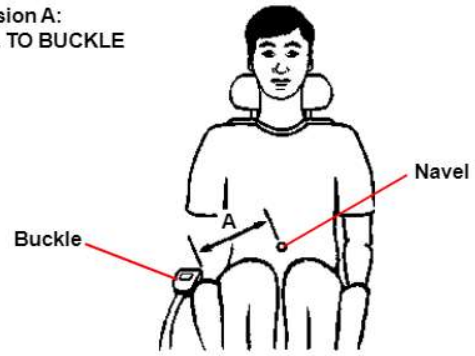
- **To minimize the chance and/or severity of injury in an accident, the Seat Belt Extender must only be used:**
  1 **By the person for whom it was provided.**
  2 **In the seat position for which it was provided.**
- **The Seat Belt Extender must never be used with any child safety seats.**
- **When the Seat Belt Extender is provided for rear seat positions (with automatic locking retractor), make sure the retractor is locked when extender belt is in use.**

DEALER			SEAT BELT EXTENDER APPLICATION	APPLICANT		
DEALER CODE	DEALER NAME			APPLICANT NAME		
ADDRESS				ADDRESS		
CITY & STATE		ZIP		CITY & STATE	ZIP	PHONE
EMPLOYEE NAME	MODEL YEAR	BODY TYPE		SEATING POSITION	VEHICLE IDENTIFICATION NUMBER	

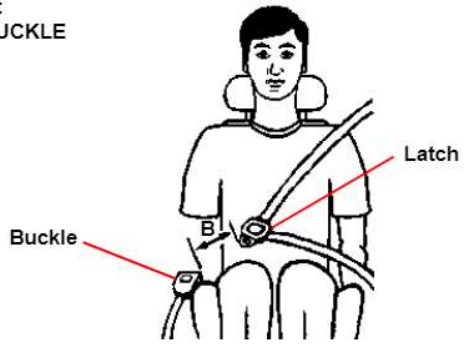
DIRECTIONS FOR DETERMINING PROPER EXTENDER LENGTH

1. **Place the seat in the position the applicant normally uses.**
2. **With the applicant in the seat, wearing the thickest coat expected to be worn, pull belt all the way out and try to buckle belt.**
   - **If belt latches into buckle and feels comfortable against upper chest area, an extender is not needed.**
   - **If belt does not buckle, continue with Step 3.**
   - **If buckle latches but belt has no slack remaining, continue with Step 3.**
3. **Measure distance between applicant's navel and seat belt buckle (Dimension A) and enter on Worksheet.**
4. **With belt all the way out, measure distance between latch tip and buckle tip (Dimension B) and enter on Worksheet.**
   NOTE: If belt latches but there is no slack enter zero as Dimension B.
5. **Subtract Dimension B from Dimension A and record number in Check Number box on Worksheet.**
6. **Seat Belt Extender length is Dimension B rounded up to next extender length (without exceeding Check Number).**
   NOTE: If extender length exceeds Check Number, an extender cannot be provided to the customer.

Dimension A:
NAVEL TO BUCKLE



Dimension B:
LATCH TO BUCKLE



SEAT BELT EXTENDER CALCULATION		
DIMENSION A:	DIMENSION B:	CHECK NUMBER:

SEAT BELT EXTENDER AUTHORIZATION

- ***The same Seat Belt Extender can be used for right and left seating applications.*** **Each Seat Belt Extender will have a label identifying the owner, VIN and seating position. Seat Belt Extenders are available only in black.**
- **Applicant's Signature:**_____ **Date:**_____
  (Actual user of seat belt extender)

TOYOTA

Technical Service **BULLETIN**

February 21, 1997

Title:
WIND NOISE REPAIR KIT

Models:
All Models

TSB

BODY
BO003-97

Introduction

A kit containing special foam sponge material has been developed. This kit, when used in conjunction with procedures outlined in the Wind Noise Service Information book (P/N 00401–42978), specific Service Tips and Technical Service Bulletins, should enable effective wind noise repairs.

Affected Vehicles

- **All Models**

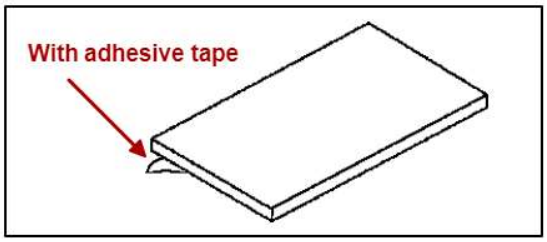
Parts Information

PART NUMBER	PART NAME	SIZE (MM)	QTY
08231–00810	Kit, Wind Noise	—	1
08231–00811 *	Caulking Sponge Sealant No. 1	297 x 150 (T = 3.0)	2
08231–00812 *	Caulking Sponge Sealant No .2	297 x 150 (T = 5.0)	2
08231–00813 *	Caulking Sponge Sealant No. 3	297 x 150 (T = 10.0)	2
08231–00814 *	Caulking Sponge Sealant No. 4	297 x 150 (T = 3.0)	2
08231–00815 *	Caulking Sponge Sealant No. 5	297 x 150 (T = 5.0)	2
08231–00816 *	Caulking Sponge Sealant No. 6	297 x 150 (T = 5.0)	2

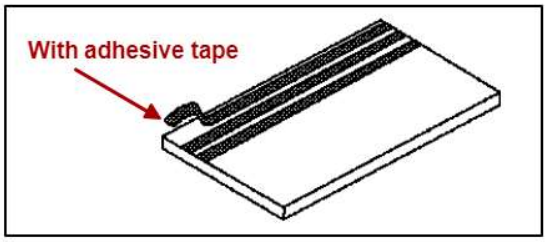
* All of these parts are included in the kit.

Kit Components

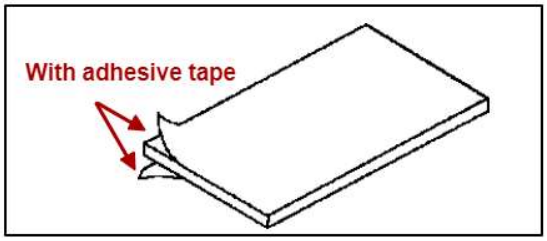
1. Caulking Sponge Sealant No. 1, No. 2 and No. 3 (Ept–sealer).



2. Caulking Sponge Sealant No. 4 and No. 5 (Ept–sealer). This sheet is divided into 27 strips, 5 mm wide.



3. Caulking Sponge Sealant No. 6 (Ept–sealer).



Toyota Supports ASE Certification

TOYOTA

Technical Service BULLETIN

March 26, 1999

Title:

CAMRY CENTER CONSOLE LATCH IMPROVEMENTS

Models:

'97–'99 Camry

TSB

BODY

BO005–99

Introduction The center console compartment door has been changed to improve the durability of the console box latch.

Affected Vehicles

- **1997 – 1999 Camrys** produced **before VIN:**

4T1BG ** K * XU414881 (L4)
4T1BF ** K * XU076659 (V6)
4T1BG ** K * XU867323 (L4)
4T1BF ** K * XU930092 (V6)

Parts Information

PREVIOUS PART #	CURRENT PART #	PART NAME
58910–AA010–XX	58910–AA011–XX	Console Box Assembly
58905–AA010–XX	58905–AA011–XX	Console Compartment Door

Repair Procedure

- On vehicles produced before the production change, replace the Rear Console Box with P/N 58910–AA011–XX. Refer to Repair Manual, page BO–72 for detailed repair procedures.

NOTE:
On vehicles produced after the production change, replace the console compartment door only. These vehicles can be identified by a metal hinge on the console compartment door.

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
743641	R & R Rear Console Box Assembly	0.3	58910–AA010–XX	54	12
743931	R & R Rear Console Compartment Door	0.2	58905–AA010–XX	54	12

Applicable Warranty*:
This repair is covered under the Toyota Basic Warranty. This warranty is in effect for 36 months or 36,000 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.

Toyota Supports ASE Certification

TOYOTA

Technical Service BULLETIN

April 16, 1999

Title:

TMMK CAMRY/SIENNA HEADLIGHT ALIGNMENT

Models:

'97–'99 Camry, '98–'99 Sienna

TSB

BODY

BO007–99

Introduction To enhance headlamp performance on dark roads, the headlamp alignment process has been modified.

Affected Vehicles

- **1997–1999 TMMK Camrys** produced before the following VINs:

Camry (4–Cyl)	**4T1BG2 * K * XU453367**
Camry (V–6)	**4T1BF2 * K * XU079094**
Camry (4–Cyl)	**4T1BG2 * K * XU877828**
Camry (V–6)	**4T1BF2 * K * XU930732**

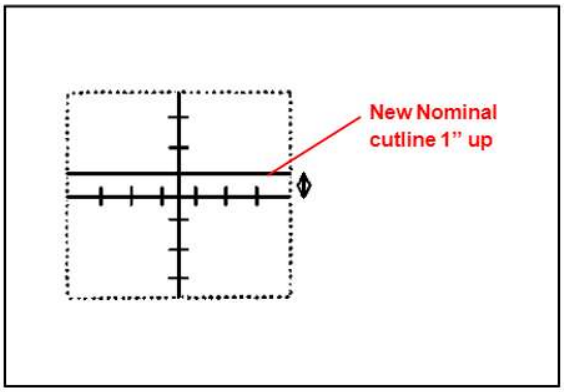
- **1998–1999 Siennas** produced before the following VIN:

Sienna	**4T3ZF13C * XU119213**

Required Tools and Material Headlight Aiming Device.

Repair Procedure Refer to the '98 Camry Repair Manual page BE–27. Adjust the headlight nominal line 1" higher. State and Federal standards apply.

NOTE:
Vehicle lighting will remain within the tolerances of all applicable federal and state regulations.



Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not applicable to warranty	–	–	–	–

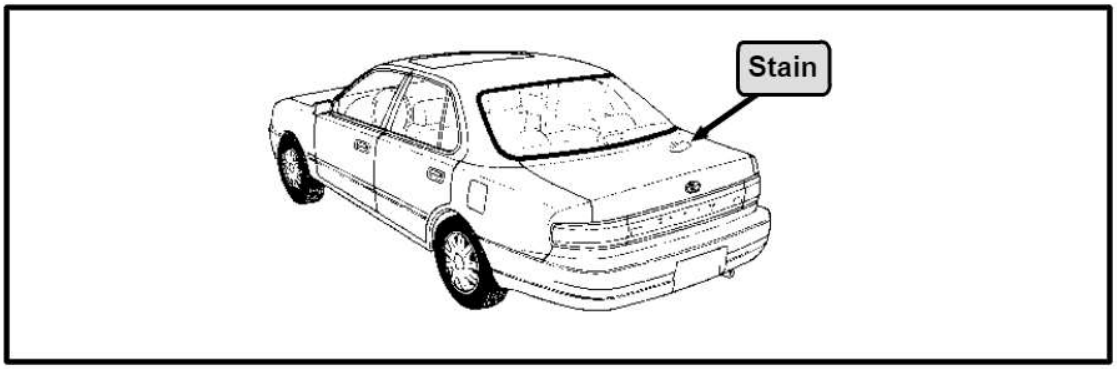
* Warranty application is limited to correction of a problem based upon a customer's specific complaint.

TOYOTA **TECHNICAL SERVICE BULLETIN**

REF.: BODY
NO.: BO008–96
DATE: AUGUST 9, 1996
MODEL: ALL MODELS

STAINS ON RAPGARD APPLIED AREAS

On some Toyota models, when Rapgard is removed from the vehicle, a stain is left on the paint surface. This stain can be seen under the clear coat and is not a defect of the clear coat. The stain corresponds to a wrinkled area of Rapgard which retained liquids, such as window washer fluid, that left a discoloration.



REPAIR PROCEDURE:

To remove a stain from a vehicle, heat the stain surface to a temperature of 70°C – 80°C. When the stain is removed it will not reappear.

Equipment –

1. Infrared lamp or dryer to heat the surface.
2. Aluminum foil or a damp cloth to protect plastic parts from deformation.

Procedure –

1. Apply aluminum foil to adjoining plastic parts or cool with damp cloth periodically.
2. Use an infrared lamp or dryer on the stain developed area and heat for 5 to 10 minutes at 70°C – 80°C.
3. After heating for 5 minutes, check whether the stain has disappeared. If the stain still remains, reheat the area and check again.

NOTE: Take care that the body's paint surface temperature does not become too high.

WARRANTY INFORMATION:

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
BD6004	Remove stains from paint surface caused by Rapguard	0.6	53301–XXXXX	61	99

TOYOTA

Technical Service BULLETIN

April 28, 2000

Title:

LOOSE CENTER HVAC VENT ADJUSTMENT

Models:

'98 – '99 CBU Camry

TSB

BODY

REVISED

BO009–00

TSB Revision Notice:

The information updated in this TSB is red and underlined.

Introduction

A repair procedure has been made available to remedy customer complaints regarding loose vertical adjustment of the center vents on 1998 – 1999 CBU Camry.

Applicable Vehicles

- **1998** through **1999** model year **Japan built Camry.**

Production Change Information

MODEL/PLANT	STARTING VIN
2000 MY Japan Built Camry	JT2BG2*K*X0339018
	JT2BF2*K*X0200364

Parts Information

PART NUMBER	PART NUMBER	QUANTITY
90202–05129	Washer	2

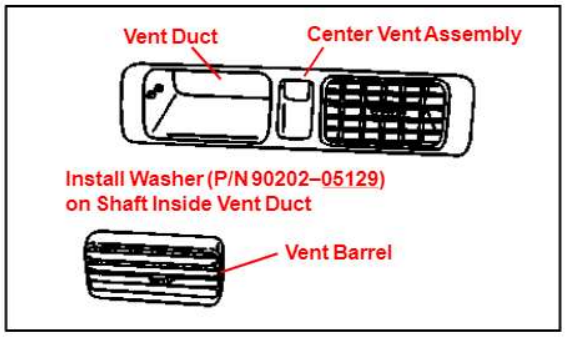
Repair Procedure

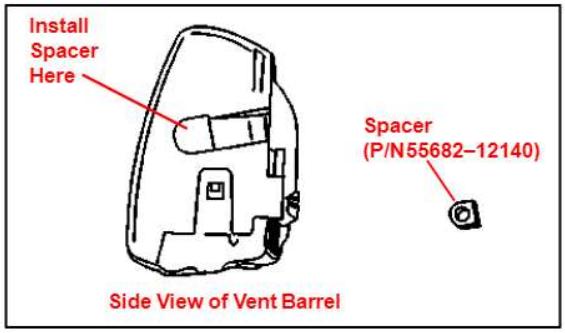
1. Remove the left vent barrel by gently prying using a wide flat tool with smooth edges. Be careful not to damage the vent assembly.
2. Install a washer (P/N 90202–05129) on the shaft inside the vent duct.
3. Reinstall the vent barrel by carefully pushing it into position until it locks onto the shafts on the sides of the duct. Be sure the spacer and/or washer do not fall down into the vent duct.

NOTE:

The spacer (P/N 55682–12140) can be ordered, if lost.

4. Confirm that the vent vertical adjustment is tighter and moves smoothly.
5. Repeat steps 1 through 4 for the right center vent.





Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
BD0025	Remove & Reinstall Vent Barrels	0.2	55660–33080–XX	40	14

Applicable Warranty*:

This repair is covered under the Toyota Basic Warranty. This warranty is in effect for 36 months or 36,000 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.

Toyota Supports ASE Certification

TOYOTA **TECHNICAL SERVICE BULLETIN**

REF.: BODY
NO.: BO010–96
DATE: NOVEMBER 22, 1986
MODEL: CAM

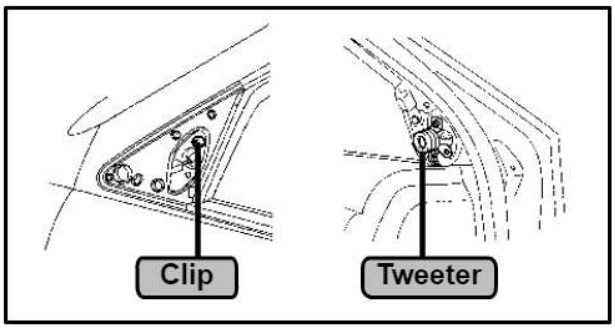
1997 CAMRY DOOR MIRROR INSTALLATION

The following procedures explain in detail how to install the 1997 Camry Door Mirrors.

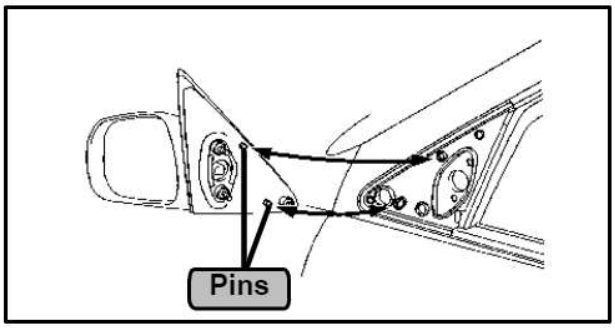
CAUTION: Should the door mirror be installed incorrectly, a wind noise (air leakage noise) might be generated.

INSTALLATION PROCEDURES:

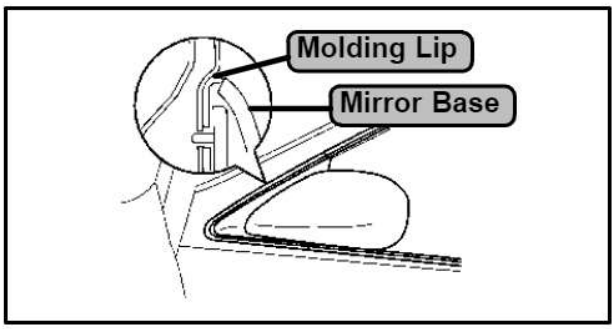
1. Remove the retaining clip and tweeter (if applicable) from the door. Discard the removed clip.



2. In order to secure the door mirror to the correct position, insert the 2 pins of the door mirror base into the holes of the door.



3. Push the door mirror against the door and check that the door mirror base edge is in contact with the door frame molding lip.



NOTE: This area is critical to wind noise reduction.

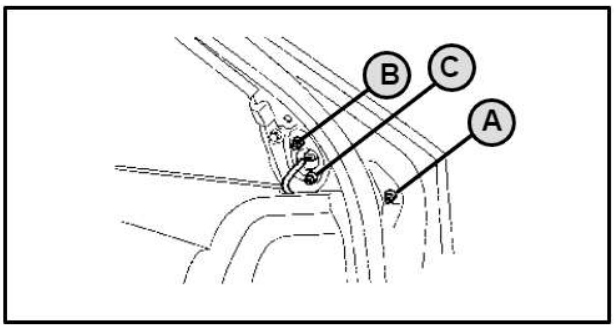
1997 CAMRY DOOR MIRROR INSTALLATION

INSTALLATION PROCEDURES (Cont'd):

4. Tighten the three mirror mounting nuts **A** , **B** and **C** for vehicles without a tweeter.

   Torque: 5.5 N.m (56 kgf.cm, 49 in.lbf)

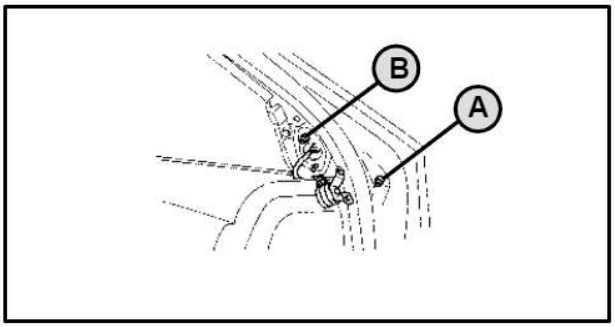
   Connect the mirror wire.



5. Tighten the two mirror mounting nuts **A** and **B** for vehicles with a tweeter.

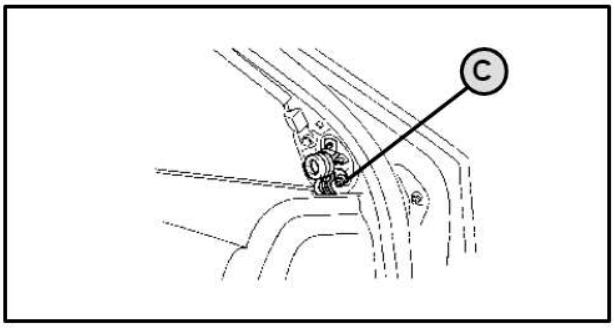
   Torque: 5.5 N.m (56 kgf.cm, 49 in.lbf)

   Connect the mirror wire.



   While lightly pulling the mirror wire backward, install the tweeter and tighten nut **C**.

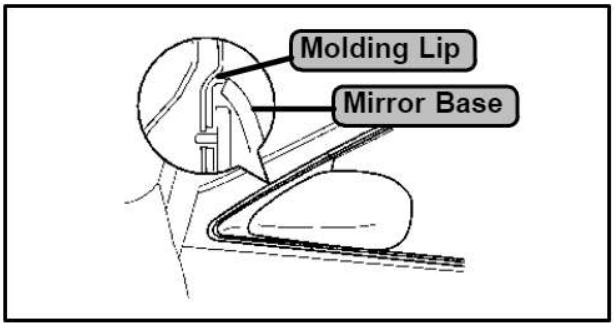
   Torque: 5.5 N.m (56 kgf.cm, 49 in.lbf)



NOTE: Check that the mirror wire is free from the tweeter bracket.

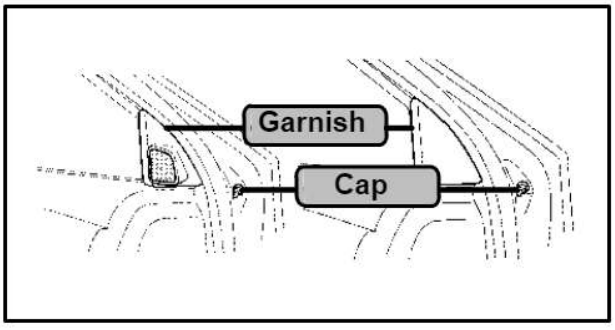
6. Check the following items:

   - There is no clearance between the door mirror base and the door molding lip.
   - The door frame molding lip is not tucked under the mirror base.



7. Install the front door lower frame bracket garnish.

8. Install the black cap onto the nut.



TOYOTA

Technical Service
BULLETIN
May 24, 2002

Title:
CHILD RESTRAINT SEAT TOP STRAP BRACKET INSTALLATION

Models:
'83 – '00 All Models

TSB

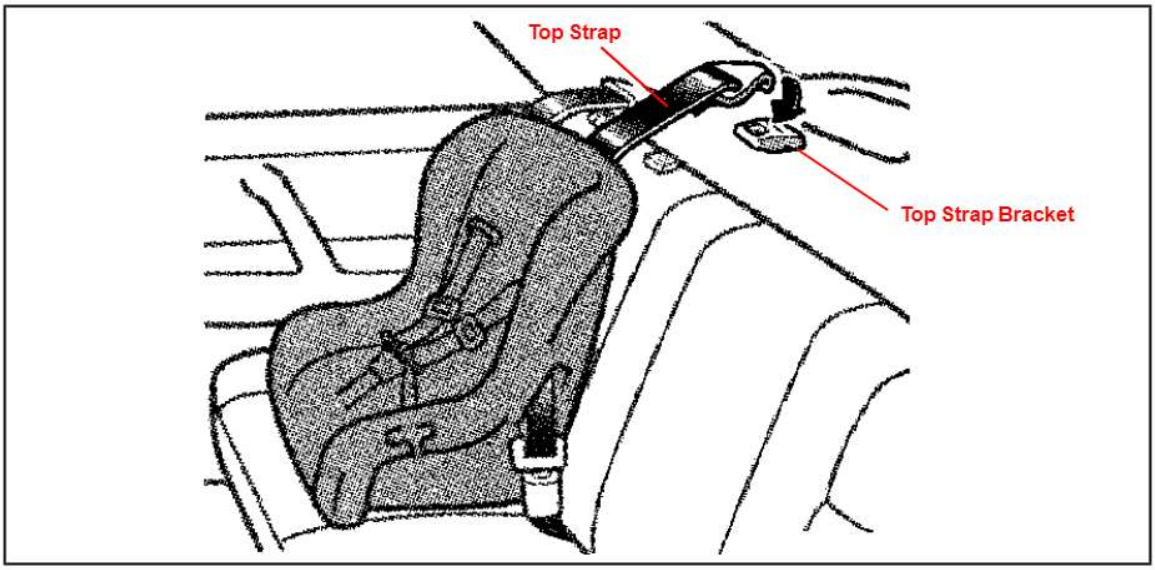
BODY
BO010-02

Introduction

Child restraint seat top strap bracket installation procedures are provided to supplement the Owner's Manual. Beginning with 2001 models, the top strap brackets are factory installed.

NOTE:

- **The child restraint seat top strap assembly is not available as a service part. Contact the child restraint seat manufacturer for recommended top strap information, top strap to child restraint seat installation instructions, and top strap retailers.**
- **The top strap brackets can only be installed on vehicles that have nuts welded in place by the factory. The locations of these nuts can be found in the Owner's Manual (for most 1983 and newer models.) Toyota does not recommend modifying vehicles that do not have nuts welded in place by the factory. Some Land Cruiser and RAV4 vehicles, prior to 2001 model year, may not have these nuts welded in by the factory.**



Applicable Vehicles

- **1983 – 2000** model year vehicles, **all models.**

Parts Information

PART NUMBER	PART NAME
73709–12010	Bracket Sub–Assembly (Bracket, Bolt, 10 mm Spacer, and Washers)
04731–22012	CRS Kit (two Bolts [15 mm, 30 mm], three Spacers [5 mm, 10 mm, 15 mm], and Locking Clip)

Warranty Information

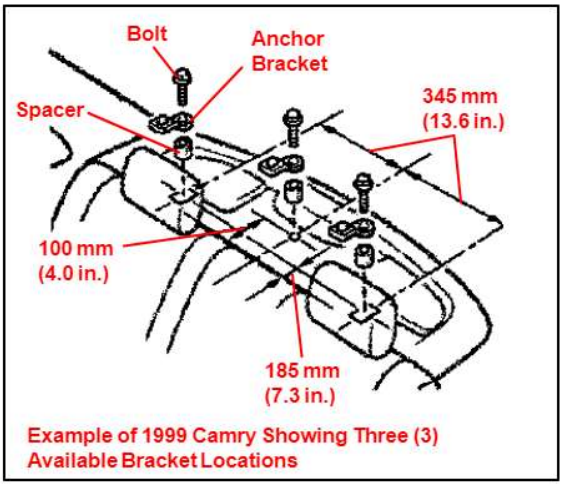
OP CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Installation Procedure

Child Restraint Seat Top Strap Bracket Installation

Obtain the exact year and vehicle model Toyota Owner's Manual before beginning installation.

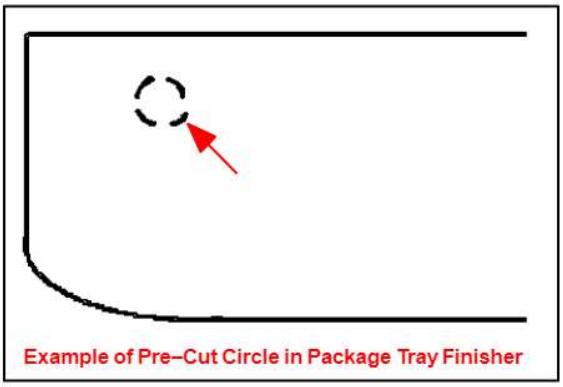
1. Confirm with the customer which seat location(s) they will be installing the child restraint seat. The Owner's Manual seat section provides an illustration showing available top strap bracket location(s). The illustration page in the Owner's Manual is provided in pages 4–9 of this bulletin.



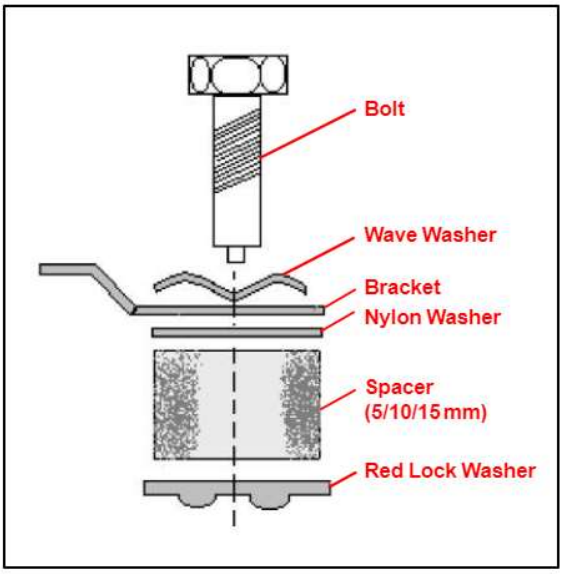
Example of 1999 Camry Showing Three (3) Available Bracket Locations

NOTE:
Determine which kit parts are needed for each specific child seat location, by referring to pages 4–9 of this bulletin.

2. Remove a 20 mm diameter area of the carpet or trim material above the bracket mounting location. In some vehicles, a 20 mm circle is already pre–cut into the interior trim material. Once the interior trim material is removed, the nuts welded in by the factory should be visible.

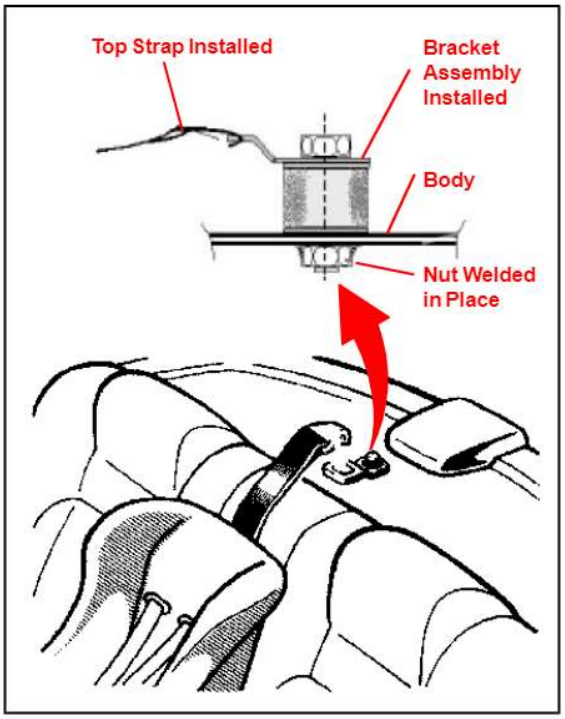

Example of Pre–Cut Circle in Package Tray Finisher

3. If a 5 mm or 15 mm spacer is specified, remove the red lock washer from the Bracket Sub–Assembly (P/N 73709–12010) and remove the 10 mm spacer. Assure the red lock washer is re–installed onto the bolt. If a 5 mm spacer is needed, use the 15 mm bolt from the CRS Kit (P/N 04731–22012).



Installation Procedure (Continued)

4. Install the bracket assembly, according to the directions in the Owner's Manual. Tighten the bolt to 16.5 – 24.7 N–m, (1.68 – 2.52 kgf–m, 12.2 – 18.2 ft–lbf).
   - Assure the top strap is attached to the child seat, according to the child seat manufacturer's instructions.
   - Assure the child seat is installed in the vehicle according to the Toyota Owner's Manual (seat section).



Installation Reference Information

Owner's Manual Installation Reference Information

The following pages of this bulletin contain a reference information chart. This chart contains:

- Owner's Manual page(s) that provide the illustration showing available top strap bracket location(s). The information goes back to 1983 model year. 2001 models and newer already had the bracket installed by the factory.
- Installation notes, such as bracket spacer sizes for each specific child seat location.

EXAMPLE:

OWNER'S MANUAL	4Runner
2000	pg 73 a

This cell contains information on the 2000 4Runner

Refer to this page in the Owner's Manual to find the illustration showing available top strap bracket locations.

Installation Note. In this case, all bracket positions on the 2000 4Runner will require a 15 mm spacer.

INSTALLATION NOTE	COMMENT
a	Spacer – 15 mm for all anchors
b	Spacer – 10 mm for outer, 15 mm for center
c	Spacer – 15 mm for outer, 10 mm for center
d	Spacer – 5 mm for all anchors
e	Spacer – 15 mm for outer, none for center
f	Spacer – 15 mm for center, none for outer
g	No Spacer
h	Spacer – 10 mm for all anchors
i	Bolt for All–Trac/4WD only (Part No. 91511–60814) (Celica & Previa)
NP	Spacer pictured but no specifications
N/A	Top strap anchor bracket mounting not available
Standard	No installation necessary, anchor already installed by factory

CHILD RESTRAINT SEAT TOP STRAP BRACKET INSTALLATION – BO010-02 May 24, 2002

Installation Reference Information (Continued)

OWNER'S MANUAL	4Runner	Avalon	Camry Sedan	Camry Liftback	Camry Solara	Camry Wagon	Celica All Trac 4WD	Celica Coupe
2000	pg 73 a	Standard	Standard		Standard			
1999	pg 71 a	pg 72 a	pg 71–73 a		pg 68 a			pg 49 a
1998	pg 53 a	pg 70 a	pg 68–69 a					pg 48 a
1997	pg 52 a	pg 52 a	pg 56–57 a					pg 45 a
1996	pg 45 NP	pg 40 a	pg 47 a			pg 48 a		pg 37 a
1995	pg 31 g	pg 39 a	pg 44–45 a			pg 45 a		pg 36 a
1994	pg 29 g		pg 41–42 a			pg 42 a		pg 31 a
1993	pg 26 g		pg 33 a			pg 33–34 a	pg 30 i, g	pg 29 a
1992	pg 26 g		pg 27 a				pg 30 i, g	pg 29 a
1991	pg 27 g		pg 29 c			pg 29 g	pg 29–30 i, g	pg 29 a
1990	pg 27 g		pg 29 c			pg 29 g	pg 29–30 i, g	pg 29 a
1989	pg 31–33 g		pg 32 c			pg 33 g	pg 29–30 i, g	pg 31 a
1988	pg 19–20 g		pg 32 b			pg 32 g	pg 16 i, g	pg 16 a
1987	pg 18 g		pg 15 b			pg 16 g		pg 13 a
1986	pg 17 g		pg 13 e	pg 14 f				pg 12 a
1985	pg 16 g		pg 13 e	pg 13 f				pg 12 a
1984	pg 15–16 g		pg 13 e	pg 13 f				pg 12 a
1983			pg 12–13 e	pg 13 f				pg 11–12 a

CHILD RESTRAINT SEAT TOP STRAP BRACKET INSTALLATION – BO010-02 May 24, 2002

Installation Reference Information (Continued)

OWNER'S MANUAL	Celica Liftback	Corolla FWD Sedan	Corolla FWD Liftback	Corolla 4WD Wagon	Corolla Coupe	Corolla FX/FX16	Corolla Hardtop	Corolla RWD 2–Door Coupe
2000	Standard	Standard						
1999	pg 49 a	pg 67 a						
1998	pg 49–50 a	pg 65 a						
1997	pg 46–47 a	pg 61 h						
1996	pg 37–38 a	pg 49 h						
1995	pg 37–38 a	pg 43 h						
1994	pg 32 a	pg 39 h						
1993	pg 30 g	pg 32–33 h						
1992	pg 30 g	pg 34 h		pg 34 g				
1991	pg 29–30 g	pg 44 h		pg 45 g	pg 45 a			
1990	pg 29–30 g	pg 44–45 h		pg 46 g	pg 45 a			
1989	pg 31 g	pg 40 h		pg 41–42 g	pg 41 a			
1988	pg 16 g	pg 21–22 h			pg 22 a	pg 26 f		
1987	pg 13 g	pg 13–14 a	pg 14 f					pg 12 h
1986	pg 13 g	pg 12 a	pg 12 f					pg 12 h
1985	pg 13 g	pg 13 a	pg 14 f					pg 12 h
1984	pg 12 g	pg 12–13 a	pg 13 f					pg 12 h
1983	pg 12 g	pg 10 a	pg 11 g		pg 11 g		pg 10 h	

CHILD RESTRAINT SEAT TOP STRAP BRACKET INSTALLATION – BO010-02 May 24, 2002

Installation Reference Information (Continued)

OWNER'S MANUAL	Corolla RWD 3–Door Coupe	Corolla Wagon	Cressida	Cressida Wagon	Echo	Land Cruiser	MR2	Paseo Coupe & Convert.
2000					Standard	N/A		
1999						N/A		pg 63 a
1998						N/A		pg 61 a
1997						N/A		pg 55 a
1996		pg 49–50 h				N/A		pg 40 h
1995		pg 44 h				N/A	pg 38 a	pg 37 h
1994		pg 40 h				N/A	pg 33 a	pg 33 h
1993		pg 33 h				N/A	pg 31 a	pg 31 h
1992		pg 35 h	pg 29 c			N/A	pg 31 a	pg 27 h
1991		pg 46 h	pg 29 c			N/A	pg 31 a	
1990		pg 46–47 g	pg 30 c			N/A		
1989		pg 42 a	pg 34 c			N/A	pg 28 a	
1988		pg 23 h	pg 30 h			N/A	pg 12 a	
1987	pg 13 g		pg 21 h	pg 21 g		N/A	pg 11 a	
1986	pg 12 g		pg 16 h	pg 16 g		N/A	pg 11 a	
1985	pg 11 g		pg 15–16 h	pg 16 g		N/A	pg 11 a	
1984	pg 11 g		pg 15 g	pg 15 g		N/A		
1983		pg 11 g	pg 15 g	pg 15 g		N/A		

CHILD RESTRAINT SEAT TOP STRAP BRACKET INSTALLATION – BO010-02 May 24, 2002

Installation Reference Information (Continued)

OWNER'S MANUAL	Previa	RAV4	RAV EV	Sienna	Starlet	Supra	T100 Ext. Cab 2WD	T100 Ext. Cab 4WD
2000		N/A	Standard	pg 99 a				
1999		N/A	N/A	pg 96 a				
1998		N/A		pg 74 a		pg 49 d	N/A	N/A
1997	pg 60 a	N/A				pg 49 d	N/A	N/A
1996	pg 47–48 a	N/A				pg 36 d	N/A	N/A
1995	pg 46–47 a					pg 36–37 d	N/A	N/A
1994	pg 41–42 a					pg 32–33 d		
1993	pg 41–42 a					pg 32–33 d		
1992	pg 37–38 i					pg 32 h		
1991	pg 33–34 i					pg 33 h		
1990						pg 31 h		
1989						pg 31 h		
1988						pg 32 h		
1987						pg 15 h		
1986						pg 13–14 g		
1985						pg 13 g		
1984					pg 9 g	pg 12 g		
1983					pg 9 g	pg 11 g		

Installation Reference Information (Continued)

OWNER'S MANUAL	T100 Reg Cab 4WD	T100 Reg Cab 2WD	Tacoma	Tercel 2 Door	Tercel 4WD Wagon	Tercel 3/5	Tercel 4WD	Tercel All Models
2000			N/A					
1999			N/A					
1998	N/A	N/A	N/A					
1997	N/A	N/A	N/A					
1996	N/A	N/A	N/A					
1995	N/A	N/A	N/A					
1994	N/A	N/A						
1993	N/A	N/A						
1992								
1991								
1990				pg 31 a		pg 31 h		
1989				pg 30–31 a		pg 30 h		
1988				pg 18 a, d		pg 17 h		
1987					pg 12 g		pg 12 g	
1986					pg 12 g		pg 12 g	
1985								pg 11–13 g
1984								pg 11 g
1983								pg 11 g

CHILD RESTRAINT SEAT TOP STRAP BRACKET INSTALLATION – BO010-02 May 24, 2002

Installation Reference Information (Continued)

OWNER'S MANUAL	Tercel Sedan/ Coupe	Tercel Wagon	Truck 2x4	Truck 4x4	Tundra	Van
2000					Standard	
1999	pg 60 h					
1998	pg 59 h					
1997	pg 54 h					
1996	pg 41 h					
1995	pg 38 h					
1994	pg 39 h		pg 32 g	pg 32 g		
1993	pg 35 h		pg 27 g	pg 27 g		
1992	pg 29 h		pg 27 g	pg 27 g		
1991	pg 28 h		pg 26 g	pg 26 g		
1990			pg 26 g	pg 26 g		
1989			pg 29 g	pg 29 g		pg 37 a
1988			pg 13 g	pg 19 g		pg 23 a
1987	pg 12 g	pg 11 g	pg 14 g	pg 18 g		pg 21 a
1986	pg 12 g	pg 12 g	pg 13 g	pg 17 g		pg 20 a
1985			pg 12 g	pg 15 g		pg 17 a
1984			pg 12 g	pg 12 g		pg 17 a
1983			N/A	N/A		

TOYOTA

Technical Service BULLETIN

March 23, 2001

Title:

NEW SEAT BELT TONGUE PLATE STOPPER SERVICE PARTS

Models:

All Applicable Models

TSB

BODY

BO011–01

Introduction A new service part for the seat belt tongue plate stopper has been introduced. Installation procedures are provided to supplement the Repair Manual.

Applicable Vehicles

MODEL	YEAR
Avalon	1995 – 2001
Camry	1983 – 2001
Corolla	1980 – 2001
Camry Solara	1999 – 2001
Sienna (Front Seat Belt Only)	1998 – 2001
RAV4	1997 – 2001
4Runner	1992 – 2001
Land Cruiser	1991 – 2001
Tundra	2000 – 2001
Tacoma	1997 – 2000
ECHO	2000 – 2001
Celica	1980 – 2001
Prius	2001
Tercel	1981 – 1999

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
N/A	73219–02010	Stopper, Tongue Plate (Black)*
N/A	73219–02020	Stopper, Tongue Plate (Gray)*
N/A	73219–02030	Stopper, Tongue Plate (Beige)*

* Use a stopper color that is closest to the seat belt webbing color.

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
BD0047	Install Seat Belt Tongue Plate Stopper	0.1	73219–020#0	62	12

Applicable Warranty*:

This repair is covered under the Toyota Comprehensive Warranty. This warranty is in effect for 36 months or 36,000 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.

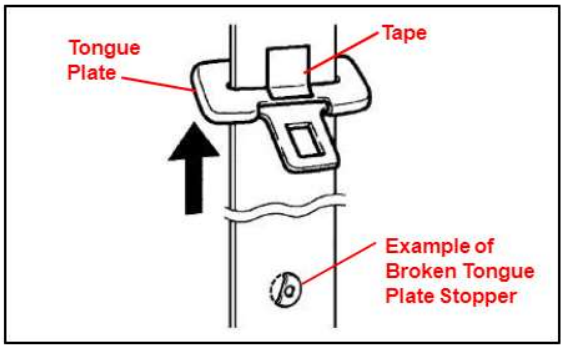
NEW SEAT BELT TONGUE PLATE STOPPER SERVICE PARTS – BO011–01 March 23, 2001

Installation Procedure

1. Preparation

A. Shift the Tongue Plate to the upper portion of the Tongue Plate Stopper, and temporarily hold it with a clip or tape.

B. Remove any pieces of the original Tongue Plate Stopper in the webbing, with a pair of pliers.



CAUTION:

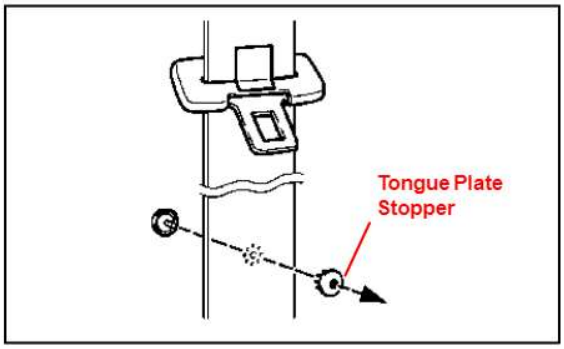
Damaged or weakened seat belts may break in an accident and injure the occupant. The seat belt assembly must be replaced if:

- **The webbing is cut, frayed, worn, or damaged.**
- **It has been used in a severe impact.**

Inspect the entire length of webbing for damage and replace the assembly if needed. Be careful not to damage the webbing during repair.

2. Install the New Tongue Plate Stopper

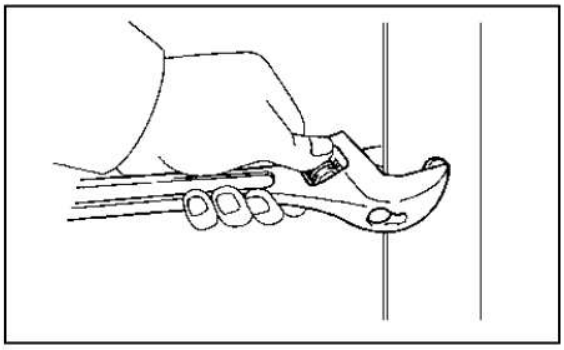
A. Install a new Tongue Plate Stopper in the hole of the webbing.



NOTE:

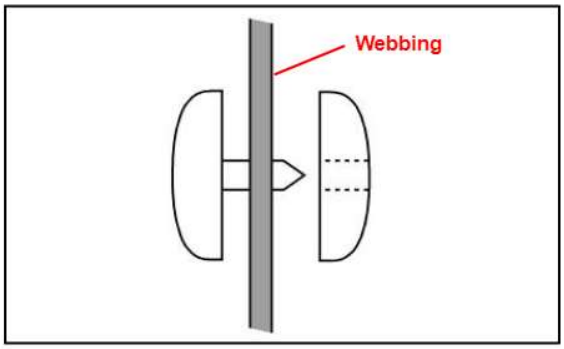
Be aware of the installation direction of the Tongue Plate Stopper as shown in the illustration.

B. Pinch the Tongue Plate Stopper into the webbing using an adjustable wrench, and turn and push the adjustment screw by hand.



HINT:

Press the adjustment screw in order to position the male and female parts of the Tongue Plate Stopper parallel to each other, as shown in illustration.

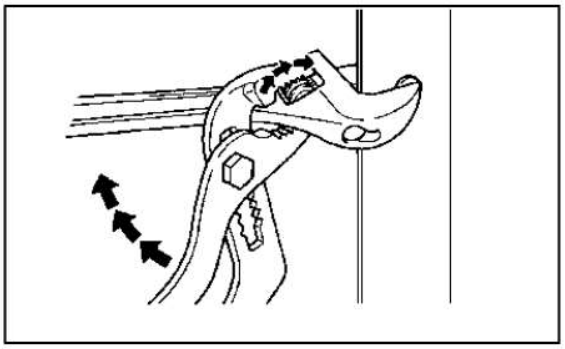


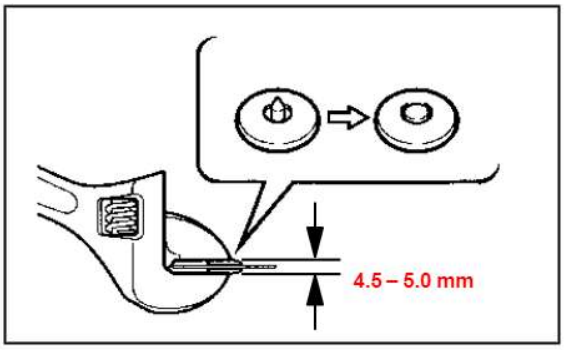
CAUTION:

DO NOT use pliers. They may damage the webbing.

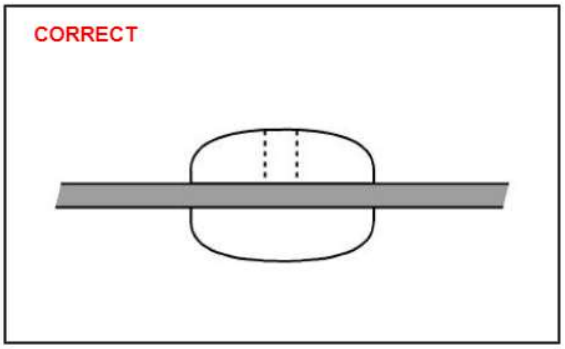
Installation Procedure (Continued)

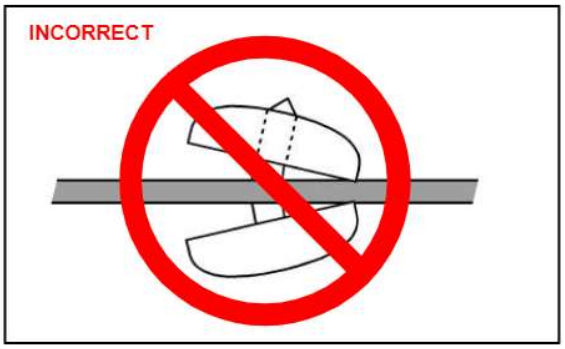
C. When the adjustment screw for the adjustable wrench can't be turned by hand, tighten the adjustment screw using a pair of adjustable joint pliers until the space between jaws of the adjustable wrench is 4.5 – 5.0 mm. (See illustrations.)





D. Check to be sure that the male pin of the Tongue Plate Stopper has become deformed evenly in the hole of the female part and is firmly held to the belt webbing. (See illustrations.)





TOYOTA

Technical Service BULLETIN

September 3, 1999

Title:

DOOR GLASS DISPLACEMENT FIELD FIX

Models:

'98 – '99 TMMK Camry

TSB

BODY

BO012–99

Introduction

On some 1998 and 1999 Camry Vehicles, the door glass may be displaced from the front door glass run if the door is closed forcefully with the windows partially down. A field fix has been developed in order to remedy this condition.

Applicable Vehicles

- **1998 – 1999 TMMK Camrys built before 4T1BG * * K * XU553205**
  4T1BF * * K * XU084313
  4T1BG * * K * XU903993
  4T1BF * * K * XU932180

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
N/A	67212–AA010	Self–Adhesive Stopper

Warranty Information

OP CODE	COMBO	DESCRIPTION	TIME	OPN	T1	T2
670301	A	R&R Door Trim/Install Rubber Stopper – Both Sides	0.5	67402–AA011	53	57

Applicable Warranty*:

This repair is covered under the Toyota Basic Warranty. This warranty is in effect for 36 months or 36,000 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.

DOOR GLASS DISPLACEMENT FIELD FIX – BO012–99 September 3, 1999

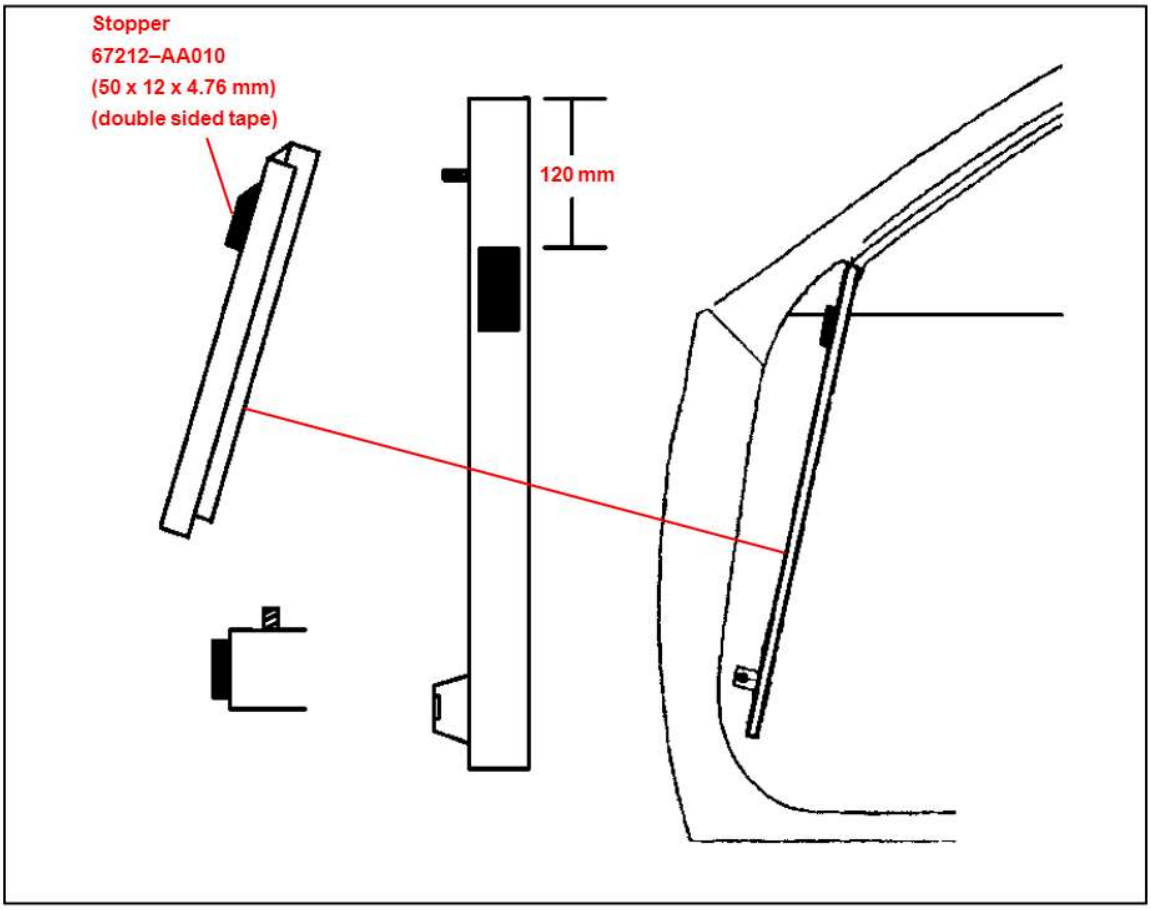
Repair Procedure

Refer to 1998 Camry Repair Manual (Vol. 2) Pages BO–11–14.

1. Remove the front door trim to gain access to the window components.
2. Inspect the front and rear lower frames and the door glass run for damage as a result of the glass being displaced.
   - In cases of slight deformation of window frames, reform as necessary. If significantly deformed or damaged, replace the frame.
   - Replace the window run if cut, torn, mutilated, etc.
3. Replace any damaged parts.
4. Remove front lower frame from the door and attach the self–adhesive rubber stopper (P/N 67212–AA010) 120 mm from the top of the frame as shown below.

NOTE:
To insure proper adhesion of the self–adhesive rubber stopper, the surface of the frame must be cleaned to remove any foreign material.

5. Reinstall the front lower frame, door glass run, and door trim.



TOYOTA

Technical Service BULLETIN

March 24, 2000

Title:

DOOR MIRROR INSTALLATION

Models:

'97 – '00 Japan Built Camry

TSB

BODY

BO015–00

Introduction The procedures in this bulletin explain in detail how to install the door mirrors.

CAUTION:
If the door mirror is installed incorrectly, a wind noise (air leakage noise) might be generated.

Applicable Vehicles

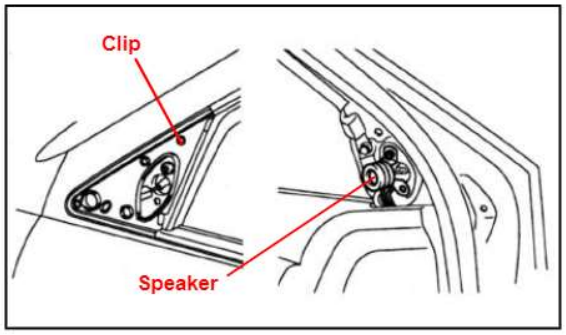
- **1997 – 2000** model year **Japan built Camry**

Warranty Information

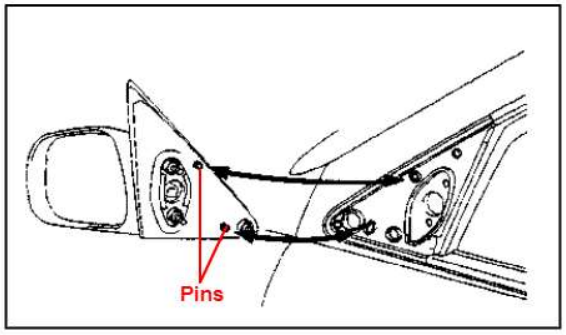
OP CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Installation Procedure

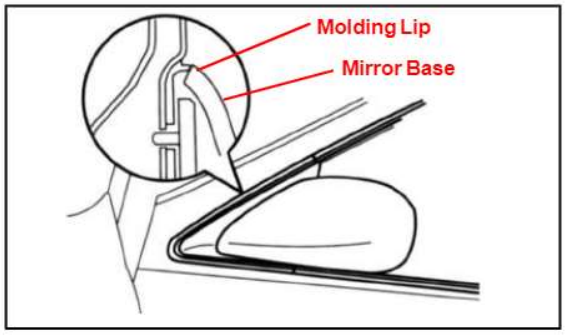
1. Remove the retaining clip and speaker (if applicable) from the door. Discard the removed clip.



2. In order to secure the door mirror in the correct position, insert the 2 pins of the door mirror base into the holes of the door.



3. Push the door mirror against the door and check that the door mirror base edge is in contact with the door frame molding lip.



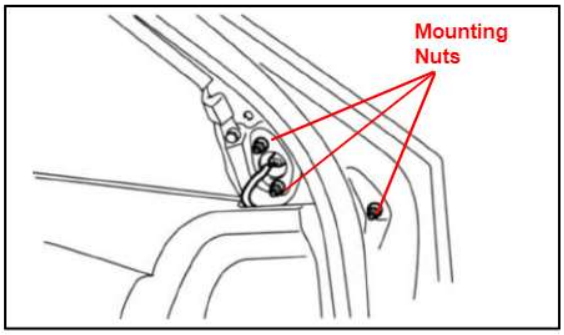
NOTE:
This area is critical to wind noise reduction.

Installation Procedure (Continued)

4. For vehicles without a speaker, tighten the three mirror mounting nuts.

   Torque: 5.5 N•m (56 kgf•cm, 49 in•lbf)

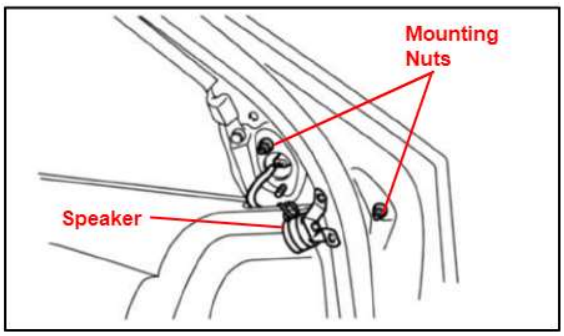
   Connect the mirror wire.



5. For vehicles with a speaker, tighten the two mirror mounting nuts.

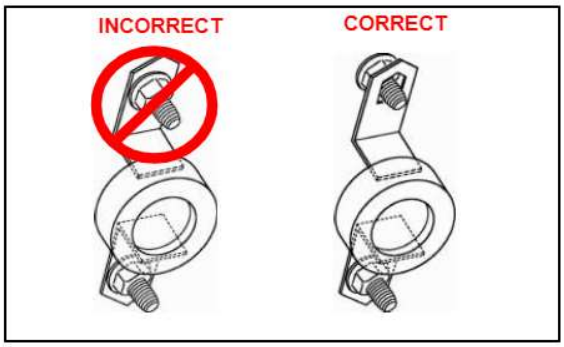
   Torque: 5.5 N•m (56 kgf•cm, 49 in•lbf)

   Connect the mirror wire.



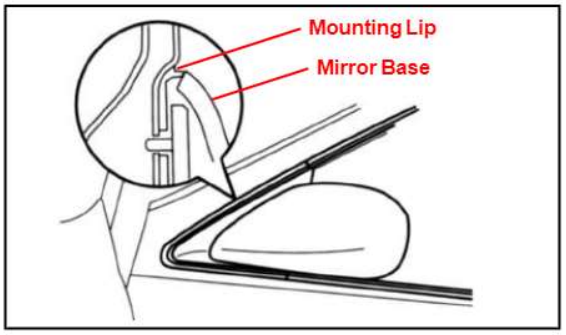
While lightly pulling the mirror wire backward, reinstall the door speaker (one nut at the lower bracket) onto the door as shown in the illustration.

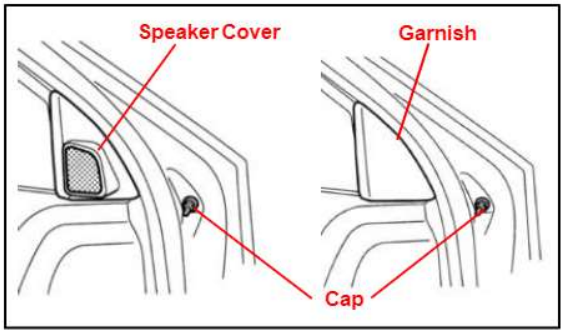
Torque: 5.5 N•m (56 kgf•cm, 49 in•lbf)



NOTE:
- **Do NOT mount the upper speaker bracket behind the nut.**

6. Check the following items:
   - There is no clearance between the door mirror base and the door molding lip.
   - The mirror wire is free from the speaker bracket.
   - The door frame molding lip is not tucked under the mirror base.
   - The speaker wire does not contact the mirror mounting screw.
   - Make sure the power mirror adjustment and the door speaker functions properly.
7. Install the front door lower frame bracket garnish/speaker cover.
8. Install the black cap onto the nut.





TOYOTA

Technical Service BULLETIN

May 25, 2001

Title:

POWER SEAT MOTOR CABLE REPAIR TIP

Models:

'99 – '00 Camry & Solara, '99 – '01 Sienna

TSB

BODY

REVISED

BO017-01

TSB REVISION NOTICE:

June 25, 2003: The Parts Information table has been updated.
The previous TSB should be discarded.

Introduction

A field fix has been developed to repair loose power seat motor cables (instead of seat adjuster replacement). Loose cables can cause seat movement feel or no movement of seat adjustment.

Applicable Vehicles

- **1999 – 2000** model year **Camry and Solara** vehicles.
- **1999 – 2001** model year **Sienna** vehicles.

Parts Information

3M PART NUMBER	PART NAME	QUANTITY
3M 36596	3M EPS–300 Thin–Wall	1 Per Seat Motor

Required Tools & Material

TOOLS & MATERIALS	QUANTITY
Heat Gun	1

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
BD1017	R & R Seat Assembly; Install Shrink Sleeves	0.5	72020–06020 (Solara) 72020–AA011 (Camry 72020–08010 (Sienna)	95	15

Applicable Warranty*:

This repair is covered under the Toyota Comprehensive Warranty. This warranty is in effect for 36 months or 36,000 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.

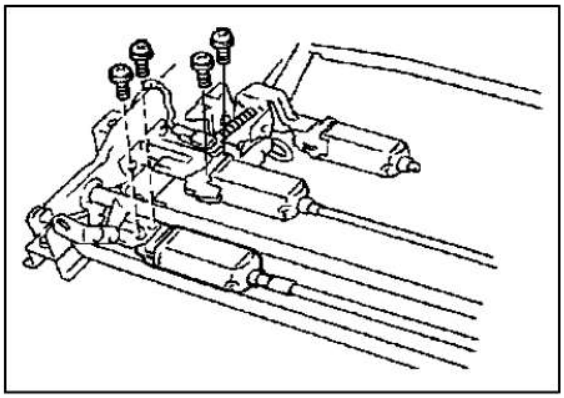
Toyota Supports ASE Certification

POWER SEAT MOTOR CABLE REPAIR TIP – BO017-01 Revised May 25, 2001

Repair Procedure

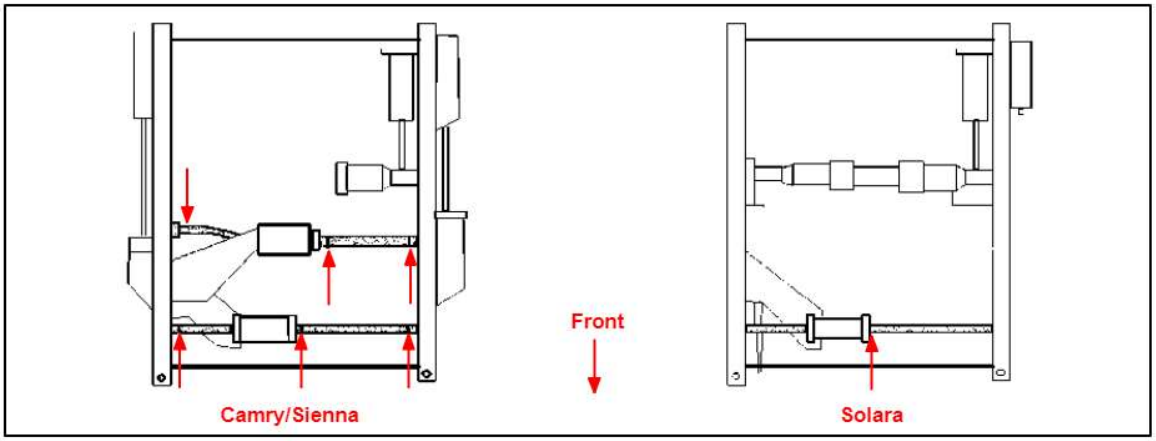
1. Remove the seat assembly from the vehicle.

   Turn the seat over and detach motors from the mounting brackets.

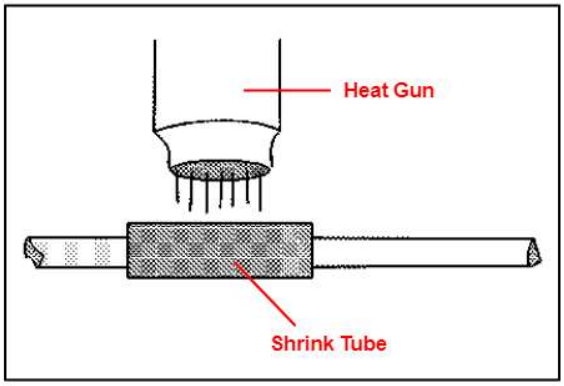


NOTE:
The lower seat cushion must be removed from the seat frame to access the motor mounting screws on some models.

2. Remove the drive cable from the motor gear boxes. Slide a shrink wrap tube (3/4" diameter x 1.75", 3M P/N 36596) on each end of the flex shaft, as shown in the illustration.
   - The Camry and Sienna will require six (6) shrink tubes.
   - The Solara will require only one (1) shrink tube.



3. Attach the drive cables to the motors and reinstall motors to the motor mounts.
4. Position each shrink wrap tube so that it overlaps the drive cable housing and motor housing or gear box housing, as necessary.
5. Using a heat gun, apply heat to the shrink tubes in a direction from the center of the drive cable toward the gear box or motor housing. Be sure to apply just enough heat to shrink the tubing.



6. Reinstall the seat cushion to the seat frame. Tighten the mounting screws to torque specifications listed in the BO section of the Repair Manual.
7. Reinstall the seat assembly to the floor of the vehicle. Assure all connectors are secure and the power seat adjustments properly function.

Torque: 37 N•m, 380 kgf•cm, 27 ft•lbs

TOYOTA

Technical Service BULLETIN

September 9, 2003

Title:

TRIM GARNISH LOOSE

Models:

All Models

TSB

BODY

REVISED

BO017-03

TSB REVISION NOTICE:

March 3, 2004: The TSB has been changed to include new inspection and replacement instructions.
Previous versions of this TSB should be discarded.

Introduction

Customers may experience an interior trim panel either loose or fitting poorly due to a deformed or missing panel attachment clips. When a trim garnish (A, B, C or D pillar garnish, door trim panel, etc.) is removed and reinstalled using the old clips, there is a possibility that the garnish may exhibit a loose condition. To prevent this condition from occurring, please use the following procedures.

Inspection/ Replacement Procedure

All Models – All trim panel attachment clips must be inspected prior to reassembly and replaced if any damage or wear is detected. If no damage is visible, the clip may be reused. Always check to make sure that the garnish is properly attached after reinstallation of all interior trim panels.

2002 – 2004 model year Camry and 2004 model year Solara – When removing the A–pillar garnish panels, replace the white plastic attachment clips (P/N 90467–A0025).

Applicable Vehicles

- **All models.**

Warranty Information

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

TOYOTA

Technical Service BULLETIN

November 26, 1999

Title:

DOOR GLASS DISPLACEMENT

Models:

'98 – '99 TMMK Camry

TSB

BODY

BO017–99

Introduction

On some 1998 and 1999 Camry vehicles, the door glass may be displaced from the front door glass run if the door is closed forcefully with the window partially down. A field fix has been developed to remedy this condition.

Applicable Vehicles

- **1998 – 1999 TMMK Camrys** vehicles produced prior to VINs listed below.

Production Change Information

MODEL	STARTING VIN
1999 TMMK produced Camry	4T1BG**K*XU602813 4T1BF**K*XU088877 4T1BG**K*XU917744 4T1BF**K*XU933406

NOTE:

Refer to 1998 Camry Repair Manual (Vol. 2) BO–Section for Door Panel Removal and Window Regulator Servicing information.

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
BD9008	R&R Door Trim / Modify Hole (both sides)	0.5	67402–AA011	53	57

Applicable Warranty*:

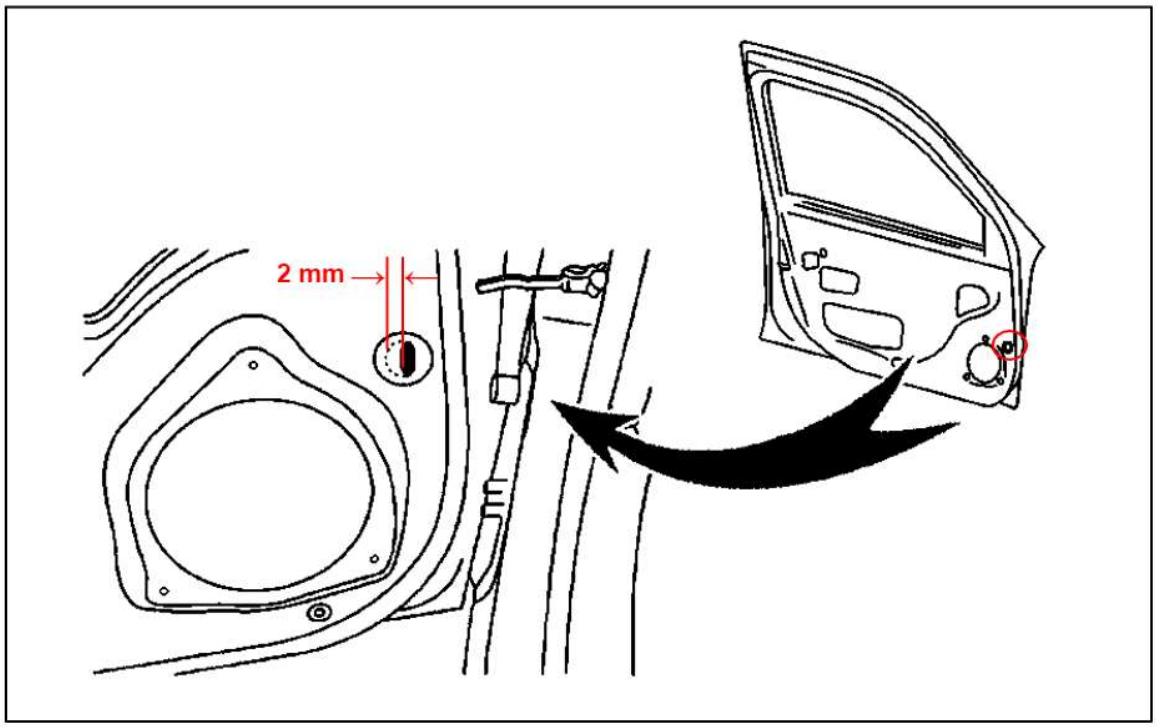
This repair is covered under the Toyota Basic Warranty. This warranty is in effect for 36 months or 36,000 miles, whichever occurs first, from the vehicle's in–service date.

* Warranty application is limited to correction of a problem based upon a customer's specific complaint.

DOOR GLASS DISPLACEMENT – BO017–99 November 26, 1999

Repair Procedure

1. Lower the door glass, disconnect the power window switch, remove the front door trim panel, speaker, and loosen the door mirror mounts to gain access to the door glass and lower frames. Remove the front lower frame (2 screws).
2. Locate the lower window frame mounting hole on the door (see illlustration). Place a towel or shop rag in the speaker hole to catch metal chips. Using a round file or die grinder, enlarge the hole 2 mm toward the speaker (rear of the vehicle). Remove the towel or shop rag and any metal chips in the door. Apply touch–up paint or rust preventative to the hole.



3. Install a rubber stopper to the lower window frame according to directions in TSB BO012–99.
4. Install the lower window frame. Assure the frame is tight against the glass and the run is fully inserted in the lower window frame channel.
5. Temporarily connect the power window switch and operate the window. Check to assure the door glass fully opens and closes easily.
6. Reinstall the door panel and components, check lock/unlock function and door opening handle function.

TOYOTA

Technical Service BULLETIN

December 3, 1999

Title:

DOOR MIRROR WIND NOISE

Models:

'97 – '99 Camry

TSB

BODY

BO019–99

Introduction

Wind/road noise heard around the door mirrors of some Japan produced Camry vehicles may be caused by an improperly positioned mirror wire harness grommet and/or harness connector.

Applicable Vehicles

- **1997** through **1999 Camry vehicles.** (Japan produced only)

Production Change Information

PLANT	STARTING VIN
TMC	JT2BG22K * X0367325 JT2BG28K * X0367352 JT2BF22K * X0227381 JT2BF28K * X0227306

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
BD9006	Adjust the Wire Harness Grommet and/or Connector (both sides)	0.4	87910–33150	59	57

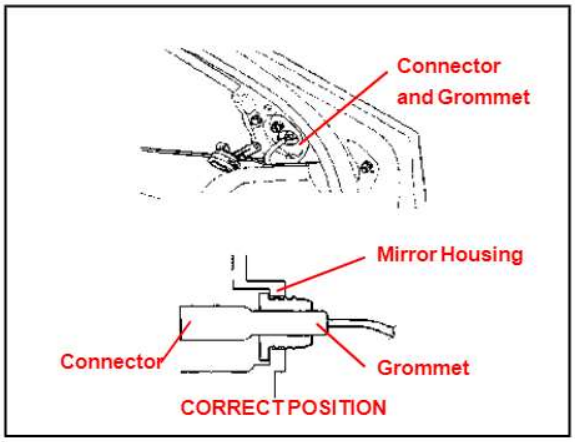
Applicable Warranty*:

This repair is covered under the Toyota Basic Warranty. This warranty is in effect for 36 months or 36,000 miles, whichever occurs first, from the vehicle's in–service date.

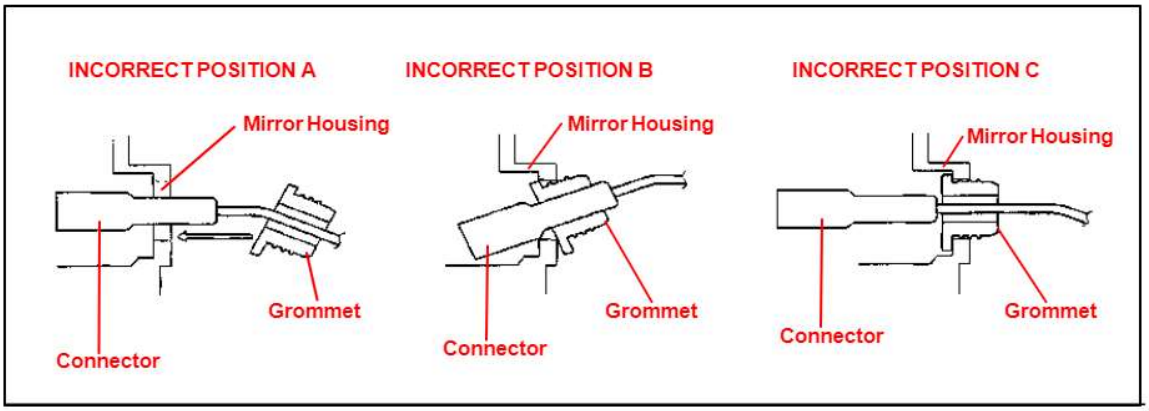
* Warranty application is limited to correction of a problem based upon a customer's specific complaint.

Repair Procedure

1. Carefully pry off the door speaker cover and remove the nut using a 10 mm socket that secures the speaker to the door.
2. Look through the door mirror harness access hole and check the position of the wire harness grommet and wire harness connector – the harness connector should be inside the grommet and the grommet should be fully seated in the mirror housing.

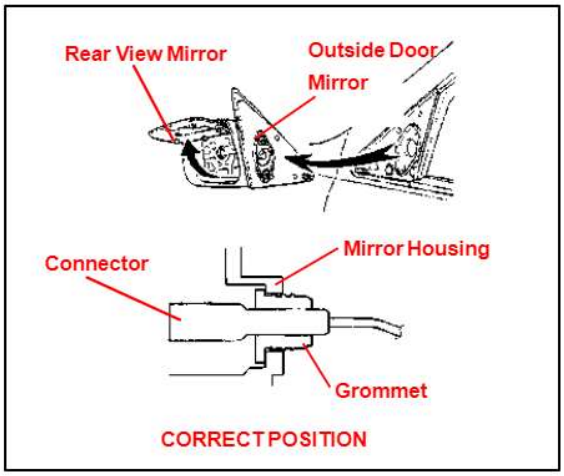


DOOR MIRROR WIND NOISE – BO019–99 December 3, 1999



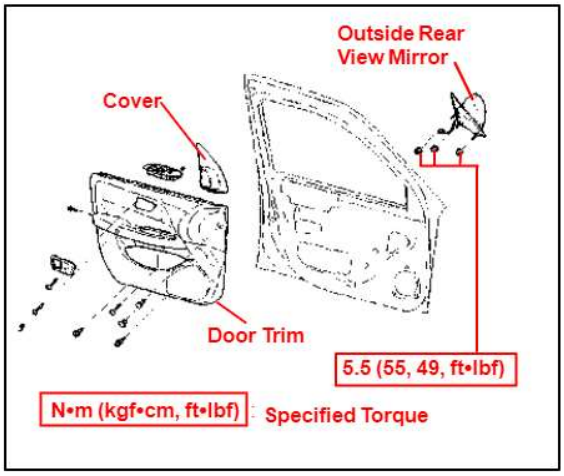
Repair Procedure

3. To reposition the grommet and/or harness connector onto the mirror housing:
   - Remove the mirror housing (3 nuts) from the door and carefully unclip the mirror from the housing. This will allow easier access and reinstallation of the grommet and/or harness connector.
   - Reposition the grommet so it is fully seated to the mirror housing. Assure the harness connector is inside the grommet.



NOTE:
Refer to the 1998 Camry Repair Manual pages BO–23 through BO–26.

4. Reinstall the door mirror and speaker assembly:
   - Secure the mirror to the housing.
   - Properly align and reinstall the mirror assembly to the door. tighten the three nuts. Torque: 5.5 N•m (56 Kgf•cm, 49 in•lb)
   - Reinstall the door speaker (one nut) and speaker cover onto the door.
   - Assure the power mirror adjustment and the door speaker functions properly.



TOYOTA

Technical Service BULLETIN

July 3, 1998

Title:

1999 TOYOTA SEAT BELT EXTENDERS

Models:

All '95 through '99 model years

TSB

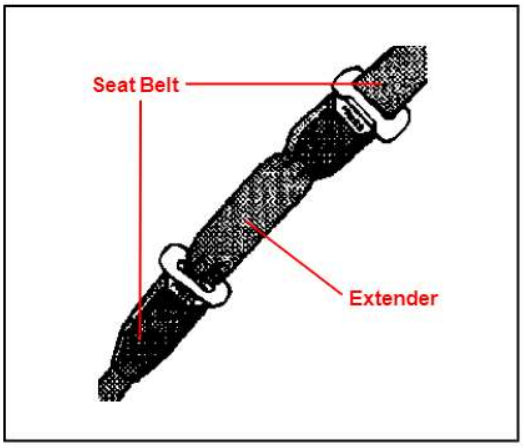
BODY

BO020–98

Introduction

Toyota customers who find it necessary to increase the length of their seat belts may obtain Seat Belt Extenders at **no cost** through their local Toyota dealer.

- The extender is available in 6 inch, 9 inch, 12 inch, 15 inch and 18 inch lengths.
- The extender is available **only in black**.
- Owners are informed of the seat belt extender availability through the Toyota Owner's Manual included in each vehicle.



The customer *(individual requiring the extender)* must visit a Toyota dealership to have the required measurements made and to complete the seat belt extender worksheet. The worksheet will allow the proper fitting and selection of a seat belt extender for the customer. The dealership personnel should then determine the applicable part number and place a ***Critical Order*** through the ***TDN Parts Network.***

The dealership service department should complete the affixed Seat Belt Extender Label and review the "owner instruction sheet" with the customer. The dealership should give a copy of the completed worksheet to the customer and keep the original in the customer's file.

To assure utmost owner satisfaction, it is recommended that a dealership designate one person to coordinate all activities related to the seat belt extender issue.

From past sales history, it is recommended that dealerships **do not stock** Seat belt extenders due to low demand and the need for customer fitting.

This bulletin contains the following information:

Procedure and Flow Chart..... Page 2
Application Chart and Notes..... Page 3
Part Number Information..... Page 5
Owner Instructions..... Page 6
Seat Belt Extender Worksheet..... Page 7

Affected Vehicles

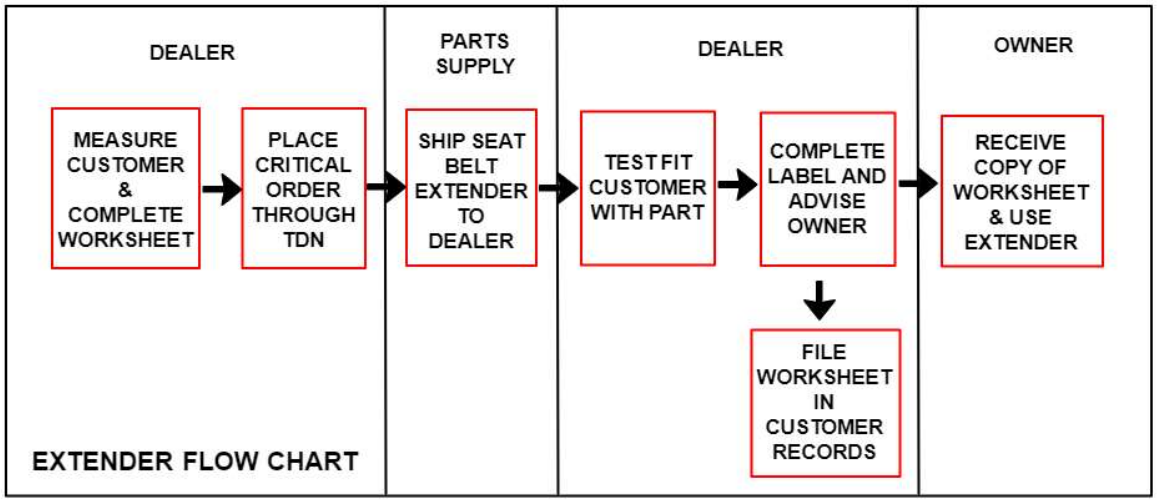
- All **Toyota** models, **1995** through **1999** model years.

Warranty Information

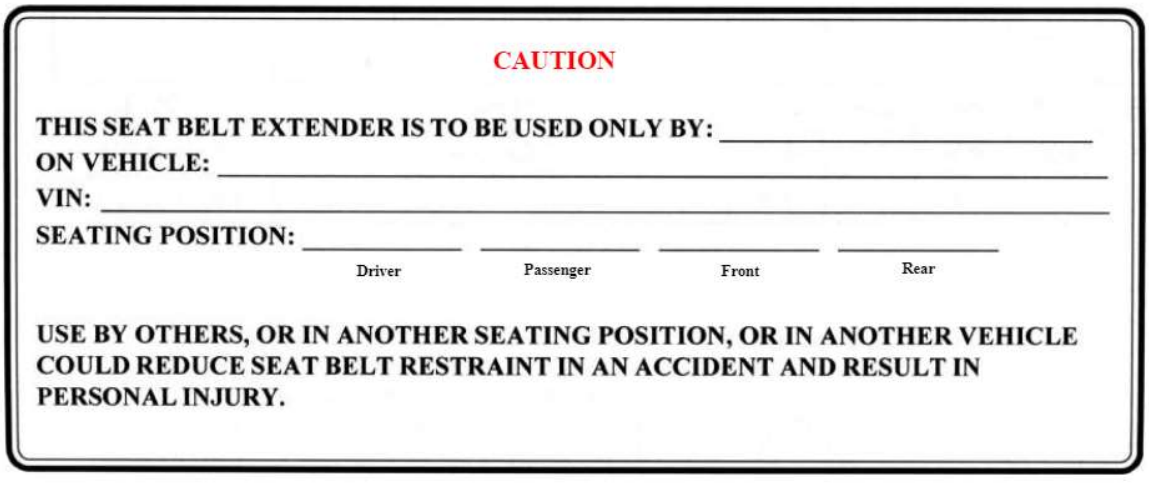
OP CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Procedure

1. Owner requests a seat belt extender from dealer.
2. Dealer verifies the need for a seat belt extender and obtains a current copy of this TSB and copies the worksheet.
3. Dealer measures the customer and completes the worksheet. Dealer determines the correct part number and places a Critical Order for the part through the TDN Parts Network.
4. Dealer receives seat belt extender and calls the customer in to check fit of the part.
5. If the seat belt extender fit is good, dealership personnel completes the customer information label on the part, explains usage of the part, and gives the customer a copy of the completed worksheet.
6. Dealer places a copy of the completed worksheet in the customer's records.



Sample Seat Belt Extender Label



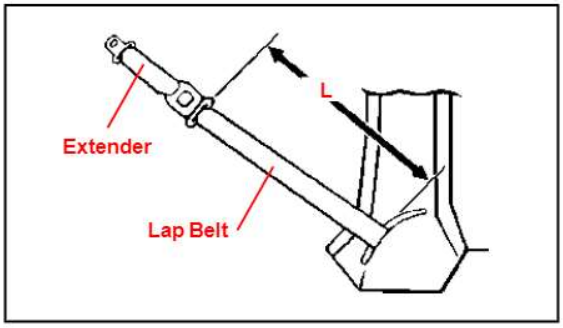
SEAT BELT EXTENDERS: '95 – '99 – BO020–98

July 3, 1998

Front Seat Belt Extender Applications

FRONT SEAT – EXTENDER APPLICATION							
MODEL	TYPE		'99	'98	'97	'96	'95
RAV4			R–5	R–5	K–5	R–5	N/A
TERCEL					R–5		R–5
PASEO	RH EXCEPT CONVERTIBLE		R–5	R–5	R–5	R–5	R–3 *1
	LH EXCEPT CONVERTIBLE						R–3
	CONVERTIBLE RH & LH		N–6	N–6	N–6	N/A	N/A
COROLLA	SDN & WGN..JPP W/TR *2		N/A	N/A	N/A	R–5	R–3
	SDN & WGN..JPP W/QSS *3					Q–4	Q–2
	NAP (NUMMI, TMMC)		Q–4	Q–4	Q–4		
MR2			N/A	N/A	N/A	N/A	R–3
CELICA			N–6	N–6	N–6	N–6	R–3
CAMRY	JPP	TOKAI RIKA *2	Q–4	Q–4	Q–2	Q–2	R–3
		QSS *3					Q–2
	NAP						
SUPRA			N/A	R–3	R–3	R–3	R–3
AVALON *4			Q–2	Q–2	Q–2	Q–2	Q–2
PREVIA			N/A	N/A	R–5	R–3	R–3
SIENNA			Q–4	Q–4	N/A	N/A	N/A
TACOMA *4			S–1	S–1	Q–4	Q–4	Q–4
COMPACT TRUCK (PICKUP) *4	REGULAR CAB	JPP..TOKAI RIKA *2	N/A	N/A	N/A	N/A	R–1
		JPP..QSS *3					Q–1
		NAP					
	XTRACAB	(ALL)					R–1
T100 *4	(ALL)		R–5	R–5	R–5	R–5	R–5
4RUNNER	4 DOOR		K–5	K–5	K–5	K–1	K–1
LAND CRUISER			K–5	R–3	R–3	R–3	R–3

*1 If dimension "L" *(length when in use)* is under 24 inches the extender must not be used due to its design and construction (illustration).

