



Technical Service BULLETIN

July 21, 2000

Title:

A/C COMPRESSOR MAINTENANCE FOR STORED VEHICLES

Models:

All Models

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 Supports ASE Certification

Index # 053796

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**Technical Service
BULLETIN**
May 9, 1997

Title:

AIR CONDITIONING EVAPORATOR ODOR

Models:

All Models

AC002-97

HEATING & AIR CONDITIONING

Introduction A musty odor may be emitted from the air conditioning system of some vehicles which are usually operated in areas with high temperature and humidity. It is most noticeable when the air conditioner is first turned "ON" after the vehicle has been parked for several hours. The odor could result from one or more of the following conditions:

1. Blockage of the evaporator housing drain pipe, resulting in the build up of condensate.
2. Microbial growth in the evaporator, arising from dampness in the evaporator housing where the cooling air flow is dehumidified.

To address excessive air conditioning evaporator odor, check the evaporator housing drain pipe for blockage. If no problems are found, the evaporator and housing should be cleaned and disinfected using the general procedure given on page 2, and the model specific procedure on the pages indicated in the Table of Contents at the bottom of this page.

**Affected
Vehicles**

- While this procedure may be used on any Toyota vehicle, this bulletin gives details specifically for the **AE100** Corolla, **SXV/VCV10** Camry, **MCX10** Avalon, **MX83** Cressida, **AT180/200** Celica, **ST184/204** Celica, **JZA80** Supra, **EL42/44/53** Tercel/Paseo, **TCR10/20** Previa, **FZJ80** Land Cruiser series as well as recent production Truck, Tacoma, T100, 4Runner and MR2 models.

**Tools &
Materials**

PART NUMBER	DESCRIPTION OF TOOLS & MATERIALS	QUANTITY	SOURCE
08821-00810-01	Spray Gun Kit	1	OTC
08821-00811-01	Spray Gun (replacement)	(1)	OTC
08821-00812-01	Spray Gun Nozzle (replacement)	(1)	OTC
08821-00813-01	Freshener Mixing Container (replacement)	(1)	OTC
08821-00801-DS	Air Conditioning Freshener	1 per vehicle	TMS

CAUTION:

Wear safety glasses, protective mask, and gloves while working with the freshener.

**Table of
Contents**

MODEL	PAGE	MODEL	PAGE	MODEL	PAGE	MODEL	PAGE
General	2	Cressida	6	Tercel	8	4Runner	9
Camry	3	Celica	7	Paseo	8	Truck	9
Corolla	4	Supra	7	MR2	9	Tacoma	9
Avalon	6	Previa	8	Land Cruiser	9	T100	9
General Procedure applies to all models and model years. The Specific Model Sections cover only the most recent models.							



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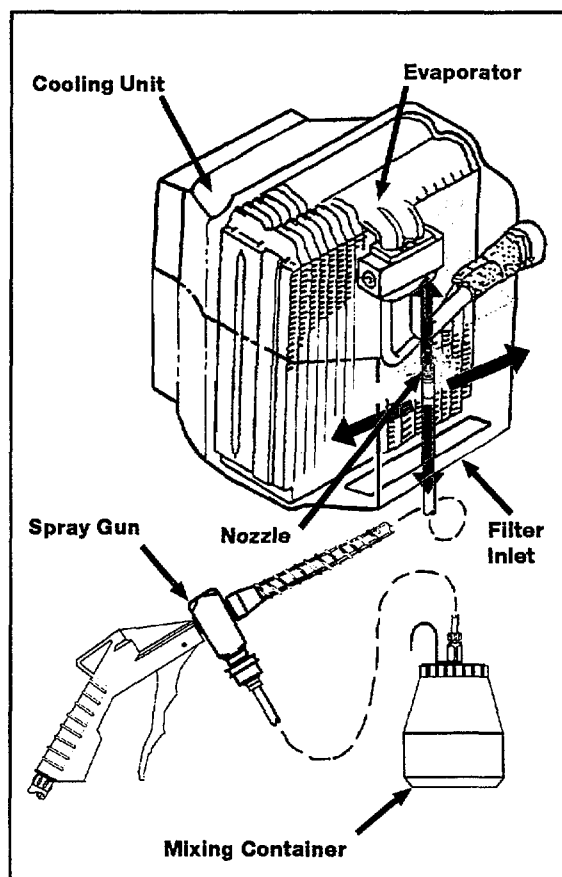
General Procedure

1. Preparation of freshener solution:
 - (a) Invert freshener container and shake vigorously for 30 seconds.
 - (b) Mix 3.4 fl. oz. of freshener (1 container) with 30 fl. oz. to make 1 qt. of solution.
2. Drying the evaporator:
 - Dry the evaporator for 10 minutes with the following settings:

AC: **Off**
Air Outlet: **Foot**
Mode: **Recirc.**
Blower: **High**
Temp: **Max Warm**
3. Evaporator Treatment Preparation:
 - (a) Ensure availability of 30-45 psi compressed air to be used with spray gun for application of freshener.
 - (b) Place a tray under the evaporator housing drain hose to collect used cleaning solution.
 - (c) Place shop cloth under the evaporator housing in the vehicle to prevent cleaning solution from dripping onto the floor mat.
4. Vehicle Preparation: **See specific model section.**
5. Evaporator treatment:
 - (a) Set HVAC mode as follows:

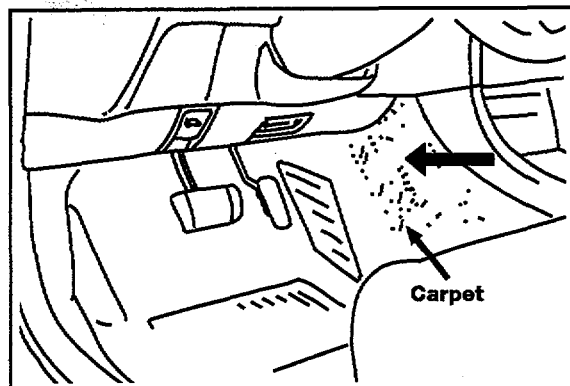
AC: **Off**
Air Outlet: **Face**
Mode: **Fresh**
Blower: **High**
Temp: **Max Warm**
Windows: **Open**
 - (b) Insert spray nozzle into the filter inlet and spray the entire quantity (1 qt.) of freshener solution into the evaporator while moving the nozzle around to cover the complete evaporator surface.
 - (c) Turn the blower OFF.
6. Reinstallation of Parts.
7. Completion of Treatment.
 - (a) Dry the evaporator for 30 minutes with the following settings:

AC: **Off**
Air Outlet: **Foot**
Mode: **Recirc.**
Blower: **High**
Temp: **Max Warm**
Windows: **Closed**
 - (b) If vehicle still has alcohol smell, open windows for ventilation. Do not turn on the AC switch until the evaporator is completely dry as this can reduce the effectiveness of the solution.



CAUTION
 Do not get into the vehicle during this drying operation.

- Camry** 1. Removal of parts.
(SXV/VCV10)
- (a) Pull down the carpet from the center console as indicated by red arrow in the illustration.

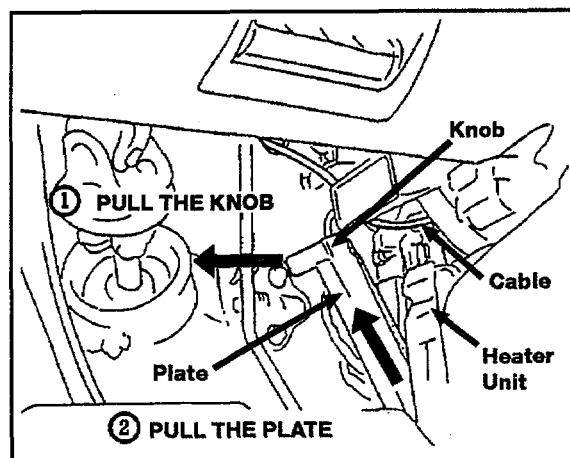


- (b) Remove the plate on the side of the heater unit using steps ① and ②, indicated with red arrows to show direction, in the illustration.

CAUTION:

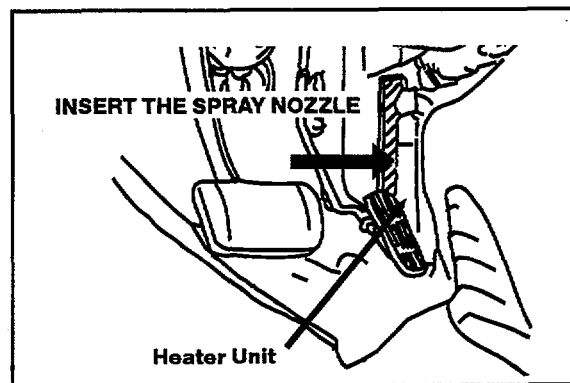
1. Do not bend the cable.
2. The plate will be reused.

- (c) Remove the blower resistor.



2. Cleaning the Evaporator.

- Follow the general procedures given on page 2.



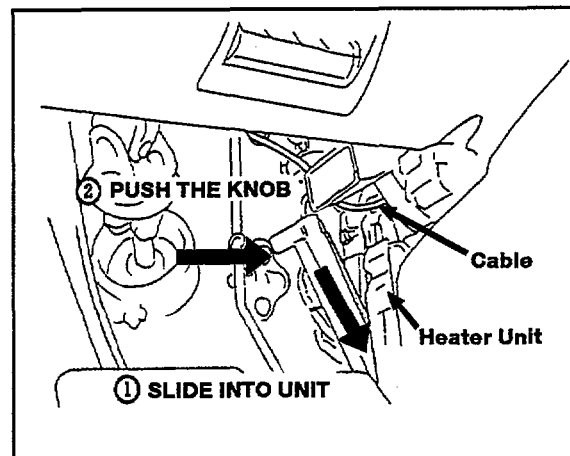
3. Reinstallation of parts.

- (a) Reinstall the plate on the side of the heater unit using steps ① and ②, indicated with red arrows to show direction, in the illustration.

CAUTION:

Confirm that the plate is secure.

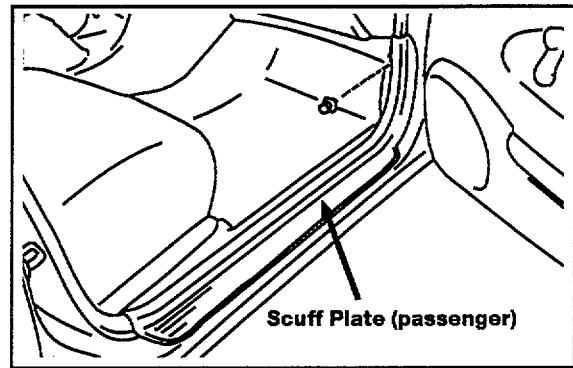
- (b) Restore the carpet to its original position taking care not to bend the cable.



Corolla 1. Removal of parts.

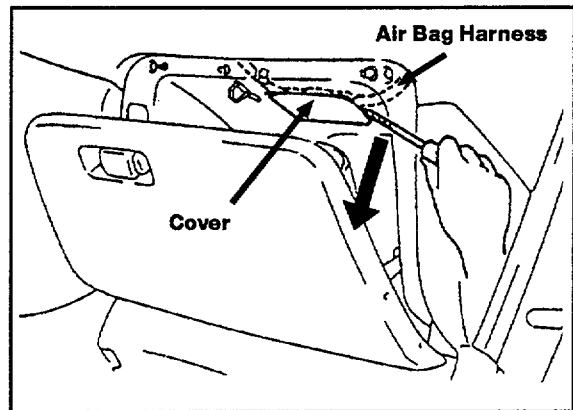
(AE100)

- (a) Remove the scuff plate from the passenger side door sill.



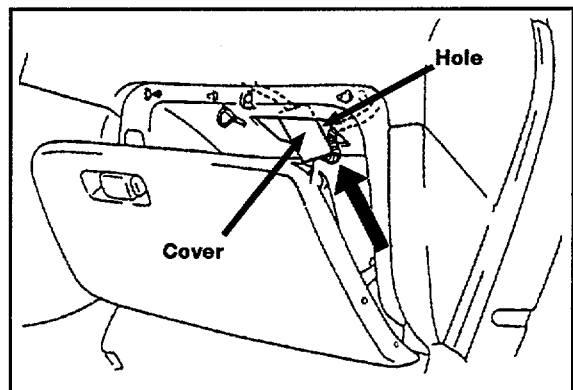
- (b) Open the glove box door and temporarily remove the Air Bag Harness Cover as shown in the illustration.

CAUTION:
Do not disconnect the Air Bag Harness.

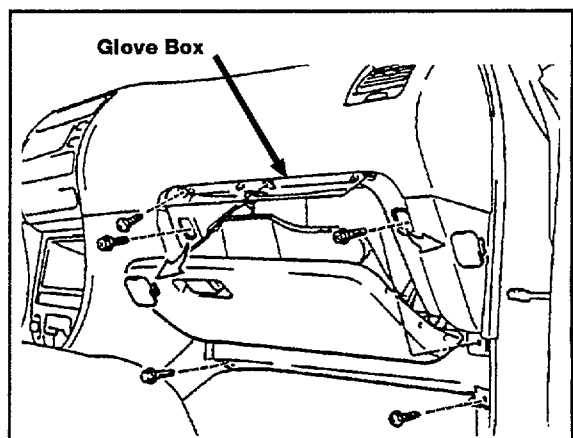


- (c) Pass the cover up through the hole.

CAUTION:
Take care not to pinch the Air Bag Harness when reinstalling the cover.

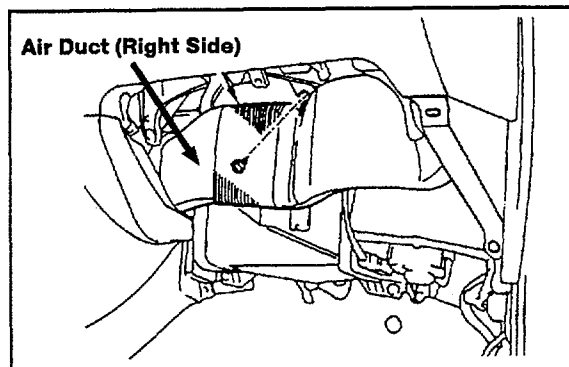


- (d) Remove the glove box.

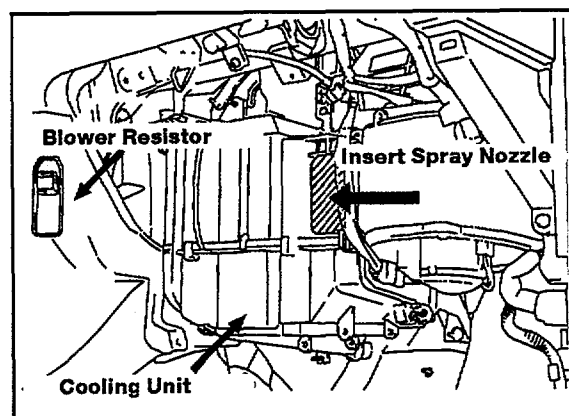


Corolla
continued

(e) Remove the passenger side air duct.



(f) Remove the blower resistor to allow access for the spray nozzle (insert at red arrow).



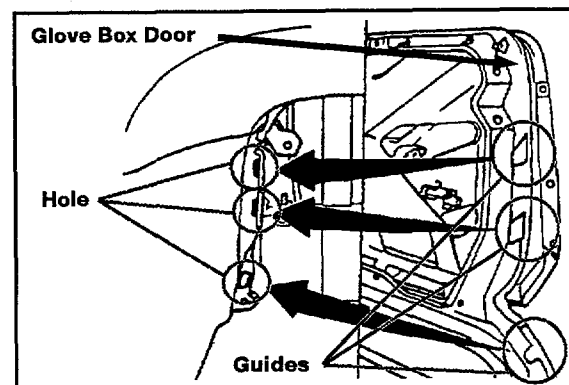
2. Cleaning the Evaporator.

- Follow the general procedures given on page 2.

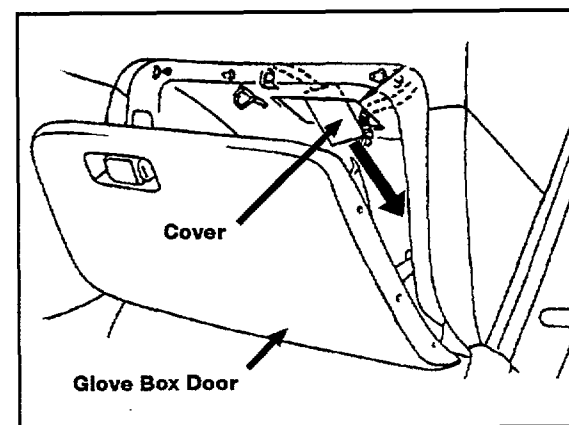
3. Reinstallation of parts.

- Reinstall the parts in the reverse order of removal described in step 1.

CAUTION:
Make sure that the three guides of glove box are inserted back into the three holes as shown in the illustration.



CAUTION:
Take care not to pinch the Air Bag Harness when reinstalling the glove box.



Avalon 1. Removal of parts.

(MCX10)

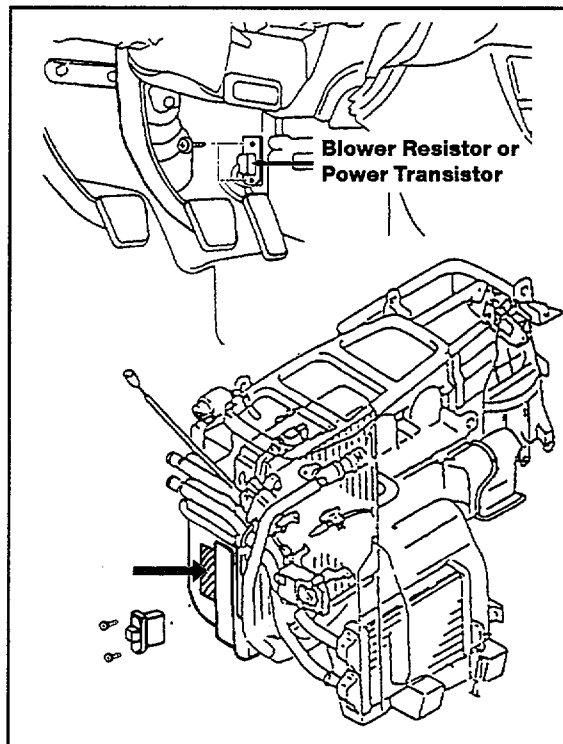
- (a) Remove lower finish panels.
- (b) If manual AC remove blower resistor.
- (c) If auto-AC remove power transistor.

2. Cleaning the Evaporator.

- Follow the general procedures given on page 2.

3. Reinstallation of parts.

- Reinstall the parts in the reverse order of removal described in step 1.



Cressida 1. Removal of parts.

(MX83)

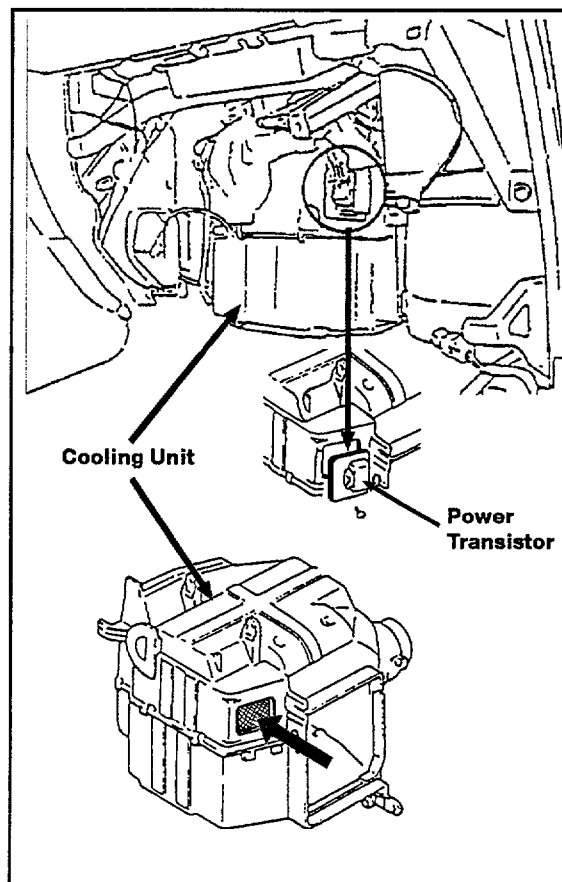
- (a) Remove glove box.
- (b) Remove power transistor.

2. Cleaning the Evaporator.

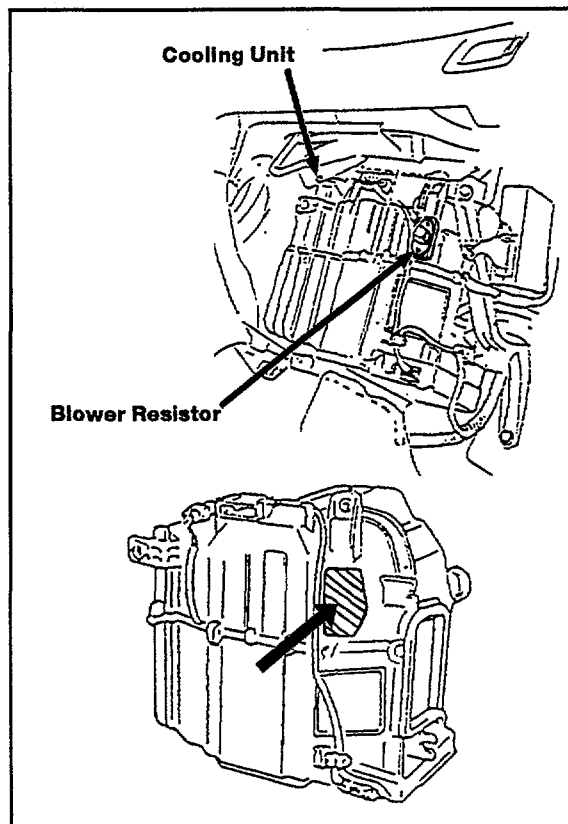
- Follow the general procedures given on page 2.

3. Reinstallation of parts.

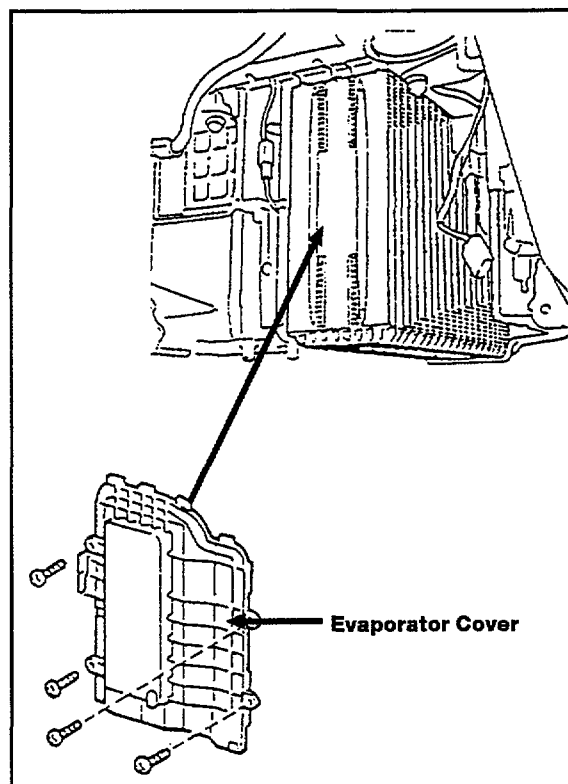
- Reinstall the parts in the reverse order of removal described in step 1.



- Celica** 1. Removal of parts.
(AT180/200)
(ST184/204)
- (a) Remove glove box.
 - (b) Remove blower resistor.
2. Cleaning the Evaporator.
- Follow the general procedures given on page 2.
3. Reinstallation of parts.
- Reinstall the parts in the reverse order of removal described in step 1.



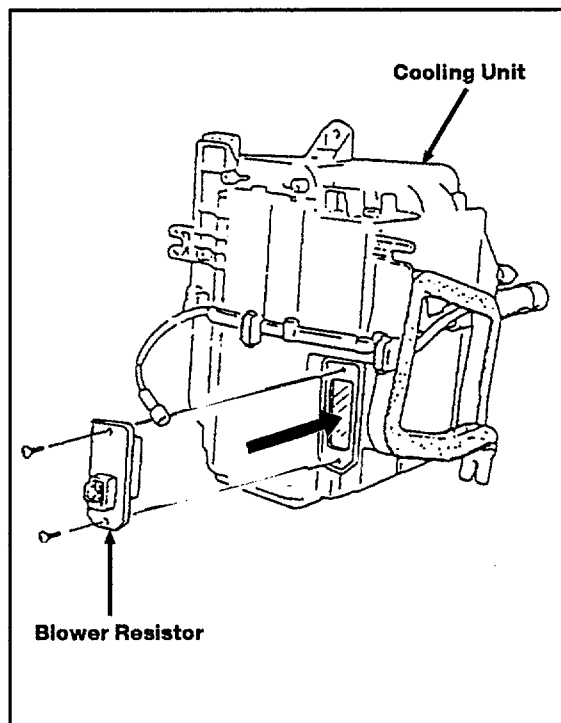
- Supra** 1. Removal of parts.
(JZA80)
- (a) Remove the glove box, side air duct and the ECM.
 - (b) Remove evaporator cover.
2. Cleaning the Evaporator.
- Follow the general procedures given on page 2.
3. Reinstallation of parts.
- Reinstall the parts in the reverse order of removal described in step 1.



Tercel/Paseo

(EL42/44/53)

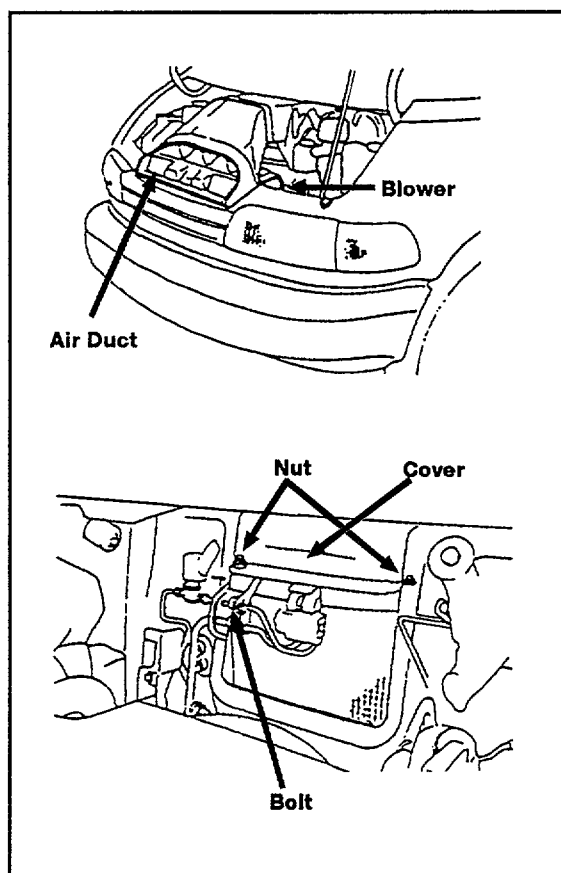
1. Removal of parts.
 - (a) Remove glove box.
 - (b) Remove blower resistor.
2. Cleaning the Evaporator.
 - Follow the general procedures given on page 2.
3. Reinstallation of parts.
 - Reinstall the parts in the reverse order of removal described in step 1.



Previa

(TCR10/20)

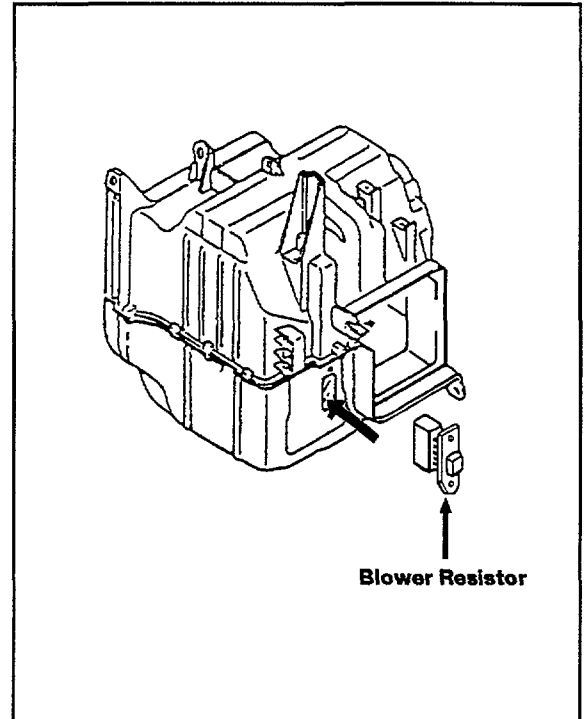
1. Removal of parts.
 - (a) Remove air duct and blower motor.
2. Cleaning the Evaporator.
 - Follow the general procedures given on page 2.
3. Reinstallation of parts.
 - Reinstall the parts in the reverse order of removal described in step 1.



Land Cruiser

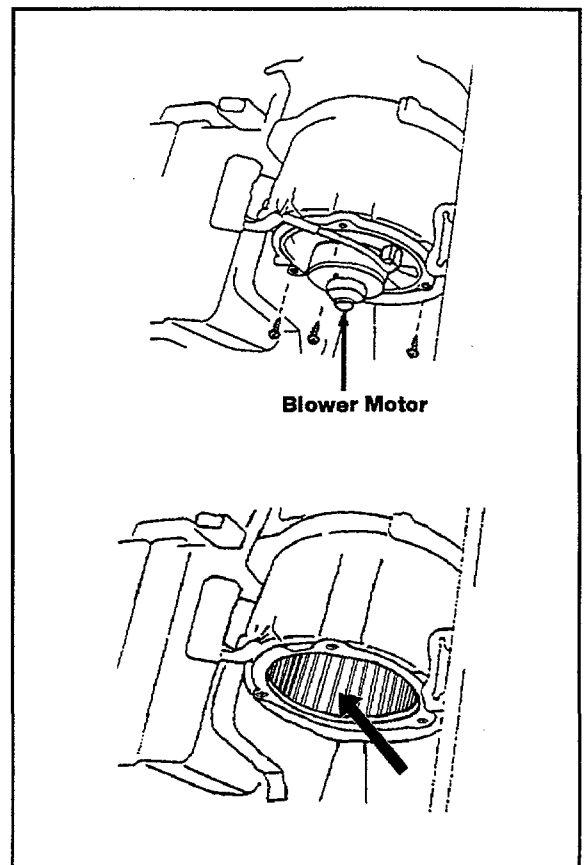
(FZJ80)

1. Removal of parts.
 - (a) Remove glove compartment door.
 - (b) Remove blower resistor.
2. Cleaning the Evaporator.
 - Follow the general procedures given on page 2.
3. Reinstallation of parts.
 - Reinstall the parts in the reverse order of removal described in step 1.



**MR2,
T100,
Truck,
Tacoma,
4Runner
Other**

1. Removal of parts.
 - Remove the blower motor.
2. Cleaning the Evaporator.
 - Follow the general procedures given on page 2.
3. Reinstallation of parts.
 - Reinstall the blower motor.





Technical Service BULLETIN

March 1, 2004

Title:

A/C COMPRESSOR INSTALLATION PROCEDURE

Models:

Applicable Models

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.