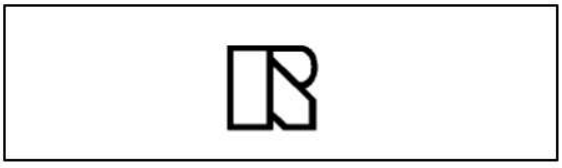


SEAT BELT EXTENDERS: '95 – '99 – BO020–98 July 3, 1998

Rear Seat Belt Extender Applications

REAR SEAT – EXTENDER APPLICATION							
MODEL	TYPE		'99	'98	'97	'96	'95
RAV4	TOKAI RIKA *2		R–5	R–5	R–5	R–5	N/A
	QSS *3		Q–4	Q–4	Q–4	Q–4	
TERCEL	TOKAI RIKA *2		R–5	R–5	R–5	R–5	R–5
	QSS *3		Q–4	Q–4	Q–4	Q–4	Q–4
PASEO	RH.. CONVERTIBLE		N–3	N–3*5	N–1	N/A	N/A
	LH.. CONVERTIBLE		N–6	N–6*5	N–5		
	RH & LH ..COUPE		R–5	R–5	R–5	R–5	R–3
COROLLA	SDN & WGN..JPP W/TR *2		N/A	N/A	N/A	R–5	R–3
	SDN ..JPP W/QSS *3					Q–4	Q–2
	NAP (TMMC)		Q–4	Q–4	Q–4		
	NAP (NUMMI)		T–1	T–1	A–2	A–2	A–2
CELICA	LIFTBACK & COUPE		N–6	N–6	N–6	N–6	N–3
	RH ..CONVERTIBLE		N–1	N–1	N–1	N–1	N–1
	LH ..CONVERTIBLE		N–5	N–5	N–5	N–5	N–5
CAMRY	JPP	TOKAI RIKA *2	N/A	N/A	N/A	R–3	R–3
		QSS *3	Q–4	Q–4	Q–4	Q–2	Q–2
	NAP	SDN					
		COUPE & WAGON	N/A	N/A	N/A		
		SOLARA	Q–4			N/A	N/A
AVALON *4			Q–2	Q–2	Q–2	Q–2	Q–2
SUPRA			N/A	R–3	R–3	R–3	R–3
PREVIA			N/A	N/A	R–5		
SIENNA			Q–4	Q–4	N/A	N/A	N/A
TACOMA *4	XTRACAB		A–2	A–2	K–3	K–3	K–3
PICKUP *4	XTRACAB		N/A	N/A	N/A	N/A	R–1
T100 *4	XTRACAB		N/A	K–4	K–4	K–4	K–4
4RUNNER			R–5	R–5	R–5	R–5	R–1
LAND CRUISER			K–5	K–5	K–4	K–4	K–4

*2 This seat belt was supplied by **TOKAI RIKA.** Make sure that the identification mark on the back side of the seat belt buckle is the same as shown.



*3 This seat belt was supplied by **QSS.** Make sure that the identification mark on the back side of the seat belt buckle is the same as shown.



Rear Seat Belt Extender Applications (Continued)

*4 Extenders must not be used for **center** front seat belt positions for **Avalon, Tacoma, Compact Pickup** and **T100** models with **bench seats** or for the **center rear** seat belt positions, ***except for the 1997 – 1999 Camry.***

*5 For **1998** model year through **November 1997** production of **Paseo** convertibles, use **N–1** for RH and **N–5** for LH. For **1998 Paseo** convertible models from **December 1997** production, use **N–3** and **N–6**.

Parts Information

PART NUMBER PREFIX: 73399–					
SERIES	LENGTH				
	6 INCH	9 INCH	12 INCH	15 INCH	18 INCH
R–1	–12010	–12020	–12030	–12040	–12050
R–2	–12160	–12170	–12180	–12190	–12200
R–3	–50010	–50020	–50030	–50040	–50050
R–4	–16010	–16020	–16030	–16040	–16050
R–5	–16060	–16070	–16080	–16090	–16100
N–1	–12060	–12070	–12080	–12090	–12100
N–3	–20011	–20021	–20031	–20041	–20051
N–4	–20060	–20070	–20080	–20090	–20100
N–5	–20110	–20120	–20130	–20140	–20150
N–6	–20160	–20170	–20180	–20190	–20200
K–1	–12110	–12120	–12130	–12140	–12150
K–2	–22010	–22020	–22030	–22040	–22050
K–3	–22060	–22070	–22080	–22090	–22100
K–4	–33010	–33020	–33030	–33040	–33050
K–5	–35010	–35020	–35030	–35040	–35050
A–1	–02010	–02020	–02030	–02040	–02050
A–2	–01060*6	–01070	–01080	–01090	–01100
Q–1	–02060	–02070	–02080	–02090	–02100
Q–2	–06010	–06020	–06030	–06040	–06050
Q–3	–0W010	–0W020	–0W030	–0W040	–0W050
Q–4	–0W010	–0W020	–0W030	–0W040	–0W050
S–1	–04010	–04020	–04030	–04040	–04050
T–1	–01110	–01120	–01130	–01140	–01150

*6 Length: 7 1/4"

Owner Instructions

Failure to follow the recommendations indicated below could result in less effectiveness of the seat belt restraint system in case of vehicle collision, causing personal injury.

The seat belt extender must not be used:

A. By anyone other than for whom it was provided (name recorded on seat belt extender).

B. In any vehicle and/or seat position other than the one for which it was provided.

C. When the seat belt extender is provided for rear seat positions (with automatic locking retractor), make sure the retractor is locked when in use.

If your seat belt cannot be fastened securely because it is not long enough, a personalized seat belt extender is available from your Toyota dealer free of charge.

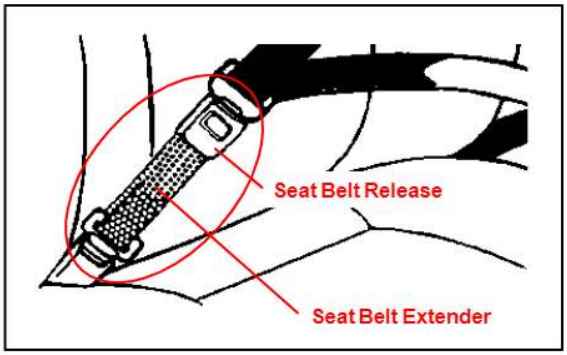
Please contact your local Toyota dealer so that the dealer can order the proper required length for the extender. Bring the heaviest coat you expect to wear for proper measurement and selection of length. Additional ordering information is available at your Toyota dealer.

CAUTION:

When using the seat belt extender, observe the following. Failure to follow these instructions could result in less effectiveness of the seat belt restraint system in case of vehicle accident, increasing the chance of personal injury.

- **Never use the seat belt extender if you can COMFORTABLY fasten the seat belt without it.**
- **Remember that the extender provided for you may not be safe when used on a different vehicle, or for another person or at a different seating position than the one originally intended for.**

To connect the extender to the seat belt, insert the tab into the seat belt buckle so that the "PRESS" signs on the buckle–release buttons of the extender and the seat belt are both facing outward as shown.



You will hear a click when the tab locks into the buckle.

When releasing the seat belt, press on the buckle–release button on the extender, not on the seat belt. This helps prevent damage to the vehicle interior and extender itself.

When not in use, remove the extender and store in the vehicle for future use.

SEAT BELT EXTENDER WORKSHEET

PLEASE COPY THIS ORIGINAL WORKSHEET FOR EACH EXTENDER NEEDED

CAUTION:

When using the seat belt extender, observe the following. Failure to follow these instructions could result in less effectiveness of the seat belt restraint system in case of vehicle accident, increasing the chance of personal injury.

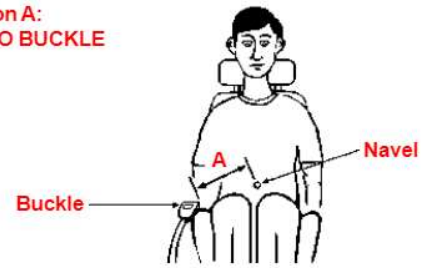
- **To minimize the chance and/or severity of injury in an accident, the seat belt extender must only be used:**
  1. **By the person for whom it was provided**
  2. **In the seat position for which it was provided**
- **The seat belt extender must never be used with any child safety seats.**
- **When the seat belt extender is provided for rear seat positions (with automatic locking retractor), make sure the retractor is locked when extender belt is in use.**

DEALER		SEAT BELT EXTENDER APPLICATION		APPLICANT		
DEALER CODE	DEALER NAME			APPLICANT NAME		
ADDRESS				ADDRESS		
CITY & STATE		ZIP		CITY & STATE	ZIP	PHONE
EMPLOYEE NAME	MODEL YEAR	BODY TYPE		SEATING POSITION	VEHICLE IDENTIFICATION NUMBER	

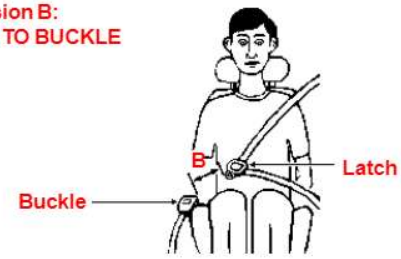
DIRECTIONS FOR DETERMINING PROPER EXTENDER LENGTH

1. **Place the seat in the position the applicant normally uses**
2. **With applicant in the seat, wearing thickest coat expected to be worn, pull belt all the way out and try to buckle belt**
   - **If the belt latches into buckle and feels comfortable against upper chest area, an extender is not needed.**
   - **If belt does not buckle continue with step 3**
   - **If buckle latches but belt has no slack remaining, continue with step 3**
3. **Measure distance between applicant's navel and seat belt buckle (dimension A) and enter on worksheet**
4. **With belt all the way out, measure distance between latch tip and buckle tip (dimension B) and enter on worksheet**
   NOTE: If belt latches but there is no slack enter zero as dimension B
5. **Subtract dimension B from dimension A and record number in check number box on worksheet**
6. **Seat belt extender length is dimension B rounded up to next extender length (without exceeding check number)**
   NOTE: If extender length exceeds check number, an extender can not be provided to the customer

Dimension A:
NAVEL TO BUCKLE



Dimension B:
LATCH TO BUCKLE



SEAT BELT EXTENDER CALCULATION		
DIMENSION A:	DIMENSION B:	CHECK NUMBER:

SEAT BELT EXTENDER AUTHORIZATION

- **The same seat belt extender can be used for right and left seating applications. Each seat belt extender will have a label identifying the owner, VIN and seating position. Seat belt extenders are available only in black.**
- **Applicant's Signature:** _____ **Date:** _____
  (Actual user of seat belt extender)

TOYOTA

Technical Service BULLETIN

August 11, 2000

Title:

SEAT BELT EXTENDER

Models:

'99 – '01 Model Year

TSB

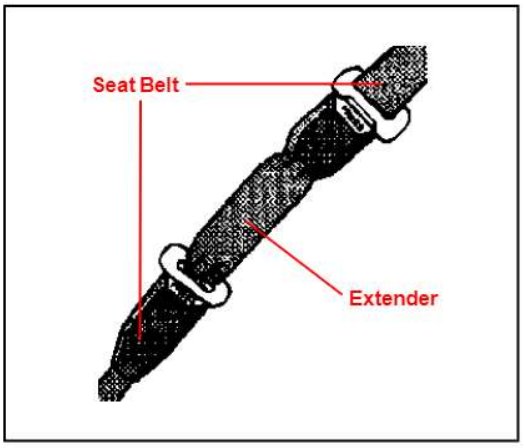
BODY

BO020–00

Introduction

Toyota customers who find it necessary to increase the length of their seat belts may obtain Seat Belt Extenders at **no cost** through their local Toyota dealer.

- The extender is available in 6 inch, 9 inch, 12 inch, 15 inch and 18 inch lengths.
- The extender is available **only in black**.
- Owners are informed of the seat belt extender availability through the Toyota Owner's Manual included in each vehicle.



The customer *(individual requiring the extender)* must visit a Toyota dealership to have the required measurements made and to complete the seat belt extender worksheet. The worksheet will allow the proper fitting and selection of a seat belt extender for the customer. The dealership personnel should then determine the applicable part number and place a ***Critical Order*** through the ***TDN Parts Network.***

The dealership service department should complete the affixed Seat Belt Extender Label and review the "owner instruction sheet" with the customer. The dealership should give a copy of the completed worksheet to the customer and keep the original in the customer's file.

To assure utmost owner satisfaction, it is recommended that a dealership designate one person to coordinate all activities related to the seat belt extender issue.

From past sales history, it is recommended that dealerships **do not stock** Seat belt extenders due to low demand and the need for customer fitting.

This bulletin contains the following information:

Procedure and Sample Label.....Page 2
Application Charts .....Page 3–4
Part Number Information.....Page 5
Owner Instructions.....Page 6
Seat Belt Extender Worksheet.....Page 7

Applicable Vehicles

- **1999** through **2001** model year **Toyota** vehicles.

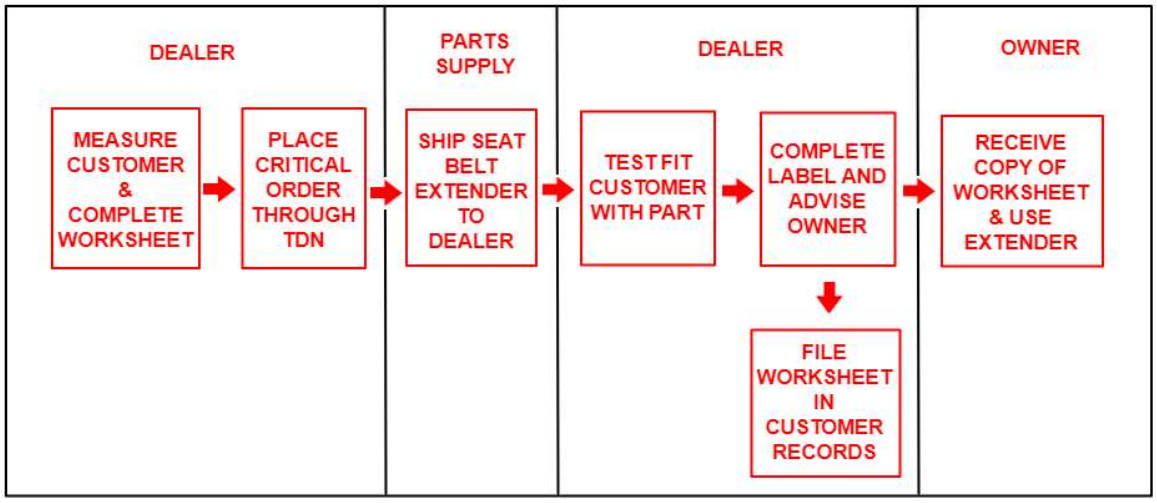
Warranty Information

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

SEAT BELT EXTENDER: '99 – '01 MODEL YEAR – BO020–00 August 11, 2000

Procedure

1. Owner requests a seat belt extender from dealer.
2. Dealer verifies the need for a seat belt extender and obtains a current copy of this TSB and copies the worksheet.
3. Dealer measures the customer and completes the worksheet. Dealer determines the correct part number and places a Critical Order for the part through the TDN Parts Network.
4. Dealer receives seat belt extender and calls the customer in to check fit of the part.
5. If the seat belt extender fit is good, dealership personnel completes the customer information label on the part, explains usage of the part, and gives the customer a copy of the completed worksheet.
6. Dealer places a copy of the completed worksheet in the customer's records.



Sample Seat Belt Extender Customer Information Label

CAUTION

THIS SEAT BELT EXTENDER IS TO BE USED ONLY BY: _____

ON VEHICLE: _____

VIN: _____

SEATING POSITION: _____

USE BY OTHERS, OR IN ANOTHER SEATING POSITION, OR IN ANOTHER VEHICLE COULD REDUCE SEAT BELT RESTRAINT IN AN ACCIDENT AND RESULT IN PERSONAL INJURY.

SEAT BELT EXTENDER: '99 – '01 MODEL YEAR – BO020–00 August 11, 2000

Front Seat Belt Extender Applications

FRONT SEAT – EXTENDER APPLICATION				
MODEL	TYPE	'01	'00	'99
RAV4	—	R–5	R–5	R–5
ECHO	—	K–5	5–5	—
COROLLA	TMMC PRODUCTION	Q–4	Q–4	Q–4
	NUMMI PRODUCTION			
PRIUS	—	N–7	—	—
MR2 SPYDER	—	N–6	N–6	—
CELICA	LIFTBACK & COUPE	N–6	N–6	N–6
	CONVERTIBLE	—	—	
CAMRY	TMC PRODUCTION	Q–4	Q–4	Q–4
	TMMK PRODUCTION			
CAMRY SOLARA	COUPE	Q–4	Q–4	Q–4
	COVERTIBLE			—
AVALON *1	—	T–1	T–1	Q–2
SIENNA	—	Q–4	Q–4	Q–4
TACOMA *1	—	S–2	S–1	S–1
4RUNNER	—	K–5	K–5	K–5
LAND CRUISER	—	K–5	K–5	K–5
SEQUIOA	—	Q–4	—	—
TUNDRA *1	—	Q–4	Q–4	—

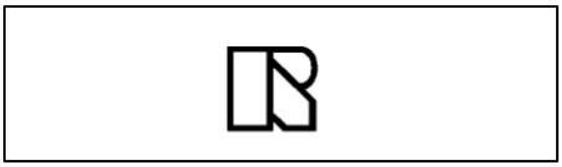
*1 The extender must not be used for the center seat belt of Avalon, Tacoma and Tundra which have bench seats.

SEAT BELT EXTENDER: '99 – '01 MODEL YEAR – BO020–00 August 11, 2000

Rear Seat Belt Extender Applications

REAR SEAT – EXTENDER APPLICATION				
MODEL	TYPE	'01	'00	'99
RAV4	W/TOKAI RIKA	R–5	R–5*1	R–5*1
	W/QSS	—	Q–4*2	Q–4*2
ECHO	—	R–5	R–5	—
COROLLA	TMMC PRODUCTION	Q–4	Q–4	Q–4
	NUMMI PRODUCTION	T–1	T–1	T–1
PRIUS	—	N–7	—	—
CELICA	LIFTBACK & COUPE	N–6	N–6	N–6
	CONVERTIBLE (RH)	—	—	N–1
	CONVERTIBLE (LH)			N–5
CAMRY	TMC PRODUCTION	Q–4	Q–4	Q–4
	TMMK PRODUCTION			
CAMRY SOLARA	COUPE	Q–4	Q–4	Q–4
	CONVERTIBLE			—
AVALON	—	T–1	T–1	Q–2
SIENNA	—	Q–4	Q–4	Q–4
TACOMA	XTRACAB	A–2	A–2	A–2
4RUNNER	—	R–5	R–5	R–5
LAND CRUISER	—	K–5	K–5	K–5
SEQUOIA	REAR SEAT #1	T–1	—	—
SEQUOIA	REAR SEAT #2	Q–4		
TUNDRA	ACCESS CAB	Q–4	Q–4	—

*1 This seat belt was supplied by TOKAI RIKA. Make sure that the I/D mark on the back side of the seat belt buckle is the same as shown.



*2 This seat belt was supplied by QSS. Make sure that the I/D mark on the back side of the seat belt buckle is the same as shown.



NOTE:

The seat belt extender must not be used for the center rear seat belt.

SEAT BELT EXTENDER: '99 – '01 MODEL YEAR – BO020–00 August 11, 2000

Parts Information

SERIES	PART NUMBER PREFIX: 73399–				
	LENGTH				
	6 INCH	9 INCH	12 INCH	15 INCH	18 INCH
R–5	–16060	–16070	–16080	–16090	–16100
N–1	–12060	–12070	–12080	–12090	–12100
N–5	–20110	–20120	–20130	–20140	–20150
N–6	–20160	–20170	–20180	–20190	–20200
N–7	–47010	–47020	–47030	–47040	–47050
K–5	–35010	–35020	–35030	–35040	–35050
A–2	–01060*1	–01070	–01080	–01090	–01100
Q–2	–06010	–06020	–06030	–06040	–06050
Q–4	–0W010	–0W020	–0W030	–0W040	–0W050
S–1	–04010	–04020	–04030	–04040	–04050
T–1	–01110	–01120	–01130	–01140	–01150

*1 Length: 7 1/4"

SEAT BELT EXTENDER: '99 – '01 MODEL YEAR – BO020–00 August 11, 2000

Owner Instructions

Failure to follow the recommendations indicated below could result in less effectiveness of the seat belt restraint system in case of vehicle collision, causing personal injury.

The Seat Belt Extender must not be used:

a. By anyone other than for whom it was provided (name recorded on seat belt extender).

b. In any vehicle and/or seat position other than the one for which it was provided.

c. When the Seat Belt Extender is provided for rear seat positions (with automatic locking retractor), make sure the retractor is locked when in use.

If your seat belt cannot be fastened securely because it is not long enough, a personalized seat belt extender is available from your Toyota dealer free of charge.

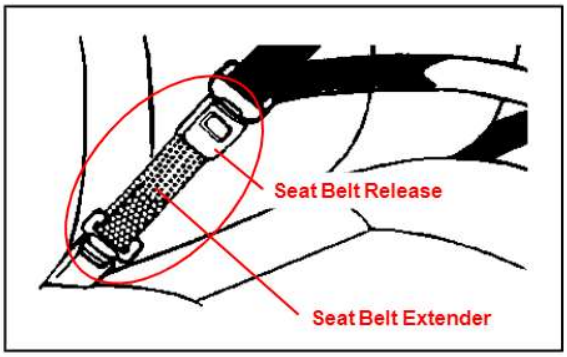
Please contact your local Toyota dealer so that the dealer can order the proper required length for the extender. Bring the heaviest coat you expect to wear for proper measurement and selection of length. Additional ordering information is available at your Toyota dealer.

CAUTION:

When using the seat belt extender, observe the following. Failure to follow these instructions could result in less effectiveness of the seat belt restraint system in case of vehicle accident, increasing the chance of personal injury.

- **Never use the Seat Belt Extender if you can comfortably fasten the seat belt without it.**
- **The Seat Belt Extender must never be used with any child safety seats.**
- **Remember that the extender provided for you may not be safe when used on a different vehicle, or for another person or at a different seating position than the one originally intended for.**

To connect the extender to the seat belt, insert the tab into the seat belt buckle so that the "PRESS" signs on the buckle–release buttons of the extender and the seat belt are both facing outward as shown.



You will hear a click when the tab locks into the buckle.

When releasing the seat belt, press on the buckle–release button on the extender, not on the seat belt. This helps prevent damage to the vehicle interior and extender itself.

When not in use, remove the extender and store in the vehicle for future use.

SEAT BELT EXTENDER WORKSHEET

PLEASE COPY THIS ORIGINAL WORKSHEET FOR EACH EXTENDER NEEDED

CAUTION:

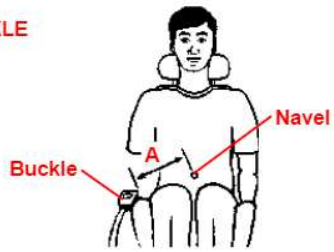
- **To minimize the chance and/or severity of injury in an accident, the seat belt extender must only be used:**
  1 **By the person for whom it was provided**
  2 **In the seat position for which it was provided**
- **The seat belt extender must never be used with any child safety seats.**
- **When the seat belt extender is provided for rear seat positions (with automatic locking retractor), make sure the retractor is locked when extender belt is in use.**

DEALER			SEAT BELT EXTENDER APPLICATION	APPLICANT		
DEALER CODE	DEALER NAME			APPLICANT NAME		
ADDRESS				ADDRESS		
CITY & STATE		ZIP		CITY & STATE	ZIP	PHONE
EMPLOYEE NAME	MODEL YEAR	BODY TYPE		SEATING POSITION	VEHICLE IDENTIFICATION NUMBER	

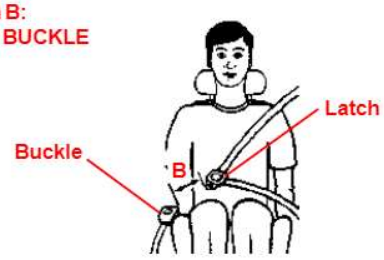
DIRECTIONS FOR DETERMINING PROPER EXTENDER LENGTH

1. **Place the seat in the position the applicant normally uses**
2. **With applicant in the seat, wearing thickest coat expected to be worn, pull belt all the way out and try to buckle belt**
   - **If the belt latches into buckle and feels comfortable against upper chest area, an extender is not needed.**
   - **If belt does not buckle continue with step 3**
   - **If buckle latches but belt has no slack remaining, continue with step 3**
3. **Measure distance between applicant's navel and seat belt buckle (dimension A) and enter on worksheet**
4. **With belt all the way out, measure distance between latch tip and buckle tip (dimension B) and enter on worksheet**
   NOTE: If belt latches but there is no slack enter zero as dimension B
5. **Subtract dimension B from dimension A and record number in check number box on worksheet**
6. **Seat belt extender length is dimension B rounded up to next extender length (without exceeding check number)**
   NOTE: If extender length exceeds check number, an extender can not be provided to the customer

Dimension A:
NAVEL TO BUCKLE



Dimension B:
LATCH TO BUCKLE



SEAT BELT EXTENDER CALCULATION		
DIMENSION A:	DIMENSION B:	CHECK NUMBER:

SEAT BELT EXTENDER AUTHORIZATION

- **The same seat belt extender can be used for right and left seating applications. Each seat belt extender will have a label identifying the owner, VIN and seating position. Seat belt extenders are available only in black.**
- **Applicant's Signature:** _____ **Date:** _____
  (Actual user of seat belt extender)

TOYOTA

Technical Service BULLETIN

August 17, 2001

Title:

SLIDING ROOF DIAGNOSTIC TIPS

Models:

'97 – '01 TMMK Camry

TSB

BODY

BO020-01

Introduction

The 1997 – 2001 model year TMMK Camry sliding roof assembly components are now available as service parts. Additional diagnostic and repair information has been developed to supplement the Repair Manual and to provide service tips for the sliding roof components.

Applicable Vehicles

1997 – 2001 model year **Camry** vehicles **built in the US (TMMK)**.

MODEL/PLANT	STARTING VIN
Camry (TMMK)	All VINs Begin with "4"

Warranty Information

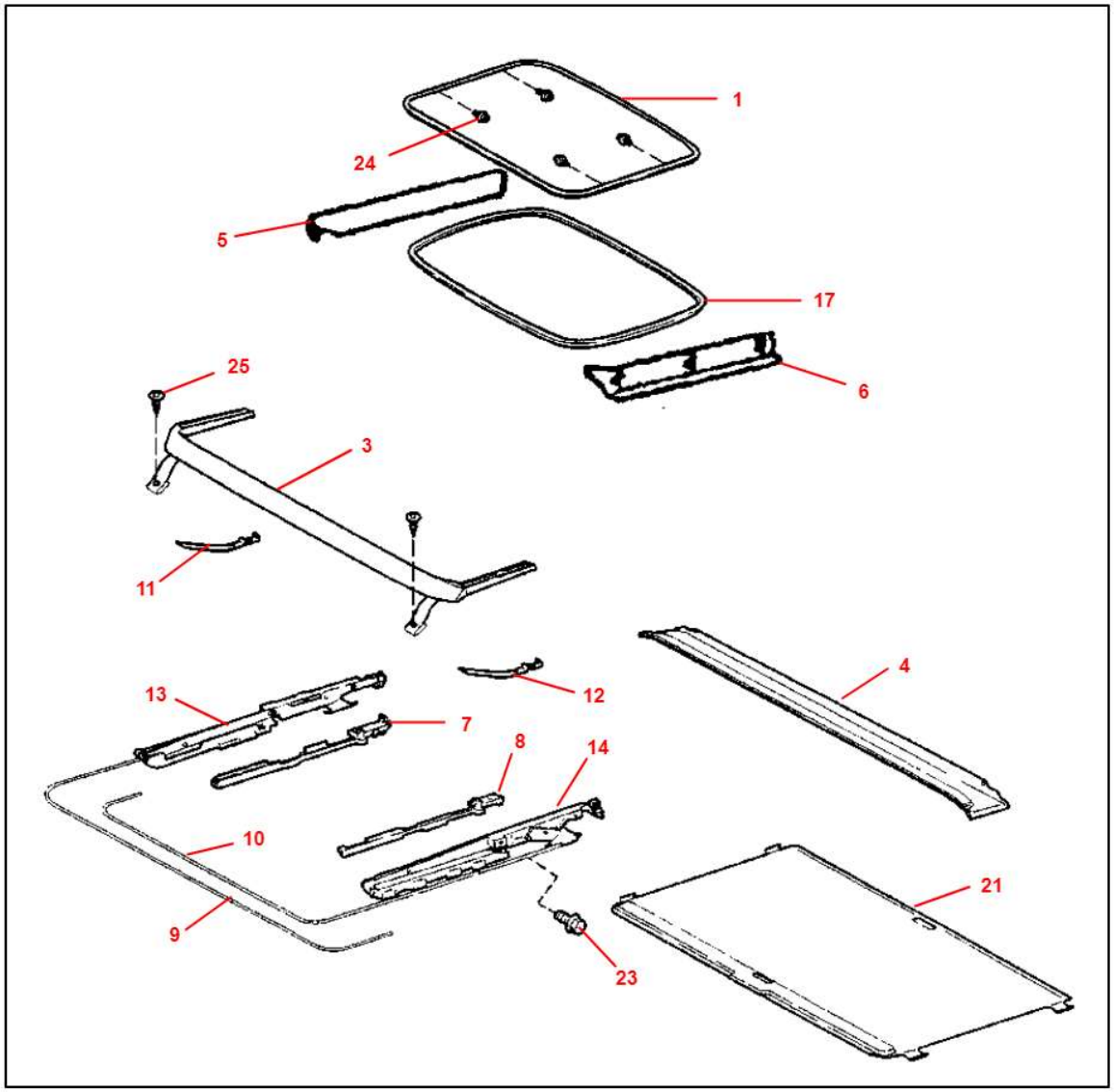
OP CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Parts Information

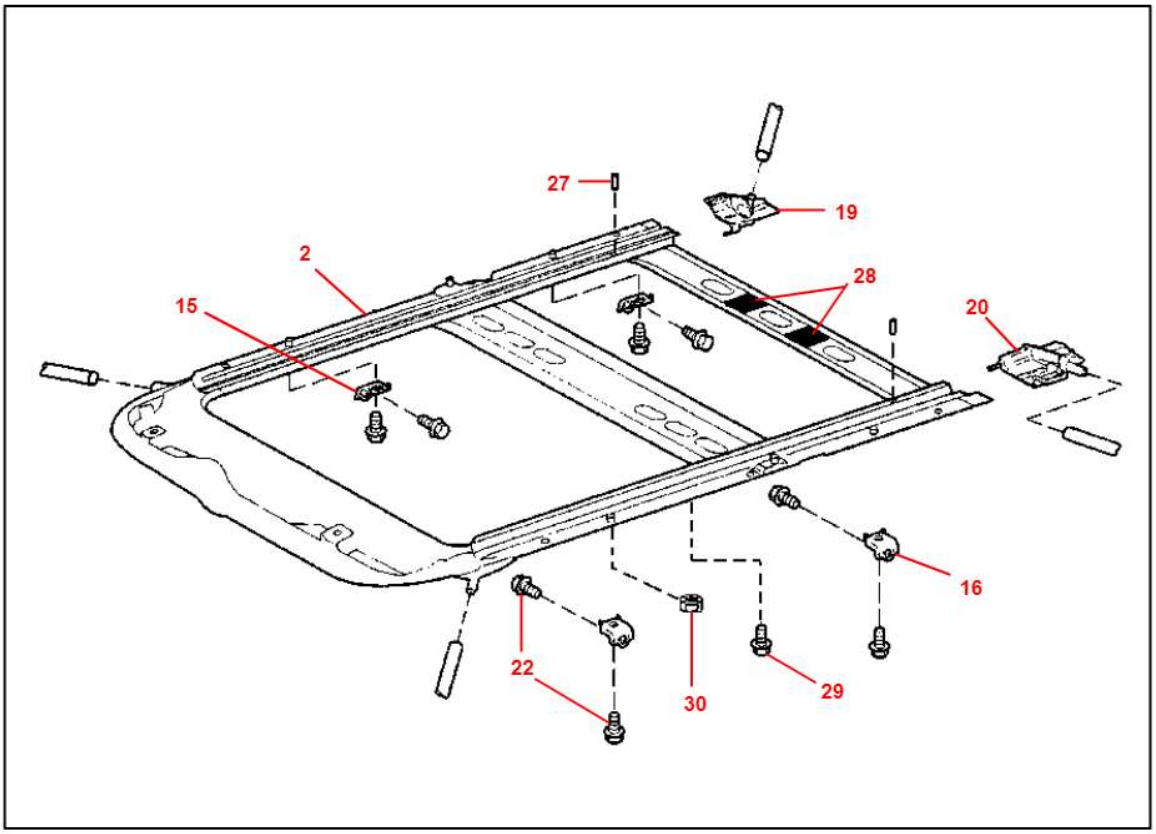
REF	PART NUMBER	PART NAME	QTY
1	63201–AA010–83	Glass Sub–Assy, Sliding Roof	1
2	63202–AA010	Rail Sub–Assy, Slide Roof	1
3	63209–AA010	Panel Sub–Assy, Roof Wind Deflector	1
4	63214–AA010	Channel, Roof Drip, RR	1
5	63217–AA010	Garnish, Sliding Roof Side, RH	1
6	63218–AA010	Garnish, Sliding Roof Side, LH	1
7	63221–AA010	Guide, Roof Channel, RH	1
8	63222–AA010	Guide, Roof Channel, LH	1
9	63223–AA010	Cable, Sliding Roof Drive, RH	1
10	63224–AA010	Cable, Sliding Roof Drive, LH	1
11	63225–AA010	Spring, Roof Wind Deflector, RH	1
12	63226–AA010	Spring, Roof Wind Deflector, LH	1
13	63227–AA010	Arm, Sliding Roof Lift, RH	1
14	63228–AA010	Arm, Sliding Roof Lift, LH	1
15	63241–AA010	Bracket, Sliding Roof Housing Fr. Mtg., RH	2
16	63245–AA010	Bracket, Sliding Roof Housing Fr. Mtg., LH	2
17	63251–AA010	Weatherstrip, Sliding Roof	1
18	63260–AA010	Gear Assy, Sliding Roof Drive (Not Illustrated)	1

Parts Information (Continued)

REF	PART NUMBER	PART NAME	QTY
19	63287–AA010	Cap, Sliding Roof Housing Drain End, RH	1
20	63288–AA010	Cap, Sliding Roof Housing Drain End, LH	1
21	63306–AA010–A1/B1/G1	Trim Sub–Assy, Sliding Shade	1
22	90080–11209	Bolt, With Washer	8
23	90084–14004	Screw, Hex Lobular	2
24	90084–15005	Screw, With Washer	4
25	90084–16013	Screw, Hex Lobular Tapping (Long)	2
26	90084–16014	Screw, Hex Lobular Tapping (Short) (Not Illustrated)	2
27	90084–26003	Rivet	6
28	90084–53003	Fastener, Hook	3
29	90159–60545	Screw, With Washer Tapping (Ground Wire)	1
30	90179–06069	Nut	6



Parts Information (Continued)



Repair Procedure

CONDITION	POSSIBLE CAUSE	COMMON REPAIR
Glass Won't Tilt	Guide pin mis–adjusted	Re–adjust guide pin
	Mechanism unlatched	Re–adjust guide pin
	Damaged drive gear assembly	Replace drive gear assembly
	Damaged cable assembly	Replace cable assembly
	Other damaged part	Replace damaged part
	Rubber bumper comes off	Replace lift arm assembly
	Foreign material	Remove foreign material and re–adjust guide pin
Glass Won't Close	Guide pin mis–adjusted	Re–adjust guide pin
	Mechanism unlatched	Re–adjust guide pin
	Damaged drive gear assembly	Replace drive gear assembly
	Damaged cable assembly	Replace cable assembly
	Other damaged part	Replace damaged part
	Rubber bumper comes off	Replace lift arm assembly
	Foreign material	Remove foreign material and re–adjust guide pin

Repair Procedure (Continued)

CONDITION	POSSIBLE CAUSE	COMMON REPAIR
Glass Won't Open	Guide pin mis–adjusted	Re–adjust guide pin
	Mechanism unlatched	Re–adjust guide pin
	Damaged drive gear assembly	Replace drive gear assembly
	Damaged cable assembly	Replace cable assembly
	Other damaged part	Replace damaged part
	Rubber bumper comes off	Replace lift arm assembly
	Foreign material	Remove foreign material and re–adjust guide pin
Glass Jammed/ Binding/Seized	Guide pin mis–adjusted	Re–adjust guide pin
	Mechanism unlatched	Re–adjust guide pin
	Damaged drive gear assembly	Replace drive gear assembly
	Damaged cable assembly	Replace cable assembly
	Other damaged part	Replace damaged part
	Rubber bumper comes off	Replace lift arm assembly
	Foreign material	Remove foreign material and re–adjust guide pin
Abnormal Noise	Guide pin mis–adjusted	Re–adjust guide pin
	Damaged drive gear assembly	Replace drive gear assembly
	Damaged garnish	Replace garnish
	Damaged roof drip channel guide	Replace roof drip channel guide
	Other damaged part	Replace damaged part
Sunshade Difficult to Move	Opening trim molding installed incorrectly	Adjust trim position. See Service Tip on page 7 of this bulletin.
	Bent sunshade	Replace sunshade
	Damaged or bent center reinforcement	Straighten or replace center reinforcement
	Damaged or bent rear reinforcement	Straighten or replace rear reinforcement
	Damaged or bent roof drip channel	Straighten or replace drip channel

SLIDING ROOF DIAGNOSTIC TIPS – BO020-01 August 17, 2001

Service Tips

- The recommended sliding roof removal and disassembly procedure is provided in the 2001 Camry Repair Manual, pages BO–62 through BO–65. Take time to read the procedure before disassembling the sliding roof assembly.
- When the system is diagnosed and the failed part is identified, the failed part can be removed by following the disassembly procedure in the 2001 Camry Repair Manual pages BO–66 through BO–67. Adjustment information is available on pages BO–68 and BO–69.
- Electrical diagnosis information can be found:

  2001 Camry Repair Manual, pages BE–89 through BE–92.

  2001 Camry Electrical Wiring Diagram, pages 168 through 170.

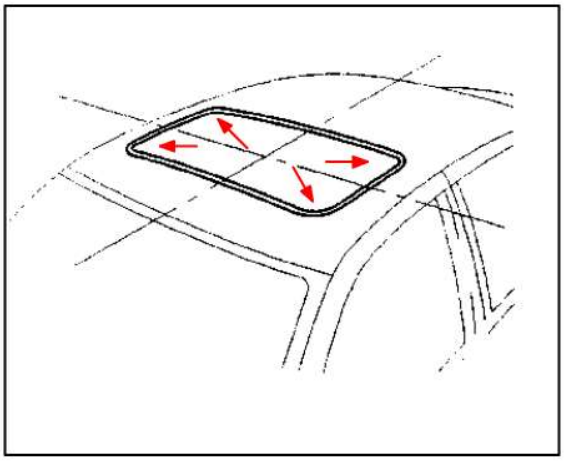
The following service tips are not provided in the Repair Manuals:

Drain Tube Function

To clear clogs in the drain tubes, insert a long speedometer cable.

A long speedometer cable can be inserted into each drain, to determine if the drain tubes are exiting to the ground instead of inside the vehicle.

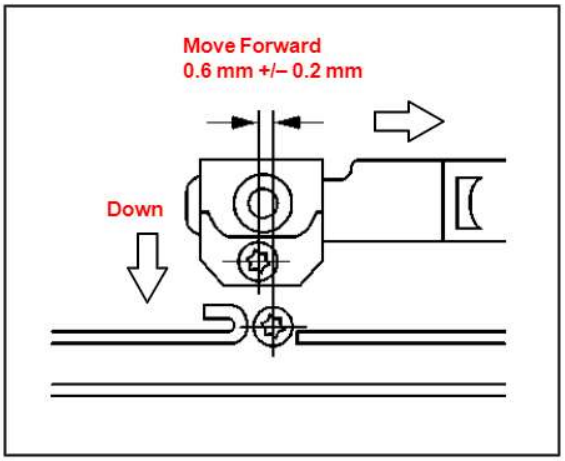
Do **NOT** blast air down the tube because this can cause the drain tube to become disconnected from the sliding roof.



Guide Pin Adjustment

Adjustments are noted in the 2001 Camry Repair Manual, page BO–69.

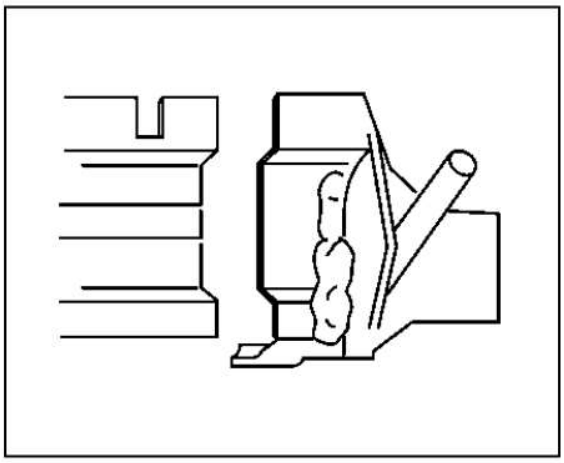
In addition, when the guide pin roller moves up and down, the Lift Arm should be able to move forward–backward a distance of 0.6 mm +/– 0.2 mm.



Service Tips (Continued)

Rear Drain Cap Installation

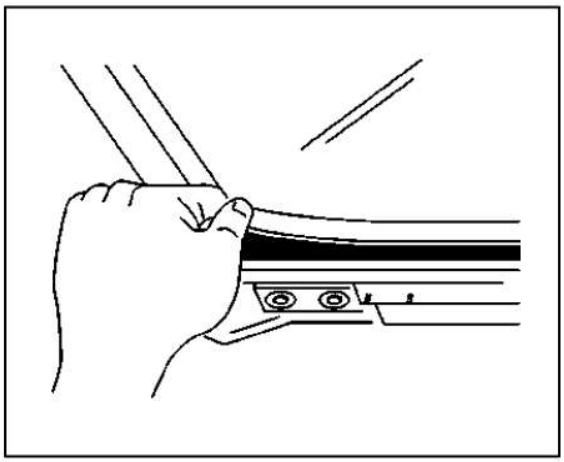
The Repair Manual recommends applying Seal Packing P/N 08826–00090 for installation of the drain cap. Since this product is not available through the parts department, the recommended product is:
3M Windo–Weld Sealer – Black (3M Part Number 08606)



Moon Roof Opening Trim Removal

The opening trim has three integrated snaps.

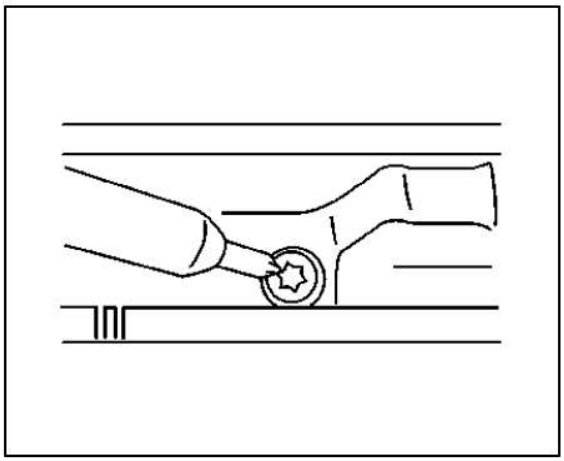
First remove the front section in a perpendicular motion, then remove the other sections.



Glass Panel Removal

If the screws (4 screws, Torx Screw Driver) cannot be reached, move the sliding roof forward by turning the motor drive shaft with a hex wrench.

Assure the glass panel is adjusted according to the specifications in the 2001 Camry Repair Manual page BO–62.



Service Tips (Continued)

Glass Panel Adjustment

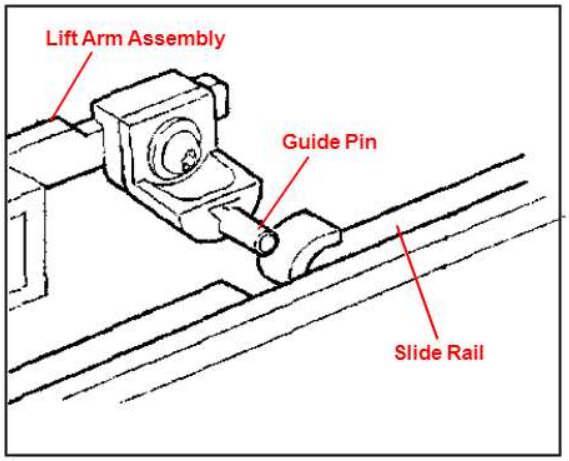
1. Glass Panel Closed, Skewed in the Opening

   Tilt the glass panel

   From the outside of the vehicle, loosen the guide pin.

   Move the guide pin **rearward** in small increments, until glass closes evenly and exhibits no popping sound. Tighten the pin.

   Cycle the sliding roof to verify proper adjustment.



2. Glass Panel Tilts Down but Does Not Retract

   Tilt the glass panel

   From the outside of the vehicle, loosen the guide pin.

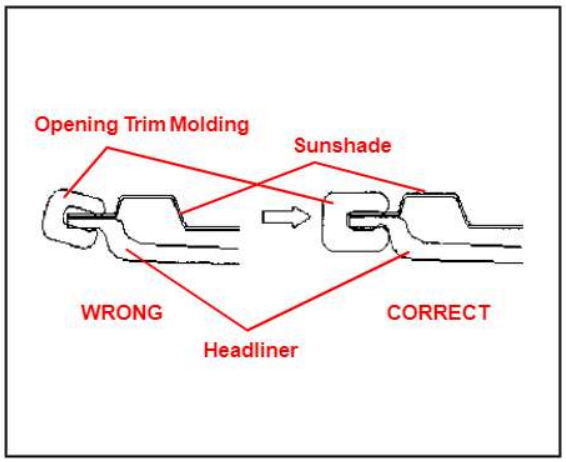
   Move the pin **forward** in small increments, until the glass retracts quietly. Tighten the pin.

   Cycle the sliding roof to verify proper adjustment.

Sunshade Difficult to Move

Confirm the opening trim molding is attached to the headliner so it does not contact the sunshade.

If the trim is pushed up, it will rub against the sunshade and cause the sunshade to drag.



TOYOTA

Technical Service BULLETIN

December 17, 1999

Title:

SEAT COVER LOOSENESS

Models:

'99 Camry & Sienna

TSB

BODY

BO020–99

Introduction

On some 1999 Camry front seats and Sienna captain seats, the seat bottom cover may become loose at the front lower J–clip. To correct this condition a change has been made to the way the seat cover is fastened to the seat bottom.

Applicable Vehicles

- **1999 Camry & Sienna vehicles produced within the following VIN ranges.**

MODEL/PLANT	BETWEEN VIN
Camry (Plant 1)	BG * XU575466 – BF * XU578340 / BF * XU085983 – BF * XU086274
Camry (Plant 2)	BG * XU908651 – BG * XU910853 / BF * XU932462 – BF * XU932748
Sienna	XU167107 – XU168859

NOTE:

When working with sheet metal wear Kevlar Gloves to protect your hands.

Warranty Information

Camry

OP CODE	COMBO	DESCRIPTION	TIME	OPN	T1	T2
711041	A & B	Re–attach Lower Portion of Front Seat Cover (RH & LH)	1.1	71071–xxxxx–xx 71072–xxxxx–xx	62	14

Sienna

OP CODE	COMBO	DESCRIPTION	TIME	OPN	T1	T2
711041	A & B	Re–attach Lower Portion of Captain Seat Cover (RH & LH)	0.6	71071–xxxxx–xx 71074–xxxxx–xx	62	14

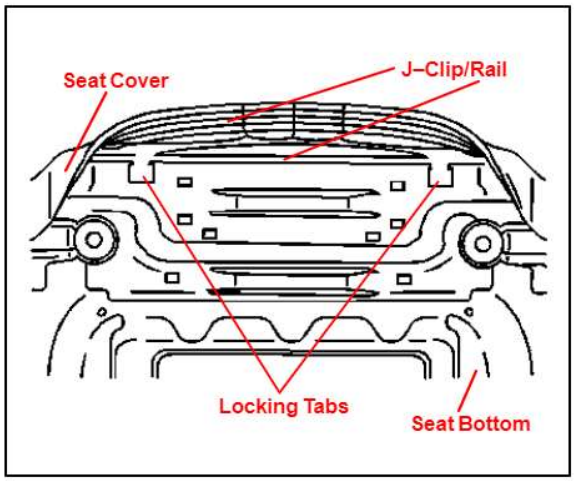
Applicable Warranty*:

This repair is covered under the Toyota Basic Warranty. This warranty is in effect for 36 months or 36,000 miles, whichever occurs first, from the vehicle's in–service date.

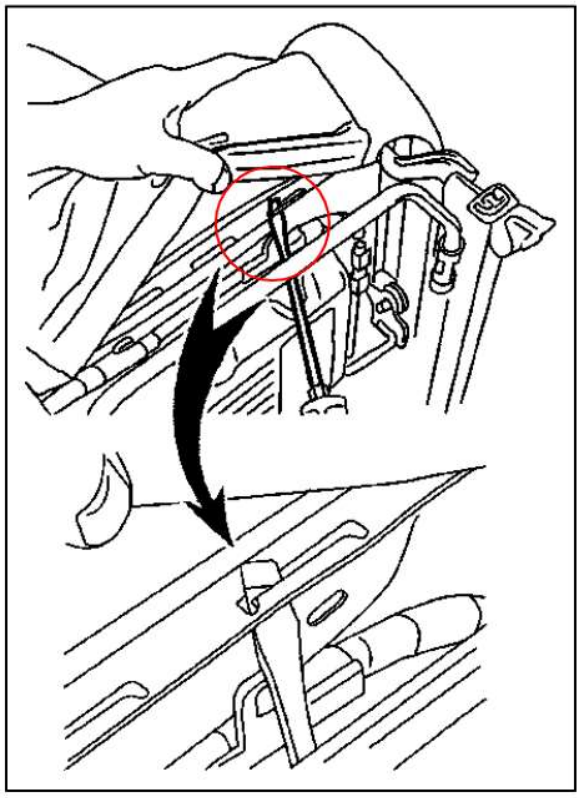
* Warranty application is limited to correction of a problem based upon a customer's specific complaint.

Repair Procedure

1. For easier repair remove the complete seat assembly.
2. If necessary, remove the manual seat adjuster handle.



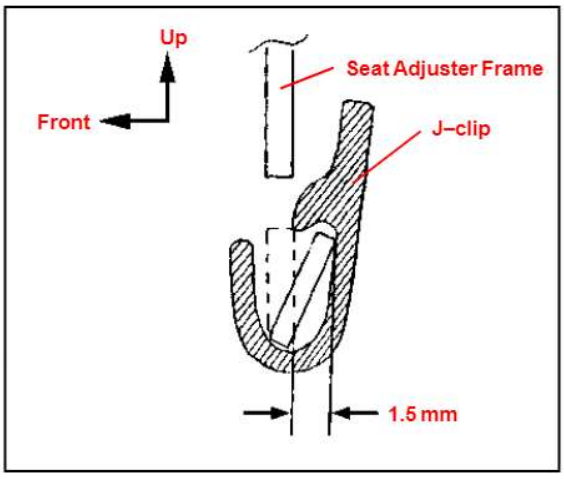
3. Bend the locking tabs down.
4. Completely disengage the J–clip from the seat adjuster frame (front area only).



5. Using a screwdriver, bend the frame J–clip retention clips to the front. (Approximately 1.5 mm)

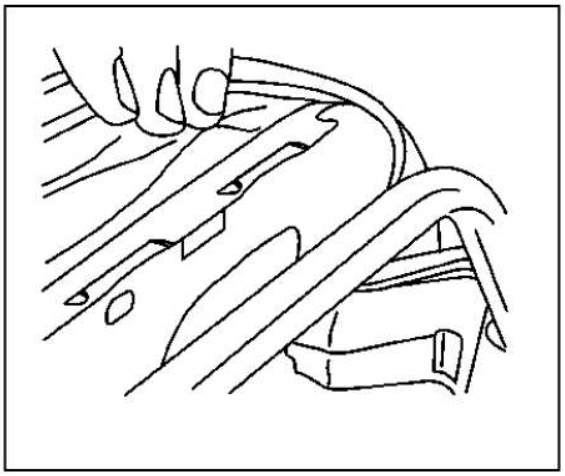
NOTE:
Original Condition: Retention clips are bent to the rear.

NOTE:
With a screwdriver, bend all 5 retention clips 1.5 mm forward.

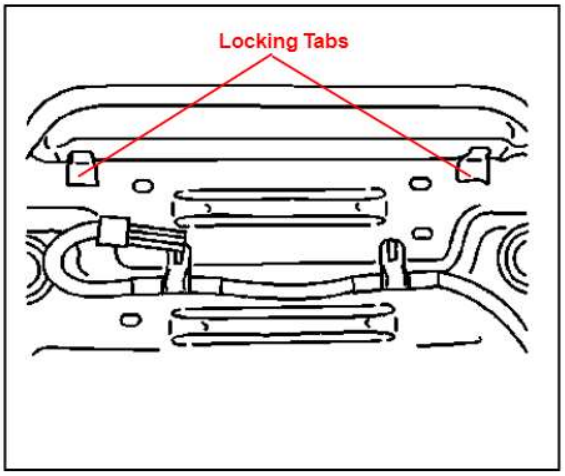


Repair Procedure (Continued)

6. Reassemble the seat cushion.



7. Bend the locking tabs over the cushion.
8. After reinstallation of the seat and manual seat adjuster handle (if removed), check the seat cushion retention and seat operation (sit on seat and push cushion down).
9. Tighten the seat mounting screws to the torque specifications in the Repair Manual.



TOYOTA

Technical Service BULLETIN

December 17, 1999

Title:

SUNROOF OPERATION

Models:

'97 – '99 TMMK Camry

TSB

BODY

BO021–99

Introduction

Some 1997 – 1999 TMMK Camry vehicles may experience an interruption in sunroof operation (not opening or closing). Changes have been made to the roof drip channel guides to improve operation. The guides were modified to increase the clearance between the sun shade and opening flange by 2 mm. A radius was added to eliminate the sharp corners of the guides.

Applicable Vehicles

- **1997 – 1999 TMMK Camry vehicles built before the production change.**

Production Change Information

MODEL	PLANT	STARTING VIN
Camry (TMMK)	Plant 1	4T1BG*XU543595/BF*XU083791
	Plant 2	4T1BG*XU901534/BF*XU932010

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
63222–AA010	Same	Roof Drip Channel Guide – LH
63221–AA010		Roof Drip Channel Guide – RH

Warranty Information

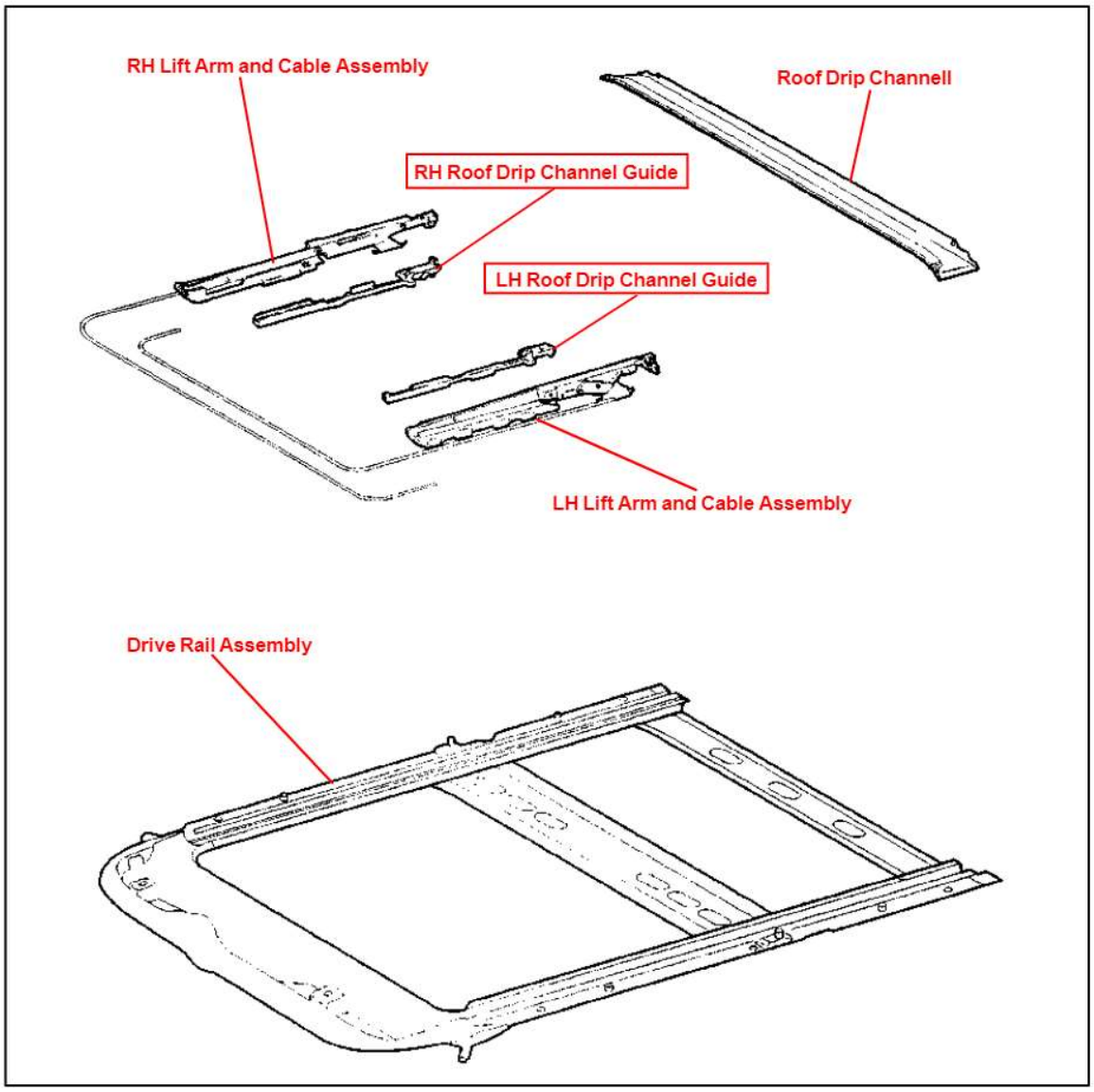
OPCODE	DESCRIPTION	TIME	OPN	T1	T2
614141	R & R Drip Channel Guide, Both RH and LH	2.0	63222–AA010	53	83

Applicable Warranty*:

This repair is covered under the Toyota Basic Warranty. This warranty is in effect for 36 months or 36,000 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.

Repair Procedure Remove the Roof Drip Channel Guides (left & right) and replace with the current parts.



TOYOTA

Technical Service BULLETIN

October 12, 2001

Title:

SUNVISOR VANITY MIRROR IMPROVEMENT

Models:

'97 – '01 NAP Camry

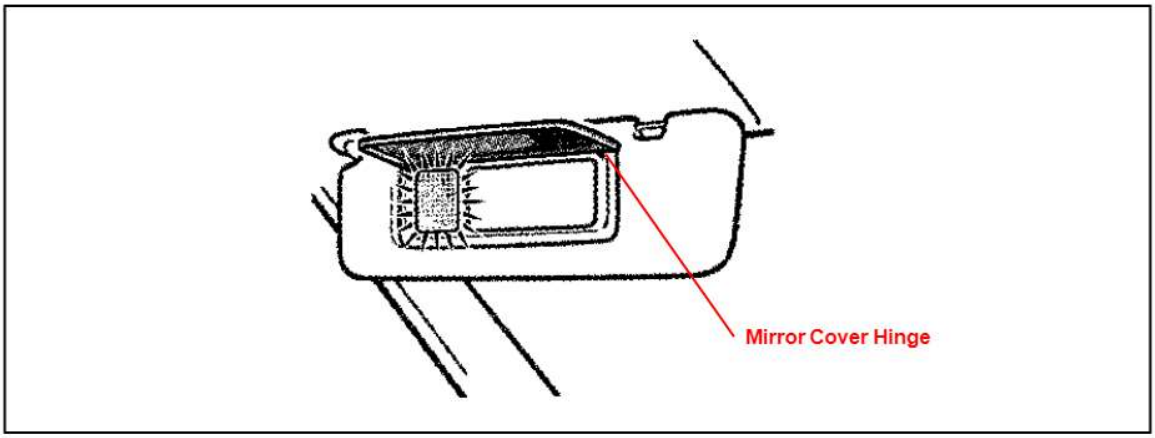
TSB

BODY

BO025-01

Introduction

Production changes have been implemented on the 1997 – 2001 model year NAP Camry vanity mirror assembly to improve strength and durability of the mirror cover hinge.



Applicable Vehicles

- **1997 – 2001** model year **NAP Camry** vehicles.

Production Change Information

MODEL	STARTING VIN
2001 Camry	4T1B#2#K#1U045764 (Line 1) 4T1B#2#K#1U798163 (Line 2)

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
74310–AA095–A0/B0/G0	74310–AA096–A0/B0/G0	Right Sunvisor Assembly
74320–AA055–A0/B0/G0	74320–AA056–A0/B0/G0	Left Sunvisor Assembly

Repair Procedure

Replace damaged sunvisor with a service part.

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
752101	R & R RH and/or LH Sunvisor Assembly	0.2	74310–AA095–## or 74320–AA055–##	62	16

Applicable Warranty*:

This repair is covered under the Toyota Comprehensive Warranty. This warranty is in effect for 36 months or 36,000 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.

Toyota Supports ASE Certification

TOYOTA

Technical Service BULLETIN

October 19, 2001

Title:

SHOULDER BELT ANCHOR TAPE SET

Models:

All Applicable Avalon, Camry, Corolla, Previa & Sienna

TSB

BODY

BO026-01

Introduction To assist customers in preventing particle buildup and preserve the appearance of the shoulder belt anchor, the following procedure has been developed.

Applicable Vehicles

- **1996 – 1999** model year **Avalon** vehicles.
- **1996 – 2001** model year **Camry** vehicles.
- **1993 – 2001** model year **Corolla** vehicles.
- **1996 – 1997** model year **Previa** vehicles.
- **1998 – 2001** model year **Sienna**[*1] vehicles.

[*1] Except rear seat belt.

Parts Information

CURRENT PART NUMBER	PART NAME
73205–48011	Tape Set, Shoulder Belt Anchor

NOTE:
The above tape set contains the fluorocarbon resin tape (2 pieces) and Velcro tape (1 piece).

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
BD1011	Clean the Shoulder Belt Anchor	0.3	73210–#####–##*1 73220–#####–##*1	61	99

[*1] OPN should be part number of whichever belt assembly that the procedure is performed on.

Applicable Warranty*:
This repair is covered under the Toyota Comprehensive Warranty. This warranty is in effect for 36 months or 36,000 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.

SHOULDER BELT ANCHOR TAPE SET – BO026-01 October 19, 2001

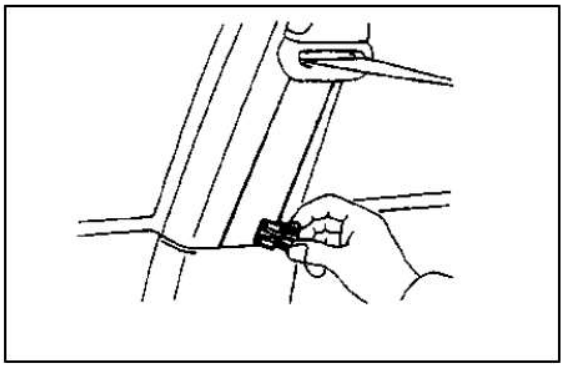
Installation Procedure

1. CLEAN SHOULDER BELT ANCHOR

NOTE:

- **Do not install the tape when the vehicle temperature is below the freezing point.**
- **Do not re–use removed fluorocarbon resin tape.**

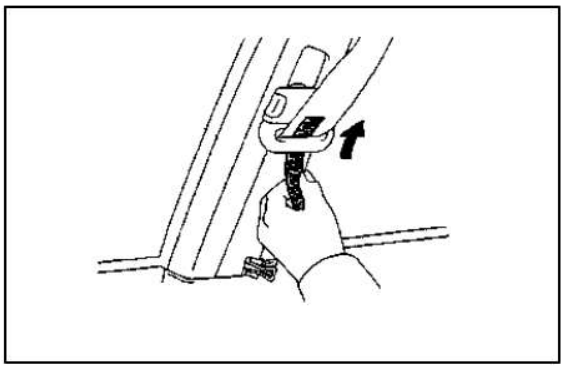
A. Pull out the seat belt about 300 mm and attach a clip as shown in the illustration.



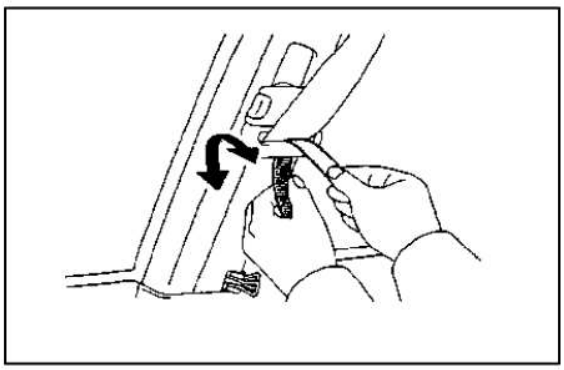
HINT:

Preventing the seat belt from retraction with a clip will make the following work easier.

B. Put the Velcro tape (in the parts kit) through the hole of the shoulder belt anchor, brush–shaped side to the anchor.



C. Pull both ends of the Velcro tape with your hand and shave off the dirt on the shoulder belt anchor by moving the Velcro tape several times as shown in the illustration.



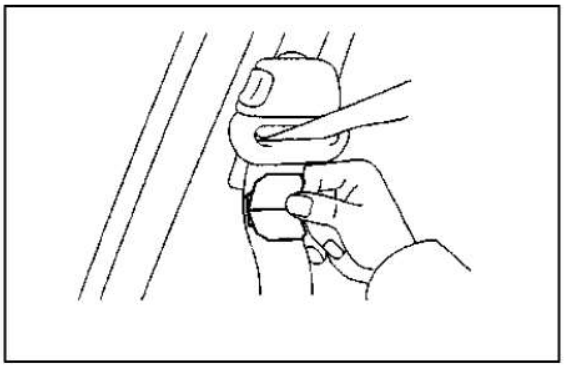
NOTE:

Remove the dirt completely. Otherwise, the fluorocarbon resin tape may not adhere properly.

Installation Procedure (Continued)

2. INSTALL FLUOROCARBON RESIN TAPE

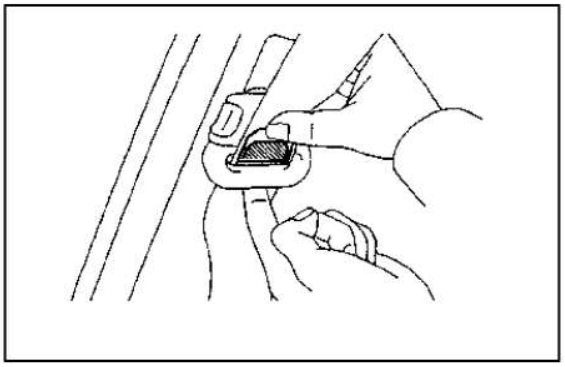
A. Place the fluorocarbon resin tape onto the seat belt as shown in the illustration.



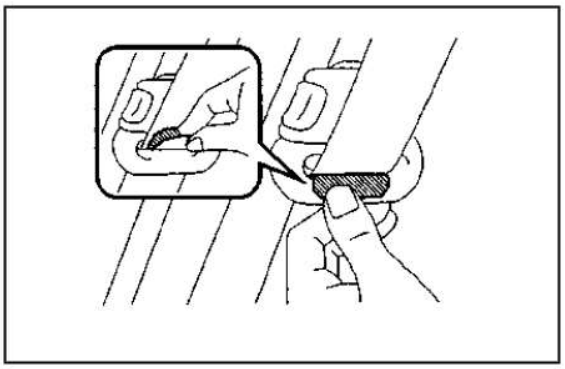
NOTE:

Before installation of the fluorocarbon resin tape, it is necessary to pre–release the colored film about 5 mm for each side. (Not fully released.)

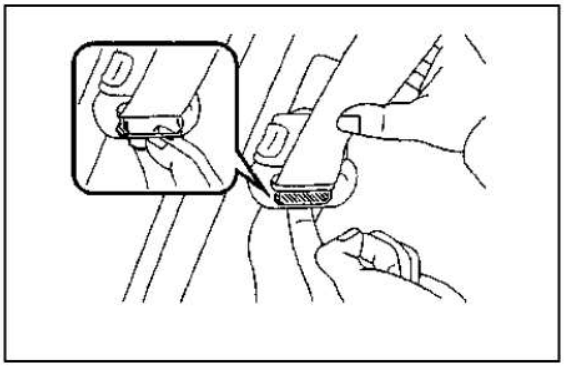
B. By pulling up the seat belt, put the fluorocarbon resin tape through the hole of the shoulder belt anchor. Match the shoulder belt anchor to the center of the tape.



C. Remove the upper side colored film from the fluorocarbon resin tape, and securely affix the tape to the outside of the shoulder belt anchor.



D. Remove the lower side colored film from the fluorocarbon resin tape, and securely affix the tape to the outside of the shoulder belt anchor.



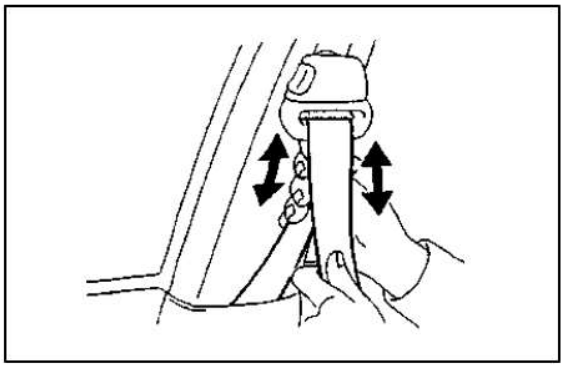
NOTE:

- **Be sure to affix the fluorocarbon tape securely along all edges.**
- **Pay attention not to make any wrinkles or slack in the fluorocarbon resin tape.**

E. Remove the clip.

Installation Procedure (Continued)

F. By pulling the seat belt up and down several times, as shown in the illustration, securely affix the fluorocarbon resin tape and confirm the smoothness of the belt movement.



NOTE:

Affix the fluorocarbon resin tape on the shoulder belt anchor to the other side following the same procedure.

NOTE:

If the seat belt requires cleaning to remove dirt, only use a neutral detergent or lukewarm water to clean. Use the seat belt after it is completely dried, to confirm proper operation.

TOYOTA

Technical Service BULLETIN

November 3, 2000

Title:

LEAKS INTO TRUNK

Models:

'97 - '01 Camry (U.S.), '98 - '01 Sienna, '99 - '01 Solara & '01 Avalon

TSB

BODY

BO028-00

Introduction

A field fix is available for incidents of moisture and odors permeating into the vehicle. The Quarter Panel Air Duct flaps may have become loose or missing. Replacing the Quarter Panel Air Duct will remedy the condition.

Applicable Vehicles

- **1997 – 2001** model year **Camry (U.S. produced)**
- **1998 – 2001** model year **Sienna**
- **1999 – 2001** model year **Solara**
- **2001** model year **Avalon**

Production Change Information

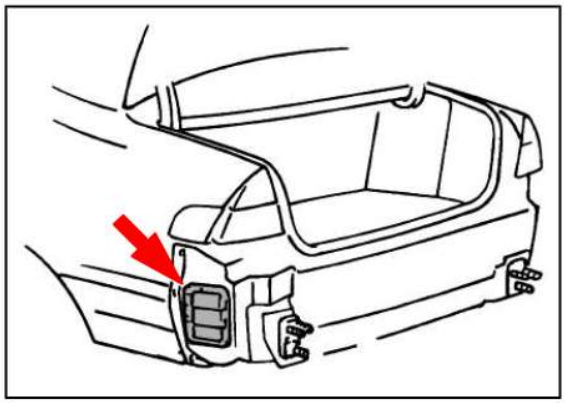
MODEL	STARTING VIN
2001 MY Camry, 4 cylinder	4T1BG22K81U019710 4T1BG22KB1U768622
2001 MY Camry, 6 cylinder	4T1BF28K11U116208 4T1BF22K51U958204
2001 MY Sienna	4T3ZF13C#1U335575
2001 MY Solara	2T1CF22P#1C435983
2001 MY Solara Convertible	2T1FF28P#1C435448
2001 MY Avalon	4T1BF28B11U123532

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
62940-AA010	62940-AA011	Quarter Panel Air Duct

Repair Procedure

Replace the Quarter Panel Air Duct.



Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
BD0036	R & R Quarter Panel Air Duct	1.0	62940-AA010	62	57

Applicable Warranty*:

This repair is covered under the Toyota Basic Warranty. This warranty is in effect for 36 months or 36,000 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.

Toyota Supports ASE Certification

TOYOTA

Technical Service BULLETIN

December 7, 2001

Title:

WINDSHIELD WIPER BLADE MAINTENANCE AND CLEANING

Models:

All Models

TSB

BODY

BO030-01

Introduction

The following procedures are recommended to maintain windshield wiper blade performance.

Applicable Vehicles

- **All models.**

Warranty Information

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

Maintenance, Cleaning and Use

Recommendations for Windshield Wiper Maintenance, Cleaning and Use:

1. Scheduled Maintenance
   - Check wiper rubber blades every 4 – 6 months or 7,500 miles for wear, cracking and contamination.
   - Clean glass and rubber wiper blades if blades are not clearing glass adequately. If this does not correct the problem, then replace the rubber elements.
2. Cleaning Procedure
   - Wiper Rubber: Bugs, dirt, sap and road grime on blades will cause streaking. Clean wiper rubber of road and environmental debris using cloth or paper towel soaked with windshield washer fluid or mild detergent.
   - **DO NOT USE** fuel, kerosene, or petroleum based products to clean rubber wiper blades.
   - Windshield: Bugs, road grime, sap and car wash wax treatments decrease wiper performance.
   - Rinse windshield with water and apply non–abrasive cleaner, such as Bon–Ami (www.faultless.com), with a sponge.

NOTE:

Make sure to use plenty of water with all powder based cleaners so the glass is not scratched.

Maintenance, Cleaning and Use (Continued)

3. Contributors to Poor Performance/Decreased Rubber Blade Life (require rubber replacement)
   - Dusty areas cause the rubber edge to wear quickly.
   - Sand and salt used for road conditioning during winter causes the edge to wear quickly, so areas with significant snowfall require more frequent wiper replacement.
   - Heat and time cause the rubber to become excessively “permanent set,” so the rubber does not turn over, resulting in streaking and/or unwiped areas on the glass.
   - Rubber is easily cut or torn while using ice scrapers on the glass.
   - Rubber can be torn when pulling blades off a frozen windshield.
   - Using wipers instead of an ice scraper to remove frost and ice from the windshield during a car warm up can dull, nick, or tear the rubber.
   - Banging wiper on the glass to remove ice & snow can cause the blade to bend and rubber to come out of the blade providing the potential to scratch the glass.
   - Ice forms in wiper blade pin joints, which causes streaking and unwiped areas. To remove ice from pin joints, compress the blade and rubber with your hand to loosen the frozen joints. To prevent this condition, use winter blades with a rubber cover.

TOYOTA

TECHNICAL SERVICE BULLETIN

REF.: BRAKES

NO.: BK91-001

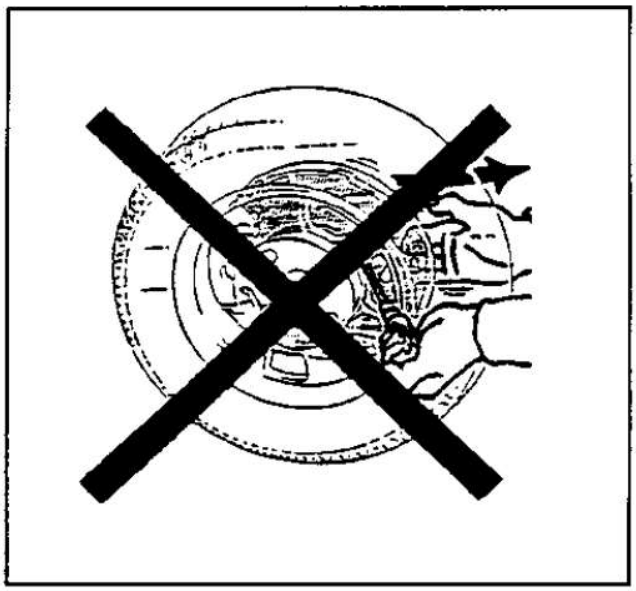
DATE: MARCH 15, 1991

MODEL: ALL MODELS

BRAKE DISC ANTI–RUST COVER REMOVAL

During the removal of the Anti–Rust Covers, **do not** use screwdrivers or other sharp objects. The use of such tools may result in the scratching of the outer rotor surface.

Step–by–step instructions for removing the Anti–Rust Covers are provided on the following page.



CAUTION!

TOYOTA MOTOR SALES U.S.A., INC.

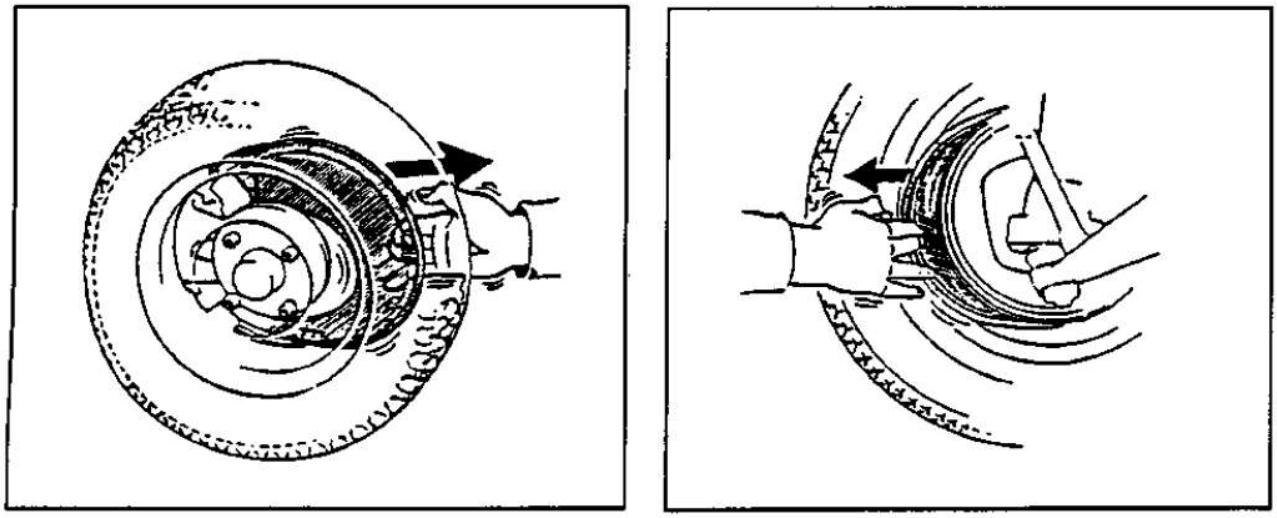
Printed on Recycled Paper.

BRAKE DISC ANTI–RUST COVER REMOVAL (CONT'D)

RECOMMENDED REMOVAL PROCEDURE:

Turn the right front wheel to full right lock.

Unhook the Anti–Rust Cover from the disc brake dust cover, then pull the center of the Anti–Rust Cover toward the wheel. This separates the Anti–Rust Cover from the disc brake dust cover (see illustration below).



Pull the center of the Anti–Rust Cover by hand towards you to break the thin portion of cover.

Remove the Anti–Rust Cover along the arch of the wheel disc by shaking it up and down. If the cover is torn while removing, check to see that no parts of the cover are left inside.

Turn the steering wheel to full left lock and perform the same steps on the left front wheel. If applicable, also remove the Anti–Rust Covers on the rear brakes.

Indicate on the new car inspection sheet that the Anti–Rust Covers have been removed.

TOYOTA

Technical Service BULLETIN

April 23, 1999

Title:

FRONT BRAKE NOISE

Models:

'97–'99 V–6 Camry and '98–'99 Avalon

TSB

BRAKES

BR001–99

REVISED

Introduction New Front Brake Pad Kits are available to reduce front brake groan or grinding noise on 1997–1999 V6 Camry and 1998–1999 Avalon.

Affected Vehicles

- **1997–1999 V6 Camrys** built before **VINs 4T1BF2 * K * XU078781 (NAP – Plant 1)**
  4T1BF2 * K * XU930650 (NAP – Plant 2)
  JT2BF2 * K * X0179640 (TMC)
- **1998–1999 Avalons** built before **VIN 4T1BF18B * XU310454**

Parts Information

PART NUMBER	PART NAME
04465–33121	Front Brake Pads
04945–33040	Shim Kit (If Needed*)

* Visually inspect Shims for heat discoloration. If discolored, replace shims.

Repair Procedure

1. Surface the disc rotors with the "On–Car Brake Lathe" to within serviceable limits.
2. If the rotors are unserviceable or below minimum thickness, replace the rotors.
3. Check any new disc rotors for runout.
4. If the disc rotor runout is over 0.03 mm (0.00012 in), perform a phase matching procedure.
5. Replace the front brake pads.
6. Road test.

Warranty Information

OP CODE	COMBO	DESCRIPTION	TIME	OPN	T1	T2
473025	A	Grind Front Discs and Replace Pads, Shims (if needed) for Squeak (both sides)	2.1	04465–33121	36	99
		Grind Front Discs and Replace Pads, Shims (if needed) for Vibration (both sides)			21	99
		Grind Front Discs and Replace Pads, Shims (if needed) for Groan/Grinding (both sides)			91	99

Applicable Warranty*:

This repair is covered under the Toyota Basic Warranty. This warranty is in effect for 36 months or 36,000 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.

TOYOTA **TECHNICAL SERVICE BULLETIN**

REF.: BRAKES

NO.: BR94–002

DATE: FEBRUARY 7, 1994

MODEL: ALL MODELS

BRAKE VIBRATION AND/OR PULSATION

This TSB outlines the causes of brake vibration and pulsation, as well as the best corrective measures to use.

CONTENTS

1) **Symptoms of brake vibration and pulsation**
2) **Cause of vibration/pulsation problems**
3) **Advantages of using an on–car brake lathe**
4) **Rotor replacement and off–car brake lathe procedure**

1) SYMPTOMS OF BRAKE VIBRATION AND PULSATION

Brake vibration problems generally involve one or both of two phenomena: body vibration and/or pedal pulsation.

A. BRAKE VIBRATION

Applying brakes causes vibration to occur in the instrument panel, steering column, steering wheel, and/or body of the vehicle **(See Figure 1 below).**

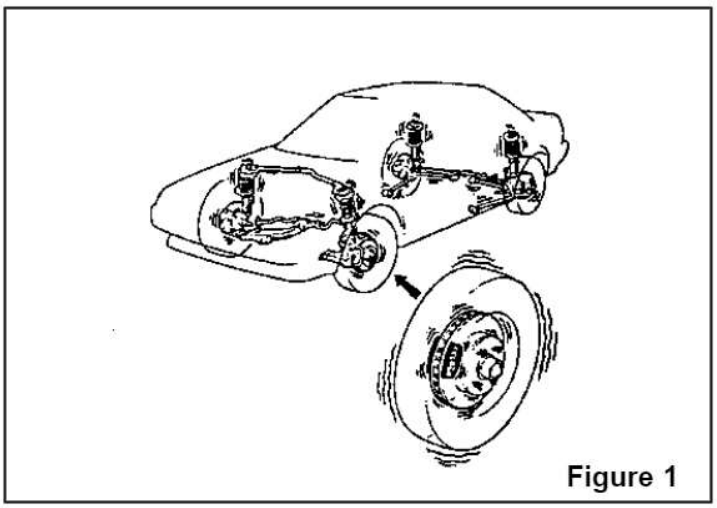


Figure 1

BRAKE VIBRATION AND/OR PULSATION

B. PEDAL PULSATION

Applying brakes causes the brake pedal to pulsate. This brake pulsation sometimes causes the steering wheel to oscillate when the brakes are applied **(See Figure 2 below).**

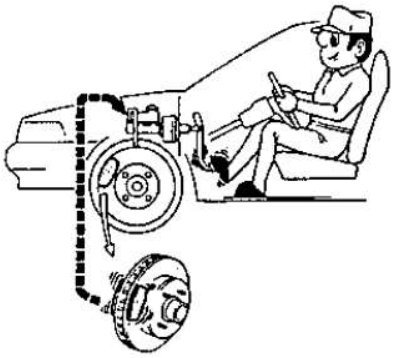
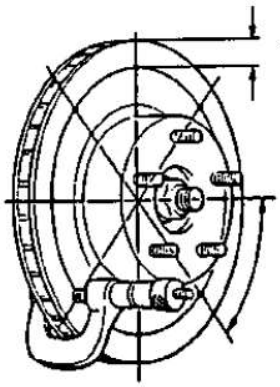


Figure 2

2) CAUSE OF VIBRATION/PULSATION PROBLEMS

Brake rotor thickness variation causes brake vibration due to changes in the braking force as thick/thin portions of the rotor pass the pads. Brake rotor thickness variation can be measured with a micrometer as shown in **Figure 3** below.



Thickness Variation = Maximum – Minimum

Figure 3

BRAKE VIBRATION AND/OR PULSATION

There are two factors which cause excessive rotor thickness variation:

A. ROTOR RUNOUT

- **Rotor runout** can be caused by poor mating of flanges between the hub and rotor when assembled as a unit. Manufacturing tolerance stack–up of the rotor and hub may also cause excessive rotor assembly runout **(See Figure 4 below).**

- If there is rotor runout, a portion of the rotor comes into contact with the brake pad on each rotor revolution. If left like this, the portion of the rotor that contacts the brake pad becomes worn, creating **thickness variation.**

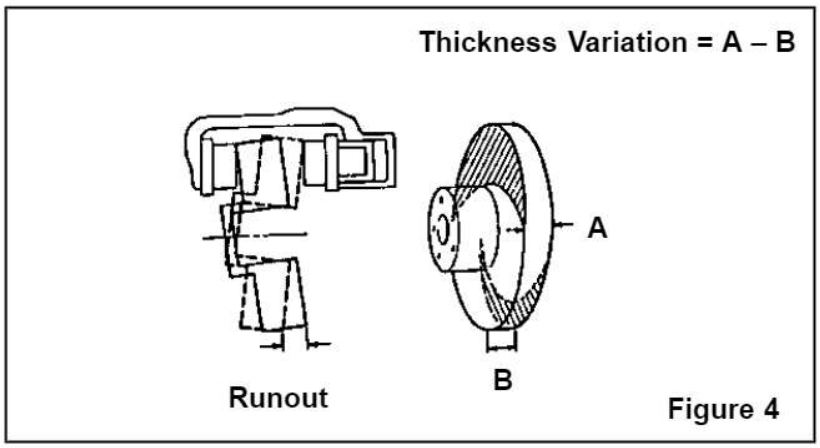


Figure 4

B. EXCESSIVE RUST OR CORROSION ON ROTOR SURFACE

- Driving in areas where salt is applied to road surfaces for winter conditions can cause rust and corrosion when the vehicle is parked for an extended period of time. This occurs on the area where the brake pads are not in contact with the rotor.

- When a vehicle is driven with rusted rotors, the area with corrosion wears at a different rate than the non–corroded areas, resulting in excessive thickness variation.

3) Advantages Of Using An On–Car Brake Lathe

Toyota Motor Corporation Engineers strongly recommend that an on–car brake lathe be used for repairing brake vibration and pulsation. This method improves rotor and hub combined runout, and is the preferred method when compared to rotor replacement and off–the–car rotor machining.

A. Technical Advantage of Caliper Mounted Brake Lathe

- Installing the brake lathe in the same position as the caliper results in minimal runout relative to the caliper.
- Eliminating this runout minimizes the pad grinding on the rotor and reduces rotor thickness variation.

B. Practical Use Benefits

- Resurfacing rotors on vehicles with rotor/hub assemblies can be performed easily.
- Vehicles with corrosion between hub and rotor flanges can be machined without removing rotor from hub.

4) Rotor Replacement And Off–Car Brake Lathe Procedures

If an on–car brake lathe is not available at your dealership, it may be necessary to use an off–car lathe or replace rotors. In order to ensure proper brake vibration and pulsation repairs, pay close attention to the following precautions:

A. Off–Car Brake Lathe Precautions

- Perform routine maintenance of brake lathe components (clearance of arbor shaft to adapters may need to be repaired).
- Clean all adapters and shaft to maintain accuracy of equipment.
- When installing rotor to machine, clean mud, rust, and/or foreign material from the adapters and rotors.
- After installing rotor on machine, check rotor runout using dial indicator. If runout is excessive, determine the cause and correct it.
- Follow lathe manufacturer repair procedures. Do not cut excessive amounts off rotor during the first cut to save time.

Anytime a rotor is machined it must be measured for minimum rotor thickness. The thickness for the rotor is never to be less than minimum thickness as specified in the appropriate repair manual.

BRAKE VIBRATION AND/OR PULSATION

B. Installation of Rotor

- Check wheel bearing pre–load. If excessive movement is found, adjust bearing pre–load.
- Using a dial indicator, measure the rotor 10 mm from the outside edge **(See Figure 5 below).**

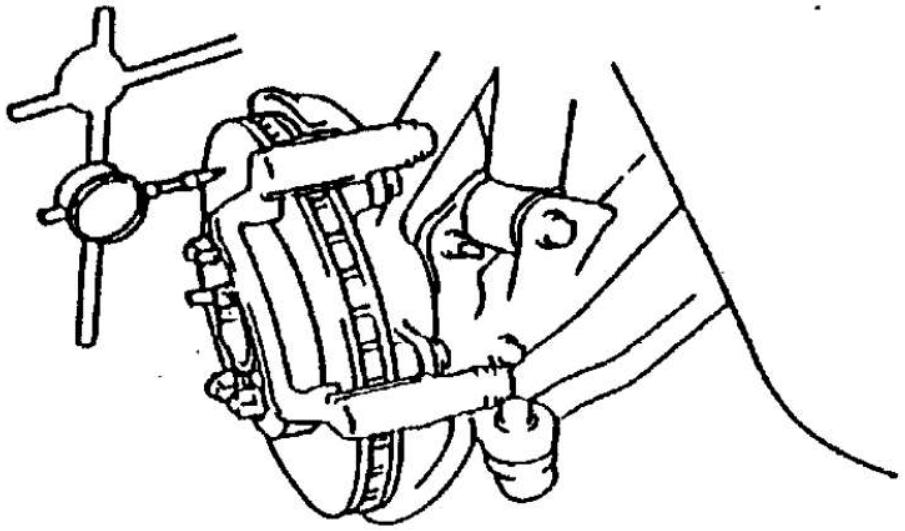


Figure 5

BRAKE VIBRATION AND/OR PULSATION

C. Phase Match Rotor To Hub

– If rotor runout is at the maximum value or greater, (refer to appropriate repair manual) index the rotor one lug and measure the runout again. Repeat this process, moving the rotor one lug each time, until the position is found where the runout is at the minimum and within the maximum value listed in the appropriate repair manual **(See Figure 6 below).**

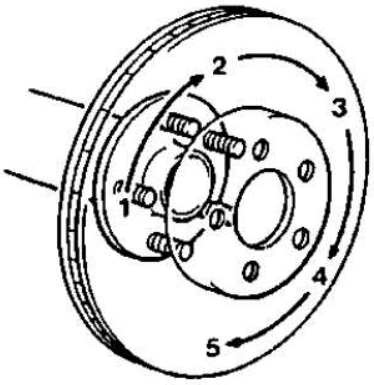
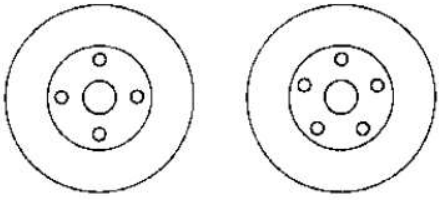


Figure 6

– Tighten lug nuts to the specified torque following a star sequence when installing wheel **(See Figure 7 below).**

Note: DO NOT USE AIR IMPACT WRENCH.



Four Holes

Five Holes

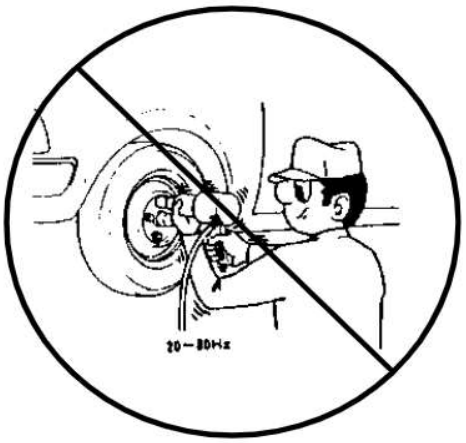


Figure 7

TOYOTA

Technical Service BULLETIN

July 16, 1999

Title:

REAR BRAKE DRUM NOISE

Models:

'99 Camry – NAP

TSB

BRAKES

BR004–99

Introduction Rear Brake Drums are available to reduce rear brake drum howling/groaning noise on NAP built Camrys.

Applicable Vehicles

- **1999 4 cylinder NAP built Camrys built before:**

  4T1BG2 * K * XU568428 (NAP – Plant 1)

  4T1BG2 * K * XU900266 (NAP – Plant 2)

Parts Information

PART NUMBER	PART NAME
42431–33020	Rear Brake Drum

Repair Procedure If the customer encounters a brake groan or howling noise, replace the rear brake drums.

Warranty Information

OP CODE	COMBO	DESCRIPTION	TIME	OPN	T1	T2
472151	A	R & R Rear Brake Drum (Both Sides)	1.1	42431–33020	91	99

Applicable Warranty*:

This repair is covered under the Toyota Basic Warranty. This warranty is in effect for 36 months or 36,000 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.

TOYOTA

Technical Service BULLETIN

October 20, 2000

Title:

BRAKE PAD CLICKING NOISE

Models:

'90 – '00 All Models

TSB

BRAKES

BR004–00

Introduction

A clicking type noise may be noticed when first applying the brakes after changing vehicle travel direction (*Drive/Forward* to *Reverse, Reverse* to *Drive/Forward*). This is a normal noise caused by the required brake pad–to–caliper clearances. When the direction of travel is changed, the brake pads may "shift" towards the new direction of travel. When the brake pad contacts the caliper, a clicking noise may be heard.

To minimize this clicking noise, a disc brake caliper grease has been made available for use during brake service/maintenance operations. Under normal usage conditions this grease should be effective for a period of 6 months to 1 year.

Applicable Vehicles

- **1990 – 2000** model year **Toyota vehicles, all models.**

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
N/A	08887–80609	Disc Brake Caliper Grease (50 g tube)

Warranty Information

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

BRAKE PAD CLICKING NOISE – BR004–00 October 20, 2000

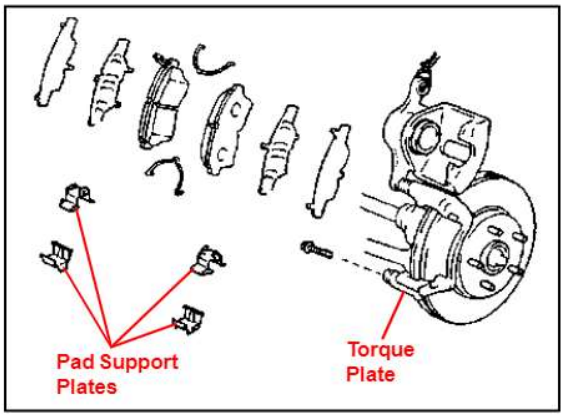
Application Procedure

There are two types of brake calipers: floating and fixed. Check the type of brake caliper installed on the vehicle by removing the wheel assembly.

1. Floating Type Brake Caliper

A. Lift up or remove the brake caliper and suspend it securely.

HINT:
Do not disconnect the flexible hose from the brake caliper.



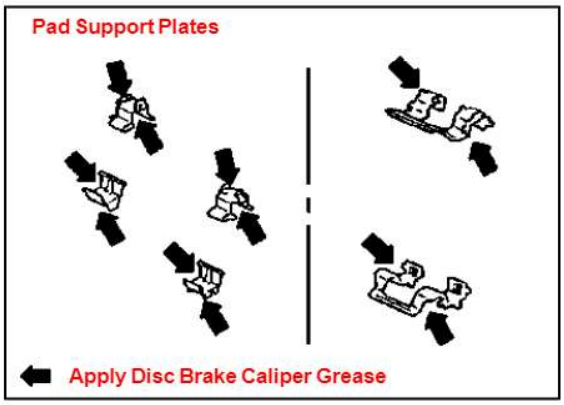
B. If equipped with anti–squeal spring: Remove the anti–squeal springs.

C. Remove the brake pads with anti–squeal shims.

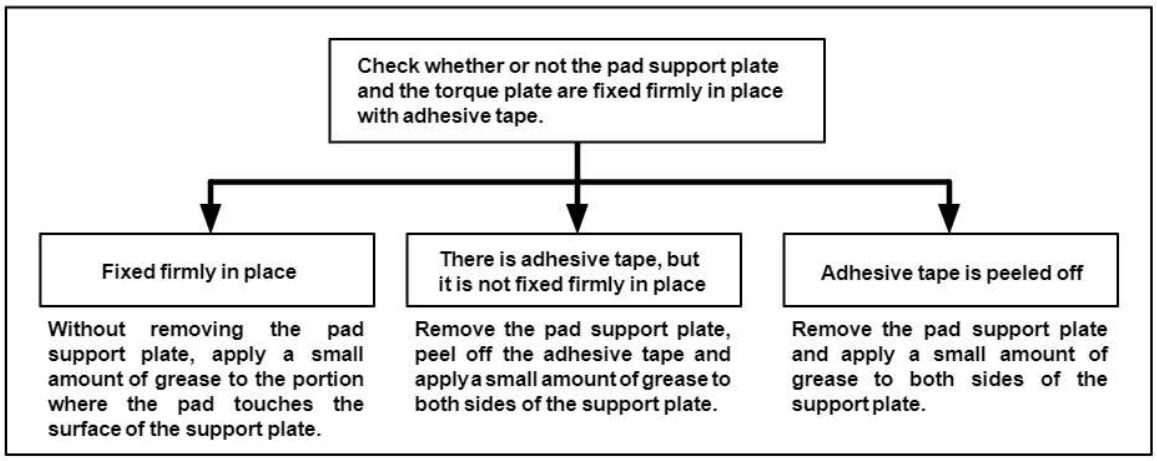
D. Remove the pad support plates from the torque plate. Clean any dust from the pad support plates, torque plates and brake pads.

E. Apply a small amount of the disc brake caliper grease (1–2 mm thick) to both sides of the pad support plates.

NOTE:
Do NOT apply grease to the friction surfaces of the brake pads or the disc rotor.

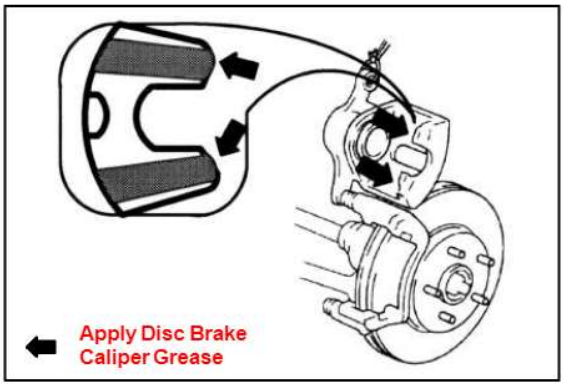


F. If the pad support plate is fixed to the torque plate with adhesive tape, perform the operation according to the following flow chart.



Application Procedure (Continued)

G. Apply a small amount of the disc brake caliper grease (1–2 mm thick) to the caliper as indicated in the illustration.



H. Install the brake pads with the anti–squeal shims.

I. If equipped with anti–squeal spring: Install the anti–squeal springs.

J. Press the piston in firmly and install the brake caliper.

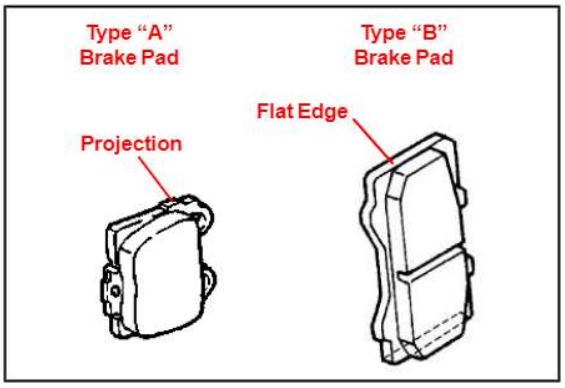
NOTE:
- **Clean excess grease from brake pad and caliper.**
- **Do NOT apply grease to the friction surfaces of the brake pads or the disc rotor.**

K. Install the wheel assembly.

2. Fixed Type Brake Caliper

There are two types of brake pads:

- Type "**A**": Has a projection on the upper and lower side of the brake pad. (See illustration.)
- Type "**B**": Has a flat upper and lower edge on the brake pad backing plate.

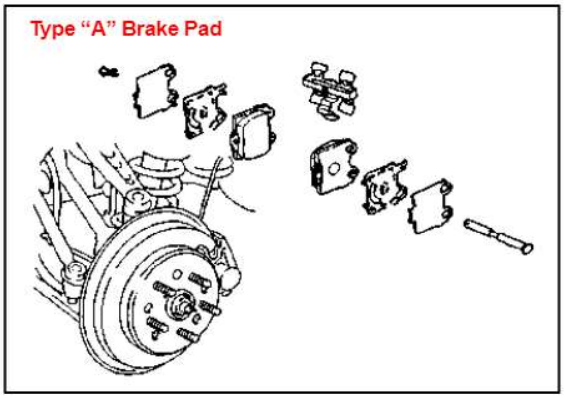


Type "A" Brake Pad

A. Remove the anti–squeal spring, clip and pad guide pin.

B. Remove the brake pads with the anti–squeal shims.

C. Clean any dust from the brake pads.



Application Procedure (Continued)

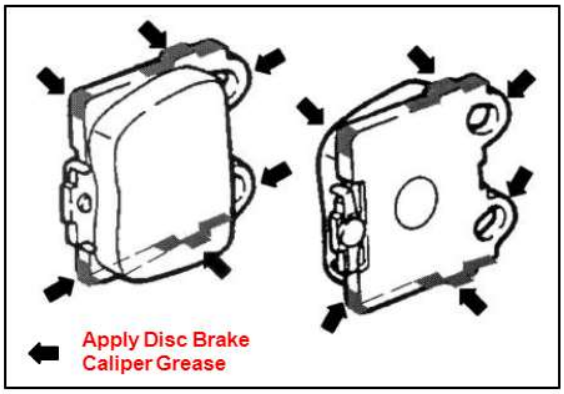
D. Apply a small amount of the disc brake caliper grease (1–2 mm thick) to the areas indicated in the illustration.

NOTE:
Do NOT apply grease to the friction surfaces of the brake pads or the disc rotor.

E. Install the brake pads with the anti–squeal shims.

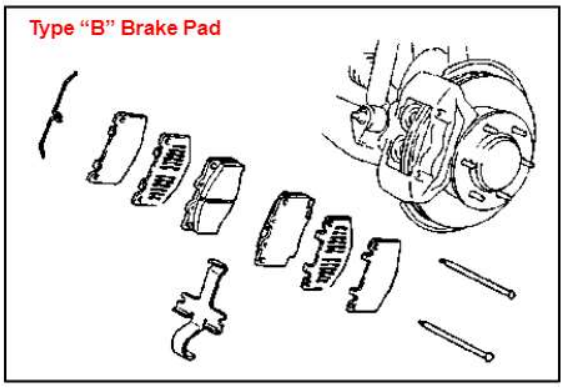
NOTE:
Clean excess grease from the brake pads and caliper.

F. Install the pad guide pin, clip and anti–squeal spring.
G. Install the wheel assembly.



Type "B" Brake Pad

A. Remove the clip, pins and anti–rattle spring/pad retainer clip.
B. Remove the brake pads with the anti–squeal shims.
C. Clean any dust from the brake pads.



D. Apply a small amount of the disc brake caliper grease (1–2 mm thick) to the areas indicated in the illustration.

NOTE:
Do NOT apply grease to the friction surfaces of the brake pads or the disc rotor.

E. Install the brake pads with the anti–squeal shims.

NOTE:
Clean excess grease from the brake pads and caliper.

F. Install the pad guide pin, clip and anti–squeal spring.
G. Install the wheel assembly.



TOYOTA

Technical Service BULLETIN

January 14, 2000

Title:

SINGLE CYLINDER MISFIRES

Models:

'99 Avalon, Camry, Sienna & Solara (CA Spec.)

TSB

ENGINE

EG001–00

NOTE:

The information contained in this TSB updates EG013–99 dated December 17, 1999.

Introduction

Some 1999 California Emission Specification Avalon, Camry (1MZ–FE), Sienna & Solara (1MZ–FE) vehicles may exhibit a rough idle, and or a M.I.L. "ON" condition, in which a single cylinder misfire code, or codes are present. Changes have been made in the fuel injector production process to correct this condition.

Applicable Vehicles

- **1999 CA Emission Spec.** TMMK produced **Avalon, Camry (1MZ–FE), Sienna &** TMMC produced **Solara (1MZ–FE) vehicles** built between the VIN numbers listed below.

MODEL	STARTING VIN	ENDING VIN
Avalon	4T1BF1#B*XU298504	4T1BF1#B*XU319557
Camry	4T1BF2#K*XU076403	4T1BF2#K*XU081214
Camry (cont.)	4T1BF2#K*XU930024	4T1BF2#K*XU931330
Sienna	4T3ZF1#C*XU090887	4T3ZF1#C*XU122589
Solara (U.S.)	2T1CF2#P*XC111083	2T1CF2#P*XC757508
Solara (Canada)	2T1CF2#P*XC744113	2T1CF2#P*XC162681

Parts Information

APPLICABLE PARTS	QUANTITY	PART NAME
23209–0A010	6	Fuel Injector

Warranty Information

OP CODE	VWC	DESCRIPTION	TIME	OPN	T1	T2
895221	N	R & R Fuel Injector Assembly – All	1.8	23209–0A010	02	56

Applicable Warranty*:

This repair is covered under the Toyota Federal Warranty. This warranty is in effect for 36 months or 36,000 miles, whichever occurs first, from the vehicle's in–service date. Coverage is extended to 36 months or 50,000 miles, whichever occurs first, in the states of California, Massachusetts, and Vermont due to state emission warranty legislation.

* Warranty application is limited to correction of a problem based upon a customer's specific complaint.

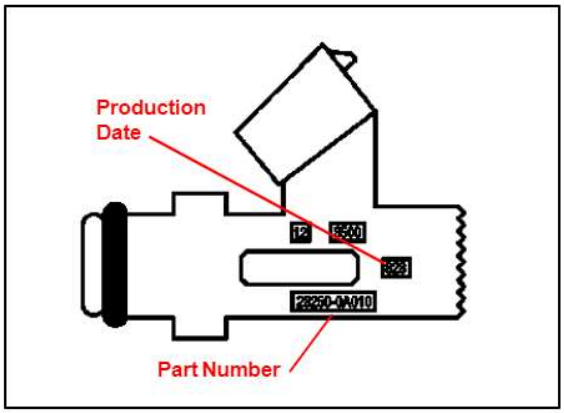
NOTE:

Be sure to enter the DTC No. in the Condition/Cause/Remedy section, if a DTC Code appeared.

SINGLE CYLINDER MISFIRE – EG001-00 January 14, 2000

Repair Procedure

1. Remove all six fuel injectors for verification of production information. Affected injectors will be labeled with a vendor part number of "23250–0A010" and have a production date code number of "828" or lower (see illustration for number locations).
2. After determining that one or more of the injectors are affected, replace all six injectors with the above applicable part number.
3. Clear the DTC, if present, and verify that the vehicle now operates as designed.



TOYOTA

Technical Service BULLETIN

February 25, 2000

Title:

DIAGNOSTIC TROUBLE CODE P1133

Models:

'97 – '99 Camry: 1MZ–FE CA Spec.

TSB

REVISED

ENGINE

EG002–00

TSB Revision Notice:

The information updated in this TSB is red and underlined.

Introduction

Under certain driving conditions, some 1MZ–FE equipped 1997 – 1999 Camry California Emission specification vehicles can exhibit a M.I.L. "ON" DTC P1133. An improved Air/Fuel Ratio Sensor has been developed to correct this condition.

Applicable Vehicles

- **1997 – 1999 Camry (1MZ–FE) with California Emission Specification.**

Production Change Information

MODEL YEAR	ENGINE	STARTING VIN
1999 Camry	1MZ–FE	4T1BF2#K * XU088001 4T1BF2#K * XU933227

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
89467–41020	89467–41021	Sensor, Air/Fuel

Repair Procedure

- Should a M.I.L. "ON" condition with DTC P1133 be encountered, perform diagnostic procedures as described in the Repair Manual.
- If the problem source cannot be identified after checking all affected areas according to the Repair Manual, the cause may be an Air/Fuel Ratio Sensor malfunction. In this case, replace the Air/Fuel Ratio Sensor with the current part number listed above.
- If the Exhaust Manifold threads are damaged by removal of the sensor, they can be repaired by the proper use of a M18 x 1.5 tap.

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
895131	R & R Air/Fuel Ratio Sensor	0.3	89467–41020	99	99

Applicable Warranty*:

This repair is covered under the Toyota Basic Warranty. This warranty is in effect for 36 months or 36,000 miles, whichever occurs first, from the vehicle's in–service date. Coverage is extended to 36 months or 50,000 miles, whichever occurs first, in the states of California and Massachusetts due to state emissions warranty legislation.

NOTE:

Please enter the DTC in the condition/Cause/Remedy section when applying for warranty reimbursement.

* Warranty application is limited to correction of a problem based upon a customer's specific complaint.

Toyota Supports ASE Certification

TOYOTA **TECHNICAL SERVICE BULLETIN**

REF.: ENGINE

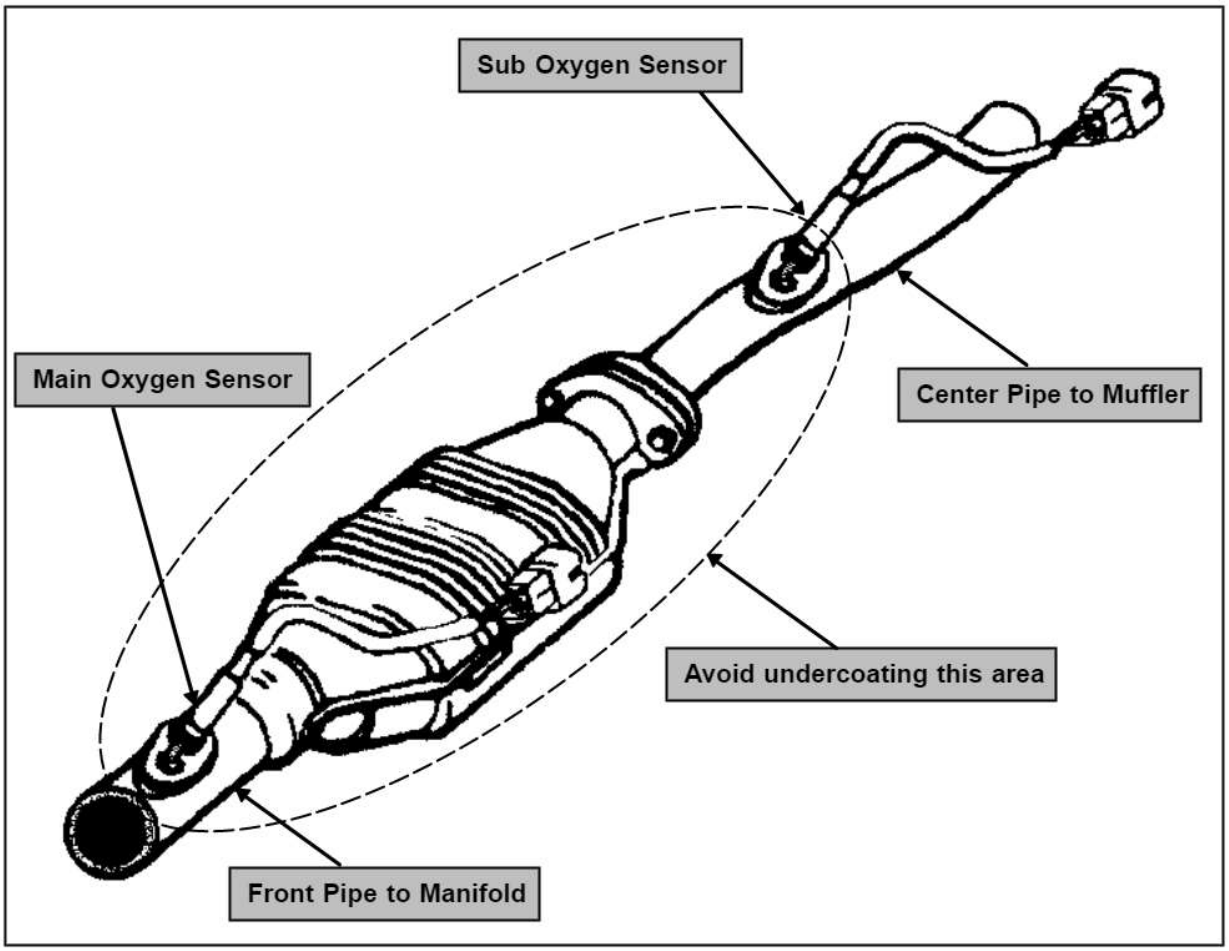
NO.: EG003-96

DATE: OCTOBER 11, 1996

MODEL: ALL MODELS

UNDERCOATING ON OXYGEN SENSORS

During vehicle processing by Dealers, care must be taken to avoid applying undercoating in the area surrounding the Oxygen Sensors. Application of undercoating on or near the Oxygen Sensors can cause insufficient air to flow around the sensor, and inaccurate information storage by the ECM. If this condition occurs, the Malfunction Indicator Light (MIL) may illuminate.



TOYOTA

Technical Service BULLETIN

March 29, 2002

Title:

READINESS MONITOR DRIVE PATTERNS

Models:

All '96 – '02

TSB

ENGINE

REVISED

EG003-02

TSB REVISION NOTICE:

The information updated in this TSB is red and underlined.

Introduction

The On–Board Diagnostic (OBDII) system is designed to monitor the performance of emission–related components and report any detected abnormalities in the form of Diagnostic Trouble Codes (DTCs). Since the various components need to be monitored during different driving conditions, the OBDII system is designed to run separate monitoring programs called Readiness Monitors. Many state Inspection and Maintenance (I/M) programs require that vehicles complete their Readiness Monitors prior to beginning an emissions test.

The current status of the Readiness Monitors can be seen by using the Toyota Diagnostic Tester with version 9.0 software (or newer), or a generic OBDII Scantool.
To view the Readiness Monitor status using the Toyota Diagnostic Tester, select "Monitor Status" from the Enhanced OBDII Menu.
A status of "complete" indicates that the necessary conditions have been met to run the performance tests for the related Readiness Monitor.

The Readiness Monitor will be reset to "incomplete" if:
- ECU has lost power (battery or fuse).
- DTCs have been cleared.
- The conditions for running the Readiness Monitor have not been met.

In the event that any Readiness Monitor shows "incomplete," follow the appropriate Readiness Monitor Drive Pattern to change the readiness status to "complete."
Refer to the Readiness Monitor Drive Pattern Application Table to determine which drive pattern should be followed.

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Applicable Vehicles

All 1996 – 2002 model year **Toyota** vehicles.

Warranty Information

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

READINESS MONITOR DRIVE PATTERNS – EG003-02 Revised March 29, 2002

Terms & Definitions

J1930 TERM	J1930 DEFINITION	TOYOTA/LEXUS DIAGNOSTIC TESTER PARAMETER
IAT	Intake Air Temperature	Intake Air
ECT	Engine Coolant Temperature	Coolant Temp

Required Tools & Material

TOOLS & MATERIAL	PART NUMBER	QUANTITY
Toyota Diagnostic Tester Kit	01001271	1
12 Megabyte Diagnostic Tester Program Card with version 9.0a Software (or later)	01002593-005	1

NOTE:

A generic OBDII Scantool can be used in place of the Toyota Diagnostic Tester.

CAUTION:

Strict observance of posted speed limits, traffic laws and road conditions are required when performing these drive patterns.

NOTE:

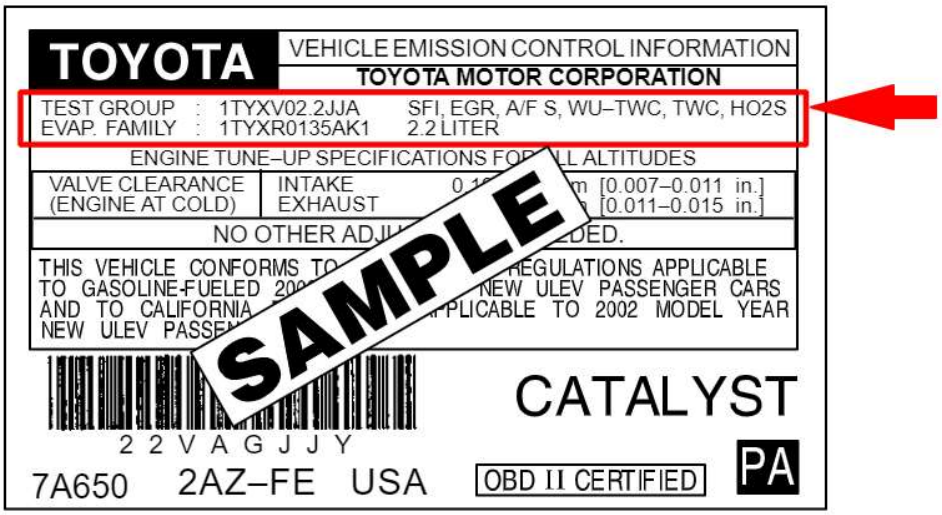
These drive patterns represent the fastest method to satisfy all necessary conditions which allow the specific Readiness Monitor to complete.

In the event that the drive pattern must be interrupted (possibly due to traffic conditions or other factors) the drive pattern can be resumed and, in most cases, the Readiness Monitor will still set to "complete."

To ensure rapid completion of Readiness Monitors, avoid sudden changes in vehicle load and speed (driving up and down hills and/or sudden acceleration).

Underhood Emission Control Information Label

SAMPLE EMISSION CONTROL INFORMATION LABEL



EGR = Exhaust Gas Recirculation
A/F S = Air Fuel Sensor
O2S = Oxygen Sensor

READINESS MONITOR DRIVE PATTERNS – EG003-02 Revised

March 29, 2002

Readiness Monitor Drive Pattern Application Tables

MODEL YEAR	MODEL	ENGINE	DRIVE TRAIN	CATEGORY	DRIVE PATTERN NUMBER*										
					EGR		CATALYST		EVAP				O2S/AF SENSOR		O2S/AF HTR
					1	2	3	4	5	6	7	8	9	10	11
1996	Tercel	5E–FE			X		X				X		X		X
	Paseo	5E–FE			X		X				X		X		X
	Corolla	7A–FE			X		X				X		X		X
	Celica	7A–FE			X		X				X		X		X
		5S–FE			X		X				X		X		X
	Camry	5S–FE	MTM		X		X				X		X		X
			ATM		X		X		X				X		X
		1MZ–FE	MTM		X		X		X				X		X
			ATM		X		X		X				X		X
	Avalon	1MZ–FE			X		X		X				X		X
	Supra	2JZ–GE			X		X		X				X		X
		2JZ-GTE			X		X				X		X		X
	RAV4	3S–FE			X		X		X				X		X
	Previa	2TZ–FZE			X		X				X		X		X
	Tacoma	2RZ–FE			X		X				X		X		X
		3RZ–FE			X		X		X				X		X
		5VZ–FE	2WD		X		X		X				X		X
			4WD	w/EGR**	X		X		X				X		X
				w/oEGR**	N/A		X		X				X		X
	4Runner	3RZ–FE			X		X		X				X		X
		5VZ–FE		w/EGR**	X		X		X				X		X
				w/oEGR**	N/A		X		X				X		X
	T100	3RZ–FE			X		X				X		X		X
		5VZ–FE	2WD or 4WD	w/EGR**	X		X		X				X		X
				w/oEGR**	N/A		X		X				X		X
	Land Cruiser	1FZ–FE				X	X		N/A				X		X

*** Readiness Monitor Drive Patterns:**

1. EGR (All Except 1FZ–FE Engine)
2. EGR (For 1FZ–FE Engine)
3. Catalyst (O2S Type)
4. Catalyst (AF Sensor Type)
5. EVAP (Internal Pressure Monitor/Non–Intrusive Type)
6. EVAP (Vacuum Pressure Monitor/Intrusive Type)
7. EVAP (Without Leak Detection)
8. EVAP (For Prius)
9. Oxygen Sensor Monitor (Front & Rear O2S System)
10. Oxygen/AF Sensor Monitor (Front AF Sensor & Rear O2S System)
11. Oxygen/AF Sensor Heater Monitor

**** Refer to Underhood Emissions Label on page 2.**

READINESS MONITOR DRIVE PATTERNS – EG003-02 Revised March 29, 2002

Readiness Monitor Drive Pattern Application Tables (Continued)

MODEL YEAR	MODEL	ENGINE	DRIVE TRAIN	CATEGORY	DRIVE PATTERN NUMBER*										
					EGR		CATALYST		EVAP				O2S/AF SENSOR		O2S/AF HTR
					1	2	3	4	5	6	7	8	9	10	11
1997	Tercel	5E–FE			X		X				X		X		X
	Paseo	5E–FE			X		X				X		X		X
	Corolla	7A–FE			X		X				X		X		X
	Celica	7A–FE			X		X				X		X		X
		5S–FE			X		X				X		X		X
	Camry	5S–FE	MTM		X		X				X		X		X
			ATM	Fed	X		X		X				X		X
				CA	X			X	X					X	X
		1MZ–FE	MTM		X		X		X				X		X
			ATM		X		X		X				X		X
	Avalon	1MZ–FE			X		X		X				X		X
	Supra	2JZ–GE			X		X		X				X		X
		2JZ-GTE			X		X				X		X		X
	RAV4	3S–FE			X		X		X				X		X
	Previa	2TZ–FZE			X		X				X		X		X
	Tacoma	2RZ–FE			X		X				X		X		X
		3RZ–FE			X		X		X				X		X
		5VZ–FE	2WD or 4WD	w/EGR**	X		X		X				X		X
			4WD	w/oEGR**	N/A		X		X				X		X
	4Runner	3RZ–FE			X		X		X				X		X
		5VZ–FE			N/A		X		X				X		X
	T100	3RZ–FE			X		X				X		X		X
		5VZ–FE	2WD	w/EGR**	X		X		X				X		X
			2WD or 4WD	w/oEGR**	N/A		X		X				X		X
	Land Cruiser	1FZ–FE				X	X		N/A				X		X

*** Readiness Monitor Drive Patterns:**

1. EGR (All Except 1FZ–FE Engine)
2. EGR (For 1FZ–FE Engine)
3. Catalyst (O2S Type)
4. Catalyst (AF Sensor Type)
5. EVAP (Internal Pressure Monitor/Non–Intrusive Type)
6. EVAP (Vacuum Pressure Monitor/Intrusive Type)
7. EVAP (Without Leak Detection)
8. EVAP (For Prius)
9. Oxygen Sensor Monitor (Front & Rear O2S System)
10. Oxygen/AF Sensor Monitor (Front AF Sensor & Rear O2S System)
11. Oxygen/AF Sensor Heater Monitor

**** Refer to Underhood Emissions Label on page 2.**

READINESS MONITOR DRIVE PATTERNS – EG003-02 Revised

March 29, 2002

Readiness Monitor Drive Pattern Application Tables (Continued)

MODEL YEAR	MODEL	ENGINE	DRIVE TRAIN	CATEGORY	DRIVE PATTERN NUMBER*										
					EGR		CATALYST		EVAP				O2S/AF SENSOR		O2S/AF HTR
					1	2	3	4	5	6	7	8	9	10	11
1998	Tercel	5E–FE			N/A		X		X				X		X
	Paseo	5E–FE					X		X				X		X
	Corolla	1ZZ–FE					X		X				X		X
	Celica	5S–FE			X		X				X		X		X
	Camry	5S–FE		Fed	X		X		X				X		X
				CA	X			X	X					X	X
		1MZ–FE	MTM		X		X		X				X		X
			ATM	Fed	X		X		X				X		X
				CA	X			X	X					X	X
	Avalon	1MZ–FE		Fed	X		X		X				X		X
				CA	X			X	X					X	X
	Supra	2JZ–GE			N/A		X		X				X		X
		2JZ-GTE			X		X				X		X		X
	RAV4	3S–FE		Fed	X		X		X				X		X
				CA	X			X	X					X	X
	Sienna	1MZ–FE			N/A		X		X				X		X
	Tacoma	2RZ–FE			X		X		X				X		X
		3RZ–FE			X		X		X				X		X
		5VZ–FE	2WD	w/EGR**	X		X		X				X		X
			4WD	w/oEGR**	N/A		X		X				X		X
	4Runner	3RZ–FE			X		X		X				X		X
		5VZ–FE			N/A		X		X				X		X
	T100	3RZ–FE			X		X		X				X		X
		5VZ–FE	2WD	w/EGR**	X		X		X				X		X
			2WD or 4WD	w/oEGR**	N/A		X		X				X		X
	Land Cruiser	2UZ–FE					X		X				X		X

*** Readiness Monitor Drive Patterns:**

1. EGR (All Except 1FZ–FE Engine)
2. EGR (For 1FZ–FE Engine)
3. Catalyst (O2S Type)
4. Catalyst (AF Sensor Type)
5. EVAP (Internal Pressure Monitor/Non–Intrusive Type)
6. EVAP (Vacuum Pressure Monitor/Intrusive Type)
7. EVAP (Without Leak Detection)
8. EVAP (For Prius)
9. Oxygen Sensor Monitor (Front & Rear O2S System)
10. Oxygen/AF Sensor Monitor (Front AF Sensor & Rear O2S System)
11. Oxygen/AF Sensor Heater Monitor

**** Refer to Underhood Emissions Label on page 2.**

READINESS MONITOR DRIVE PATTERNS – EG003-02 Revised March 29, 2002

Readiness Monitor Drive Pattern Application Tables (Continued)

MODEL YEAR	MODEL	ENGINE	DRIVE TRAIN	CATEGORY	DRIVE PATTERN NUMBER*										
					EGR		CATALYST		EVAP				O2S/AF SENSOR		O2S/AF HTR
					1	2	3	4	5	6	7	8	9	10	11
1999	Tercel	5E–FE			X		X		X				X		X
	Paseo	5E–FE			X		X		X				X		X
	Corolla	1ZZ–FE			N/A		X		X				X		X
	Celica	5S–FE			X		X		X				X		X
	Camry	5S–FE		Fed	X		X		X				X		X
				CA	X			X	X					X	X
		1MZ–FE	MTM		X		X		X				X		X
			ATM	Fed	X		X		X				X		X
				CA	X			X	X					X	X
	Solara	5S–FE		Fed	X		X		X				X		X
				CA	X			X	X					X	X
		1MZ–FE	MTM		X		X		X				X		X
			ATM	Fed	X		X		X				X		X
				CA	X			X	X					X	X
	Avalon	1MZ–FE		Fed	X		X		X				X		X
				CA	X			X	X					X	X
	RAV4	3S–FE		Fed	X		X		X				X		X
				CA	X			X	X					X	X
	Sienna	1MZ–FE		Fed	N/A		X		X				X		X
				CA				X	X					X	X
	Tacoma	2RZ–FE			X		X		X				X		X
		3RZ–FE			X		X		X				X		X
		5VZ–FE	2WD	w/EGR**	X		X		X				X		X
			2WD or 4WD	w/oEGR**	N/A		X		X				X		X
	4Runner	3RZ–FE			X		X		X				X		X
		5VZ–FE		Fed	N/A		X		X				X		X
				CA				X	X					X	X
	Land Cruiser	2UZ–FE					X		X				X		X

*** Readiness Monitor Drive Patterns:**

1. EGR (All Except 1FZ–FE Engine)
2. EGR (For 1FZ–FE Engine)
3. Catalyst (O2S Type)
4. Catalyst (AF Sensor Type)
5. EVAP (Internal Pressure Monitor/Non–Intrusive Type)
6. EVAP (Vacuum Pressure Monitor/Intrusive Type)
7. EVAP (Without Leak Detection)
8. EVAP (For Prius)
9. Oxygen Sensor Monitor (Front & Rear O2S System)
10. Oxygen/AF Sensor Monitor (Front AF Sensor & Rear O2S System)
11. Oxygen/AF Sensor Heater Monitor

**** Refer to Underhood Emissions Label on page 2.**

READINESS MONITOR DRIVE PATTERNS – EG003-02 Revised

March 29, 2002

Readiness Monitor Drive Pattern Application Tables (Continued)

MODEL YEAR	MODEL	ENGINE	DRIVE TRAIN	CATEGORY	DRIVE PATTERN NUMBER*										
					EGR		CATALYST		EVAP				O2S/AF SENSOR		O2S/AF HTR
					1	2	3	4	5	6	7	8	9	10	11
2000	ECHO	1NZ–FE			N/A		X			X			X		X
	Corolla	1ZZ–FE					X			X			X		X
	Celica	1ZZ–FE					X			X			X		X
		2ZZ–GE					X			X			X		X
	MR2	1ZZ–FE					X			X			X		X
	Camry	5S–FE		Fed	X		X			X			X		X
				CA	X			X		X				X	X
		1MZ–FE	MTM		X		X			X			X		X
			ATM	Fed	X		X			X			X		X
				CA	X			X		X				X	X
	Solara	5S–FE		Fed	X		X			X			X		X
				CA	X			X		X				X	X
		1MZ–FE	MTM		X		X			X			X		X
			ATM	Fed	X		X			X			X		X
				CA	X			X		X				X	X
	Camry CNG	5S–FNE			X		N/A		N/A					X	X
	Avalon	1MZ–FE			N/A			X		X				X	X
	RAV4	3S–FE		Fed	X		X		X				X		X
				CA	X			X	X					X	X
	Sienna	1MZ–FE		Fed	N/A		X		X				X		X
				CA				X	X					X	X
	Tacoma	2RZ–FE			X		X		X				X		X
		3RZ–FE			X		X		X				X		X
		5VZ–FE	2WD	w/EGR**	X		X		X				X		X
			2WD or 4WD	w/o A/F S, w/oEGR**	N/A		X		X				X		X
				w/A/F S, w/oEGR**				X	X					X	X
	4Runner	3RZ–FE			X		X		X				X		X
		5VZ–FE		Fed	N/A		X		X				X		X
				CA				X	X					X	X
	Tundra	5VZ–FE		Fed			X		X				X		X
				CA				X	X					X	X
		2UZ–FE					X		X				X		X
	Land Cruiser	2UZ–FE					X		X				X		X

*** Readiness Monitor Drive Patterns:**

1. EGR (All Except 1FZ–FE Engine)
2. EGR (For 1FZ–FE Engine)
3. Catalyst (O2S Type)
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9. Oxygen Sensor Monitor (Front & Rear O2S System)
10. Oxygen/AF Sensor Monitor (Front AF Sensor & Rear O2S System)
11. Oxygen/AF Sensor Heater Monitor

**** Refer to Underhood Emissions Label on page 2.**

READINESS MONITOR DRIVE PATTERNS – EG003-02 Revised

March 29, 2002

Readiness Monitor Drive Pattern Application Tables (Continued)

MODEL YEAR	MODEL	ENGINE	DRIVE TRAIN	CATEGORY	DRIVE PATTERN NUMBER*										
					EGR		CATALYST		EVAP				O2S/AF SENSOR		O2S/AF HTR
					1	2	3	4	5	6	7	8	9	10	11
2001	ECHO	1NZ–FE			N/A		X			X			X		X
	Corolla	1ZZ–FE					X			X			X		X
	Celica	1ZZ–FE					X			X			X		X
		2ZZ–GE					X			X			X		X
	MR2	1ZZ–FE					X			X			X		X
	Camry	5S–FE			X			X		X				X	X
		1MZ–FE	MTM		X		X			X			X		X
			ATM		X			X		X				X	X
	Solara	5S–FE			X			X		X				X	X
		1MZ–FE	MTM		X		X			X			X		X
			ATM		X			X		X				X	X
	Camry CNG	5S–FNE			X		N/A		N/A					X	X
	Avalon	1MZ–FE			N/A			X		X				X	X
	Prius	1NZ-FXE					X					X	X		X
	RAV4	1AZ–FE						X		X				X	X
	High-lander	2AZ–FE						X		X				X	X
		1MZ–FE						X		X				X	X
	Sienna	1MZ–FE						X		X				X	X
	Tacoma	2RZ–FE			X			X	X					X	X
		3RZ–FE			X			X	X					X	X
		5VZ–FE	2WD		X			X	X					X	X
			4WD					X	X					X	X
	4Runner	5VZ–FE						X		X				X	X
	Tundra	5VZ–FE						X	X					X	X
		2UZ–FE					X		X				X		X
	Land Cruiser	2UZ–FE					X		X				X		X
	Sequoia	2UZ–FE					X			X			X		X

*** Readiness Monitor Drive Patterns:**

1. EGR (All Except 1FZ–FE Engine)
2. EGR (For 1FZ–FE Engine)
3. Catalyst (O2S Type)
4. Catalyst (AF Sensor Type)
5. EVAP (Internal Pressure Monitor/Non–Intrusive Type)
6. EVAP (Vacuum Pressure Monitor/Intrusive Type)
7. EVAP (Without Leak Detection)
8. EVAP (For Prius)
9. Oxygen Sensor Monitor (Front & Rear O2S System)
10. Oxygen/AF Sensor Monitor (Front AF Sensor & Rear O2S System)
11. Oxygen/AF Sensor Heater Monitor

Readiness Monitor Drive Pattern Application Tables (Continued)

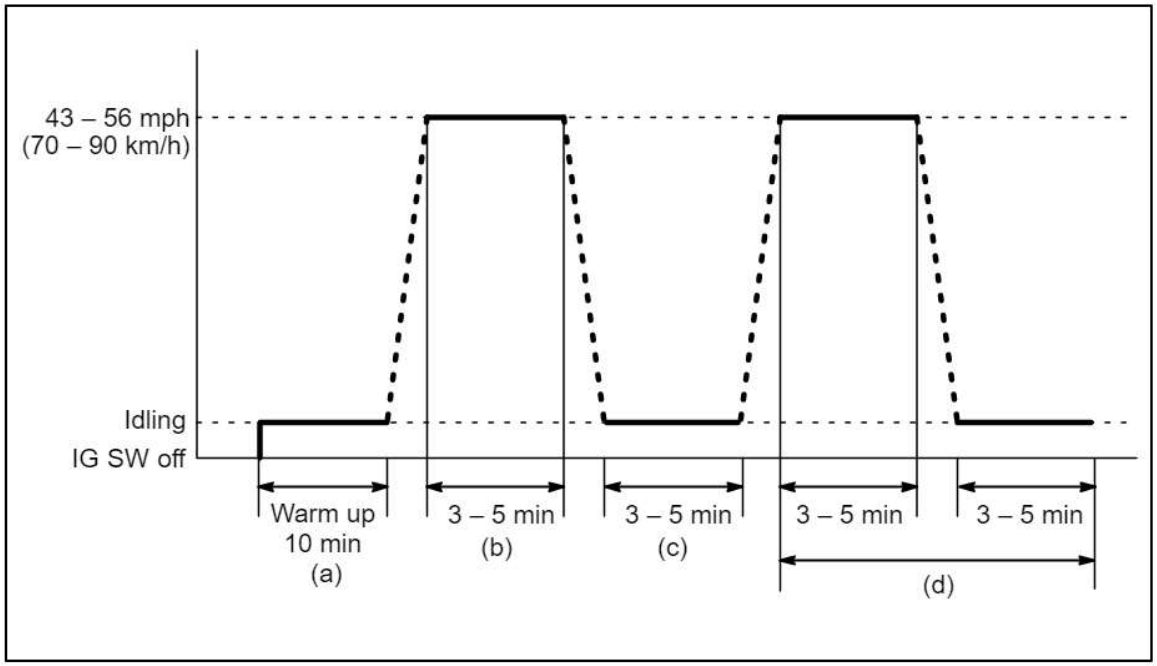
MODEL YEAR	MODEL	ENGINE	DRIVE TRAIN	CATEGORY	DRIVE PATTERN NUMBER*										
					EGR		CATALYST		EVAP				O2S/AF SENSOR		O2S/AF HTR
					1	2	3	4	5	6	7	8	9	10	11
2002	ECHO	1NZ–FE			N/A		X			X			X		X
	Corolla	1ZZ–FE					X			X			X		X
	Celica	1ZZ–FE					X			X			X		X
		2ZZ–GE					X			X			X		X
	MR2	1ZZ–FE					X			X			X		X
	Camry	2AZ–FE						X		X				X	X
		1MZ–FE	MTM		X		X			X			X		X
			ATM		X			X		X				X	X
	Solara	2AZ–FE			X			X		X				X	X
		1MZ–FE	MTM		X		X			X			X		X
			ATM		X			X		X				X	X
	Camry CNG	5S–FNE			X		N/A		N/A					X	X
	Avalon	1MZ–FE			N/A			X		X				X	X
	Prius	1NZ-FXE					X					X	X		X
	RAV4	1AZ–FE						X		X				X	X
	High-lander	2AZ–FE						X		X				X	X
		1MZ–FE						X		X				X	X
	Sienna	1MZ–FE						X		X				X	X
	Tacoma	2RZ–FE			X			X	X					X	X
		3RZ–FE			X			X	X					X	X
		5VZ–FE			N/A			X	X					X	X
	4Runner	5VZ–FE						X		X				X	X
	Tundra	5VZ–FE						X	X					X	X
		2UZ–FE					X		X				X		X
	Land Cruiser	2UZ–FE					X		X				X		X
	Sequoia	2UZ–FE					X			X			X		X

*** Readiness Monitor Drive Patterns:**

1. EGR (All Except 1FZ–FE Engine)
2. EGR (For 1FZ–FE Engine)
3. Catalyst (O2S Type)
4. Catalyst (AF Sensor Type)
5. EVAP (Internal Pressure Monitor/Non–Intrusive Type)
6. EVAP (Vacuum Pressure Monitor/Intrusive Type)
7. EVAP (Without Leak Detection)
8. EVAP (For Prius)
9. Oxygen Sensor Monitor (Front & Rear O2S System)
10. Oxygen/AF Sensor Monitor (Front AF Sensor & Rear O2S System)
11. Oxygen/AF Sensor Heater Monitor

Readiness Monitor Drive Patterns: EGR Monitors

DRIVE PATTERN NO. 1: EGR Monitor (All Except 1FZ–FE Engine)



Preconditions

The monitor will not run unless:

MIL is OFF.
Altitude is 7800 feet (2400 m) or less.
IAT (Intake Air) is 14 °F (–10 °C) or greater.

Drive Pattern Procedure

Connect the OBDII Scantool to the DLC3 connector to check monitor status and preconditions.

a. If IAT (Intake Air) is less than 50 °F (10 °C) when starting the engine, idle the engine for approximately 10 minutes.
b. Drive the vehicle at 43 – 56 mph (70 – 90 km/h) for a period of 3 – 5 minutes.

NOTE:
Do not allow the Throttle Position (TP) to exceed 30%.
Drive with smooth throttle operation and avoid sudden acceleration.

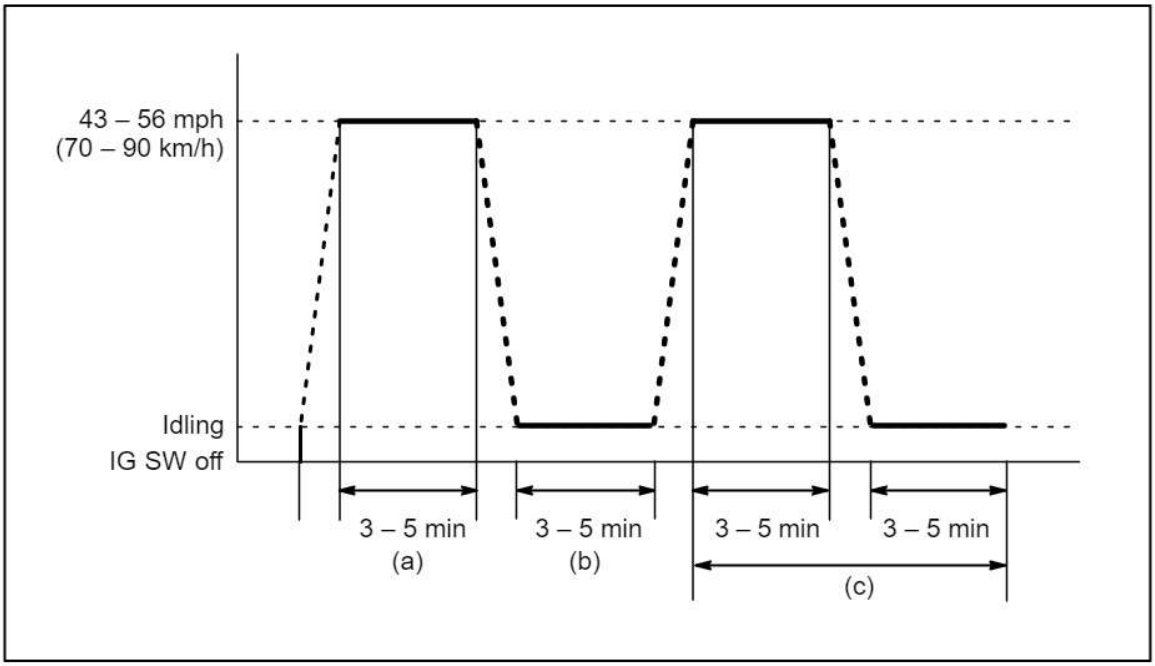
c. Stop the vehicle and let the engine idle for 3 – 5 minutes.
d. Repeat steps “b” and “c” once.

If readiness status does not switch to “complete,” ensure preconditions are met, turn the ignition OFF, then repeat steps “b” through “d.”

NOTE:
The readiness status may not switch to “complete” after the first drive pattern trip if a Pending Code has been set (first trip for a two–trip DTC).
Pending Codes are available from the DTC Info Menu in Enhanced OBDII.
Pending Codes indicate a POTENTIAL problem was detected. A second trip is needed to confirm the DTC prior to diagnosis.
Once a second trip is completed, a current DTC will be stored.

Readiness Monitor Drive Patterns: EGR Monitors (Continued)

DRIVE PATTERN NO. 2: EGR Monitor (for 1FZ–FE Engine)



Preconditions

The monitor will not run unless:

MIL is OFF.

Altitude is 7800 feet (2400 m) or less.

IAT (Intake Air) is 14 °F (–10 °C) or greater.

ECT (Coolant Temp) is less than 104 °F (40 °C).

Drive Pattern Procedure

Connect the OBDII Scantool to DLC3 to check monitor status and preconditions.

a. Start the engine and as soon as safely possible begin driving the vehicle at 43 – 56 mph (70 – 90 km/h) for a period of 3 – 5 minutes.

NOTE:
Do not allow the Throttle Position (TP) to exceed 30%.
Drive with smooth throttle operation and avoid sudden acceleration.

b. Stop the vehicle and let the engine idle for 3 – 5 minutes.

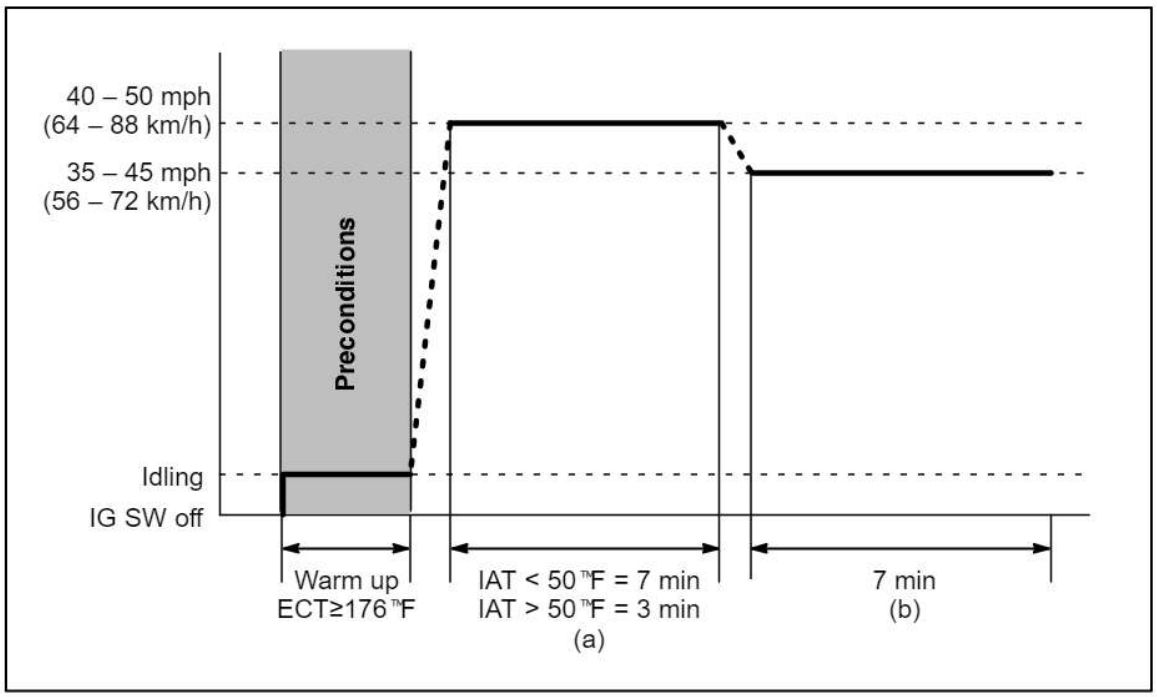
c. Repeat steps “a” and “b” once.

If readiness status does not switch to “complete,” ensure preconditions are met, turn the ignition OFF, then repeat steps “a” through “c.”

NOTE:
The readiness status may not switch to “complete” after the first drive pattern trip if a Pending Code has been set (first trip for a two–trip DTC).
Pending Codes are available from the DTC Info Menu in Enhanced OBDII.
Pending Codes indicate a POTENTIAL problem was detected. A second trip is needed to confirm the DTC prior to diagnosis.
Once a second trip is completed, a current DTC will be stored.

Readiness Monitor Drive Patterns: Catalyst Monitors

DRIVE PATTERN NO. 3: Catalyst Monitor (O2S Type)



Preconditions

The monitor will not run unless:

MIL is OFF.
ECT (Coolant Temp) is 176 °F (80 °C) or greater.
IAT (Intake Air) is 14 °F (–10 °C) or greater.*

* **For 2002 MY and later vehicles:** The readiness test can be completed in cold ambient conditions (less than 14 °F / –10 °C), if the drive pattern is repeated a second time after cycling the ignition OFF.

Drive Pattern Procedure

Connect the OBDII Scantool to DLC3 to check monitor status and preconditions.

Note the IAT (Intake Air) value during engine startup. The driving time must be adjusted during step "a" based upon IAT (Intake Air) value at startup.

a. Drive the vehicle at 40 – 55 mph (64 – 88 km/h) for the time described below:
   If IAT (Intake Air) was less than 50 °F (10 °C) when the engine was started, drive for 7 minutes.
   If IAT (Intake Air) was greater than 50 °F (10 °C) when the engine was started, drive for 3 minutes.
b. Drive the vehicle at 35 – 45 mph (56 – 72 km/h) for approximately 7 minutes.

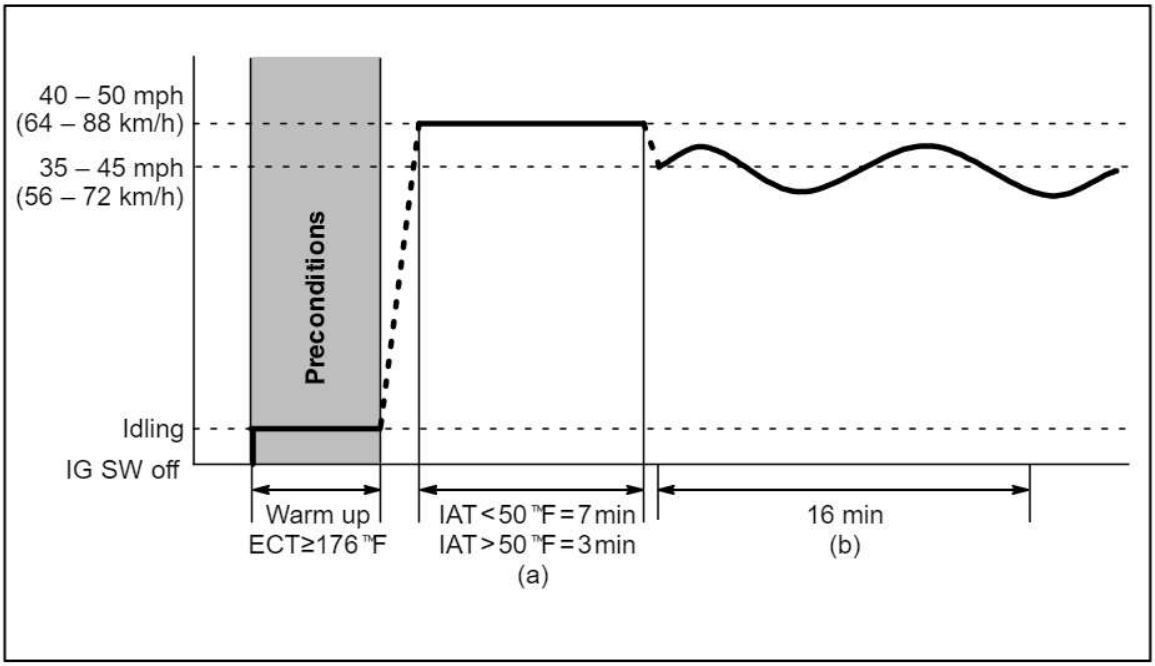
NOTE:
Drive with smooth throttle operation.
Avoid sudden acceleration.
Avoid sudden deceleration as much as possible with the throttle fully closed.

If readiness status does not switch to "complete," ensure preconditions are met, turn the ignition OFF, then repeat steps "a" and "b."

NOTE:
The readiness status may not switch to "complete" after the first drive pattern trip if a Pending Code has been set (first trip for a two–trip DTC).
Pending Codes are available from the DTC Info Menu in Enhanced OBDII.
Pending Codes indicate a POTENTIAL problem was detected. A second trip is needed to confirm the DTC prior to diagnosis.
Once a second trip is completed, a current DTC will be stored.

Readiness Monitor Drive Patterns: Catalyst Monitors (Continued)

DRIVE PATTERN NO. 4: Catalyst Monitor (AF Sensor Type)



Preconditions

The monitor will not run unless:

MIL is OFF.
ECT (Coolant Temp) is 176 °F (80 °C) or greater.
IAT (Intake Air) is 14 °F (–10 °C) or greater.*

* **For 2002 MY and later vehicles:** The readiness test can be completed in cold ambient conditions (less than 14 °F / –10 °C), if the drive pattern is repeated a second time after cycling the ignition OFF.

Drive Pattern Procedure

Connect the OBDII Scantool to DLC3 to check monitor status and preconditions.
Note the IAT (Intake Air) value during engine startup. The driving time must be adjusted during step "a" based upon IAT (Intake Air) value at startup.

a. Drive the vehicle at 40 – 55 mph (64 – 88 km/h) for the time described below:
   If IAT (Intake Air) was less than 50 °F (10 °C) when the engine was started, drive for 7 minutes.
   If IAT (Intake Air) was greater than 50 °F (10 °C) when the engine was started, drive for 3 minutes.
b. Drive the vehicle allowing speed to fluctuate between 35 – 45 mph (56 – 72 km/h) for about 16 minutes.

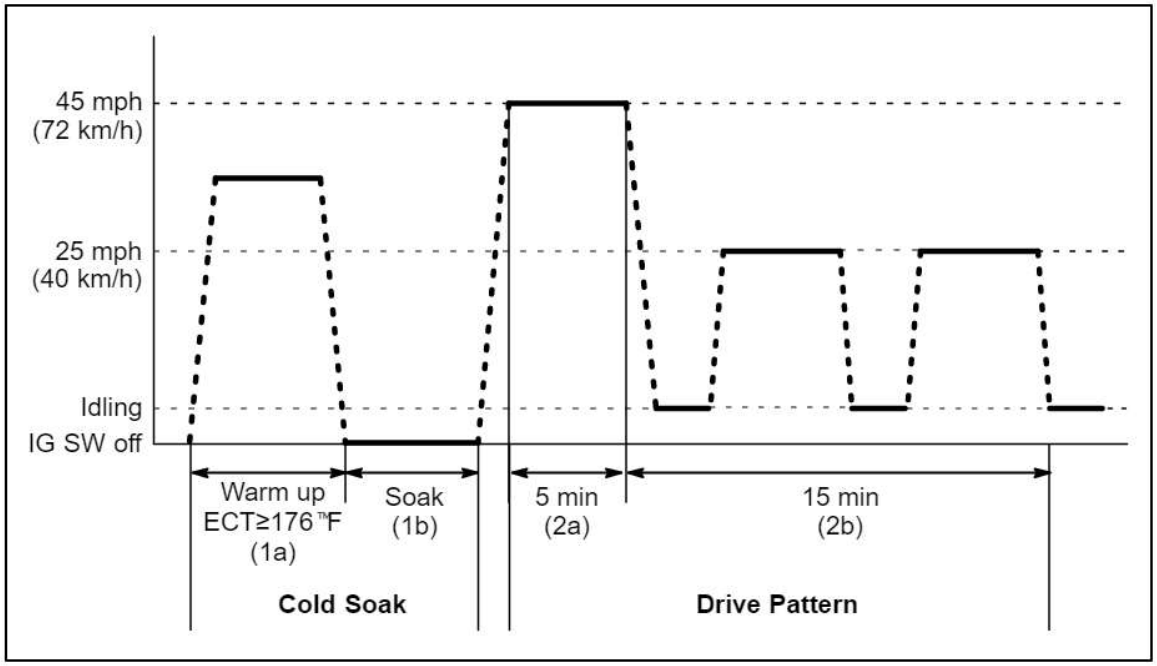
NOTE:
Drive with smooth throttle operation.
Avoid sudden acceleration.
Avoid sudden deceleration as much as possible with the throttle fully closed.

If readiness status does not switch to "complete," ensure preconditions are met, turn the ignition OFF, then repeat steps "a" and "b."

NOTE:
The readiness status may not switch to "complete" after the first drive pattern trip if a Pending Code has been set (first trip for a two–trip DTC).
Pending Codes are available from the DTC Info Menu in Enhanced OBDII.
Pending Codes indicate a POTENTIAL problem was detected. A second trip is needed to confirm the DTC prior to diagnosis.
Once a second trip is completed, a current DTC will be stored.

Readiness Monitor Drive Patterns: EVAP Monitors

DRIVE PATTERN NO. 5: EVAP Monitor (Internal Pressure Monitor/Non–Intrusive Type)



Cold Soak Preconditions

The monitor will not run unless:

MIL is OFF.
Fuel level is between 1/2 to 3/4 full (for faster completion).
Altitude is 7800 feet (2400 m) or less.

IMPORTANT:

A cold soak must be performed prior to conducting the drive pattern to complete the Internal Pressure Readiness Monitor.

Cold Soak Procedure

1a. Start the engine and allow ECT (Coolant Temp) to reach 176 °F (80 °C) or greater. (This can be done by letting the engine idle or by driving the vehicle.)
1b. Let the vehicle cold soak for 8 hours or until the difference between IAT (Intake Air) and ECT (Coolant Temp) is less than 13 °F (7 °C).

- **Example 1**

  ECT (Coolant Temp) = 75 °F (24 °C).
  IAT (Intake Air) = 60 °F (16 °C).
  Difference between ECT (Coolant Temp) and IAT (Intake Air) is 15 °F (8 °C).
  ⇒ The monitor will not run because the difference between ECT (Coolant Temp) and IAT (Intake Air) is greater than 13 °F (7 °C).

- **Example 2**

  ECT (Coolant Temp) = 70 °F (21 °C).
  IAT (Intake Air) = 68 °F (20 °C).
  Difference between ECT (Coolant Temp) and IAT (Intake Air) is 2 °F (1 °C).
  ⇒ The monitor will run because the difference between ECT (Coolant Temp) and IAT (Intake Air) is less than 13 °F (7 °C).

Readiness Monitor Drive Patterns: EVAP Monitors (Continued)

Drive Pattern Preconditions

The monitor will not run unless:

MIL is OFF.

Fuel level is between 1/2 to 3/4 full (for faster completion).

Altitude is 7800 feet (2400 m) or less.

ECT (Coolant Temp) is between 40 °F and 95 °F (4.4 °C – 35 °C).

IAT (Intake Air) is between 40 °F and 95 °F (4.4 °C – 35 °C).

Cold Soak Procedure has been completed.

NOTE:

Before starting the engine, the difference between ECT (Coolant Temp) and IAT (Intake Air) must be less than 13 °F (7 °C). (Refer to Examples 1 and 2 on previous page.)

Drive Pattern Procedure

Connect the OBDII Scantool to DLC3 to check monitor status and preconditions.

Release the pressure in the fuel tank by removing and then reinstalling the fuel tank cap.

Start the engine and begin driving as directed.

NOTE:

Do not turn the ignition off until the drive pattern is complete.

Drive on smooth roads to reduce excessive fuel sloshing.

2a. Start the engine and as soon as safely possible begin driving at approximately 45 mph (72km/h) for 5 minutes. (See illustration on previous page.)

2b. Drive the vehicle at approximately 25 mph (40 km/h) for 15 minutes and include a minimum of two stops for approximately 30 seconds. (See illustration on previous page.)

The monitor should complete within approximately 20 minutes. If it does not, ensure preconditions are met and repeat the drive pattern process beginning with the Cold Soak Procedure.

NOTE:

The readiness status may not switch to "complete" after the first drive pattern trip if a Pending Code has been set (first trip for a two–trip DTC).

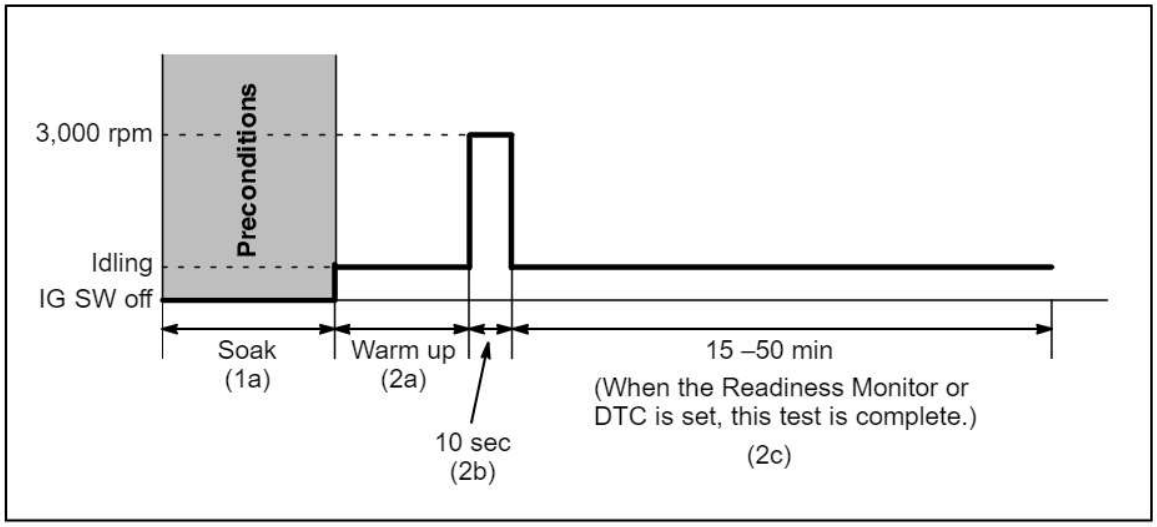
Pending Codes are available from the DTC Info Menu in Enhanced OBDII.

Pending Codes indicate a POTENTIAL problem was detected. A second trip is needed to confirm the DTC prior to diagnosis.

Once a second trip is completed, a current DTC will be stored.

Readiness Monitor Drive Patterns: EVAP Monitors (Continued)

DRIVE PATTERN NO. 6: EVAP Monitor (Vacuum Pressure Monitor/Intrusive Type)



Cold Soak Preconditions

The monitor will not run unless:

MIL is OFF.

Fuel level is between 1/2 to 3/4 full (for faster completion).

Altitude is 7800 feet (2400 m) or less.

Cold Soak Procedure

1a. Let the vehicle cold soak for 8 hours or until the difference between IAT (Intake Air) and ECT (Coolant Temp) is less than 13 °F (7 °C).

- **Example 1**

  ECT (Coolant Temp) = 75 °F (24 °C).

  IAT (Intake Air) = 60 °F (16 °C).

  Difference between ECT (Coolant Temp) and IAT (Intake Air) is 15 °F (8 °C).

  ⇒ The monitor will not run because the difference between ECT (Coolant Temp) and IAT (Intake Air) is greater than 13 °F (7 °C).

- **Example 2**

  ECT (Coolant Temp) = 70 °F (21 °C).

  IAT (Intake Air) = 68 °F (20 °C).

  Difference between ECT (Coolant Temp) and IAT (Intake Air) is 2 °F (1 °C).

  ⇒ The monitor will run because the difference between ECT (Coolant Temp) and IAT (Intake Air) is less than 13 °F (7 °C).

Readiness Monitor Drive Patterns: EVAP Monitors (Continued)

Drive Pattern Preconditions

The monitor will not run unless:

MIL is OFF.

Fuel level is between 1/2 to 3/4 full (for faster completion).

Altitude is 7800 feet (2400 m) or less.*

ECT (Coolant Temp) is between 40 °F and 95 °F (4.4 °C – 35 °C).

IAT (Intake Air) is between 40 °F and 95 °F (4.4 °C – 35 °C).*

Cold Soak Procedure has been completed.

* **For 2002 MY and later vehicles:** The readiness test can be completed in cold ambient conditions (less than 40 °F / 4.4 °C) and/or at high altitudes (more than 7800 feet / 2400 m) if the complete drive pattern (including Cold Soak) is repeated a second time after cycling the ignition OFF.

NOTE:

Before starting the engine, the difference between ECT (Coolant Temp) and IAT (Intake Air) must be less than 13 °F (7 °C). (Refer to Examples 1 and 2 on previous page.)

Drive Pattern Procedure

Connect the OBDII Scantool to DLC3 to check monitor status and preconditions.

Release the pressure in the fuel tank by removing and then reinstalling the fuel tank cap.

2a. Start the engine and allow it to idle until ECT (Coolant Temp) is 167 °F (75 °C) or greater. (See illustration on previous page.)

2b. Race the engine at 3,000 rpm for approximately 10 seconds. (See illustration on previous page.)

2c. Allow the engine to idle with the A/C ON (to create a slight load) for 15 – 50 minutes. (See illustration on previous page.)

NOTE:

If the vehicle is not equipped with A/C put a slight load on the engine by doing the following:

Securely set the parking brake.
Block the drive wheels with wheel chocks.
Allow the vehicle to idle in drive for 15 – 50 minutes.

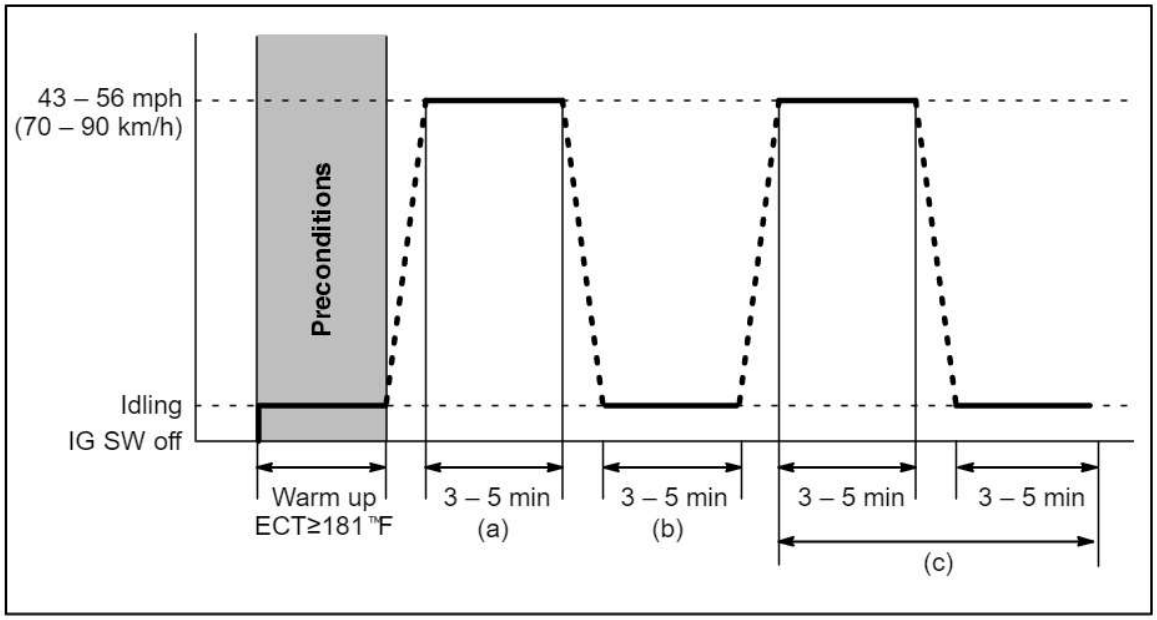
NOTE:

The readiness status may not switch to "complete" after the first drive pattern trip if a Pending Code has been set (first trip for a two–trip DTC).

Pending Codes are available from the DTC Info Menu in Enhanced OBDII.
Pending Codes indicate a POTENTIAL problem was detected. A second trip is needed to confirm the DTC prior to diagnosis.
Once a second trip is completed, a current DTC will be stored.

Readiness Monitor Drive Patterns: EVAP Monitors (Continued)

DRIVE PATTERN NO. 7: EVAP Monitor (Without Leak Detection)



Preconditions

The monitor will not run unless:

MIL is OFF.

Altitude is 7800 feet (2400 m) or less.

ECT (Coolant Temp) is 181 °F (83 °C) or greater.

IAT (Intake Air) is 41 °F (5 °C) or greater.

Drive Pattern Procedure

Connect the OBDII Scantool to DLC3 to check monitor status and preconditions.

a. Drive the vehicle at 43 – 56 mph (70 – 90 km/h) for a period of 3 – 5 minutes.

NOTE:
Do not allow the Throttle Position (TP) to exceed 30%.
Drive with smooth throttle operation and avoid sudden acceleration.

b. Stop the vehicle and let the engine idle for 3 – 5 minutes.

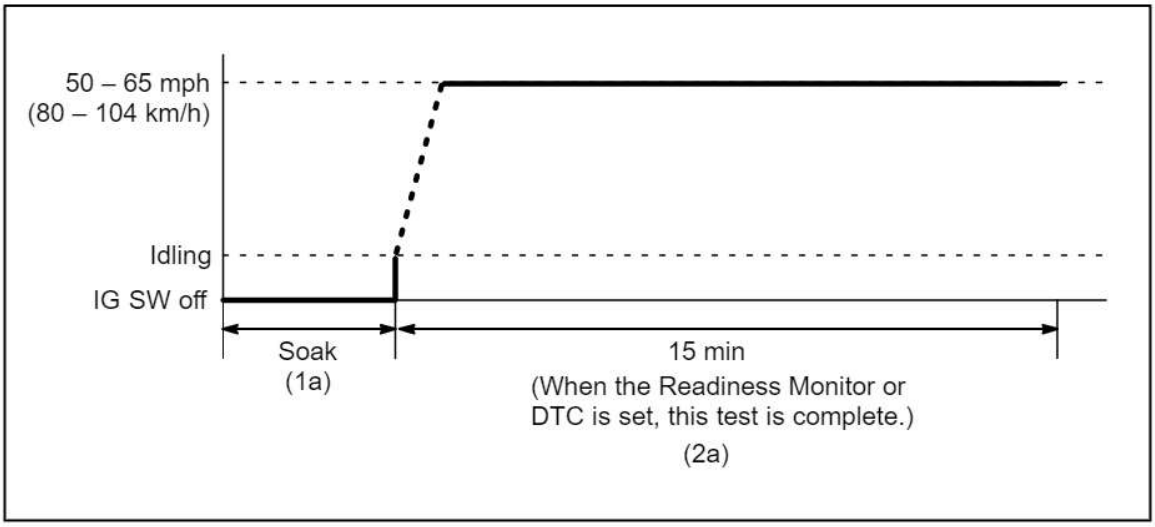
c. Repeat steps “a” and “b” once.

If readiness status does not switch to “complete,” ensure preconditions are met, turn the ignition OFF, then repeat steps “a” through “c.”

NOTE:
The readiness status may not switch to “complete” after the first drive pattern trip if a Pending Code has been set (first trip for a two–trip DTC).
Pending Codes are available from the DTC Info Menu in Enhanced OBDII.
Pending Codes indicate a POTENTIAL problem was detected. A second trip is needed to confirm the DTC prior to diagnosis.
Once a second trip is completed, a current DTC will be stored.

Readiness Monitor Drive Patterns: EVAP Monitors (Continued)

DRIVE PATTERN NO. 8: EVAP Monitor (For Prius)



Cold Soak Preconditions

The monitor will not run unless:

MIL is OFF.

Altitude is 7800 feet (2400 m) or less.

IMPORTANT:

A cold soak must be performed prior to conducting the drive pattern to complete the Internal Pressure Readiness Monitor.

Cold Soak Procedure

1a. Let the vehicle cold soak for 8 hours or until the difference between IAT (Intake Air) and ECT (Coolant Temp) is less than 13 °F (7 °C).

- **Example 1**

  ECT (Coolant Temp) = 75 °F (24 °C).

  IAT (Intake Air) = 60 °F (16 °C).

  Difference between ECT (Coolant Temp) and IAT (Intake Air) is 15 °F (8 °C).

  ⇒ The monitor will not run because the difference between ECT (Coolant Temp) and IAT (Intake Air) is greater than 13 °F (7 °C).

- **Example 2**

  ECT (Coolant Temp) = 70 °F (21 °C).

  IAT (Intake Air) = 68 °F (20 °C).

  Difference between ECT (Coolant Temp) and IAT (Intake Air) is 2 °F (1 °C).

  ⇒ The monitor will run because the difference between ECT (Coolant Temp) and IAT (Intake Air) is less than 13 °F (7 °C).

Readiness Monitor Drive Patterns: EVAP Monitors (Continued)

Drive Pattern Preconditions

The monitor will not run unless:

MIL is OFF.

Altitude is 7800 feet (2400 m) or less.

ECT (Coolant Temp) is between 40 °F and 95 °F (4.4 °C – 35 °C).

IAT (Intake Air) is between 40 °F and 95 °F (4.4 °C – 35 °C).*

Cold Soak Procedure has been completed.

NOTE:

Before starting the engine, the difference between ECT (Coolant Temp) and IAT (Intake Air) must be less than 13 °F (7 °C). (Refer to Examples 1 and 2 on previous page.)

Drive Pattern Procedure

Connect the OBDII Scantool to DLC3 to check monitor status and preconditions.

Release the pressure in the fuel tank by removing and then reinstalling the fuel tank cap.

Start the engine and as soon as safely possible begin driving as directed.

2a. Drive the vehicle at 50 – 65 mph (80 – 104 km/h) for about 15 minutes. (See illustration on previous page.)

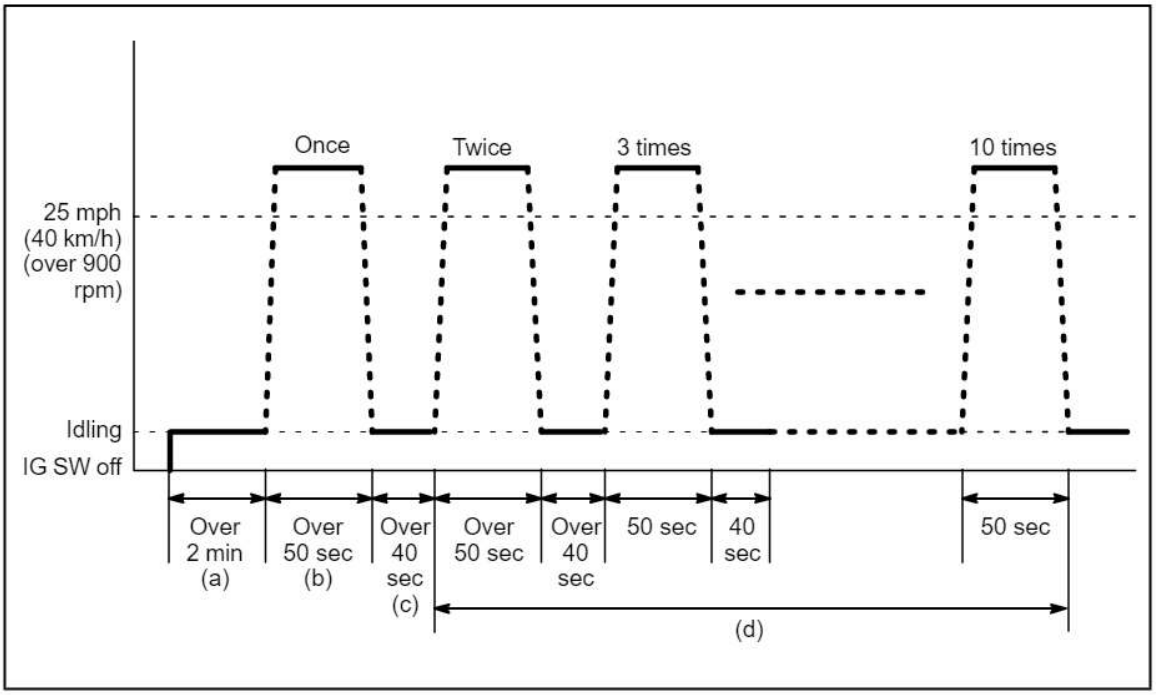
NOTE:

Do not turn the ignition off until the drive pattern is complete.
Drive on smooth roads to reduce excessive fuel sloshing.

If vehicle speed drops under 45 mph (72 km/h) repeat step “2a.”

Readiness Monitor Drive Patterns: Oxygen Monitors

DRIVE PATTERN NO. 9: Oxygen Sensor Monitor (Front and Rear O2S System)



Preconditions

The monitor will not run unless:

MIL is OFF.

Drive Pattern Procedure

Connect the OBDII Scantool to DLC3 to check monitor status and preconditions.

a. Start the engine and allow it to idle for 2 minutes or more.

b. Drive the vehicle at 25 mph (40 km/h) or more for at least 50 seconds. Be sure engine speed remains above 900 rpm.

c. Stop the vehicle and allow the engine to idle for 40 seconds or more.

d. Perform steps “b” and “c” ten times.

If readiness status does not switch to “complete,” ensure preconditions are met, turn the ignition OFF, then repeat steps “a” through “d.”

NOTE:

The readiness status may not switch to “complete” after the first drive pattern trip if a Pending Code has been set (first trip for a two–trip DTC).

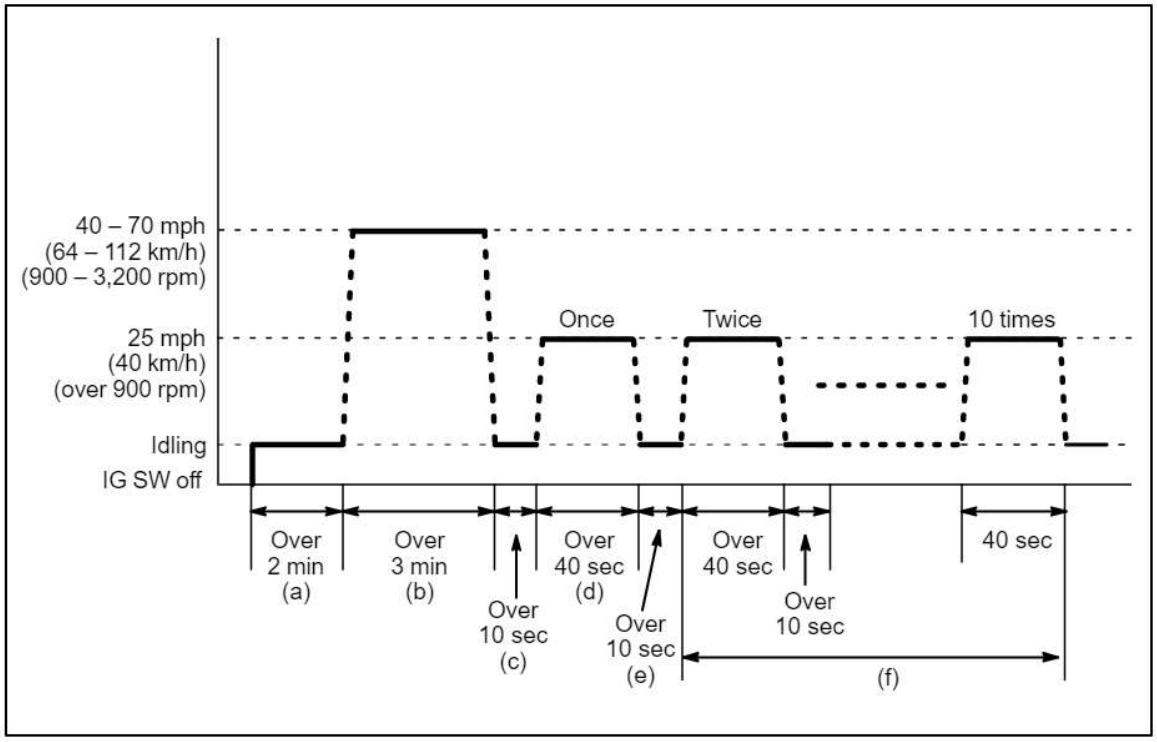
Pending Codes are available from the DTC Info Menu in Enhanced OBDII.

Pending Codes indicate a POTENTIAL problem was detected. A second trip is needed to confirm the DTC prior to diagnosis.

Once a second trip is completed, a current DTC will be stored.

Readiness Monitor Drive Patterns: Oxygen Monitors (Continued)

DRIVE PATTERN NO. 10: Oxygen/Air Fuel Ratio Sensor Monitor (Front AF Sensor and Rear O2S System)



Preconditions

The monitor will not run unless:

MIL is OFF.