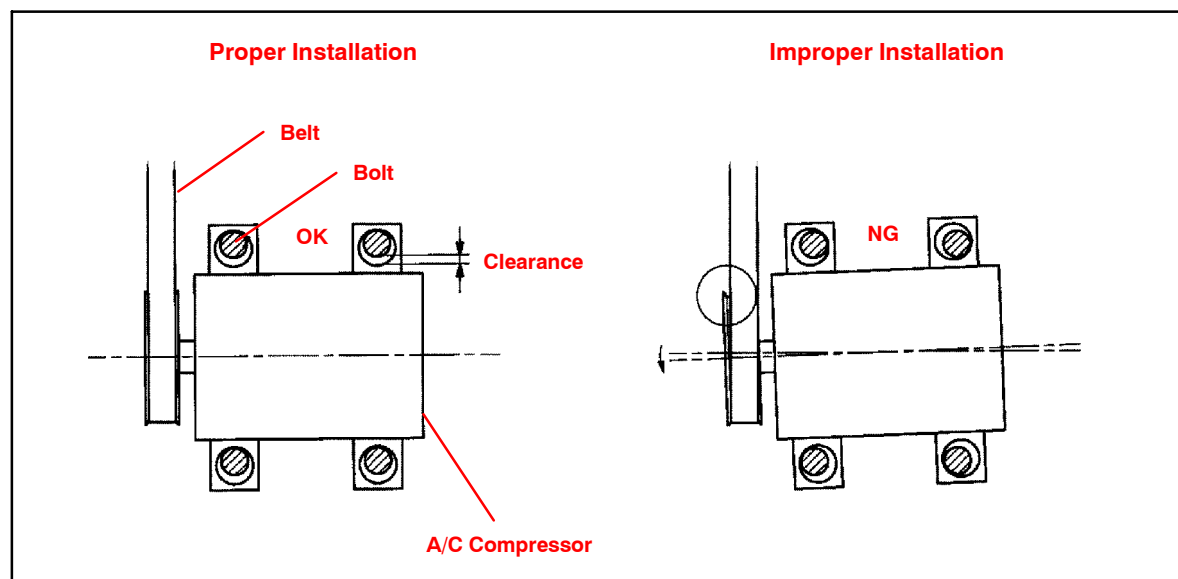
Applicable Vehicles

- **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	OFF	T1	T2
N/A	Not Applicable to Warranty	—	—	—	—

Installation Procedure

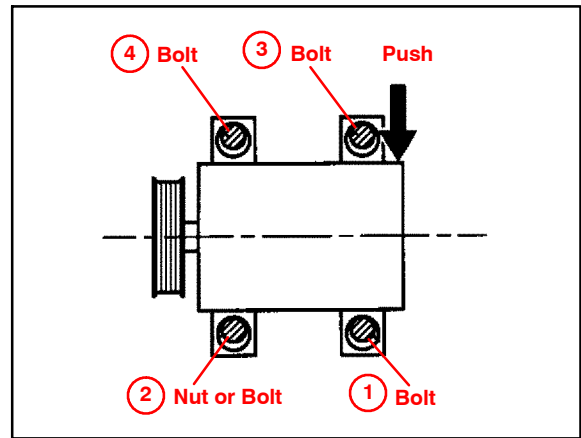


**Installation
Procedure**
(Continued)**1. AZ Series Engine:
Install A/C Compressor**

- 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.

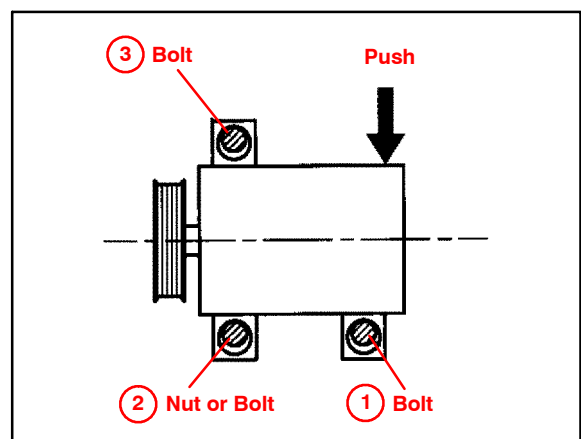
Torque: 24.5 N•m (250 kgf•cm, 18 ft•lbf)

**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)





Technical Service BULLETIN

July 30, 1999

Title:

COWL TOP VENTILATOR LOUVER SUB-ASSEMBLY

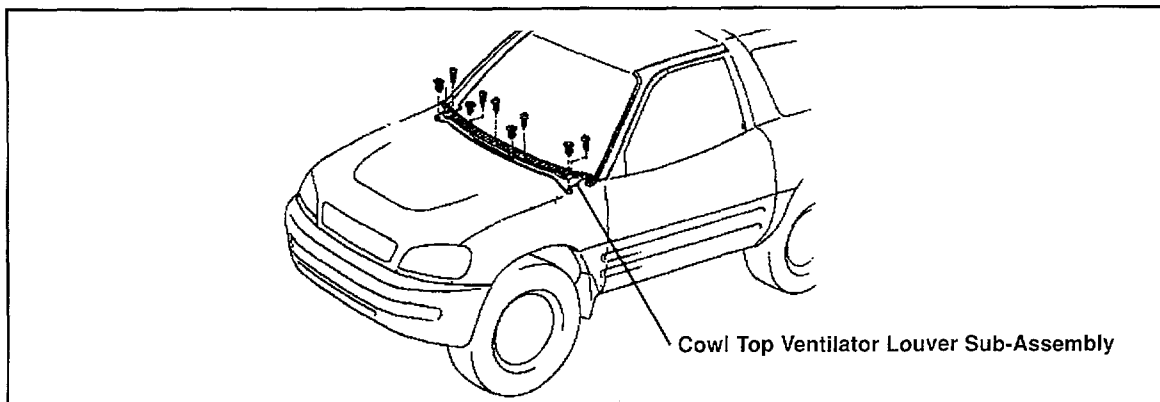
Models:

'96 - '98 RAV4

AC003-99

HEATING & AIR CONDITIONING

Introduction An improved Cowl Top Ventilator Louver Sub-Assembly is available as a field fix to help prevent snow from entering the Cowl Vent.



Applicable Vehicles

- 1996 - 1998 RAV4

Parts Information

CURRENT PART NUMBER	FIELD FIX PART NUMBER	PART NAME
* See NOTE Below	55708-42090	Louver Sub-Assembly, Cowl Top Ventilator
87130-16160	Same	Blower Assembly

* NOTE: P/N 55708-42040 applicable for "Non-Cold Area Spec"
P/N 55708-42050 applicable for "Cold Area Spec"

Repair Procedure

If during the process of diagnosing heater blower problems, the presence of water is noted in the Blower Assembly, replace both the Cowl Top Ventilator Louver Sub-Assembly and the Blower Assembly.

Warranty Information

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
AC9002	R & R Cowl Top Ventilator Louver	0.5	* See NOTE Above	66	99
AC9004	R & R Blower Assembly	3.5	87130-16160	95	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.

NOTE:

Flat rate time for Op Code AC9004 includes removal and reinstallation of cooling unit assembly.



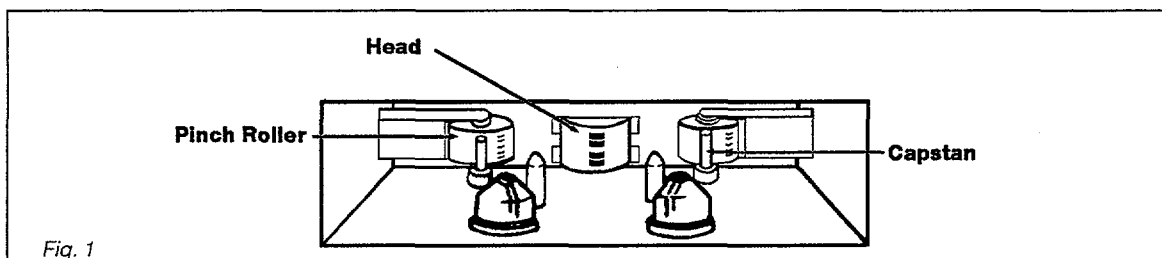
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Index # 051981

Title:
**CLEANING CASSETTE TAPE HEADS
AND CAPSTANS**

Models:
All Models

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



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

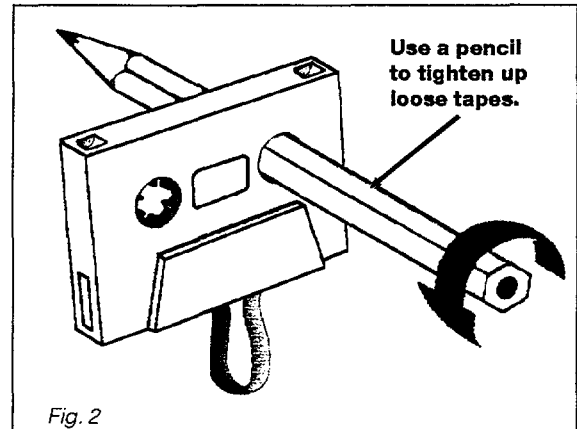
NOTE:
Allow 15 minutes for the cleaning fluid to evaporate before playing a tape.

Index * **047123**

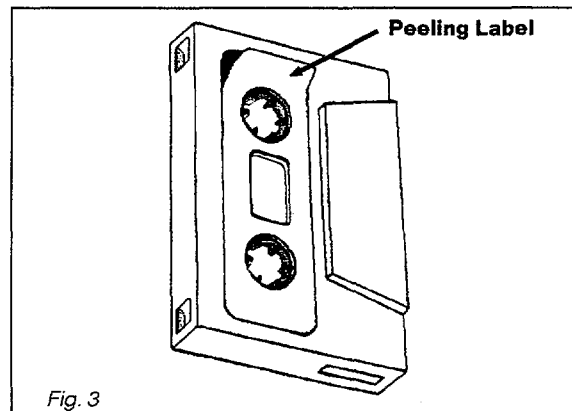
**Cassette
Tape Care
Procedure**

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

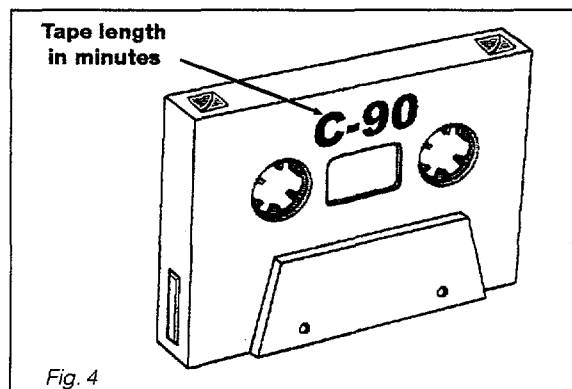
1. Remove the cassette from the player when the cassette is not in use.
2. Store the cassette in its case.
3. Store the cassette in a cool, dry area away from direct sunlight and magnetic components such as speakers.
4. Avoid touching the tape itself. This could result in poor sound quality or sound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



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.



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.





**Technical Service
BULLETIN**
July 24, 1998

Title:
AUDIO DIAGNOSIS - AVC-LAN
Models:
All '98 Models

AU001-98

AUDIO

Introduction 1998 deluxe and premium grade audio systems are equipped with an Audio Visual Communication – Local Area Network (AVC-LAN) that standardizes the audio, visual, switch, and communication data used between the radio, amplifier, cassette player, and CD player/changer. The AVC-LAN standards allow diagnostic functions and easy product interchangeability.

AVC-LAN Diagnostics The AVC-LAN system identifies each audio component by a Code Number and the probable cause of the condition by a Diagnostic Trouble Code. These codes can be accessed by the following procedure:

**Activate the
Diagnostic
Mode**

1. Set the ignition key to the "ON" position and turn the radio "OFF".
2. While pressing the "1" and "6" buttons, press the "CD" button 3 times. The Code Number, which identifies the audio components, will display.
 - Display the Code Numbers of other audio components by using the "TUNE UP" or "TUNE DOWN" button.

CODE #	COMPONENT
190	Radio Receiver Assembly
240	CD Player/Changer Luggage Area
360	CD Player/Changer Center Console

**Activate
the System
Check Mode**

3. Press the "1" button to activate the System Check Mode. The system will perform a self-diagnosis, store up to six error codes, and display the first error code.
 - Display other error codes by using the "TUNE UP" or "TUNE DOWN" button.
 - When no errors are detected, "00" will display.
 - Press "6" to exit this mode.

**Activate the
Diagnostic
Memory
Mode**

4. Press the "2" button to activate the Diagnosis Memory Mode. The results of the self-diagnosis performed on the radio and other components attached to the radio are stored. Up to six error codes are stored in memory and the system displays the first error code.
 - The other error codes can be displayed by using the "TUNE UP" or "TUNE DOWN" button.
 - When no errors are detected, "00" will display.
 - Press "6" to exit this mode.

**Erasing the
Diagnostic
Memory**

5. Pressing the "5" button for 2 seconds will erase the memory.

**Exiting the
Diagnostic
Mode**

6. Exit the diagnosis mode by pressing and holding the "CD" button for 2 seconds or by turning the key to the "OFF" position.

NOTE:

When +B or GND short is detected in the AVC-LAN circuit, communication stops and the audio system will not function normally.



Part Name:
Head Unit

CODE: 190				
DTC	DIAGNOSTIC ITEM	COUNTERMEASURE	SYSTEM CHECK	DIAG. MEM.
00	No Errors	N/A	○	○
41	AM Tuner Error	Check radio receiver & connections		○
42	FM Tuner Error	Check radio receiver & connections		○
50	Cassette Error	Check for foreign object inside the radio receiver		○
51	No Eject	Check for foreign object inside the radio receiver		○
60	CD Error	Check CD player/changer		○
61	Eject Error	Check for obstructions in CD player/changer		○
62	Disc Upside Down or has a flaw	Check CD		○
D1	Communication Error	Check radio connections	○	○
D2	Intermittent No Response	Check radio connections	○	○
D4	AVC LAN Periodic Communication - No Response	Check radio connections		○
FF	Diagnosis No Response	Check radio connections	○	
○ indicates applicable codes				

Part Name:
CD

CODE: 240/360				
DTC	DIAGNOSTIC ITEM	COUNTERMEASURE	SYSTEM CHECK	DIAG. MEM.
00	No Errors	N/A	○	○
60	CD Error	Check CD player/changer		○
61	Eject Error	Check for obstructions in CD player/changer		○
62	Disc Upside Down or has a flaw	Check CD		○
63	Pick-Up Temperature Detection	Check for high temperature. Cool CD player/changer		○
64	Excessive Current Detection	Check CD player/changer connections/wiring shorts		○
67	Tray Insert/Eject Error	Check CD magazine		○
68	Elevator Error	Check for obstructions of CD changer magazine		○
69	Clamp Error	Check for foreign object in CD player/changer		○
D1	Communication Error	Check CD player/changer connections	○	○
D4	AVC-LAN Periodic Communication - No Response	Check CD player/changer connections		○
FF	Diagnosis No Response	Check CD player/changer connections	○	
○ indicates applicable codes				

Part Name:
Amplifier

CODE:				
DTC	DIAGNOSTIC ITEM	COUNTERMEASURE	SYSTEM CHECK	DIAG. MEM.
00	No Errors	N/A	○	○
D1	Communication Error	Check amplifier connections	○	○
D4	AVC LAN Periodic Communication - No Response	Check amplifier connections		○
FF	Diagnosis No Response	Check amplifier connections	○	
○ indicates applicable codes				



**Technical Service
BULLETIN**
May 23, 1997

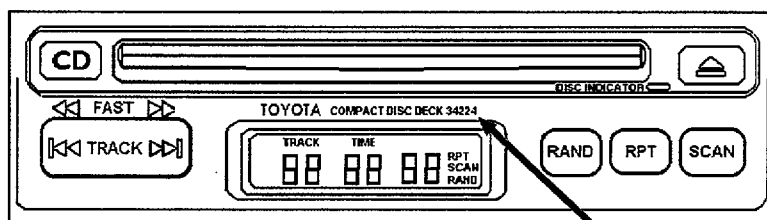
Title:
**'97 PIO/DIO 34224 FUJITSU TEN CD PLAYER
DOES NOT EJECT / ACCEPT CD**

Models:
All '97 Models

AU003-97

AUDIO

Introduction The PIO/DIO 34224 Fujitsu Ten CD Player's (P/N 08601-00852) circuitry was changed to eliminate "does not eject/accept CD" conditions.



**PIO/DIO 34224 Fujitsu Ten CD
Player Model Number Location**

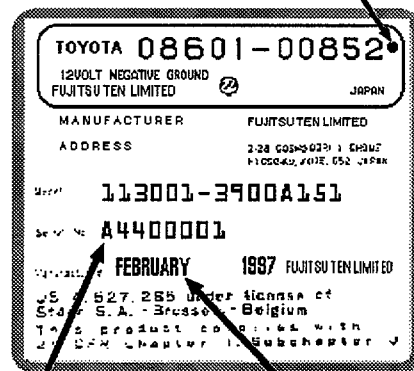
**Production
Change
Information**

- Production change occurred in February 1997 on CD players starting with serial number A4400001.

**Exchange
Unit
Information**

- Fujitsu Ten began shipping the countermeasured exchange units starting December 1996.
- Countermeasured CD players have a black dot after the Toyota Parts Number.