Drive Pattern Procedure

Connect the OBDII Scantool to DLC3 to check monitor status and preconditions.

a. Start the engine and allow it to idle for 2 minutes or more.

b. Drive the vehicle at 40 – 70 mph (64 – 112 km/h) or more for at least 3 minutes. Be sure to maintain engine speed between 900 and 3,200 rpm.

c. Stop the vehicle and allow the engine to idle for 10 seconds or more.

d. Drive the vehicle at 25 mph (40 km/h) for at least 40 seconds or more. Be sure to maintain engine speed above 900 rpm.

e. Stop the vehicle and allow the engine to idle for 10 seconds or more.

f. Perform steps “d” and “e” ten times.

If readiness status does not switch to “complete,” ensure preconditions are met, turn the ignition switch OFF, then repeat steps “a” through “f.”

NOTE:

The readiness status may not switch to “complete” after the first drive pattern trip if a Pending Code has been set (first trip for a two–trip DTC).

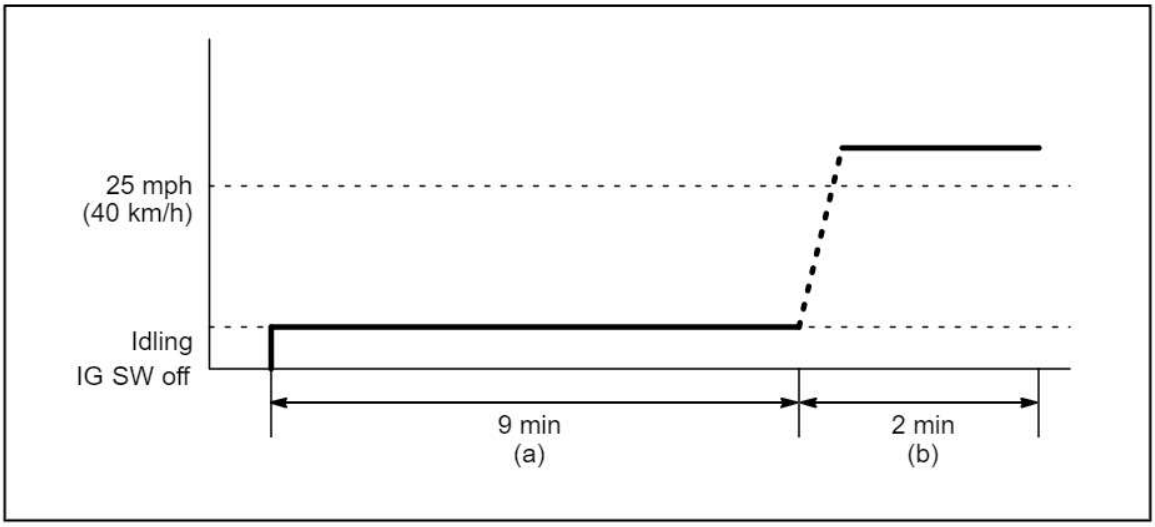
Pending Codes are available from the DTC Info Menu in Enhanced OBDII.

Pending Codes indicate a POTENTIAL problem was detected. A second trip is needed to confirm the DTC prior to diagnosis.

Once a second trip is completed, a current DTC will be stored.

Readiness Monitor Drive Patterns: Oxygen Monitors (Continued)

DRIVE PATTERN NO. 11: Oxygen/AF Sensor Heater Monitor



Preconditions

The monitor will not run unless:

MIL is OFF.

Drive Pattern Procedure

Connect the OBDII Scantool to DLC3 to check monitor status and preconditions.

a. Start the engine and allow it to idle for 9 minutes.

b. Drive the vehicle at 25 mph (40 km/h) or more for at least 2 minutes.

If readiness status does not switch to “complete,” ensure preconditions are met, turn the ignition OFF, then repeat steps “a” and “b.”

NOTE:

The readiness status may not switch to “complete” after the first drive pattern trip if a Pending Code has been set (first trip for a two–trip DTC).

Pending Codes are available from the DTC Info Menu in Enhanced OBDII.

Pending Codes indicate a POTENTIAL problem was detected. A second trip is needed to confirm the DTC prior to diagnosis.

Once a second trip is completed, a current DTC will be stored.

TOYOTA

Technical Service BULLETIN

February 24, 2003

Title:

SULFUR ODOR FROM EXHAUST

Models:

All Models

TSB

ENGINE

EG003-03

Introduction

Some owners of Toyota vehicles may experience a sulfur–like or “rotten egg” odor from the exhaust system. Sulfur is a natural component of crude oil from which gasoline is refined and the amount of sulfur can be decreased through the refining process. The amount of sulfur in fuel sold in California is regulated, however gasoline sold in other states can have substantially higher sulfur content. Sulfur content also varies considerably between gasoline brands and locations.

Applicable Vehicles

- **All Models**.

Repair Procedure

A sulfur odor emitted from the vehicle’s tailpipe does not necessarily indicate that there is an issue with the engine’s running condition, but is most likely directly related to the fuel. If the vehicle is exhibiting an excessive sulfur odor, the following checks should be performed:

- If the MIL light is ON, check for DTCs and repair as necessary.

If no trouble is found after performing the above check, recommend the customer try a different source of fuel.

Replacement of oxygen sensors, air/fuel ratio sensors or catalytic converters will not reduce the odor and will therefore **not** be considered warrantable.

Warranty Information

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

TOYOTA

Technical Service BULLETIN
June 11, 1999

Title:
DIAGNOSTIC TROUBLE CODE P0446

Models:
'99 Avalon, Camry & Solara

TSB

REVISED EG004–99 ENGINE

Introduction

Under certain driving conditions, some 1999 Model Year Avalon, Camry and Solaras will exhibit a false M.I.L. "ON" DTC P0446. A Vacuum Control Valve Assembly has been developed to prevent this condition.

Production Change Information

MODEL	VIN RANGE	
	FROM	TO
Avalon	4T1BF1#B*XU286982	4T1BF1#B*XU307913
Camry (4 Cylinder)	JT2BG2#K*X0263387	JT2BG2#K*X0301683
	4T1BG2#K*XU382466	4T1BG2#K*XU446663
	4T1BG2#K*XU859688	4T1BG2#K*XU890371
Camry (6 Cylinder)	JT2BF2#K*X0146113	JT2BF2#K*X0164251
	4T1BF2#K*XU074015	4T1BF2#K*XU077714
	4T1BF2#K*XU929580	4T1BF2#K*XU079278
Camry Solara (4 Cylinder)	2T1CG2#P*XC055458	2T1CG2#P*XC142298
	2T1CG2#P*XC736206	2T1CG2#P*XC766681
Camry Solara (6 Cylinder)	2T1CF2#P*XC055463	2T1CF2#P*XC142355
	2T1CF2#P*XC722383	2T1CF2#P*XC766715

"#" May be a 2 or an 8.
"*" May be any number from 0 to 9 or an X.

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
N/A	25852–20010	Valve, Vacuum Control with Hoses

Warranty Information

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
8602L2	Vacuum Control Valve	0.5	25852–20010	99	99

Applicable Warranty*:
This repair is covered under the Toyota Basic Warranty. This warranty is in effect for 36 months or 36,000 miles, whichever occurs first, from the vehicle's in–service date. Coverage is extended to 36 months or 50,000 miles, whichever occurs first, in the states of California and Massachusetts under the California Emission Warranty.

* Warranty application is limited to correction of a problem based upon a customer's specific complaint.

NOTE:
Please enter the DTC P0446 in the Condition/Cause/Remedy Section when applying for Warranty Reimbursement.

Toyota Supports ASE Certification

Repair Procedure

1. Verify that the Purge System is operating as specified in the Repair Manual.

2. Raise vehicle on lift to gain access to the Purge Canister and remove the two Vacuum Lines indicated in Figure 1.

   Save the Metal Clamps from the larger hoses for reuse.

3. Install the New Hose Assembly as shown in Figure 2.

   Reuse the Hose Clamps removed in Step 2 on the large hose as indicated.

4. Verify that the Vacuum Hose Assembly is installed as shown in Figure 3.

5. After lowering vehicle verify that the Gas Cap is on securely.

Figure 1

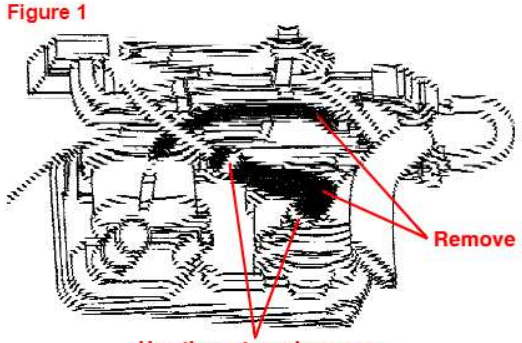


Figure 2

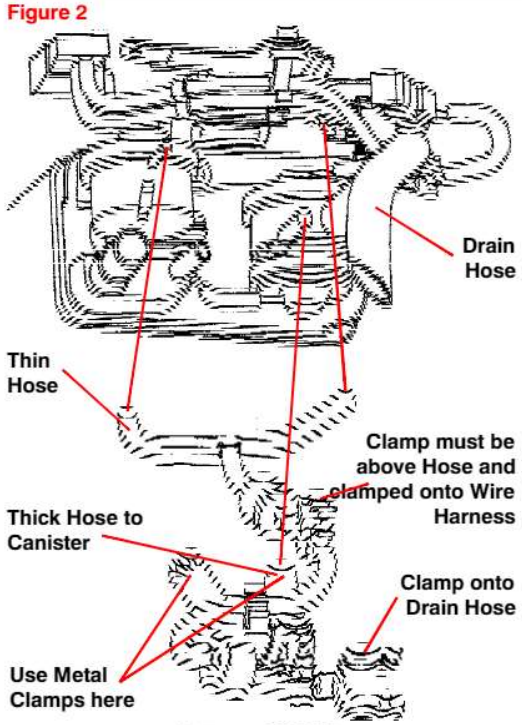
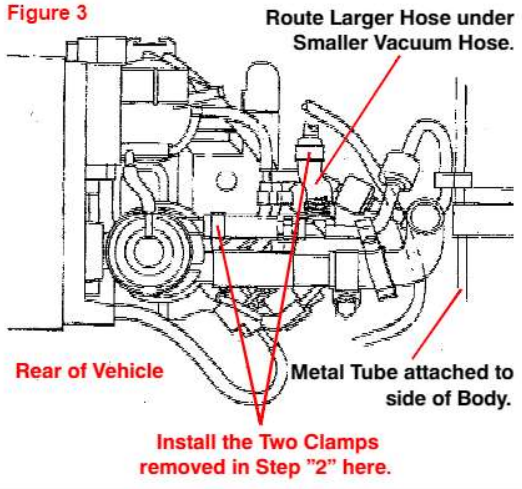


Figure 3



TOYOTA

Technical Service BULLETIN

April 20, 2001

Title:

M.I.L. "ON" P1133

Models:

'97–'99 Camry and '99 Solara

TSB

ENGINE

EG004-01

Introduction

Under certain driving conditions, some 1997 – 1999 5S–FE California emission specification Camrys and 1999 5S–FE California emission specification Solaras may exhibit a M.I.L. "ON" with DTC P1133 (Air Fuel Ratio Sensor Slow Response Malfunction). An improved Air Fuel Ratio (A/F) Sensor was developed to correct this condition (See TSB EG006–99).

In some rare cases, P1133 may still set after the improved A/F sensor is installed. The Engine Control Module (ECM) logic has been modified to correct this condition.

Applicable Vehicles

- **1997 – 1999** model year **Camrys** with 5S–FE California emission specification.
- **1999** model year **Solaras** with 5S–FE California emission specification.

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	
89661–3T451	89661–3T452	ECM, 1999 AT	Non–Immobilizer
89661–06681	89661–06682	ECM, 1999 MT	
89661–3T271	89661–3T272	ECM, 1998 AT	
89661–06501	89661–06502	ECM, 1998 MT	
89661–3T041	89661–3T042	ECM, 1997 AT	
89661–06371	89661–06372	ECM, 1997 MT	
89661–3T471	89661–3T472	ECM, 1999 AT	Immobilizer
89661–3T291	89661–3T292	ECM, 1998 AT	

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
895011 Varied Work Code "N".	R & R ECM For DOHC	0.4	See Previous PN Above	99	99

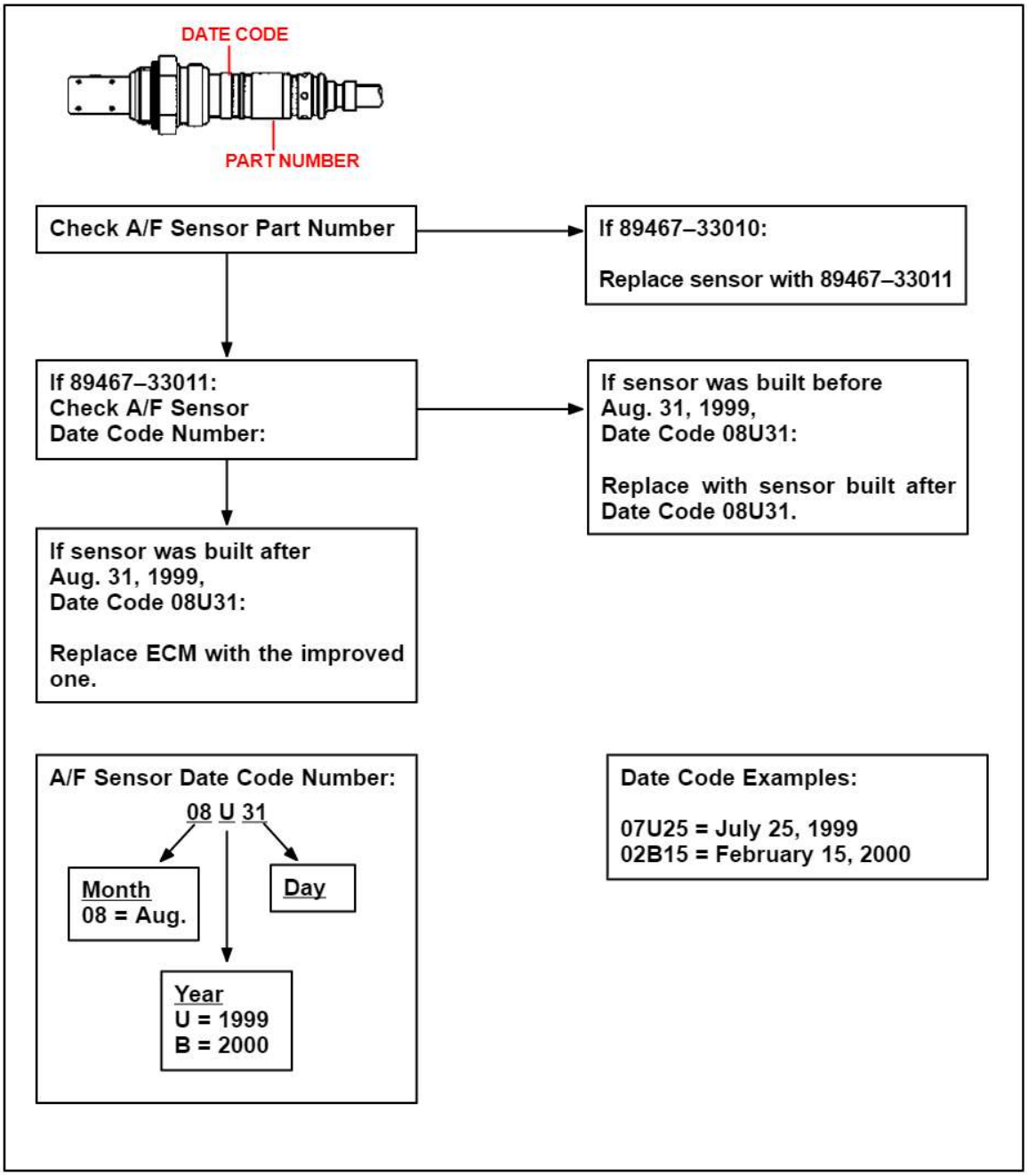
Applicable Warranty*:

This repair is covered under the Toyota 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.

Repair Procedure

1. Should a M.I.L. "ON" condition with P1133 be encountered, perform diagnostic procedures as described in the Repair Manual.
2. If the problem source cannot be identified after checking all affected areas according to the Repair Manual, the cause may be an A/F Sensor or ECM logic malfunction. In this case, follow the procedure in the flowchart below to determine which part needs to be replaced.
   Replace the ECM only if the A/F Sensor in the vehicle was produced after August 31, 1999.



TOYOTA

Technical Service BULLETIN

April 27, 2001

Title:

EVAP SYSTEM OPERATION INFORMATION

Models:

All '96 – '01 Models

TSB

ENGINE

EG005-01

Introduction This service bulletin provides supplemental information regarding the system design, operation, and diagnostics of the Early Type (Non–Intrusive) and Late Type (Intrusive) EVAP Systems found on 1996 model year and later OBD II equipped vehicles.

Applicable Vehicles

MODEL	1996	1997	1998	1999	2000	2001
Avalon	Early	Early	Early	Early	Late	Late
Camry	Early (A/T only)	Early	Early	Early	Late	Late
Camry Solara	N/A	N/A	N/A	Early	Late	Late
Celica	N/A	N/A	Early	Early	Late	Late
Corolla	N/A	N/A	Early	Early	Late	Late
ECHO	N/A	N/A	N/A	N/A	Late	Late
MR2	N/A	N/A	N/A	N/A	Late	Late
Prius	N/A	N/A	N/A	N/A	Late	Late
Tercel	N/A	Early	Early	Early	N/A	N/A
4Runner	Early	Early	Early	Early	Early	Late
Land Cruiser	N/A	N/A	Early	Early	Early	Early
RAV4	Early	Early	Early	Early	Early	Late
Sequoia	N/A	N/A	N/A	N/A	N/A	Late
Sienna	N/A	N/A	Early	Early	Early	Late
Tacoma	Early (4WD only)	Early	Early	Early	Early	Early
Tundra	N/A	N/A	N/A	N/A	Early	Early
T100	N/A	Early	Early	N/A	N/A	N/A

Contents This bulletin is divided into the following sections:

Early Type and Late Type EVAP System Outline
1. **Early Type Description ..... Pages 2–4**
2. **Late Type Description ..... Pages 4–6**
3. **ECHO Late Type Description ..... Page 6**
4. **Late Type System Monitor Sequence ..... Pages 6–9**

Diagnostic Tips For Late Type EVAP System ..... Pages 10–14

Warranty Information

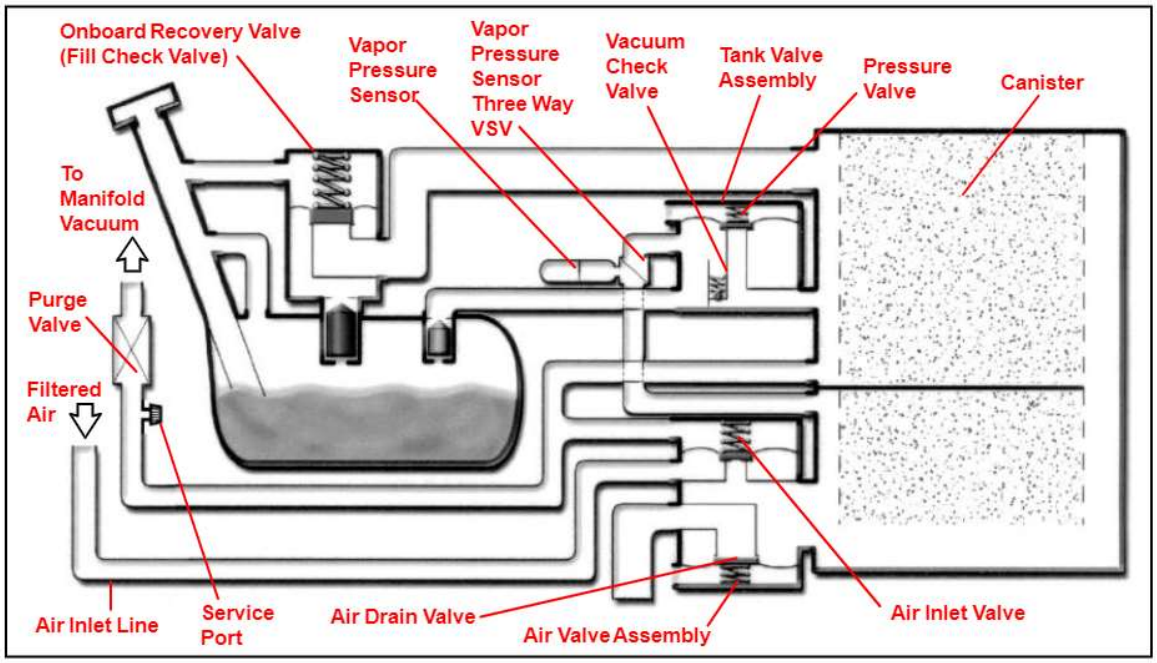
OP CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Early Type System Description

Early Type (Non–Intrusive) EVAP System Overview

There are a variety of EVAP systems in use with different monitoring strategies. It is essential that the EVAP system be correctly identified before beginning diagnosis. The Repair Manual is the best source for this information. The following information covers the different systems.

The first system described is the Early Type (Non–Intrusive) EVAP System. Refer to the Applicable Vehicles chart for applicability information.



Purge Operation

When the engine has reached predetermined parameters (closed loop, engine temp. above 125 F, etc.), stored fuel vapors are purged from the canister whenever the purge VSV is opened by the ECM. At the appropriate time, the ECM will turn on the purge VSV.

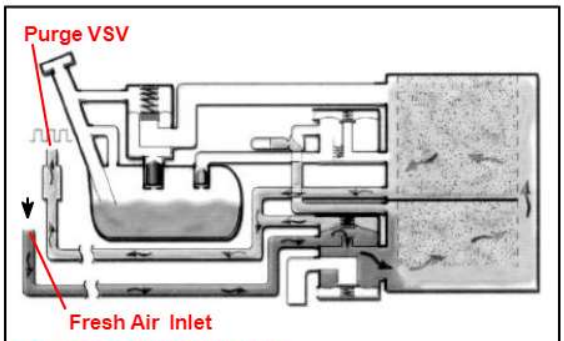


Figure 1. Purge Operation

The ECM will change the duty ratio cycle of the purge VSV thus controlling purge flow volume. Purge flow volume is determined by manifold pressure and the duty ratio cycle of the purge VSV. Atmospheric pressure is allowed into the canister to ensure that purge flow is constantly maintained whenever purge vacuum is applied to the canister (see Figure 1).

Early Type System Description (Continued)

ORVR Operation

During refueling, low pressure above the diaphragm in the onboard recovery valve lifts allowing fuel vapors into the charcoal canister. At the same time, the air drain valve opens and the charcoal absorbs the fuel vapors (see Figure 2).

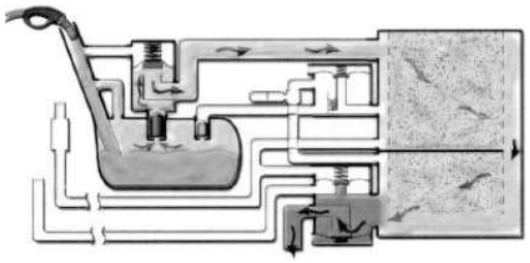


Figure 2. ORVR Operation

Early Type (Non–Intrusive) EVAP System DTCs

EVAP Monitor Leak Operation P0440

The ECM tests for leaks by measuring EVAP system pressure in the lines, charcoal canister, and fuel tank. When the EVAP pressure is higher or lower than atmospheric pressure, the ECM concludes that no leaks are present. EVAP pressure is measured by the vapor pressure sensor. If either the tank or canister purge side is at atmospheric pressure under specific conditions, the ECM determines there is a leak.

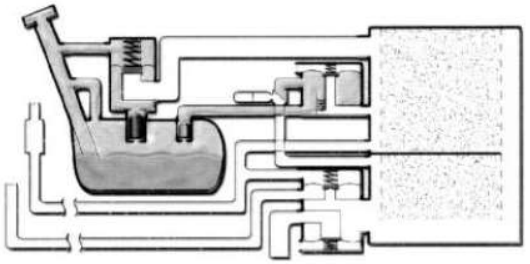


Figure 3. Fuel Tank Side of System

If DTC P0440 is present, the leak is on the fuel tank side of the EVAP system. This also includes the lines between the fuel tank and part of the canister. When the Vapor Pressure sensor is measuring tank pressure, the ECM is observing changes in pressure and comparing tank pressure to atmospheric pressure. No difference in pressure indicates a leak. The ECM may take 20 minutes or more to complete testing the fuel tank side (see Figure 3).

Canister Leak Detection P0446

When the ECM switches the vapor pressure VSV to canister side, the ECM measures canister pressure. A leak on the canister side can set multiple DTCs (see Figure 4).

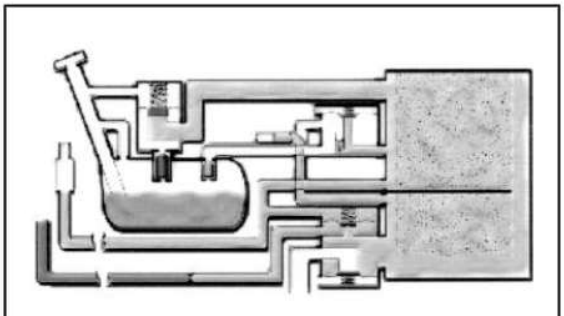


Figure 4. Canister Side of System

Early Type System Description (Continued)

Vapor Purge Flow P0441

The EVAP monitor is designed to detect:

- Restricted vapor purge flow when the purge VSV is open
- Inappropriate vapor purge flow when the purge VSV is closed

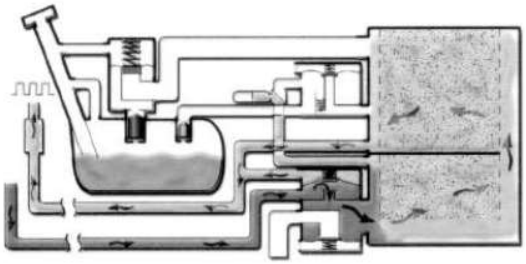


Figure 5. Flow During Purge Operation

Under normal purge conditions, pressure pulsations generated by the cycling of the purge VSV are present in the canister and detected by the Vapor Pressure sensor.

Three–Way VSV P0446

The three–way VSV is connected to the Vapor Pressure sensor, canister, and fuel tank. This VSV allows the Vapor Pressure sensor to detect either canister or tank pressure.

There are two modes the ECM can use to determine if the three–way VSV is malfunctioning. The three–way VSV is judged to be normal if there is pressure difference between the tank and canister when the three–way VSV is switched to look at the charcoal canister and fuel tank side of system.

If there isn't any pressure difference between the fuel tank and canister, the ECM looks for the following conditions:

- During purging, pressure pulsations generated by the purge VSV are not present in the canister as detected by Vapor Pressure sensor, the three–way VSV is judged to be defective.
- If there are pressure pulsations detected by the Vapor Pressure sensor present in the fuel tank, the three–way VSV is judged to be defective.

Late Type System Description

Late Type (Intrusive) EVAP System Overview

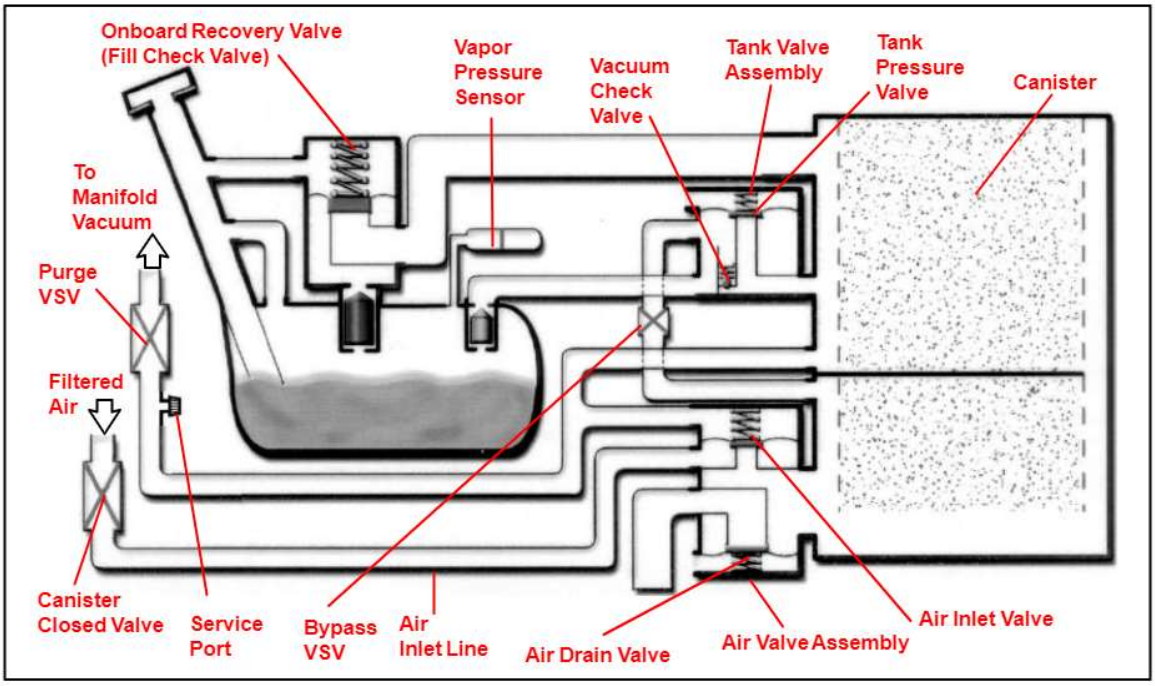
The Late Type EVAP System, also known as the Intrusive type, was developed to meet the very stringent, mandated standard of detecting a hole 0.020 inch (0.5 mm). This system uses many of the same components as the early type EVAP system. Purge, vacuum relief, pressure relief, and ORVR operations are identical to the early type. Refer to the Applicable Vehicles chart for applicability information.

The following changes were made to the Late Type EVAP System:

- Vapor pressure sensor connected to the fuel tank.
- Bypass VSV in the place of the three way VSV.
- Canister Closed Valve (CCV) on the air inlet line.

Late Type System Description (Continued)

Late Type (Intrusive EVAP System) (Except ECHO)



Tank Side

The bypass VSV and the fill check valve assembly isolates the tank pressure side from the canister side (see Figure 1).

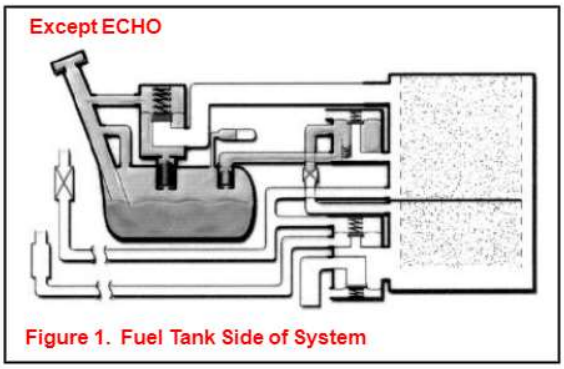


Figure 1. Fuel Tank Side of System

Canister Side

The bypass VSV and the Fill Check valve also isolate the canister side from the tank side (see Figure 2).

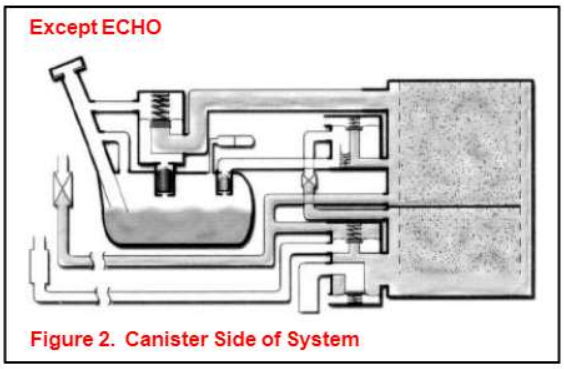
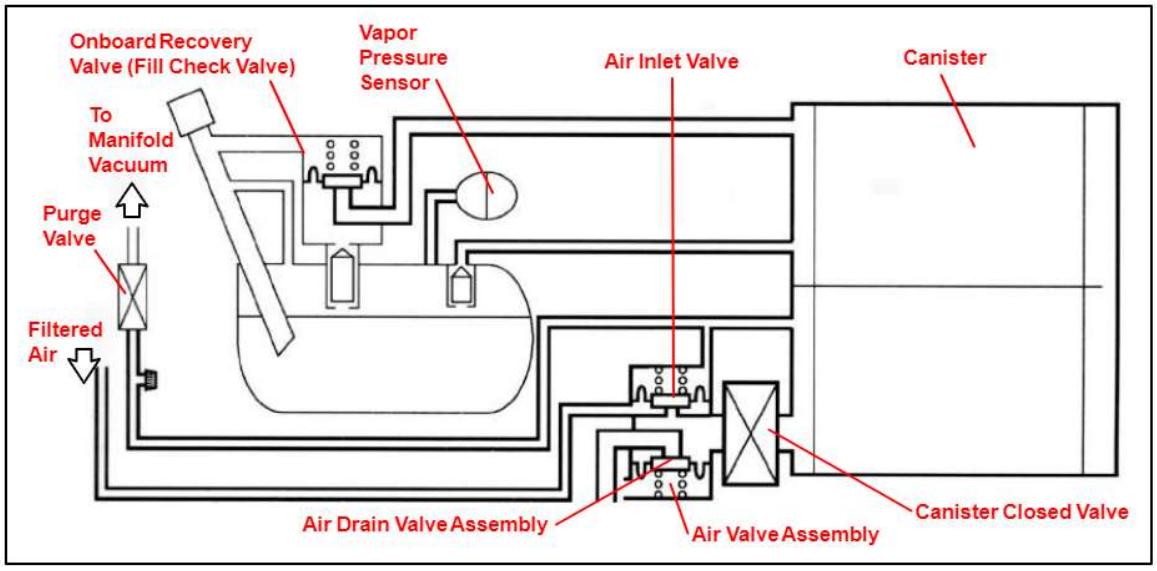


Figure 2. Canister Side of System

Late Type System Description (Continued)

ECHO Late Type (Intrusive EVAP System)

The ECHO uses a Late Type EVAP System but is configured with some small differences. For the ECHO, the Canister Closed Valve is located directly on the canister. Additionally, the bypass VSV has been eliminated.

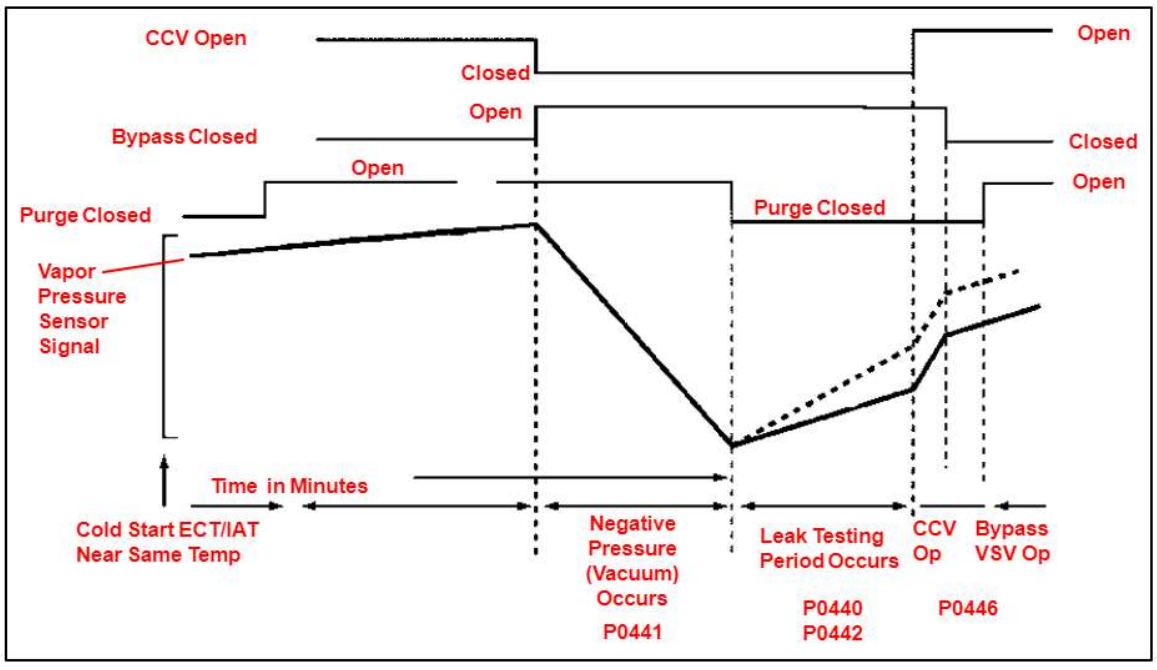


Late Type System Monitor Sequence

Late Type (Intrusive) EVAP System Monitor Sequence

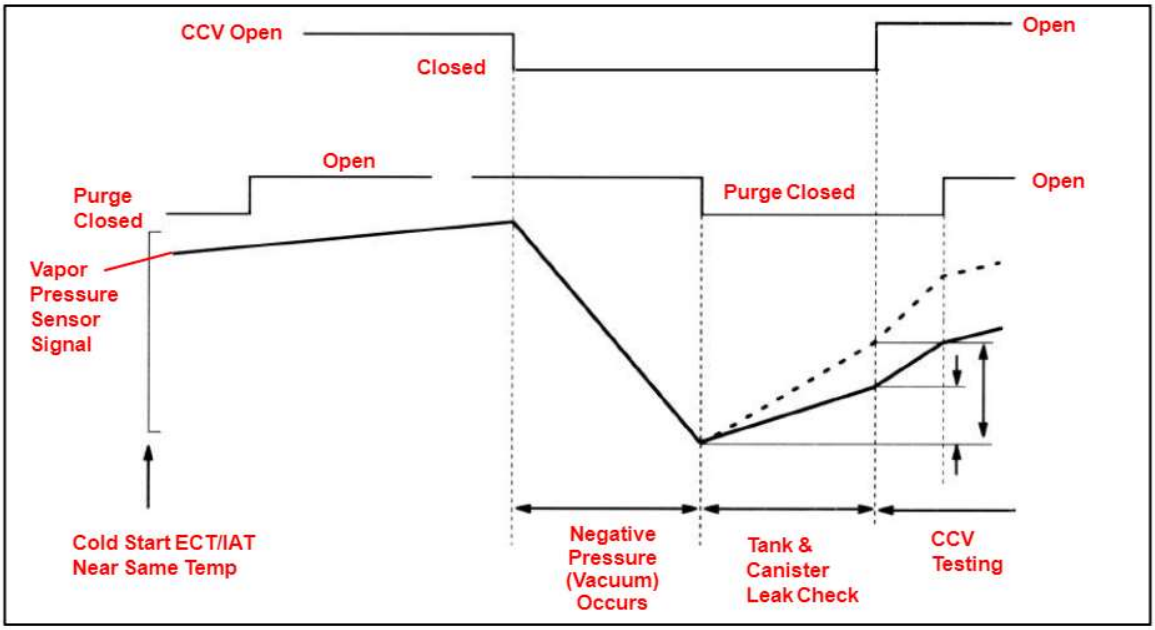
The monitoring sequence for leak detection is different from that of the Early Type EVAP System. The Late Type applies a very small vacuum to the EVAP system. The ECM then determines if there is a problem in the system based on the vapor pressure sensor signal.

Monitor Sequence (Except ECHO)



Late Type System Monitor Sequence (Continued)

ECHO Monitor Sequence



Monitor Operation

The monitor sequence begins with a cold engine start. The IAT and ECT sensors must have approximately the same temperature reading.

The ECM is constantly monitoring fuel tank pressure. As the temperature of the fuel increases, pressure slowly rises.

Except ECHO

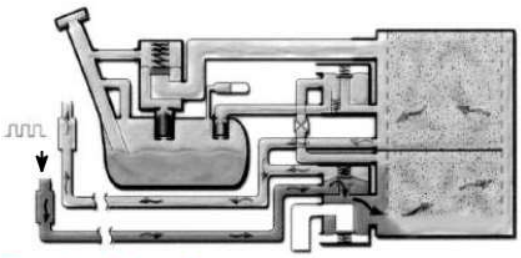


Figure 1. Canister Purge

The ECM will purge the charcoal canister at the appropriate time (see Figure 1). With bypass VSV closed, pressure will continue to rise in fuel tank.

ECHO

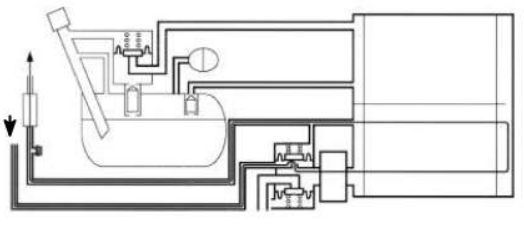


Figure 1. Canister Purge

Late Type System Monitor Sequence (Continued)

Purge VSV Operation – P0441

At a predetermined point, the ECM closes the CCV and opens the bypass VSV causing vacuum to increase in the entire EVAP system.

The ECM continues to operate the purge VSV until the vacuum is increased to a specified point at which time the ECM closes the purge VSV (see Figure 2).

If the vacuum did not increase, or if the vacuum increased beyond the specified limit, the ECM judges the purge VSV and related components to be faulty.

Except ECHO

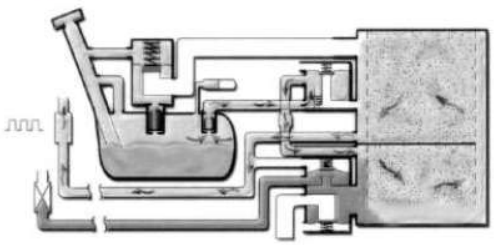


Figure 2. Vacuum Application

ECHO

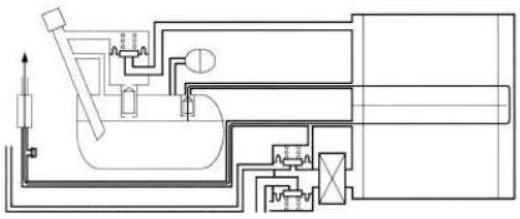


Figure 2. Vacuum Application

Hole Detection P0440 and P0442

The rate of pressure increase as detected by the vapor pressure signal indicates the if there is a leak and if it is a large or small leak.

After purge VSV operation, the purge VSV is turned off sealing the vacuum in the system and the ECM begins to monitor the pressure increase (see Figure 3). Some increase is normal. A very rapid, sharp increase in pressure indicates a leak in the EVAP system and sets the DTC P0440.

This monitoring method is also able to distinguish what is called the small leak detection. A pressure rise just above normal indicates a very small hole and will set the DTC P0442.

Except ECHO

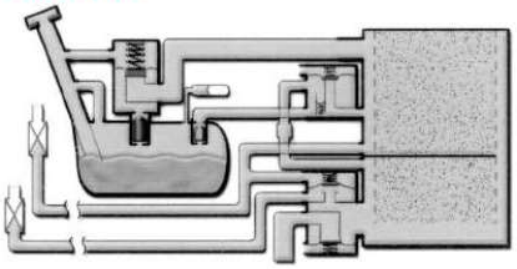


Figure 3. System Sealed

ECHO

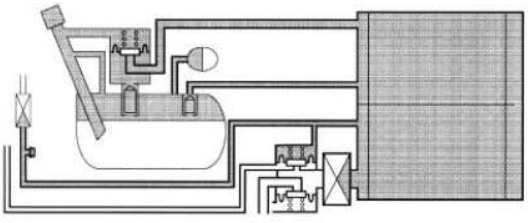


Figure 3. System Sealed

Late Type System Monitor Sequence (Continued)

Vent Control, CCV Operation P0446

This stage checks the CCV and vent (air inlet side) operation. When the vapor pressure rises to a specified point, the ECM opens the CCV. Pressure will increase rapidly because of the air allowed into the system. No increase or an increase below specified rate of pressure increase indicates a restriction on the air inlet side (see Figure 4).

Except ECHO

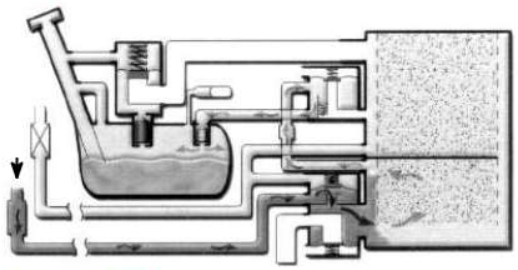


Figure 4. CCV Opens

ECHO

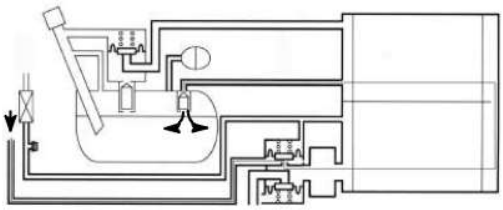


Figure 4. CCV Opens

Bypass VSV Operation P0446

In the next stage, the ECM closes the bypass VSV. This action blocks air entering the tank side of the system. The pressure rise on the fuel tank side is no longer as great. If there was no change in pressure, the ECM will conclude the bypass VSV did not close (see Figure 5).

Except ECHO

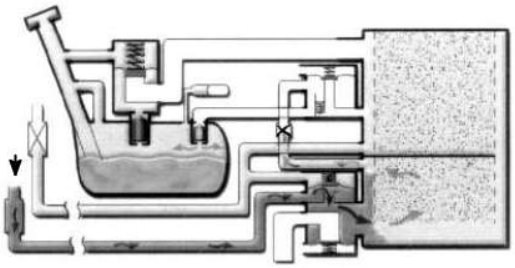


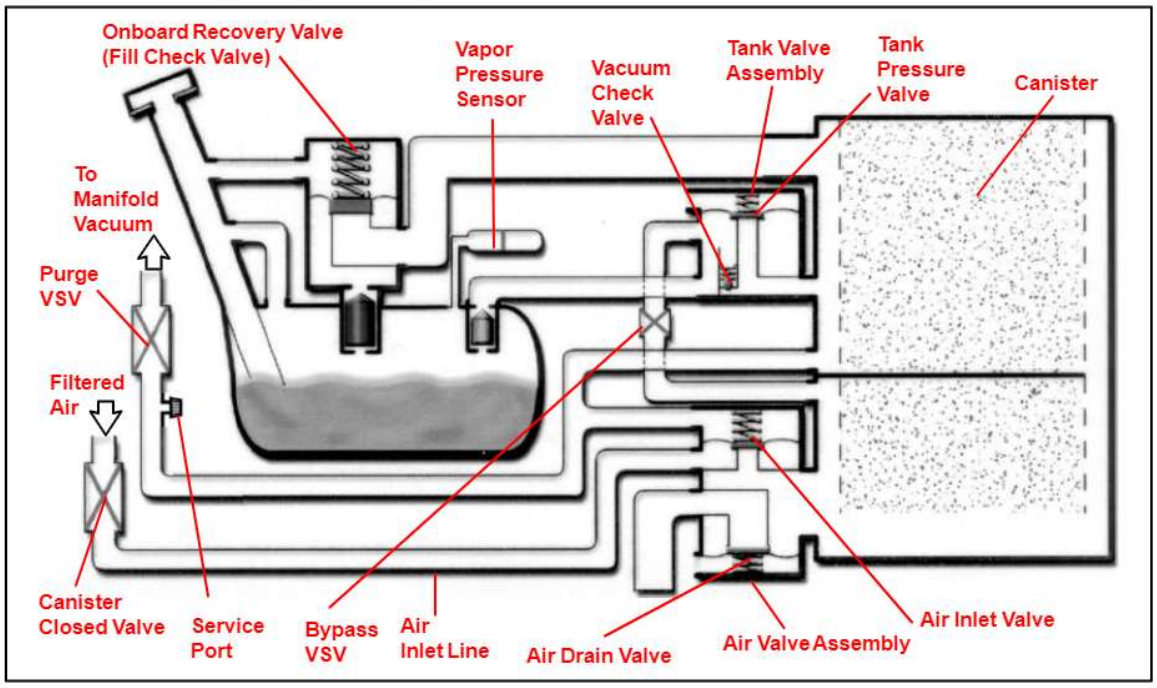
Figure 5. Bypass VSV Closes

Diagnostic Tips for Late Type EVAP System

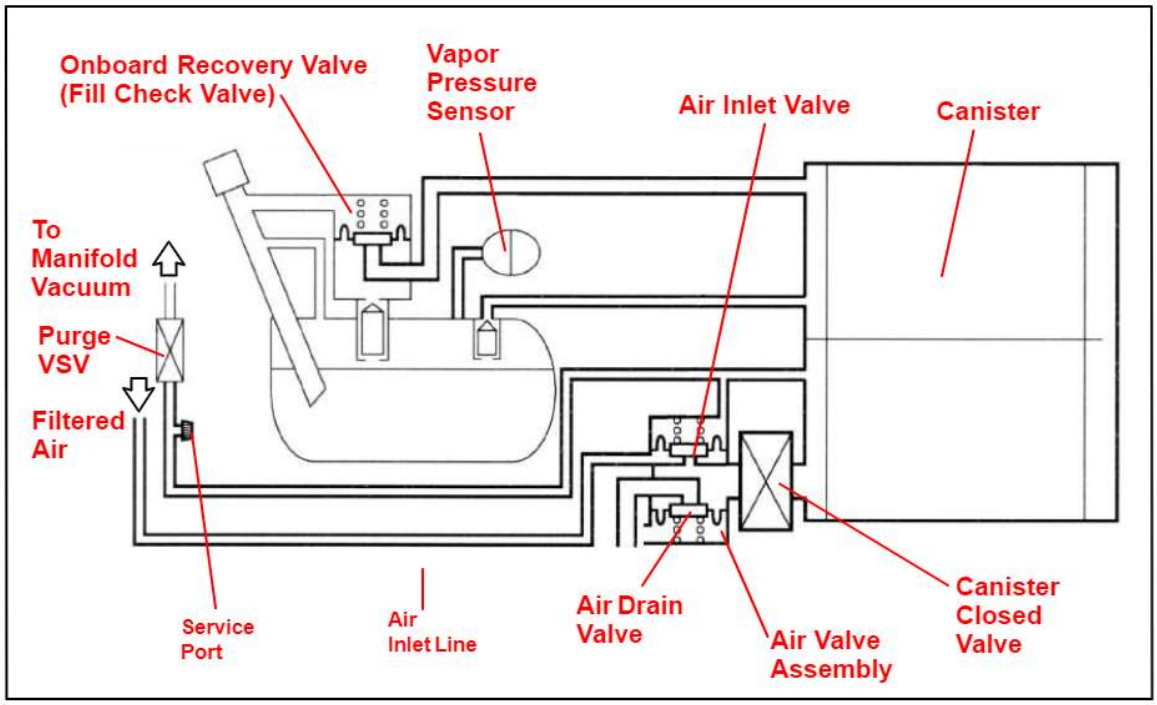
This diagnostic process tests the EVAP System. The following diagnostic tips may be used in conjunction with the Diagnostic Procedures for EVAP DTCs listed in the Repair Manual. They may be used for all Late Type (Intrusive) EVAP Systems and for all EVAP DTCs. Refer to the Applicable Vehicles chart for applicability information.

The EVAP System Pressure Test Kit (P/N 00002–6872A) and the Scan Tool can be used to diagnose the EVAP System. Measuring EVAP System pressures using the EVAP System Pressure Tester Gauge and the Scan Tool can aid in the identification of leaks in the system.

System Outline (Except ECHO)



ECHO System Outline



Diagnostic Tips for Late Type EVAP System (Continued)

Diagnostic Process Flow Chart

START

PRELIMINARY CHECK
- Fuel level should be between 1/4 and 3/4
- Visually inspect for presence of Fuel/Gas Cap

DO NOT TIGHTEN OR REMOVE!

NG → DO NOT PROCEED!

OK

SCAN TOOL SETUP
A) Connect Scan Tool to DLC3 on vehicle.
B) Go to the SETUP menu and select UNIT CONVERSION.
C) Under VAPOR PRESSURE, Select ABS for absolute pressure, and mmHg for millimeters of mercury. This is to match the Repair Manual specifications.
D) Go back to FUNCTION SELECT menu and select ENHANCED OBD II.
E) Select NORMAL MODE. Then select CURRENT DATA and USER SELECT.
F) Using the arrow key, select VAPOR PRESS from the DATA LIST and select YES.
G) Press ENTER. You will now be able to monitor the Vapor Pressure Sensor reading.

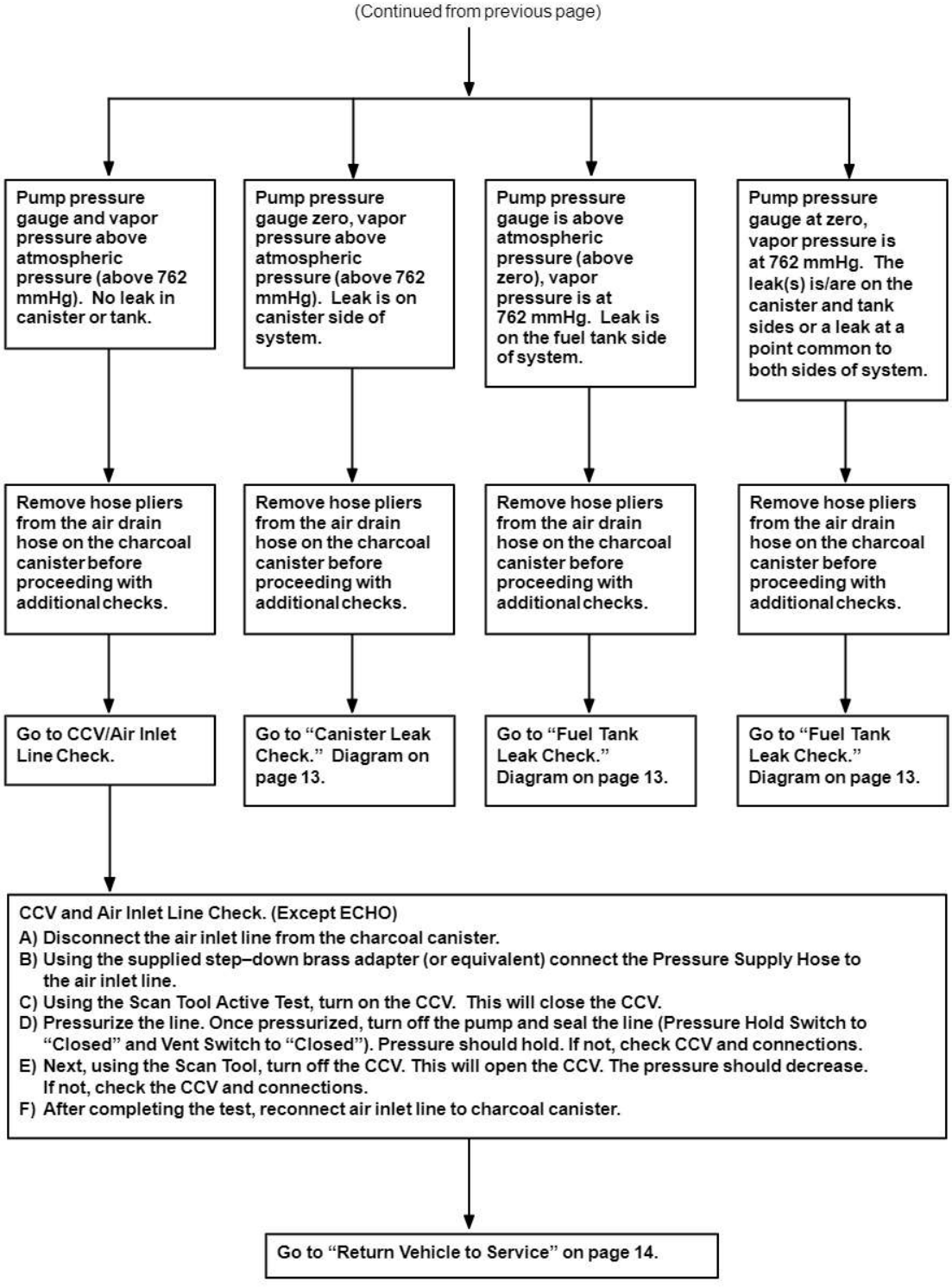
If vehicle is ECHO, go directly to "ECHO Canister and Tank Leak Check" on page 14.
If vehicle is not ECHO, follow the flow chart below.

PRESSURIZE EVAP SYSTEM (System Integrity Check)
This test checks for leaks in the canister and fuel tank sides. The CCV and Air Inlet Lines will be checked separately.
A) Clamp the air drain hose on the charcoal canister with the supplied hose pliers from the EVAP System Pressure Test Kit.
B) Locate the vapor pressure sensor. If the vapor pressure sensor has two hoses connected to it, disconnect the hose between the air drain hose fitting at the vapor pressure sensor and plug the hose.
C) Connect the pressure supply hose from the Pressure Test Kit to the Green EVAP System Service Port located on the EVAP Purge VSV line in the engine compartment.
D) Using the directions on the inside of the EVAP System Pressure Test Kit lid, pressurize the EVAP system. Once pressurized, turn off the pump and seal the system (Pressure Hold Switch to "Closed" and Vent Switch to "Closed).
E) After 30 seconds, note the pump pressure gauge reading and the Scan Tool vapor pressure sensor reading.
F) Compare the readings to one of the four conditions listed below and proceed as directed.

(Continued on following page)

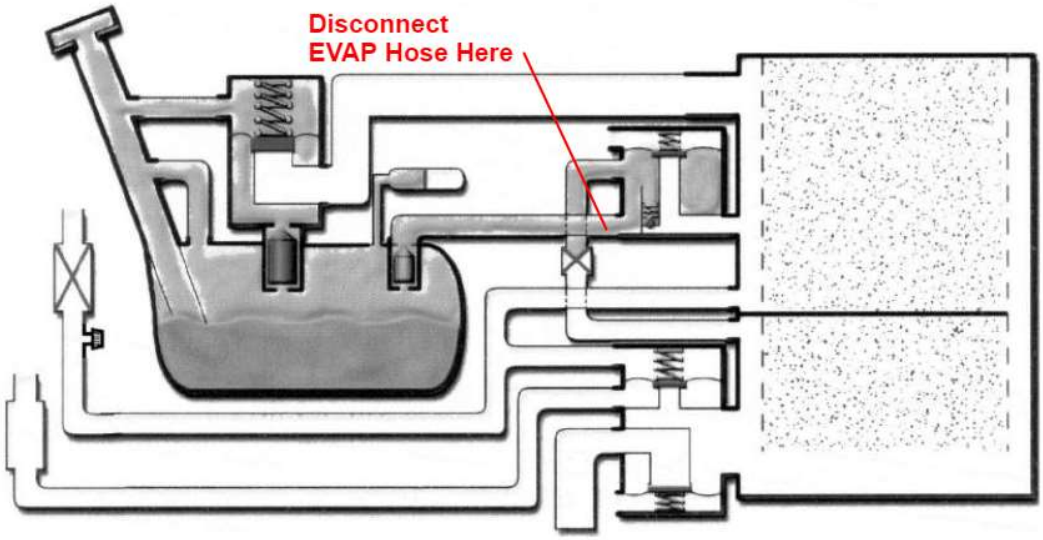
Diagnostic Tips for Late Type EVAP System (Continued)

Diagnostic Process Flow Chart (Continued)



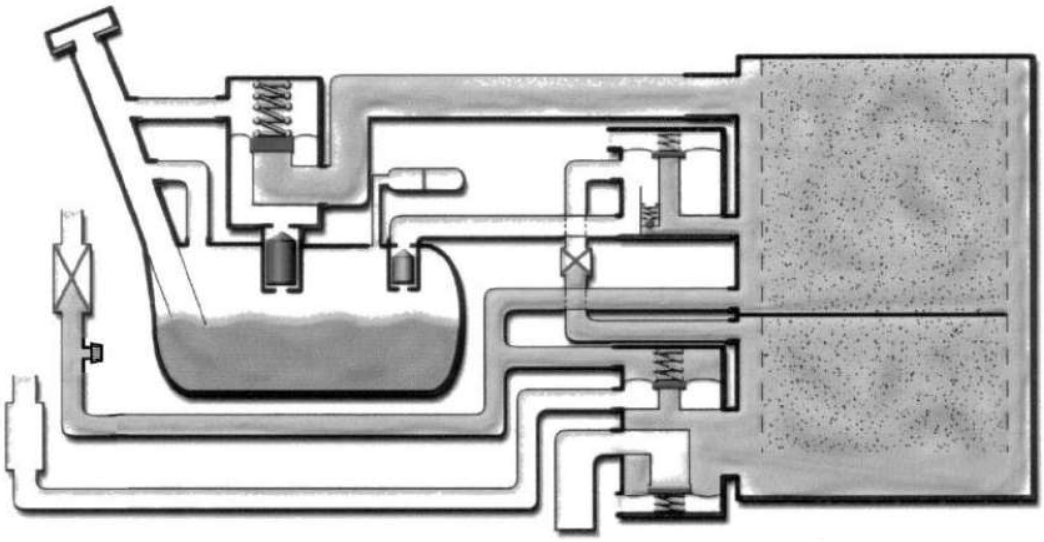
Diagnostic Tips for Late Type EVAP System (Continued)

Fuel Tank Leak Check (Except ECHO)



A. Using the supplied brass step–down adapter, disconnect the EVAP hose from the charcoal canister side as indicated above. Connect Pressure Supply hose from Pressure Test Kit to the EVAP hose and pressurize the fuel tank to 30 mmHg (4 kPa / 0.58 psi).
B. Check that the internal pressure of the tank will hold for 1 minute. Check shaded areas for leaks (soapy water can be used for leak detection). If pressure holds, then perform the Canister Leak Check.
C. When done, reconnect the EVAP line hose to the charcoal canister.

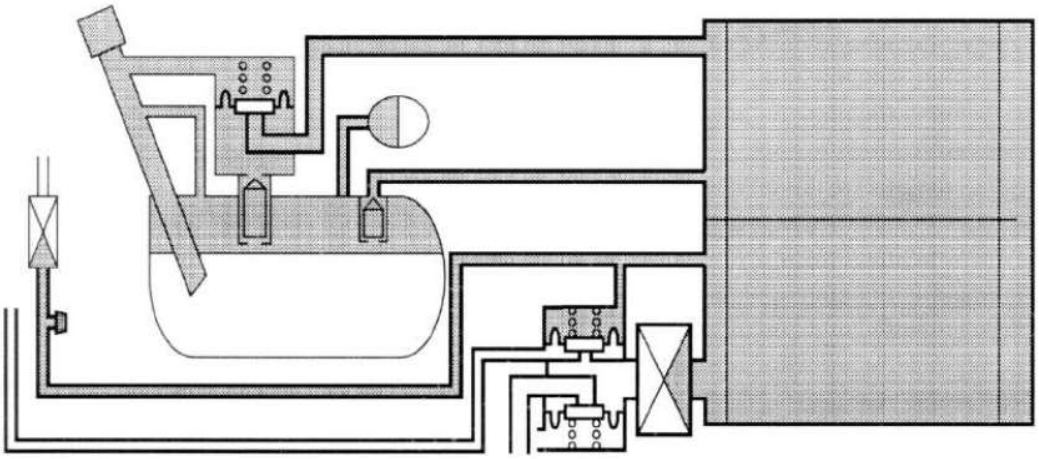
Canister Leak Check (Except ECHO)



A. Connect the Pressure Supply hose from the Pressure Test Kit to the Green EVAP System Service Port located on the EVAP Purge VSV line in the engine compartment.
B. Using the directions on the inside of the EVAP System Pressure Test Kit lid, pressurize the EVAP system. Once pressurized, turn off the pump and seal the system (Pressure Hold Switch to “Closed” and Vent Switch to “Closed”)
C. With system pressurized at EVAP Service Port, check shaded areas for leaks (soapy water can be used for leak detection).

Diagnostic Tips for Late Type EVAP System (Continued)

ECHO Canister and Tank Leak Check



A. Connect the Pressure Supply hose from the Pressure Test Kit to the Green EVAP System Service Port located on the EVAP Purge VSV line in the engine compartment.
B. Using the directions on the inside of the EVAP System Pressure Test Kit lid, pressurize the EVAP system. Once pressurized, turn off the pump and seal the system (Pressure Hold Switch to "Closed" and Vent Switch to "Closed")
C. With system pressurized, check shaded areas for leaks (soapy water can be used for leak detection).

Return Vehicle to Service

A. After performing checks and/or repairs, be sure to reconnect all lines and verify that all plugs and hose pliers used for diagnosis have been removed.
B. For additional diagnostic procedures and information, refer to the appropriate Repair Manual.

TOYOTA

Technical Service BULLETIN

March 22, 2002

Title:

GENERAL MAINTENANCE TIP

Models:

All '93 – '03 Models

TSB

ENGINE

EG007-02

Introduction

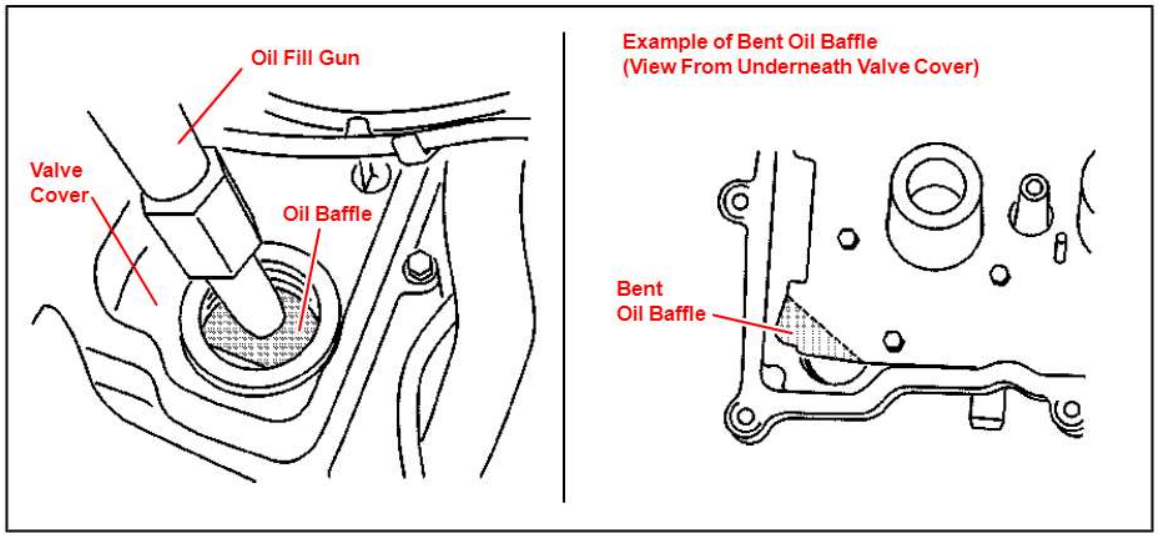
To help prevent unnecessary complications during the oil fill process, no undue load should be placed on the oil baffle attached to the inside of the valve cover (see illustration). This baffle is designed to deflect oil and should not be used to support the weight of heavy oil fill devices. These devices can place stress on the baffle, and bend or break it during the oil fill process.

Applicable Vehicles

- **All 1993 – 2003** model year **Toyota** vehicles.

Oil Filling Procedure

Please take measures to ensure that the baffle is not damaged during the oil fill process. If it does become damaged, repair it before any collateral damage occurs.



Warranty Information

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

TOYOTA

Technical Service BULLETIN

July 12, 2002

Title:

M.I.L. "ON" P0440, P0441 & P0446

Models:

'98 – '99 Camry & Solara

TSB

ENGINE

EG013-02

Introduction

Under certain driving conditions, some 1998 – 1999 model year Camry and Solara vehicles may exhibit a M.I.L. "ON" with DTCs P0440, P0441 and P0446 stored due to an inoperative Vapor Pressure Sensor 3 way Vacuum Switching Valve (VSV). An improved Vapor Pressure Sensor VSV has been developed to correct this condition.

Applicable Vehicles

1998 – 1999 model year **Camry & Solara** vehicles.

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
90910–12109	90910–12271	Vapor Pressure Sensor VSV	1

Required Tools & Material

TOOLS & MATERIAL	PART NUMBER	QUANTITY
Toyota Diagnostic Tester Kit* 	01001271	1
12 Megabyte Diagnostic Tester Program Card with version 9.01a Software (or later)* 	01002593-005	1
Hand Operated Vacuum Pump	N/A	1
Digital Volt Ohm Meter (DVOM)	09082–00050 (Or Equivalent)	1

* Essential SSTs.

NOTE:

Additional Diagnostic Tester Kits, Program Cards or SSTs may be ordered by calling OTC at 1-800-933-8335.

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
178011	R & R Vacuum Switching Valve (4 Cylinder)	0.4	90910–12109	72	83
	R & R Vacuum Switching Valve (6 Cylinder)	0.2			

Applicable Warranty*:

This repair is covered under the Toyota Comprehensive Warranty. This warranty is in effect for 36 months or 36,000 miles, whichever occurs first, from the vehicle's in-service date.

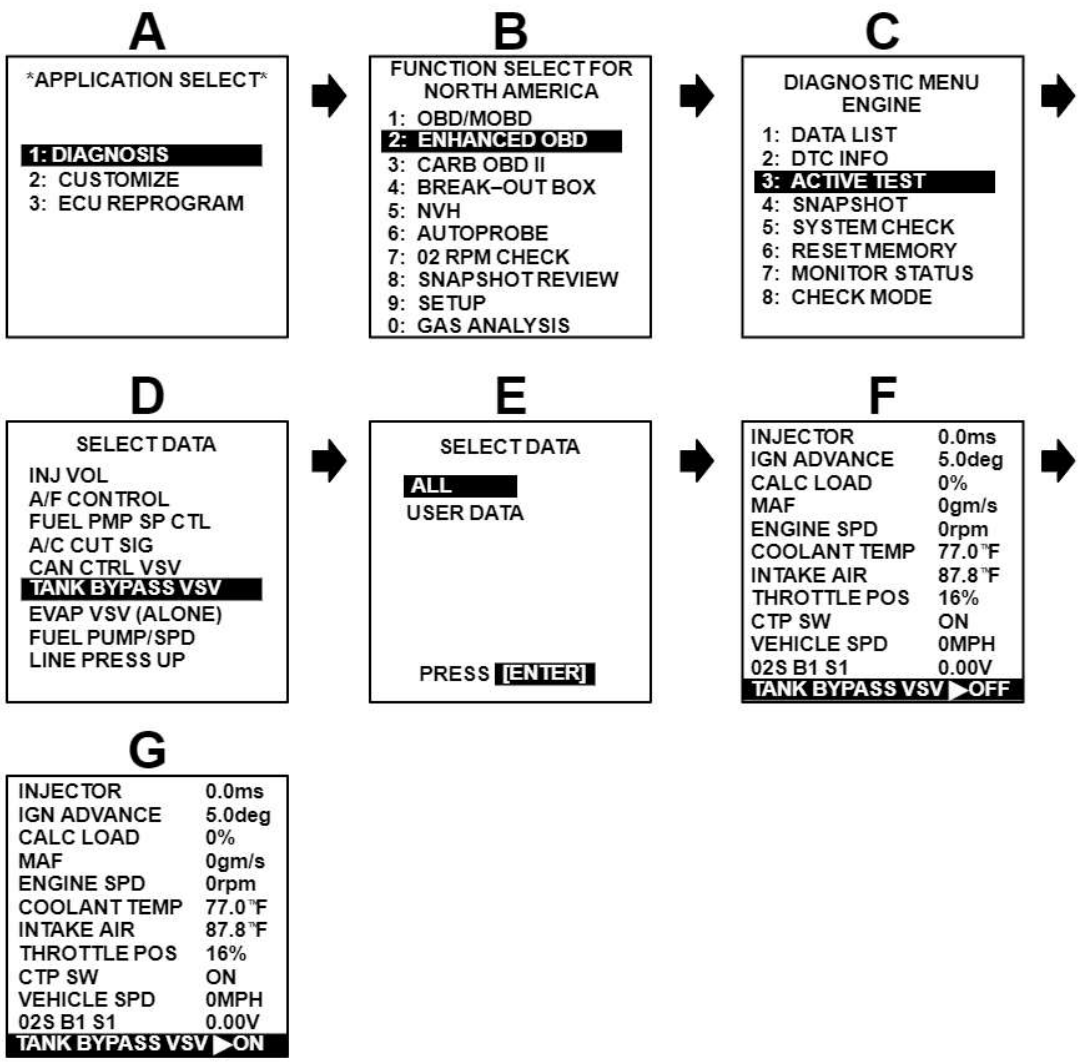
* Warranty application is limited to correction of a problem based upon a customer's specific complaint.

Inspection & Repair Procedure

Test VSV Operation Using ACTIVE TEST on the Toyota Diagnostic Tester

1. Test operation of the Vapor Pressure Sensor VSV using the Toyota Diagnostic Tester in ACTIVE TEST (see screen flow in Figure 1).

Figure 1: Testing Operation of Vapor Pressure Sensor VSV using ACTIVE TEST



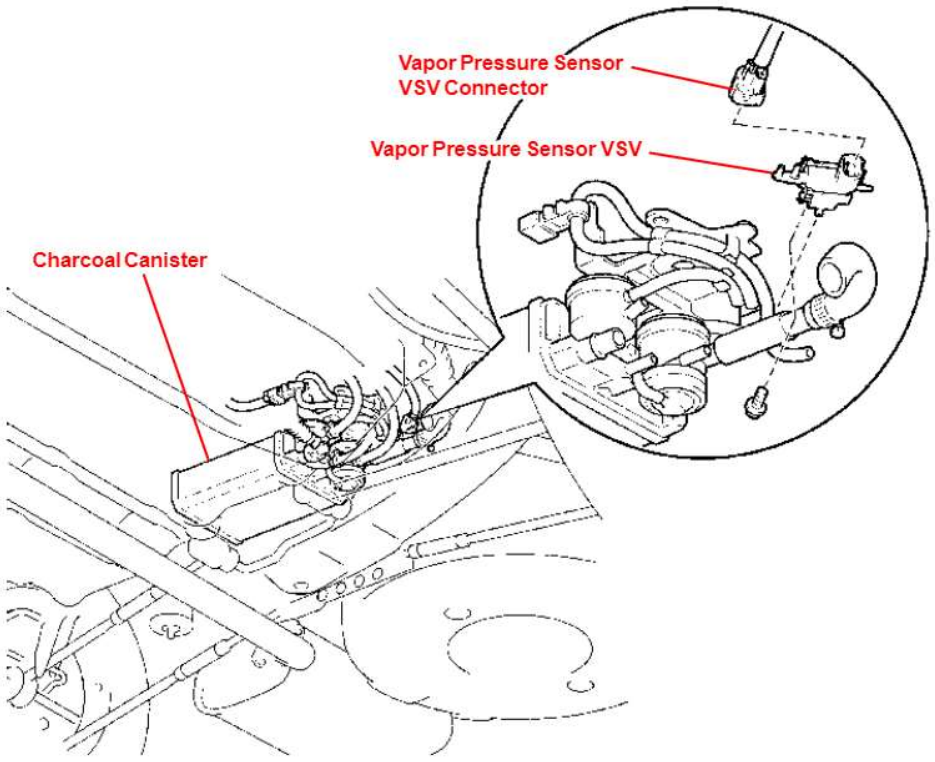
NOTE:

Vapor Pressure Sensor VSV is listed as TANK BYPASS VSV on the Diagnostic Tester.

Inspection & Repair Procedure (Continued)

2. Locate Vapor Pressure Sensor VSV as shown in Figure 2 (or see **SFI** section of 1998 or 1999 Camry or Solara Repair Manual).

Figure 2: Vapor Pressure Sensor VSV Components



3. Using the Diagnostic Tester ACTIVE TEST, switch the Vapor Pressure Sensor VSV (TANK BYPASS VSV) to **ON** using the arrow keys.

4. Does the Vapor Pressure Sensor VSV make a "click" noise when switched to **ON**?
   YES ▶ Go to "Test VSV for Vacuum Leaks" (page 4 and 5 of this TSB).
   NO ▶ Go to Step 5.

5. Is the wiring harness connector properly connected to the Vapor Pressure Sensor VSV?
   YES ▶ Go to Step 6.
   NO ▶ Fix the connector, then return to Step 3.

6. Disconnect the wiring harness connector for the Vapor Pressure Sensor VSV.

7. Using a DVOM test at Pin 1 to a known good ground. (Red wire on Solara, black and yellow wire on Camry).
   Is battery voltage (B+) present at Pin 1 of the Vapor Pressure Sensor VSV connector when the TANK BYPASS VSV ACTIVE TEST is switched to **ON**?
   YES ▶ Go to Step 8.
   NO ▶ Perform diagnosis of power circuit.

Inspection & Repair Procedure (Continued)

8. Using a DVOM test at Pin 2 to a known good ground. The ECM provides ground when the VSV is switched **ON**. (White and red wire on Solara, violet wire on Camry).

   Is there continuity to ground at Pin 2 of the Vapor Pressure Sensor VSV connector when the TANK BYPASS VSV ACTIVE TEST is switched to **ON**?

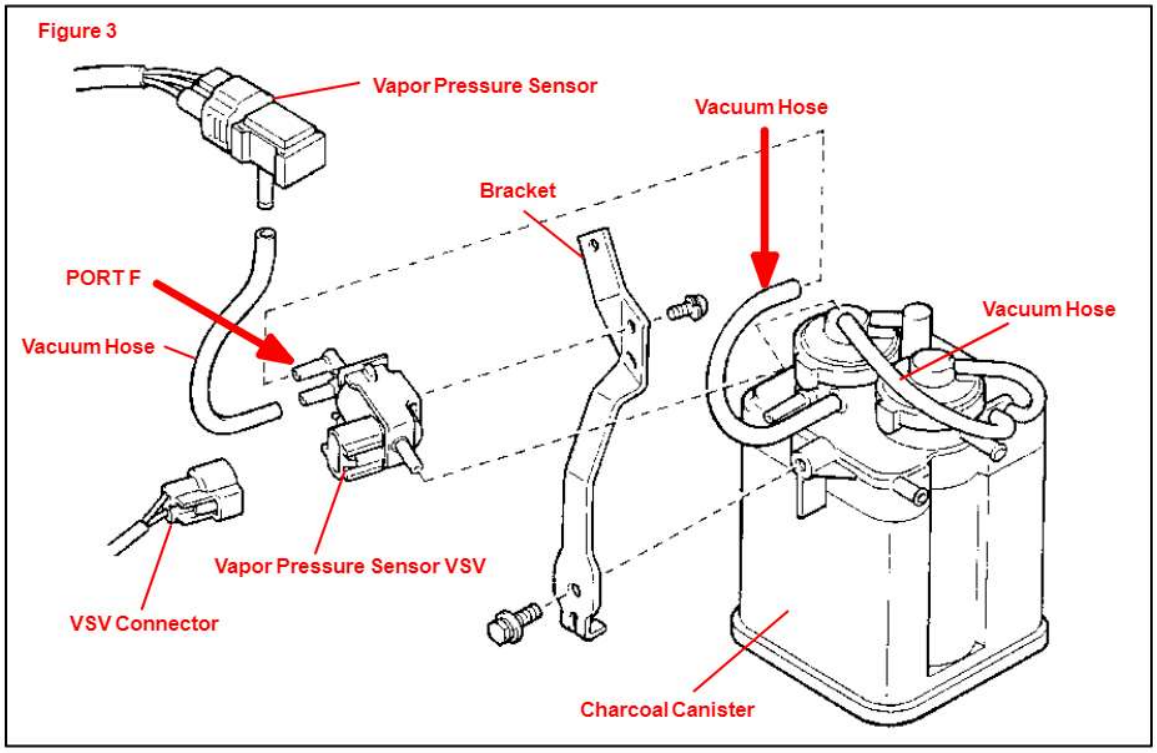
   YES ▶ Replace the Vapor Pressure Sensor VSV.

   NO ▶ Perform diagnosis of ground circuit.

Test VSV for Vacuum Leaks

1. Locate the vacuum hose going from charcoal canister to Port F of the Vapor Pressure Sensor VSV (see Figure 3).

Figure 3



2. Remove vacuum hose from Port F of the Vapor Pressure Sensor VSV and connect a hand–held vacuum pump to Port F using a short length of vacuum hose.

3. Apply at least 10 mm Hg vacuum to the VSV.
   Is a vacuum held for at least 1 minute?

   YES ▶ Go to Step 4.

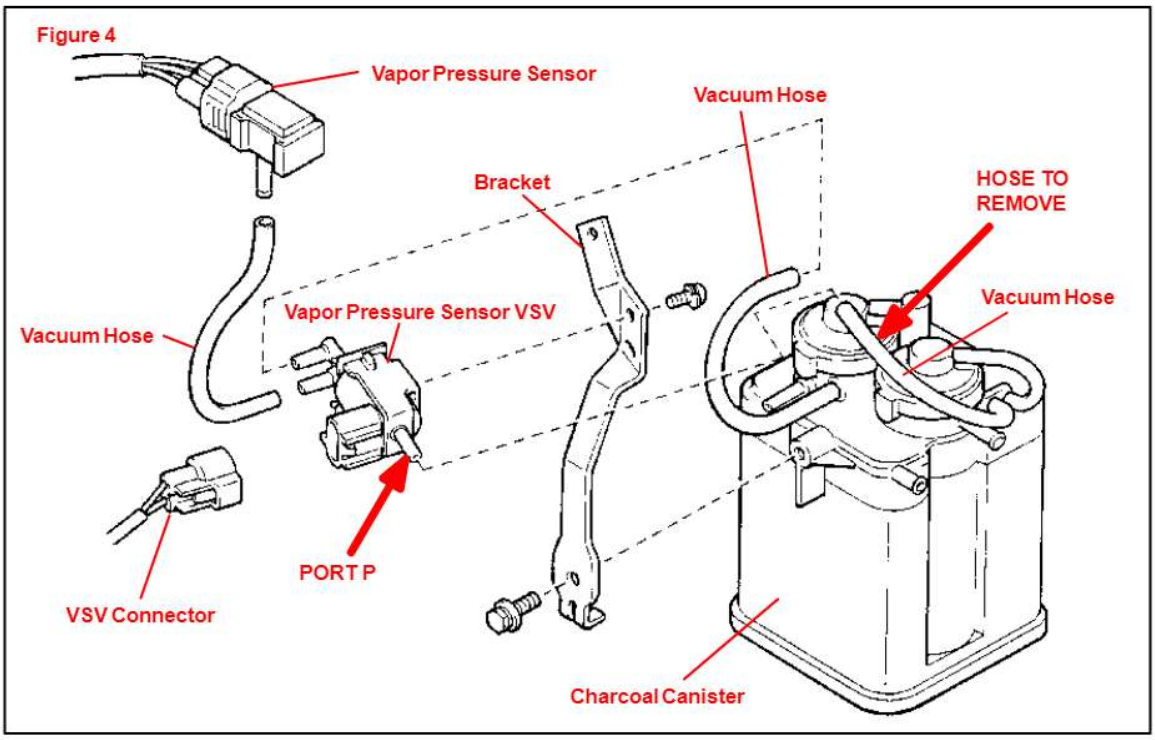
   NO ▶ Replace the Vapor Pressure Sensor VSV.

4. Disconnect the hand–held vacuum pump and reconnect the vacuum hose from the canister to the Vapor Pressure Sensor VSV.

Inspection & Repair Procedure (Continued)

5. Locate the vacuum hose going from charcoal canister to Port P of the Vapor Pressure Sensor VSV (see Figure 4).

Figure 4



6. Remove the vacuum hose from Port P of the Vapor Pressure Sensor VSV and connect a hand–held vacuum pump to Port P using a short length of vacuum hose.

7. Apply at least 10 mm Hg vacuum to the VSV.
   Is a vacuum held for at least 1 minute?
   YES ▶ Go to Step 8.
   NO ▶ Replace the Vapor Pressure Sensor VSV.

8. Disconnect the hand–held vacuum pump and reconnect the vacuum hose from the canister to the Vapor Pressure Sensor VSV.

9. Continue diagnosis of the EVAP system.
   Reference TSB EG005–01, "EVAP System Operation Information."

TOYOTA

Technical Service BULLETIN

December 17, 1999

Title:

SINGLE CYLINDER MISFIRES

Models:

'99 Avalon, Camry, Sienna & Solara

TSB

ENGINE

EG013–99

Introduction

Some 1999 Avalon, Camry (1MZ–FE), Sienna & Solara (1MZ–FE) vehicles may exhibit a rough idle, and or a M.I.L. "ON" condition, in which a single cylinder misfire code, or codes are present. Changes have been made in the fuel injector production process to correct this condition.

Applicable Vehicles

- **1999** TMMK produced **Avalon, Camry (1MZ–FE), Sienna &** TMMC produced **Solara (1MZ–FE) vehicles** built between the VIN numbers listed below.

MODEL	STARTING VIN	ENDING VIN
Avalon	4T1BF1#B * XU298504	4T1BF1#B*XU319557
Camry	4T1BF2#K * XU076403	4T1BF2#K*XU081214
Camry (cont.)	4T1BF2#K * XU930024	4T1BF2#K*XU931330
Sienna	4T3ZF1#C * XU090887	4T3ZF1#C*XU122589
Solara (U.S.)	2T1CF2#P * XC111083	2T1CF2#P*XC757508
Solara (Canada)	2T1CF2#P * XC744113	2T1CF2#P*XC162681

Parts Information

APPLICABLE PARTS	QUANTITY	PART NAME
23209–0A010	6	Fuel Injector

Warranty Information

OP CODE	VWC	DESCRIPTION	TIME	OPN	T1	T2
895221	N	R & R Fuel Injector Assembly – All	1.8	23209–0A010	02	56

Applicable Warranty*:

This repair is covered under the Toyota Federal Warranty. This warranty is in effect for 36 months or 36,000 miles, whichever occurs first, from the vehicle's in–service date. Coverage is extended to 36 months or 50,000 miles, whichever occurs first, in the states of California, Massachusetts, and Vermont due to state emission warranty legislation.

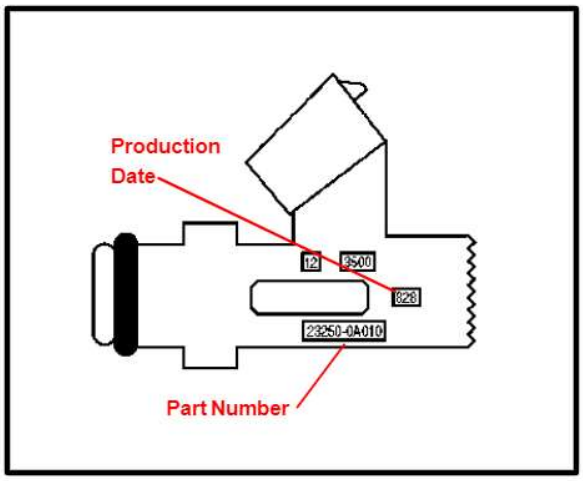
* Warranty application is limited to correction of a problem based upon a customer's specific complaint.

NOTE:

Be sure to enter the DTC No. in the Condition/Cause/Remedy section, if a DTC Code appeared.

Repair Procedure

1. Remove all six fuel injectors for verification of production information. Affected injectors will be labeled with a vendor part number of "23250–0A010" and have a production date code number of "828" or lower (see illustration for number locations).
2. After determining that one or more of the injectors are affected, replace all six injectors with the above applicable part number.
3. Clear the DTC, if present, and verify that the vehicle now operates as designed.



TOYOTA

Technical Service BULLETIN

October 1, 1999

Title:

M.I.L. "ON" DTC P1133

Models:

'97–'99 Camry and '99 Solara: 5S–FE CA Spec.

TSB

ENGINE

EG009–99

Introduction

Under certain driving conditions, some 5S–FE equipped 1997–1999 Camry and 1999 Solara California emission specification vehicles may exhibit a M.I.L. "ON" DTC P1133. An improved Air Fuel Ratio Sensor has been developed to correct this condition.

Applicable Vehicles

- **1997 – 1999 Camry & 1999 Solara (5S–FE) with California emission specification.**

Production Change Information

MODEL YEAR	ORIGIN	ENGINE	STARTING VIN
1999 Camry	JPN	(5S–FE)	JT2BG2#K*X0363615
	NAP		4T1BG2#K*XU603913
			4T1BG2#K*XU918675
2000 Solara			—

* # May be a 2 or an 8.

* * May be any number from 0 to 9 or an X.

Parts Information

PREVIOUS PART NUMER	CURRENT PART NUMBER	PART NAME
89467–33010	89467–33011	Sensor, Air Fuel

Repair Procedure

- Should a M.I.L. "ON" condition with DTC P1133 be encountered, perform diagnostic procedures as described in the Repair Manual.
- If the problem source cannot be identified after checking all affected areas according to the Repair Manual, the cause may be an Air/Fuel Ratio Sensor malfunction. In this case, replace the Air/Fuel Ratio Sensor with the updated part.
- If the Exhaust Manifold threads are damaged by removal of the sensor, they can be repaired by the proper use of a M18 x 1.5 tap.