Countermeasured units have this black dot



Serial Number

Production Date

Index # 047125



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**Technical Service
BULLETIN**

March 17, 2000

Title:

TOYOTA "DINGHY" TOWING GUIDE

Models:

All Models

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**

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	-	-	-	-

053202



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Applicable 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.).



**Technical Service
BULLETIN**

January 23, 2006

Title:

**TOWING RECEIVER HITCH INSTALLATION
INSTRUCTIONS REVISION**

Models:

'06 RAV4

**AX001-06
ACCESSORIES**

Introduction The 2006 model year RAV4 Towing Receiver Hitch kit produced prior to 12/1/2005 (date code 01L05) includes installation instructions with incorrect torque specifications for the driver's side bolts, section 9, steps (a) and (b).

Correct torque specifications can be found in the Installation Instructions section of this bulletin, or in the Technical Information System (TIS), 2006 model year RAV4:
Accessories: Installation Instructions: 2006 RAV4 Towing Hitch PT228-42061.

Applicable Vehicles

- **2006** model year **RAV4** vehicles.

**Parts
Information**

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
PT228-42061	Same	Towing Receiver Hitch	1

**Installation
Instructions**

The corrected installation instructions for section 9, steps (a) and (b) are as follows:

9. Tighten Driver's Side Bolts

- (a) Tighten the three (3) M8 bolts on the bumper brackets to 38 N-m (28 lbf-ft).
- (b) Tighten all M12 x 35 bolts to 80 N-m (60 lbf-ft) in the sequence shown.
(Fig. 9-1) 1-9.

**Warranty
Information**

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





Technical Service BULLETIN

April 14, 2000

Title:

RS3000 TVIP AUTOMATIC DOOR LOCK FEATURE PROGRAMMING

Models:

All Models

AX005-00

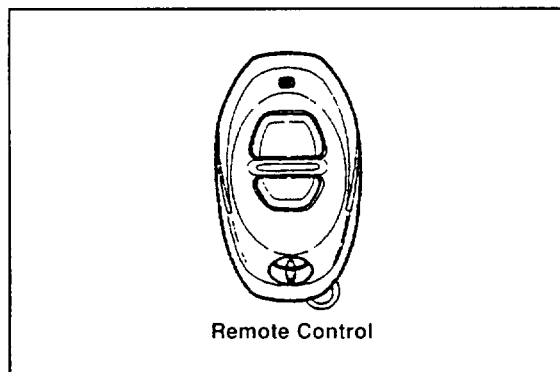
Introduction As a convenience feature, the RS3000 TVIP system is programmed to automatically lock all of the vehicle's doors (for vehicles equipped with power door locks) when the ignition key is turned to "ON" or "START", and unlock them when the key is turned back to "ACC" or "LOCK". The initial factory 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:

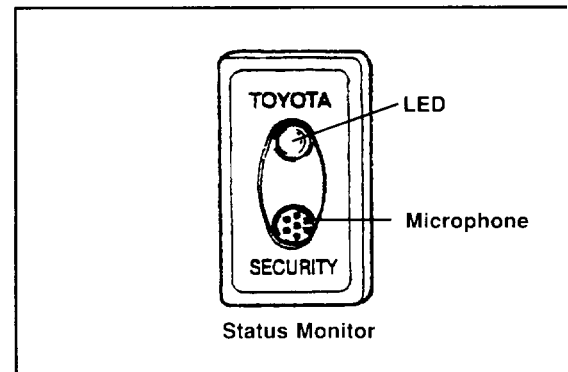
1. Inform the customers of the RS3000 system's automatic (ignition controlled) door lock/unlock feature.
2. Inquire about the customers' preference for it to be set "ON" or "OFF".
3. Reprogram the feature's setting according to the customer's preference.

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



Status Monitor

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

Applicable Vehicles

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

Warranty Information

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



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Index • 053347

Page 1 of

**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.



Technical Service BULLETIN

April 23, 1999

Title:

RS3000 TVIP PROGRAMMING CHANGES FOR GBS

Models:

All Models

AX006-99

ACCESSORIES

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	-	-	-	-

Index • 051504



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**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 counterclockwise 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.



Technical Service BULLETIN

May 14, 1999

Title:

KEYLESS ENTRY REMOTE CONTROL PROGRAMMING

Models:

All Models

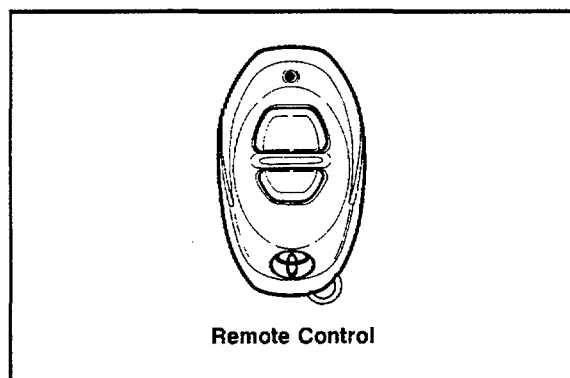
AX007-99

ACCESSORIES

Introduction This bulletin describes the procedures that are used to program the two-button remote control for vehicles that are equipped with dealer (DIO) or port installed option (PIO), not the Factory Remote Keyless Entry System. For Factory Keyless Entry System Remote Control Programming, refer to the appropriate vehicle repair manual.

Verification of the DIO or PIO Toyota Keyless Entry System can easily be performed by identifying the remote transmitter.

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



The DIO or PIO Keyless Entry System utilizes only remote controls with **black** cases. The same remote controls but with **gray** cases, used for 1998 MY and later RS3000 TVIP systems, will not work with this keyless entry system.

NOTE:

The DIO or PIO Keyless Entry System 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 all existing remotes be furnished when programming a new or replacement unit.

**Affected
Vehicles**

- All models with DIO or PIO equipped Toyota Keyless Entry System

**Warranty
Information**

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

Index # 051675



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Programming Procedure

For location of the Keyless Entry System ECU, refer to ECU Mounting Locations, Page 4.

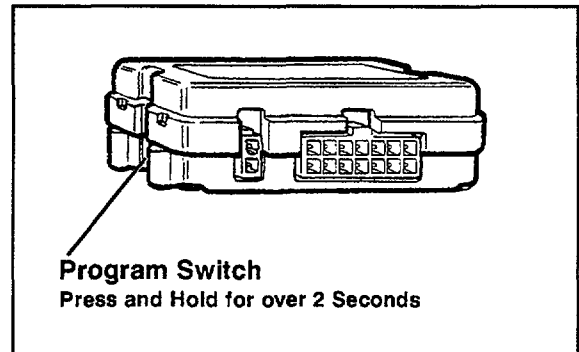
I. To program (add) a REMOTE CONTROL to the system:

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

The Exterior Lights turn on for 5 seconds.

NOTE:

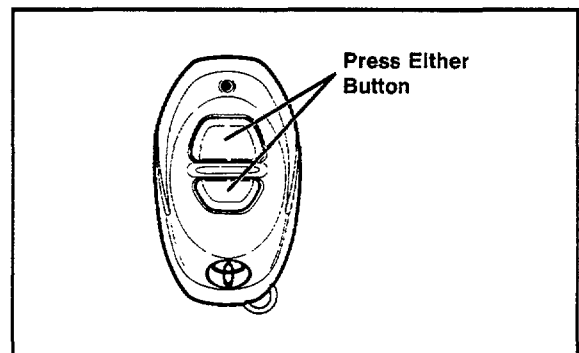
You must perform the next step within 5 seconds.



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

The Exterior (Tail and Marker) Lights flash once, then turn off.

4. Turn off the ignition. The system will now operate with the REMOTE CONTROL just programmed.



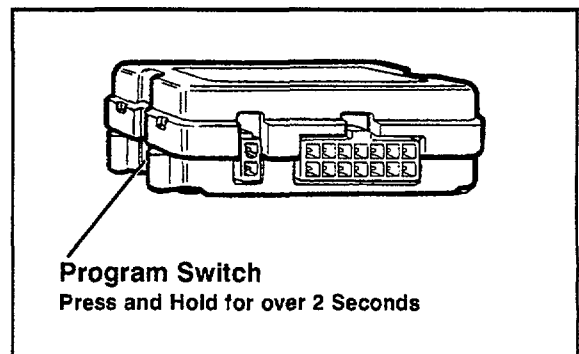
II. To erase all REMOTE CONTROL codes from the system:

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

The Exterior Lights turn on for 5 seconds.

NOTE:

You must perform the next step within 5 seconds.

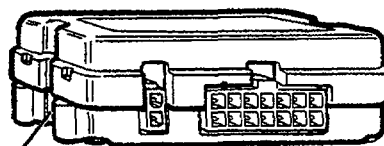


**Programming
Procedure**
(Continued)

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

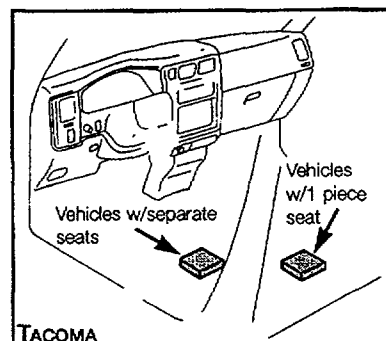
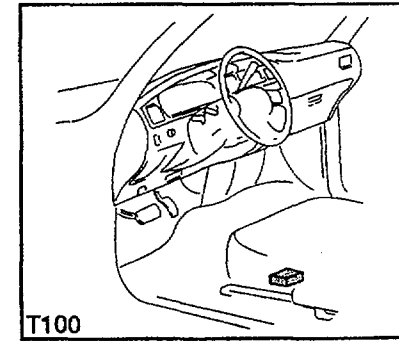
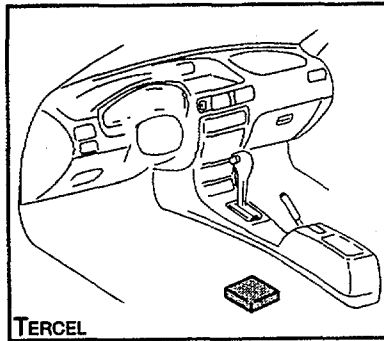
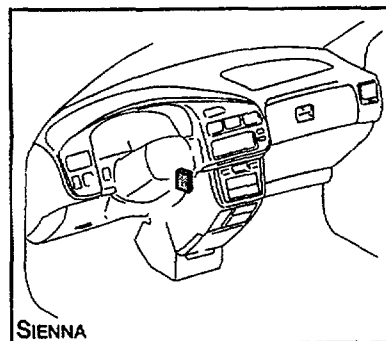
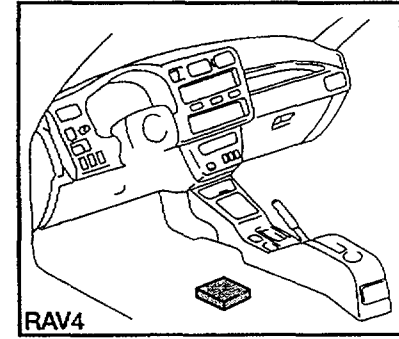
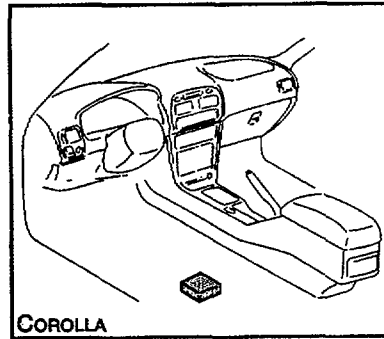
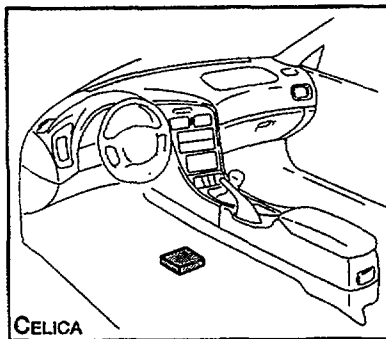
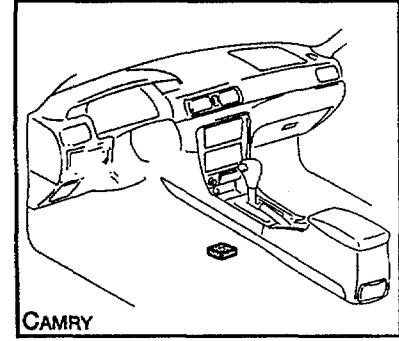
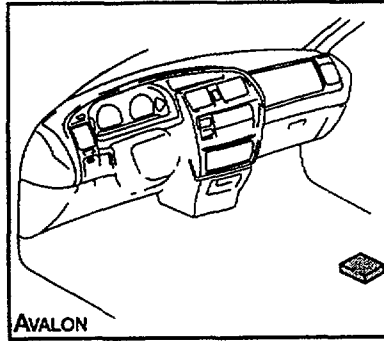
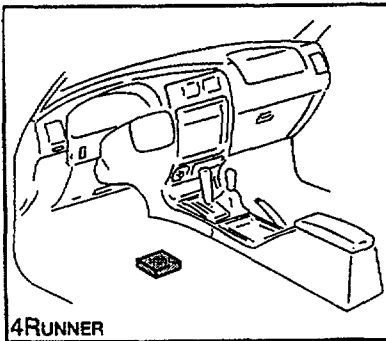
The Exterior (Tail and Marker)
Lights flash 3 times, then turn off.

4. Turn off the ignition. All REMOTE
CONTROL codes have now been
cleared; the system will not work
with any REMOTE CONTROL until
another one is programmed.

**Program Switch**

Press and Hold Again for over 2 Seconds

ECU MOUNTING LOCATIONS





Technical Service BULLETIN

October 3, 1997

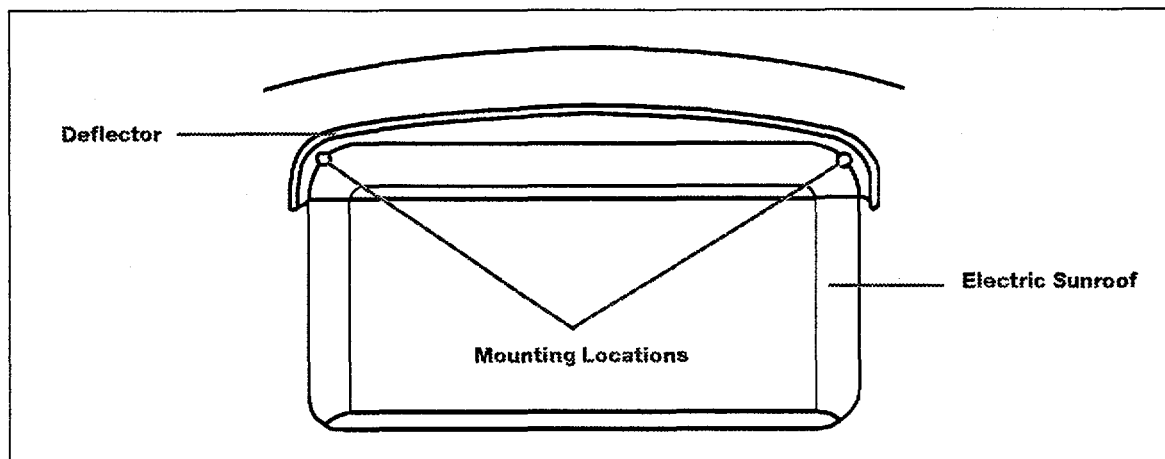
Title: SUNROOF WIND DEFLECTOR APPLICATION

Models:
'96 - '98 RAV4

AX011-97

ACCESSORY

Introduction The accessory Sunroof Wind Deflector (Part Number 00531-42970) available for the RAV4 is applicable only to 4 door vehicles equipped with electric sliding sunroof.



CAUTION:

This part can not be installed on vehicles equipped with the pop-up sunroof. The roof stamping for the pop-up sunroof does not have an attachment point for the wind deflector's clips.

Affected Vehicles • 1996 - 1998 RAV4 with electric sunroof only.

Parts Information

PART NUMBER	PART NAME
00531-42970	Sunroof Wind Deflector

Warranty Information

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

Index # 046272

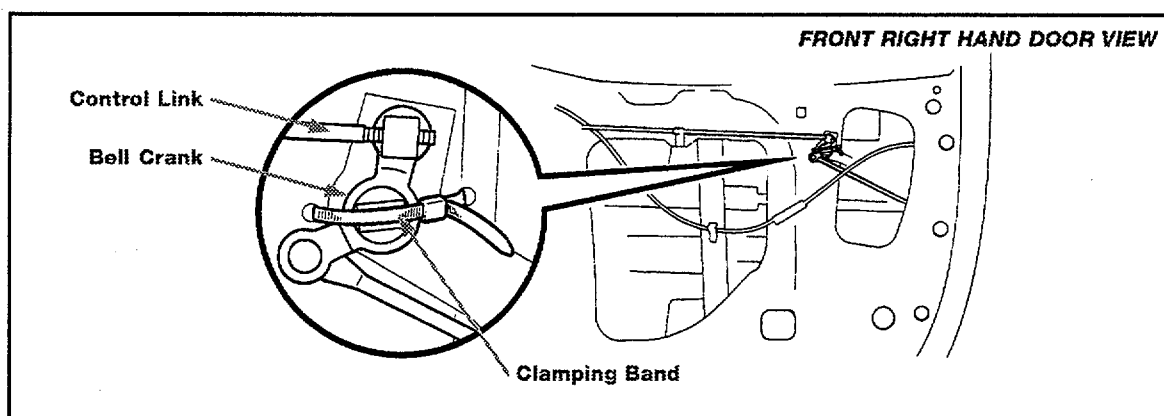


Toyota Supports ASE Certification

Introduction Toyota has developed a field fix procedure that improves door lock operation "feel". The procedure minimizes free-play at the bell crank pivot by replacing the original pivot with a new type pivot and adding a clamping band around the pivot pin subassembly.

NOTE:

The bell crank pivot pin is identified in the parts microfiche as a "Front Door Lock Link Clamp".



Affected Vehicles • 1996 and 1997 RAV4, 2 Door models.

**Parts
Information**

CURRENT PART NUMBER	PART NAME	QTY PER VEHICLE
69749-32020	Clamping Band (Door Lock Wire Clamp)	2
69749-32030	Bell Crank Pivot Pin (Front Door Lock Link Clamp)	2

**Warranty
Information**

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
BD7020	Door lock knob operation (both sides)	1.0	69749-32020	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.

Field-Fix Procedures

1. Remove interior door trim panel.

NOTE:

Refer to RAV4 Repair Manual (Page BO10-12) for interior door panel removal/installation.

2. Drill two 4 mm (3/16 in.) holes in the inner panel as shown in Figure 1.

NOTE:

Position Hole #1 in a location where the clamping band will not interfere with the bell crank arm, when arm is in locked position.

3. Remove any metal shavings from the inside of the door cavity and discard.
4. Deburr and paint bare metal around both holes.
5. Remove original bell crank pivot pin and install new type pivot pin (with embossed slot to retain clamping band).

NOTE:

Old style bell crank pivot pin does not have an embossed slot and WILL NOT retain the clamping band in the proper position.

6. Install clamping band.
 - a. Route clamping band through both holes and across the face of the bell crank pivot shaft.
 - b. Loosely engage tip of the clamping band into the locking portion of the band.
 - c. Route the clamping band into the groove on the front side of the bell crank pivot as shown.
 - d. Pull clamping band tightly enough that it prevents free play between the pivot shaft and the inner panel.

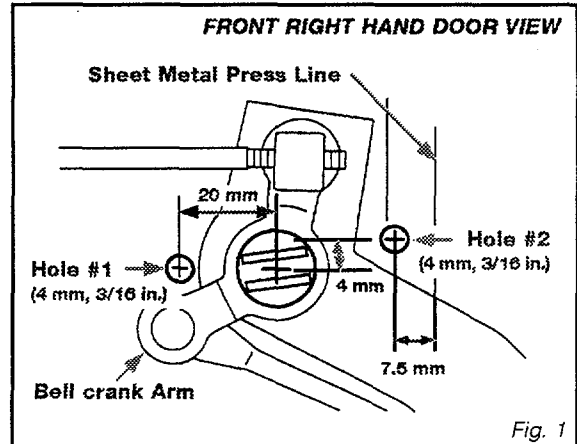


Fig. 1

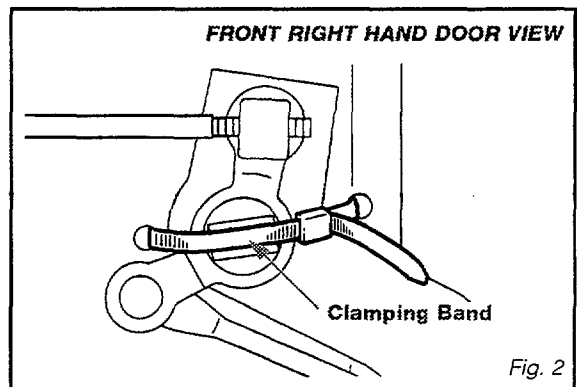
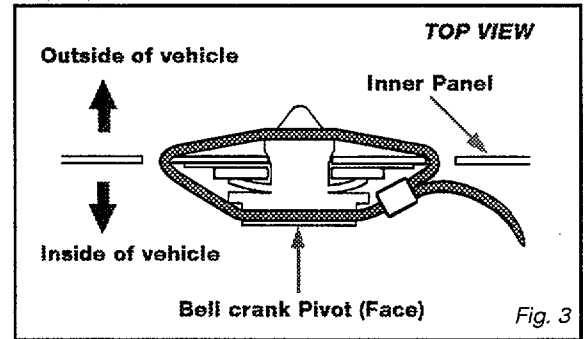


Fig. 2

**Field-Fix
Procedures**
(Continued)

NOTE:
Place locking portion of clamping band to the right side of the pivot shaft as shown in Figures 2 & 3.

- e. Since clamping band will loosen slightly with repeated use, pull tightly enough that some effort is required to move the lock knob.
7. Adjust Control Link.
 - a. Lengthen the control link by 1 to 2 mm (0.04 to 0.08 in.).
 - b. Confirm proper door lock knob/lock subassembly operation, and adjust as necessary.
 8. Reinstall Door Trim Panel.
 9. Confirm proper door lock knob operation, and adjust as necessary.





Technical Service BULLETIN

January 2, 1998

Title:

RAV4 DOOR LOCK OPERATION

Models:

'96 & '97 RAV4 (4 Door Models)

BO002-98

BODY

Introduction Toyota recommends the use of a clamping band (P/N 69749-32020) to reduce free-play at the bell crank pivot.

Affected Vehicles • 1996 and 1997 RAV4, 4 Door models.

Warranty Information

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
BD7016	Door lock knob operation (both sides)	0.5	69749-32020	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.

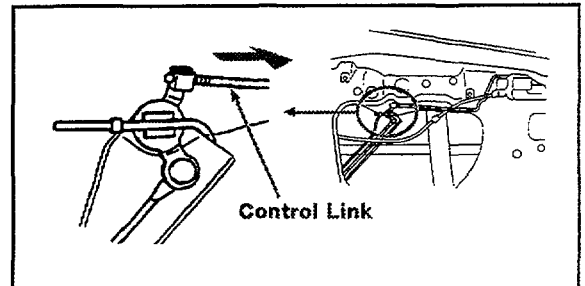
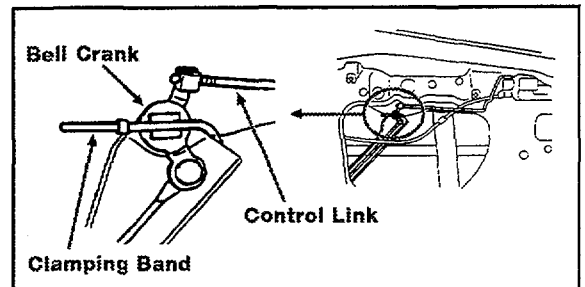
Field-Fix Procedures

1. Remove interior door trim panel.

NOTE:

Refer to RAV4 Repair Manual (Page BO10-12) for interior door panel removal/installation.

2. Install clamping band (P/N 69749-32020) around bell crank pivot, and position it above the clip on the **inside** of the inner panel.
3. Insert the clamping band through the clip channel located outside the inner panel and pull the clamp end to tighten.
4. Secure clamping band tightly to reduce free-play at the bell crank pivot.
5. Adjust Control Link by increasing length by 1 - 2 mm (0.04 - 0.08 in.)
6. Confirm proper door lock knob/lock subassembly operation, and adjust as necessary.
7. Reinstall interior door trim panel.
8. Confirm proper door lock knob operation, and adjust as necessary.



NOTE:

The recommended clamping band is 5 - 6 in. long. In addition, the lock knob button operation will have a more positive feel with the clamping band installed and tightened properly.



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Page 1 of 1



Technical Service BULLETIN

February 21, 1997

Title: WIND NOISE REPAIR KIT

Models:
All Models

TSB

B0003-97

BODY

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

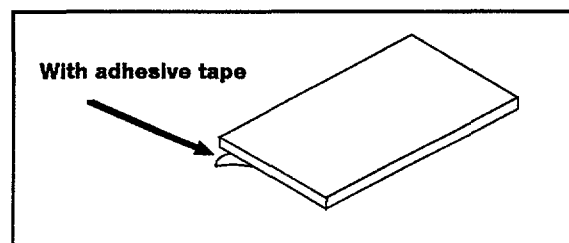
Parts Information

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

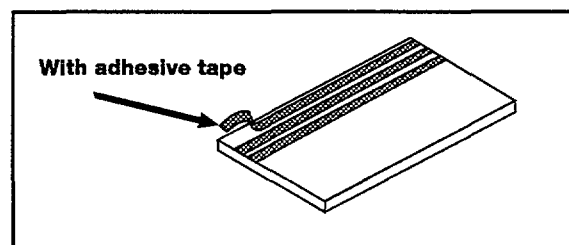
* All of these parts are included in the kit.

Kit Components

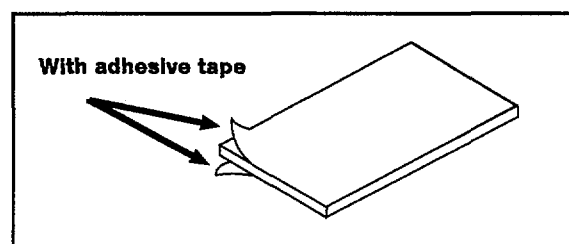
1. Caulking Sponge Sealant No. 1, No. 2 and No. 3 (Ept-sealer).



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).



Index # **046556**



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Technical Service BULLETIN

February 8, 2002

Title:

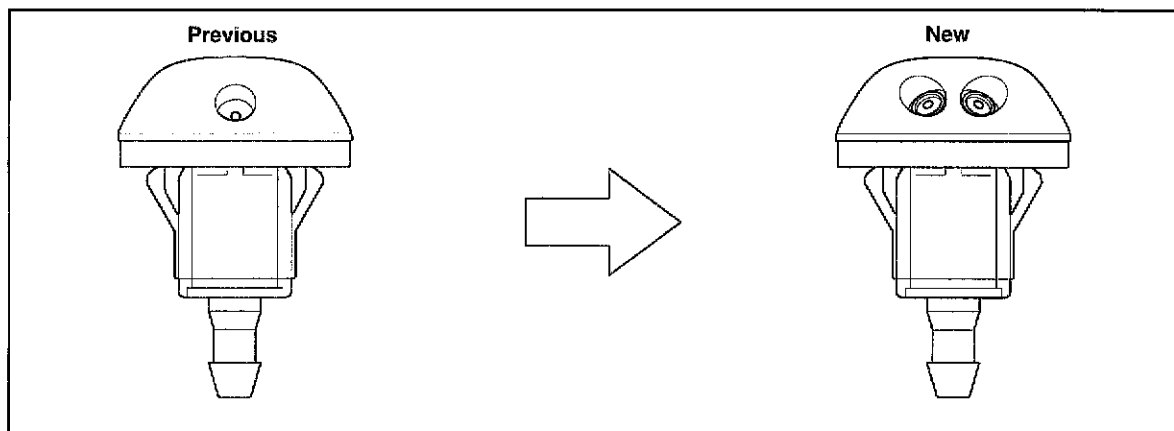
IMPROVEMENT TO REAR WIPER WASHER NOZZLE

Models:

'00 – '01 RAV4

BODY
B0004-02

Introduction The rear wiper washer nozzle has been changed from a one-hole type to a two-hole type for improved washing performance.



Applicable Vehicles

- 2000 – 2001 model year **RAV4** vehicles.

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
85385-42020	85395-42020	Nozzle Sub-Assembly, Rear Washer

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
BD1033	R & R Nozzle Sub-Assembly	0.3	85385-42020	75	55

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.

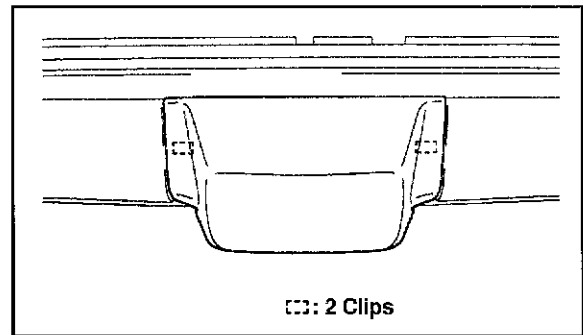


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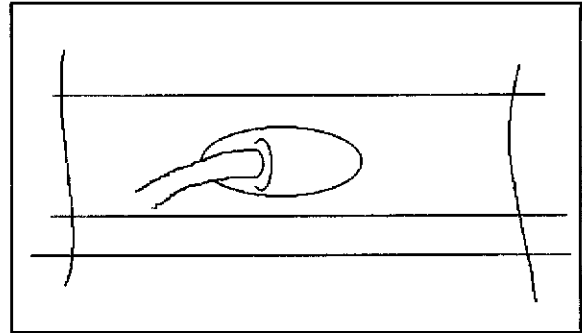
050636

**Replacement
Procedure**

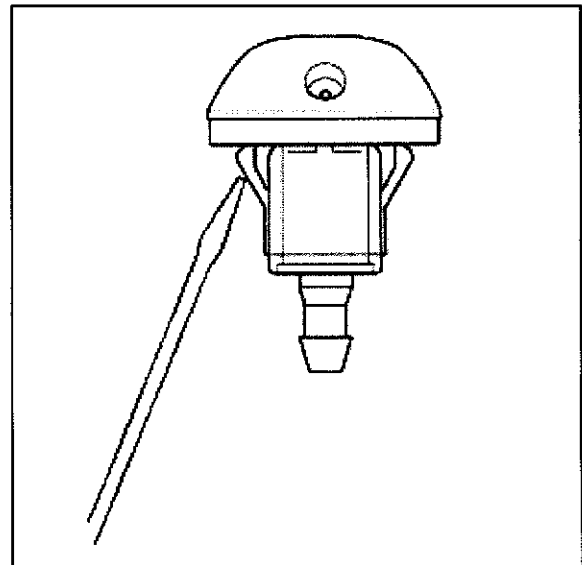
1. Remove the interior Center High Mounted Stop Lamp (CHMSL) cover using a nylon pry-tool or a flat head screwdriver protected with tape.



2. Remove the grommet surrounding the washer tube as it enters the rear door.



3. Remove the original washer nozzle by depressing the lock tabs with a screwdriver.



4. Reassemble with the new washer nozzle.



**Technical Service
BULLETIN**

February 16, 2006

Title:

**GLOVE BOX LOCK
CYLINDER REPLACEMENT**

Models:

'06 RAV4

BODY
B0004-06

Introduction The following procedures have been developed to assist in the replacement of the glove box lock cylinder. Please use the following procedures when replacing the glove box.

Applicable Vehicles

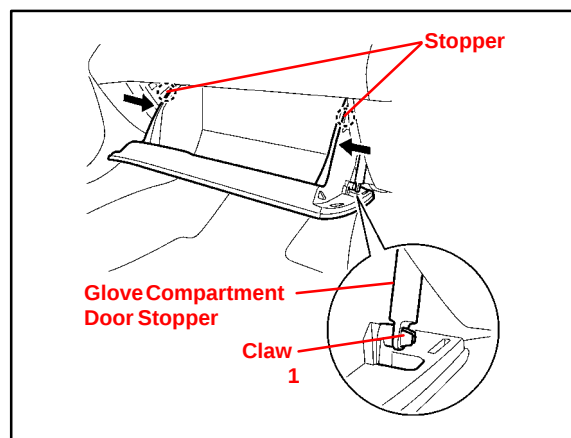
- 2006 model year **RAV4** vehicles.