Warranty Information

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
EL9006	Sensor, Air Fuel Ratio	0.3	89467–33010	99	99

Applicable Warranty*:

This repair is covered under the Toyota Basic Warranty. This warranty is in effect for 36 months or 36,000 miles, whichever occurs first, from the vehicle's in–service date. Coverage is extended to 36 months or 50,000 miles, which ever occurs first, in the states of California and Massachusetts due to state emissions warranty legislation.

NOTE:

Please enter the DTC in the condition/Cause/Remedy section when applying for warranty reimbursement.

* Warranty application is limited to correction of a problem based upon a customer's specific complaint.

Toyota Supports ASE Certification

TOYOTA

Technical Service BULLETIN

Apirl 10, 1998

Title:

CIGARETTE LIGHTER SERVICE

Models:

All Models

TSB

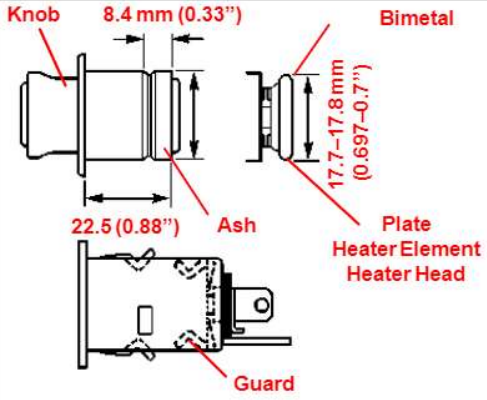
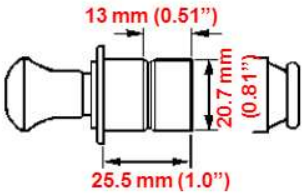
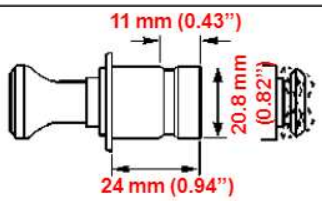
ELECTRICAL

EL002–98

Introduction When receiving customer complaints to repair the lighter or lighter socket, please carefully investigate the cause of the failure to prevent further occurrences. If the customer uses the wrong size lighter element or power accessory plug, damage may occur to the lighter socket. When applicable, instruct the customer to replace the lighter element with original equipment components or to use an appropriate sized accessory plug. Dimensional information included within this document will instruct you on component specifications.

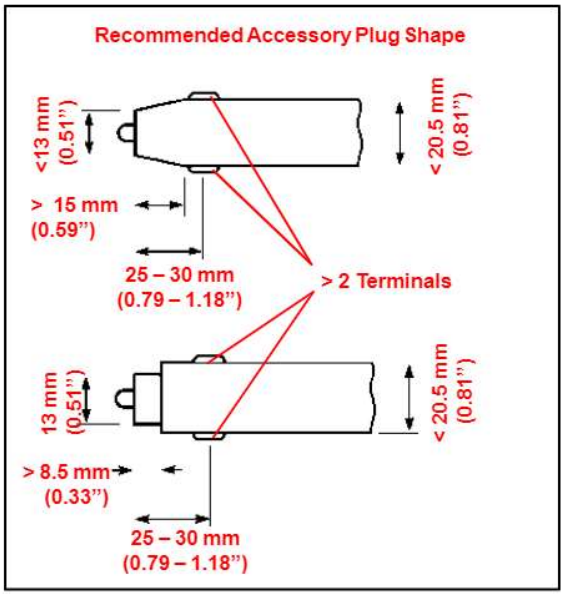
Service Procedure

1. Determine if the lighter is original equipment by using the specifications shown.
   a. If the vehicle has a non–genuine lighter element, it has the possibility to cause a short circuit between the lighter element and the lighter socket, which can result in an open fuse.
   b. A non–genuine lighter element may cause a rattle or bend the socket bimetal contacts.
   c. If a non–genuine lighter element is being used, advise the customer to use an original equipment element.

TYPE	DRAWING WITH DIMESIONS	FEATURES
Genuine		No Problem to use.
Non–Genuine		Too long an ash guard will contact bimetal (positive circuit) plate and cause fuse to melt.
		Excessive free play on the heater head which allows contact between heater element, socket body and bimetal plate, will cause fuse to melt.

Service Procedure (Continued)

2. If the lighter element is original equipment and the lighter socket is bent or pulled out of the dash, please ask the customer about the accessory plug being used in the lighter socket.
    a. The attached specifications in the drawing provide the maximum recommended size of accessory plug. If the customer is using an accessory plug larger than recommended, please advise the customer to use a plug of appropriate size.
    b. Using a power plug larger than the given dimensions may damage the lighter socket.
    c. If the vehicle has a power point socket, advise the customer to use this socket instead of the lighter socket.



Affected Vehicles

- **All** models, **all** model years

Warranty Information

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

TOYOTA

Technical Service BULLETIN

~~*February 11, 2000*~~
December 13, 2002

Title:

SPEEDOMETER/TACHOMETER NEEDLE MOVEMENT

Models:

'99 – '00 Camry, Corolla, Sienna, & Solara & '00 Avalon

TSB

REVISED EL003–00 ELECTRICAL

TSB REVISION NOTICE:

The information contained in this TSB was revised on December 13, 2002. The previous TSB should be discarded.

Introduction

Some vehicles may experience a slight, intermittent resistance to movement of the speedometer or tachometer needle near zero during the first few miles of travel. The condition can be corrected by following the repair method outlined below.

NOTE:

This repair does not apply to speedometers or tachometers which are permanently inoperative.

Applicable Vehicles

- **1999 – 2000** model year **Camry, Corolla, Sienna, & Solara,** and **2000** model year **Avalon** between the following VINs:

MODEL	STARTING VIN	ENDING VIN
Avalon	4T1BF28B * YU001171	4T1BF28B * YU030913
Camry	4T1BG2 * K * XU424095	4T1BG2 * K * YU657647
	4T1BG2 * K * XU869714	4T1BG2 * K * YU957337
	4T1BF2 * K * XU077249	4T1BF2 * K * YU098224
	4T1BF2 * K * XU930237	4T1BF2 * K * YU940492
Corolla	1NXBR1 * E * XZ171600 ~~1NXBR1 * E * XC171600~~	1NXBR1 * E * YZ359500 ~~1NXBR1 * E * YC359500~~
	2T1BR1 * E * XC120816	2T1BR1 * E * YC291439
Sienna	4T3 * F1 * C * XU096570 ~~4T3 * F1 * CZ * XU096570~~	4T3 * F1 * C * YU236332 ~~4T3 * F1 * CZ * YU236332~~
Solara	2T1 * * 2 * P * XC122747	2T1 * * 2 * P * YC291165

Warranty Information

OP CODE	MODEL	DESCRIPTION	TIME	OFP	T1	T2
830011	Avalon, Camry, Corolla, Sienna, & Solara	R & R Speedometer Assembly	0.4	83220–XXXXX	73	83

Applicable Warranty*:

This repair is covered under the Toyota Basic Warranty. This warranty is in effect for 36 months or 36,000 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.

SPEEDOMETER/TACHOMETER NEEDLE MOVEMENT – EL003-02 Revised: December 13, 2002 ~~February 11, 2000~~

Parts Information

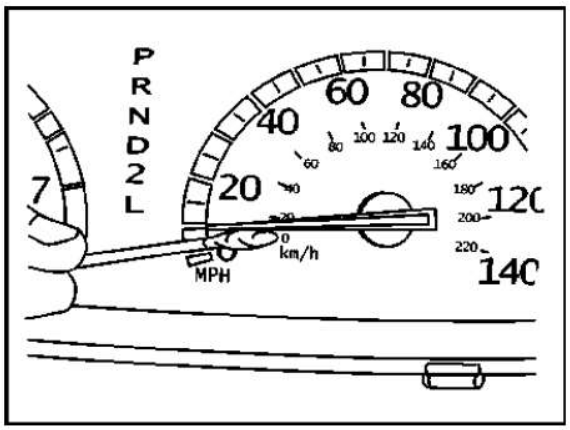
PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
83220-XXXXX	Same	Speedometer
		Tachometer

Required Tools & Material

TOOLS & MATERIALS	QUANTITY
Double Sided Cotton Swab	1
Distilled Water	1 oz.

Repair Procedure

1. Remove the combination meter assembly per repair manual instructions.
2. Remove the window plate from the instrument cluster.
3. Clean the entire surface of the needle and needle stopper as illustrated. Using one end of a double sided cotton swab, clean the contact point between the pointer and the stopper pin on the speedometer and tachometer with distilled water.
   - Use only a **new**, **clean** cotton swab.
   - Use only **distilled** water.
   - Use a new swab each time a part is cleaned (one per speedometer, one per tachometer).



NOTE:
- **After cleaning, do not touch the pointer needle or stopper pin.**
- **Do not blow dry the pointer or stopper pin.**

4. Use the opposite (dry) end of the cotton swab to dry the previously cleaned area.
5. Reassemble parts and assemble to vehicle.
6. Confirm proper working condition of speedometer and tachometer.
   - Confirm no foreign material entered the cluster while the window plate was removed.

TOYOTA

Technical Service BULLETIN

October 8, 1999

Title:

ENGINE IMMOBILIZER SYSTEM PRECAUTIONS

Models:

All Models

TSB

ELECTRICAL

EL006–99

REVISION NOTICE:

The information contained in this TSB updates EL001–98 dated January 23, 1998.

Introduction

This bulletin applies to 1998 and newer Toyota vehicles. When using an immobilizer key containing a transponder chip, observe the following precautions while starting the engine.

1. The key ring should **not** rest on or be pressed against the key grip.



2. Do **not** place any other transponder devices on the same key ring. Such devices would include transponder equipped units used for charging fuel.



3. Do **not** place any other immobilizer keys on the same key ring with the key used to start the vehicle.
4. If the above precautions are not observed and an engine starting or running problem occurs, remove all items which may interfere with the ignition key transponder signal. Turn off the engine and then restart.



Applicable Vehicles

- **All Toyota models equipped with an engine immobilizer system.**

Warranty Information

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

Toyota Supports ASE Certification

TOYOTA

Technical Service BULLETIN

April 14, 2000

Title:

HEATER CONTROL ASSEMBLY INSTRUCTIONS

Models:

'97 – '99 Camry

TSB

ELECTRICAL

EL007–00

Introduction

The attached instructions have been developed to supplement the Repair Manual to assure corrrect cable routing of the heater control assembly during a service repair.

PUBLICATION	NUMBER
1997 Camry Repair Manual, Vol. 2	RM503U2
1998 Camry Repair Manual, Vol. 2	RM589U2
1999 Camry Repair Manual, Vol. 2	RM654U2

NOTE:

For maximum heater performance the coolant ratio should be 50 to 60 percent.

Applicable Vehicles

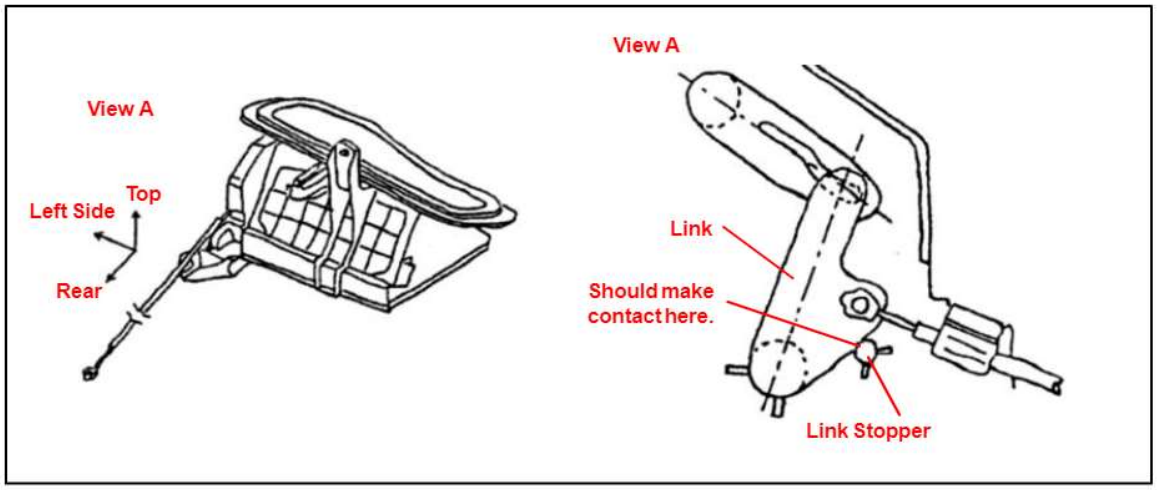
- **1997 – 1999** model year **Camry**

Warranty Information

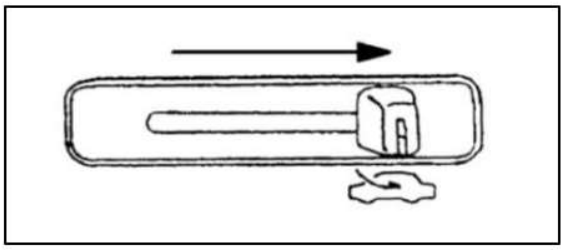
OP CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Installation Procedure

A. Pull out the inner cable of the REC/FRE cable until the link of the A/C unit contacts the link stopper.

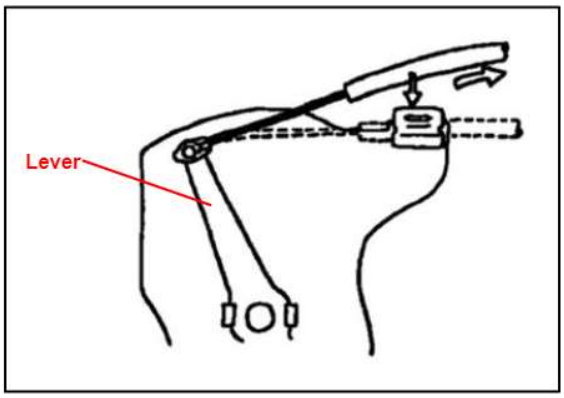


B. Set the air intake selector of the heater control unit all the way to the "FRESH" position.



C. Attach the REC/FRE cable to the heater control unit lever pin and clamp the outer cable to the secure clamp.

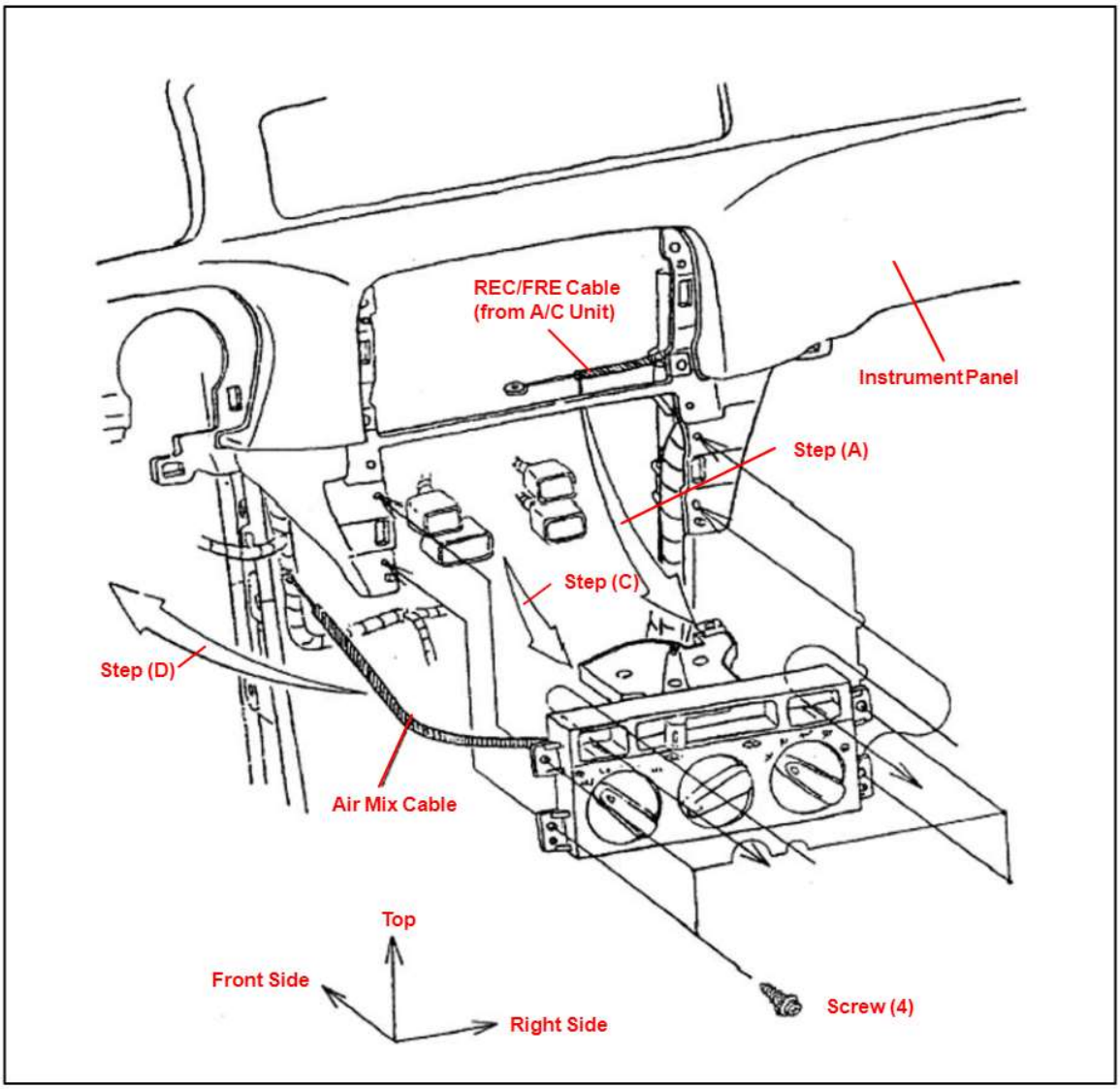
NOTE:
Clamp the cable while pushing the outer cable to the A/C unit assembly side.



Installation Procedure (Continued)

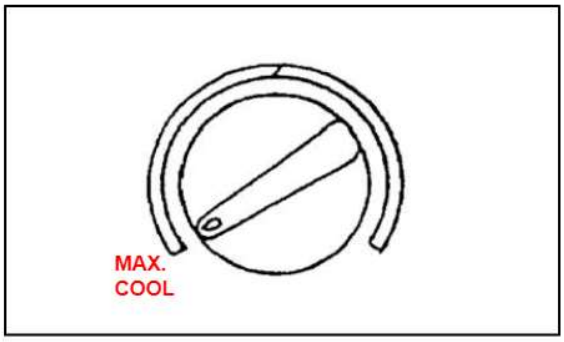
D. Install the heater control panel to the instrument panel with 4 screws.

NOTE:
Make sure air mix cable is routed outside of the brace.

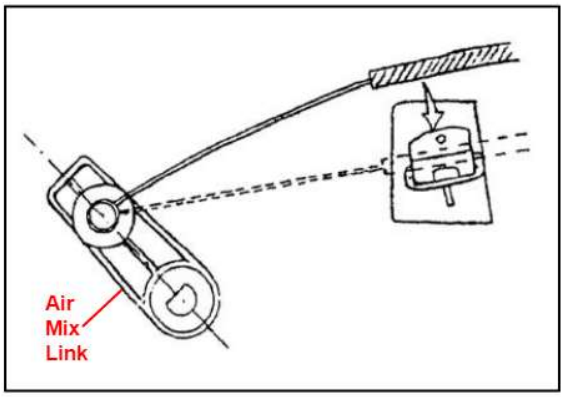


Installation Procedure (Continued)

E. Set the temperature selector of the heater control unit to the "MAX. COOL" position.



F. Connect the air mix cable connector to the air mix link pin on the left side of the A/C unit and clamp the outer cable to the secure clamp.



NOTE:

- **It is unnecessary to push or pull the outer cable.**
- **Do not bend the cable when setting the cable.**
- **Do not move the air mix knob until you are finished clamping the outer cable.**

Inspection Procedure

1. **Rotary Knob For Temperature Control**

   Operate the temperature control rotary knob after setting the cables, check that there is a "thump" at the end of the travel, and no reversing force at "MAX. COOL" or "MAX. HOT" position.

2. **Air Inlet Lever**

   Operate air inlet lever after setting the cable and check that there is a "click" at the end of the travel and no reversing force at "RECIRCULATE" and "FRESH" positions.

3. **Blower Switch, Air Flow Mode Switch & A/C Switch**

   Operate each switch and make sure they are operating correctly.

TOYOTA

Technical Service ***BULLETIN***

December 4, 1998

Title:

PROGRAMMING OEM WIRELESS DOOR LOCK REMOTE TRANSMITTERS

Models:

'97 – '99 Camry

TSB

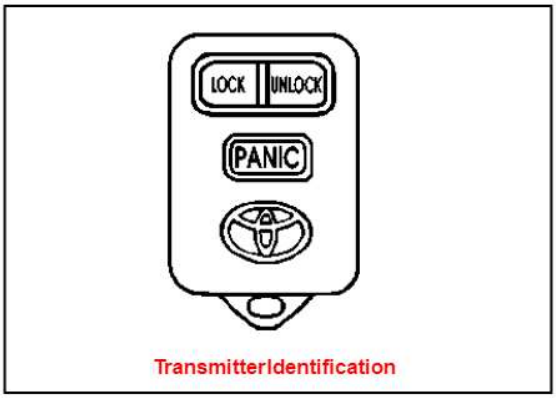
ELECTRICAL

EL008–98

Introduction

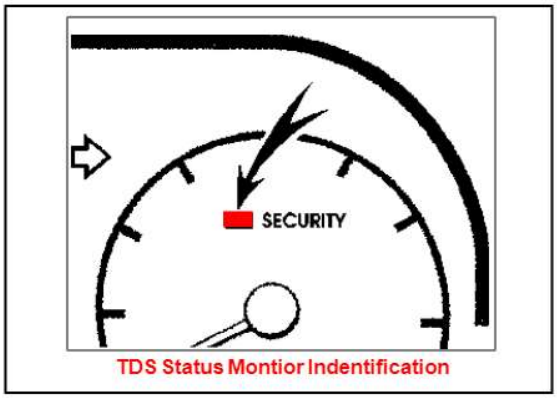
This bulletin describes procedures used to program the three button remote transmitter to vehicles that are equipped with Wireless Door Lock Control. The following information applies *only* to the *Factory* Wireless Door Lock Control, not dealer or port installed options that also utilize remotes, such as VIP Keyless Entry/RS3000 or any aftermarket system.

Verification of *Factory* Wireless Door Lock Control can easily be performed by identifying the TDS status monitor, functioning remote, or model grade.



TransmitterIdentification

- The Remote Transmitter has LOCK, UNLOCK, and PANIC features.



TDS Status Montior Indentification

- The TDS Status Monitor is located in the Tachometer.

NOTE:

When a new remote is programmed, all previous codes are erased. Because of this, all remotes should be entered during the same programming session, otherwise a remote may no longer be registered and operate the vehicle.

For Customer Satisfaction, request that any existing remote be furnished when programming a new or replacement unit.

Applicable Vehicles

- **1997 – 1999 Camrys:**
  1997 – 1998 All **XLE** (standard equipment) and some **LE** (optional)
  1999 All **XLE** only

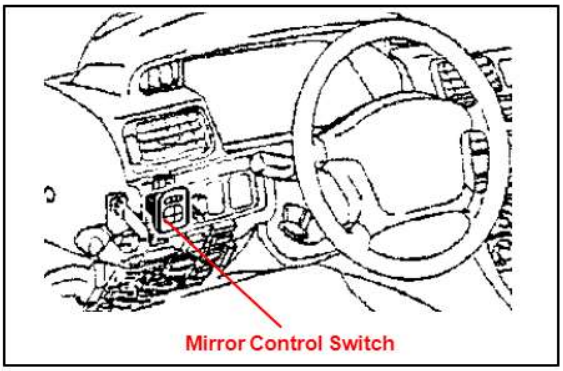
Warranty Information

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

PROGRAMMING OEM WIRELESS DOOR LOCK REMOTE TRANSMITTERS – EL008–98 December 4, 1998

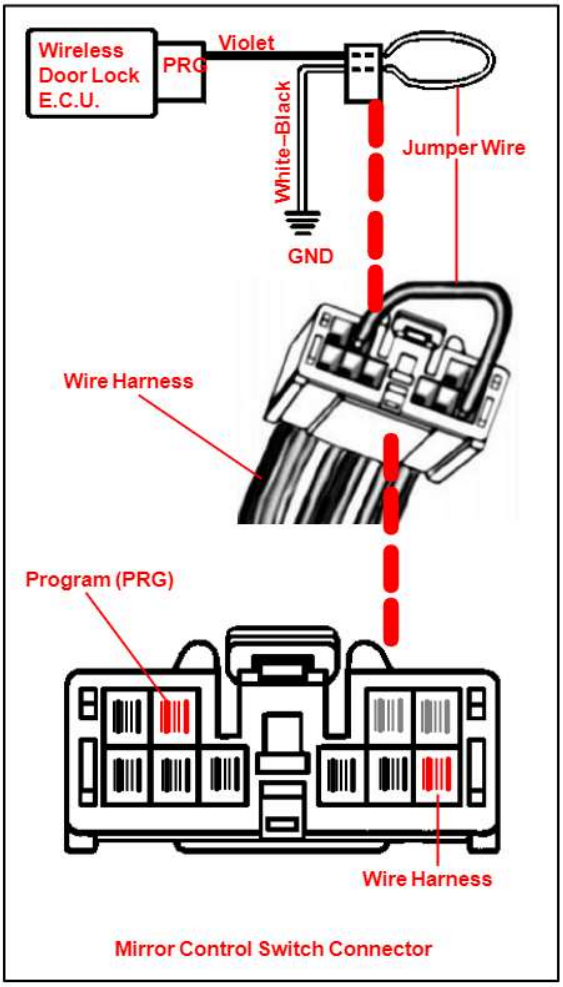
Programing Procedure

The PRG (Program) circuit of the Wireless Door Lock ECU is grounded to perform programming. This can be accomplished at a satellite location, the Mirror Control Switch (see illustration).



NOTE:
Up to two remotes can be programmed to operate each vehicle.

1. With the key **OUT** of the ignition switch, locate and disconnect the Mirror Control Switch from the vehicle harness.
2. Using a suitable jumper wire, connect terminal number 2, **PRG** (violet wire) to terminal number 10, **GND** (white/black) of the 10 cavity mirror control switch connector (illustrated). The vehicle confirms programming mode by requesting the power door locks to lock.
3. Depress, then release, any button on the remote. The vehicle confirms registration by requesting the power door locks to lock once again.
4. To program an additional remote, repeat step 3.
5. Disconnect the jumper wire to exit programming mode.



TOYOTA

Technical Service BULLETIN

December 20, 2002

Title:

WIRELESS TRANSMITTER & PROGRAMMING GUIDE

Models:

All Applicable

TSB

REVISED

EL008-02

ELECTRICAL

TSB REVISION NOTICE:

- **February 28, 2003: In Wireless Transmitter Identification section (pages 5 and 6), Figures 5, 9, 10, 12, and 13 updated to include 2003 model year; Figure 11 updated to include 1999 and 2003 model year.**
- **January 17, 2003: 2003 model year added to Solara in the Application Chart on page 3.**
- **The information contained in this TSB supercedes TSB EL010–01, dated October 26, 2001. The previous TSB, EL010–01, should be discarded.**

Introduction

Difficulties during Remote Keyless Entry Transmitter Programming can arise due to confusion between Toyota Factory Wireless systems and Toyota Port/Dealer installed systems. This bulletin will assist in identifying the system/correct remote transmitters for each vehicle, and provide the location of the most accurate programming procedure for each system.

Applicable Vehicles

- All applicable **Toyota** vehicles.

Warranty Information

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

System Identification

The following table contains all of the necessary information to correctly identify the type of system installed, and where to go to get programming procedures for each vehicle.

NOTE:

Should a vehicle having both VIP and Factory systems available (as identified in the following table) be brought in without any remotes (or one non–working remote), use the following tips to help determine which type of wireless system (O.E. or PIO/DIO) the vehicle has.

- **Look at the Trim Level of the vehicle. Higher–grade vehicles will tend to have O.E. systems, while entry–grade vehicles will tend to have VIP. For example, the 2001 Camry XLE has Factory RKE, but the LE and CE grades have VIP.**
- **Look for a "Status Monitor" with a glass breakage sensor and an LED externally installed into the dashboard or on the center console. Most VIP systems will have this.**
- **Locate the ECU (refer to the applicable vehicle VIP Manual installation instructions for location). Once located, refer to the part label.**
- **Attempt to perform the factory wireless programming procedure to get a response from the vehicle. Select the "confirmation mode" and see if any "Lock/Unlock" response is received, if so, the vehicle has a factory system.**

Application Chart

APPLICATION		DEALER/PORT INSTALLED		FACTORY INSTALLED	
VEHICLE	YEAR	SYSTEM/REMOTE	PROGRAMMING	FACTORY REMOTE	PROGRAMMING
Avalon	1995	TVSS / Fig. 2 *1	TVSS Owner's Guide	Fig. 8	TSB – EL003–99
	1996 – 1997	RS3000 / Fig. 3	TSB – AX005–99		
	1998 – 1999	RS3000 / Fig. 4		Fig. 9 *2	
	2000 – 2001	RS3200 / Fig. 5	2000 VIP Manual *6		RM 02 V2, BE–99
	2002 – 2003	N/A	N/A		TSB – EL004–01
Camry	1990 – 1994	TVSS / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TVSS / Fig. 2 *1			
	1996	RS3000 / Fig. 3	TSB – AX005–99		
	1997			Fig. 7	TSB – EL008–98
	1998 – 1999	RS3000 / Fig. 4			
	2000 – 2001	RS3200 / Fig. 5 or 6 *7	2000 VIP Manual *6	Fig. 11	RM 01 V2, BE–86
	2002 – 2003			Fig. 9 *2	TSB – EL004–01
Celica	1990 – 1994	TVSS / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TVSS / Fig. 2 *1			
	1996 – 1997	RS3000 / Fig. 3	TSB – AX005–99		
	1998 – 1999	RS3000 / Fig. 4			
	2000 – 2003	RS3200 / Fig. 5	2000 VIP Manual *6	Fig. 11	TSB – EL004–01
Corolla	1990 – 1994	TVSS / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TVSS / Fig. 2 *1			
	1996 – 1997	RS3000 / Fig. 3	TSB – AX005–99		
	1998 – 2002	RS3000 / Fig. 4			
	2003	RS3200 / Fig. 5	2000 VIP Manual *6	Fig. 11	TSB – EL004–01
Cressida	1991 – 1992	TDSE / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
ECHO	2000 – 2003	RS3200 / Fig. 5	2000 VIP Manual *6	Fig. 11	TSB – EL004–01
4Runner	1990 – 1994	TVSS / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TVSS / Fig. 2 *1			
	1996 – 1997	RS3000 / Fig. 3	TSB – AX005–99		
	1998	RS3000 / Fig. 4			
	1999			Fig. 10 *5	RM 02 V2, BE–98
	2000 – 2002	RS3200 / Fig. 5	2000 VIP Manual *6		
	2003	N/A	N/A		RM 03, 73–16
Highlander	2001 – 2003	N/A	N/A	Fig. 11	TSB – EL004–01
Land Cruiser	1991 – 1994	TVSS / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TVSS / Fig. 2 *1			
	1996 – 1997	RS3000 / Fig. 3	TSB – AX005–99		
	1998 – 2002	N/A	N/A	Fig. 13	RM 02 V1, DI–624
	2003				RM 03 V2, BE–93

Application Chart (Continued)

APPLICATION		DEALER/PORT INSTALLED		FACTORY INSTALLED	
VEHICLE	YEAR	SYSTEM/REMOTE	PROGRAMMING	FACTORY REMOTE	PROGRAMMING
Matrix	2003	N/A	N/A	Fig. 11	TSB – EL004–01
MR2	1991 – 1994	TDSE / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TVSS / Fig. 2 *1			
	2001 – 2003	RS3200 *3 / Fig.5	2003 VIP Manual		
Paseo	1992 – 1994	TVSS / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TVSS / Fig. 2 *1			
	1996 – 1997	RS3000 / Fig. 3	TSB – AX005–99		
	1998	RS3000 / Fig. 4			
Previa	1991 – 1994	TDSE / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TVSS / Fig. 2 *1			
	1996 – 1997	RS3000 / Fig. 3	TSB – AX005–99		
Prius	2001 – 2003	N/A	N/A	Fig. 11	TSB – EL004–01
RAV4	1996 – 1997	RS3000 / Fig. 3	TSB – AX005–99	N/A	N/A
	1998 – 2000	RS3000 / Fig. 4			
	2001 – 2003	RS3200 / Fig. 5	2000 VIP Manual *6	Fig. 11	TSB – EL004–01
Sequoia	2001 – 2003	N/A	N/A	Fig. 10 *5	RM 03 V2, BE–105
Sienna	1998	RS3000 / Fig. 4	TSB – AX005–99	Fig. 7	TSB – EL009–98
	1999			Fig. 11 / Fig. 12	
	2000	RS3000 / Fig.4 *4			
	2001 – 2002	RS3200 / Fig. 5	2000 VIP Manual *6		RM 02 V2, BE–87
	2003	N/A	N/A		RM 03 V2, BE–91
Solara	1999 – 2001	RS3000 / Fig. 4	TSB – AX005–99	Fig. 11	RM 02 V2, BE–87
	2002–2003	N/A	N/A	Fig. 9 *2	
Supra	1991 – 1992	TDSE / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TDSE / Fig. 2 *1			
	1996 – 1997	RS3000 / Fig. 3	TSB – AX005–99		
	1998	RS3000 / Fig. 4			
T100	1993 – 1994	TVSS / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TVSS / Fig. 2 *1			
	1996 – 1997	RS3000 / Fig. 3	TSB – AX005–99		
	1998	RS3000 / Fig. 4			
Tacoma	1995	TVSS / Fig. 2 *1	TSB – AX005–99	N/A	N/A
	1996 – 1997	RS3000 / Fig. 3			
	1998 – 2001	RS3000 / Fig. 4			
	2002	RS3200 / Fig. 5	2000 VIP Manual *6		
	2003	RS3200 *3 / Fig. 5	2003 VIP Manual *6		

Application Chart (Continued)

APPLICATION		DEALER/PORT INSTALLED		FACTORY INSTALLED	
VEHICLE	YEAR	SYSTEM/REMOTE	PROGRAMMING	FACTORY REMOTE	PROGRAMMING
Tercel	1991 – 1994	TVSS / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TVSS / Fig. 2 *1			
	1996 – 1997	RS3000 / Fig. 3	TSB – AX005–99		
	1998	RS3000 / Fig. 4			
Truck	1990 – 1994	TVSS / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TVSS / Fig. 2 *1			
Tundra	2000 – 2001	RS3000 / Fig. 4	TSB – AX005–99	N/A	N/A
	2002 – 2003	RS3200*3 / Fig. 5	2003 VIP Manual		

*1 Original style TVSS/TDSE system remotes are no longer available as replacement parts. Black RS3000 remotes (Figure 3) can be used with these systems.

*2 While the outward appearances are the same, there are 3 different remotes of this style (not interchangeable). Check the FCC ID Number on the back of the remote to verify correct application:
- Avalon 1998 – 1999 FCC ID: HYQ1512Y / 2000 – 2003 FCC ID: HYQ12BAN
- Camry/Solara 2002 – 2003 FCC ID: GQ43VT14T

*3 This is a variant of the RS3200 TDS system, which does not include the security functions. The VIP manual outlines programming procedures used on these vehicles.

*4 RS3200 was launched prior to the 2001 MY Change Over. Please refer to the 2000 VIP Manual if necessary.

*5 While the outward appearances are the same, there are 2 different remotes of this style (not interchangeable). Check the FCC ID Number on the back of the remote to verify correct application:
- 1999 – 2002 4Runner – FCC ID: HYQ1512Y
- Sequoia / 2003 4Runner – FCC ID: HYQ12BAN

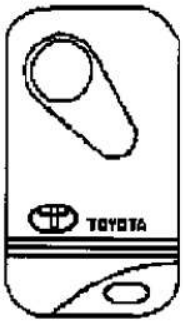
*6 RS3200 programming procedures were sent as a supplement to the 2000 VIP Manual. This information can now be found on the TIS system.

*7 The RS3200 system was only available on early production vehicles in the 2003 model year.

Wireless Transmitter Identification

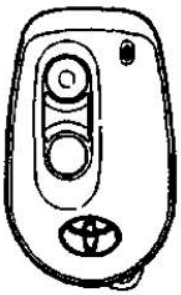
DEALER or PORT INSTALLED SYSTEMS

Figure 1.



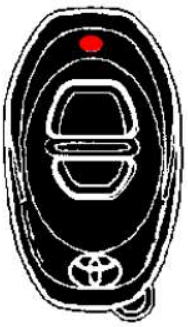
TVSS/TDSE
1990 – 1994

Figure 2.



TVSS/TDSE
1995

Figure 3.



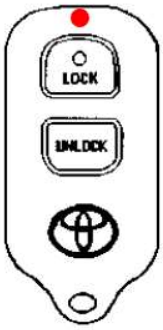
RS3000 (BLACK)
1996 – 1997

Figure 4.



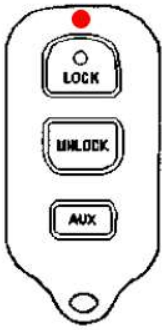
RS3000 (GRAY)
1998 – 2002

Figure 5.



RS3200*
2000 – 2003

Figure 6.



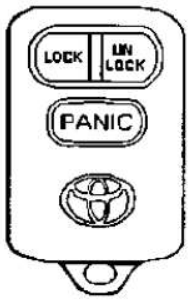
RS3200*
2000 – 2002

* Panic Button on Back Side

Wireless Transmitter Identification (Continued)

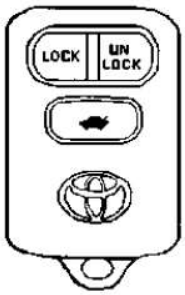
FACTORY INSTALLED or "ORIGINAL EQUIPMENT" SYSTEMS

Figure 7.



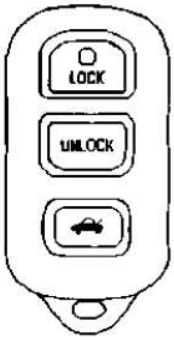
O.E. 3 Button
1997 – 1999

Figure 8.



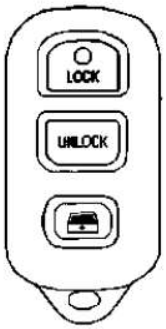
O.E. 3 Button
1995 – 1997

Figure 9.



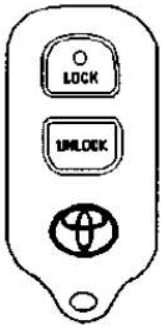
O.E. 4 Button*
1998 – 2003

Figure 10.



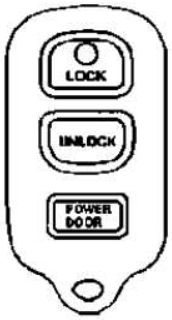
O.E. 4 Button*
1999 – 2003

Figure 11.



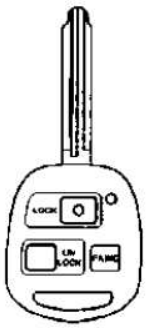
O.E. 3 Button*
1999 – 2003

Figure 12.



O.E. 4 Button*
1999 – 2003

Figure 13.



O.E. In–Key
1998 – 2003

* Panic Button on Back Side

OBSOLETE
PLEASE SEE EL008–02

TOYOTA

Technical Service BULLETIN

October 26, 2001

Title:

WIRELESS TRANSMITTER & PROGRAMMING GUIDE

Models:

All Applicable

TSB

ELECTRICAL

EL010-01

Introduction

Difficulties during Remote Keyless Entry Transmitter Programming can arise due to confusion between Toyota Factory Wireless systems and Toyota Port/Dealer installed systems. This bulletin will assist in identifying the system/correct remote transmitters for each vehicle, and provide the location of the most accurate programming procedure for each system.

Applicable Vehicles

- All applicable Toyota vehicles.

Warranty Information

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

System Identification

The following table contains all of the necessary information to correctly identify the type of system installed, and where to go to get programming procedures for each vehicle.

NOTE:

Should a vehicle having both VIP and Factory systems available (as identified in the following table) be brought in without any remotes (or one non–working remote), use the following tips to help determine which type of wireless system (O.E. or PIO/DIO) the vehicle has.

- **Look at the Trim Level of the vehicle. Higher–grade vehicles will tend to have O.E. systems, while entry–grade vehicles will tend to have VIP. For example, the 2001 Camry XLE has Factory RKE, but the LE and CE grades have VIP.**
- **Look for a "Status Monitor" with a glass breakage sensor and an LED externally installed into the dashboard or on the center console. Most VIP systems will have this.**
- **Locate the ECU (refer to the applicable vehicle VIP Manual installation instructions for location). Once located, refer to the part label.**
- **Attempt to perform the factory wireless programming procedure to get a response from the vehicle. Select the "confirmation mode" and see if any "Lock/Unlock" response is received, if so, the vehicle has a factory system.**

Application Chart

APPLICATION		DEALER/PORT INSTALLED		FACTORY INSTALLED	
VEHICLE	YEAR	SYSTEM/REMOTE	PROGRAMMING	FACTORY REMOTE	PROGRAMMING
Avalon	1995	TVSS / Fig. 2 *1	TVSS Owner's Guide	Fig. 8	TSB – EL003–99
	1996 – 1997	RS3000 / Fig. 3	TSB – AX005–99		
	1998 – 1999	RS3000 / Fig. 4		Fig. 9 *2	
	2000 – 2001	RS3200 / Fig. 5	2000 VIP Manual *6		RM 02 V2, BE–99
	2002	N/A	N/A		
Camry	1990 – 1994	TVSS / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TVSS / Fig. 2 *1			
	1996	RS3000 / Fig. 3	TSB – AX005–99		
	1997			Fig. 7	TSB – EL008–98
	1998 – 1999	RS3000 / Fig. 4			
	2000 – 2001	RS3200 / Fig. 5 or 6	2000 VIP Manual *6	Fig. 11	RM 01 V2, BE–86
	2002			Fig. 9 *2	RM 02 V2, 73–8
Celica	1990 – 1994	TVSS / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TVSS / Fig. 2 *1			
	1996 – 1997	RS3000 / Fig. 3	TSB – AX005–99		
	1998 – 1999	RS3000 / Fig. 4			
	2000 – 2002	RS3200 / Fig. 5	2000 VIP Manual *6	Fig. 11	TSB – EL004–01
Corolla	1990 – 1994	TVSS / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TVSS / Fig. 2 *1			
	1996 – 1997	RS3000 / Fig. 3	TSB – AX005–99		
	1998 – 2002	RS3000 / Fig. 4			
Cressida	1991 – 1992	TDSE / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
ECHO	2000 – 2002	RS3200 / Fig. 5	2000 VIP Manual *6	Fig. 11	TSB – EL004–01
4Runner	1990 – 1994	TVSS / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TVSS / Fig. 2 *1			
	1996 – 1997	RS3000 / Fig. 3	TSB – AX005–99		
	1998	RS3000 / Fig. 4			
	1999			Fig. 10 *5	RM 02 V2, BE–98
	2000 – 2002	RS3200 / Fig. 5	2000 VIP Manual *6		
Highlander	2001 – 2002	N/A	N/A	Fig. 11	TSB – EL004–01
Land Cruiser	1991 – 1994	TVSS / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TVSS / Fig. 2 *1			
	1996 – 1997	RS3000 / Fig. 3	TSB – AX005–99		
	1998 – 2002	N/A	N/A	Fig. 13	RM 02 V1, DI–624
MR2	1991 – 1994	TDSE / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TVSS / Fig. 2 *1			
	2001 – 2002	RS3200 *3 / Fig.5	2000 VIP Manual *6		

Application Chart (Continued)

APPLICATION		DEALER/PORT INSTALLED		FACTORY INSTALLED	
VEHICLE	YEAR	SYSTEM/REMOTE	PROGRAMMING	FACTORY REMOTE	PROGRAMMING
Paseo	1992 – 1994	TVSS / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TVSS / Fig. 2 *1			
	1996 – 1997	RS3000 / Fig. 3	TSB – AX005–99		
	1998	RS3000 / Fig. 4			
Previa	1991 – 1994	TDSE / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TVSS / Fig. 2 *1			
	1996 – 1997	RS3000 / Fig. 3	TSB – AX005–99		
Prius	2001 – 2002	N/A	N/A	Fig. 11	TSB – EL004–01
RAV4	1996 – 1997	RS3000 / Fig. 3	TSB – AX005–99	N/A	N/A
	1998 – 2000	RS3000 / Fig. 4			
	2001 – 2002	RS3200 / Fig. 5	2000 VIP Manual *6	Fig. 11	TSB – EL004–01
Sequoia	2001 – 2002	N/A	N/A	Fig. 10 *5	RM 02 V2, BE–100
Sienna	1998	RS3000 / Fig. 4	TSB – AX005–99	Fig. 7	TSB – EL009–98
	1999	RS3000 / Fig. 4		Fig. 11 / Fig. 12	
	2000	RS3000 / Fig.4 *4			
	2001 – 2002	RS3200 / Fig. 5	2000 VIP Manual *6		RM 02 V2, BE–87
Solara	1999 – 2001	RS3000 / Fig. 4	TSB – AX005–99	Fig. 11	RM 02 V2, BE–87
	2002	N/A	N/A	Fig. 9 *2	
Supra	1991 – 1992	TDSE / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TDSE / Fig. 2 *1			
	1996 – 1997	RS3000 / Fig. 3	TSB – AX005–99		
	1998	RS3000 / Fig. 4			
T100	1993 – 1994	TVSS / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TVSS / Fig. 2 *1			
	1996 – 1997	RS3000 / Fig. 3	TSB – AX005–99		
	1998	RS3000 / Fig. 4			
Tacoma	1995	TVSS / Fig. 2 *1	TSB – AX005–99	N/A	N/A
	1996 – 1997	RS3000 / Fig. 3			
	1998 – 2001	RS3000 / Fig. 4			
	2002	RS3200 / Fig. 5	2000 VIP Manual *6		
Tercel	1991 – 1994	TVSS / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TVSS / Fig. 2 *1			
	1996 – 1997	RS3000 / Fig. 3	TSB – AX005–99		
	1998	RS3000 / Fig. 4			
Truck	1990 – 1994	TVSS / Fig. 1 *1	TVSS Owner's Guide	N/A	N/A
	1995	TVSS / Fig. 2 *1			
Tundra	2000 – 2002	RS3000 / Fig. 4	TSB – AX005–99	N/A	N/A

Application Chart (Continued)

*1 Original style TVSS/TDSE system remotes are no longer available as replacement parts. Black RS3000 remotes (Figure 3) can be used with these systems.

*2 While the outward appearances are the same, there are 3 different remotes of this style (not interchangeable). Check the FCC ID Number on the back of the remote to verify correct application:
- Avalon 1998 – 1999 FCC ID: HYQ1512Y / 2000 – 2002 FCC ID: HYQ12BAN
- Camry/Solara 2002 FCC ID: GQ43VT14T

*3 The MR2 Spyder uses a variant of the RS3200 TDS system, which does not include the security functions. RS3200 programming procedures should be used for this vehicle.

*4 RS3200 was launched prior to the 2001 MY Change Over. Please refer to the 2000 VIP Manual if necessary.

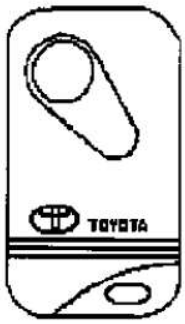
*5 The Sequoia and 4Runner remotes look the same but have different FCC ID Numbers (not interchangeable):
- 4Runner – FCC ID: HYQ1512Y
- Sequoia – FCC ID: HYQ12BAN

*6 RS 3200 programming procedures were sent as a supplement to the 2000 VIP Manual. If you require an additional copy of this information, it can be ordered from the Material Distribution Center (MDC) through your parts department: P/N 00107–00282–04.

Wireless Transmitter Identification

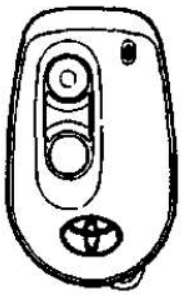
DEALER or PORT INSTALLED SYSTEMS

Figure 1.



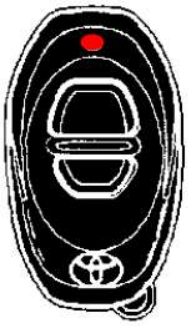
TVSS/TDSE
1990 – 1994

Figure 2.



TVSS/TDSE
1995

Figure 3.



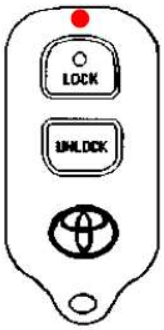
RS3000 (BLACK)
1996 – 1997

Figure 4.



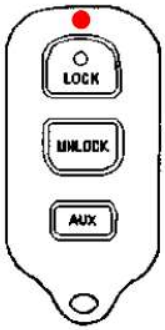
RS3000 (GRAY)
1998 – 2002

Figure 5.



RS3200
2000 – 2002

Figure 6.

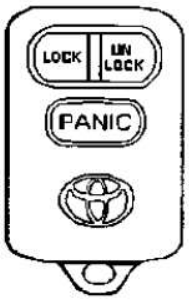


RS3200
2000 – 2002

Wireless Transmitter Identification (Continued)

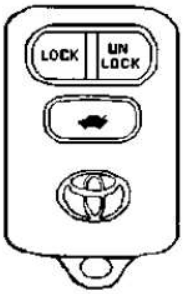
FACTORY INSTALLED or "ORIGINAL EQUIPMENT" SYSTEMS

Figure 7.



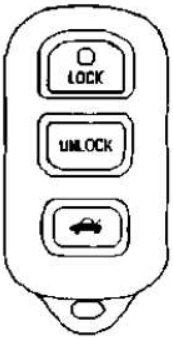
O.E. 3 Button
1997 – 1999

Figure 8.



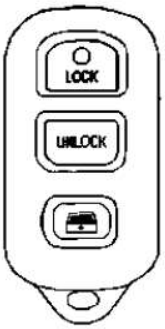
O.E. 3 Button
1995 – 1997

Figure 9.



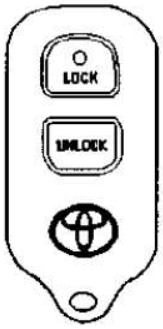
O.E. 4 Button*
2000 – 2002

Figure 10.



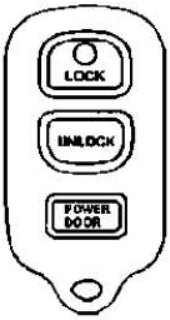
O.E. 4 Button*
1999 – 2002

Figure 11.



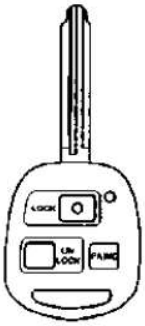
O.E. 3 Button*
2000 – 2002

Figure 12.



O.E. 4 Button*
1999 – 2002

Figure 13.



O.E. In–Key
1998 – 2002

* Panic Button on Back Side

TOYOTA

Technical Service BULLETIN

October 6, 2000

Title:

DAYTIME RUNNING LIGHT DISABLING PROCEDURE

Models:

All Models

TSB

ELECTRICAL

EL011–00

Introduction

Some customers may request to have the Daytime Running Lights (DRL) on their Toyota vehicle disabled. These customers may live or work in military bases or in communities that have light–sensitive gates or guardhouses. This bulletin provides instructions for disabling the feature on the Toyota vehicles listed below. If the Daytime Running Lights (DRL) have been previously disabled, the information in this bulletin can be used to enable the feature at the request of the customer.

IMPORTANT:

Please be sure the customer is informed that when the Daytime Running Lights (DRL) are being disabled, although it is not required by the Federal Motor Vehicle Safety Standards for safety compliance, it has been listed as a safety feature in advertising brochures. In addition, on models equipped with the Twilight Sentinel feature, the headlights will be defaulted to a manual system and will no longer function automatically.

Applicable Vehicles

- **All Models** equipped with **Daytime Running Lights (DRL)** (see chart below).

Parts Information

TOOLS & MATERIALS	QUANTITY
Wire Harness Repair Kit	1

NOTE:

After referencing the chart, proceed to the repair procedure on the following pages.

Reference Chart

MODEL	MODEL YEAR	ECU	CONNECTOR	PIN#	EWD PG#
Avalon	1999	DRL Main Relay	D4	1	110
	2000	Body ECU	B5	6	99
Camry S/D*	1999	DRL Main Relay	D6	23	102
	2000			10	96
Camry Solara*	1999/2000			23	102/96
Celica*	2000	Body ECU	B6	17	75
Corolla*	1999/2000	DRL Main Relay	D3	23	84/72
ECHO	2000		D2	12	67
4Runner	2000		D8	2	99
Land Cruiser	1999/2000				90/88
MR2 Spyder	2000		D2	12	69
RAV4	1999/2000		D17	2	72/70
Sienna	1999/2000		D4		83/81
Tacoma	2000		D8		115
Tundra	2000		D7		95

* Vehicles equipped with Twilight Sentinel.

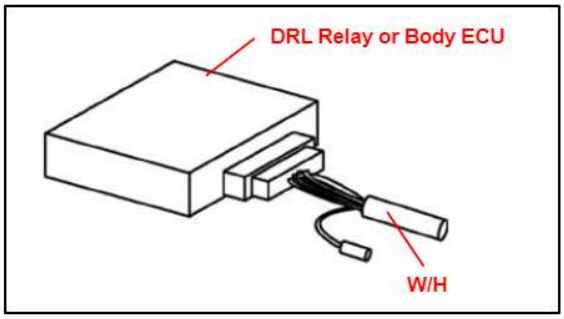
Warranty Information

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

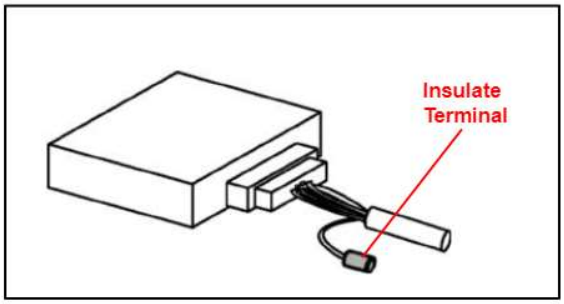
DAYTIME RUNNING LIGHT DISABLING PROCEDURE – EL011–00 October 6, 2000

Repair Procedure

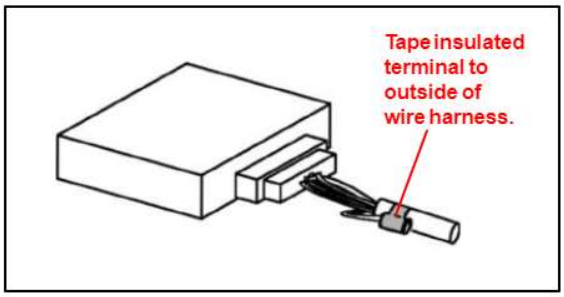
1. Disconnect the Battery.
2. Use the locking pick tool from the wire harness repair kit and back out the terminal from the appropriate connector for the DRL Relay or Body ECU. See the Reference Chart on Page 1 of this bulletin for pin and connector information.



3. Insulate the removed terminal using vinyl electrical tape.

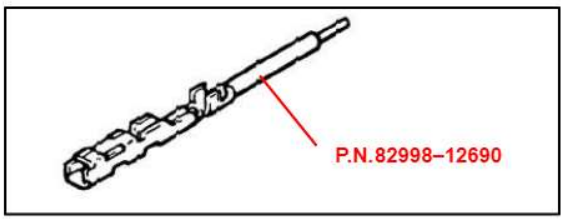


4. Secure the wire and terminal to the outside of the wire harness using vinyl electrical tape.

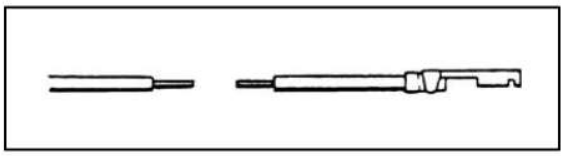


NOTE:
For the 2000 MY Avalon, proceed to Step 5. For all remaining models, proceed to Step 6.

5. For 2000 model year Avalon:
   A. Order a new terminal with lead that is the same size and type as the terminal previously removed from the connector. (PN 82998–12690)

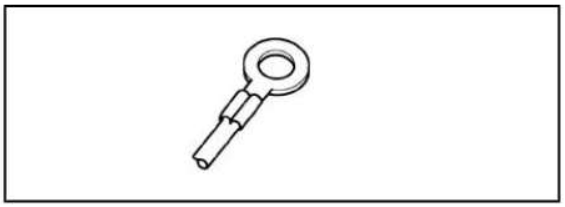


   B. Securely attach a 45 cm/ 18 in wire with an outside diameter of 2.0 mm or larger to the tail of the new terminal.



Repair Procedure

C. Securely attach an eyelet with a hole size of 7 mm to the end of the new wire.



D. Insert the new terminal with lead into the Body ECU Connector B5, previously vacated by the original terminal.

E. Properly attach and route the new wire to the exterior of the existing wire harness in a manner that will not allow it to become damaged or come into contact with any other circuits.

F. Securely attach the eyelet to the existing ground point located in the left kick panel area. (Ground Point IF)



6. Check that the Daytime Running Light (DRL) operation has been disabled.
7. Reassemble any interior panels that were removed to gain access to components, connectors, etc.

TOYOTA

Technical Service BULLETIN

March 31, 2000

Title:

DOOR MIRROR WIND NOISE

Models:

'97 – '99 Camry

TSB

NV007–00

NVH

TSB Update Notice:

The information contained in this TSB updates The information contained in this TSB updates BO019–99 dated December 3, 1999. Revised text is red and underlined.

Introduction

Wind/road noise heard around the door mirrors of some Japan produced Camry vehicles may be caused by an improperly positioned mirror wire harness grommet and/or harness connector.

Applicable Vehicles

- **1997** through **1999 Camry vehicles.** (Japan produced only)

Production Change Information

PLANT	STARTING VIN
TMC	JT2BG22K * X0367325 JT2BG28K * X0367352 JT2BF22K * X0227381 JT2BF28K * X0227306

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
BD0009	Adjust the Wire Harness Grommet and/or Connector	0.4	87940–XXXXX–XX (LH) 87910–XXXXX–XX (RH)	59	57

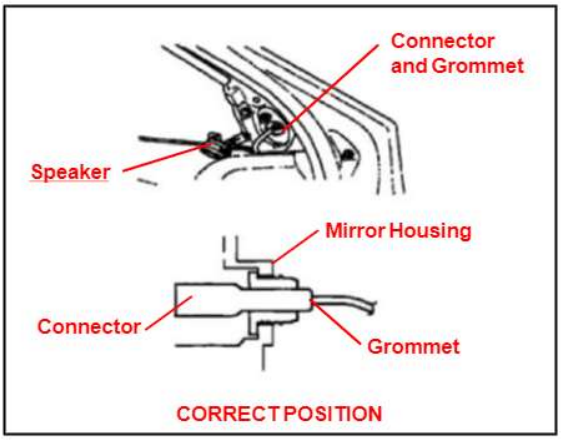
Applicable Warranty*:

This repair is covered under the Toyota Basic Warranty. This warranty is in effect for 36 months or 36,000 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.

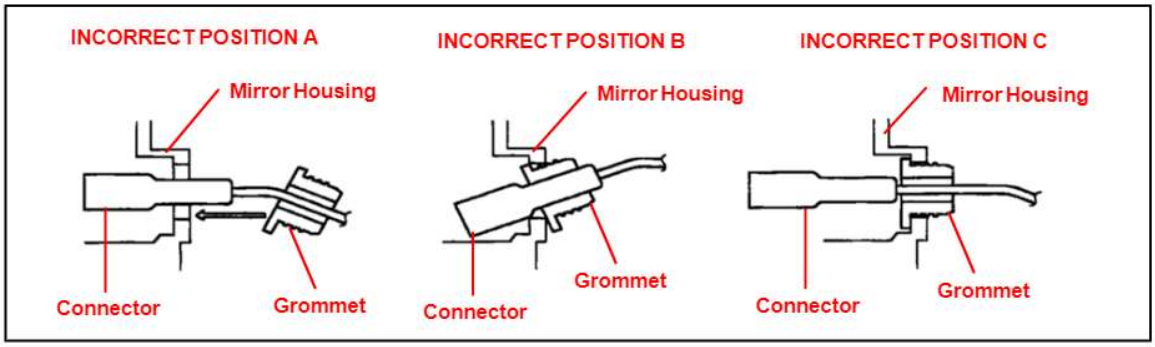
Repair Procedure

1. Carefully pry off the door speaker cover and remove the nut using a 10 mm socket that secures the speaker to the door.
2. Look through the door mirror harness access hole and check the position of the wire harness grommet and wire harness connector – the harness connector should be inside the grommet and the grommet should be fully seated in the mirror housing.

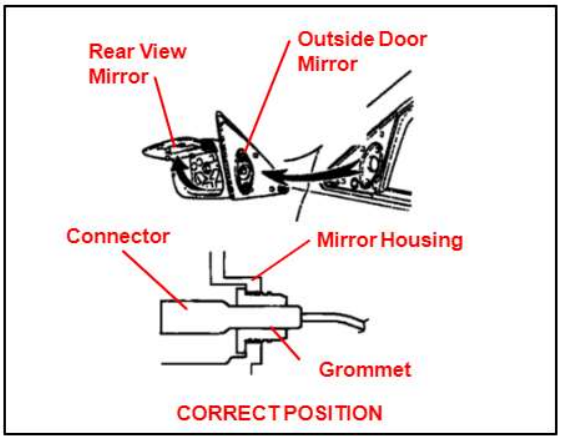


Repair Procedure (Continued)

Examples of improperly installed assemblies are shown below:

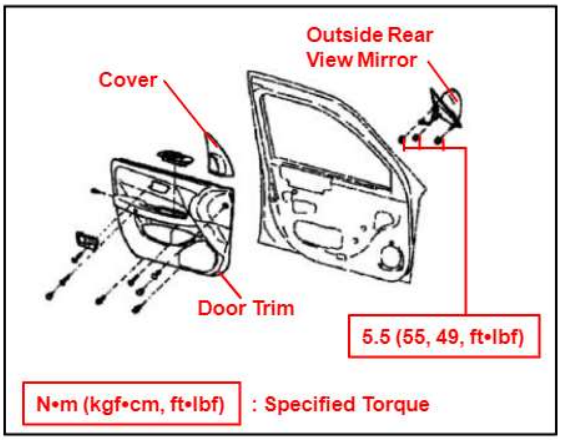


3. To reposition the grommet and/or harness connector onto the mirror housing:
   - Remove the mirror housing (the remaining 2 nuts) from the door and carefully unclip the mirror from the housing. This will allow easier access and reinstallation of the grommet and/or harness connector.
   - Reposition the grommet so it is fully seated to the mirror housing. Assure the harness connector is inside the grommet.

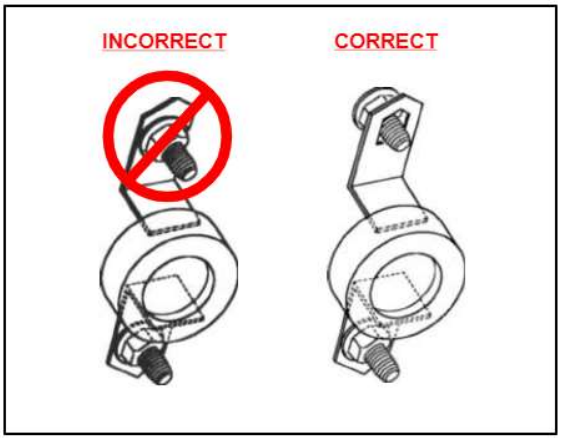


NOTE:
Refer to the 1998 Camry Repair Manual pages BO–23 through BO–26.

4. Reinstall the door mirror and speaker assembly:
   - Secure the mirror to the housing.
   - Properly align and reinstall the mirror assembly to the door. Tighten the upper and forward nuts. **Torque: 5.5 N•m (56 Kgf•cm, 49 in•lb)**
   - Reinstall the door speaker (one nut at the lower bracket) and speaker cover onto the door as shown in the illustration. **Torque: 5.5 N•m (56 Kgf•cm, 49 in•lb)**
   - Assure the power mirror adjustment and the door speaker functions properly.



NOTE:
Do NOT mount the UPPER speaker bracket behind the nut.



TOYOTA

Technical Service BULLETIN

March 12, 1999

Title:

1999 PAINT AND REFINISH FORMULA CODES

Models:

All 1999 Models

TSB

PAINT

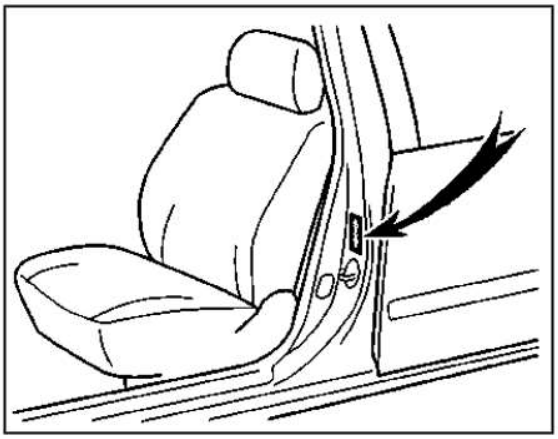
PA002–99

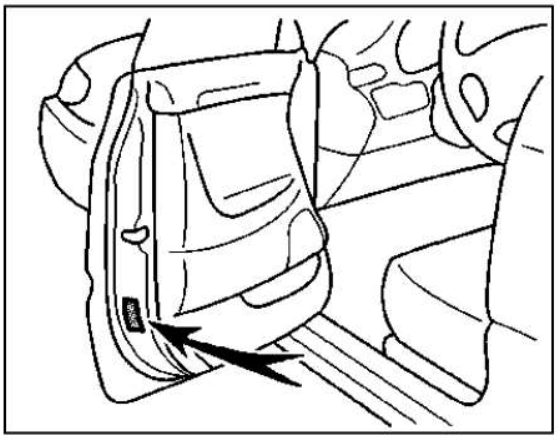
Introduction Attached for your reference is a list of all 1999 OEM paint codes and refinish paint codes for the following paint manufacturers:

BASF, DuPont, ICI Autocolor, PPG, Sherwin Williams, Sikkens, Spies–Hecker, and Standox

NOTE:

The body color code is on the vehicle Certification Regulation Label, located on the left front door "B" Pillar or door rear lower surface.





Please contact your local paint representative for the actual paint mixing formulas or if you need help in color matching.

Affected Vehicles

- **All 1999 Models.**

Warranty Information

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Paint Codes & Color Names

COLOR CODE	COLOR NAME	BASF	DUPONT	ICI AUTOCOLOR	PPG	SHERWIN WILLIAMS	SIKKENS	SPIES–HECKER	STANDOX
040	Super White	TOY040	W8430	KK47	90288	35000	TOY040	17143	040
049	White Pearl	TOY049	N9033 L9018	TA99G PC61B	90673 90674	40881 40882	TOY049	97746	049
051	Diamond White Pearl	TOY051	L9246 L9247	PF76B TD86G	90822 90826	42872 42873	TOY051	98125 16329	051
056	Natural White	TOY056	F1858	BAB5	91452	52893	TOY056	15217	056

Toyota Supports ASE Certification

Paint Codes & Color Names *(Continued)*

COLOR CODE	COLOR NAME	BASF	DUPONT	ICI AUTOCOLOR	PPG	SHERWIN WILLIAMS	SIKKENS	SPIES–HECKER	STANDOX
181	Silver Metallic	TOY181	L9245	C523B	34878	44337	TOY181	98127	181
199	Alpine Silver Metallic	TOY199	L9990	5TX1B	4900	48976	TOY199	70706	199
1A0	Platinum Metallic	TOY1A0	N9923	6ED5B	4896	49700	TOY1A0	70809	1A0
1A2	Topaz Metallic	TOY1A2	F0016	6ED9B	4898	49701	TOY1A2	70855	1A2
1A3	Silver Metallic	TOY1A3	F0697	7DJ9B	35841	53001	TOY1A3	72319	1A3
1A5	Desert Dune Pearl	TOY1A5	F1458	8NH3B	36090	52139	TOY1A5	72759	1A5
1B1	Champagne Pearl	TOY1B1	F2186	FLT9B	5252	53074	TOY1B1	20699	1B1
1B2	Antique Sage Pearl	TOY1B2	F2201	HRE5B	5324	54757	TOY1B2	73622	1B2
1B9	Quiksilver FX	TOY1B9	F4996	LJC5B	5449	56738	TOY1B9	74332	1B9
1C0	Millennium Silver	TOY1C0	F4928	LCJ4B	36643	56793	TOY1C0	74500	1C0
1C3	River Rock Green Mica	TOY1C3	F4513	LVT2B	48703	57226	TOY1C3	74488	1C3
1C4	Silverstream Op	TOY1C4	F5137	NPD6B	5560	57927	TOY1C4	74771	1C4
1C7	Thunder Gray Metallic	TOY1C7	F5581	PEJ6B	5600	58581	TOY1C7	74806	1C7
1C8	Lunar Mist Metallic	TOY1C8	F8569	PEJ7B	5539	58582	TOY1C8	74807	1C8
202	Black	TOY202	FO220	0122	95100	57871	TOY202	72941	202
204	Black Metallic	TOY204	H8645	A237B	9624	35533	TOY204	96020	204
205	Satin Black Metallic	TOY205	L9024	B941B	9756	40888	TOY205	97765	205
3E5	Super Red	TOY3E5	W8431	KK41	72717	35001	TOY3E5	38236	3E5
3H7	Cardinal Red	TOY3H7	L9026	WJ91	73279	40890	TOY3H7	38805	3H7
3J8	Prussian Red Pearl	TOY3J8	W9463	PT73B	4596	46590	TOY3J8	99827	3J8
3K4	Sunfire Red Pearl	TOY3K4	W9546	PM54B	4511	46144	TOY3K4	99722	3K4
3L2	Renaissance Red	TOY3L2	L9992	5TX3B	4902	48978	TOY3L2	30491	3L2
3L5	Radiant Red	TOY3L5	F2688	GNK8	5287	54291	TOY3L5	33476	3L5
3M5	Sandrift Metallic	TOY3M5	F3531	LCP1B	5444	56742	TOY3M5	34261	3M5
3M6	Napa Burgundy Pearl	TOY3M6	F3747	LJC2B	5447	56739	TOY3M6	34262	3M6
3M8	Venetian Red Pearl	TOY3M8	F4929	LCJ5B	5561	56795	TOY3M8	34300	3M8
3M9	Baroque Red Metallic	TOY3M9	F4464	KWB9B	5421	56658	TOY3M9	34257	3M9
3N1	Cinnabar Pearl	TOY3N1	F4483	LPC9B	5435	56752	TOY3N1	34254	3N1
3N2	Mahogany Pearl	TOY3N2	F1744	LVT3B	28763	57227	TOY3N2	34317	3N2
3N5	Red Flame Metallic	TOY3N5	F5138	NPD7B	5563	57928	TOY3N5	34587	3N5
3N6	Vintage Red Pearl	TOY3N6	F8568	PEB8B	5525	58338	TOY3N6	34622	3N6
4J6	Sadona Sunset Metallic	TOY4J6	L9028	B945B	26601	40892	TOY4J6	97753	4J6
4M4	Sierra Beige Metallic	TOY4M4	H9879	4SS7B	4743	47606	TOY4M4	20157	4M4

Paint Codes & Color Names *(Continued)*

COLOR CODE	COLOR NAME	BASF	DUPONT	ICI AUTOCOLOR	PPG	SHERWIN WILLIAMS	SIKKENS	SPIES–HECKER	STANDOX
4M7	Oyster Pearl	TOY4M7	K9968	5MK6B	27579	48841	TOY4M7	10655	4M7
4M9	Cashmere Beige Metallic	TOY4M9	N9924	6ED6B	4903	49702	TOY4M9	20261	4M9
4N5	Vintage Rose Metallic	TOY4N5	F2716	HYV5B	5339	54862	TOY4N5	15817	4N5
4N7	Sable Pearl	TOY4N7	F3748	LJC3B	5448	56740	TOY4N7	22236	4N7
4P1	Antique Bronze Metallic	TOY4P1	F4465	KWC1B	5422	56659	TOY4P1	81642	4P1
4P3	Desert Bronze Metallic	LEX4P3	F7145	LVT4B	28764	57228	LEX4P3	22317	4P3
4P5	Autumn Blaze Metallic	TOY4P5	F5583	PEC1B	5526	58340	TOY4P5	34623	4P5
4P6	Autumn Red Mica	TOY4P6	F5139	NPD8B	5565	57929	TOY4P6	34588	4P6
578	Golden Sand Metallic	TOY578	F3749	LNX6B	5457	56741	TOY578	22189	578
6M1	Dark Emerald Pearl	TOY6M1	W9542	PM72B	4595	46589	TOY6M1	99746	6M1
6M3	Silver Spruce Metallic	TOY6M3	W9514	D381B	4474	45931	TOY6M3	99679	6M3
6N7	Sierra Green Metallic	TOY6N7	F1036	7P07B	5047	51163	TOY6N7	61391	6N7
6P2	Classic Green Pearl	TOY6P2	F1850	BAA7B	5173	52889	TOY6P2	61953	6P2
6P3	Deep Jewel Grean Pearl	TOY6P3	F1805	ARD3B	5166	52887	TOY6P3	61928	6P3
6P4	Surfside Green Mica	TOY6P4	F2690	GNL1B	5289	54293	TOY6P4	64018	6P4
6Q7	Imperial Jade Mica	TOY6Q7	F3750	KWC2B	5423	56660	TOY6Q7	68096	6Q7
6R1	Woodland Pearl	TOY6R1	F7147	LVT6B	5566	57230	TOY6R1	65321	6R1
6R3	Fairway Green Pearl	TOY6R3	F5140	NPD9B	5567	57930	TOY6R3	65706	6R3
760	Mystic Teal Mica	TOY760	F3533	LCP2B	5445	56258	TOY760	65225	760
762	Aqua Blue Metallic	TOY762	F8543	PEJ8B	5595	58693	TOY762	56812	762
8L3	Blue Velvet Pearl	TOY8L3	F2239	FRC7B	5328	54032	TOY8L3	54676	8L3
8L4	Atlantis Blue Mica	TOY8L4	F1898	BGT9B	19705	52994	TOY8L4	54483	8L4
8L5	Royal Sapphire Blue	TOY8L5	F2728	HDJ4B	5329	54485	TOY8L5	55068	8L5
8L7	Stellar Blue Pearl	TOY8L7	F2059	ETB9B	5206	53072	TOY8L7	54562	8L7
8L9	Denim Blue Mica	TOY8L9	F2722	JCD1B	5443	54872	TOY8L9	55325	8L9
8M5	Mista Blue Mica	TOY8M5	F3562	KBA1B	5434	56261	TOY8M5	55825	8M5
8M8	Twilight Blue Pearl	TOY8M8	F7274	LXY2B	190925	57452	TOY8M8	56542	8M8
8N1	Horizon Blue Metallic	TOY8N1	F5223	PEC2B	5527	58341	TOY8N1	56813	8N1
930	Blue Dusk Pearl	TOY930	F2723	HRE6B	5330	54758	TOY930	40713	930
931	Frosted Iris Metallic	TOY931	F2724	HRE7B	5331	54759	TOY931	40714	931
938	Mystic Purple Mica	TOY938	F3532	KWB7B	5420	56656	TOY938	40930	938

Land Cruiser Cladding Codes

COLOR CODE	COLOR NAME	BASF	DUPONT	ICI AUTOCOLOR	PPG	SHERWIN WILLIAMS	SIKKENS	SPIES–HECKER	STANDOX
UCA46	Cashmere Beige Metallic	TOYUCA46	H9752	D700B	27345	46754	TOYUA46	20631	UCA46
UCA76	Medium Gray Metallic	TOYA76	F1114	7VT6B	35973	51188	TOY9418	72547	UCA76
UCA78	Dark Taupe Metallic	TOY9420	TOYUCA78	F1116	27888	51186	80371	UCA78	7VV1B

Paint Applications & Types

COLOR CODE	COR	SOL	CAM	AVL	CEL	SNA	RAV	RAVev	4RN	TAC	L–C
040	■		■		■	■					
049											
051		■		■							
056							■	■	■	■	■
181											
199					■			■			
1A0											
1A2											
1A3											
1A5									■		
1B1											■
1B2			■								
1B9							■				
1C0									■		
1C3											■
1C4	■	■									
1C7											
1C8			■								
202			■	■	■	■	■				■
204		■								■	
205	■										
3E5											
3H7										■	
3J8											
3K4						■			■	■	
3L2					■						
3L5							■		■		
3M5	■	■									
3M6				■		■					
3M8	■					■	■				
3M9											

Paint Applications & Types *(Continued)*

COLOR CODE	COR	SOL	CAM	AVL	CEL	SNA	RAV	RAVev	4RN	TAC	L–C
3N1											
3N2											■
3N5		■									
3N6			■								
4J6							■				
4M4										■	
4M7											
4M9			■								
4N5				■							
4N7			■	■		■					
4P1											
4P3										■	■
4P5									■		
4P6		■									
578											
6M1	■										
6M3				■		■					
6N7											
6P2				■							
6P3							■	■			
6P4											
6Q7									■	■	■
6R1			■			■					
6R3		■									
760	■						■				
762	■										
8L3			■	■							
8L4											■
8L5							■	■			
8L7									■		
8L9						■					
8M5											
8M8	■	■									
8N1									■	■	
930			■								
931			■			■					
938											

TOYOTA

Technical Service BULLETIN

June 14, 2002

Title:

REFINISHING REPLACEMENT BUMPER COVERS

Models:

All '83 – '03 Models

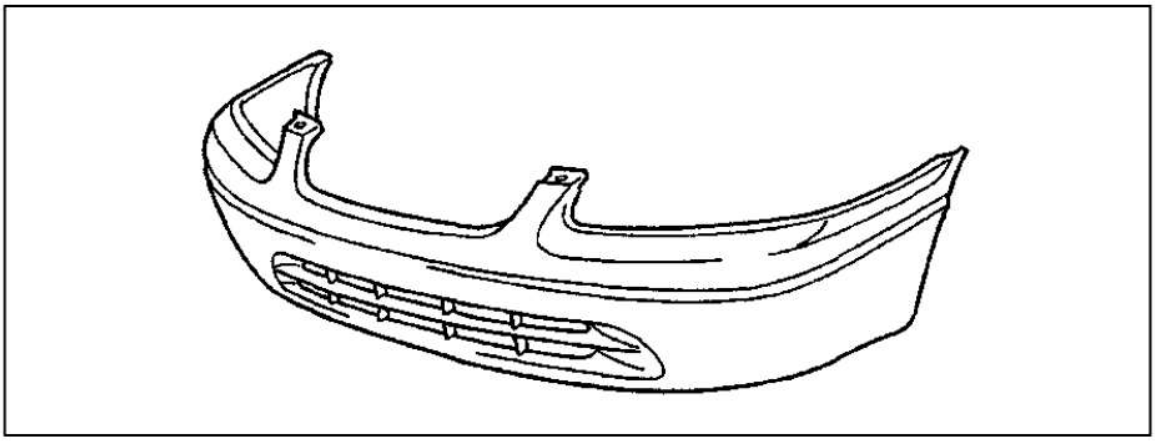
TSB

PAINT

PA003-02

Introduction

In cases where a bumper cover is being replaced, a special preparation process is necessary to assure the refinish is customer acceptable. This bulletin provides the recommended refinishing procedure for new bumper covers.



Applicable Vehicles

- **All 1983 – 2003** model year **Toyota** vehicles.

Required Tools & Material

TOOLS & MATERIALS	QUANTITY
Mild Soap — Ph neutral (no wax type)	3M™ Car Shampoo (or equivalent)
Sanding Pad	3M™ ScotchBrite (Gray) 37448
Sanding Paste	See Paint Manufacturer's Recommendations
Wax, Grease, & Silicone Remover	
Plastic Part Adhesion Promoter	
Primer and Paint	

Warranty Information

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

Refinishing Procedure

1. Mix a solution of mild soap (car wash soap with no wax additives) and clean water.

NOTE:

Carefully follow mixing instructions on the soap container. Too much soap or too much water may cause surface contamination or rinsing difficulty.

Refinishing Procedure (Continued)

2. **Scrub** the bumper covers with the soap and water solution, making sure all difficult–to–reach areas are thoroughly cleaned.
3. Rinse the entire bumper cover with clean deionized water, making sure all difficult–to–reach areas are thoroughly rinsed.
4. Dry the surface with a clean towel before water dries on the surface. Clean, dry compressed air from an oil–less compressor may be substituted for drying with a towel.
5. Degrease the surface with a wax, grease, and silicone remover.

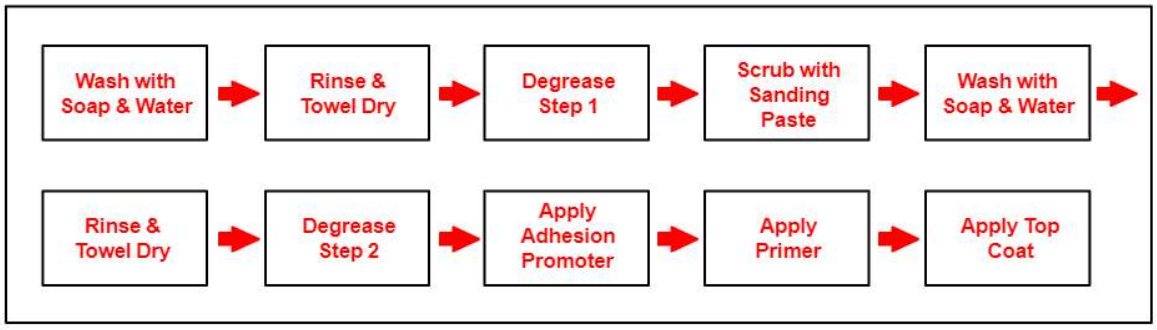
NOTE:
Lacquer thinner or brake cleaner will NOT remove silicone. You MUST use a wax, grease, and silicone remover. Carefully follow application instructions on the container label. Fish eyes or other paint irregularities may result from not following instructions.

6. Apply a generous amount of sanding paste with a gray 3M™ ScotchBrite pad. Only a gray pad should be used during the sanding process. Sand the entire bumper cover surface. Be sure all difficult–to–reach areas are thoroughly sanded.
7. Clean the entire bumper cover with car wash soap and water. Be sure all difficult–to–reach areas are thoroughly cleaned.
8. Rinse the entire bumper with clean deionized water. Be sure all difficult–to–reach areas are thoroughly rinsed.
9. Degrease the surface with an anti–static plastic parts cleaner and a white body shop towel or paper towel.

NOTE:
Never use a red shop towel to wipe the surface (contains silicone).

10. Assure the bumper is firmly held in place to a steady fixture.
11. Apply a plastic parts adhesion promoter to the surface, according to the manufacturer's recommendations.
12. Apply plastic parts primer to the surface, according to the paint manufacturer's recommendations.
13. Since bumpers are made of flexible plastic urethane material, use a two–part urethane finish paint system with plasticizer (flex agent) for all bumper and cladding repairs. Apply the appropriate top coat to the surface, according to the paint manufacturer's recommendations.
14. If heat is applied to cure the paint, assure the surface temperature does not exceed 80 C (176 F.)

For additional information concerning the refinish process for plastic bumpers/cladding, please contact your respective refinish paint manufacturer's local representative.



TOYOTA

Technical Service BULLETIN

June 11, 1999

Title:

TWO-TONE PAINT COLOR

Models:

'99 Camry Limited Edition

TSB

PAINT

PA004–99

Introduction The following information outlines the two–tone painting scheme on 1999 Camry Limited Edition.

Affected Vehicles

- **1999 Camry Limited Edition**

Production Change Information

COLOR NO.	COMBINATION	TWO–TONE NAMES
2GP	4M7/1B2	Oyster Pearl/Antique Sage Pearl accent
28Y	051/4M7	Diamond White Pearl/ Oyster Pearl Accent

Warranty Information

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

TOYOTA

Technical Service BULLETIN

January 7, 2000

Title:

2000 TECHNICAL SERVICE BULLETIN INFORMATION

Models:

All Models

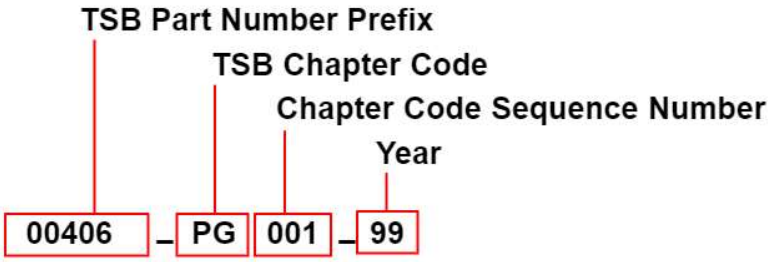
TSB

PG001–00

PRODUCT GENERAL INFORMATION

Introduction Toyota Technical Service Bulletins (TSBs) continue to be one of the most current sources of technical information available. To ensure complete access to this reference source, use the following steps:

- All 1999 Technical Service Bulletins should be relocated to a temporary binder.
- Place this bulletin along with all 2000 TSBs into the emptied TSB binder.
- During the month of March, all dealers will receive bound books containing all TSBs issued in 1999. Upon receipt, discard all 1999 TSBs and refer only to the bound book for reference.
- Additional copies of 1994 through 2000 TSBs are available to all Toyota dealerships through the Toyota Non–Parts System (MDC NPM System) by using the following Part Number designation:



Parts Information

MATERIAL DESCRIPTION	PART NUMBER
TSB Binder, tabs and all 2000 bulletins issued to date	TSB00
New TSB Binder and tabs **ONLY**	00406–61012
1999 TSB Bound Book	00442–99002*
1998 TSB Bound Book	00442–98005
1997 TSB Bound Book	00442–97011
1996 TSB Bound Book	00442–97003
1995 TSB Bound Book	00401–43055

* Available in March, 2000.

NOTE:

If you have any questions concerning Toyota Technical Service Bulletins, please contact your District Service Manager.

Toyota Supports ASE Certification

TOYOTA

Technical Service BULLETIN

February 28, 2003

Title:

REPAIR MANUAL CORRECTIONS INDEX

Models:

All Models

TSB

PG001-03

PRODUCT GENERAL INFORMATION

Introduction Corrections have been made in the repair manuals listed below. Corrections available in the last quarter are marked in **red**. The Toyota Technical Information system (TIS) is the best way to access up–to–date service information.

> **NOTE:**
> **When ordering a technical publication (i.e., Repair Manual, Electrical Wiring Diagram) from the MDC, any Correction Page(s) associated with that particular Publication will automatically be included with your order.**

Parts Information Correction Pages are available through the Dealer Support Material Network (MDC NPM System) via the corresponding part numbers from the following table.