**Warranty
Information**

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

**Repair
Procedure**

1. Remove the glove box from the vehicle.
 - A. Open the glove box and remove the door stopper from the outside panel by depressing the claw and sliding the stopper off. (Refer to "1" in the illustration.)
 - B. Press in on the glove box as indicated by the arrows to release the stop tabs.
 - C. Pull the glove box toward you releasing it from the two (2) hinge points.

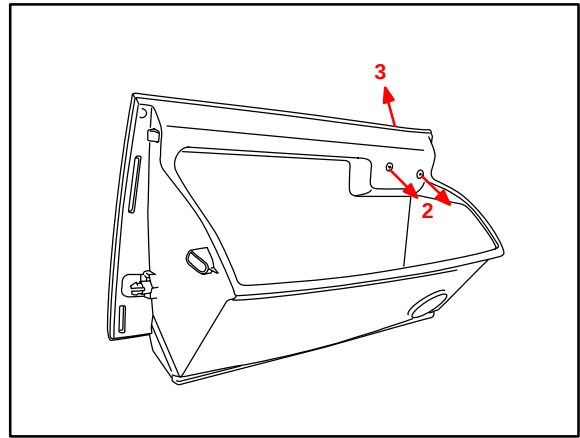


**Repair
Procedure**
(Continued)

2. Remove the latch from the glove box door.
 - A. Remove the 2 Phillips head screws from the inside panel of the glove box door. (Refer to “2” in the illustration.)
 - B. Pull the latch out toward the front to release. (Refer to “3” in the illustration.)

NOTE:

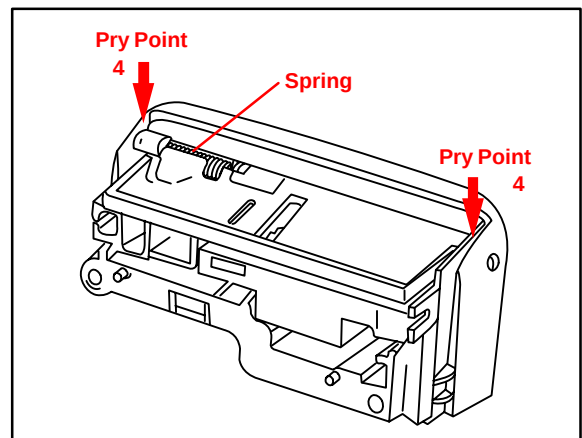
Be careful pulling the latch out. It is connected to the release arms on either end and may be difficult to remove.



3. Remove the lock cylinder from the glove box latch cover.
 - A. Remove the latch cover on the front of the latch assembly.
 - B. Using a flathead screwdriver, pry in the inside of either end of the latch cover and pull the cover off. (Refer to “4” in the illustration.)

NOTE:

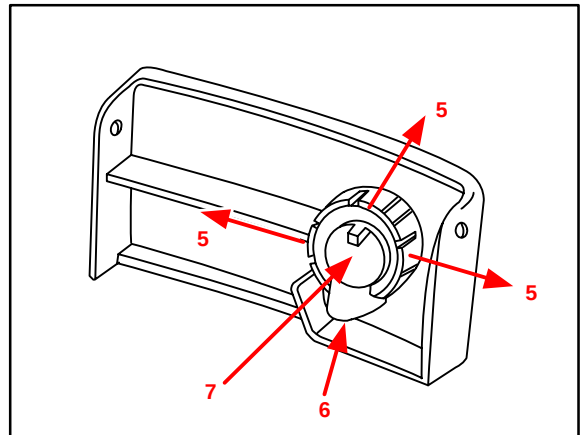
Take care NOT to lose the spring found behind the latch cover. This spring is necessary for reassembly.



- C. Looking at the back of the lock cylinder, push out the three tabs. (Refer to “5” in the illustration.)
 - D. While pushing on the three tabs, slide the gold tab up (refer to “6” in the illustration) and push on the lock cylinder forcing it out. (Refer to “7” in the illustration.)

NOTE:

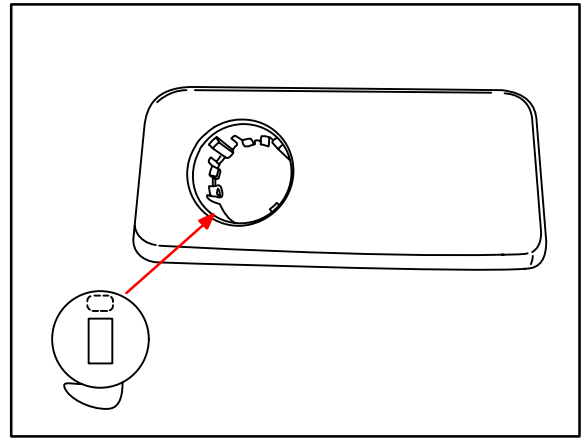
Placing slight pressure on the key cylinder during the release of the tabs will assist in keeping the tabs spread apart.



- E. After the lock assembly has been removed, lightly sand any burrs off the metal tab on the back of the lock cylinder.

**Repair
Procedure**
(Continued)

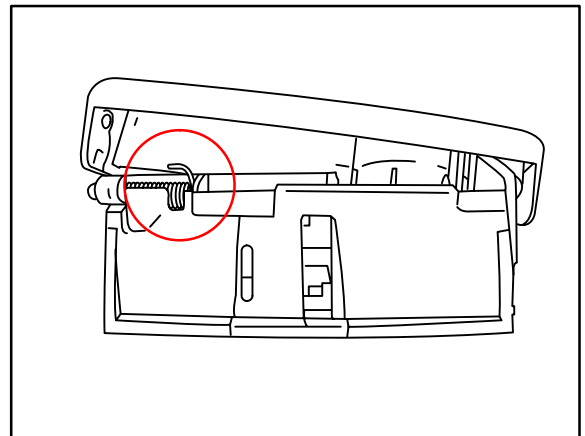
4. Reinstall the lock cylinder in the new latch assembly cover.
- A. With the gold tab facing down, insert the lock assembly into the NEW latch assembly cover and press firmly until a “pop” sound is heard.



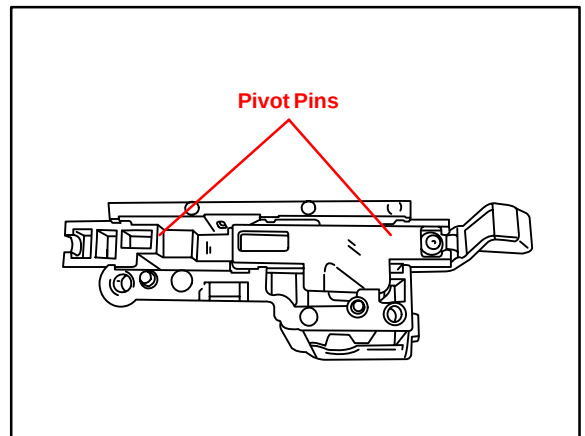
- B. With the latch cover facing down, reinstall the spring in the NEW latch assembly.

NOTE:

Ensure the tip of the spring is pulled to its most downward point when reinstalling the latch cover. If this is NOT done, the latch will NOT operate properly.

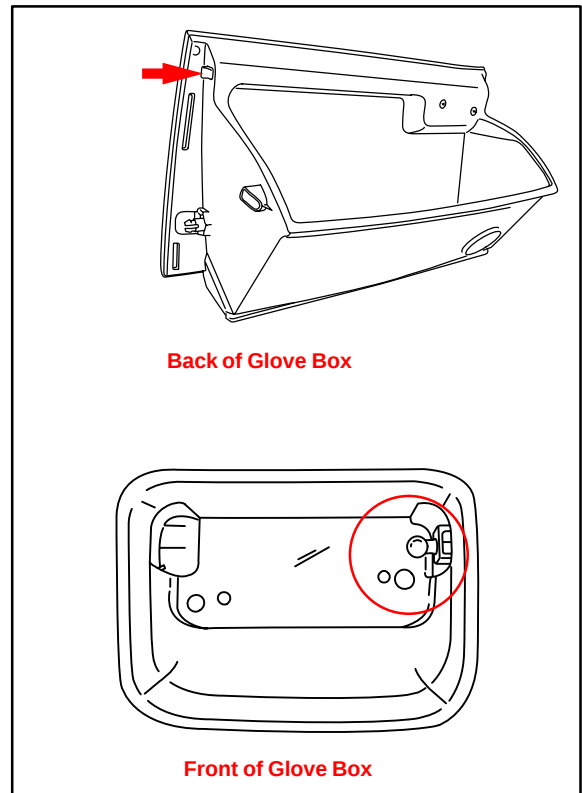


- C. Ensure the slide portion of the back of the latch assembly is fully extended.
- D. Slide the latch cover over the NEW latch assembly until both pivot pins on the latch assembly are seated in the latch cover.



**Repair
Procedure**
(Continued)

5. Reinstall the NEW latch assembly into the glove box.
 - A. Press in on the glove box slide located in the glove box assembly so the ball end of the slide is visible.
 - B. Insert the latch assembly into the glove box and press down until a “pop” sound is heard.
 - C. Reinstall the two screws in the back of the glove box assembly.
6. Reinstall the glove box in the vehicle and reattach the glove box door stopper.
7. Confirm the glove box operates smoothly and the key cylinder is functional.





Technical Service BULLETIN

March 16, 2001

Title:

HEADLAMP SERVICEABILITY

Models:

'01 RAV4

BO009-01

BODY

Introduction To improve the serviceability of the RAV4 headlamp, a separate retainer bracket has been developed as a service part. If the top outside retaining tab of the headlamp is damaged, the original headlamp can still be used when this new service part is used.

Applicable Vehicles

- 2001 model year **RAV4** vehicles.

Parts Information

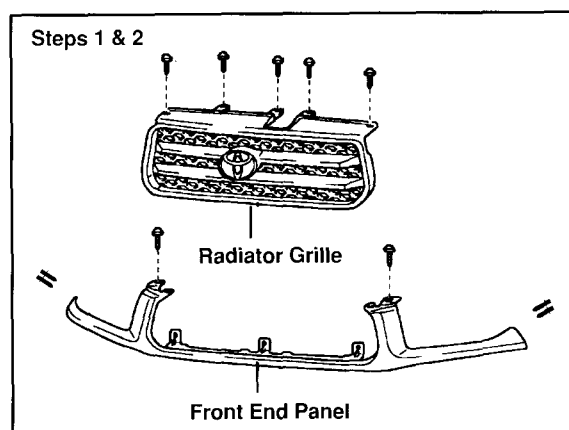
PART NUMBER	QUANTITY	PART NAME
81193-42020	1	Retainer, Head Lamp Protector, Upper RH
81194-42020	1	Retainer, Head Lamp Protector, Upper LH

Warranty Information

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

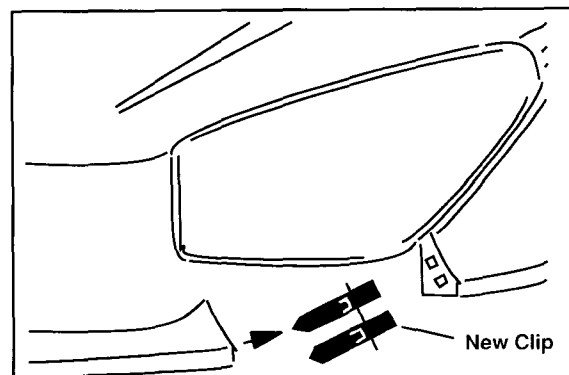
Repair Procedure

1. Remove the radiator grille.
2. Remove the front end panel.



NOTE:

There is a new style clip used to hold the outer edges of the front end panel to the fenders. Use a nylon pry tool or taped screwdriver to hold the two panels apart while you **LIGHTLY** depress the two tabs on the plastic retainer.



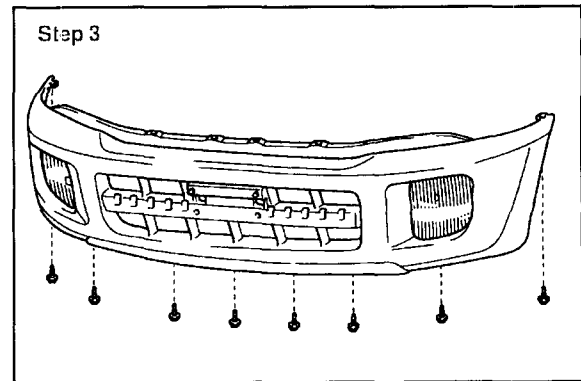
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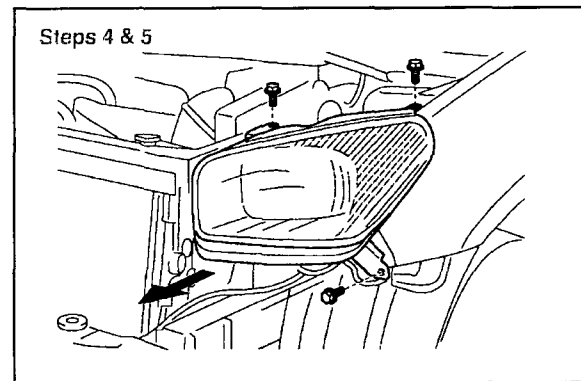
Page 1 of 2

**Repair
Procedure**
(Continued)

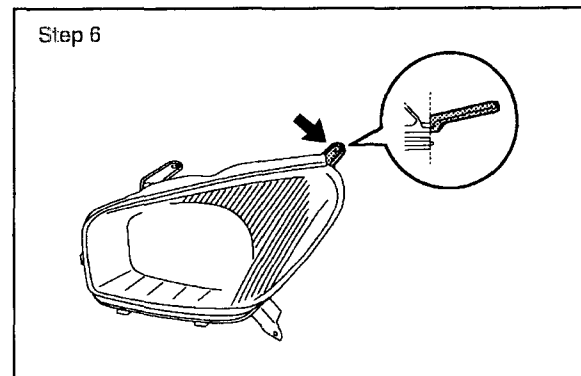
3. Remove the front turn signal/fog lamp assemblies and then remove the front bumper cover.



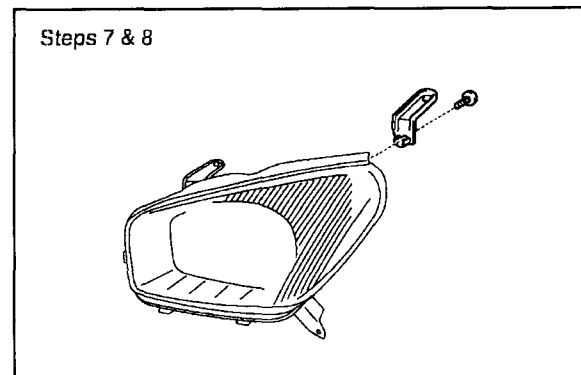
4. Remove the 3 screws retaining the headlight assembly.
5. Disconnect the electrical connectors and remove the headlight assembly from the vehicle.



6. Cut the damaged tab from the headlight assembly at the base of the tab as shown.



7. Attach the replacement tab/bracket to the back of the headlight assembly using the provided screw as shown.
8. Reinstall the headlamp(s) and the front bumper cover in the reverse order of the removal instructions.





Technical Service BULLETIN

April 24, 1998

Title: COWL TOP VENTILATOR LOUVER

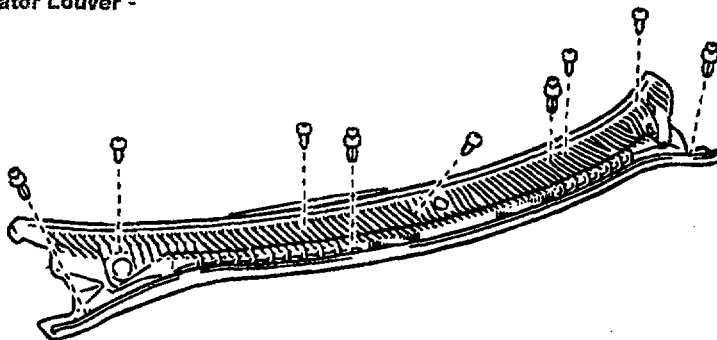
Models:
'96 & '97 RAV4

BO009-98

BODY

Introduction To prevent snow from entering the cowl vent on 1996 and 1997 RAV4s, stainless steel mesh nets have been added to the cowl top ventilator louver.

Cowl Top Ventilator Louver -



Affected Vehicles • 1996 and 1997 RAV4.

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
55708-42040	55708-42050	Louver Sub-Assembly, Cowl Top Ventilator

Warranty Information

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
BD8003	R&R Cowl Top Ventilator Louver	0.5	55708-42040	66	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 complaint.

Repair Procedures

Replace the Cowl Top Ventilator Louver per the Repair Manual procedures.

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TOYOTA

Technical Service BULLETIN

March 23, 2001

Title:

NEW SEAT BELT TONGUE PLATE STOPPER SERVICE PARTS

Models:

All Applicable Models

BODY
B0011-01

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.



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**Installation
Procedure****1. Preparation**

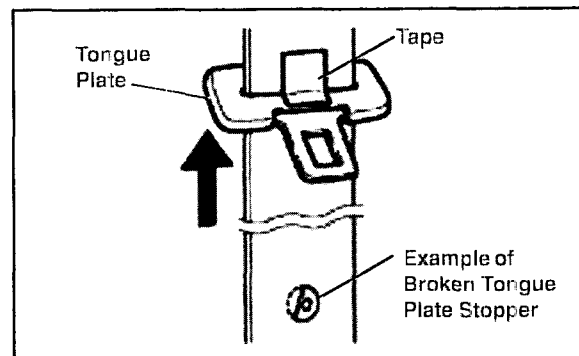
- A. Shift the Tongue Plate to the upper portion of the Tongue Plate Stopper, and temporarily hold it with a clip or tape.
- B. Remove any pieces of the original Tongue Plate Stopper in the webbing, with a pair of pliers.

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.

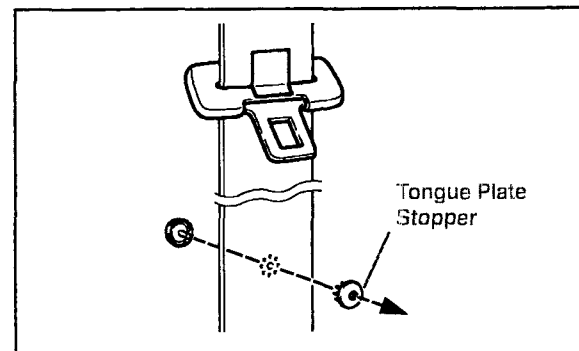
Inspect the entire length of webbing for damage and replace the assembly if needed. Be careful not to damage the webbing during repair.

**2. Install the New Tongue Plate Stopper**

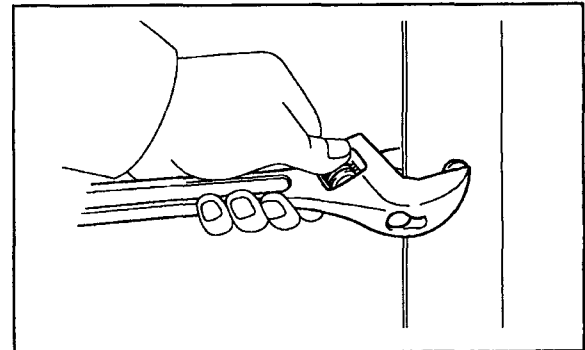
- A. Install a new Tongue Plate Stopper in the hole of the webbing.

NOTE:

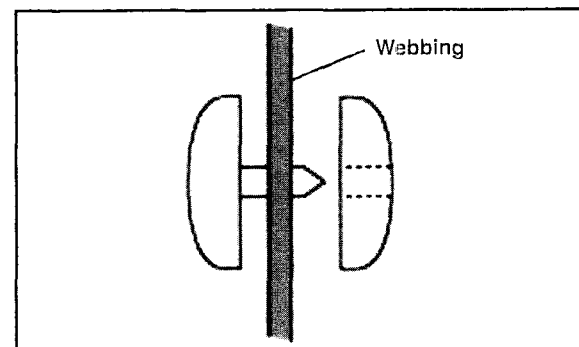
Be aware of the installation direction of the Tongue Plate Stopper as shown in the illustration.



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

**HINT:**

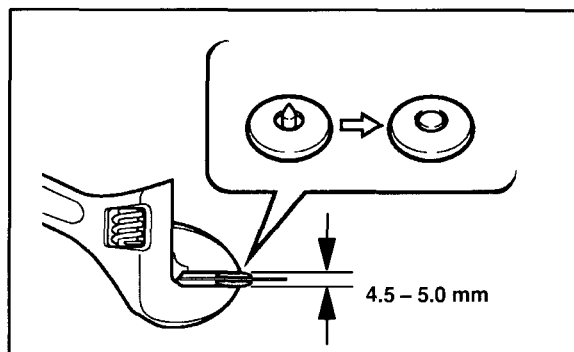
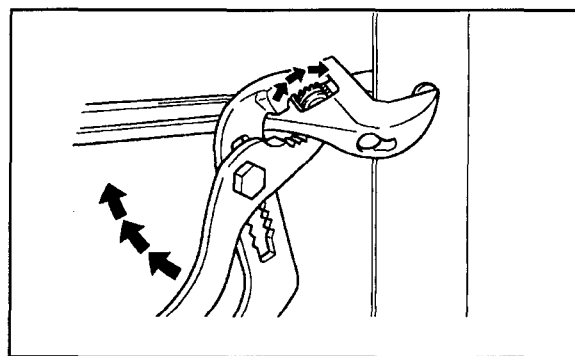
Press the adjustment screw in order to position the male and female parts of the Tongue Plate Stopper parallel to each other, as shown in illustration.

**CAUTION:**

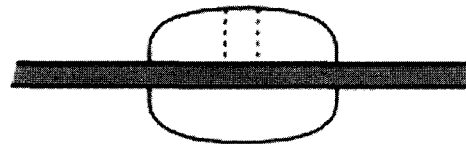
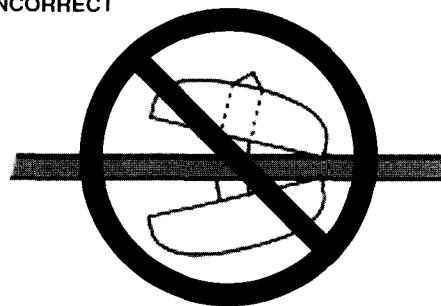
DO NOT use pliers. They may damage the webbing.

**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.)

CORRECT**INCORRECT**



Technical Service BULLETIN

July 12, 2006

Title:

TSB

GLOVE COMPARTMENT INOPERATIVE OR NOTCHY/STICKY FEELING

Models:

'06 RAV4

BODY
B0012-06

Introduction Some 2006 model year RAV4 vehicle customers may experience a condition where the glove compartment will not open properly or has a notchy or sticky feeling when operating. An improved glove compartment door lock sub-assembly is now available as a separate serviceable part to correct this condition.

- Applicable Vehicles**
- **2006** model year **RAV4** vehicles produced **BEFORE** the Production Change Effective VINs shown in this TSB.

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
55506-42011-B0	Same	Lock Sub-assembly, Glove Compartment Door	1
55506-42011-B1	Same		1
55506-42011-E0	Same		1

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
BD5028	R & R Glove Compartment Door Sub-assembly	0.2	55506-42011-##	9A	83
Combo A	R & R Glove Compartment Door Lock Sub-assembly	0.2		9A	52

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.



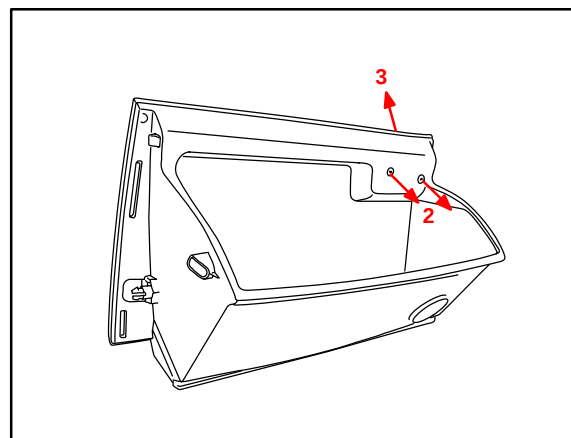
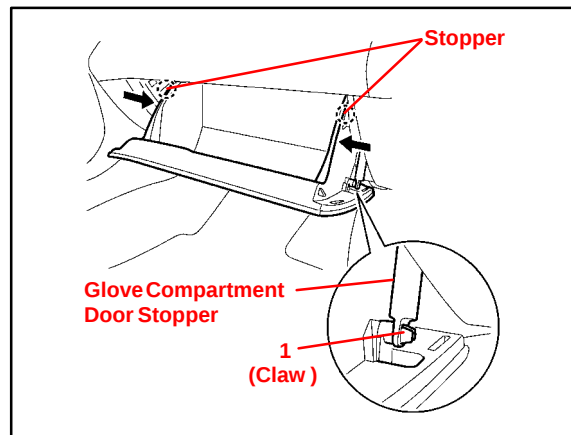
Production
Change
Information

MODEL	PLANT	ENGINE	DRIVETRAIN	GRADE	PRODUCTION CHANGE EFFECTIVE VIN
RAV4	Tahara	L4	2WD	Base	JTMZD33V#65024287
					JTMZD35V#65024287
				Sport	JTMZD32V#65024287
				Limited	JTMZD31V#65024287
					JTMZD34V#65024287
		V6	2WD	Base	JTMZK33V#65003787
					JTMZK35V#65003787
				Sport	JTMZK32V#65003787
				Limited	JTMZK31V#65003787
					JTMZK34V#65003787
		L4	4WD	Base	JTMBD33V#65038610
					JTMBD35V#65038610
				Sport	JTMBD32V#65038610
				Limited	JTMBD31V#65038610
					JTMBD34V#65038610
		V6	4WD	Base	JTMBK33V#65008687
					JTMBK35V#65008687
				Sport	JTMBK32V#65008687
				Limited	JTMBK31V#65008687
					JTMBK34V#65008687
	Shokki	L4	2WD	Base	JTMZD33V#66015234
				Sport	JTMZD32V#66015234
				Limited	JTMZD31V#66015234
		V6	2WD	Base	JTMZK33V#66001927
				Sport	JTMZK32V#66001927
				Limited	JTMZK31V#66001927
		L4	4WD	Base	JTMBD33V#66017175
				Sport	JTMBD32V#66017175
				Limited	JTMBD31V#66017175
		V6	4WD	Base	JTMBK33V#66006821
				Sport	JTMBK32V#66006821
				Limited	JTMBK31V#66006821

Repair Procedure

Remove and replace the glove compartment door lock sub-assembly by following the Repair Procedure.

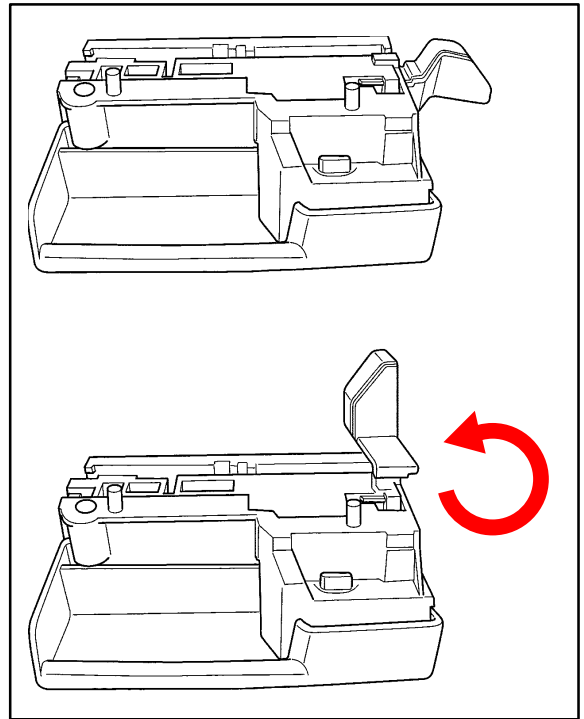
1. Remove the glove compartment from the vehicle.
 - A. Open the glove compartment and remove the door stopper from the outside panel by depressing the claw and sliding the stopper off. (Refer to “1” in the illustration.)
 - B. Press in on the glove compartment as indicated by the arrows to release the stop tabs.
 - C. Pull the glove compartment toward you releasing it from the two (2) hinge points.
2. Remove the latch from the glove compartment door.
 - A. Remove the two (2) Phillips-head screws from the inside panel of the glove compartment door. (Refer to “2” in the illustration.)
 - B. Pull the latch out toward the front to release. (Refer to “3” in the illustration.)

**NOTE:**

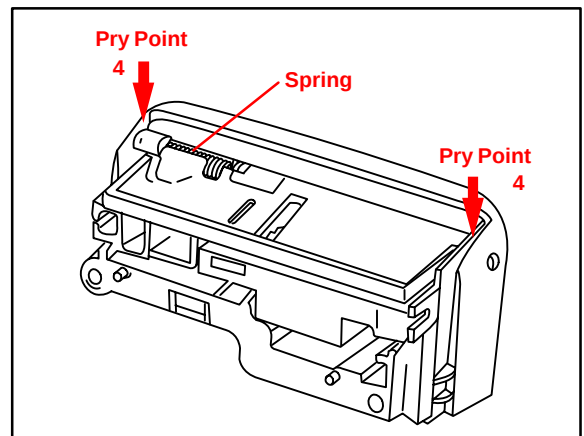
Be careful pulling the latch out. It is connected to the release arms on either end and may be difficult to remove.

**Repair
Procedure**
(Continued)

3. Remove the glove compartment slide from the latch.
 - A. While looking at the back of the latch, pivot the slide 90° until it is perpendicular to the latch.
 - B. Pull the slide straight up.



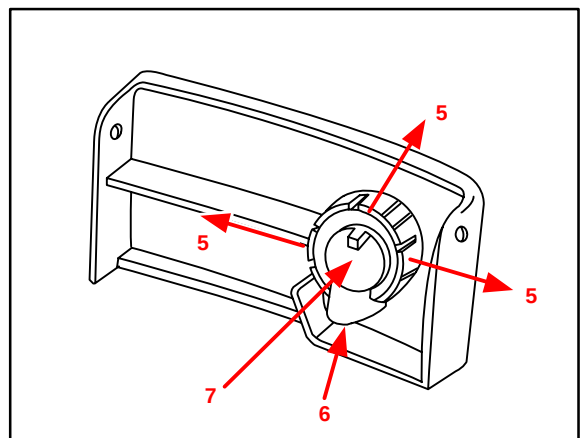
4. Remove the lock cylinder from the latch assembly cover.
 - A. Remove the latch cover on the front of the latch assembly.
 - B. Using a flathead screwdriver, pry in the inside of either end of the latch cover and pull the cover off. (Refer to “4” in the illustration.)



NOTE:

Take care **NOT** to lose the spring found behind the latch cover. This spring is necessary for reassembly.

- C. Looking at the back of the lock cylinder, push out the three tabs. (Refer to “5” in the illustration.)
 - D. While pushing on the three tabs, slide the gold tab up (refer to “6” in the illustration) and push on the lock cylinder forcing it out. (Refer to “7” in the illustration.)



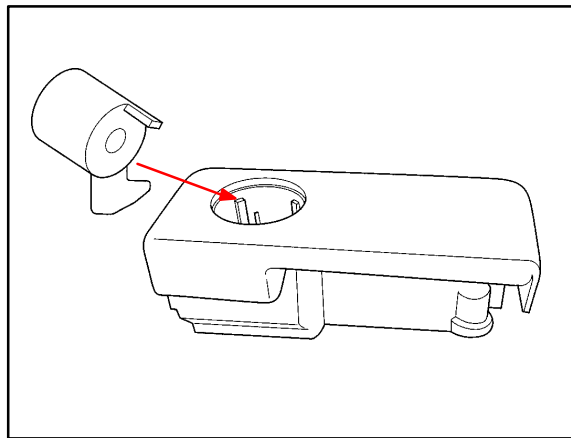
NOTE:

Placing slight pressure on the key cylinder during the release of the tabs will assist in keeping the tabs spread apart.

**Repair
Procedure**
(Continued)

5. Reinstall the lock cylinder in the NEW latch assembly cover.

With the gold tab facing down, insert the lock assembly into the NEW latch assembly cover and press firmly until a “pop” sound is heard.