	Publication	Number	Page(s)	Part Number
4Runner	2003 4Runner	RM1001–U1	03–36	00400–RM100–12131
		RM1001–U2	29–6	↓
			29–23	↓
			25–18	00400–RM100–22146
			26–3	↓
			26–17	↓
			27–6	↓
			27–9	↓
			27–29	↓
			27–31	↓
			27–32	↓
			27–34	↓
			27–36	↓
			27–37	↓
		RM1001–U1	05–614 to 05–616	00400–RM100–12156
			05–712	↓
			05–713	↓
			05–713–1 to 05–713–7	↓
			05–724 to 05–737	↓
			05–811 to 05–813	↓

REPAIR MANUAL CORRECTIONS INDEX – PG001-03 February 28, 2003

	Publication	Number	Page(s)	Part Number
Avalon	2000 Avalon	RM746–U2	BE–3	00400–RM746–2167B
			BE–4	↓
			BE–5	↓
			BE–6	↓
	2001 Avalon	RM808–U2	BE–3	00400–RM808–2166B
			BE–4	↓
			BE–5	↓
			BE–6	↓
	2002 Avalon	RM872–U2	BE–96	00400–RM872–2088B
			BE–3	00400–RM872–2165B
			BE–4	↓
			BE–5	↓
			BE–6	↓
Camry	2002 Camry	EWD461U	45	00400–EWD46–12107
			77	↓
			89	↓
			317	↓
			M5	↓
			M6	↓
	2003 Camry	EWD506U	45	00400–EWD50–62108
			77	↓
			89	↓
			319	↓
			M5	↓
			M6	↓
Corolla	2003 Corolla	EWD484U	49	00400–EWD48–42150
Highlander	2001 Highlander	RM837–U2	11–15	00400–RM837–2140B
			11–16	↓
			11–30	↓
			11–31	↓
	2002 Highlander	RM918–U2	11–15	00400–RM918–2141B
			11–16	↓
			11–30	↓
			11–31	↓
	2003 Highlander	RM987–U2	11–13	00400–RM987–2157B
			11–14	↓
			11–14–1	↓
			11–14–2	↓
			11–26	↓
			11–27	↓
			11–27–1	↓

REPAIR MANUAL CORRECTIONS INDEX – PG001-03 February 28, 2003

	Publication	Number	Page(s)	Part Number
Matrix	2003 Matrix	EWD486U	55	00400–EWD48–62151
		RM940–U1	05–833	00400–RM940–2116
			05–834	↓
			05–820	00400–RM940–2159
			05–821	↓
			05–825	↓
			05–826	↓
			05–829	↓
			05–830	↓
			05–837	↓
			05–840	↓
		RM940–U2	73–9	00400–RM940–2163B
MR2 Spyder	2001 MR2 Spyder	RM801–U1	DI–8	00400–RM801–2105
			DI–9	↓
			DI–150	↓
			DI–151	↓
			DI–152	↓
			DI–153	↓
			DI–183	↓
			DI–184	↓
			DI–184–1	↓
			DI–184–2	↓
	2002 MR2 Spyder	RM900–U1	DI–8	00400–RM900–2106
			DI–9	↓
			DI–151	↓
			DI–152	↓
			DI–153	↓
			DI–154	↓
			DI–184	↓
			DI–185	↓
			DI–186	↓
			DI–187	↓
		RM900–U2	BO–46	00400–RM900–2137
Prius	2001 Prius	RM778–U1	DI–680	00400–RM778–2095
	2002 Prius	RM883–U1	DI–687	00400–RM883–2096
	2003 Prius	RM957–U1	DI–687	00400–RM957–2097

REPAIR MANUAL CORRECTIONS INDEX – PG001-03 February 28, 2003

	Publication	Number	Page(s)	Part Number
Sequoia	2003 Sequoia	RM959–U1	DI–304	00400–RM959–12128
			DI–312	↓
			DI–313	↓
			DI–321	↓
			DI–325	↓
			DI–326	↓
			DI–330 to DI–333	↓
			DI–335	↓
			DI–340	↓
			DI–347	↓
			DI–357	↓
			DI–358	↓
			DI–360 to DI–362	↓
			DI–372	↓
			DI–373	↓
			DI–377	↓
			DI–377–1	↓
Sienna	2001 Sienna	EWD420U	37	00400–EWD42–2121
			64	↓
			267	↓
			M2	↓
	2002 Sienna	EWD454U	37	00400–EWD45–2122
			64	↓
			271	↓
			M2	↓
	2003 Sienna	EWD490U	37	00400–EWD49–02123
			64	↓
			271	↓
			M2	↓
Tacoma	2002 Tacoma	RM921–U1	DI–510	00400–RM921–2089
Tundra	2000 Tundra	EWD367U	129	00400–EWD36–72133
			222	↓
			M28	↓
	2001 Tundra	EWD429U	121	00400–EWD42–92134
			208	↓
			M26	↓
	2002 Tundra	EWD468U	121	00400–EWD46–82135
			208	↓
			M26	↓

TOYOTA

Technical Service BULLETIN

December 31, 2000

Title:

REPAIR MANUAL CORRECTIONS INDEX

Models:

All Models

TSB

REVISED **PG002–00**

PRODUCT GENERAL INFORMATION

Introduction Corrections have been made in the repair manuals listed below. Corrections available in the last quarter are marked in **red**, and have already been mailed to all dealers.

NOTE:
When ordering a technical publication (i.e. Repair Manual, Electrical Wiring Diagram) from the MDC, and Correction Page(s) associated with that particular Publication will automatically be included with your order.

Parts Information Correction Pages are available through the Dealer Support Material Network (MDC NPM System) via the corresponding part numbers from the following table:

	Publication	Number	Page(s)	Part Number
Avalon	2001 Avalon	RM746–U1	DI–259	00400–RM746–Z107
			DI–260	↓
			DI–311	↓
			DI–312	↓
			DI–314	↓
			DI–316	↓
			DI–317–1	↓
			DI–317–2	↓
Celica	2000 Celica	RM744–U1	SS–45	00400–RM744–9094A
			SS–47	↓
			SS–52	↓
		RM744–U2	SA–02	00400–RM744–9094B
			SA–41	↓
			SA–44	↓
			SR–33	↓
			SR–51	↓
			EM–4	00400–RM744–Z066
			EM–5	↓
			EM–6	↓
			EM–7	↓
			EM–9	↓
			EM–10	↓
			EM–11	↓
			EM–12–1	↓
			SF–10	00400–RM744–Z130
			SF–12	↓
			SF–13	↓
			SF–15	↓

REPAIR MANUAL CORRECTIONS INDEX – PG002-00 Revised December 31, 2000

	Publication	Number	Page(s)	Part Number
Celica (Continued)	2001 Celica	RM818–U2	SF–10	00400–RM818–Z130
			SF–12	↓
			SF–13	↓
			SF–15	↓
ECHO	2000 ECHO	RM750–U	BR–16	00400–RM591–8121
			BR–27	↓
			BR–28	↓
			BR–31	↓
			PP–50	00400–RM591–8063
			SS–37	↓
			SS–38	↓
			BR–32	00400–RM750–Z140
	2001 ECHO	RM816–U	BR–32	00400–RM816–Z140
Highlander	2001 Highlander	EWD442–U	239	00400–EWD44–2Z149
			266	↓
Land Cruiser	2000 Land Cruiser	RM722–U1	DI–305	00400–RM722–Z018
			DI–306	↓
			DI–307	↓
			DI–308	↓
			SS–30	00400–RM722–9093A
			SS–31	↓
		RM722–U2	SA–3	00400–RM722–9093B
			SA–37	↓
			SA–40	↓
			SA–41	↓
			SA–42	↓
			SA–43	↓
			SA–44	↓
			SA–46	↓
			SA–47	↓
			SA–48	↓
			SA–49	↓
			SA–50	↓
			SA–52	↓
			SA–53	↓
			SA–54	↓
			SA–55	↓
			SA–56	↓
			SA–57	↓
			BR–10	00400–RM722–Z038
MR2 Spyder	2000 MR2	RM760–U	BR–8	00400–RM760–Z141
	2001 MR2	RM801–U	BR–8	00400–RM801–Z141

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	Publication	Number	Page(s)	Part Number
Prius	2001 Prius	BRM09–6E	BP–17	00400–BRM09–6Z112
			BP–18	↓
			BP–33	↓
			BP–48	↓
			BP–49	↓
			BP–54	↓
			BP–55	↓
			PC–2	↓
		RM778–U1	DI–105	00400–RM778–Z093
			DI–106	↓
			SS–21	00400–RM778–Z123
			DI–504	↓
			DI–593–1	↓
			DI–593–2	↓
			DI–593–3	↓
			HV–22	↓
			DI–661	00400–RM778–Z120A
			DI–661–1	↓
			DI–665	↓
			DI–666	↓
			DI–670	↓
			DI–671	↓
		RM778–U2	BE–22	00400–RM778–Z151
			BE–23	↓
			BE–44	00400–RM778–Z120B
			BE–46–1	↓
RAV4	1996 RAV4	RM447–U	SA–62	00400–RM447–Z071
	1997 RAV4	RM505–U	SA–66	00400–RM505–Z071
	1998 RAV4	RM595–U	SA–79	00400–RM595–Z071
	1999 RAV4	RM668–U2	SA–79	00400–RM668–Z071
	2000 RAV4	RM711–U2	SA–79	00400–RM711–Z071
	2001 RAV4	RM797–U1	DI–489	00400–RM797–Z096
			SS–42	00400–RM797–Z106A
		RM797–U2	SA–5	00400–RM797–Z106B
			SA–7	↓
			SA–69	00400–RM797–Z071
Sequoia	2001 Sequoia	RM832–U1	SS–31	00400–RM832–Z139
Sienna	1998 Sienna	RM594–U	SR–37	00400–RM594–9095
			SR–47	↓
			SR–48	↓
	1999 Sienna	RM657–U	SR–37	00400–RM657–9095
			SR–47	↓
			SR–48	↓

REPAIR MANUAL CORRECTIONS INDEX – PG002-00 Revised December 31, 2000

	Publication	Number	Page(s)	Part Number
Sienna (Continued)	2000 Sienna	RM701–U	SR–37	00400–RM701–9095
			SR–47	↓
			SR–48	↓
			DI–387	00400–RM701–Z121
			DI–388	↓
			DI–389	↓
			DI–389–1	↓
			DI–389–2	↓
			DI–389–3	↓
Tacoma	1998 Tacoma	RM576–U1	DI–349	00400–RM576–Z105
			DI–350	↓
	1998 Tacoma Suppl.	RM614–U	PP–8	00400–RM614–9123
			PP–9	↓
			SA–8	↓
			SA–10	↓
			SA–11	↓
			SS–8	↓
	1999 Tacoma	RM673–U1	SS–72	00400–RM673–9123A
			DI–373	00400–RM673–Z105
			DI–374	↓
		RM673–U2	SA–23	00400–RM673–9123B
			SA–26	↓
			SA–28	↓
	2000 Tacoma	RM712–U1	SS–73	00400–RM712–9123A
			DI–415	00400–RM712–Z105
			DI–416	↓
		RM712–U2	SA–23	00400–RM712–9123B
			SA–26	↓
			SA–28	↓
	2001 Tacoma	RM835–U1	DI–340	00400–RM835–Z105
			DI–341	↓
Tundra	2000 Tundra	RM682–U2	TR–43	00400–RM682–Z055
			TR–44	↓
			TR–45	↓

TOYOTA

Technical Service BULLETIN

December 24, 1999

Title:

REPAIR MANUAL CORRECTIONS INDEX

Models:

All Models

TSB

REVISED **PG002–99**

PRODUCT GENERAL INFORMATION

Introduction Corrections have been made in the repair manuals listed below. Corrections available in the last quarter are marked in **red**, and have already been mailed to all dealers.

Parts Information Correction Pages are available through the Dealer Support Material Network (MDC NPM System) via the corresponding part numbers from the following table:

NOTE:
When ordering a technical publication (i.e. Repair Manual, Electrical Wiring Diagram) from the MDC, and Correction Page(s) associated with that particular Publication will automatically be included with your order.

	Publication	Number	Page(s)	Part Number
Avalon	1999 Avalon	RM598–U	BE–74	00400–RM598–8029
			BE–76	↓
			BE–77	↓
			BE–78	↓
			BE–79	↓
			BE–80	↓
			BE–81	↓
			BE–82	↓
			BE–83	↓
			BE–84	↓
			BE–85	↓
			BE–86	↓
			BE–87	↓
			BE–80	↓
			BE–81	↓
			BE–82	↓
		RM656–U	DI–116	00400–RM656–8121
			DI–121	↓
			DI–123	↓
			DI–136	↓
4Runner	1998 4Runner	RM580–U1	DI–331	00400–RM580–8087
			DI–338	↓
	1999 4Runner	RM663–U2	BE–49	00400–RM663–9005
			BE–92	00400–RM663–8117
Camry	1998 Camry	RM589–U1	DI–107	00400–RM580–8087
			DI–112	↓
			DI–114	↓
			DI–127	↓
		RM589–U2	SA–5	00400–RM589–9002
	1999 Camry	RM654–U2	SA–5	00400–RM654–9002

Toyota Supports ASE Certification

REPAIR MANUAL CORRECTIONS INDEX – PG002-99 REVISED December 24, 1999

	Publication	Number	Page(s)	Part Number
Celica	1998 Celica	RM613–U	D1–90	00400–RM598–8029
			D1–95	↓
			D1–97	↓
			D1–110	↓
			SA–5	00400–RM613–9002
	1999 Celica	RM660–U	D1–96	00400–RM660–8121
			D1–101	↓
			D1–103	↓
			D1–116	00400–RM660–8121
			SA–5	00400–RM660–9002
	2000 Celica	RM774–U1	D1–280	00400–RM774–9063
			SS–47	00400–RM774–9078A
			SS–52	↓
		RM774–U2	SA–41	00400–RM774–9078B
			SA–44	↓
			SA–50	↓
			SA–61	↓
			SA–71	↓
			SA–72	↓
			SR–33	↓
			SR–51	↓
Celica	1998 Corolla	RM591–U1	D1–71	00400–RM591–8121
			D1–75	↓
			D1–77	↓
			D1–90	↓
			D1–181	00400–RM591–8063
			D1–182	↓
			D1–183	↓
			D1–185	↓
			D1–187	↓
			D1–188	↓
			D1–189	↓
			D1–190	↓
			D1–191	↓
			D1–194	↓
			D1–198	↓
			D1–199	↓
			D1–200	↓
			D1–201	↓
			D1–202	↓
			D1–203	↓
			D1–205	↓
			D1–206	↓
			D1–208	↓
			D1–210	↓
	1999 Corolla	RM655–U	D1–72	00400–RM655–8121
			D1–76	↓
			D1–78	↓

	Publication	Number	Page(s)	Part Number
Corolla (Continued)	1999 Corolla	RM665–U	D1–91	00400–RM655–8121
Land Cruiser	1998 Land Cruiser	RM615–U	PP–33	N/A
			PP–34	N/A
			PP–35	N/A
			PP–36	N/A
			SS–26	N/A
			TR–07	N/A
			TR–11	N/A
			TR–12	N/A
			TR–20	N/A
			TR–26	N/A
			TR–29	N/A
			TR–30	N/A
			TR–31	N/A
			TR–32	N/A
			TR–33	N/A
			TR–39	N/A
			TR–41	N/A
			TR–44	N/A
			TR–45	N/A
			TR–46	N/A
		RM615–U1	D1–293	00400–RM615–8046
			D1–299	↓
			D1–453	00400–RM615–8117
			SS–29	00400–RM615–9017
		RM615–U2	EM–59	00400–RM615–9038
			BE–74	00400–RM615–9022
			BR–4	00400–RM615–8031
			SA–14	00400–RM615–9017A
			SA–15	↓
			SR–24	00400–RM615–9028
			SR–26	↓
			SR–27	↓
			SR–28	↓
			SR–30	↓
			SR–31	↓
	1999 Land Cruiser	RM661–U1	D1–122	00400–RM661–8121
			D1–127	↓
			D1–129	↓
			D1–142	↓
			D1–311	↓
			D1–316	↓
			D1–318	↓
			D1–331	↓
			D1–471	00400–RM661–8117
			SS–30	00400–RM661–9017
		RM661–U2	BE–76	00400–RM661–9022

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	Publication	Number	Page(s)	Part Number
Land Cruiser (Continued)	1999 Land Cruiser		EM–59	00400–RM661–9038
			SA–15	00400–RM661–9017A
			SA–16	↓
			SR–26	00400–RM661–9028
			SR–28	↓
			SR–29	↓
			SR–30	↓
			SR–32	↓
			SR–33	↓
			SR–34	↓
Sienna	1998 Sienna	RM594–U	BO–14	00400–RM594–9023
			BO–15	↓
			BO–20	↓
			D1–186	00400–RM594–9065
			D1–187	↓
			D1–190	↓
			D1–191	↓
			D1–192	↓
			D1–193	↓
			D1–194	↓
			D1–195	↓
			D1–196	↓
			D1–219	00400–RM594–8088
			D1–224	↓
			D1–225	↓
			D1–385	00400–RM594–8066
			D1–386	↓
			D1–389	↓
			SA–5	00400–RM594–9002
	1999 Sienna	RM657–U	BE–84	00400–RM657–9011
			BO–14	00400–RM657–9021
			BO–15	↓
			BO–20	↓
			D1–219	00400–RM657–9065
			D1–220	↓
			D1–223	↓
			D1–224	↓
			D1–225	↓
			D1–226	↓
			D1–227	↓
			D1–228	↓
			D1–229	↓
			D1–253	00400–RM657–8088
			D1–257	↓
			D1–258	↓
			SA–5	00400–RM657–9022
	2000 Sienna	RM701–U	D1–217	00400–RM701–9065
			D1–218	↓

REPAIR MANUAL CORRECTIONS INDEX – PG002–99 Revised December 24, 1999

	Publication	Number	Page(s)	Part Number
Sienna (Continued)	2000 Sienna	RM701–U	D1–221	00400–RM701–9065
			D1–222	↓
			D1–223	↓
			D1–224	↓
			D1–225	↓
			D1–226	↓
			D1–227	↓
Solara	1999 Solara	RM649–U1	D1–110	00400–RM649–8121
			D1–115	↓
			D1–117	↓
			D1–130	↓
			D1–286	↓
			D1–291	↓
			D1–293	↓
			D1–306	↓
			SA–5	00400–RM594–9002
Supra	1999 Supra	RM408–U2	SA–20	00400–RM408–9007
			SA–26	↓
			SA–28	↓
	1996 Supra	RM444	SA–18	00400–RM444–9007
			SA–19	↓
			SA–24	↓
	1997 Supra	RM502	SA–18	00400–RM502–9007
			SA–19	↓
			SA–24	↓
	1998 Supra	RM587–U1	PP–69	00400–RM587–9007A
		RM587–U2	SA–19	00400–RM587–9007B
			SA–28	↓
			SA–31	↓
Tacoma	1998 Tacoma	RM576–U1	D1–351	00400–RM576–8038
Tundra	2000 Tundra	RM682–U1	SS–76	00400–RM682–9077A
		RM682–U2	BR–9	00400–RM682–9077B
			BR–13	↓

TOYOTA

Technical Service BULLETIN

September 30, 2002

Title:

REPAIR MANUAL CORRECTIONS INDEX

Models:

All Models

TSB

REVISED **PG002-02**

PRODUCT GENERAL INFORMATION

Introduction Corrections have been made in the repair manuals listed below. Corrections available in the last quarter are marked in **red**, have already been mailed to all dealers, and are updated in TIS.

> **NOTE:**
> **When ordering a technical publication (i.e., Repair Manual, Electrical Wiring Diagram) from the MDC, any Correction Page(s) associated with that particular Publication will automatically be included with your order.**

Parts Information Correction Pages are available through the Dealer Support Material Network (MDC NPM System) via the corresponding part numbers from the following table.

	Publication	Number	Page(s)	Part Number
4Runner	2001 4Runner	RM796–U1	DI–477	00400–RM796–2086
	2002 4Runner	EWD471–U	158	00400–EWD471–2050
		RM887–U1	DI–487	00400–RM887–2087
Avalon	2002 Avalon	EWD45–3U	258	00400–EWD45–32038
			21	↓
		RM872–U1	DI–232	00400–RM872–2054
			DI–530	00400–RM872–2052
Camry	1998 Camry	RM589–U2	BE–64	00400–RM589–2005B
			BE–65	↓
			BE–66	↓
	1999 Camry	RM654–U2	BE–65	00400–RM654–2005B
			BE–66	↓
			BE–67	↓
	2000 Camry	RM742–U2	BE–65	00400–RM742–2005B
			BE–66	↓
			BE–67	↓
	2001 Camry	RM819–U2	BE–66	00400–RM819–2005B
			BE–67	↓
			BE–68	↓

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	Publication	Number	Page(s)	Part Number
Camry (Continued)	2002 Camry	EWD46–1U	77	00400–EWD46–12039
		RM881–U1	05–418	00400–RM881–2054
			05–1230	00400–RM881–2077
		RM881–U2	73–8	00400–RM881–2060B
			73–9	↓
			73–10	↓
Celica	2000 Celica	RM744–U1	DI–510	00400–RM744–2074
	2001 Celica	RM818–U1	DI–511	00400–RM818–2075
	2002 Celica	RM902–U1	DI–514	00400–RM902–2076
Corolla	2003 Corolla	RM938–U1	05–169	00400–RM938–2054
ECHO	2000 ECHO	RM750–U	BE–66	00400–RM750–2011
			BE–66–1	↓
	2001 ECHO	RM816–U	BE–66	00400–RM816–2011
			BE–66–1	↓
	2002 ECHO	RM884–U	BE–66	00400–RM884–2011
			BE–66–1	↓
Highlander	2002 Highlander	RM918–U1	05–919	00400–RM918–2053
		RM918–U2	82–4	00400–RM918–2058B
			82–5	↓
Land Cruiser	1998 Land Cruiser	RM615–U2	BE–80	00400–RM615–2006B
			BE–81	↓
	1999 Land Cruiser	RM661–U2	BE–82	00400–RM661–2006B
			BE–83	↓
	2000 Land Cruiser	RM722–U2	BE–82	00400–RM722–2006B
			BE–83	↓
	2001 Land Cruiser	RM795–U2	BE–91	00400–RM795–2006B
			BE–92	↓
			BE–93	↓
	2002 Land Cruiser	RM893–U2	BE–91	00400–RM893–2006B
			BE–92	↓
			BE–93	↓
Prius	2001 Prius	RM778–U1	DI–654	00400–RM778–2072
	2002 Prius	RM883–U1	DI–669	00400–RM883–2073

REPAIR MANUAL CORRECTIONS INDEX – PG002-02 Revised September 30, 2002

	Publication	Number	Page(s)	Part Number
RAV4	2001 RAV4	RM797–U1	DI–450	00400–RM797–2084
		RM797–U2	BE–63	00400–RM797–2012B
			BO–9	00400–RM797–2040B
			BO–10	↓
			BO–11	↓
			BO–11–1	↓
	2002 RAV4	RM891–U1	DI–450	00400–RM891–2085
		RM891–U2	BE–64	00400–RM891–2012B
			BO–9	00400–RM891–2040B
			BO–10	↓
			BO–11	↓
			BO–11–1	↓
Sequoia	2002 Sequoia	RM886–U1	DI–253	00400–RM886–2054
Sienna	1998 Sienna	RM594–U	BE–59	00400–RM594–2013
	1999 Sienna	RM657–U	BE–60	00400–RM657–2013
	2000 Sienna	RM701–U	BE–60	00400–RM701–2013
Solara	2002 Solara	RM882–U1	DI–446	00400–RM882–2054
Tacoma	2002 Tacoma	EWD478–U	71	00400–EWD–2051
			4	↓
Tundra	2002 Tundra	RM885–U1	DI–371	00400–RM885–2054

TOYOTA **TECHNICAL SERVICE BULLETIN**

REF.: PRODUCT GENERAL INFORMATION
NO.: PG95-006
DATE: JULY 21, 1995
MODEL: ALL MODELS

STANDARD BOLT TORQUE SPECIFICATIONS

The following bolt mark and class identification information is currently not included in the Standard Bolt Torque Specifications found in the Introduction section of each Toyota Repair Manual.

BOLT	MARK	CLASS
 (Hexagon flange bolt or Hexagon bolt with washer)	**4 Protruding Lines**	**9T**
 (Hexagon flange bolt or Hexagon bolt with washer)	**5 Protruding Lines**	**10T**
 (Hexagon flange bolt or Hexagon bolt with washer)	**6 Protruding Lines**	**11T**

SPECIFIED TORQUE FOR STANDARD BOLTS

CLASS	DIAMETER mm	PITCH mm	SPECIFIED TORQUE					
			HEXAGON HEAD BOLT			HEXAGON FLANGE BOLT		
			N•m	kgf•cm	ft•lbf	N•m	kgf•cm	ft•lbf
9T	8	1.25	34	340	25	37	380	27
	10	1.25	70	710	51	78	790	57
	12	1.25	125	1300	94	140	1450	105
10T	8	1.25	38	390	28	42	430	31
	10	1.25	78	800	58	88	890	64
	12	1.25	140	1450	105	155	1600	116
11T	8	1.25	42	430	31	47	480	35
	10	1.25	87	890	64	97	990	72
	12	1.25	155	1600	116	175	1800	130

TOYOTA

Technical Service BULLETIN

March 31, 2000

Title:

CA/50 STATE CERTIFIED EMISSION CONTROL UNDERHOOD LABEL ORDERING

Models:

All Models

TSB

PG006–00

PRODUCT GENERAL INFORMATION

Introduction

It is no longer necessary to fax the CA/50 State Emission Label Order Form to TMS. California (CA) and 50 State Certified underhood emission control labels (emission labels) may now be obtained through your dealership Parts Department utilizing standard replacement parts ordering procedures via the TDN. Follow the guidelines outlined in this TSB to ensure proper label application.

Applicable Vehicles

- **All** model year **Toyota Vehicles.**
  We have included tables reflecting 1997 – 2000 MY CA and 50 State Emission Label part number information for your convenience. Please continue to consult the Electronic Parts Catalog (EPC) or the parts microfiche for information regarding other model years as well as Federal Emission label part numbers.

NOTE:

Although the California Smog Impact Fee has been discontinued, dealers are still required by regulation to verify the correct emission label is installed on the correct vehicle.

REGULATIONS:

The United States Clean Air Act, Title II, Sections 202, 203, 205, and 207 mandates that the emission control label must correctly match the emissions equipment on the vehicle. Any person violating this requirement is subject to applicable State penalties and a Federal civil penalty of no more than $25,000 for each instance.

Personnel at franchised dealerships are authorized to affix such labels to vehicles and are, therefore, subject to this regulation and the attendant penalties.

- **Do not sell the labels over the counter. Always install the label on the vehicle.**
- **Never install a California and/or 50 State Label on a vehicle that is not a California/50 State Emission Certified Vehicle.**
- **Do not install Federal Emission labels on vehicles that are not Federal Emissions Certified.**

Warranty Information

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

CA/50 STATE CERTIFIED EMISSION CONTROL UNDERHOOD LABEL ORDERING – PG006–00 March 31, 2000

Label Ordering Procedure

To ensure that the emission control labels are affixed to the correct vehicle, it is necessary to follow these procedures:

1. Record the Vehicle Identification Number (VIN) from the vehicle requiring a replacement label.
2. A dealership associate (must be assigned by Parts Manager), with authorized TDN access, must confirm the emissions equipment of the vehicle by referring to the following accessory codes:
   - **CA – California Certified**
   - **FE – 50 State Certified**
   - **RE – Federal Certified**
   - **CN – California and New York Certified**



3. Once the emissions equipment information is verified, obtain the part number information by referring to the attached table for 1998 – 2000 MY vehicles or consulting the EPC/microfiche for other Toyota vehicles, including Federal Specification Vehicles.
4. Order the label through your Parts Department, using normal parts ordering procedures via the TDN.
5. When the part arrives, verify that the emission label matches the emissions equipment on the vehicle. This will ensure the correct label is affixed to the vehicle.

CA/50 STATE CERTIFIED EMISSION CONTROL UNDERHOOD LABEL ORDERING – PG006–00 March 31, 2000

1997 MY CA/50 State Certified Emission Control Labels

MODEL	ENGINE NAME	TRANSMISSION	EMISSIONS*	PART NUMBERS
Tercel	5E–FE	All	USA	11298–11452
Paseo	5E–FE	All	CA	11298–11452
Corolla	4A–FE	All	CA	11298–1D060
	7A–FE	All	CA	11298–1D090
Celica	7A–FE	All	CA	11298–1D120
	5S–FE	All	CA	11298–7A390
Camry	5S–FE	M/TM	CA	11298–7A330
	5S–FE	A/TM	CA	11298–7A350
	1MZ–FE	All	CA	11298–20110
Supra	2JZ–GE	All	USA	11298–46121
	2JZ–GTE	All	USA	11298–46102
Avalon	1MZ–FE	A/TM	CA	11298–20110
Previa	2TZ–FZE	A/TM	USA	11298–76083
RAV4	3S–FE	All	CA	11298–7A410
4Runner	3RZ–FE (2WD)	All	USA	11298–75220
	3RZ–FE (4WD)	All	USA	11298–75260
	5VZ–FE	All	CA	11298–62450
Tacoma	2RZ–FE (2WD)	All	CA	11298–75210
	3RZ–FE (4WD)	M/TM	CA	11298–75200
	3RZ–FE (4WD)	All	USA	11298–75220
	5VZ–FE (2WD XtraCab)	All	USA	11298–62430
	5VZ–FE (4WD RegCab)	M/TM	USA	11298–62430
	5VZ–FE (4WD XtraCab)	All	CA	11298–62450
T–100	3RZ–FE (2WD)	All	USA	11298–75240
	5VZ–FE (2WD/4WD)	All	CA	11298–62500
Land Cruiser	1FZ–FE	A/TM	USA	11298–66070

* CA = California Emission Specification, USA = 50 State Emission Specification

CA/50 STATE CERTIFIED EMISSION CONTROL UNDERHOOD LABEL ORDERING – PG006–00 March 31, 2000

1998 MY CA/50 State Certified Emission Control Labels

MODEL	ENGINE NAME	TRANSMISSION	EMISSIONS*	PART NUMBERS
Tercel	5E–FE	All	CA	11298–11453
Corolla	1ZZ–FE	All	CA	11298–22040
Celica	5S–FE	All	CA	11298–7A470
Camry	5S–FE	All	CA	11298–7A430
	1MZ–FE	A/TM	CA	11298–20160
	1MZ–FE	M/TM	CA	11298–20190
Supra	2JZ–GE	A/TM	CA	11298–46122
Avalon	1MZ–FE	A/TM	CA	11298–20160
Sienna	1MZ–FE	All	CA	11298–20140
RAV4	3S–FE	All	CA	11298–7A510
4Runner	3RZ–FE (2WD)	All	CA	11298–75320
	3RZ–FE (4WD)	All	CA	11298–75380
	5VZ–FE	All	CA	11298–62540
Tacoma	2RZ–FE (2WD)	All	CA	11298–75300
	3RZ–FE (4WD)	M/TM	CA	11298–75310
	3RZ–FE (4WD)	A/TM	CA	11298–75320
	5VZ–FE (2WD)	All	CA	11298–62530
	5VZ–FE (4WD XtraCab)	All	CA	11298–62540
T–100	3RZ–FE (2WD)	All	USA	11298–75360
	5VZ–FE (2WD/4WD)	All	CA	11298–62580
Land Cruiser	2UZ–FE	A/TM	CA	11298–50200

* CA = California Emission Specification, USA = 50 State Emission Specification

CA/50 STATE CERTIFIED EMISSION CONTROL UNDERHOOD LABEL ORDERING – PG006–00 March 31, 2000

1999 MY CA/50 State Certified Emission Control Labels

MODEL	ENGINE NAME	TRANSMISSION	EMISSIONS*	PART NUMBERS
Corolla	1ZZ–FE	All	CA	11298–22041
Celica	5S–FE	All	CA	11298–7A560
Camry	5S–FE	All	CA	11298–7A521
	1MZ–FE	M/TM	USA	11298–20240
	1MZ–FE	A/TM	CA	11298–20181
Camry Solara	5S–FE	All	CA	11298–7A521
	1MZ–FE	M/TM	USA	11298–20240
	1MZ–FE	A/TM	USA	11298–20181
Avalon	1MZ–FE	All	CA	11298–20181
Sienna	1MZ–FE	A/TM	CA	11298–20270
RAV4	3S–FE (2WD/4WD)	All	CA	11298–7A541
4Runner	3RZ–FE (2WD/4WD)	All	USA	11298–75400
	5VZ–FE (2WD/4WD)	All	CA	11298–62660
Tacoma	2RZ–FE (2WD)	All	USA	11298–75460
	3RZ–FE (PreRunner/4WD)	A/TM	USA	11298–75470
	3RZ–FE (4WD)	M/TM	CA	11298–75480
	3RZ–FE (2WD XtraCab)	A/TM	USA	11298–75400
	5VZ–FE (2WD XtraCab)	All	USA	11298–62590
	5VZ–FE (PreRunner/4WD)	All	USA	11298–62600
Land Cruiser	2UZ–FE	A/TM	USA	11298–50181

* CA = California Emission Specification, USA = 50 State Emission Specification

2000 MY CA/50 State Certified Emission Control Labels

MODEL	ENGINE NAME	TRANSMISSION	EMISSIONS*	PART NUMBERS
ECHO	1NZ–FE	All	USA	11298–21010
Corolla	1ZZ–FE	All	USA	11298–22032
Celica	1ZZ–FE	All	USA	11298–22080
	2ZZ–GE	All	USA	11298–22050
Camry	5S–FE	All	USA	11298–7A590
	1MZ–FE	M/TM	USA	11298–20320
	1MZ–FE	A/TM	CA	11298–20310
Camry Solara	5S–FE	All	USA	11298–7A590
	1MZ–FE	M/TM	USA	11298–20320
	1MZ–FE	A/TM	CA	11298–20310
Camry Solara Convertible	5S–FE	A/TM	USA	11298–7A590
	1MZ–FE	A/TM	CA	11298–20310
Camry (CNG)	5S–FNE	A/TM	USA	11298–7A640
Avalon	1MZ–FE	A/TM	USA	11298–20290
Sienna	1MZ–FE	A/TM	USA	11298–20340
RAV4	3S–FE (2WD/4WD)	All	USA	11298–7A620
4Runner	3RZ–FE (2WD)	All	USA	11298–75550
	3RZ–FE (4WD)	M/TM	USA	11298–75550
	5VZ–FE (2WD/4WD)	All	USA	11298–62690
Tacoma	2RZ–FE (2WD)	All	USA	11298–75510
	3RZ–FE (2WD/4WD)	A/TM	USA	11298–75530
	3RZ–FE (4WD XtraCab)	M/TM	USA	11298–75530
	3RZ–FE (4WD XtraCab)	A/TM	USA	11298–75550
	3RZ–FE (PreRunner)	A/TM	USA	11298–75530
	5VZ–FE (2WD XtraCab)	All	USA	11298–62670
	5VZ–FE (4WD & PreRunner)	All	USA	11298–62690
Tundra	5VZ–FE	All	CA	11298–62640
	2UZ–FE	A/TM	USA	11298–50241
Land Cruiser	2UZ–FE	A/TM	USA	11298–50182

* CA = California Emission Specification, USA = 50 State Emission Specification

TOYOTA

Technical Service BULLETIN

May 4, 2001

Title:

REPLACEMENT CERTIFICATION LABELS

Models:

All Models

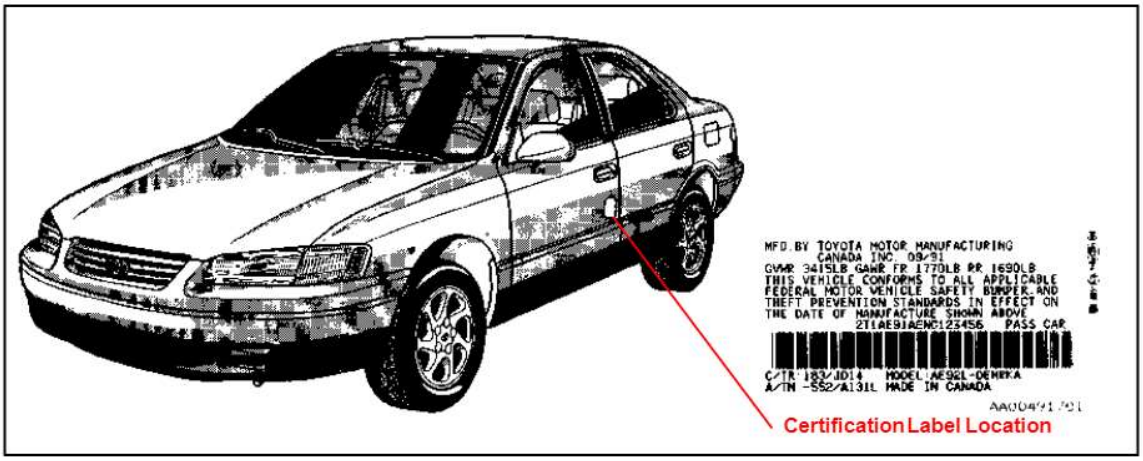
TSB

PG006-01

PRODUCT GENERAL INFORMATION

Introduction

Replacement Certification Labels (vinyl label affixed to driver's door or door post) **may be** available from Toyota providing the request meets one of the criteria listed below.



Applicable Vehicles

- All Toyota vehicles.

Certification Label Criteria

1. The vehicle is in an accident and the label is damaged or is attached to a part that will be replaced during the repair.

NOTE:

- **Processing a new label *will be delayed significantly if the old certification label is not available.***
- **A replacement label MAY NOT be available if the vehicle is more than 5 years old and the old label does not accompany this request.**

2. The label is stolen.

Procurement Procedure

To request a replacement label, complete a copy of the form on the back of this bulletin. Your dealer parts account will be billed $10.00 for each replacement of a damaged or stolen label.

NOTE:

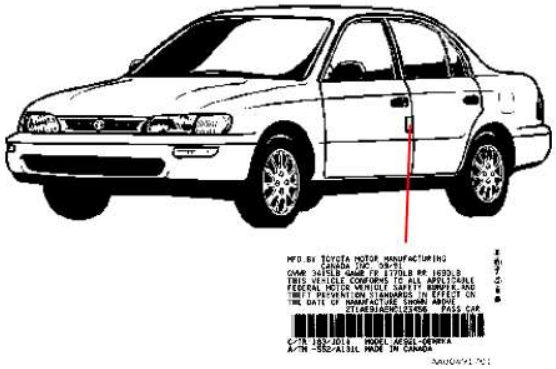
All replacement labels for damaged and/or stolen vehicles are subject to approval by the Technical Compliance Department. If you have any specific questions, contact (310) 468–3390.

Warranty Information

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

TOYOTA

APPLICATION FOR REPLACEMENT CERTIFICATION LABEL



REASON FOR REPLACEMENT

- ☐ ACCIDENT DAMAGE
- ☐ STOLEN
- ☐ OTHER _____

REASON/EXPLANATION

PLEASE PROVIDE CORRECT VIN _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

ATTACH ORIGINAL LABEL HERE

NOTE:
Original label MUST accompany this application or order will be significantly delayed.

DEALER INFORMATION

DEALER CODE: ☐☐☐☐☐

DEALER NAME: _____

ADDRESS: _____
STREET ADDRESS

_____
CITY, STATE, ZIP CODE

TELEPHONE: ( ) _____
AREA CODE, TELEPHONE NUMBER

CONTACT: _____
FIRST NAME, LAST NAME

MAIL (*DO NOT FAX*) THE COMPLETED REQUEST FORM WITH THE OLD LABEL TO:

TOYOTA MOTOR SALES, U.S.A. INC.
TECHNICAL COMPLIANCE DEPARTMENT, S207
19001 S. WESTERN AVENUE
TORRANCE, CA 90509–2991

TOYOTA

Technical Service BULLETIN

September 26, 2003

Title:

WARRANTY PARTS MARKING PROCEDURE

Models:

All Models

TSB

PG006–03

PRODUCT GENERAL INFORMATION

Introduction

Effective September 1, 2003, all warranty parts (as indicated on the next page) must be marked in the area or location of the failure. The technician should complete this procedure after the failed part has been removed from the vehicle and before the part is placed in the 10–bin storage. (Exchanged parts and remanufactured parts are not included in this procedure.)

Failed parts marking will be beneficial in detecting and resolving product and parts quality issues. This will also offer additional opportunities to make future enhancements to our parts and products.

Parts are subject to random inspection in the dealership by field representatives to ensure compliance with this new policy.

Failure to comply with this policy may result in a debit of the corresponding warranty claim(s).

Applicable Vehicles

- All models.

Parts Marking Procedure

All technicians must follow these procedures to ensure proper parts marking:

- Wipe the part clean (no excess fluid should be present).
- Indicate area of defect or failure by marking the specific part(s) with a water resistant permanent marker. Use a color that can be easily seen against the background of the part being marked. For dark surfaces the color yellow is highly recommended as well as the color black for light surfaces.
- Mark the area of failure or defect by drawing a circle, a square, pointing an arrow or adhering tape with an indication of the failed or defect location.
- Attach a completed Warranty Parts Tag (M/N 00404–PRETN–TAGS) to the marked part.

All other parts recovery/shipping policies and procedures apply.

Warranty Information

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

WARRANTY PARTS MARKING PROCEDURE – PG006-03 September 26, 2003

Parts Marking Requirement

Dealers are requested to mark the location of the failure of all warranty parts that are listed below. ***This list is not inclusive.*** There may be other components that can be marked in the area of failure. All other parts that can be marked should be marked.

Parts Marking List

assist grip assy
audio (blemish)
back door garnish
bumper covers
cargo cover (retractable)
carpet
clutch disc
clutch flywheel
combination meter glass
console and components
cowl assy
cowl side trim sub–assy
cupholders
cylinder head cover sub–assy
dash panel insulator assy
dashboard and trim
disc wheel
display panels
door handle assy
door moulding
door trim panel & molding
emblems
engine oil pan
exhaust manifold
floor and cargo mats
gear shift knob
grills
headlamps
headliner
hoses
instrument panel safety pad sub–assy
Interior light assemblies and covers
knobs, levers, handles
l/pulley pump assy
mirrors (side and rearview)
navigation or VES screens
pillar garnish
rack and pinion/power steering gear assy
radiator
room partition board
rotors (mark where min. runout is exceeded or warped)
seat covers/cushions
seat tracks
soft trim
spare tire cover
steering column cover
steering wheel
tail lamps and covers
transmission oil pan
visor
washer jar
wheel cap
wheels

Parts Marking List (Continued)

NOTE:
The following parts do not have to be marked unless the technician can determine failure and location.

air induction/ejection systems
all computers
alternators
audio (internal)
batteries
bearings
belts
catalytic converter
crankshaft
cruise control
distributors
EGR systems
engine control systems
exchange parts
exhaust systems
fuel injection systems
fuel injectors
fuel pump
ignition system
internal engine components
internal transmission components
oil cooler
power door lock switches
remanufactured parts
starters
suspension components
valve covers
window regulators
wiper motors

TOYOTA

Technical Service BULLETIN

May 4, 2001

Title:

REPLACEMENT VIN PLATES

Models:

All Models

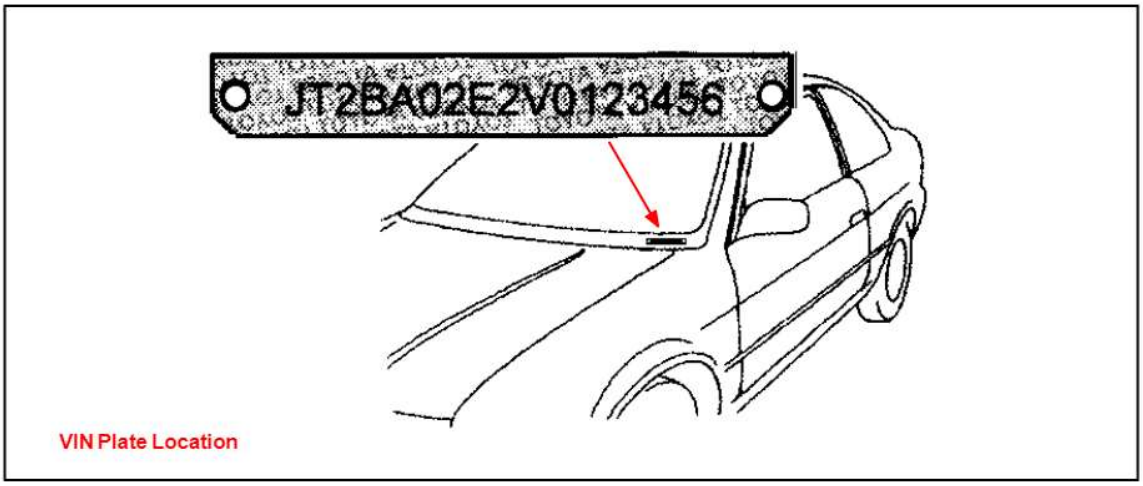
TSB

PG007-01

PRODUCT GENERAL INFORMATION

Introduction

Replacement **VIN** plates (metal plates riveted to dashboard) **may be** available from Toyota providing the request meets the criteria listed below.



VIN Plate Location

Applicable Vehicles

- All Toyota vehicles.

Replacement VIN Plate Criteria

- The vehicle is in an accident and the plate is damaged.

NOTE:

The original plate to be replaced MUST accompany the request.

NOTE:

If a plate is stolen, be sure to contact the State Police or your State's Department of Motor Vehicles (DMV). In most cases the State DMV will issue a unique number so that the original number can be included on stolen vehicle listings. If this is the case, a replacement plate is NOT available from Toyota. However, the original VIN, NOT the state issued VIN, must be used on all warranty claims.

Procurement Procedure

To request a replacement plate, complete a copy of the form on the back of this page. Note that the damaged VIN plate **MUST** accompany the request form. Your dealer parts account will be billed $10.00 for each replacement of a damaged plate.

NOTE:

All replacement plates for damaged and/or stolen vehicles are subject to approval by the Technical Compliance Department. If you have any specific questions, contact (310) 468–3390.

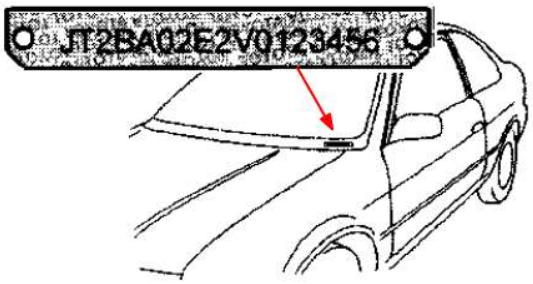
Warranty Information

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

Toyota Supports ASE Certification

TOYOTA

APPLICATION FOR REPLACEMENT VIN PLATE



REASON FOR REPLACEMENT

☐ ACCIDENT DAMAGE

☐ OTHER _____

REASON/EXPLANATION

PLEASE PROVIDE CORRECT VIN _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _



DEALER INFORMATION

DEALER CODE: ☐☐☐☐☐

DEALER NAME: _____

ADDRESS: _____

STREET ADDRESS

_____

CITY, STATE, ZIP CODE

TELEPHONE: ( ) _____

AREA CODE, TELEPHONE NUMBER

CONTACT: _____

FIRST NAME, LAST NAME

MAIL (*DO NOT FAX*) THE COMPLETED REQUEST FORM WITH THE OLD PLATE TO:

TOYOTA MOTOR SALES, U.S.A. INC.
TECHNICAL COMPLIANCE DEPARTMENT, S207
19001 S. WESTERN AVENUE
TORRANCE, CA. 90509–2991

TOYOTA

Technical Service BULLETIN

January 18, 2002

Title:

REPLACEMENT CERTIFICATION LABELS

Models:

All Models

TSB

PG008-02

PRODUCT GENERAL INFORMATION

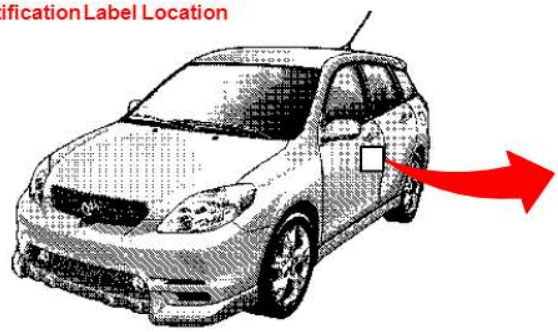
TSB UPDATE NOTICE:

The information contained in this TSB updates PG006–01 dated May 4, 2001. Revised text is red and underlined. The changes will take place February 1, 2002.

Introduction

Replacement Certification Labels (vinyl label affixed to driver's door or door post) **may be** available from Toyota providing the request meets one of the criteria listed below.

Certification Label Location



MFD.BY:TOYOTA MOTOR MANUFACTURING
CANADA INC. 10/01
GVWR 3935LB GAWR FR 1970LB RR 1985LB
THIS VEHICLE CONFORMS TO ALL APPLICABLE
FEDERAL MOTOR VEHICLE SAFETY, BUMPER, AND
THEFT PREVENTION STANDARDS IN EFFECT ON
THE DATE OF MANUFACTURE SHOWN ABOVE.
XT0XX00X0X000000 PASS.CAR

C/TR:3L5/FB14 MODEL:ZZE134L – DHPNKA
A/TM:–04A/U341F MADE IN CANADA
S26 AA01904759

Applicable Vehicles

- All Toyota vehicles.

Certification Label Criteria

1. The vehicle is in an accident and the label is damaged or is attached to a part that will be replaced during the repair.

NOTE:

- **Processing a new label *will be delayed significantly if the original certification label is not available.***
- **A replacement label MAY NOT be available if the vehicle is more than 5 years old and the old label does not accompany this request.**

2. The label is stolen.

Procurement Procedure

To request a replacement label, complete a copy of the form on the back of this bulletin. Your dealer parts account will be billed $25.00 for each replacement of a damaged or stolen label.

NOTE:

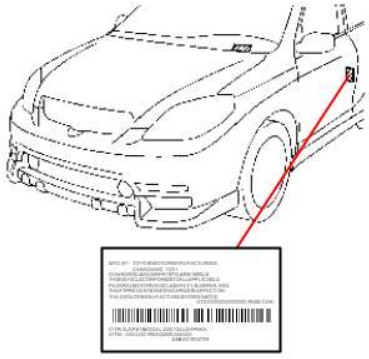
All replacement labels for damaged and/or stolen vehicles are subject to approval by the Technical Compliance Department. If you have any specific questions, contact (310) 468–3390.

Warranty Information

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

TOYOTA

APPLICATION FOR REPLACEMENT CERTIFICATION LABEL



REASON FOR REPLACEMENT

☐ ACCIDENT DAMAGE
☐ STOLEN
☐ OTHER _____

REASON/EXPLANATION

PLEASE PROVIDE CORRECT VIN _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

ATTACH ORIGINAL LABEL HERE

NOTE:
Original label MUST accompany this application or order will be significantly delayed.

DEALER INFORMATION

DEALER CODE: ☐☐☐☐☐

DEALER NAME: _____

ADDRESS: _____
STREET ADDRESS

_____
CITY, STATE, ZIP CODE

TELEPHONE: ( ) _____
AREA CODE, TELEPHONE NUMBER

CONTACT: _____
FIRST NAME, LAST NAME

MAIL (*DO NOT FAX*) THE COMPLETED REQUEST FORM WITH THE OLD LABEL TO:

TOYOTA MOTOR SALES, U.S.A. INC.
TECHNICAL COMPLIANCE DEPARTMENT, S207
19001 S. WESTERN AVENUE
TORRANCE, CA 90509–2991

TOYOTA

Technical Service BULLETIN

January 18, 2002

Title:

REPLACEMENT VIN PLATES

Models:

All Models

TSB

PG009-02

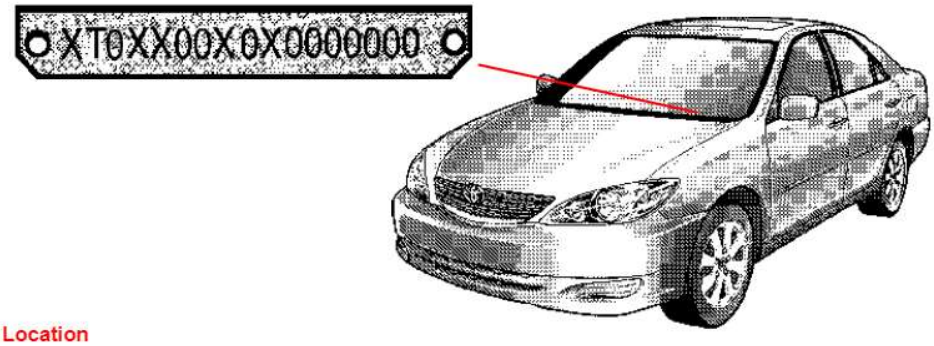
PRODUCT GENERAL INFORMATION

TSB UPDATE NOTICE:

The information contained in this TSB updates PG007–01 dated May 4, 2001. Revised text is red and underlined. The changes will take place February 1, 2002.

Introduction

Replacement **VIN** plates (metal plates riveted to dashboard) **may be** available from Toyota providing the request meets the criteria listed below.



VIN Plate Location

Applicable Vehicles

- All Toyota vehicles.

Replacement VIN Plate Criteria

- The vehicle is in an accident and the plate is damaged.

NOTE:

The original plate to be replaced MUST accompany the request.

NOTE:

If a plate is stolen, be sure to contact the State Police or your State's Department of Motor Vehicles (DMV). In most cases the State DMV will issue a unique number so that the original number can be included on stolen vehicle listings. If this is the case, a replacement plate is NOT available from Toyota. However, the original VIN, NOT the state issued VIN, must be used on all warranty claims.

Procurement Procedure

To request a replacement plate, complete a copy of the form on the back of this page. Note that the damaged VIN plate **MUST** accompany the request form. Your dealer parts account will be billed $25.00 for each replacement of a damaged plate.

NOTE:

All replacement plates for damaged and/or stolen vehicles are subject to approval by the Technical Compliance Department. If you have any specific questions, contact (310) 468–3390.

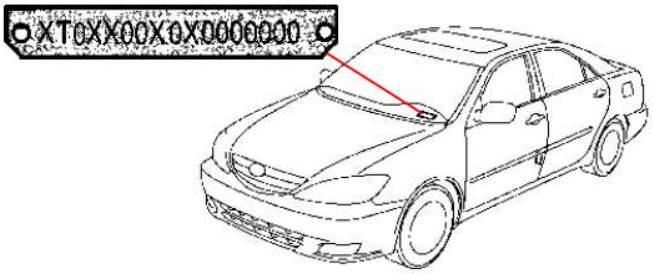
Warranty Information

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

Toyota Supports ASE Certification

TOYOTA

APPLICATION FOR REPLACEMENT VIN PLATE



REASON FOR REPLACEMENT

☐ ACCIDENT DAMAGE

☐ OTHER _____

REASON/EXPLANATION

PLEASE PROVIDE CORRECT VIN _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

ATTACH DAMAGED PLATE HERE

DEALER INFORMATION

DEALER CODE: ☐☐☐☐☐

DEALER NAME: _____

ADDRESS: _____
STREET ADDRESS

_____
CITY, STATE, ZIP CODE

TELEPHONE: ( ) _____
AREA CODE, TELEPHONE NUMBER

CONTACT: _____
FIRST NAME, LAST NAME

MAIL (*DO* ***NOT* *FAX*) THE COMPLETED REQUEST FORM WITH THE OLD PLATE TO:**

TOYOTA MOTOR SALES, U.S.A. INC.
TECHNICAL COMPLIANCE DEPARTMENT, S207
19001 S. WESTERN AVENUE
TORRANCE, CA. 90509–2991

TOYOTA

Technical Service BULLETIN

December 4, 2002

Title:

SUSPENSION BALL JOINT INSPECTION

Models:

See Applicable Models

TSB

PG027-02

PRODUCT GENERAL INFORMATION

Introduction This bulletin describes the inspection method and free play specification figures for suspension ball joints. The on–vehicle inspection methods have been standardized.

Applicable Vehicles

- **1989 – 1992** model year **Cressida** vehicles.
- **1989 – 1998** model year **Supra** vehicles.
- **2001 – 2003** model year **Highlander** vehicles.
- **1995 – 2003** model year **Avalon** vehicles.
- **1989 – 2003** model year **Camry / Camry Solara** vehicles.
- **1985 – 2003** model year **MR2** vehicles.
- **1990 – 2003** model year **Celica** vehicles.
- **2001 – 2003** model year **Prius** vehicles.
- **1988 – 2003** model year **Corolla / Corolla Matrix** vehicles.
- **2000 – 2003** model year **ECHO** vehicles.
- **1991– 1999** model year **Tercel** vehicles.
- **1991 – 1999** model year **Paseo** vehicles.
- **1990 – 1997** model year **Previa** vehicles.
- **1998 – 2003** model year **Sienna** vehicles.
- **1996 – 2003** model year **RAV4 / RAV4 EV** vehicles.
- **1999 – 2003** model year **Land Cruiser** vehicles.
- **2001 – 2003** model year **Sequoia** vehicles.
- **1989 – 2003** model year **4Runner** vehicles.
- **2000 – 2003** model year **Tundra** vehicles.
- **1995 – 2003** model year **Tacoma** vehicles.
- **1989 – 1995** model year **Truck** vehicles.
- **1993 – 1998** model year **T–100** vehicles.

Warranty Information

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

SUSPENSION BALL JOINT INSPECTION – PG027-02 December 4, 2002

Inspection Information

MODEL	LOCATION	LOWER BALL JOINT OR SUSPENSION BALL JOINT			UPPER BALL JOINT		
		INSP. METHOD	MAX. PLAY	TURNING TORQUE	INSP. METHOD	MAX. PLAY	TURNING TORQUE
Cressida (MX8#) 1989 – 1992	Front	1–(C)	No Play Felt	40 in.•lbf (4.5 N•m) or Less	N/A	N/A	N/A
	Rear	3	No Play Felt	31 in.•lbf (3.5 N•m) or Less	2–(A)	No Play Felt	31 in.•lbf (3.5 N•m) or Less
Supra (MA70) 1989 – 1994	Front	1–(A)	0.4 mm	4 in.•lbf (0.5 Nm) or Less	2–(A)	No Play Felt	31 in.•lbf (3.5 N•m) or Less
	Rear	3	No Play Felt	31 in.•lbf (3.5 N•m) or Less			
Supra (JZA80) 1994 – 1998	Front	1–(A)	0.4 mm	27 in.•lbf (3.0 N•m) or Less	2–(A)	No Play Felt	31 in.•lbf (3.5 N•m) or Less
	Rear	1–(A)	No Play Felt	31 in.•lbf (3.5 N•m) or Less			
Highlander (ACU2#, MCU2#) 2001 – 2003	Front	1–(C)	No Play Felt	31 in.•lbf (3.5 N•m) or Less	N/A	N/A	N/A
Avalon (MCX10, 20) 1995 – 2003	Front	1–(C)	No Play Felt	31 in.•lbf (3.5 N•m) or Less	N/A	N/A	N/A
Camry, Camry Solara (SV2#, VZV21, VCV10, MCV10, 20, 30 ACV 20, 30 SVX 10, 20) 1989 – 2003	Front	1–(C)	No Play Felt	31 in.•lbf (3.5 N•m) or Less	N/A	N/A	N/A

SUSPENSION BALL JOINT INSPECTION – PG027-02 December 4, 2002

Inspection Information (Continued)

MODEL	LOCATION	LOWER BALL JOINT OR SUSPENSION BALL JOINT			UPPER BALL JOINT		
		INSP. METHOD	MAX. PLAY	TURNING TORQUE	INSP. METHOD	MAX. PLAY	TURNING TORQUE
MR2 (AW1#) 1985 – 1989	Front	1–(C)	No Play Felt	27 in.•lbf (3.0 N•m) or Less	N/A	N/A	N/A
	Rear	1–(C)*1 3*2	No Play Felt	27 in.•lbf (3.0 N•m) or Less*1 31 in.•lbf (3.5 N•m) or Less*2			
MR2 (SW2#) 1990 – 1996	Front	1–(C)	No Play Felt	22 in.•lbf (2.5 N•m) or Less	N/A	N/A	N/A
	Rear			27 in.•lbf (3.0 N•m) or Less			
MR2 (ZZW30) 2000 – 2003	Front	1–(C)	No Play Felt	22 in.•lbf (2.5 N•m) or Less	N/A	N/A	N/A
	Rear	3		9 in.•lbf (1.0 N•m) or Less			
Celica (AT180, ST18#) 1990 – 1993	Front	1–(C)	No Play Felt	35 in.•lbf (4.0 N•m) or Less	N/A	N/A	N/A
Celica (AT200, ST20#, ZZT23#) 1994 – 2003	Front	1–(C)	No Play Felt	44 in.•lbf (5.0 N•m) or Less	N/A	N/A	N/A
Prius (NHW11) 2001 – 2003	Front	1–(C)	No Play Felt	44 in.•lbf (5.0 N•m) or Less	N/A	N/A	N/A
Corolla (AE9#, 10#) 1988 – 2003	Front	1–(C)	No Play Felt	27 in.•lbf (3.0 N•m) or Less	N/A	N/A	N/A
Corolla/ Corolla Matrix (AE10#, ZZE11#, 13#) 1988 – 2003	Front	1–(C)	No Play Felt	44 in.•lbf (5.0 N•m) or Less	N/A	N/A	N/A
ECHO (NCP1#) 2000 – 2003	Front	1–(C)	No Play Felt	31 in.•lbf (3.5 N•m) or Less	N/A	N/A	N/A
Tercel, Paseo (EL4#, 5#) 1991 – 1999	Front	1–(C)	No Play Felt	27 in.•lbf (3.0 N•m) or Less	N/A	N/A	N/A

SUSPENSION BALL JOINT INSPECTION – PG027-02 December 4, 2002

Inspection Information (Continued)

MODEL	LOCATION	LOWER BALL JOINT OR SUSPENSION BALL JOINT			UPPER BALL JOINT		
		INSP. METHOD	MAX. PLAY	TURNING TORQUE	INSP. METHOD	MAX. PLAY	TURNING TORQUE
Previa (TCR1#, 2#) 1990 – 1997	Front	1–(C)	No Play Felt	35 in.•lbf (4.0 N•m) or Less	N/A	N/A	N/A
Sienna (MCL10) 1998 – 2003	Front	1–(C)	No Play Felt	31 in.•lbf (3.5 N•m) or Less	N/A	N/A	N/A
RAV4/ RAV4 EV (SXA1#, BEA11) 1996 – 2000	Front	1–(C)	No Play Felt	40 in.•lbf (4.5 N•m) or Less	N/A	N/A	N/A
	Rear	3	No Play Felt	31 in.•lbf (3.5 N•m) or Less			
RAV4 (ACA2#) 2001 – 2003	Front	1–(C)	No Play Felt	44 in.•lbf (5.0 N•m) or Less	N/A	N/A	N/A
Land Cruiser 100 (UZJ100) 1999 – 2003	Front	1–(A)	No Play Felt	27 in.•lbf (3.0 N•m) or Less	2–(A)	No Play Felt	40 in.•lbf (4.5 N•m) or Less
Sequoia (UCK35, 45) 2001 – 2003	Front	1–(A)	0.5 mm	22 in.•lbf (2.5 N•m) or Less	2–(A)	No Play Felt	40 in.•lbf (4.5 N•m) or Less
4Runner (VZN120, 13#, RN13#, 12#) 1989 – 1995	Front	1–(C)	2.3 mm	53 in.•lbf (6.0 N•m) or Less	2–(B)	No Play Felt	Turns Smoothly
4Runner (RZN18#, VZN18#) 1996 – 2003	Front	1–(A)	0.5 mm	22 in.•lbf (2.5 N•m) or Less	2–(A)	No Play Felt	40 in.•lbf (4.5 N•m) or Less
Tundra (VCK30, 40, UCK30, 40) 2000 – 2003	Front	1–(A)	0.5 mm	22 in.•lbf (2.5 N•m) or Less	2–(A)	No Play Felt	40 in.•lbf (4.5 N•m) or Less

SUSPENSION BALL JOINT INSPECTION – PG027-02 December 4, 2002

Inspection Information (Continued)

MODEL	LOCATION	LOWER BALL JOINT OR SUSPENSION BALL JOINT			UPPER BALL JOINT		
		INSP. METHOD	MAX. PLAY	TURNING TORQUE	INSP. METHOD	MAX. PLAY	TURNING TORQUE
Tacoma*3 (RZN140, 150, VZN150) 1995 – 2003	Front	1–(A)	0.5 mm	40 in.•lbf (4.5 N•m) or Less	2–(A)	No Play Felt	40 in.•lbf (4.5 N•m) or Less
Tacoma*4 (RZN140, 150, VZN150) 1995 – 2003	Front	1–(A)	0.5 mm	31 in.•lbf (3.5 N•m) or Less	2–(A)	No Play Felt	40 in.•lbf (4.5 N•m) or Less
Tacoma (RZN161, 171, 19#, VZN160, 170, 195) 1995 – 2003	Front	1–(A)	0.5 mm	22 in.•lbf (2.5 N•m) or Less	2–(A)	No Play Felt	40 in.•lbf (4.5 N•m) or Less
Truck*5 (RN8#, 90 VZN85, 9#) 1989 – 1995	Front	1–(B)	2.3 mm	44 in.•lbf (5.0 N•m) or Less	2–(A)	2.3 mm	35 in.•lbf (4.0 N•m) or Less
Truck*6 (RN8#, 90 VZN85, 9#) 1989 – 1995	Front	1–(B)	0.5 mm	44 in.•lbf (5.0 N•m) or Less	2–(A)	2.3 mm	35 in.•lbf (4.0 N•m) or Less
Truck (RN10#, 11# VZN10#, 110) 1989 – 1995	Front	1–(C)	2.3 mm	53 in.•lbf (6.0 N•m) or Less	2–(B)	2.3 mm	Turns Smoothly
T–100 (RCK10, VCK1#) 1993 – 1998	Front	1–(A)	0.5 mm	62 in.•lbf (7.0 N•m) or Less	2–(A)	1.9 mm	35 in.•lbf (4.0 N•m) or Less
T–100 (VCK2#) 1993 – 1998	Front	1–(C)	2.3 mm	53 in.•lbf (6.0 N•m) or Less	2–(B)	No Play Felt (from 1995 MY)	Turns Smoothly

*1 Lower Ball Joint

*2 Suspension Arm Ball Joint

*3 With Serial Number Prior to Z718190

*4 With Serial Number After and including Z718190

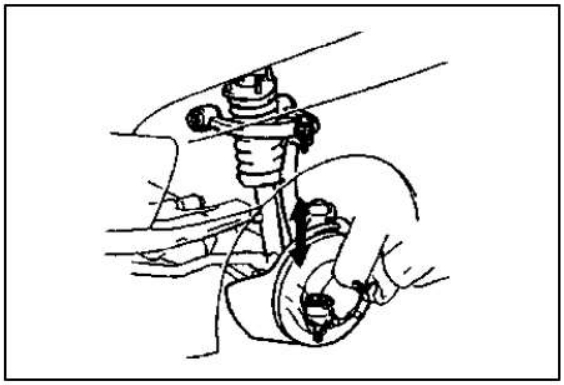
*5 With Serial Number Prior to those listed in *6

*6 RN80–0087125, RN80–5130170, RN85–0004477, RN85–5046258, RN85–9010725, RN90–0014600, RN90–5047105, RN90–9002376, VZN85–0003605, VZN85–5004547, VZN90–5025989, VZN95–0025290, VZN90–0006119

On–Vehicle Inspection

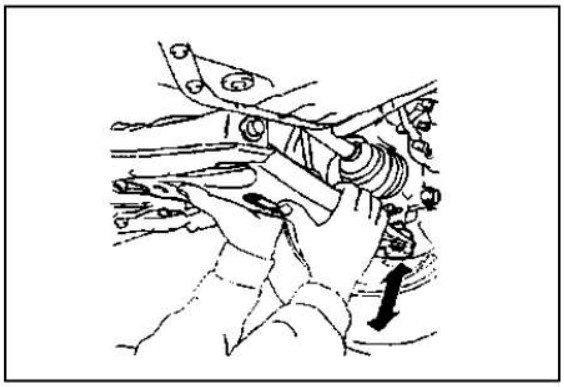
NOTE:
- **Be sure to check the table for the applicable inspection type based on the vehicle model.**
- **Refer to the table for the standard free play values.**

1. Inspect Lower Ball Joint Free Play



A. Move the hub up and down by hand (most models with wishbone suspension):
   a. Remove the tire.
   b. Install the 2 lug nuts.
   c. Inspect the free play while moving the lug nuts up and down at a force of 67 lbf (294 N, 30 kgf).

B. Move the lower arm using a lever (some models with double wishbone type suspension):
   a. Lift up the vehicle.
   b. Place the tip of the lever to the wheel and inspect the free play while moving the lower arm up and down.



C. Move the lower arm by hand (all models with strut type suspension and some models with wishbone type suspension):
   a. Lift up the vehicle.
   b. Inspect the free play while moving the lower arm up and down at a force of 67 lbf (294 N, 30 kgf).

On–Vehicle Inspection (Continued)

2. Inspect Upper Ball Joint Free Play

A. Move the upper arm by hand (models with the LOWER control arm linked by a torsion bar, and all models using a coil spring).

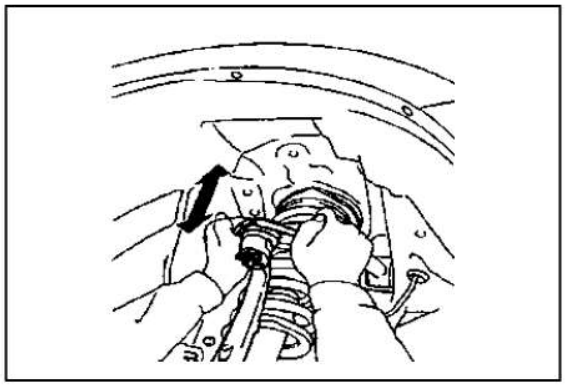
a. Remove the front tire.

b. Inspect the free play while moving the upper arm up and down at a force of 67 lbf (294 N, 30 kgf).

B. Move the tire with a lever (models with the UPPER control arm linked by a torsion bar).

a. Lift up the vehicle.

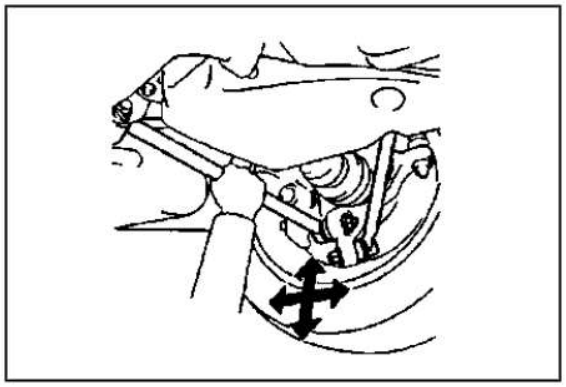
b. Place the lever under the tire, and inspect the free play while lifting the tire using a wooden stick, etc., as a fulcrum.



3. Inspect the Suspension Arm Ball Joint Free Play

A. Lift up the vehicle.

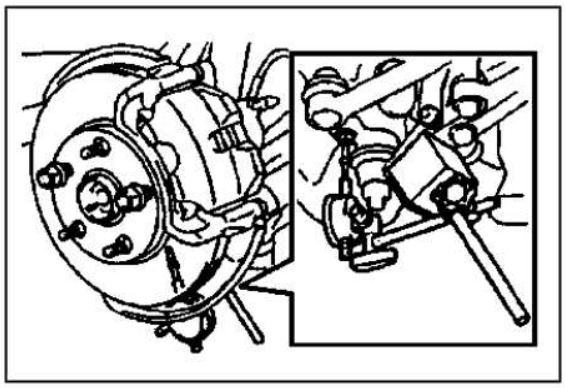
B. Inspect the free play while moving the control arm by hand.



(Reference)

Free Play Inspection Method (Gauge Installation)

- Position the dial gauge between the arm (upper or lower) and the knuckle, and measure free play. (This illustration shows how to measure free play for vehicles with double wishbone type suspension with coil spring.)



4. Inspect Ball Joint Dust Cover

Check for cracks and grease leaks on the dust cover (boots).

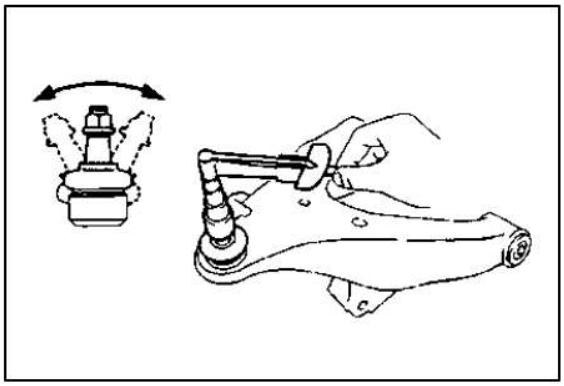
Turning Torque Inspection

Inspect Ball Joint Turning Torque

Move the stud back and forth 5 times, and then turn the stud continuously at 3–5 seconds per turn, and measure the turning torque at the 5th turn.

HINT:

Refer to the table for standard values for the turning torque.



TOYOTA

Technical Service BULLETIN

December 24, 1999

Title:

YEAR 2000 READINESS DISCLOSURE

Models:

All Models

TSB

PG032–99

PRODUCT GENERAL INFORMATION

Introduction

Based upon information we have obtained from our suppliers,[1] all factory–installed systems in Toyota cars, sports utility vehicles and trucks distributed and/or sold by Toyota ("Vehicles")[2] will not be affected by the change of date from 1999 to the year 2000.

Toyota anticipates no problems with past, current or future Toyota brand vehicles or Genuine Toyota parts and accessories regarding year 2000 readiness. We hope the following information is helpful to you.

Please contact our Customer Service Department at 1–800–331–4331 should you have any other questions.

Applicable Vehicles

- **All Models**

Warranty

WARRANTY STATEMENT WITH RESPECT TO TOYOTA BRAND VEHICLES

Toyota is pleased to confirm that the manufacturer's limited express warranty and Toyota's powertrain warranty warrant that all factory–installed systems in new Vehicles and Toyota Certified Used Vehicles shall be free of any defect arising solely due to a change in date from the year 1999 to the year 2000.[3]

With respect to Vehicles no longer covered under such Toyota limited express warranty, Toyota is not aware of any operational safety or functional impact the year 2000 date change would have upon any factory–installed system in Toyota Vehicles. Should Toyota become aware of any material impact to the operational safety or functionality of such systems, Toyota shall publish such information promptly.

WARRANTY STATEMENT WITH RESPECT TO GENUINE TOYOTA PARTS AND ACCESSORIES

Toyota is pleased to confirm that the manufacturer's limited express warranty warrants that all new Toyota Genuine Parts and Accessories shall be free of any defect arising solely due to a change in date from the year 1999 to the year 2000. [3]

With respect to products no longer covered under a Toyota limited express warranty, Toyota is not aware of any operational safety or functional impact the year 2000 date change would have upon such products. Should Toyota become aware of any material impact to the operational safety or functionality of such a product, Toyota shall publish such information promptly.

[1] Toyota relies on the statements made by its suppliers and has not independently verified such information.
[2] Vehicles includes alternative fuel vehicles.
[3] Please refer to terms of limited express warranty for disclaimers, limitations and restrictions.

Parts & Accessories

GENUINE TOYOTA PARTS AND ACCESSORIES

Based upon information we have obtained from our suppliers,[1] all new Genuine Toyota Parts and Accessories will not be affected by the change of date from 1999 to the year 2000.

DEALER–INSTALLED AND OTHER THIRD PARTY–INSTALLED SYSTEMS/ PRODUCTS

Our dealers and distributors may sell and/or install products that are not Genuine Toyota Parts and Accessories. Toyota can only determine the Year 2000 readiness status of Genuine Toyota Parts and Accessories. Therefore, the above statements do not apply to products that are not Genuine Toyota Parts and Accessories or were not installed by the factory. We encourage you to contact your dealer or other relevant third party regarding products installed on your Toyota vehicle(s) that are not Genuine Toyota Parts and Accessories and/or were not installed by the factory to determine any Year 2000 issues associated with those products.

[1] Toyota relies on the statements made by its suppliers and has not independently verified such information.

TOYOTA

Technical Service BULLETIN

April 9, 1999

Title:

SCANTOOL IMMOBILIZER KEY CODE UTILITY

Models:

'98 & '99 Avalon, Camry, Land Cruiser & Sienna
'99 Solara & 4Runner

TSB

SS001–99

SPECIAL SERVICE TOOLS

Introduction

The Diagnostic Tester now incorporates a Key Code Utility Menu capable of performing the following tasks for immobilizer functions:

- **Key Code Registration**
- **Key Code Erasure**
- **Auto–Registration Closure**

The information contained in this bulletin will provide you with a detailed outline for the use of immobilizer functions with the Diagnostic Tester.

Affected Vehicles

- **1998 Avalon, Camry, Land Cruiser and Sienna.**
- **1998 Avalon, Camry, Land Cruiser, Sienna, Solara and 4Runner.**

Parts Information

PART NUMBER	PART NAME
01001271	Toyota Diagnostic Tester Kit
01001895–005	6.0a Diagnostic Software Card

NOTE:

Replacement Diagnostic Tester Kits or Software Cards may be ordered by calling OTC at 1–800–933–8335.

Function Description (Key Code Utility)

Key Registration

This function allows the registration of additional key codes for transponder keys (Master/Sub Keys) using a Registered Master Key.

Key Code Erasure

This function allows the user to erase all the key codes for transponder keys except the Registered Master Key used during this function.

Auto Registration Closure

This function allows the user to close "Auto Registration Mode" when less than three keys have been registered.

NOTE:

When a new ECU is installed, it is in the "Auto Registration Mode" from the factory. This allows Transponder Keys to automatically register as they are inserted into the Ignition Cylinder. After three Transponder Keys are registered, the ECU closes "Auto Registration Mode". See the Repair Manual for further details.

Warranty Information

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

SCANTOOL IMMOBILIZER KEY CODE UTILITY – SS001–99 April 9, 1999

Operation Procedures

This section provides the procedures necessary to access the IMMOBILIZER KEY CODE UTILITY functions. Refer to the instructions below.

Verify Immobilizer Key Type

Before any IMMOBILIZER KEY CODE UTILITY function can be performed, the type of Transponder Key must be verified. The following steps show how to verify the Transponder Key type.

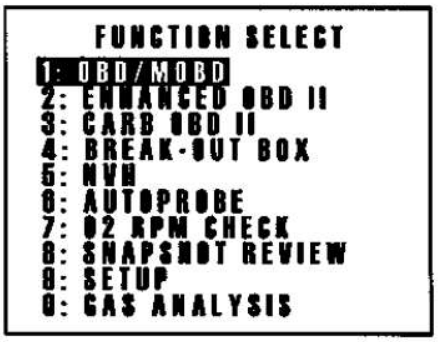
1. Connect the Diagnostic Tester to DLC3 and press the (ON) key.
2. Insert a Registered Master Key (Black Key Head) into the ignition key cylinder and turn to the ON position.

HINT:

A Registered Master Key is required for KEY REGISTRATION, KEY CODE ERASURE, and AUTO REGISTRATION CLOSURE. A Sub Key (Grey Key Head) will not perform these functions.

3. "From the "FUNCTION SELECT" menu (Screen A), select [1: OBD/MOBD].

A



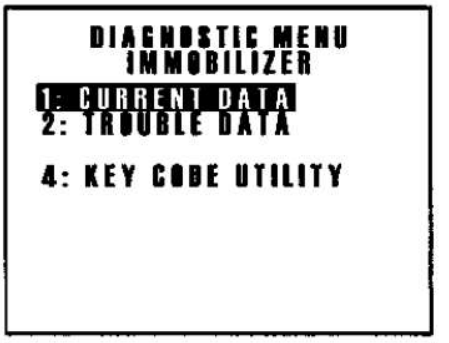
4. From the "OBD/MOBD MENU" (Screen B), select [6: IMMOBILIZER].

B



5. From the "DIAGNOSTIC MENU IMMOBILIZER" (Screen C), select [1: CURRENT DATA]

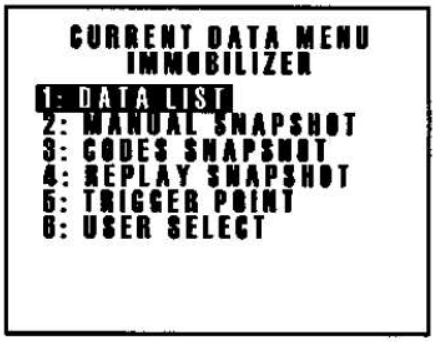
C



Verify Immobilizer Key Type (Continued)

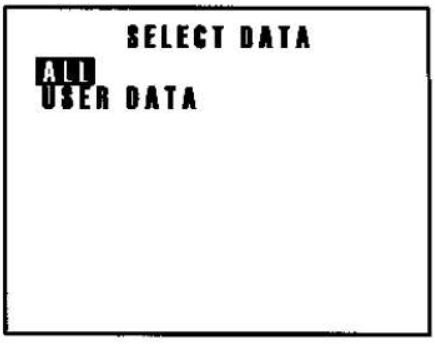
6. From the "CURRENT DATA MENU IMMOBILIZER" (Screen D), select [1: DATA LIST].

D



7. From the "SELECT DATA" menu (Screen E), select [ALL].

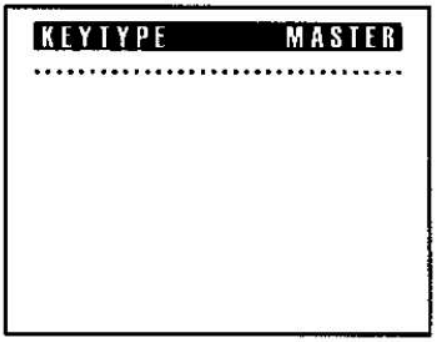
E



8. The Transponder Key Type in the ignition cylinder will be displayed (Screen F).

[MASTER]	=	Registered Master Key
[SUB]	=	Registered Sub Key
[NO]	=	Not a Registered Key, or Vehicle is not equipped with Immobilizer.

F

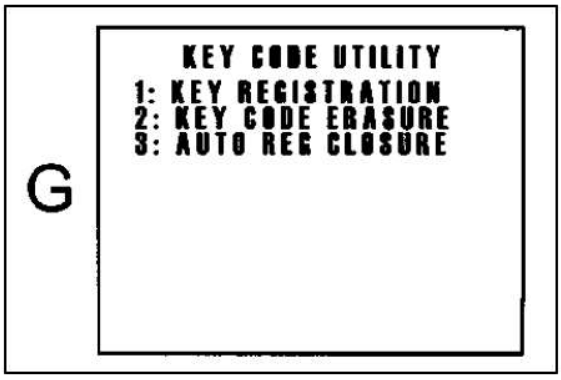


NOTE:

If the Transponder Key is a Master Key, proceed to [4: KEY CODE UTILITY] by pressing the (EXIT) key back to the "DIAGNOSTIC MENU IMMOBILIZER" (Screen C). From the "DIAGNOSTIC MENU IMMOBILIZER" (Screen C), select [4: KEY CODE UTILITY]

Verify Immobilizer Key Type (Continued)

9. From the "KEY CODE UTILITY" menu (Screen G), the functions listed are outlined in the next sections.



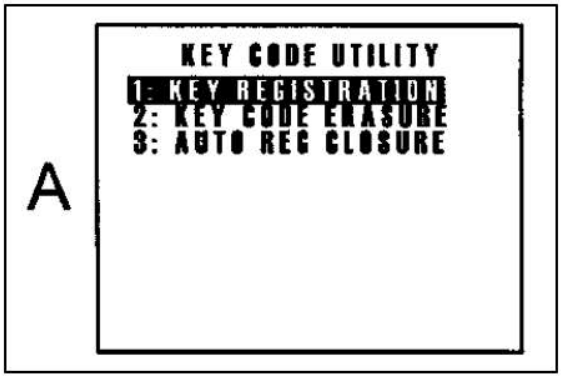
Key Registration

This function allows the registration of additional Key Codes for Transponder Keys (Master/Sub Keys) using a Registered Master Key. The following screens show how to perform Key Registration.

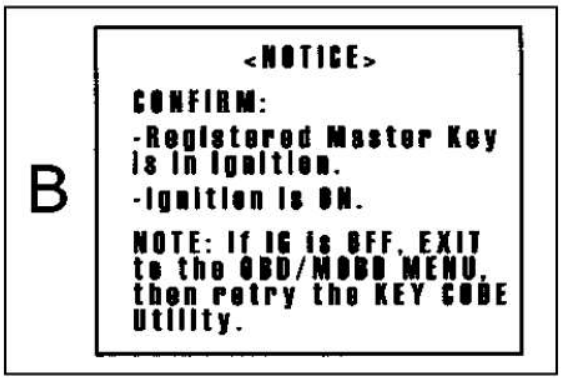
NOTE:

This function requires the use of one Registered Master Key. The use of a Sub Key will NOT complete Key Registration.

1. From the "KEY CODE UTILITY" menu (Screen A), select [1: KEY REGISTRATION].



2. Confirm the instruction on Screen B and press the (ENTER) key.

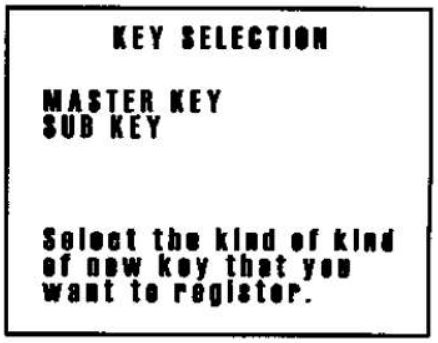


3. From the "KEY SELECTION" menu (Screen C), select the Transponder Key type to be registered and press the (ENTER) key.

NOTE:

Do not register a SUB KEY as a MASTER KEY. The SUB KEY is typically left with an attendant when the vehicle is parked. A Registered Master Key allows the user to add/erase transponder keys.

C



4. From "KEY SELECTION" (Screen D), confirm the type of Transponder Key to be registered and press the (ENTER) key.

D



5. After pressing the (YES) key, remove the Registered Master Key from the Ignition Cylinder within 20 seconds. After removing the key, press the (ENTER) key.

E



6. Insert the New Transponder Key into the Ignition Cylinder within 10 seconds and press the (ENTER) key.

HINT:

Look at the Security Indicator Light. It will begin to flash as the New Transponder Key is inserted.

F



Key Registration (Continued)

7. The registration of the New Transponder Key will be completed in approximately 60 seconds.

HINT:
The Security Indicator continues to flash during registration.

G



8. Screen H will be shown at completion of registration. Confirm the Security Indicator turns OFF and press the (ENTER) key.

HINT:
The Security Indicator will stop flashing when Key Registration is complete.

H



9. Insert the New Registered Master Key into the Ignition Cylinder and turn to the ON position and press the (ENTER) key.

I



Key Code Erasure

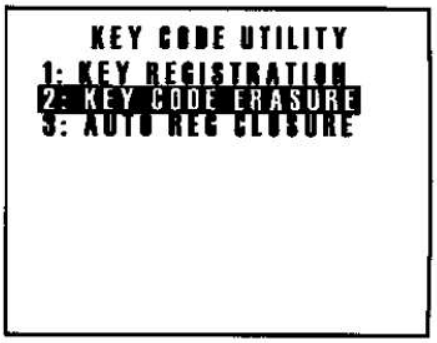
This function allows the user to erase all the Key Codes for Transponder Keys except the Registered Master Key used during this function. The following screens show how to perform Key Code Erasure.

HINT:
This function requires the use of one Registered Master Key. The use of a Sub Key will NOT complete Key Code Erasure.

Key Code Erasure (Continued)

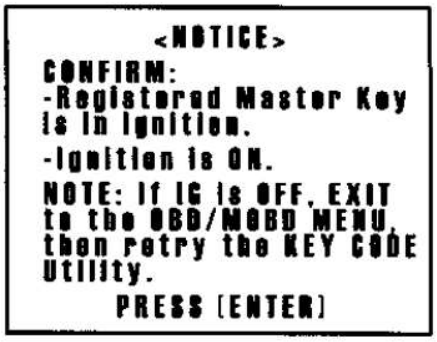
1. From the "KEY CODE UTILITY" menu (Screen A), select [2: KEY CODE ERASURE].

A



2. Confirm the instruction on Screen B and press the (ENTER) key.

B



3. Confirm the instruction on Screen C and press the (YES) key.

NOTE:

By pressing the (YES) key, all Transponder Key Codes will be erased except the Registered Master Key in the Ignition Cylinder.

HINT:

After pressing the (YES) key, the Security Indicator will start to flash.

C

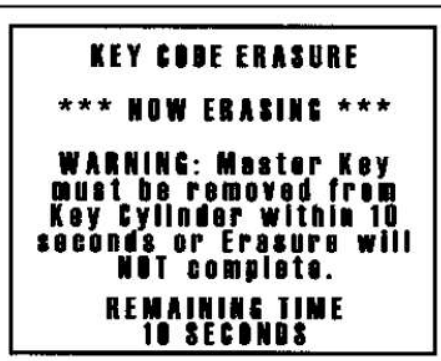


4. Pull out the Registered Master Key from the Ignition Cylinder within 10 seconds (Screen D).

HINT:

Security Indicator continues to flash.

D



Key Code Erasure (Continued)

5. If Step 4 was completed correctly, Screen E will confirm ERASURE was sucessful.

HINT:
If the Erasure completed, the security indicator should still be blinking.

E



6. Insert the Registered Master Key into the Ignition Cylinder and turn to the ON position and press the (ENTER) key.

HINT:
Look at the Security Indicator Light. Inserting a Registered Master Key causes the Security Indicator to immediately stop blinking.

F



Auto Registration Closure

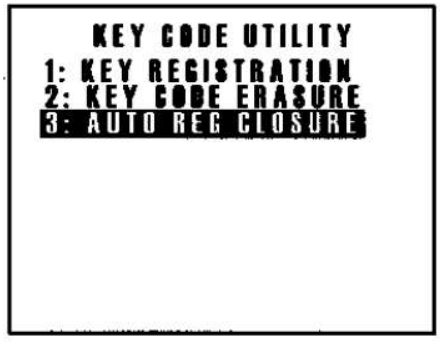
This function allows the user to close Auto Registration Mode when less than three keys have been registered.

NOTE:
When a New ECU is installed, it is in the Auto Registration Mode. This mode allows the Transponder Keys to automatically register as they are inserted into the Ignition Cylinder. See the Repair Manual for further details.

CAUTION:
This function requires the use of one Registered Master Key. The use of a Sub Key will NOT complete Auto Registration Closure. The use of a non–transponder key during this function may damage the ECU.

1. From the "KEY CODE UTILITY" menu (Screen A), select [3: AUTO REG CLOSURE].

A



Auto Registration Closure (Continued)

2. Confirm the instruction on Screen B and press the (ENTER) key.

B

AUTO REGIST. CLOSURE

THIS OPERATION WILL CLOSE AUTO REGISTRATION.

DO YOU WISH TO CLOSE?

PRESS [ENTER]

3. At “AUTO REGIST. CLOSURE” (Screen C), the Auto Registration Closure Information will be displayed. Press the (ENTER) key to finish.

C

AUTO REGIST. CLOSURE

AUTO REGISTRATION. MODE WAS CLOSED

PRESS [ENTER]

TOYOTA

Technical Service BULLETIN

September 8, 2003

Title:

DIAGNOSTIC TESTER CONTROLLER AREA NETWORK (CAN) INTERFACE MODULE

Models:

All Models

TSB

SS001-03

SPECIAL SERVICE TOOLS

Introduction

Over the next four model years, all Toyota vehicles will begin using an all–new diagnostic communication protocol, Controller Area Network (CAN). CAN will be introduced on the 2004 Prius this fall. A CAN Interface Module has been distributed to all dealers as an essential Special Service Tool (SST) and will allow the Diagnostic Tester to communicate with CAN–equipped vehicles. Please use the following instructions to install the new CAN Interface Module as soon as it arrives at your dealership.

NOTE:

- **Version 10.2a or later Diagnostic Tester Software must be used to enable communication with CAN–equipped vehicles. Version 10.2a will be distributed to dealers via TIS before CAN–equipped vehicles arrive at dealers.**
- **There is no need to remove the CAN Interface Module when working with non–CAN systems or older software versions (Version 10.1a or earlier). The Diagnostic Tester will communicate with all DLC3/J1962 based systems with the CAN Interface Module installed.**

Applicable Vehicles

- **All Models**

Required SSTs

SPECIAL SERVICE TOOLS (SSTs)		PART NUMBER	QUANTITY
Toyota Diagnostic Tester Kit*		01001271	1
CAN Interface Module Kit*		01002744	1
12 Megabyte Diagnostic Tester Program Card with version 10.2a Software (or later)*		01002593-005	1

* Essential SSTs.

NOTE:

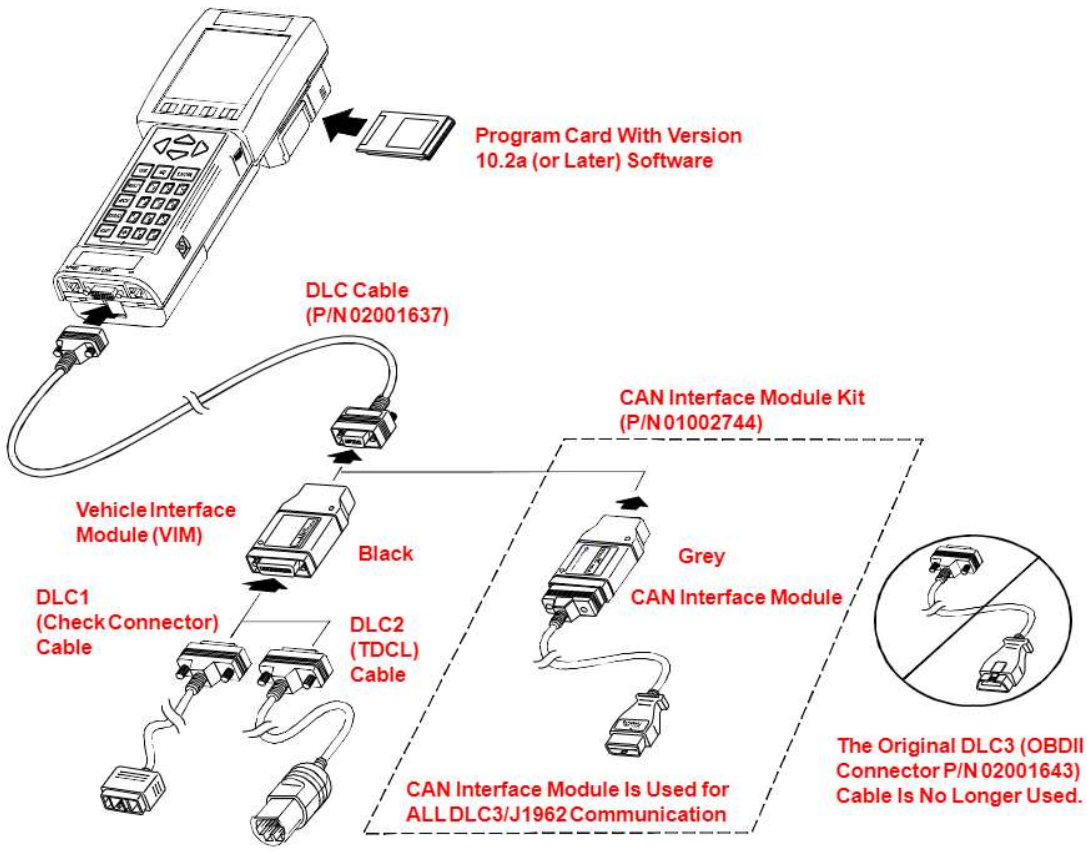
Additional Diagnostic Tester Kits, CAN Interface Modules, Program Cards or SSTs may be ordered by calling SPX/OTC at 1-800-933-8335.

Warranty Information

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

Toyota Supports ASE Certification

Installation Procedure



1. Remove the original DLC3 Cable and store it in the Diagnostic Tester storage case.
2. Connect the CAN Interface Module to the DLC Cable.
3. Use the Diagnostic Tester with the CAN Module installed for all DLC3/J1962 based vehicle communication.
4. If you experience problems with the Diagnostic Tester or CAN Interface Module, please contact Toyota Special Service Tool Customer Support at 1–800–933–8335.

NOTE:

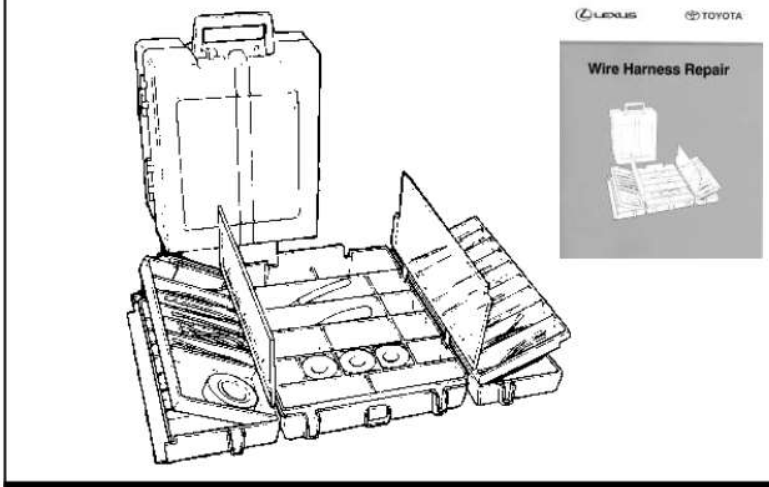
- **There is no need to remove the CAN Interface Module when working with non–CAN systems or older software versions (Version 10.1a or earlier). The Diagnostic Tester will communicate with all DLC3/J1962 based systems with the CAN Interface Module installed.**
- **For DLC1 and DLC2 communication you must continue to use the Vehicle Interface Module (VIM).**

TOYOTA **TECHNICAL SERVICE BULLETIN**

REF.: SPECIAL SERVICE TOOLS
NO.: SS94-002
DATE: AUGUST 12, 1994
MODEL: ALL MODELS

WIRE HARNESS REPAIR KIT "B"

Wire Harness Repair Kit "B"



Part No. 00002-04210-01

The new Wire Harness Repair Kit "B" has been released as an essential Special Service Tool (SST) to supplement the original Wire Harness Repair Kit. This kit holds an initial supply of 21 new type electrical terminals and connectors as well as the necessary supplies and small tools for most electrical repairs.

The Wire Harness Repair Kit manual has been updated and now contains an illustrated catalog of all terminals and connectors available for Toyota vehicles. Connector Replacement Guidelines, a Connector/Terminal Usage Guide, and a Connector Quick Reference Chart have been added as additional reference. This manual is the only reference available which provides information on properly identifying connectors and terminals.

When components/supplies need to be replaced, refer to page 21 in the manual or the reverse side of this TSB. Note: The manual is no longer available through the Toyota Non-Parts System. It is available separately under part number 410094 by calling OTC at 1-800-933-8335.

TOYOTA MOTOR SALES U.S.A., INC.

WIRE HARNESS REPAIR KIT "B"

PARTS REPLACEMENT ORDERING INFORMATION:

The following parts can be ordered through Toyota Motor Sales on a normal parts order:

Part Number	Description	Part Number	Description
82998-12010	Repair Splice	82998-12470	Repair Splice
82998-12030	Repair Splice	82998-12490	Repair Splice
82998-12050	Repair Splice	82998-12020	Repair Splice
82998-12070	Repair Splice	82998-12040	Repair Splice
82998-12090	Repair Splice	82998-12060	Repair Splice
82998-12110	Repair Splice	82998-12080	Repair Splice
82998-12130	Repair Splice	82998-12100	Repair Splice
82998-12150	Repair Splice	82998-12120	Repair Splice
82998-12170	Repair Splice	82998-12140	Repair Splice
82998-12190	Repair Splice	82998-12160	Repair Splice
82998-12210	Repair Splice	82998-12180	Repair Splice
82998-12230	Repair Splice	82998-12200	Repair Splice
82998-12250	Repair Splice	82998-12220	Repair Splice
82998-12270	Repair Splice	82998-12240	Repair Splice
82998-12290	Repair Splice	82998-12260	Repair Splice
82998-12310	Repair Splice	82998-12280	Repair Splice
82998-12330	Repair Splice	82998-12300	Repair Splice
82998-12350	Repair Splice	82998-12320	Repair Splice
82998-12370	Repair Splice	82998-12340	Repair Splice
82998-12390	Repair Splice	82998-12360	Repair Splice
82998-12410	Repair Splice	82998-12380	Repair Splice
82998-12430	Repair Splice	82998-12400	Repair Splice
82998-12450	Repair Splice	82998-12420	Repair Splice
216824	Silicon Tape	82998-12440	Repair Splice
00204-34130	18/22 Splice	82998-12460	Repair Splice
00204-34137	14/16 Splice	82998-12480	Repair Splice
00204-34138	10/12 Splice	82998-12500	Repair Splice

The following parts can be ordered from OTC Tool & Equipment Division, SPX Corporation, 655 Eisenhower Drive, Owatonna, Minnesota 55060:

Part Number	Description	Part Number	Description
62164	Tool Box Kit A (Toyota)	310032 310033	Wire Stripper Terminal Pick
310044	Tool Box Kit B (Toyota)	216820 216822	Terminal Gauge Terminal Gauge
62166	Tool Box (Lexus)	00002-217681	Terminal Pick
310031	Crimper (Kit A)	00002-217958	Terminal Pick
AMP47100-1	Crimper (Kit B)	410094	Repair Manual

All remaining parts can be purchased from a local supplier.

TOYOTA

Technical Service **BULLETIN**

September 26, 1997

Title:

BRAKE BOOSTER PUSH ROD GAUGE (SST)

Models:

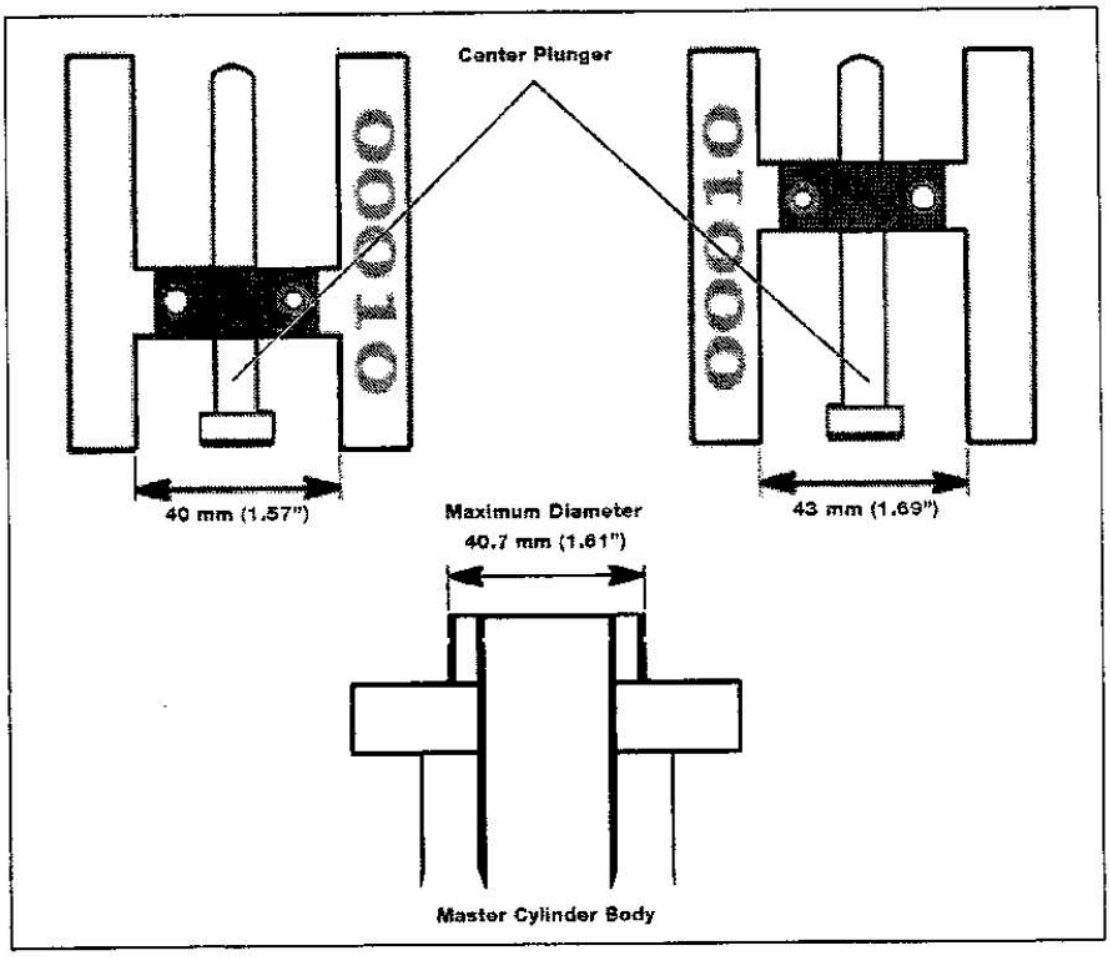
All Models

TSB

SPECIAL SERVICE TOOLS SS002–97

Introduction

When inspecting or making brake booster push rod adjustments with SST 09737–00010, it is necessary to assure proper tool configuration prior to use. The SST has a reversible center plunger that allows it to function on a wide range of Toyota vehicles. Prior to using, verify that it is configured correctly for the application by checking the master cylinder outer diameter at the point illustrated below. The dimensions for the SST, Part Number 09737–00010, are also shown in the illustrations below.



Parts Information

PART NUMBER	PART NAME
09737–00010	Brake Booster Push Rod Gauge (SST)

Warranty Information

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not applicable to warranty	–	–	–	–

Toyota Supports ASE Certification

TOYOTA

Technical Service BULLETIN

July 9, 1999

Title:

1999 SPECIAL SERVICE TOOLS

Models:

All '98 & '99 Models

TSB

SS002–99

SPECIAL SERVICE TOOLS

Introduction

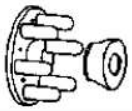
This TSB contains information regarding Special Service Tools (SSTs) distributed or added to the SST program during 1999 model year. Both the Essential and Available SSTs are listed by tool number, tool name, and model application.

Special Service Tools can be ordered through the Toyota SST Program by calling 1–800–933–8335.

Applicable Vehicles

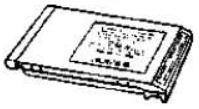
- **All 1998 and 1999 MY Toyota Vehicles.**

1999 Essential Special Service Tools

1999 ESSENTIAL SPECIAL SERVICE TOOLS		
TOOL NUMBER	**TOOL NAME**	**APPLICATION**
09521–25021–1	Rear Axle Shaft Puller Attachment 	Land Cruiser
09631–12090	Seal Ring Tool 	Land Cruiser
09710–28012–01	Front Suspension Bushing Tool Set 	Land Cruiser
02002–02XXX	Haweka Flange Plate *Note: XXX is Spindle Shaft Size* 	Land Cruiser
09950–60030–01	Replacer Set #3  	Land Cruiser
09999–00310	Toyota Spare Tire Lock Kit 	Land Cruiser, T100, Tacoma
09999–00305 Part of Kit # 09999–00310	Spare Tire Lock Adapter (Toyota/Lexus Dual Dealers) 	T100
09268–21010–01	Fuel Hose Puller 	Corolla ('99)

Toyota Supports ASE Certification

1999 Essential Special Service Tools (Cont'd)

1999 ESSENTIAL SPECIAL SERVICE TOOLS		
TOOL NUMBER	**TOOL NAME**	**APPLICATION**
01001895–U05	ScanTool Software (Annual Reprogramming & Site License) 	All Models

1999 Available Special Service Tools

1999 ESSENTIAL SPECIAL SERVICE TOOLS		
TOOL NUMBER	**TOOL NAME**	**APPLICATION**
09710–01031 Part of Kit # 09710–22021	Upper Arm Bushing Replacer (Part of Set) 	RAV4
09710–22021	Upper Arm Bushing Replacer Set 	Land Cruiser
TOY280341	Rivet Nut Tool 	All Models
TOY280087	Homelink Tester	All Models
00002–MLR6872A	Evap Tester	'99 MY with EVAP Service Port

TOYOTA

Technical Service BULLETIN

June 7, 2002

Title:

MIDTRONICS BATTERY TESTER SOFTWARE UPDATE

Models:

All Models & Model Years Through Current

TSB

SS002-02

SPECIAL SERVICE TOOLS

Introduction

The internal software of the Midtronics Battery Tester can now be periodically updated to support future models. New updates will include new battery warranty codes and testing information.

The Technical Information System (TIS) will be the primary distribution method for battery tester software updates. Utilizing the new Midtronics Update Wizard (MUW) and the new essential SST (Midtronics Battery Tester Adapter), you will be able to quickly and easily update your Midtronics Battery Tester.

This bulletin will show you how to use and install the Midtronics Update Wizard to update the Midtronics tester software.

Applicable Vehicles

- **All models and model years through current.**

Required Tools & Material

SPECIAL SERVICE TOOLS (SSTs)	PART NUMBER	QUANTITY
Midtronics Battery Tester* 	00002–MP815–T	1
Midtronics Battery Tester Adapter* 	00002–DMPUC	1

* Essential SSTs.

Warranty Information

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

Process Overview

The Midtronics Battery Tester Software Update is a 2-step process:

1. **Installing the Midtronics Update Wizard (MUW).**
   The Midtronics Update Wizard (MUW) is an application that only needs to be installed on the PC one time. This bulletin will provide the steps to install the MUW.
2. **Using the Midtronics Update Wizard (MUW).**
   The Midtronics Update Wizard (MUW) will be used with each battery tester software update. The Update Wizard will walk you through each step to connect the PC to the tester and perform the update.

Operation Procedure: Preparation

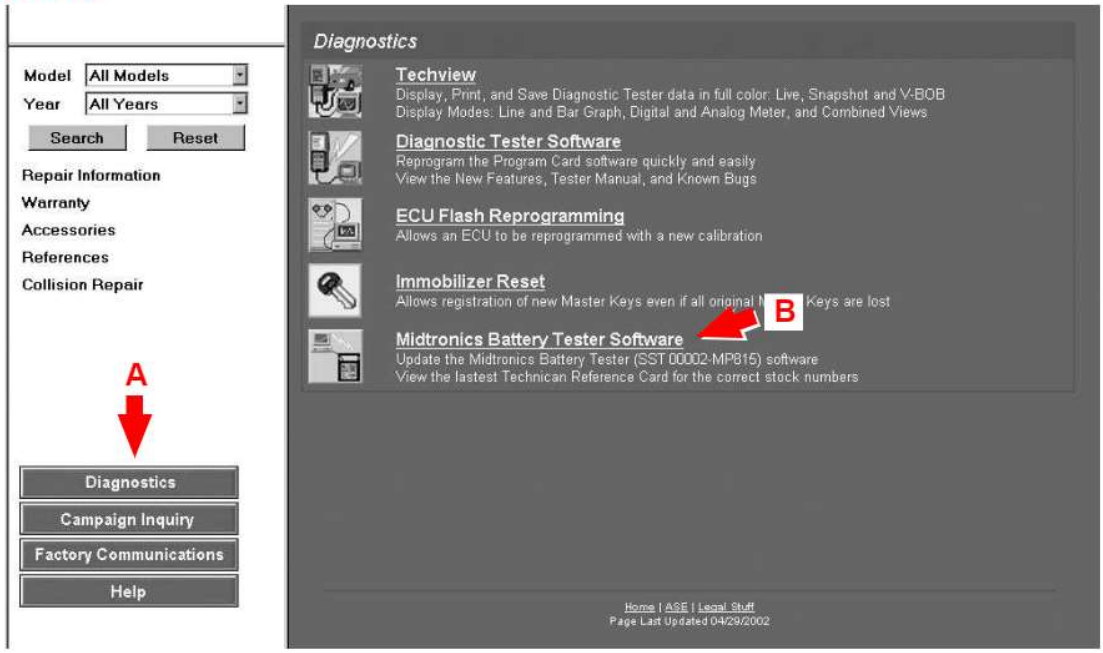
Before Installation or Use of the Midtronics Update Wizard (MUW):

Steps A and B are required to begin the update process. (Refer to Figure 1.)

A. Open TIS (Technical Information System) and go to the “Diagnostics” section.

B. Click on the text “Midtronics Battery Tester Software.”

FIGURE 1.



Operation Procedure

1. Installing the Midtronics Update Wizard (MUW).

NOTE:

The Midtronics Update Wizard only needs to be installed once and must be installed before the rest of the update process can take place. If this step is already complete, continue on to step 2.

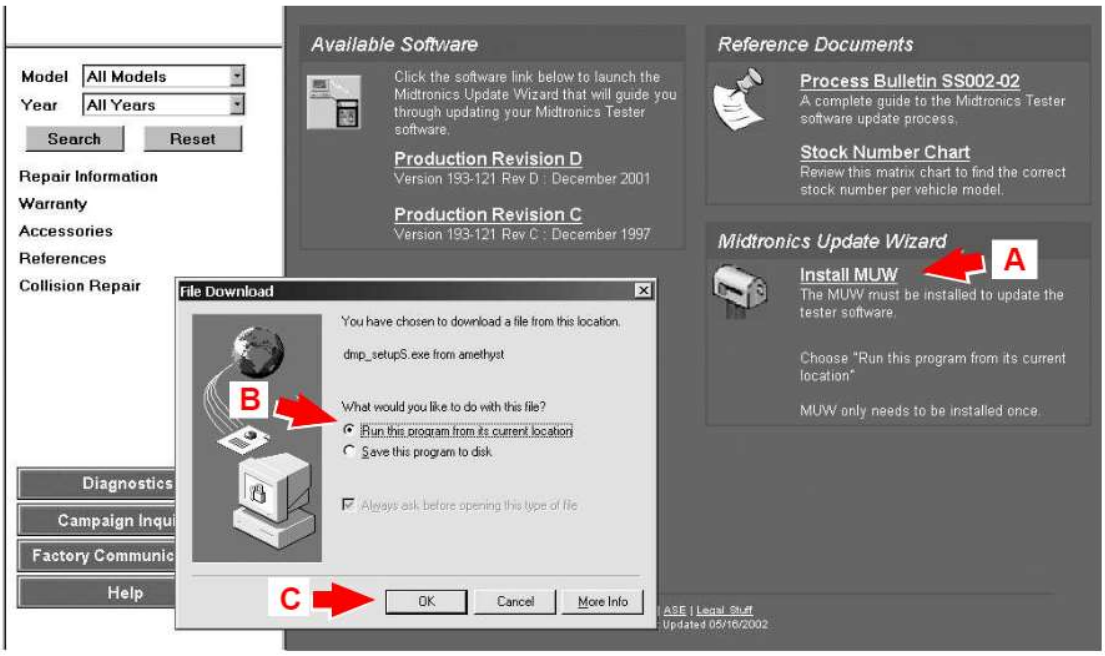
A. Click on the text “Install MUW.” (Figure 2.)

B. The file download window will appear. Click on “Run this program from it’s current location.”

C. Click the “OK” button.

D. Allow the Update Wizard to perform its self–installation. This will take only a few minutes.

FIGURE 2.



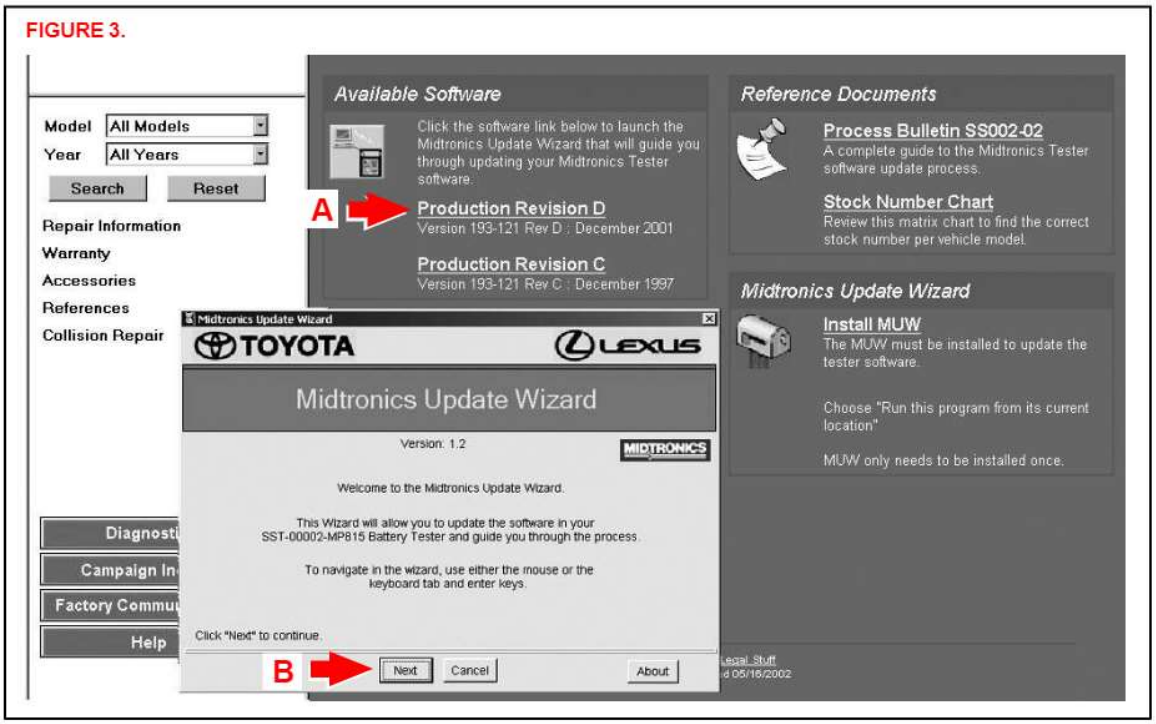
Operation Procedure (Continued)

2. Using the Midtronics Update Wizard (MUW).

A. Click on the latest version of production software. (Figure 3.) This will begin the software update process.

B. The next screen to appear will be the first screen of the software update. Click "Next" to continue.

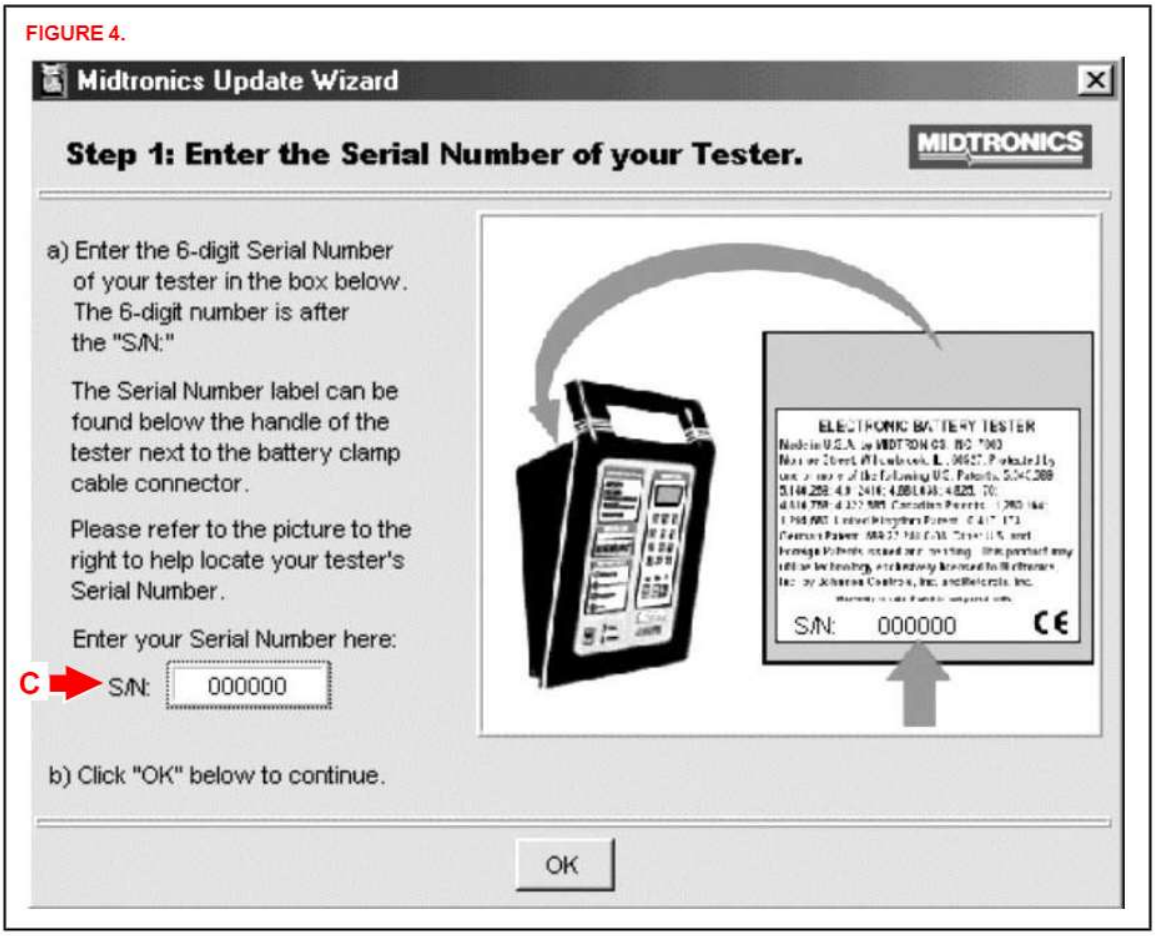
FIGURE 3.



Operation Procedure (Continued)

C. Enter the serial number of the battery tester then click “OK.” (Figure 4.)

FIGURE 4.



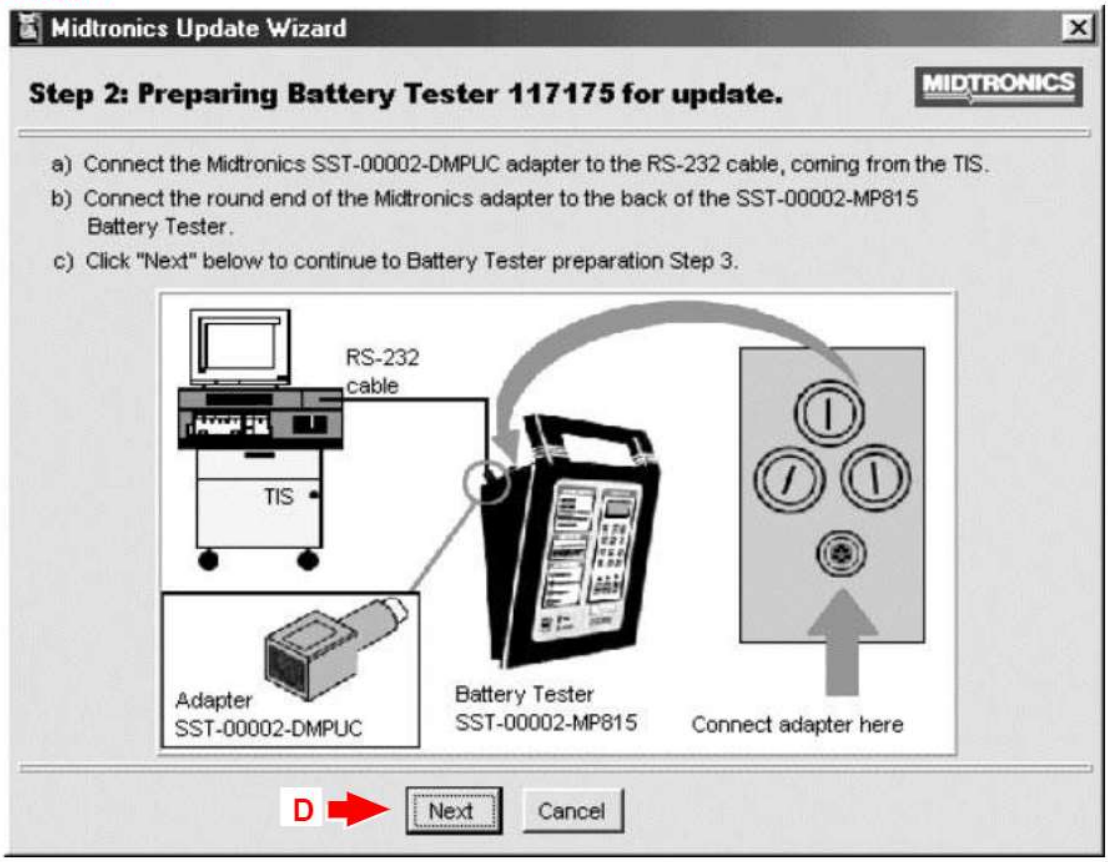
Operation Procedure (Continued)

D. Connect the Midtronics Battery Tester to TIS as instructed (Figure 5), then click "Next."

NOTE:

Connecting the Midtronics Battery Tester to the TIS station will require the use of SST 00002–DMPUC. This is an adapter that allows the TIS RS–232 cable to plug into the Battery Tester. (Figure 5.)

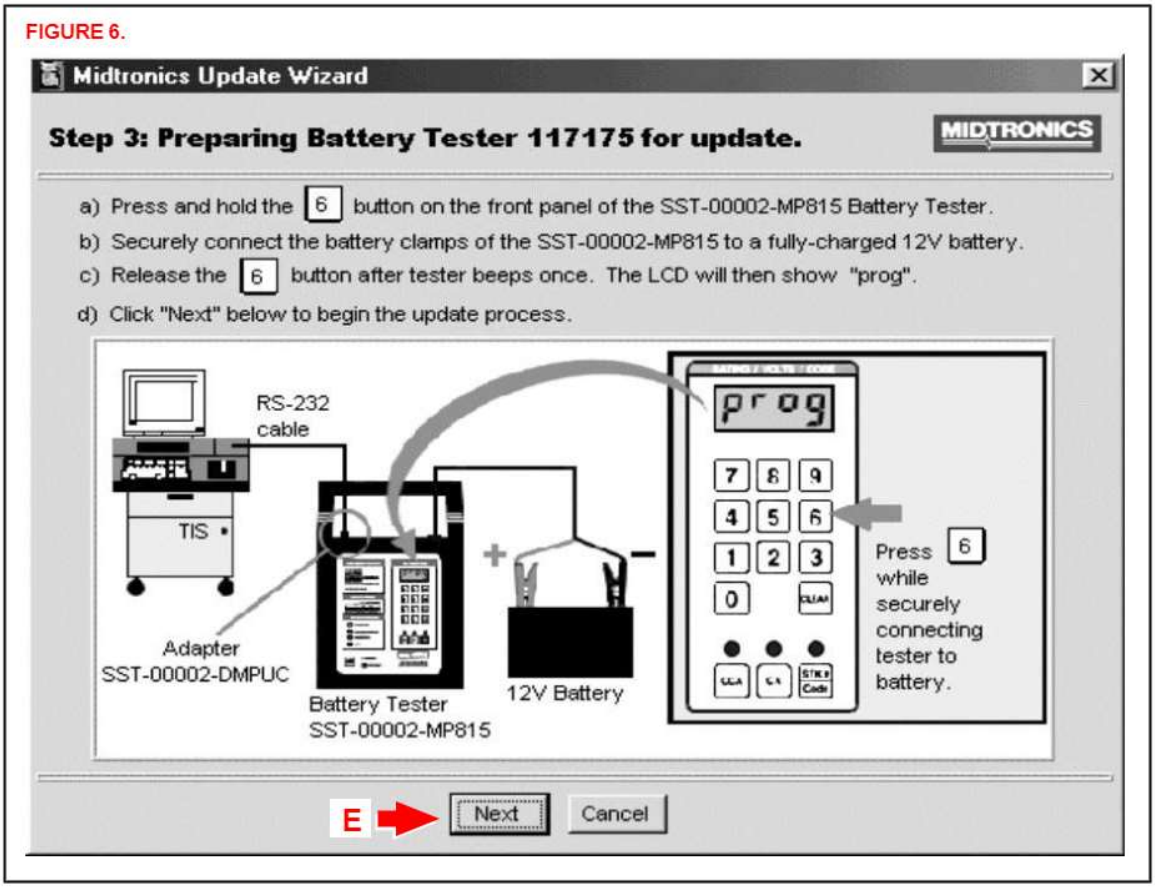
FIGURE 5.



Operation Procedure (Continued)

E. Follow the instructions to put the Midtronics Battery Tester into the correct mode (Figure 6), then click “Next.”

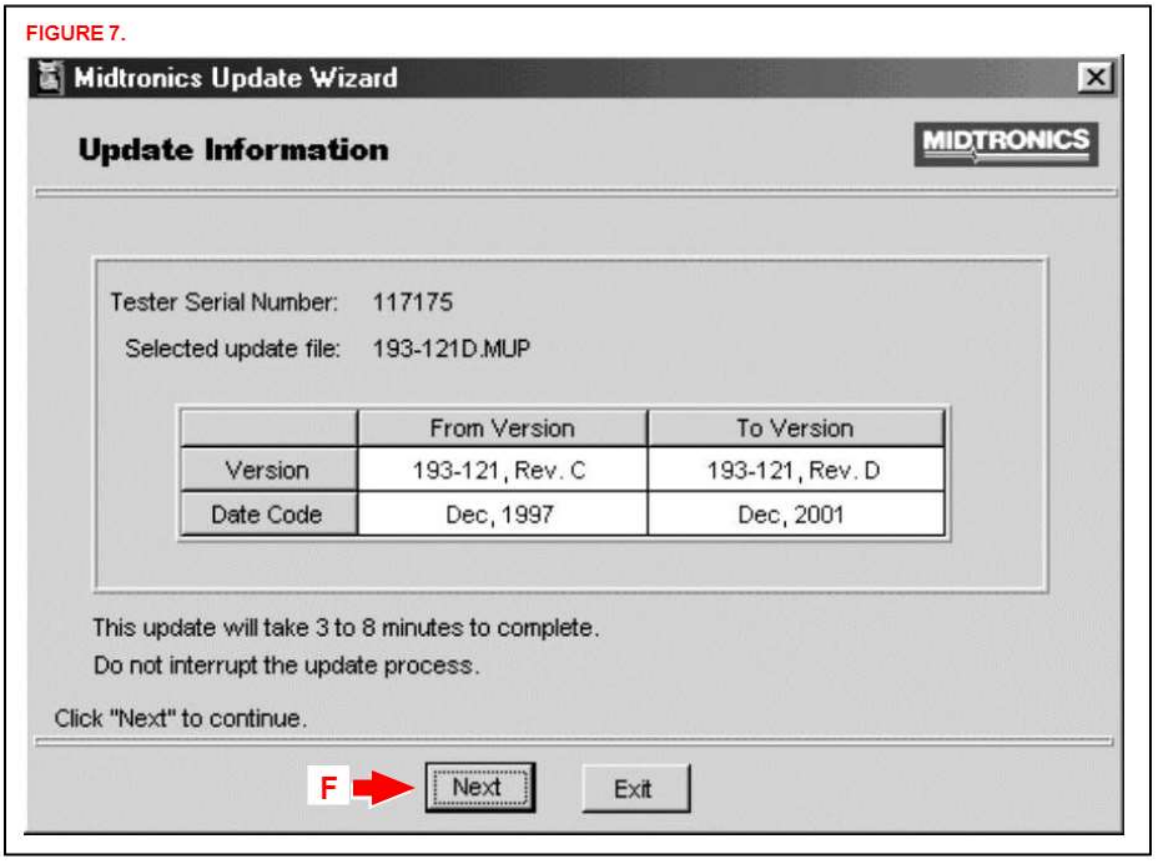
FIGURE 6.



Operation Procedure (Continued)

F. Confirm the software version and click “Next.” (Figure 7.)

FIGURE 7.



Figures 7–1 and 7–2 are confirmation dialogs that will pop up over the Update Information window (Figure 7) when:

- The update file is an older revision level than that found in the battery tester (Figure 7–1) or
- The update file is the same revision level as that found in the tester (Figure 7–2).

Click the “Yes” button to clear the pop–up dialog and continue with the update.

FIGURE 7–1.

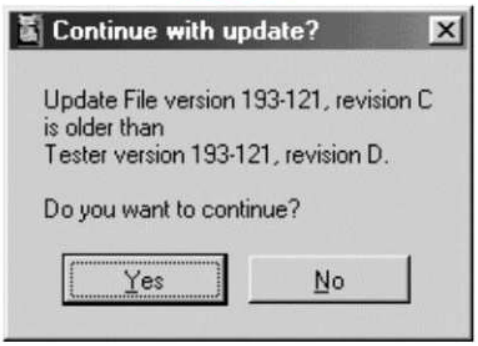
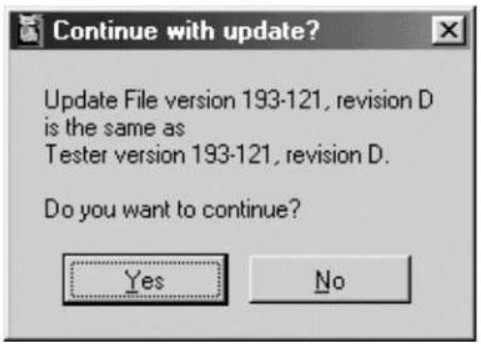


FIGURE 7–2.

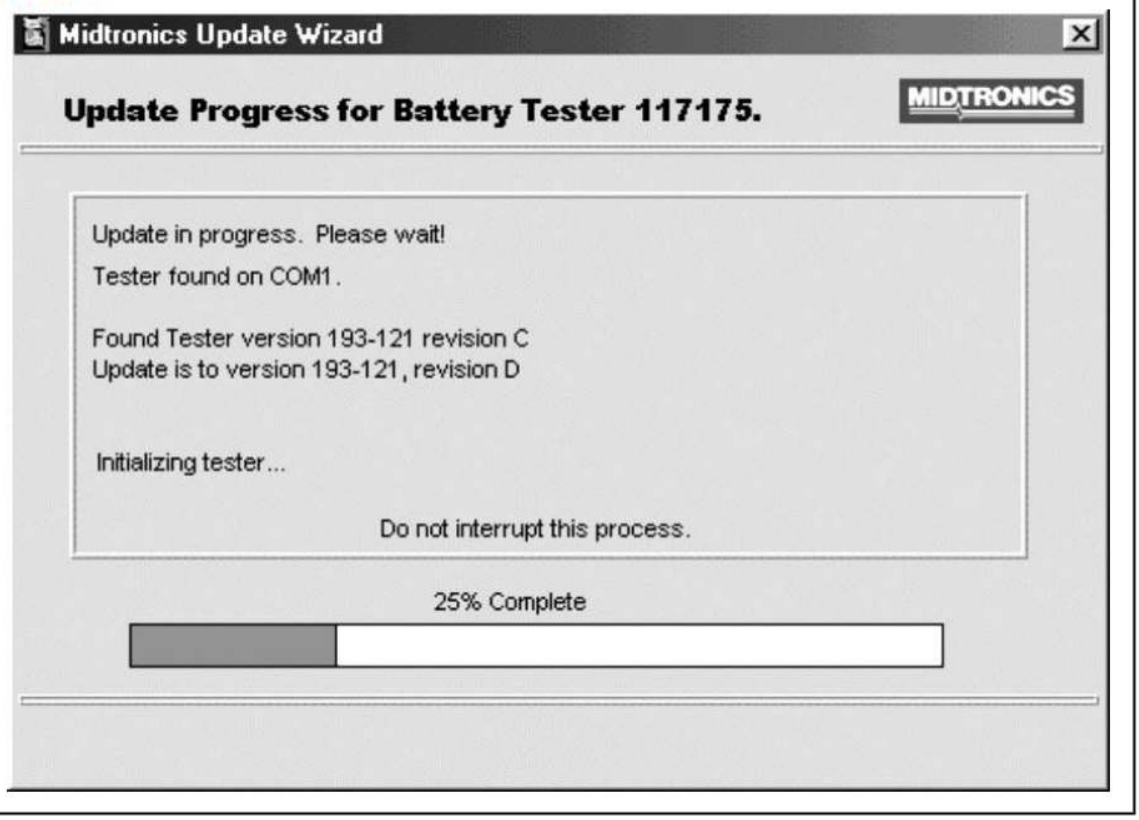


Operation Procedure (Continued)

G. The Midtronics Update Wizard (MUW) will now update the Midtronics Battery Tester software. (Figure 8.)

NOTE:
Do not interrupt this process (it will take approximately 5 minutes).

FIGURE 8.



Operation Procedure (Continued)

H. Upon successful completion, the Update Results screen will display “No errors” and the update is now complete. Click on the “Exit” button. (Figure 9.)

FIGURE 9.



Your Midtronics Battery Tester is now updated and ready for use.

NOTE:

BE SURE TO REGULARLY CHECK TIS FOR FUTURE UPDATES:

- **The Midtronics Battery Tester OE Stock Number Card will no longer be printed and shipped. It will be distributed through TIS from now on.**
- **Latest versions of Tester update software will be available on TIS.**

TOYOTA

Technical Service BULLETIN

December 11, 1998

Title:

RIVET NUT TOOL

Models:

All Models

TSB

SS003–98

SPECIAL SERVICE TOOLS

Introduction

Toyota Motor Sales is making available a tool suitable for installing Rivet Nuts as required by some DIO accessories, such as wind deflectors, roof Racks, and running boards. The tool is available from Owatonna Tool Company, also known as OTC.

Affected Vehicles

- **All models** requiring Rivet Nuts for the installation of an accessory.

Part Number Information

OTC PART NUMBER	PART NAME	NOTE
00002–95161	Rivet Nut Tool	Mandrels for 5, 6 and 8 mm Rivet Nuts included*



* Also includes a molded plastic carrying case, not shown

Ordering Procedure

Rivet Nut Tool may be ordered by calling the OTC Order Desk at 1–800–933–8335. The introductory price for this tool is $460.00.

Warranty Information

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

Toyota Supports ASE Certification

TOYOTA

TECHNICAL SERVICE BULLETIN

REF.: SPECIAL SERVICE TOOLS

NO.: SS95–004

DATE: NOVEMBER 10, 1995

MODEL: ALL MODELS

NEW OIL FILTER WRENCH

Beginning in 1996, Toyota will be standardizing the size of many of its oil filters to the three inch industry standard. This new filter size is slightly larger than the existing 75mm diameter filter presently used on many Toyota models. This larger filter will require a three inch oil filter wrench for easy removal.

Three inch oil filter wrenches are readily available from parts stores and tool dealers, however, for your convenience, OTC will make this new filter wrench available under **P/N 00002–17001.** Dealer cost is $5.75. To order, please call OTC at 1–800–933–8335.

TOYOTA

Technical Service BULLETIN

December 8, 2000

Title:

DIAGNOSTIC TESTER COMMUNICATION ERROR WITH T.I.S.

Models:

All Models

TSB

SS004-00

SPECIAL SERVICE TOOLS

Introduction

Certain Diagnostic Testers (SST P/N 02002019) may experience a communication error with the Technical Information System (T.I.S.). To correct this condition, the tester manufacturer, Vetronix Corporation, will recall and update affected units. The following explains how to determine which Diagnostic Testers may exhibit this problem and outlines the procedure to return the tester for repair.

Applicable Diagnostic Testers

Diagnostic Testers within the serial number range below are known to experience these communication errors.

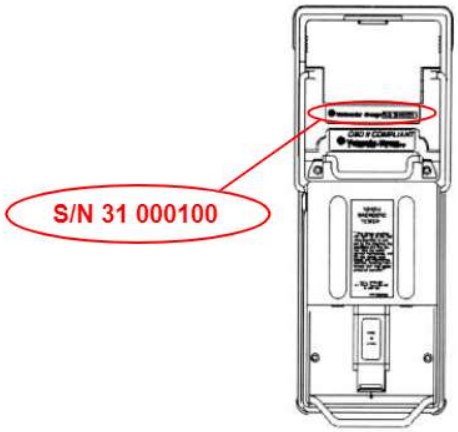
STARTING SERIAL NUMBER	ENDING SERIAL NUMBER
31 000000	31 000100

Repair Procedure

1. Determine the Diagnostic Tester serial number located on the back of the tester (see Figure 1).
2. If the serial number is within the range listed above, call Vetronix Toyota Customer Service at 1-800-321-4889, ext. 3123, to obtain a pre-paid shipping package for the Diagnostic Tester.
3. The shipping package will arrive within 2 business days. Secure the tester in the provided package following the enclosed shipping instructions.

   Diagnostic Testers are guaranteed to be returned within 3 business days from receipt at Vetronix (except over holidays).

Figure 1
Back View of Diagnostic Tester



NOTE:
This update will be performed free of charge.

Diagnostic Testers outside of the serial number range above are not affected and do not need this repair. If a Diagnostic Tester outside this range experiences a similar problem, please call Dealer Daily Support at 1-877-DL-DAILY or Vetronix Toyota Customer Service at 1-800-321-4889, ext. 3123.

Warranty Information

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

Toyota Supports ASE Certification

TOYOTA

Technical Service BULLETIN

February 16, 2001

Title:

STEERING WHEEL NUT SERVICE SPECIFICATION

Models:

All Applicable Models

TSB

STEERING

ST001-01

Introduction To make the steering wheel installation procedure similar for all models, the steering wheel nut tightening torque has been standardized.

Applicable Vehicles

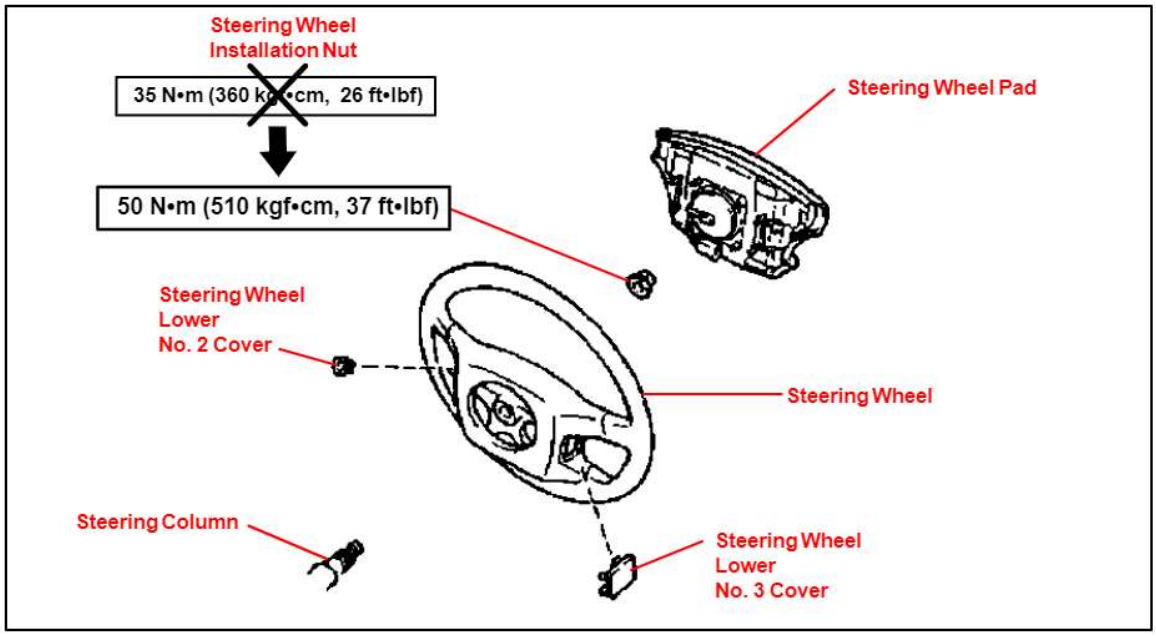
MODEL		MODEL YEARS
TERCEL	EL42, 53	1991 – 1998
ECHO	NCP12	2000
PASEO	EL44, 54	1992 – 1997
COROLLA	AE10#, ZZE110	1993 – 2001
CELICA	AT180, ST18#, AT2#, ST2#, ZZT23#	1990 – 2000
MR2	SW2#, ZZW30	1991 – 1995; 2000
CAMRY	SXV10, 20, MCV10, 20	1992 – 2000
CAMRY CNG	SXV23	2000 – 2001
CAMRY SOLARA	SXV20, MCV20	1999 – 2000
AVALON	MCX10, 20	1995 – 2000
SUPRA	JZA80	1993 1/2 – 1998
RAV4	SXA1#	1996 – 2000
RAV4 EV	BEA11	1998 – 2000
PREVIA	TRC10, 20	1991 – 1997
SIENNA	MCL10	1998 – 2000
HIGHLANDER	ACU20, 25, MCU20, 25	2001
4RUNNER	RN12#, 13#, VZN12#, 13#, 18#, RZN180, 185	1990 – 2000
LAND CRUISER	FZ80, FZJ80, UZJ100	1991 – 2000
TRUCK	RN8#, 9#, 10#, 110, VZN85, 9#, 10#, 110	1989 – 1995
TACOMA	RZN140, 150, 161, 171, 19#, VZN150, 160, 170, 195	1995 1/2 – 2000
T100	VCK10, 20	1993 – 1998
TUNDRA	VCK30, 40, UCK30, 40	2000

Warranty Information

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

STEERING WHEEL NUT SERVICE SPECIFICATION – ST001-01 February 16, 2001

Service Information



TOYOTA

Technical Service BULLETIN

May 22, 1998

Title:

STEERING GEAR REMOVAL/ REPLACEMENT

Models:

All Models equipped with SRS Airbag

TSB

STEERING

ST002–98

Introduction

The following information is provided to **supplement the Repair Manual procedure** for removing/installing the steering gearbox or rack and pinion on vehicles equipped with a driver's side Supplemental Restraint System (SRS) Airbag.

CAUTION:

When the intermediate shaft is disconnected and the steering wheel is turned freely, the SRS spiral cable may be broken. **Therefore, as a precaution, make sure to pass the driver's seat belt through the steering wheel to prevent it from turning freely, as shown below.**

After working on SRS/Steering components, always check the operation of the SRS Warning Light. Refer to the appropriate repair manual if any diagnostic trouble codes are recorded.

Affected Vehicles

Tercel, Paseo, Corolla, MR2, Celica, Camry, Avalon, Supra, Previa, Sienna, RAV4, 4Runner, Tacoma, T–100 & Land Cruiser equipped with a driver's side SRS Airbag.

Repair Procedure

1. Position the front wheels facing straight ahead.
2. Using the driver's seat belt, set the steering wheel so that it does not turn (see Fig. 1).

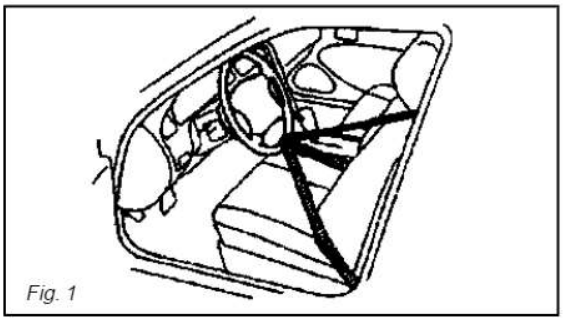


Fig. 1

3. Paint match marks on the intermediate shaft and control valve shaft (see Fig. 2).
4. Remove the intermediate shaft retaining bolt and disconnect the intermediate shaft (see Fig. 2).

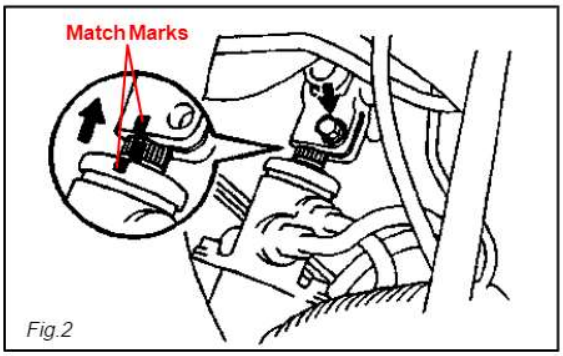


Fig.2

Warranty Information

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

Toyota Supports ASE Certification

TOYOTA

Technical Service BULLETIN

May 12, 2000

Title:

STEERING WHEEL NUT

Models:

'94 – '00 Camry

TSB

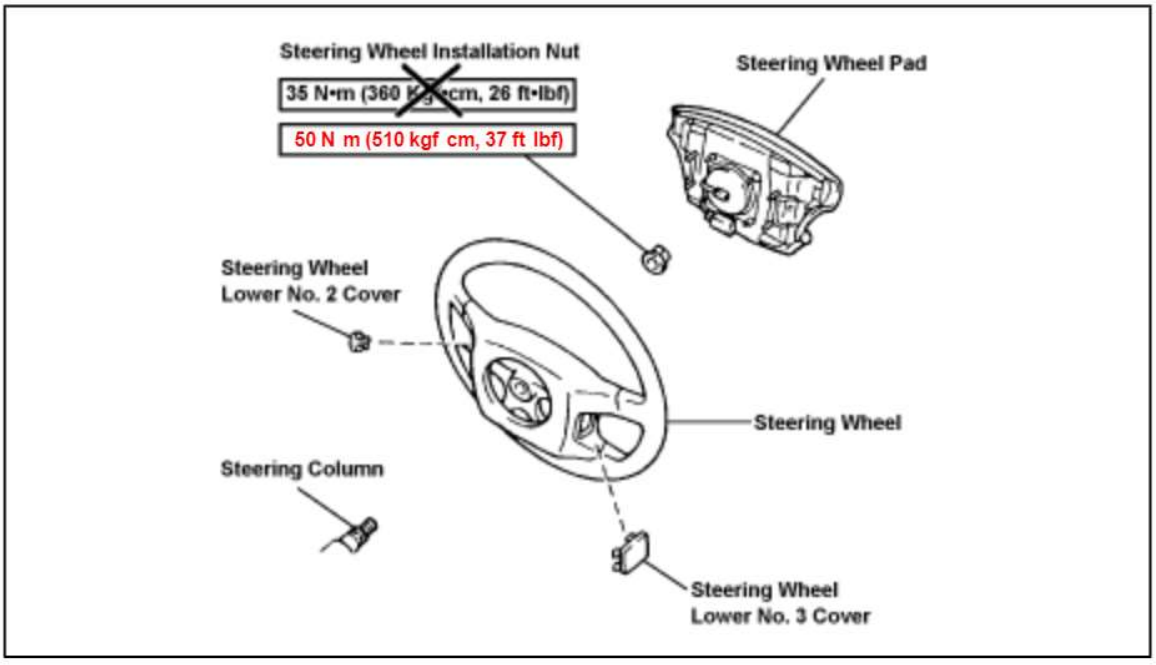
STEERING

ST002–00

Introduction The steering wheel installation nut torque specification has been changed. Please update the repair manuals for the applicable vehicles.

Applicable Vehicles

- **1994 – 2000** model year **Camry**



Warranty Information

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

TOYOTA

Technical Service BULLETIN

June 16, 2000

Title:

STEERING RACK END NOISE

Models:

'97 – '00 Camry (NAP) & '99 – '00 Solara

TSB

STEERING

ST004–00

Introduction

Some 1997 – 2000 model year Camry (NAP) and 1999 – 2000 Solara vehicles may experience a squeaking noise from the front suspension. To improve this condition, production parts have been changed.

Applicable Vehicles

- **1997 – 2000** model year **Camry (North American Produced)**
- **1999 – 2000** model year **Solara**

Production Change Information

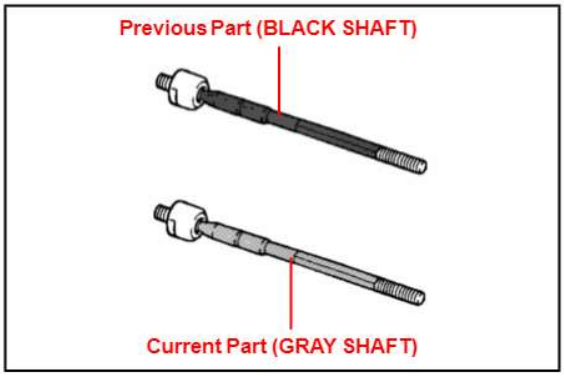
MODEL	STARTING VIN
NAP Camry	4T1BG2*K*YU668756 4T1BG2*K*YU986504 4T1BF2*K*YU104860 4T1BF2*K*YU947590
Solara	2T1C*2*P*YC359722

Parts Information

MODEL	PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
Camry and Solara	45503–09030 or 45503–39055 or 45503–39135	45503–39135	Steering Rack End Sub–Assembly

HINT:

A quick reference in differentiating between the previous and new parts is that the previous Rack End Shaft is BLACK and the current part is GRAY.



Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
444631	R & R Power Steering Rack End Sub–Assembly (One Side)	2.2	45503–09030 or 45503–39055 or 45503–39135	91	99
Combo Code A	Other Side	0.5			

Applicable Warranty*:

This repair is covered under the Toyota Basic Warranty. This warranty is in effect for 36 months or 36,000 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.

Toyota Supports ASE Certification

TOYOTA

Technical Service BULLETIN

December 21, 2001

Title:

STEERING RACK END NOISE

Models:

'97 – '00 Camry (NAP) & '99 – '00 Solara

TSB

STEERING

ST008-01

TSB Update Notice:

The information contained in this TSB updates ST004–00 dated June 16, 2000. Revised text is red and underlined.

Introduction

Some 1997 – 2000 model year Camry (NAP) and 1999 – 2000 Solara vehicles may experience a squeaking noise from the front suspension. To improve this condition, production parts have been changed.

Applicable Vehicles

- **1997 – 2000** model year **Camry (North American Produced)** vehicles.
- **1999 – 2000** model year **Solara** vehicles.

Production Change Information

MODEL	STARTING VIN
NAP Camry	4T1BG2#K#YU668756 4T1BG2#K#YU986504 4T1BF2#K#YU104860 4T1BF2#K#YU947590
Solara	2T1C#2#P#YC359722

Parts Information

MODEL	PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
Camry and Solara	45503–09030 or 45503–39055 or 45503–39135	45503–39135	Steering Rack End Sub–Assembly

NOTE:

Current service parts may be GRAY or BLACK in color.

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
444631	R & R Power Steering Rack End Sub–Assembly (One Side)	2.2	45503–09030 or 45503–39055 or 45503–39135	91	99
Combo Code A	Other Side	0.5			

Applicable Warranty*:

This repair is covered under the Toyota Basic Warranty. This warranty is in effect for 36 months or 36,000 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.

Toyota Supports ASE Certification

TOYOTA

Technical Service BULLETIN

January 21, 2000

Title:

FRONT SUSPENSION SUPPORT NOISE

Models:

'97 – '99 Avalon & '97 – '00 Camry

TSB

SUSPENSION

SU001–00

TSB Update Notice:

The information contained in this TSB updates SU002–99 dated September 3, 1999. Revised text is red and underlined.

Introduction

To eliminate a noise occurrence from the front suspension on washboard type road surfaces, the suspension support has been changed.

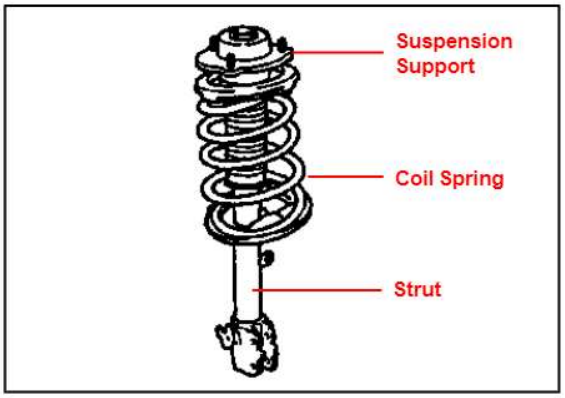
Applicable Vehicles

- **1997 – 1999 Model Year Avalon and 1997 – 2000 Camry vehicles.**

Production Change Information

The rubber bushing shape of the suspension support has been changed.

MODEL	STARTING VIN
Avalon	4T1BF1*B*XU353593
JPP Camry	JT2BF2*K*Y0237757 JT2BG2*K*Y0386559
NAP Camry	4T1BF2*K*YU092142 4T1BF2*K*YU934448 4T1BG2*K*YU623567 4T1BG2*K*YU925151



Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QUANTITY
Avalon			
48603–33020	48603–33010	Support Sub–Assembly, Front Suspension RH	1
48609–33120	48609–33110	Support Sub–Assembly, Front Suspension LH	1
Camry			
48603–33020	48603–33021	Support Sub–Assembly, Front Suspension RH	1
48609–33120	48609–33121	Support Sub–Assembly, Front Suspension LH	1

Warranty Information

OP CODE	COMBO	DESCRIPTION	TIME	OPN	T1	T2
431451	A	R & R Suspension Support (RH and LH)	2.1	48603–33020	91	99
	B	Adjust Toe–In				
	C	Adjust Camber				

Applicable Warranty*:

This repair is covered under the Toyota Basic Warranty. This warranty is in effect for 36 months or 36,000 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.

Toyota Supports ASE Certification

TOYOTA

Technical Service BULLETIN

March 1, 2002

Title:

REAR BEARING O-RING SERVICE TIP

Models:

'97 – '01 Camry, '00 – '02 Avalon & '99 – '02 Solara

TSB

SUSPENSION

SU001-02

Introduction

When replacing the rear hub bearing assemblies on 1997 – 2001 model year Camry, 2000 – 2002 Avalon and 1999 – 2002 Solara vehicles, replace the O–ring.

Applicable Vehicles

- **1997 – 2001** model year **Camry** vehicles.
- **2000 – 2002** model year **Avalon** vehicles produced before the VIN shown below.
- **1999 – 2002** model year **Solara** vehicles produced before the VIN shown below.

Production Change Information

MODEL	STARTING VIN
Avalon	4T1BF28B#2U223623
Solara	2T1##2#P#2C005335

Parts Information

PART NUMBER	PART NAME
90301–63006	O–Ring

Warranty Information

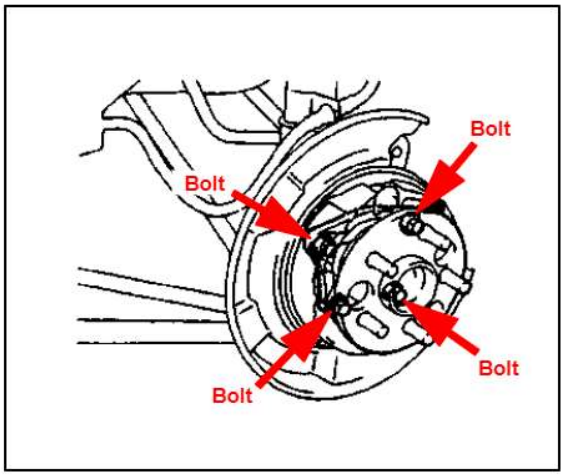
OP CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Repair Procedure

REMOVAL

1. Remove Rear Wheel.
   Torque: 103 N•m (1,050 kgf•cm, 76 ft•lbf)
2. With Disc Brake:
   Remove Brake Caliper and Disc.
   A. Remove the brake caliper and disc.
   Torque: 47 N•m (475 kgf•cm, 34 ft•lbf)
   B. Support the brake caliper securely.
3. With Drum Brake:
   Remove Brake Drum.

4. Remove Rear Axle Hub.
   A. Remove the 4 bolts and rear axle hub.
   Torque: 80 N•m (820 kgf•cm, 59 ft•lbf)
   B. Remove the O–ring.



HINT:
At the time of installation, coat the new O–ring with MP grease.

NOTE:
Please ensure that the O–ring is replaced with a new service part when installing the bearing assembly.

   C. With Drum Brake:
   Remove the bolt, and disconnect the flexible hose from the shock absorber.
   Torque: 29 N•m (300 kgf•cm, 22 ft•lbf)
   D. Support the backing plate securely.

5. With ABS:
   Remove ABS Speed Sensor.
   Torque: 8.0 N•m (82 kgf•cm, 71 in•lbf)

INSTALLATION

Installation is in the reverse order of removal.

TOYOTA

Technical Service BULLETIN

September 3, 1999

Title:

FRONT SUSPENSION SUPPORT NOISE

Models:

'97 – '99 Avalon & Camry

TSB

SUSPENSION

SU002–99

Introduction

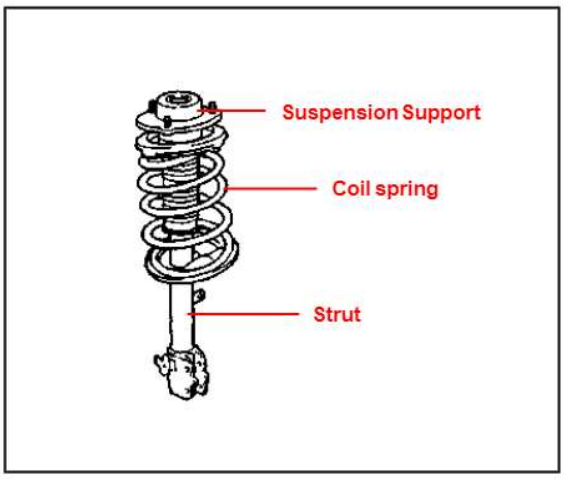
To eliminate a noise occurrence from the front suspension on washboard type road surfaces, the suspension support has been changed.

Applicable Vehicles

- **1997 – 1999 Model Year Avalon and Camry vehicles**

Modification Information

The rubber bushing shape of the suspension support has been changed.



Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QUANTITY
48603–33020	48603–33010	Support Sub–Assembly, Front Suspension RH	1
48609–33120	48609–33110	Support Sub–Assembly, Front Suspension LH	1

Warranty Information

OP CODE	GROUP	DESCRIPTION	TIME	OPN	T1	T2
431451	A	R & R Suspension Support (RH and LH)	2.1	48603–33020	91	99
	B	Adjust Toe–In				
	C	Adjust Camber				

Applicable Warranty*:

This repair is covered under the Toyota Basic Warranty. This warranty is in effect for 36 months or 36,000 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.

Toyota Supports ASE Certification

TOYOTA

Technical Service BULLETIN

May 5, 2000

Title:

REAR ABS SPEED SENSOR REMOVAL

Models:

'97 – '00 Camry & Avalon, '99 – '00 Solara

TSB

SUSPENSION

SU002–00

Introduction

This bulletin provides service information regarding the removal of the ABS speed sensor prior to removal of the rear axle and rear suspension.

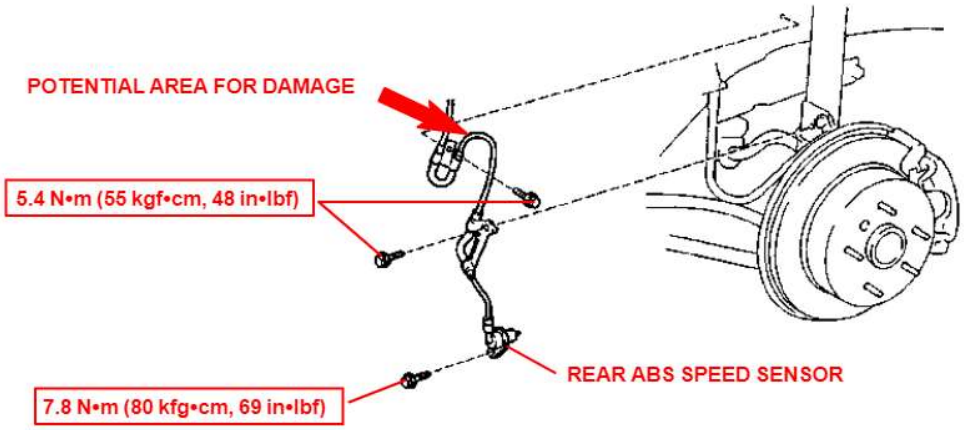
REMINDER:

Failure to remove the ABS speed sensor prior to removal of the rear axle or suspension may cause the ABS warning light to illuminate or damage the ABS speed sensor wire harness.

Applicable Vehicles

- **1997 – 2000** model year **Camry and Avalon**
- **1999 – 2000** model year **Solara**

Repair Procedure



NOTE:

Prior to removal/replacement of the rear axle, rear coil spring and rear shock absorber, be sure to remove the rear ABS speed sensor from the rear axle by removing the 3 bolts shown above. Check the speed sensor signal after installation.

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable	–	–	–	–

Toyota Supports ASE Certification

TOYOTA

Technical Service BULLETIN

May 24, 2002

Title:

AUTOMATIC TRANSMISSION FLUID REQUIREMENTS

Models:

All '00 – '02 Models & '03 Corolla & Matrix

TSB

TC001-02

TRANSMISSION & CLUTCH

Introduction

Please refer to the following table for correct application of Dexron® III (Dexron® II) and Toyota Type T–IV Automatic Transmission Fluids or equivalent.

MODEL	2000	2001	2002	2003
Avalon	A541E	A541E	A541E	N/A
Camry	A140E, A541E	A140E, A541E	U140E, U241E	N/A
Celica	U240E, U341E	U240E, U341E	U240E, U341E	N/A
Corolla	A131L, A245E	A131L, A245E	A131L, A245E	A245E
ECHO	U340E	U340E	U340E	N/A
Highlander	N/A	U140E, U140F, U241E	U140E, U140F, U241E	N/A
Land Cruiser	A343F	A343F	A343F	N/A
RAV4	A247E, A540H	U140F, U241E	U140F, U241E	N/A
Sequoia	N/A	A340E, A340F	A340E, A340F	N/A
Sienna	A540E	A541E	A541E	N/A
Solara	A140E, A541E	A140E, A541E	A140E, U241E	N/A
Tacoma	A340E, A340F, A43D	A340E, A340F, A44D	A340E, A340F, A44D	N/A
Tundra	A340E, A340F	A340E, A340F	A340E, A340F	N/A
4Runner	A340E, A340F	A340E, A340F	A340E, A340F	N/A
Matrix	N/A	N/A	N/A	A246E
Matrix	N/A	N/A	N/A	U240E
Matrix	N/A	N/A	N/A	U341F
Prius	N/A	P111	P111	N/A

LEGEND
Type T–IV Fluid
Dexron® III (Dexron® II)

Parts Information

PART NUMBER	PART NAME
08886–81015	ATF Type T–IV
00718–ATF00	Dexron® III (Dexron® II)

Warranty Information

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

Toyota Supports ASE Certification

TOYOTA

Technical Service BULLETIN

April 9, 1999

Title:

REVISED DRIVE SHAFT GREASE

Models:

RAV4, Tercel, Corolla, Celica, Camry & Supra

TSB

TC002–99

TRANSMISSION & CLUTCH

Introduction

The greases supplied in replacement Inboard and Outboard Drive Shaft Boot Kits for the following models has been revised.

With this revision, the grease compositions have been changed and are now both the **same color**. To correctly lubricate each joint, consult the Service Repair Manual as to which **size** packet of grease is designated for each Drive Shaft Joint Assembly.

> **NOTE:**
> **Although Inboard and Outboard greases are now the same color, their compositions are different.**

Affected Vehicles

- **All RAV4, Tercel, Corolla, Celica, Camry and Supra Models.**

Required Tools and Material

As outlined in the Service Repair Manual.

Repair Procedure

Refer to the appropriate Repair Manual for installation and lubrication information for Drive Shaft Joint Assemblies.

Warranty Information

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

TOYOTA

Technical Service **BULLETIN**

October 17, 1997

Title:

TRANSMISSION OIL COOLER INSTALLATION

Models:

'97 CAMRY WITH A541E ATM

TSB

TRANSMISSION & CLUTCH

TC003–97

Introduction

To prevent overheating of the transmission when towing a weight of more than 1,000 pounds, a transmission oil cooler should be installed. The transmission oil cooler and required hardware for installation are available through normal parts supply.

Towing Capacity

- Up to **2,000** pounds (with transmission cooler installed).

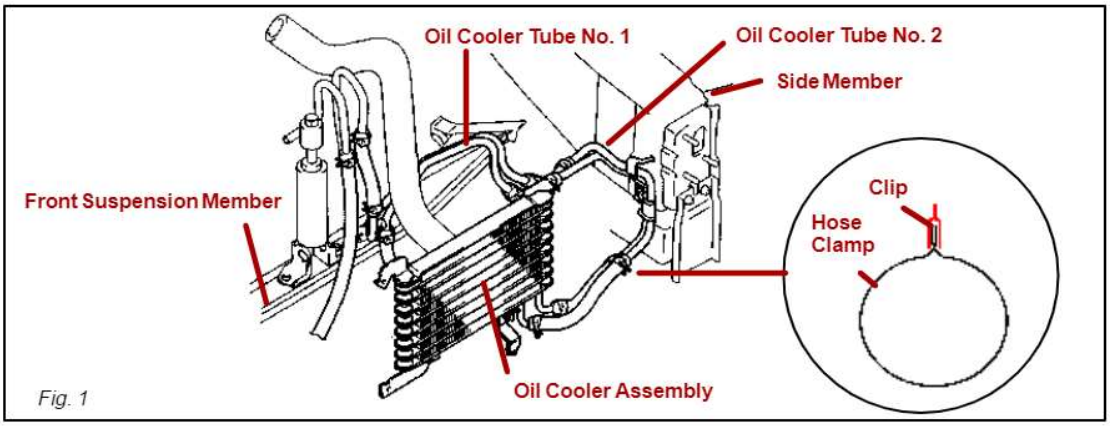


Fig. 1

Affected Vehicles

- **1997 Camrys** with **A541E** Automatic Transmissions.

Parts Information

PART NUMBER	PART NAME	QTY
32910–33040	Oil Cooler Assembly	1
32907–33050	Oil Cooler Tube No. 2	1
32907–33090	Oil Cooler Tube No. 1	1
90445–17101	180 mm (7.09") Oil Cooler Hose	1
90445–17069	190 mm (7.48") Oil Cooler Hose	1
90445–17139	130 mm (5.12") Oil Cooler Hose	3
90445–17151	140 mm (5.51") Oil Cooler Hose	1
90119–06518	Bolt	3
91611–60816	Bolt	2
90467–16013	Hose Clamp with installation clip	12
90179–06058	Nut	1

Warranty Information

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not applicable to warranty	–	–	–	–

TRANSMISSION OIL COOLER INSTALLATION – TC003–97 October 17, 1997

Procedure

1. Parts removal in preparation for cooler installation:

   A. Remove the **9** bolts, **2** screws and the center engine under cover.

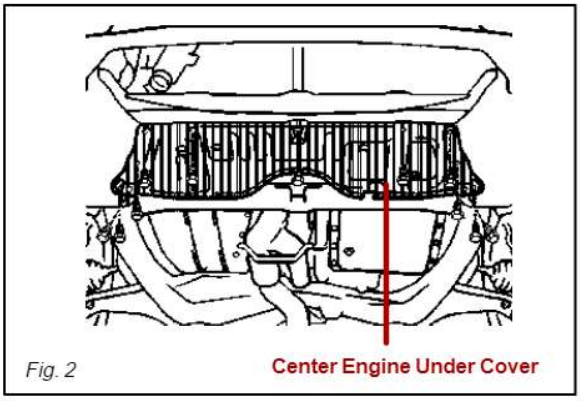


Fig. 2

   B. Remove the engine coolant temperature switch connector and the wire clamp.

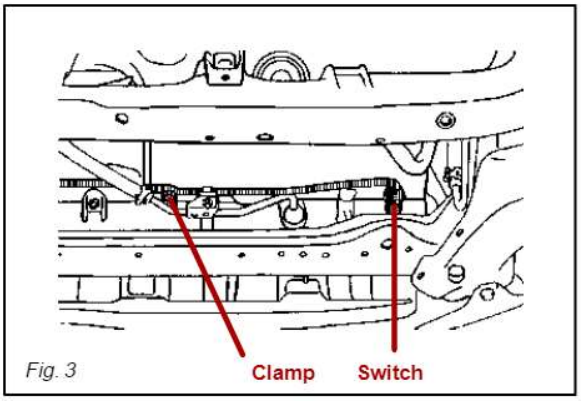
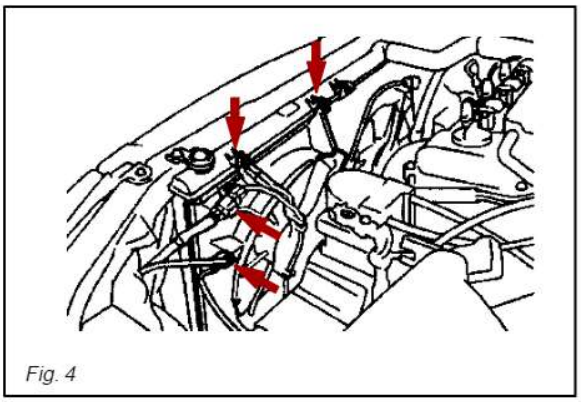


Fig. 3

   C. Remove battery and tray.
   D. Disconnect the cooling fan connector.
   E. Disconnect the No.1 engine coolant temperature switch wire connector.
   F. Remove the **2** bolts and then the cooling fan.


Fig. 4

TRANSMISSION OIL COOLER INSTALLATION – TC003–97 October 17, 1997

Procedure (Continued)

2. Cooler Installation:

A. Install the 140 mm (5.51”) hose to the oil cooler tube No. 1 as shown.

NOTE:
Install the hose clamp with the hose clamp clip at the position shown, and use pliers to pull off the clip in the direction indicated by the arrow.

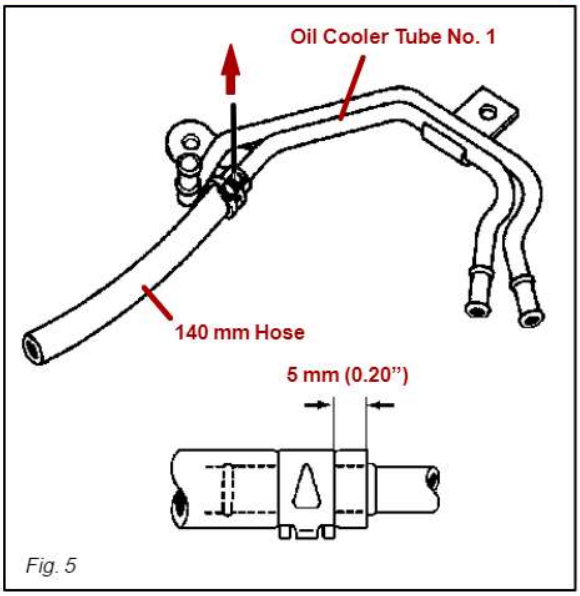
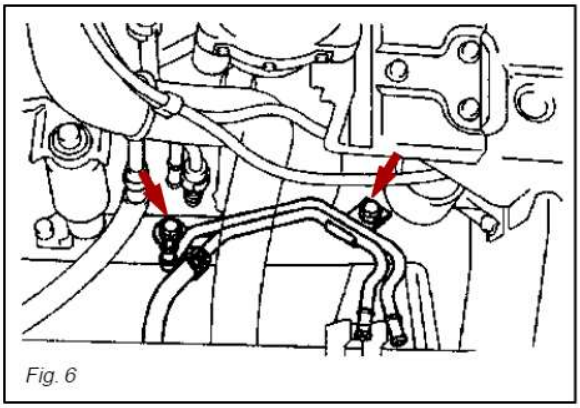


Fig. 5

B. Install the tube bracket onto the left side of the front suspension member with the **2** bolts as shown.

Torque: 62 in–lbf (7 N–m / 71 kgf–cm)


Fig. 6

C. Install the 130 mm (5.12”) hoses and the 180 mm (7.09”) hose to the oil cooler tube No. 2 as shown.

NOTE:
Install the hose clamps with the hose clamp clips at the positions shown, and use pliers to pull off the clips in the direction indicated by the arrows.

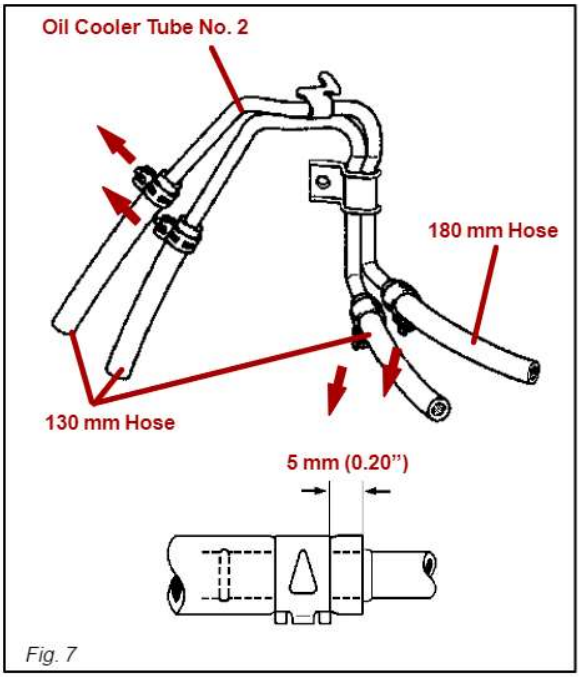


Fig. 7

Procedure (Continued)

D. Remove the lower side clip of the radiator side LH deflector.

E. Install the tube bracket with the bolt on the side member.

Torque: 62 in–lbf (7 N–m / 71 kgf–cm)

F. Reinstall the lower side clip of the radiator LH deflector.

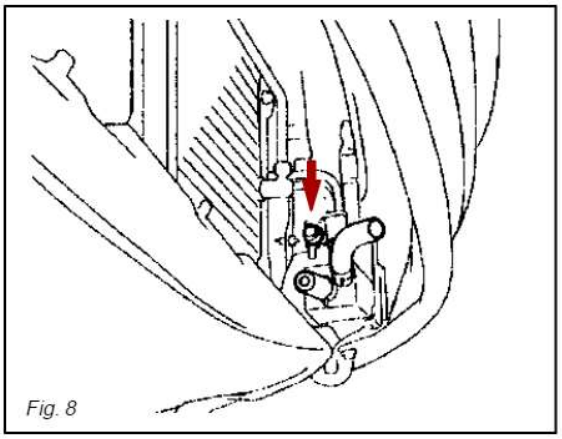


Fig. 8

G. Connect the hoses from the oil cooler tube No. 2 to the oil cooler tube No.1.

NOTE:
Install the hose clamps with the hose clamp clips at the positions shown, and use pliers to pull off the clips in the direction indicated by the arrows.

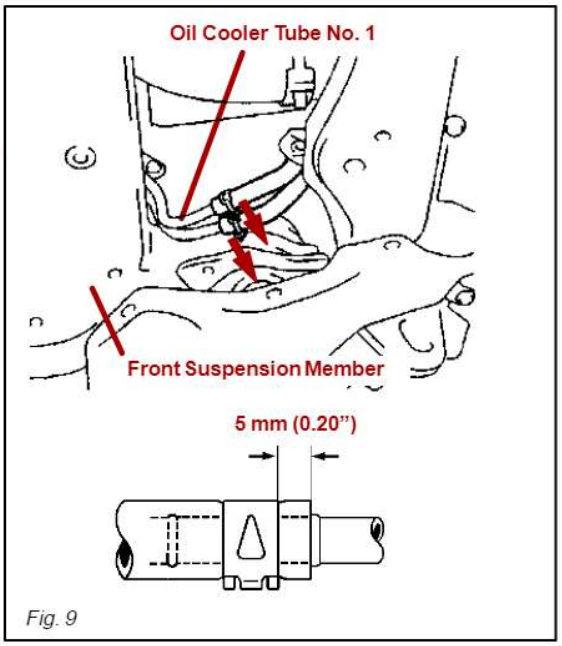


Fig. 9

H. Disconnect the hose from the oil cooler pipe of the radiator LH side.

NOTE:
Place a container below vehicle to catch any leaking ATF. Remove the other end of this hose from transaxle and discard.

I. Connect the hose from oil cooler tube No.1 to the oil cooler pipe of the radiator LH side.

NOTE:
Install the hose clamps with the hose clamp clips at the positions shown, and use pliers to pull off the clips in the direction indicated by the arrows.

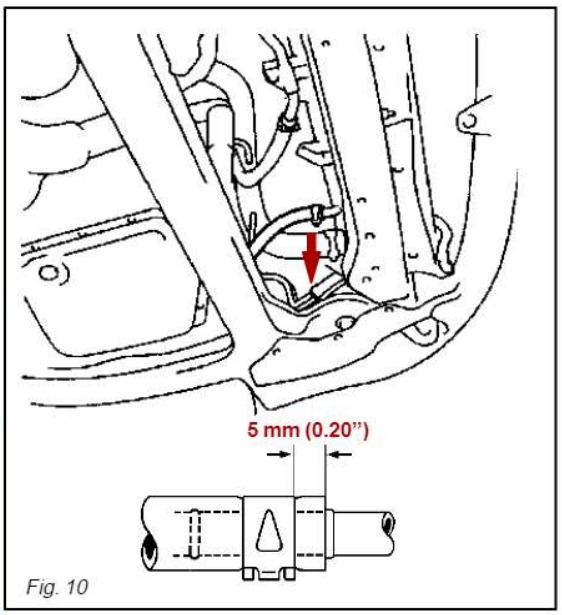


Fig. 10

TRANSMISSION OIL COOLER INSTALLATION – TC003–97 October 17, 1997

Procedure (Continued)

J. Install the 190 mm (7.48") hose between the oil cooler tube No.1 and transaxle oil cooler tube.

NOTE:
Install the hose clamps with the hose clamp clips at the positions shown, and use pliers to pull off the clips in the direction indicated by the arrows.

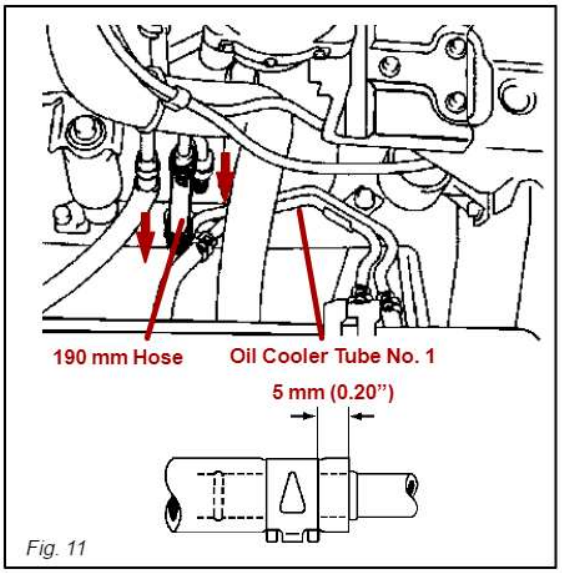
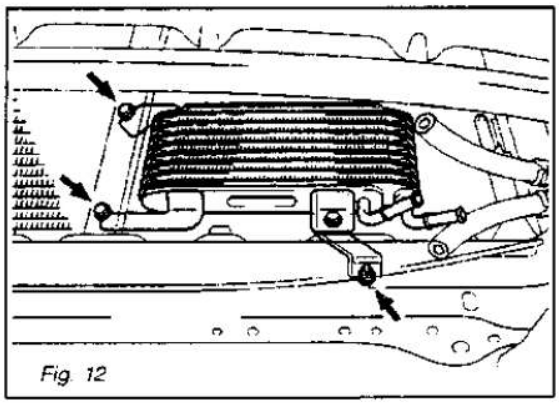


Fig. 11

K. Install the oil cooler onto the center brace and front cross member using the two bolts and nut as illustrated in figure 12.

Torque: 65.5 in–lbf
(7.4 N–m/75.5 kgf–cm)


Fig. 12

L. Connect the hoses to the pipes.

NOTE:
Install the hose clamps with the hose clamp clips at the positions shown, and use pliers to pull off the clips in the direction indicated by the arrows.

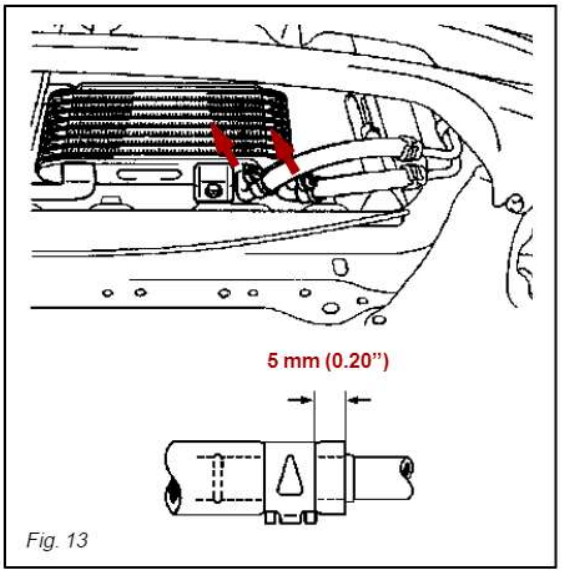


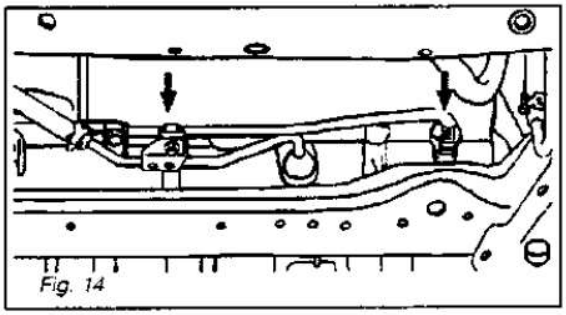
Fig. 13

TRANSMISSION OIL COOLER INSTALLATION – TC003–97 October 17, 1997

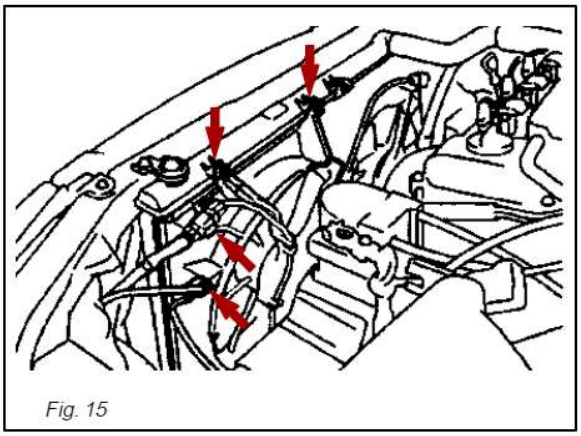
Procedure (Continued)

3. Final Assembly:

A. Reconnect the coolant temperature switch connector and wire clamp as illustrated in figure 14.


Fig. 14

B. Install the cooling fan with **2** bolts.
C. Reconnect the cooling fan connector and the No.1 engine temperature switch wire connector as shown in figure 15.
D. Reinstall battery and tray.
E. Start the engine.


Fig. 15

F. With the engine at idle and the brake pedal depressed, shift the selector into all positions from "**P**" to "**L**", and return it to the "**P**" position.
G. Check for leaks from the hose joints.
H. Add new fluid type **ATF D·II** or **DEXRON·III** (DEXRON·II).

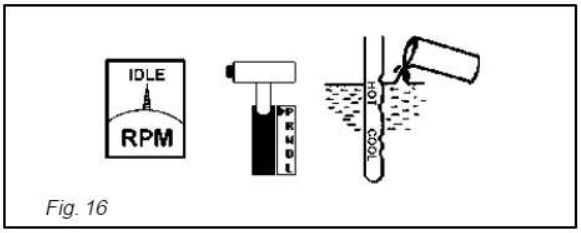


Fig. 16

NOTE:
Additional capacity with cooler will be 0.38 US quarts (0.36 liters).

I. Shift the selector into all positions from "**P**" to "**L**", and return to "**P**".
J. Check fluid level with engine idling at normal operating temperature of **158 to 176 F (70 to 80 C)** and add more fluid if required.

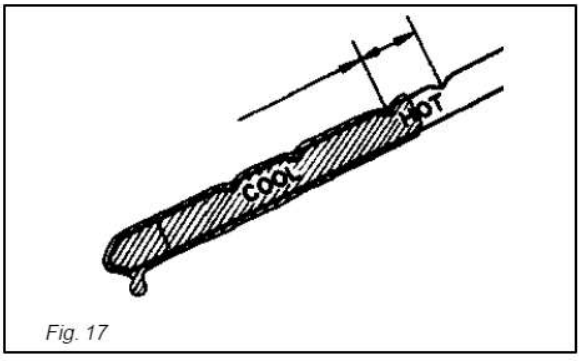
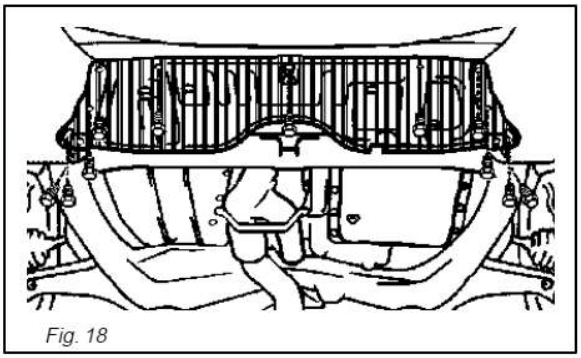


Fig. 17

CAUTION:
Do not overfill.

K. Shut off the engine and reinstall the center engine under cover with **9** bolts and **2** screws as shown in figure 18.


Fig. 18

TOYOTA

Technical Service BULLETIN

June 19, 1998

Title:

AUTOMATIC TRANSMISSION FLUID TYPE T-IV

Models:

All Models

TSB

TC003–98

TRANSMISSION & CLUTCH

Introduction

The introduction of Automatic Transmission Fluid type T–IV makes type T–II obsolete. Use type T–IV for all applications that specify ATF type T–II.

Applicable Vehicles

- All vehicles with Automatic Transmissions specified to use **ATF Types T–II or T–IV**.

	TYPE OF ATF			
SPECIFIED ATF	Dextron®–III	TYPE T	TYPE T–II	TYPE T–IV
Dextron®–II or III	**OK**	**X**	**X**	**X**
TYPE T	**X**	**OK**	**X**	**X**
TYPE T–II	**X**	**X**	**OK**	**OK**
TYPE T–IV	**X**	**X**	**X**	**OK**
X = NOT USABLE				

Parts Information

SIZE	NEW PART NUMBER	PART NAME
4 Liter	08886–01705	ATF type T–IV

Warranty Information

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

TOYOTA

Technical Service BULLETIN

May 21, 1999

Title:

AUTOMATIC TRANSMISSION FLUIDS

Models:

All Models

TSB

TC003–99

TRANSMISSION & CLUTCH

REVISION NOTICE:

The information contained in this TSB updates TC003–98 dated June 19, 1998.

Introduction

Automatic Transmission Fluid Type T–IV now replaces Type T–II fluid. Use Type T–IV for all applications that specify ATF Type T–II.

Please refer to the following table for the interchangeability between each ATF.

Affected Vehicles

- **All vehicles produced after 1993 with Automatic Transmissions specified to use ATF Type T, T–II and T–IV.**

SPECIFIED ATF	TYPE OF ATF			
	DEXTRON→ II OR III	TYPE T	TYPE T–II	TYPE T–IV
DEXTRON→ II OR III	OK	X	X	X
TYPE T	X	OK	X	OK
TYPE T–II	X	X	OK	OK
TYPE T–IV	X	X	X	OK
X = NOT USABLE				

NOTICE:

With the exception of mixing ATF Type T with Type T–IV fluids, different types of fluids must not be mixed.

Parts Information

SIZE	NEW PART NUMBER	PART NAME
4 Liter	08886–01705	ATF Type T–IV

Warranty Information

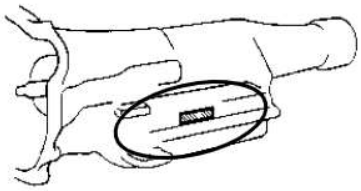
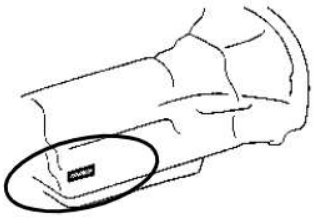
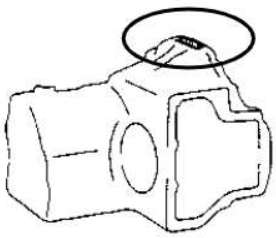
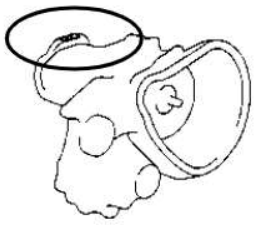
OP CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

TOYOTA **TECHNICAL SERVICE BULLETIN**

REF.: TRANSMISSION & CLUTCH
NO.: TC004-96
DATE: DECEMBER 20, 1996
MODEL: ALL MODELS

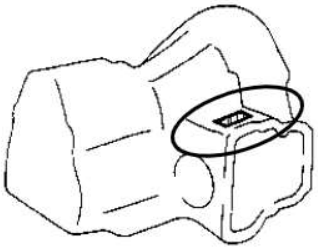
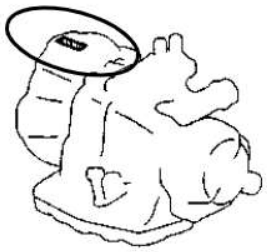
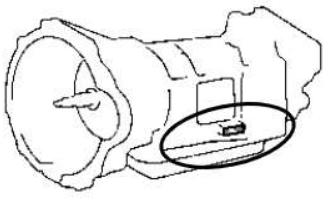
Title: **AUTOMATIC TRANSMISSION SERIAL NUMBERS**

Use the following tables to locate and read the original automatic transmission serial number.

TRANSMISSION MODEL	LOCATION	TRANSMISSION SERIAL NUMBER
A4#D#		96 A E 00001 5-Digit Serial No. *Model Code Manufacturing Month: A thru M ("I" not used) Last 2 Digits of Manufacturing Year: 1996
A34##		
A131L (AW Product)		96 A Y 00001 5-Digit Serial No. *Model Code Manufacturing Month: A thru M ("I" not used) Last 2 Digits of Manufacturing Year: 1996
A24##		96 A ZT 00001 5-Digit Serial No. *Model Code Manufacturing Month: A thru M ("I" not used) Last 2 Digits of Manufacturing Year: 1996

*See Model Code chart on Page 3.

AUTOMATIC TRANSMISSION SERIAL NUMBERS

TRANSMISSION MODEL	LOCATION	TRANSMISSION SERIAL NUMBER
A140# A130L		6 A 00001 50001 → 5-Digit Serial No. → Manufacturing Month: A thru M ("I" not used) → Last Digit of Manufacturing Year: 1996 6 01 00001 → 5-Digit Serial No. → Manufacturing Month: → Last 2 Digits of Manufacturing Year: 1996
A131L (TMC Product) A132#		F A 50001 → 5-Digit Serial No. → Manufacturing Month: A thru M ("I" not used) → *Manufacturing Year: '93-C, '94-D, '95-E
A54#E A540H		D 01 00001 → 5-Digit Serial No. → Manufacturing Month: → Manufacturing Year: A541E: '93-A, '94-B, '95-C A540E, A540H: '90-A, '91-B, '92-C
A44##		6 A 00001 → 5-Digit Serial No. → Manufacturing Month: A thru M ("I" not used) → Last Digit of Manufacturing Year: 1996

* Exception: 1991 – K, 1992 (January–March) – M, 1992 (April–December) – B

NOTE: Remanufactured transmissions also have an additional serial number.

AUTOMATIC TRANSMISSION SERIAL NUMBERS

MODEL CODE CHART:

CODE	MODEL
A	A40
B	A40D, A40DF
C	A42D
D	A41
E	A343F
F	A43D
H	A43DL
K	A42DL
L	A43DE, A46DE, A46DF
M	A42DE

CODE	MODEL
N	A45DF, A44D, A45D w/o Lock-up
P	A44DL, A45DF, A45DL w/Lock-up
Q	A44DE, A45DF, A45DE ECT, w/Lock-up
R	A340E, A340F w/lock-up
S	A340H w/Lock-up
T	A340E w/o Lock-up
U	A341H
Y	A131, A131L
Z	A240L, A241L, A242L, A243L, A2444L, A240E, A241E, A242E, A244E, A244F, A241H
ZT	A245E, A246E

TOYOTA
SERVICE BULLETIN
TOYOTA MOTOR SALES, U.S.A., INC.

VOLUME **10**

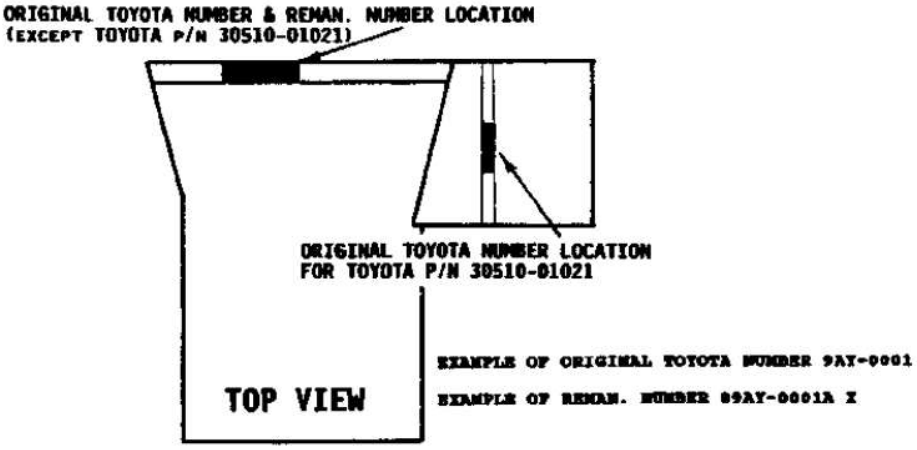
REFERENCE TRANSMISSION & CLUTCH
NUMBER 008 (REVISED)
DATE 03–22–02
MODEL AE, ST, SV, VV
(A131L) BR12E or BR18E
(A140E) BG, EG, CG, FG, DG
(A540e) ZF, GF19C

A/TM NUMBER AND LOCATION INFORMATION

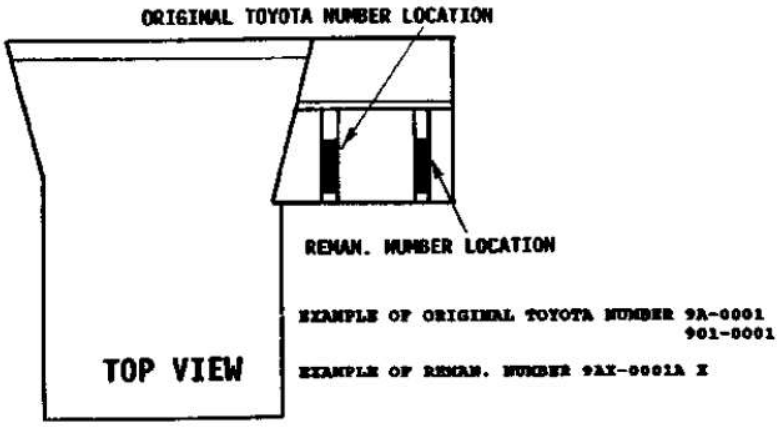
The purpose of this Service Bulletin is to provide information regarding the location of the A/TM numbers.

NOTE:
The transmission numbers must be included on the AUTOMATIC TRANSMISSION CORE INFORMATION/CREDIT REQUEST FORM when using the automatic transmission reman. program.

A131L



A140E/L

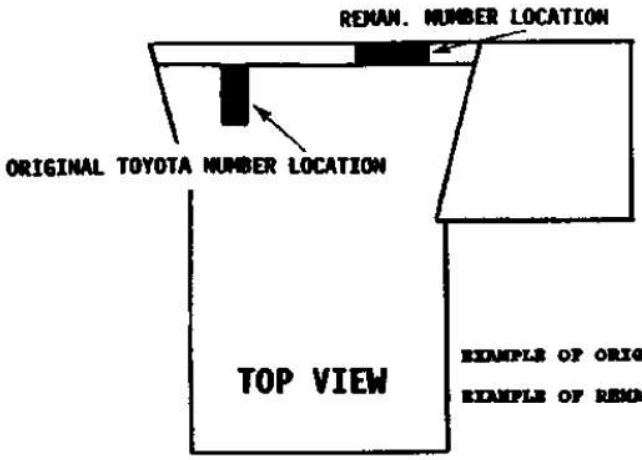


TECHNICAL ASSURANCE DEPARTMENT

TC008–89

A/TM NUMBER AND LOCATION INFORMATION (CONT'D)

A540E



TOYOTA
SCION
Technical Service BULLETIN
December 17, 2003

Title:
O2S TEST RESULTS (MODE 05)
Models:
All '96 – '03, '04 Corolla, ECHO, Matrix, Sienna & Scion xA & xB

TSB

SS002-03

SPECIAL SERVICE TOOLS

Introduction

This Service Bulletin contains Oxygen Sensor (O2S) Monitor threshold values for all models from 1996 to 2003 and some 2004 models. Starting in 2004, the O2S Monitor threshold values can be found in the repair manual. These values are used when analyzing the O2S test results to determine the O2S condition.

Applicable Vehicles

- **All 1996 – 2003** model year **Toyota** vehicles.
- **2004** model year **Corolla, ECHO, Matrix** and **Sienna** vehicles.
- **2004** model year **Scion xA** and **xB** vehicles.

Function Description

Checking O2S Test Results

To view O2S test results, the O2S Monitor must be completed and the test results must be checked within the same key cycle. If the ignition key is cycled OFF, the O2S test results will be set to the minimum or maximum limits, and all test results will be erased. The O2S test results are stored in the ECU (SAE term: Powertrain Control Module/PCM) when the monitor is completed. The test results are static and will not change once the monitor is complete.

The process for checking O2S test results is described in the following three basic steps:

1. Completing the O2S Readiness Monitor (page 2).
2. Accessing O2S Test Results (page 3).
3. Comparing O2S Test Results to Failure Thresholds (page 4).

Required SSTs

SPECIAL SERVICE TOOLS (SSTs)		PART NUMBER	QUANTITY
Toyota Diagnostic Tester Kit* (or any OBDII Scantool)		01001271	1
12 Megabyte Diagnostic Tester Program Card with version 10.1a Software (or later)*		01002593-005	1

* Essential SSTs.

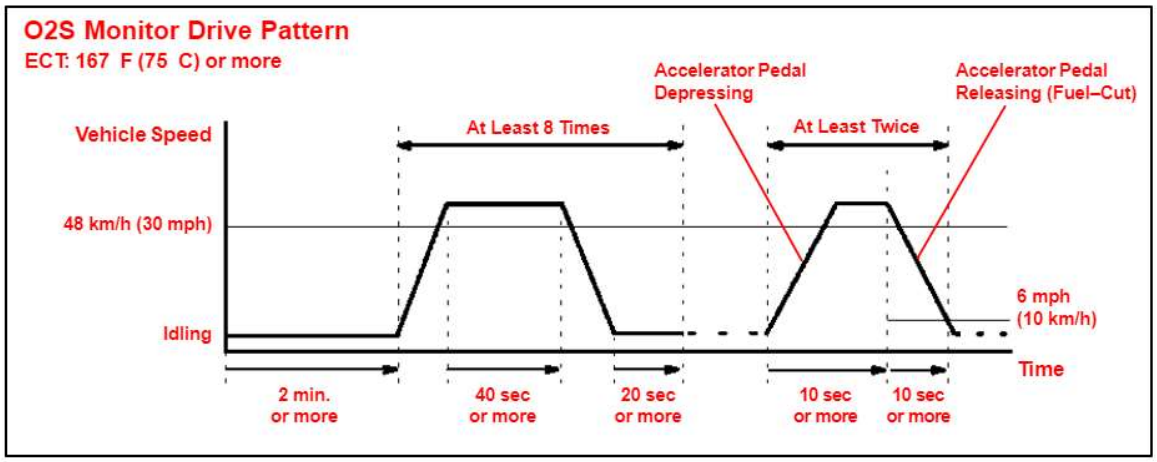
NOTE:
Additional Diagnostic Tester Kits, Program Cards or other SSTs may be ordered by calling SPX/OTC at 1-800-933-8335.

Warranty Information

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

Completing O2S Readiness Monitor

1. Clear any stored Diagnostic Trouble Codes (DTCs) using the Toyota Diagnostic Tester.
2. Start the engine.
3. Perform the drive pattern below to run and complete the Oxygen Sensor (O2S) Monitor.



HINT:

The O2S Monitor is completed when the following conditions are met:

- **Two (2) minutes or more passed after the engine start.**
- **The Engine Coolant Temperature (ECT) is 167 F (75 C) or more.**
- **Cumulative running time at 30 mph (48 km/h) or more exceeds 6 minutes.**
- **Vehicle is in closed loop.**
- **The fuel–cut is operated for 8 seconds or more (for Rear O2S Monitor).**

A. Allow the engine to idle for two minutes.

B. Warm up the engine until the Engine Coolant Temperature (ECT) reaches 167 F (75 C).

C. Drive the vehicle over 30 mph (48 km/h) for more than 40 seconds.

D. Stop the vehicle and allow the engine to idle for more than 20 seconds.

E. Repeat steps C and D at least 8 times in one driving cycle. (Do not cycle the ignition key.)

In addition, perform the following steps for the Rear O2S Readiness Monitor:

A. Select second gear.

B. Allow the vehicle to run at 30 mph (48 km/h) or more.

C. Keep the accelerator pedal “off–idle” for more than 10 seconds.

D. Immediately after step C, release the accelerator pedal for at least 10 seconds without depressing the brake pedal (to execute the fuel–cut).

E. Decelerate the vehicle until the vehicle speed reaches less than 6 mph (10 km/h).

F. Repeat steps B – E at least twice in one driving cycle.

Accessing O2S Test Results

1. On the Diagnostic Tester* screen, select the following menus:
   - DIAGNOSTICS
   - CARB OBD II
   - O2S TEST RESULTS

   A list of the available oxygen sensors will be displayed.

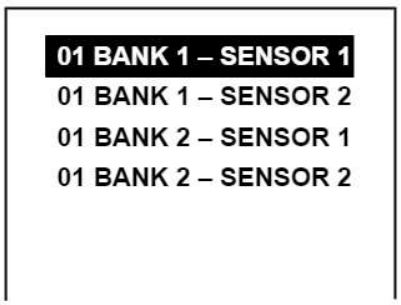
2. Select the desired oxygen sensor and press Enter.

NOTE:

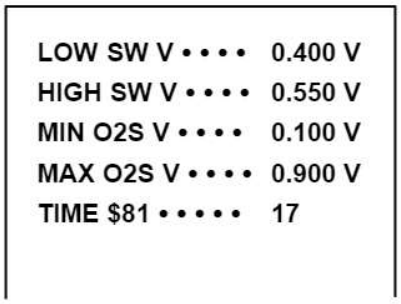
The monitor result of the A/F sensor will not be displayed. If you select "Bank 1–Sensor 1" or Bank 2–Sensor 1" for a vehicle equipped with an A/F sensor, the Diagnostic Tester will display "No parameter to display."

3. Compare the test results with the values listed in the Failure Threshold Chart.

O2S TEST RESULT Screen



TEST DATA Screen



* Although this procedure references the Toyota Diagnostic Tester, the O2S test results can be checked using a generic OBDII scantool. Refer to your OBDII scantool operator's manual for specific procedures.

Comparing O2S Test Results to Failure Thresholds

1. Determine the correct O2S Failure Threshold Chart for your vehicle by looking in the "O2S Application Table," pages 5 – 9 in this bulletin.
2. Select appropriate year, model, and engine for specified O2S Failure Threshold Chart.
3. Compare O2S test results with the specified O2S Failure Threshold Chart. It may be necessary to convert O2S test results to a specific measurement unit using the conversion factor that is supplied in the specified table. See example below:

Example:

A. The Diagnostic Tester displays "17" as a value of the "Time $81" (see illustration).

B. Find the Conversion Factor value of "Time $81" in the O2S Failure Threshold chart below. 0.3906 is specified for Time $81 in this chart.

C. Multiply "17" in step "A" by 0.3906 (Conversion Factor) in step "B." **17 x 0.3906 = 6.6 %**

D. If the answer is within the Standard Value of TEST LIMIT, the "Time $81" can be confirmed to be normal.

Example

LOW SW V • • • •	0.400 V
HIGH SW V • • • •	0.550 V
MIN O2S V • • • •	0.035 V
MAX O2S V • • • •	0.835 V
Time $81	17
Time $84	84
Time $85	79

NOTE:

- **"LOW SW V" indicates the O2S voltage when the O2S status changes from rich to lean.**
- **"HIGH SW V" indicates the O2S voltage when the O2S status changes from lean to rich.**
- **If the O2S voltage is lower than "LOW SW V," the O2S status is lean.**
- **If the O2S voltage is higher than "HIGH SW V," the O2S status is rich.**

Example of O2S Failure Threshold Chart:

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $81	Percentage of monitoring time where Oxygen Sensor voltage is less than 0.05V	Multiply 0.3906	%	Within 60%

NOTE:

Before the O2S Monitor completes or after the ignition switch is turned OFF, the Diagnostic Tester displays the viewable upper limit or a lower limit of the test value (example: 0 V, 1.275 V, 0 s [seconds], 10.2 s, 0 and 255).

O2S Application Table

MODEL YEAR	MODEL	ENGINE	DRIVE TRAIN	CERTIFICATION	SEE CHART NO. (TSB PAGE)
1996	Avalon	1MZ–FE	All	50–State	1 (p. 10)
	Camry	5S–FE	All	California	2 (p. 11)
			All	Federal	1 (p. 10)
		1MZ–FE	All	50–State	
	Celica	7A–FE	All	50–State	1 (p. 10)
		5S–FE	All	California	2 (p. 11)
			All	Federal	1 (p. 10)
	Corolla	ALL	All	50–State	1 (p. 10)
	Land Cruiser	1FZ–FE	All	50–State	1 (p. 10)
	Paseo	5E–FE	All	50–State	1 (p. 10)
	Previa	2TZ–FZE	All	50–State	1 (p. 10)
	RAV4	3S–FE	All	50–State	2 (p. 11)
	Supra	ALL	All	50–State	1 (p. 10)
	Tacoma	ALL	All	50–State	1 (p. 10)
	Tercel	5E–FE	All	50–State	1 (p. 10)
	T100	ALL	All	50–State	1 (p. 10)
	4Runner	ALL	All	50–State	1 (p. 10)
1997	Avalon	1MZ–FE	All	50–State	1 (p. 10)
	Camry	5S–FE	All	California	3 (p. 12)
			All	Federal	1 (p. 10)
		1MZ–FE	All	50–State	
	Celica	7A–FE	All	50–State	1 (p. 10)
		5S–FE	All	California	2 (p. 11)
			All	Federal	1 (p. 10)
	Corolla	ALL	All	50–State	1 (p. 10)
	Land Cruiser	1FZ–FE	All	50–State	1 (p. 10)
	Paseo	5E–FE	All	50–State	1 (p. 10)
	Previa	2TZ–FZE	All	50–State	1 (p. 10)
	RAV4	3S–FE	All	50–State	2 (p. 11)
	Supra	ALL	All	50–State	1 (p. 10)
	Tacoma	2RZ–FE	All	50–State	1 (p. 10)
		3RZ–FE	A/T	50–State	
			M/T, 2WD	50–State	
			M/T, 4WD	50–State	2 (p. 11)
		5VZ–FE	All	50–State	
	Tercel	5E–FE	All	50–State	1 (p. 10)
	T100	3RZ–FE	All	50–State	1 (p. 10)
		5VZ–FE	All	50–State	2 (p. 11)
	4Runner	3RZ–FE	All	50–State	1 (p. 10)
		5VZ–FE	All	50–State	2 (p. 11)

O2S Application Table (Continued)

MODEL YEAR	MODEL	ENGINE	DRIVE TRAIN	CERTIFICATION	SEE CHART NO. (TSB PAGE)
1998	Avalon	1MZ–FE	All	California	4 (p. 12)
			All	Federal	1 (p. 10)
	Camry	5S–FE	All	California	3 (p. 12)
			All	Federal	2 (p. 11)
		1MZ–FE	A/T	California	4 (p. 12)
				Federal	1 (p. 10)
			M/T	50–State	
	Celica	5S–FE	All	California	2 (p. 11)
			All	Federal	1 (p. 10)
	Corolla	1ZZ–FE	All	50–State	2 (p. 11)
	Land Cruiser	2UZ–FE	All	50–State	2 (p. 11)
	Paseo	5E–FE	All	50–State	1 (p. 10)
	RAV4	3S–FE	All	California	3 (p. 12)
			All	Federal	2 (p. 11)
	Sienna	1MZ–FE	All	50–State	1 (p. 10)
	Supra	2JZ–GE	All	50–State	2 (p. 11)
		2JZ–GTE	All	50–State	1 (p. 10)
	Tacoma	ALL	All	50–State	2 (p. 11)
	Tercel	5E–FE	All	50–State	1 (p. 10)
	T100	ALL	All	50–State	2 (p. 11)
	4Runner	ALL	All	50–State	2 (p. 11)
1999	Avalon	1MZ–FE	All	California	4 (p. 12)
			All	Federal	5 (p. 13)
	Camry CNG	5S–FNE	All	50–State	6 (p. 13)
	Celica	5S–FE	All	50–State	5 (p. 13)
	Corolla	1ZZ–FE	All	50–State	2 (p. 11)
	Land Cruiser	2UZ–FE	All	50–State	2 (p. 11)
	Paseo	5E–FE	All	50–State	1 (p. 10)
	RAV4	3S–FE	All	California	3 (p. 12)
			All	Federal	2 (p. 11)
	Sienna	1MZ–FE	All	California	4 (p. 12)
			All	Federal	5 (p. 13)
	Solara	5S–FE	All	California	3 (p. 12)
			All	Federal	5 (p. 13)
		1MZ–FE	A/T	California	4 (p. 12)
				Federal	5 (p. 13)
			M/T	50–State	
	Tacoma	ALL	All	50–State	2 (p. 11)
	Tercel	5E–FE	All	50–State	1 (p. 10)
	4Runner	3RZ–FE	All	50–State	2 (p. 11)
		5VZ–FE	All	California	4 (p. 12)
			All	Federal	2 (p. 11)

O2S Application Table (Continued)

MODEL YEAR	MODEL	ENGINE	DRIVE TRAIN	CERTIFICATION	SEE CHART NO. (TSB PAGE)
2000	Avalon	1MZ–FE	All	50–State	4 (p. 12)
	Camry CNG	5S–FNE	All	50–State	6 (p. 13)
	Celica	ALL	All	50–State	1 (p. 10)
	Corolla	1ZZ–FE	All	50–State	7 (p. 14)
	ECHO	1NZ–FE	All	50–State	1 (p. 10)
	Land Cruiser	2UZ–FE	All	50–State	2 (p. 11)
	MR2	1ZZ–FE	All	50–State	1 (p. 10)
	RAV4	3S–FE	All	California	4 (p. 12)
			All	Federal	2 (p. 11)
	Sienna	1MZ–FE	All	California	4 (p. 12)
			All	Federal	5 (p. 13)
	Solara	5S–FE	All	California	4 (p. 12)
			All	Federal	5 (p. 13)
		1MZ–FE	A/T	California	4 (p. 12)
				Federal	5 (p. 13)
			M/T	50–State	
	Tacoma	2RZ–FE	All	California	4 (p. 12)
			All	Federal	2 (p. 11)
		3RZ–FE	All	California	4 (p. 12)
			All	Federal	2 (p. 11)
		5VZ–FE	All	California	8 (p. 15)
			All	Federal	2 (p. 11)
	Tundra	2UZ–FE	All	50–State	2 (p. 11)
		5VZ–FE	All	California	8 (p. 15)
			All	Federal	2 (p. 11)
	4Runner	3RZ–FE	All	California	4 (p. 12)
			All	Federal	2 (p. 11)
		5VZ–FE	All	California	8 (p. 15)
			All	Federal	2 (p. 11)

O2S Application Table (Continued)

MODEL YEAR	MODEL	ENGINE	DRIVE TRAIN	CERTIFICATION	SEE CHART NO. (TSB PAGE)
2001	Avalon	1MZ–FE	All	50–State	4 (p. 12)
	Camry CNG	5S–FNE	All	50–State	6 (p. 13)
	Celica	ALL	All	50–State	1 (p. 10)
	Corolla	1ZZ–FE	All	50–State	7 (p. 14)
	ECHO	1NZ–FE	All	50–State	1 (p. 10)
	Highlander	1MZ–FE	All	50–State	9 (p. 15)
		2AZ–FE	All	50–State	3 (p. 12)
	Land Cruiser	2UZ–FE	All	50–State	1 (p. 10)
	MR2	1ZZ–FE	All	50–State	1 (p. 10)
	Prius	1NZ–FXE	All	50–State	11 (p. 17)
	RAV4	1AZ–FE	All	50–State	4 (p. 12)
	Sequoia	2UZ–FE	All	50–State	1 (p. 10)
	Sienna	1MZ–FE	All	50–State	4 (p. 12)
	Solara	5S–FE	All	50–State	3 (p. 12)
		1MZ–FE	A/T	50–State	9 (p. 15)
			M/T	50–State	10 (p. 16)
	Tacoma	ALL	All	50–State	4 (p. 12)
	Tundra	2UZ–FE	All	50–State	1 (p. 10)
		5VZ–FE	All	50–State	4 (p. 12)
	4Runner	ALL	All	50–State	4 (p. 12)
2002	Avalon	1MZ–FE	All	50–State	4 (p. 12)
	Celica	1ZZ–FE	All	50–State	1 (p. 10)
		2ZZ–GE	All	50–State	13 (p. 19)
	Corolla	1ZZ–FE	All	50–State	7 (p. 14)
	ECHO	1NZ–FE	All	50–State	1 (p. 10)
	Highlander	1MZ–FE	All	50–State	4 (p. 12)
		2AZ–FE	All	50–State	3 (p. 12)
	Land Cruiser	2UZ–FE	All	50–State	14 (p. 20)
	MR2	1ZZ–FE	All	50–State	1 (p. 10)
	Prius	1NZ–FXE	All	50–State	15 (p. 21)
	RAV4	1AZ–FE	All	50–State	3 (p. 12)
	Sequoia	2UZ–FE	All	50–State	14 (p. 20)
	Sienna	1MZ–FE	All	50–State	4 (p. 12)
	Solara	2AZ–FE	All	50–State	12 (p. 18)
		1MZ–FE	A/T	50–State	9 (p. 15)
			M/T	50–State	5 (p. 13)
	Tacoma	ALL	All	50–State	12 (p. 18)
	Tundra	2UZ–FE	All	50–State	14 (p. 20)
		5VZ–FE	All	50–State	12 (p. 18)
	4Runner	ALL	All	50–State	12 (p. 18)

O2S Application Table (Continued)

MODEL YEAR	MODEL	ENGINE	DRIVE TRAIN	CERTIFICATION	SEE CHART NO. (TSB PAGE)
2003	Avalon	1MZ–FE	All	50–State	16 (p. 22)
	Camry	2AZ–FE	All	Federal	17 (p. 23)
			M/T	California	
			A/T	California	18 (p. 24)
		1MZ–FE	All	With VVT	19 (p. 25)
			All	Without VVT	20 (p. 26)
	Celica	1ZZ–FE	All	50–State	13 (p. 19)
		2ZZ–GE	All	50–State	21 (p. 27–28)
	Corolla	1ZZ–FE	All	50–State	22 (p. 29)
	ECHO	1NZ–FE	All	50–State	23 (p. 30–31)
	Highlander	1MZ–FE	All	50–State	16 (p. 22)
		2AZ–FE	All	50–State	12 (p. 18)
	Land Cruiser	2UZ–FE	All	50–State	24 (p. 32–33)
	Matrix	1ZZ–FE	All	50–State	22 (p. 29)
		2ZZ–GE	All	50–State	21 (p. 27–28)
	MR2	1ZZ–FE	All	50–State	13 (p. 19)
	Prius	1NZ–FXE	All	50–State	15 (p. 21)
	RAV4	1AZ–FE	All	50–State	25 (p. 34)
	Sequoia	2UZ–FE	All	50–State	24 (p. 32–33)
	Sienna	1MZ–FE	All	50–State	16 (p. 22)
	Solara	2AZ–FE	All	50–State	17 (p. 23)
		1MZ–FE	All	50–State	20 (p. 26)
	Tacoma	ALL	All	50–State	16 (p. 22)
	Tundra	2UZ–FE	All	50–State	24 (p. 32–33)
		5VZ–FE	All	50–State	16 (p. 22)
	4Runner	1GR–FE	All	50–State	12 (p. 18)
		2UZ–FE	All	50–State	26 (p. 35–36)
2004	Corolla	1ZZ–FE	All	50–State	27 (p. 37–38)
	ECHO	1NZ–FE	All	50–State	23 (p. 30–31)
	Matrix	1ZZ–FE	2WD	50–State	27 (p. 37–38)
			4WD	50–State	28 (p. 39–40)
		2ZZ–GE	All	50–State	29 (41–42)
	Sienna	3MZ–FE	All	50–State	30 (p. 43)
	Scion xA	1NZ–FE	All	50–State	23 (p. 30–31)
	Scion xB	1NZ–FE	All	50–State	23 (p. 30–31)

O2S Failure Threshold Charts

CHART 1:

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Voltage Monitor

Related DTCs: P0130, P0150, P2195, P2196, P2197 and P2198

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.55 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Response Monitor

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $31	Time to change from Lean (≤0.4 V) to Rich (≥0.55 V)	N/A	Second	Between 0 and 1 second
Time $32	Time to change from Rich (≥0.55 V) to Lean (≥0.4 V)	N/A	Second	Between 0 and 1 second

If the time required to change is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.5 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 2:

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Voltage Monitor

Related DTCs: P0130, P0150, P2195, P2196, P2197 and P2198

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
$07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.35 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.55 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Response Monitor

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $31	Time to change from Lean (≤0.35 V) to Rich (≥0.55 V)	N/A	Second	Between 0 and 1.1 seconds
Time $32	Time to change from Rich (≥0.55 V) to Lean (≥0.35 V)	N/A	Second	Between 0 and 1.1 seconds

If the time required to change is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.5 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 3:

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.45 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.6 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

CHART 4:

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.6 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 5:

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Voltage Monitor

Related DTCs: P0130, P0150, P2195, P2196, P2197 and P2198

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.55 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Response Monitor

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $31	Time to change from Lean (≤0.4 V) to Rich (≥0.55 V)	N/A	Second	Between 0 and 1.1 seconds
Time $32	Time to change from Rich (≥0.55 V) to Lean (≤0.4 V)	N/A	Second	Between 0 and 1.1 seconds

If the time required to change is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.5 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

CHART 6:

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.55 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 1 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 7:

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Voltage Monitor

Related DTCs: P0130, P0150, P2195, P2196, P2197 and P2198

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.55 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Response Monitor

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $31	Time to change from Lean (≤0.4 V) to Rich (≥0.55 V)	N/A	Second	Between 0 and 0.9 seconds
Time $32	Time to change from Rich (≥0.55 V) to Lean (≤0.4 V)	N/A	Second	Between 0 and 0.9 seconds

If the time required to change is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.5 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 8:

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Voltage Monitor

Related DTCs: P0130, P0150, P2195, P2196, P2197 and P2198

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.35 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.55 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Response Monitor

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $31	Time to change from Lean (≤0.35 V) to Rich (≥0.55 V)	N/A	Second	Between 0 and 1 second
Time $32	Time to change from Rich (≥0.55 V) to Lean (≤0.35 V)	N/A	Second	Between 0 and 1 second

If the time required to change is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.6 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

CHART 9:

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.5 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.6 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 10:

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Voltage Monitor

Related DTCs: P0130, P0150, P2195, P2196, P2197 and P2198

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.55 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Response Monitor

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $31	Time to change from Lean (≤0.4 V) to Rich (≥0.55 V)	N/A	Second	Between 0 and 1.1 seconds
Time $32	Time to change from Rich (≥0.55 V) to Lean (≤0.4 V)	N/A	Second	Between 0 and 1.1 seconds

If the time required to change is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.5 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.6 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 11:

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Voltage Monitor

Related DTCs: P0130, P0150, P2195, P2196, P2197 and P2198

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.42 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.48 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Response Monitor

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $31	Time to change from Lean (≤0.42 V) to Rich (≥0.48 V)	N/A	Second	Between 0 and 0.4 seconds
Time $32	Time to change from Rich (≥0.48 V) to Lean (≤0.42 V)	N/A	Second	Between 0 and 0.4 seconds

If the time required to change is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.45 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.55 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 12:

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.45 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.6 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Element Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $81	Percentage of monitoring time where Oxygen Sensor voltage is less than 0.05 V	Multiply 0.3906	%	Between 0 and 60%
Time $84	Percentage of monitoring time where Oxygen Sensor voltage is 0.70 V or more	Multiply 0.3906	%	Between 20 and 100%
Time $85	Maximum Rich (≤0.45 V) time	Multiply 0.2621	Second	Between 20 and 66.8 seconds

If all the values (Time $81, Time $84 and Time $85) are out of the standard values, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 13:

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Voltage Monitor

Related DTCs: P0130, P0150, P2195, P2196, P2197 and P2198

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.55 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Response Monitor

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $31	Time to change from Lean (≤0.4 V) to Rich (≥0.55 V)	N/A	Second	Between 0 and 1 seconds
Time $32	Time to change from Rich (≥0.55 V) to Lean (≤0.4 V)	N/A	Second	Between 0 and 1 seconds

If the time required to change is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.5 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Element Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $81	Percentage of monitoring time where Oxygen Sensor voltage is less than 0.5 V	Multiply 0.3906	%	Between 0 and 60%
Time $84	Percentage of monitoring time where Oxygen Sensor voltage is 0.70 V or more	Multiply 0.3906	%	Between 20 and 100%
Time $85	Maximum Rich (≥0.45 V) time	Multiply 0.2621	Second	Between 20 and 66.8 seconds

If all the values (Time $81, Time $84 and Time $85) are out of the standard values, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 14:

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Voltage Monitor

Related DTCs: P0130, P0150, P2195, P2196, P2197 and P2198

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.55 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Response Monitor

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $31	Time to change from Lean (≤0.4 V) to Rich (≥0.55 V)	N/A	Second	Between 0 and 0.9 seconds
Time $32	Time to change from Rich (≥0.55 V) to Lean (≤0.4 V)	N/A	Second	Between 0 and 0.9 seconds

If the time required to change is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.5 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Element Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $81	Percentage of monitoring time where Oxygen Sensor voltage is less than 0.5 V	Multiply 0.3906	%	Between 0 and 90%
Time $84	Percentage of monitoring time where Oxygen Sensor voltage is 0.70 V or more	Multiply 0.3906	%	Between 20 and 100%
Time $85	Maximum Rich (≥0.45 V) time	Multiply 0.2621	Second	Between 20 and 66.8 seconds

If all the values (Time $81, Time $84 and Time $85) are out of the standard values, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 15:

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Voltage Monitor

Related DTCs: P0130, P0150, P2195, P2196, P2197 and P2198

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.42 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.48 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Response Monitor

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $31	Time to change from Lean (≤0.42 V) to Rich (≥0.48 V)	N/A	Second	Between 0 and 0.4 seconds
Time $32	Time to change from Rich (≥0.48 V) to Lean (≤0.42 V)	N/A	Second	Between 0 and 0.4 seconds

If the time required to change is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.45 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.55 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Element Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $81	Percentage of monitoring time where Oxygen Sensor voltage is less than 0.5 V	Multiply 0.3906	%	Between 0 and 80%
Time $84	Percentage of monitoring time where Oxygen Sensor voltage is 0.70 V or more	Multiply 0.3906	%	Between 20 and 100%
Time $85	Maximum Rich (≥0.45 V) time	Multiply 0.2621	Second	Between 10 and 66.8 seconds

If all the values (Time $81, Time $84 and Time $85) are out of the standard values, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 16:

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.6 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Element Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $81	Percentage of monitoring time where Oxygen Sensor voltage is less than 0.5 V	Multiply 0.3906	%	Between 0 and 60%
Time $84	Percentage of monitoring time where Oxygen Sensor voltage is 0.70 V or more	Multiply 0.3906	%	Between 20 and 100%
Time $85	Maximum Rich (≥0.45 V) time	Multiply 0.2621	Second	Between 20 and 66.8 seconds

If all the values (Time $81, Time $84 and Time $85) are out of the standard values, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 17:

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.45 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.6 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Element Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $81	Percentage of monitoring time where Oxygen Sensor voltage is less than 0.05 V	Multiply 0.3906	%	Between 0 and 55%
Time $84	Percentage of monitoring time where Oxygen Sensor voltage is 0.70 V or more	Multiply 0.3906	%	Between 20 and 100%
Time $85	Maximum Rich (≥0.45 V) time	Multiply 0.2621	Second	Between 20 and 66.8 seconds

If all the values (Time $81, Time $84 and Time $85) are out of the standard values, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 18:

Rear O2S (Bank 1 Sensor 2) Voltage Monitor

Related DTCs: P0136

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.2 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.6 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 3) Deterioration Monitor

Related DTCs: P0142

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $86	Average of the second impedance ratio between high–frequency and low–frequency	Multiply 0.0312	%	Between 0.7 and 1.35

If the average of the sensor impedance ratio is out of the standard value, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 19:

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.5 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.6 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Element Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $81	Percentage of monitoring time where Oxygen Sensor voltage is less than 0.05 V	Multiply 0.3906	%	Between 0 and 95%
Time $84	Percentage of monitoring time where Oxygen Sensor voltage is 0.70 V or more	Multiply 0.3906	%	Between 20 and 100%
Time $85	Maximum Rich (≥0.45 V) time	Multiply 0.2621	Second	Between 20 and 66.8 seconds

If all the values (Time $81, Time $84 and Time $85) are out of the standard values, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 20:

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.5 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.6 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Element Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $81	Percentage of monitoring time where Oxygen Sensor voltage is less than 0.05 V	Multiply 0.3906	%	Between 0 and 80%
Time $84	Percentage of monitoring time where Oxygen Sensor voltage is 0.70 V or more	Multiply 0.3906	%	Between 20 and 100%
Time $85	Maximum Rich (≥0.45 V) time	Multiply 0.2621	Second	Between 20 and 66.8 seconds

If all the values (Time $81, Time $84 and Time $85) are out of the standard values, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 21:

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Voltage Monitor

Related DTCs: P0130, P0150, P2195, P2196, P2197 and P2198

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.55 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Response Monitor

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $31	Time to change from Lean (≤0.4 V) to Rich (≥0.55 V)	N/A	Second	Between 0 and 0.8 seconds
Time $32	Time to change from Rich (≥0.55 V) to Lean (≤0.4 V)	N/A	Second	Between 0 and 0.8 seconds

If the time required to change is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Frequency Monitor During Engine Idling

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $33	Average Lean (≤0.4 V) time of one waveform cycle	N/A	Second	Between 0 and 3.05 seconds
Time $34	Average Rich (≥0.55 V) time of one waveform cycle	N/A	Second	Between 0 and 3.05 seconds

If the sum of Time $33 and Time $34 is out of the standard value, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 21 (Continued):

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Frequency Monitor During Vehicle Running

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $35	Average Lean (≤0.4 V) time of one waveform cycle	N/A	Second	Between 0 and 0.95 seconds (varies depending on feedback compensation factor)
Time $36	Average Rich (≤0.55 V) time of one waveform cycle	N/A	Second	Between 0 and 0.95 seconds (varies depending on feedback compensation factor)

If the sum of Time $35 and Time $36 is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.5 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Element Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $81	Percentage of monitoring time where Oxygen Sensor voltage is less than 0.05 V	Multiply 0.3906	%	Between 0 and 60%
Time $84	Percentage of monitoring time where Oxygen Sensor voltage is 0.70 V or more	Multiply 0.3906	%	Between 20 and 100%
Time $85	Maximum Rich (≥0.45 V) time	Multiply 0.2621	Second	Between 20 and 66.8 seconds

If all the values (Time $81, Time $84 and Time $85) are out of the standard values, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 22:

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Voltage Monitor

Related DTCs: P0130, P0150, P2195, P2196, P2197 and P2198

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.55 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Response Monitor

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $31	Time to change from Lean (≤0.4 V) to Rich (≥0.55 V)	N/A	Second	Between 0 and 0.9 seconds
Time $32	Time to change from Rich (≥0.55 V) to Lean (≤0.4 V)	N/A	Second	Between 0 and 0.9 seconds

If the time required to change is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.5 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Element Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $81	Percentage of monitoring time where Oxygen Sensor voltage is less than 0.5 V	Multiply 0.3906	%	Between 0 and 60%
Time $84	Percentage of monitoring time where Oxygen Sensor voltage is 0.70 V or more	Multiply 0.3906	%	Between 20 and 100%
Time $85	Maximum Rich (≥0.45 V) time	Multiply 0.2621	Second	Between 20 and 66.8 seconds

If all the values (Time $81, Time $84 and Time $85) are out of the standard values, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 23:

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Voltage Monitor

Related DTCs: P0130, P0150, P2195, P2196, P2197 and P2198

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.55 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Response Monitor

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $31	Time to change from Lean (≤0.4 V) to Rich (≥0.55 V)	N/A	Second	Between 0 and 0.9 seconds
Time $32	Time to change from Rich (≥0.55 V) to Lean (≤0.4 V)	N/A	Second	Between 0 and 0.9 seconds

If the time required to change is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Frequency Monitor During Engine Idling

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $33	Average Lean (≤0.4 V) time of one waveform cycle	N/A	Second	Between 0 and 4.5 seconds
Time $34	Average Rich (≤0.55 V) time of one waveform cycle	N/A	Second	Between 0 and 4.5 seconds

If the sum of Time $33 and Time $34 is out of the standard value, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 23 (Continued):

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Frequency Monitor During Vehicle Running

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $35	Average Lean (≤0.4 V) time of one waveform cycle	N/A	Second	Between 0 and 0.9 seconds (varies depending on feedback compensation factor)
Time $36	Average Rich (≤0.55 V) time of one waveform cycle	N/A	Second	Between 0 and 0.9 seconds (varies depending on feedback compensation factor)

If the sum of Time $35 and Time $36 is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.5 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Element Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $81	Percentage of monitoring time where Oxygen Sensor voltage is less than 0.05 V	Multiply 0.3906	%	Between 0 and 60%
Time $84	Percentage of monitoring time where Oxygen Sensor voltage is 0.70 V or more	Multiply 0.3906	%	Between 20 and 100%
Time $85	Maximum Rich (≥0.45 V) time	Multiply 0.2621	Second	Between 20 and 66.8 seconds

If all the values (Time $81, Time $84 and Time $85) are out of the standard values, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 24:

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Voltage Monitor

Related DTCs: P0130, P0150, P2195, P2196, P2197 and P2198

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.55 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Response Monitor

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $31	Time to change from Lean (≤0.4 V) to Rich (≥0.55 V)	N/A	Second	Between 0 and 0.9 seconds
Time $32	Time to change from Rich (≥0.55 V) to Lean (≤0.4 V)	N/A	Second	Between 0 and 0.9 seconds

If the time required to change is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Frequency Monitor During Engine Idling

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $33	Average Lean (≤0.4 V) time of one waveform cycle	N/A	Second	Between 0 and 2.8 seconds
Time $34	Average Rich (≥0.55 V) time of one waveform cycle	N/A	Second	Between 0 and 2.8 seconds

If the sum of Time $33 and Time $34 is out of the standard value, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 24 (Continued):

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Frequency Monitor During Vehicle Running

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $35	Average Lean (≤0.4 V) time of one waveform cycle	N/A	Second	Between 0 and 0.75 seconds (varies depending on feedback compensation factor)
Time $36	Average Rich (≤0.55 V) time of one waveform cycle	N/A	Second	Between 0 and 0.75 seconds (varies depending on feedback compensation factor)

If the sum of Time $35 and Time $36 is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.5 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Element Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $81	Percentage of monitoring time where Oxygen Sensor voltage is less than 0.05 V	Multiply 0.3906	%	Between 0 and 90%
Time $84	Percentage of monitoring time where Oxygen Sensor voltage is 0.70 V or more	Multiply 0.3906	%	Between 20 and 100%
Time $85	Maximum Rich (≥0.45 V) time	Multiply 0.2621	Second	Between 20 and 66.8 seconds

If all the values (Time $81, Time $84 and Time $85) are out of the standard values, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 25:

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.45 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.6 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Element Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $81	Percentage of monitoring time where Oxygen Sensor voltage is less than 0.05 V	Multiply 0.3906	%	Between 0 and 80%
Time $84	Percentage of monitoring time where Oxygen Sensor voltage is 0.70 V or more	Multiply 0.3906	%	Between 20 and 100%
Time $85	Maximum Rich (≥0.45 V) time	Multiply 0.2621	Second	Between 20 and 66.8 seconds

If all the values (Time $81, Time $84 and Time $85) are out of the standard values, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 26:

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Voltage Monitor

Related DTCs: P0130, P0150, P2195, P2196, P2197 and P2198

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.55 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Response Monitor

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $31	Time to change from Lean (≤0.4 V) to Rich (≥0.55 V)	N/A	Second	Between 0 and 0.9 seconds
Time $32	Time to change from Rich (≥0.55 V) to Lean (≤0.4 V)	N/A	Second	Between 0 and 0.9 seconds

If the time required to change is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Frequency Monitor During Engine Idling

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $33	Average Lean (≤0.4 V) time of one waveform cycle	N/A	Second	Between 0 and 2.8 seconds
Time $34	Average Rich (≥0.55 V) time of one waveform cycle	N/A	Second	Between 0 and 2.8 seconds

If the sum of Time $33 and Time $34 is out of the standard value, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 26 (Continued):

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Frequency Monitor During Vehicle Running

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $35	Average Lean (≤0.4 V) time of one waveform cycle	N/A	Second	Between 0 and 0.75 seconds (varies depending on feedback compensation factor)
Time $36	Average Rich (≤0.55 V) time of one waveform cycle	N/A	Second	Between 0 and 0.75 seconds (varies depending on feedback compensation factor)

If the sum of Time $35 and Time $36 is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.5 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Element Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $81	Percentage of monitoring time where Oxygen Sensor voltage is less than 0.05 V	Multiply 0.3906	%	Between 0 and 60%
Time $84	Percentage of monitoring time where Oxygen Sensor voltage is 0.70 V or more	Multiply 0.3906	%	Between 20 and 100%
Time $85	Maximum Rich (≥0.45 V) time	Multiply 0.2621	Second	Between 20 and 66.8 seconds

If all the values (Time $81, Time $84 and Time $85) are out of the standard values, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 27:

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Voltage Monitor

Related DTCs: P0130, P0150, P2195, P2196, P2197 and P2198

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.35 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.45 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Response Monitor

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $31	Time to change from Lean (≤0.35 V) to Rich (≥0.45 V)	N/A	Second	Between 0 and 0.6 seconds
Time $32	Time to change from Rich (≥0.45 V) to Lean (≤0.35 V)	N/A	Second	Between 0 and 0.6 seconds

If the time required to change is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Frequency Monitor During Engine Idling

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $33	Average Lean (≤0.35 V) time of one waveform cycle	N/A	Second	Between 0 and 3 seconds
Time $34	Average Rich (≥0.45 V) time of one waveform cycle	N/A	Second	Between 0 and 3 seconds

If the sum of Time $33 and Time $34 is out of the standard value, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 27 (Continued):

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Frequency Monitor During Vehicle Running

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $35	Average Lean (≤0.35 V) time of one waveform cycle	N/A	Second	Between 0 and 0.55 seconds (varies depending on feedback compensation factor)
Time $36	Average Rich (≤0.45 V) time of one waveform cycle	N/A	Second	Between 0 and 0.55 seconds (varies depending on feedback compensation factor)

If the sum of Time $35 and Time $36 is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.5 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Element Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $81	Percentage of monitoring time where Oxygen Sensor voltage is less than 0.05 V	Multiply 0.3906	%	Between 0 and 60%
Time $84	Percentage of monitoring time where Oxygen Sensor voltage is 0.70 V or more	Multiply 0.3906	%	Between 20 and 100%
Time $85	Maximum Rich (≥0.45 V) time	Multiply 0.2621	Second	Between 20 and 66.8 seconds

If all the values (Time $81, Time $84 and Time $85) are out of the standard values, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 28:

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Voltage Monitor

Related DTCs: P0130, P0150, P2195, P2196, P2197 and P2198

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.35 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.45 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Response Monitor

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $31	Time to change from Lean (≤0.35 V) to Rich (≥0.45 V)	N/A	Second	Between 0 and 0.6 seconds
Time $32	Time to change from Rich (≥0.45 V) to Lean (≤0.35 V)	N/A	Second	Between 0 and 0.6 seconds

If the time required to change is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Frequency Monitor During Engine Idling

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $33	Average Lean (≤0.35 V) time of one waveform cycle	N/A	Second	Between 0 and 2 seconds
Time $34	Average Rich (≥0.45 V) time of one waveform cycle	N/A	Second	Between 0 and 2 seconds

If the sum of Time $33 and Time $34 is out of the standard value, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 28 (Continued):

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Frequency Monitor During Vehicle Running

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $35	Average Lean (≤0.35 V) time of one waveform cycle	N/A	Second	Between 0 and 0.5 seconds (varies depending on feedback compensation factor)
Time $36	Average Rich (≤0.45 V) time of one waveform cycle	N/A	Second	Between 0 and 0.5 seconds (varies depending on feedback compensation factor)

If the sum of Time $35 and Time $36 is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.5 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Element Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $81	Percentage of monitoring time where Oxygen Sensor voltage is less than 0.05 V	Multiply 0.3906	%	Between 0 and 60%
Time $84	Percentage of monitoring time where Oxygen Sensor voltage is 0.70 V or more	Multiply 0.3906	%	Between 20 and 100%
Time $85	Maximum Rich (≥0.45 V) time	Multiply 0.2621	Second	Between 20 and 66.8 seconds

If all the values (Time $81, Time $84 and Time $85) are out of the standard values, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 29:

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Frequency Monitor During Engine Idling

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $33	Average Lean (≤0.4 V) time of one waveform cycle	N/A	Second	Between 0 and 4 seconds
Time $34	Average Rich (≥0.55 V) time of one waveform cycle	N/A	Second	Between 0 and 4 seconds

If the sum of Time $33 and Time $34 is out of the standard value, the ECM interprets this as a malfunction.

Front O2S (Bank 1 Sensor 1 and Bank 2 Sensor 1) Frequency Monitor During Vehicle Running

Related DTCs: P0133 and P0153

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $35	Average Lean (≤0.4 V) time of one waveform cycle	N/A	Second	Between 0 and 1.08 seconds (varies depending on feedback compensation factor)
Time $36	Average Rich (≥0.55 V) time of one waveform cycle	N/A	Second	Between 0 and 1.08 seconds (varies depending on feedback compensation factor)

If the sum of Time $35 and Time $36 is out of the standard value, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 29 (Continued):

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.4 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.5 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Element Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $81	Percentage of monitoring time where Oxygen Sensor voltage is less than 0.05 V	Multiply 0.3906	%	Between 0 and 60%
Time $84	Percentage of monitoring time where Oxygen Sensor voltage is 0.70 V or more	Multiply 0.3906	%	Between 20 and 100%
Time $85	Maximum Rich (≥0.45 V) time	Multiply 0.2621	Second	Between 20 and 66.8 seconds

If all the values (Time $81, Time $84 and Time $85) are out of the standard values, the ECM interprets this as a malfunction.

O2S Failure Threshold Charts (Continued)

CHART 30:

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Voltage Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $07	The minimum voltage during O2S monitoring	N/A	V	Between 0 and 0.45 V
Time $08	The maximum voltage during O2S monitoring	N/A	V	Between 0.5 and 1.275 V

If the sensor voltage is out of the standard value, the ECM interprets this as a malfunction.

Rear O2S (Bank 1 Sensor 2 and Bank 2 Sensor 2) Element Monitor

Related DTCs: P0136 and P0156

TEST ID	DESCRIPTION OF TEST DATA	CONVERSION FACTOR	UNIT	STANDARD VALUE OF TEST LIMIT
Time $81	Percentage of monitoring time where Oxygen Sensor voltage is less than 0.05 V	Multiply 0.3906	%	Between 0 and 80%
Time $84	Percentage of monitoring time where Oxygen Sensor voltage is 0.70 V or more	Multiply 0.3906	%	Between 20 and 100%
Time $85	Maximum Rich (≥0.45 V) time	Multiply 0.2621	Second	Between 20 and 66.8 seconds

If all the values (Time $81, Time $84 and Time $85) are out of the standard values, the ECM interprets this as a malfunction.

TOYOTA

Technical Service BULLETIN

March 1, 2004

Title:

A/C COMPRESSOR INSTALLATION PROCEDURE

Models:

Applicable Models

TSB

AC003-04

HEATING & AIR CONDITIONING

Introduction

Use the following tip when installing an A/C compressor on the AZ or ZZ series engine to ensure proper belt alignment. Improper installation of the A/C compressor may result in abnormal belt noise or wear.

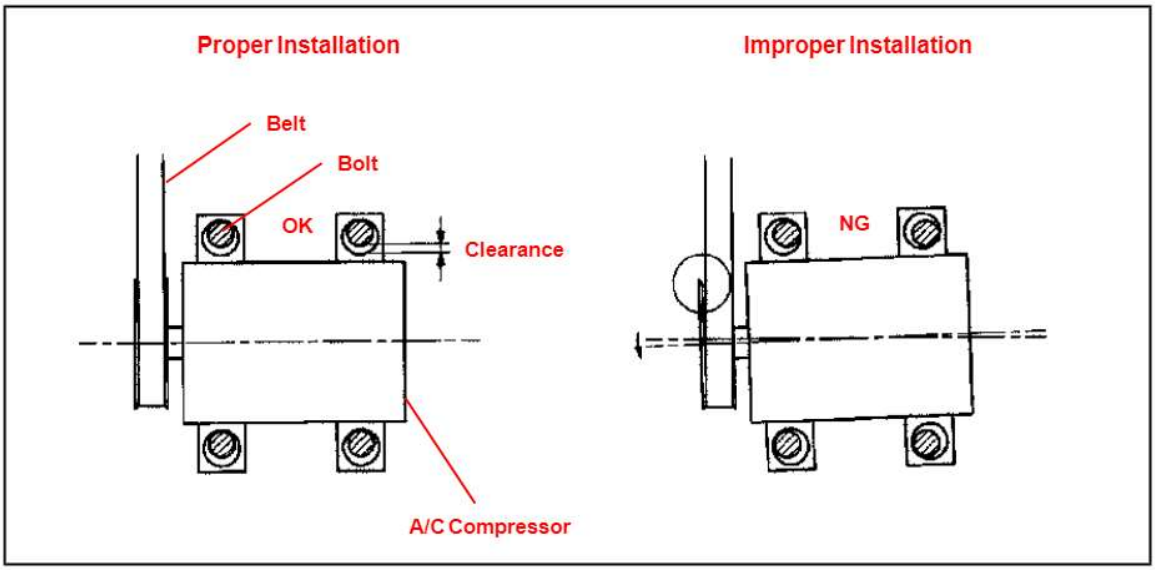
Applicable Vehicles

- **1998 – Current** model year **Corolla** vehicles.
- **2000 – Current** model year **Celica** vehicles.
- **2000 – Current** model year **MR2 Spyder** vehicles.
- **2001 – Current** model year **Highlander** vehicles **equipped with 4 cylinder engine.**
- **2001 – Current** model year **RAV4** vehicles.
- **2002 – Current** model year **Camry** vehicles **equipped with 4 cylinder engine.**
- **2002 – Current** model year **Solara** vehicles **equipped with 4 cylinder engine.**
- **2003 – Current** model year **Matrix** vehicles.

Warranty Information

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

Installation Procedure



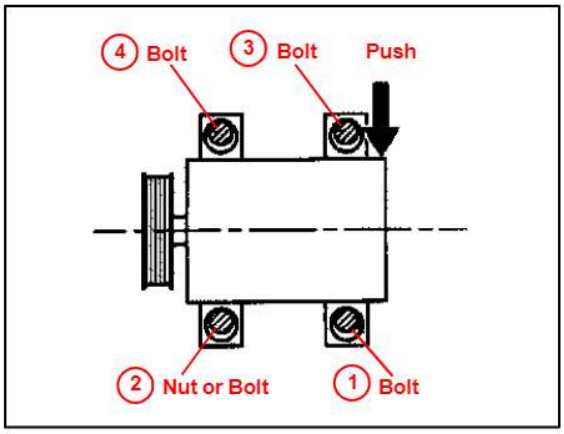
Installation Procedure (Continued)

1. AZ Series Engine: Install A/C Compressor

A. Loosely install the compressor (with the 3 bolts and nut or 4 bolts.)

Push down on the rear side of the compressor and tighten the bolts/nut in the order shown.

Torque: 24.5 N•m (250 kgf•cm, 18 ft•lbf)

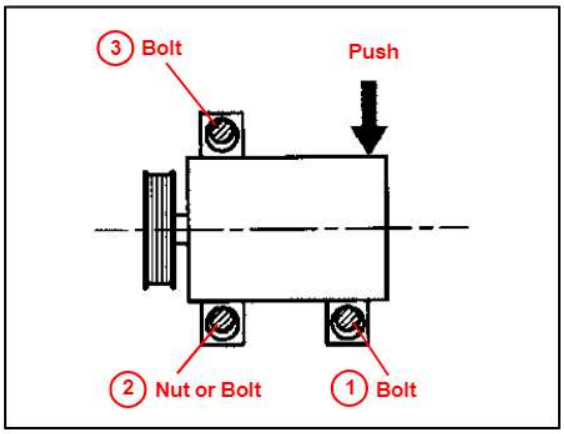


2. ZZ Series Engine: Install A/C Compressor

A. Loosely install the compressor (with the 2 bolts and nut or 3 bolts).

Push down on the rear side of the compressor and tighten the bolts/nut in the order shown.

Torque: 29 N•m (295 kgf•cm, 21 ft•lbf)



TOYOTA

Technical Service BULLETIN

April 28, 2004

Title:

M.I.L. "ON" 1MZ-FE ENGINE MISFIRE DTC P0300, P0301, P0302, P0303, P0304, P0305 OR P0306

Models:

Applicable Avalon, Camry, Sienna & Solara

TSB

ENGINE

EG008-04

Introduction

Some vehicles equipped with 1MZ–FE (V6) engines without VVTi may exhibit a rough idle and/or a M.I.L. "ON" condition with a diagnostic trouble code or codes for misfire caused by an improperly operating ignition coil assembly. Production changes have been implemented to prevent this condition from occuring.

Applicable Vehicles

- **2001** model year **Japan built Camry** vehicles equipped with **1MZ–FE engines (V6).**
- **1998–2001** model year **North American built Camry** vehicles equipped with **1MZ–FE engines (V6)**
- **1998 – 1999** model year **Avalon** vehicles.
- **1998 – 2000** model year **Sienna** vehicles.
- **1999 – 2002** model year **Solara** vehicles equipped with **1MZ–FE engines** produced **BEFORE** the Production Change Effective VIN shown below.

Production Change Information

MODEL	ENGINE	PRODUCTION CHANGE EFFECTIVE VIN
Solara	1MZ–FE	2T1CF2#P*2C578710

Warranty Information

OP CODE	MODEL	DESCRIPTION	TIME	OFP	T1	T2
191011	Avalon	R & R Ignition Coil (one coil)	0.2	90080–19012	02	73
191011	Camry Solara Sienna	R & R Ignition Coil (one coil)	0.3	90080–19012	02	73

Applicable Warranty*:

This repair is covered under the Toyota Federal Emissions Warranty. This warranty is in effect for 36 months or 36,000 miles, whichever occurs first, from the vehicle's in-service date.
For California specification vehicles registered and operated in California, Maine, Massachusetts or Vermont, this repair is covered under the California Emissions Warranty, which is in effect for 36 months or 50,000 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.

M.I.L. "ON" 1MZ–FE ENGINE MISFIRE DTC P0300 – P0306 – EG008-04 April 28, 2004

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
90080–19012	Same	Ignition Coil Assembly	1

Required SSTs

SPECIAL SERVICE TOOLS (SSTs)	PART NUMBER	QUANTITY
Toyota Diagnostic Tester Kit* 	01001271	1
12 Megabyte Diagnostic Tester Program Card with version 10.2a Software (or later)* 	01002593-005	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.

Required Tools & Material

TOOLS & MATERIAL	QUANTITY
Digital Volt Ohmmeter (DVOM)	1

Repair Procedure

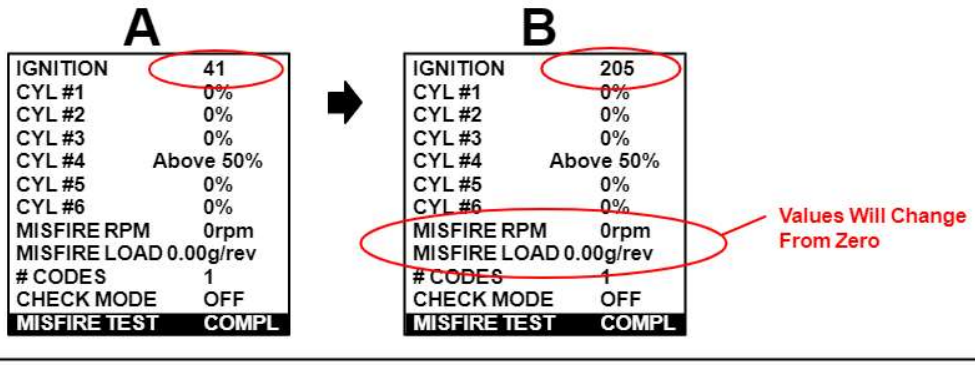
1. Confirm if vehicle is currently misfiring, running rough or hesitating.

   If YES – Go to Step 2.
   If NO – Review Freeze Frame Data and attempt to operate vehicle under similar driving conditions – see notes below for information that makes it more likely to duplicate misfire.

NOTE:
The following activities will turn off misfire detection:
- **Changing engine RPM greater than 150 RPM.**
- **Changing throttle position quickly.**

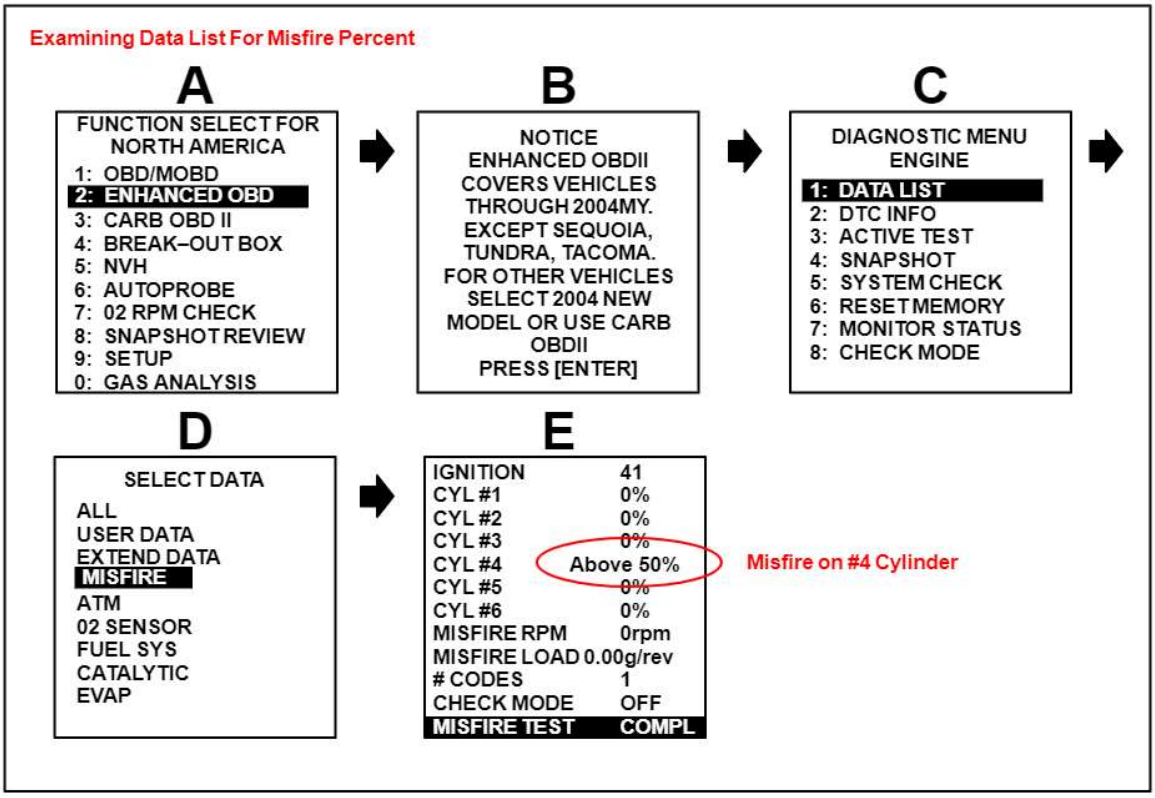
Misfire duplication can be duplicated most readily when the engine speed and throttle angle are held nearly constant for at least 2 minutes.

NOTE:
When misfire monitor is active, ignition value will change on Data List.
When pending misfire DTC is set, "MISFIRE RPM" and "MISFIRE LOAD" will show values.



Repair Procedure (Continued)

2. Confirm if misfire is currently occurring on cylinder(s) identified by DTC(s) using the Diagnostic Tester while engine is idling (see below).



Is the cylinder(s) identified by the DTC(s) misfiring?

If YES – Go to Step 3.
If NO – Follow normal diagnostics for applicable DTC in Technical Information System (TIS) in applicable Repair Manual: *Diagnostics: SFI: P030#.*

3. Swap suspect ignition coil(s) from cylinder that is misfiring to cylinder that is not misfiring.

4. Using Diagnostic Tester, confirm that misfire is now occurring in cylinder that has suspect ignition coil(s). Has misfire followed swapped ignition coil(s)?

   If YES – Replace ignition coil(s) and go to Step 5.
   If NO – Follow normal diagnostics in Technical Information System (TIS) for applicable Repair Manual: *Diagnostics: SFI: P030#.*

5. Confirm misfire has been eliminated (0% at all times) using Diagnostic Tester while engine is idling.

NOTE:
If misfire percent is any value other than 0% at any time, then that cylinder is misfiring.

TOYOTA

Technical Service BULLETIN

May 18, 2004

Title:

REPAIR MANUAL CORRECTIONS INDEX

Models:

All Models

TSB

PG003-04

PRODUCT GENERAL INFORMATION

Introduction

Correction pages are available for the service publications listed below. This bulletin summarizes service publication content changes that have been released between February 2003 and March 2004. These changes have already been implemented in the Toyota Technical Information System (TIS). For the most accurate service information content, technicians are strongly encouraged to refer to TIS (*http://tis.toyota.com*). Internet access is also available to Toyota service information content by subscription (*http://techinfo.toyota.com*).

NOTE:

Inventory quantities of printed correction pages are limited, and part numbers are obsolete when supplies are exhausted. When ordering a technical publication (i.e., Repair Manual, Electrical Wiring Diagram) from the MDC, any correction page(s) associated with that particular publication which were published at the time of purchase will automatically be included with your order.

Parts Information

Correction pages may be ordered from the Materials Distribution Center (MDC) through Dealer Daily or by calling the MDC at 1–800–622–2033 using the corresponding part numbers from the following table.

	Publication	Number	Page(s)	Part Number
4Runner	2002 4Runner	RM887–U2	BE–18, BE–19	00400–RM887–3043B
	2003 4Runner	RM1034–U	14–31, 14–70, 14–85	00400–RM103–2174
	.....	RM1001–U1	02–32 to 02–34	00400–RM100–3110
	.....	.....	05–816, 05–817,	00400–RM100–3162
	.....	.....	05–817–1, 05–817–2	↓
	.....	.....	03–46, 05–449	00400–RM100–3194
	.....	RM1001–U2	11–21–1 to 11–21–4	00400–RM100–2172B
	.....	.....	27–15, 27–16	00400–RM100–3025B
	.....	.....	73–23, 73–26	00400–RM100–3103B
	.....	.....	30–38	00400–RM100–3110B
	.....	.....	27–7, 27–30, 27–35	00400–RM100–3239B
Avalon	2002 Avalon	RM872–U2	BE–23, BE–24	00400–RM872–3080B
	2003 Avalon	EWD487–U	209	00400–EWD48–3183
	.....	RM953–U2	BE–4 to BE–6	00400–RM953–2164B
	.....	.....	BE–102 to BE–105	00400–RM953–2196B
	.....	.....	BE–23, BE–24	00400–RM953–3088B

REPAIR MANUAL CORRECTIONS INDEX – PG003-04 May 18, 2004

	Publication	Number	Page(s)	Part Number
Camry	1997 Camry	RM503–U2	BE–69	00400–RM503–2218B
	2000 Camry	RM742–U2	BE–70	00400–RM742–2221B
	2002 Camry	EWD461–U	38, 78, 289,	00400–EWD46–2181
			Overall M:5 (cont'd)	↓
		RM881–U1	05–894, 05–895,	00400–RM881–3158
			05–895–1, 05–895–2	↓
		RM881–U2	12–10, 12–20	00400–RM881–3086B
			14–57	00400–RM881–3142B
			33–3, 33–7, 33–14	00400–RM881–3245B
	2003 Camry	RM972–U1	05–1008, 05–1009,	00400–RM972–3160
			05–1009–1, 05–1009–2	↓
		RM972–U2	73–8	00400–RM972–2183B
			12–9, 12–19	00400–RM972–3087B
			14–54	00400–RM972–3141B
			33–3, 33–7, 33–14	00400–RM972–3246B
		RM1026–U	73–1, 73–4	00400–RM102–3101
Celica	2004 Celica	RM1066–U1	DI–380	00400–RM106–3307
Corolla	2003 Corolla	RM938–U1	05–484 to 05–487	00400–RM938–2160
			05–421, 05–422,	00400–RM938–3155
			05–422–1, 05–422–2	↓
			05–40 to 05–42,	00400–RM938–3236
			05–112, 05–113	↓
ECHO	2002 ECHO	RM884–U	DI–108	00400–RM884–3203
	2003 ECHO	RM984–U	DI–154	00400–RM984–3204
Highlander	2002 Highlander	RM918–U1	05–943, 05–962–1	00400–RM918–3108B
			05–710, 05–711,	00400–RM918–3156
			05–711–1, 05–711–2	↓
			03–47	00400–RM918–3232
			32–24, 32–28	00400–RM918–3232B
		RM918–U2	14–56	00400–RM918–3144B
	2003 Highlander	RM987–U1	05–1028, 05–1047–1	00400–RM100–3109
			05–788, 05–789,	00400–RM987–3153
			05–789–1, 05–789–2	↓
			03–47	00400–RM987–3233
		RM987–U2	73–11	00400–RM987–2184B
			14–51	00400–RM881–3143B
Land Cruiser	1999 Land Cruiser	RM661–U2	BE–28, BE–29	00400–RM661–3057B
	2002 Land Cruiser	RM893–U2	BE–28, BE–29	00400–RM722–3060B

REPAIR MANUAL CORRECTIONS INDEX – PG003-04 May 18, 2004

	Publication	Number	Page(s)	Part Number
Land Cruiser (Continued)	2003 Land Cruiser	EWD510–U	71, 84, 85, 96, 97,	00400–EWD51–2195
			244, 245, 383, 387,	↓
			388, 396, Overall M:24	↓
		RM966–U1	SS–23	00400–RM966–3195
		RM966–U2	BE–95	00400–RM966–2185B
			BE–34, BE–35	00400–RM966–3061B
Matrix	2003 Matrix	RM940–U1	05–710, 05–711,	00400–RM940–3154
			05–711–1, 05–711–2	↓
			05–89, 05–95,	00400–RM940–3275
			05–241, 05–247	↓
		RM940–U2	65–7	00400–RM940–2205B
MR2 Spyder	2001 MR2 Spyder	EWD424–U	61, Overall M:2	00400–EWD42–2214
		RM801–U	DI–180 to DI–188,	00400–RM801–2192
			DI–188–1, DI–188–2	↓
	2002 MR2 Spyder	RM900–U	BR–17	00400–RM900–1143
			DI–189	00400–RM900–2190
	2003 MR2 Spyder	RM967–U1	DI–245	00400–RM967–2189
			SS–35	00400–RM967–3006
			DI–121, DI–128,	00400–RM967–3278
			DI–134, DI–156	↓
		RM967–U2	SA–3, SA–5, SA–7	00400–RM967–3006B
Prius	2001 Prius	RM778–U1	DI–671	00400–RM778–2095R
	2002 Prius	RM883–U1	DI–762, 766 to 769,	00400–RM883–2224
			774, 777 to 780, 782,	↓
			785 to 792, 794, 796	↓
			DI–337 to DI–344	00400–RM883–3241
	2003 Prius	RM957–U1	DI–762, 766 to 769,	00400–RM957–2223
			774, 777 to 780, 782,	↓
			785 to 792, 794, 796	↓
			DI–337 to DI–344	00400–RM957–3242
	2004 Prius	EWD555–U	20, 22, 23, 194,	00400–EWD55–3296
			293, 297, 306, 343,	↓
			Overall 4–1, 11–5	↓
RAV4	2002 RAV4	RM891–U1	DI–18	00400–RM891–3091
		RM891–U2	BR–21	00400–RM891–1142B
Sequoia	2002 Sequoia	RM886–U1	IN–17	00400–RM886–3309
		RM886–U2	BE–54	00400–RM886–3096B
	2003 Sequoia	EWD495–U	37, 246, Overall M:24	00400–EWD49–2213
			199, Overall M:15–4	00400–EWD49–5U
		RM959–U1	PP–55	00400–RM959–2125
			DI–605	00400–RM959–2179

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	Publication	Number	Page(s)	Part Number
Sequoia (Continued)	2003 Sequoia	RM959–U1	DI–600, DI–602 to	00400–RM959–2204
			DI–605, DI–608 to DI–610	↓
			DI–308, DI–328	00400–RM959–2206
			PP–52	00400–RM959–3137
			DI–329	00400–RM959–3179
			DI–128, DI–129,	00400–RM959–3271
			DI–135, DI–136, DI–142,	↓
			DI–143, DI–163, DI–164	↓
			PP–35	00400–RM959–3228
			SS–38	00400–RM959–3260
			IN–17	00400–RM959–3310
			DI–300, DI–304,	00400–RM959–3311
			DI–404	↓
		RM959–U2	SA–98	00400–RM959–2125B
			BE–140	00400–RM959–2179B
			SR–12, BE–24	00400–RM959–2206B
			BE–58	00400–RM959–3094B
			SA–90	00400–RM959–3137B
	2004 Sequoia	EWD541–U	199, Overall M:15–4	00400–EWD54–3214
		RM1089–U1	IN–17	00400–RM108–3312
			DI–446, DI–450,	00400–RM108–3313
			DI–550	↓
Sienna	2002 Sienna	RM871–U2	BE–23, BE–24	00400–RM871–3081B
			SR–3	00400–RM871–3132B
	2003 Sienna	EWD490–U	193	00400–EWD49–3208
		RM954–U2	SR–3	00400–RM954–3133B
			BE–23, BE–24	00400–RM954–3082B
	2004 Sienna	EWD524–U	96, 97, 126,	00400–EWD52–3184
			127, Overall M:1	↓
		RM1025–U1	05–304, 05–355,	00400–RM102–3126
			05–359	↓
			05–865, 05–866,	00400–RM102–3163
			05–866–1, 05–866–2	↓
		RM1025–U2	73–23, 73–26	00400–RM102–3102B
			14–1	00400–RM102–3134B
			28–2, 28–3, 28–4	00400–RM102–3135B
			82–3 to 82–6,	00400–RM102–3186B
			82–6–1, 82–6–2	↓
Solara	2003 Solara	RM955–U1	DI–287	00400–RM955–3219
	2004 Solara	EWD554–U	168 to 170,	00400–EWD554–3294
			Overall M:15–1	↓

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	Publication	Number	Page(s)	Part Number
Tacoma	2002 Tacoma	RM921–U2	BE–40	00400–RM921–3084B
		RM921–U1	DI–323	00400–RM921–3218
	2003 Tacoma	RM1002–U2	BE–40	00400–RM100–3085B
Tundra	2002 Tundra	RM885–U2	BE–52 to BE–56	00400–RM885–3105B
	2003 Tundra	EWD491–U	139, 240,	00400–EWD49–12136
			Overall M:30	↓
			31, 33, 235, 261,	00400–EWD49–2216
			Overall M:29	↓
			176, Overall M:18–5	00400–EWD49–3210
		RM956–U1	SS–79	00400–RM956–3258
			DI–115, DI–117,	00400–RM956–3282
			DI–316, DI–318	↓
		RM956–U2	BE–57 to BE–60	00400–RM956–3106B
	2004 Tundra	EWD567–U	230, 446,	00400–EWD56–3209
			Overall M:19–5, M:49–4	↓
			21, 94, 210, 515	00400–EWD56–3298