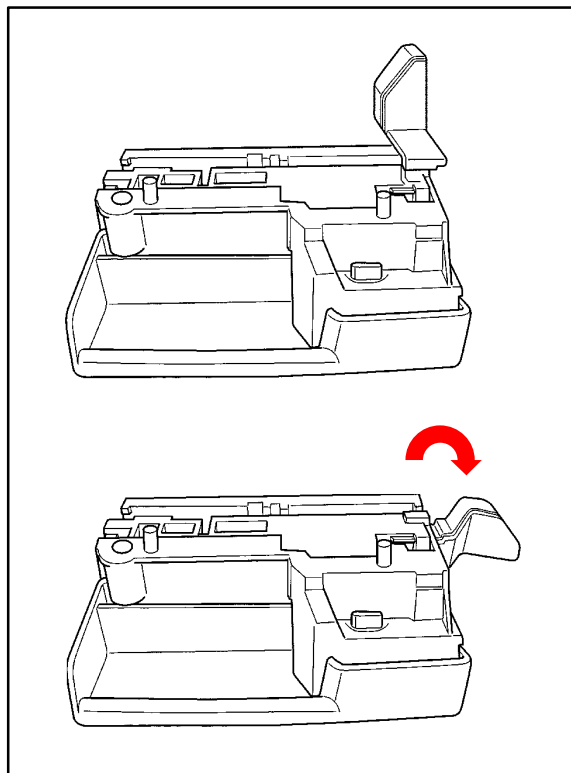
6. Reinstall the NEW latch assembly into the glove compartment.

- A. Reinstall the glove compartment slide into the latch assembly by pressing the ball end straight down into the latch assembly.

NOTE:

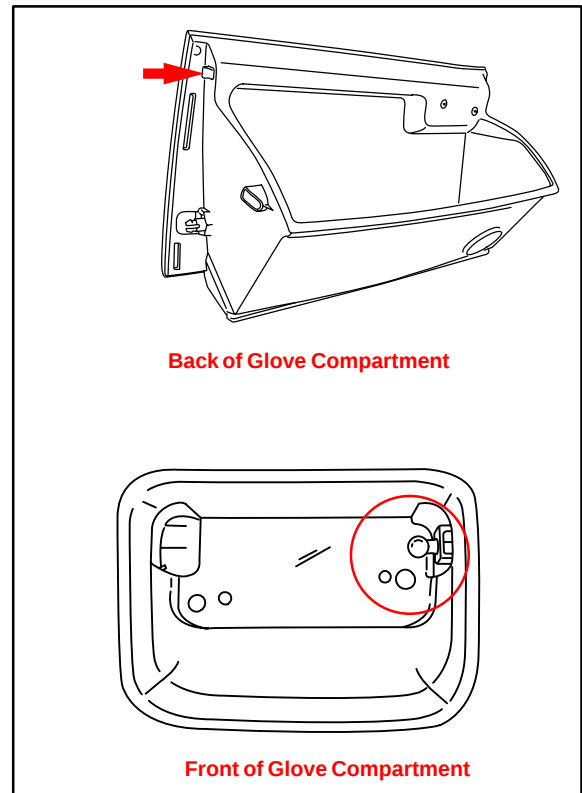
Ensure the ramp portion is facing the correct direction. If it is NOT facing the correct direction the glove compartment will NOT operate properly.

- B. Rotate the slide down so it is parallel with the latch assembly.



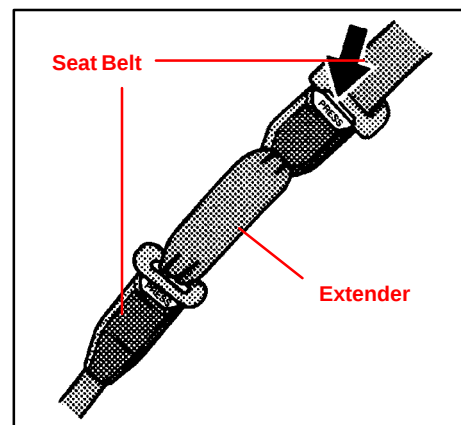
**Repair
Procedure**
(Continued)

- C. Press in on the glove compartment slide located in the glove compartment assembly so the ball end of the slide is visible.
 - D. Insert the latch assembly into the glove compartment and press down until a “pop” sound is heard.
 - E. Reinstall the two (2) screws in the back of the glove compartment assembly.
- 7. Reinstall the glove compartment in the vehicle.
 - 8. Reattach the glove compartment door stopper.
 - 9. Confirm the glove compartment operates smoothly and the key cylinder is functional.



Introduction Toyota and Scion 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 or Scion 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 an order through **Dealer Daily**.

The dealership service department should complete the affixed Seat Belt Extender Customer Information Label on the part and review the "Owner Instructions" (page 7) with the customer. The dealership should give a copy of the completed worksheet and Owner Instructions to the customer and keep the originals 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 – 5
Part Number Information	Page 6
Owner Instructions	Page 7
Seat Belt Extender Worksheet	Page 8

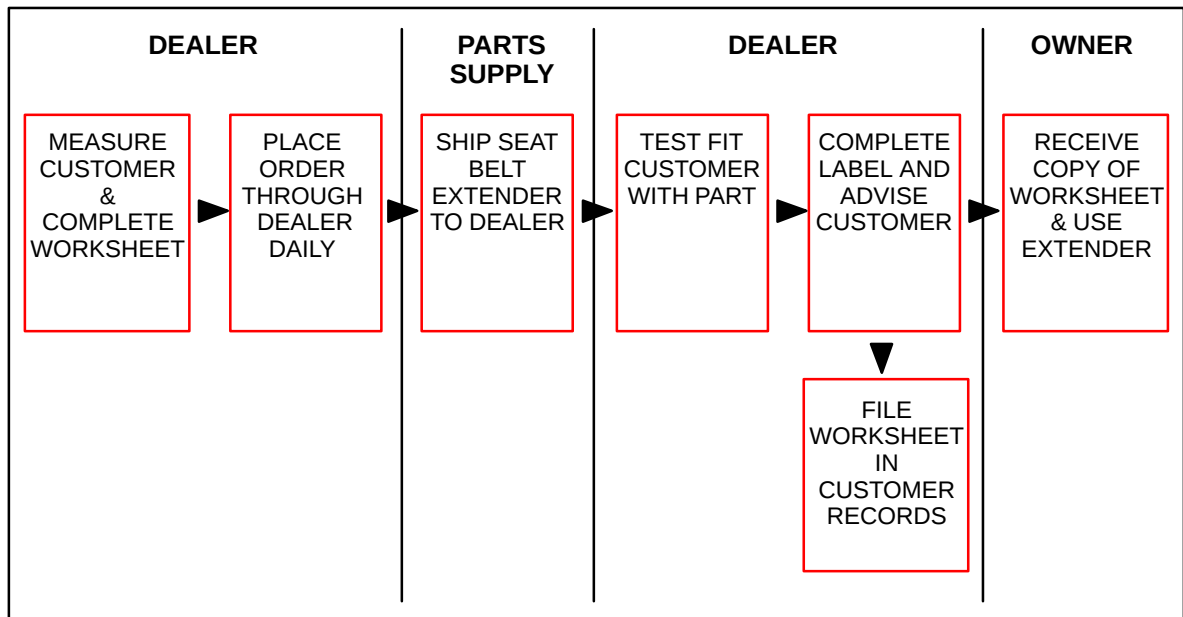
**Applicable
Vehicles**

- **2006** model year **Toyota** and **Scion** vehicles.

**Warranty
Information**

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

- Procedure**
1. Customer 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 an order for the part through Dealer Daily.
 4. Dealer receives Seat Belt Extender and calls the customer to check the 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.

**Sienna Front
Seat Belt
Extender
Applications**

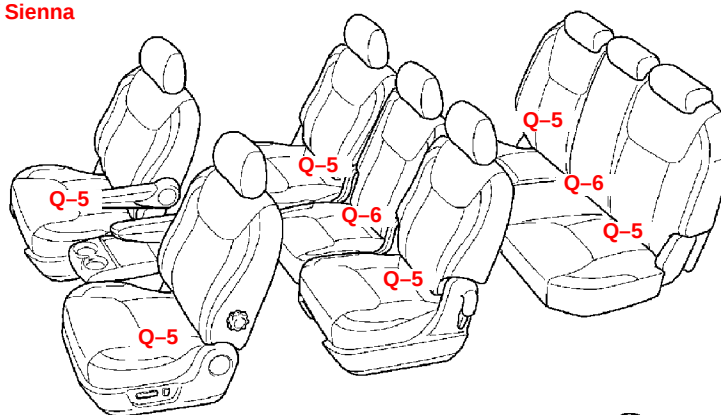
FRONT SEAT – EXTENDER APPLICATION		
MODEL	TYPE	2006
Sienna	All Models	Q-5

**Sienna Rear
Seat Belt
Extender
Applications**

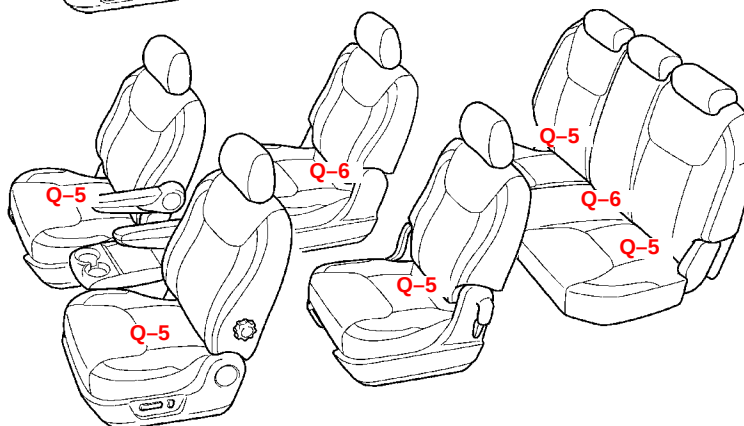
REAR SEAT – EXTENDER APPLICATION		
MODEL	TYPE	2006
Sienna	Rear Seat 2nd Row RH – 7 Passengers	Q-6
	Rear Seat 2nd Row RH – 8 Passengers	Q-5
	Rear Seat 2nd Row & 3rd Row Center Seat	Q-6
	Rear Seat 2nd Row & 3rd Row Right/Left Side	Q-5

Example of 2006 MY Sienna

8 Passengers



7 Passengers



**Front Seat
Belt Extender
Applications**

TOYOTA FRONT SEAT – EXTENDER APPLICATION		
MODEL	TYPE	2006
4Runner	All Models	K–6
Avalon		K–6
Camry		R–6
Corolla		Q–5
Highlander		R–6
Highlander HV		R–6
Land Cruiser		K–6
Matrix		Q–5
Prius		R–6
RAV4		R–6
Sequoia		R–7
Solara		Q–5
Tacoma	Bench Type Front Seat	R–7
	Separate Type Front Seat	Q–5
Tundra	All Models	R–7

SCION FRONT SEAT – EXTENDER APPLICATION		
MODEL	TYPE	2006
Scion tC	All Models	K–6
Scion xA		R–6
Scion xB		R–6

**Rear Seat
Belt Extender
Applications**

TOYOTA REAR SEAT – EXTENDER APPLICATION		
MODEL	TYPE	2006
4Runner	Without 3rd Row Seat	R–6
	With 3rd Row Seat	K–5
Avalon	All Models	T–1
Camry		Q–4
Corolla		Q–5
Highlander		R–6
Highlander HV		R–6
Land Cruiser		K–5
Matrix		T–1
Prius		R–6
RAV4		R–6
Sequoia	Rear Seat #1	T–1
	Rear Seat #2	Q–5
Solara	All Models	N–7
Tacoma	Xtracab	T–1
	Double Cab	T–1
Tundra	Access Cab	Q–5
	Double Cab	Q–5

NOTE:

A seat belt extender must NOT be used for the center rear seat belt except for 2006 model year Sienna.

SCION REAR SEAT – EXTENDER APPLICATION		
MODEL	TYPE	2006
Scion tC	All Models	K–5
Scion xA		R–6
Scion xB		R–6

NOTE:

A 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
K–5	–35010	–35020	–35030	–35040	–35050
K–6	–35060	–35070	–35080	–35090	–35100
N–7	–47010	–47020	–47030	–47040	–47050
Q–4	–0W010	–0W020	–0W030	–0W040	–0W050
Q–5	–AE010	–AE020	–AE030	–AE040	–AE050
Q–6	–AE061	–AE071	–AE081	–AE091	–AE101
R–6	–35110	–35120	–35130	–35140	–35150
R–7	–48010	–48020	–48030	–48040	–48050
T–1	–01110	–01120	–01130	–01140	–01150

**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.

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

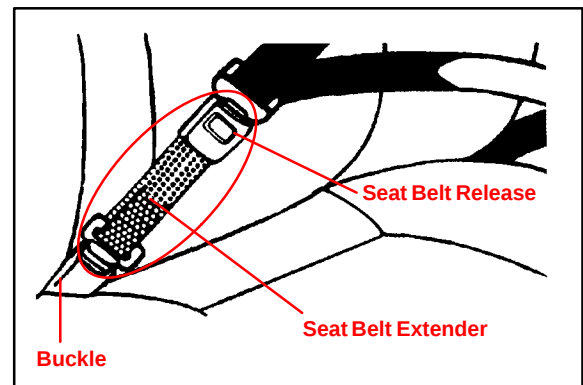
Please visit your local Toyota or Scion dealer so that the dealer can order the proper required length extender. Bring the heaviest coat you expect to wear for proper measurement and selection of length. Additional ordering information is available at your Toyota or Scion dealer.

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

To connect the extender to the seat belt, insert the tab into the seat belt buckle so that 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 not in use, remove the extender and store in the vehicle for future use.

**CAUTION:**

On vehicles equipped with SRS – Occupant Classification System (OCS)*, it is critical that the extender tab be buckled into the buckle **AFTER** the occupant sits down in the seat.

Leaving extender installed in the buckle before sitting down will cause the OCS to be in the “airbag off” or disarmed state.

* OCS will enable or disable the passenger front and side airbags based on passenger weight and seat belt latch position classifying the passenger as a child or adult.

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.

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:
 - By the person for whom it was provided.
 - 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

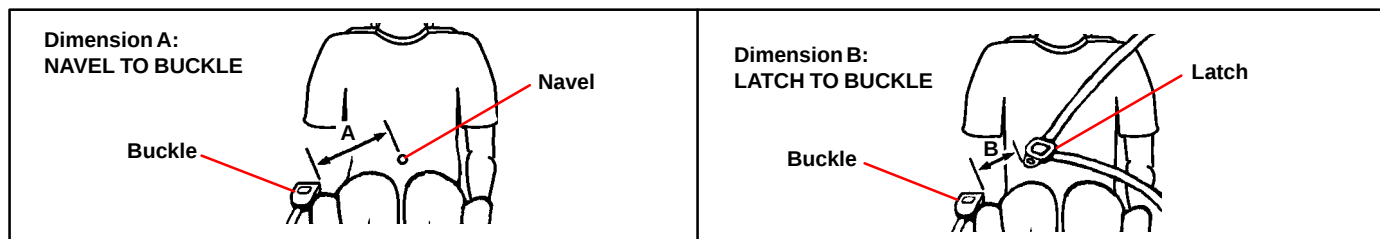
- Place the seat in the position the applicant normally uses.
- With the applicant in the seat, wearing the thickest coat expected to be worn, pull belt all the way out and try to buckle belt.
 - If belt latches into buckle and feels comfortable against upper chest area, an extender is not needed.
 - If belt does not buckle, continue with Step 3.
 - If buckle latches but belt has no slack remaining, continue with Step 3.
- Measure distance between applicant's navel and seat belt buckle (Dimension A) and enter on Worksheet.
- 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.
- Subtract Dimension B from Dimension A and record number in Check Number box on Worksheet.
- 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.

CAUTION:

On vehicles equipped with SRS – Occupant Classification System (OCS), it is critical that the extender tab be buckled into the buckle AFTER the occupant sits down in the seat.

Leaving extender installed in the buckle before sitting down will cause the OCS to be in the “airbag off” or disarmed state.



SEAT BELT EXTENDER CALCULATION

DIMENSION A:	DIMENSION B:	CHECK NUMBER:
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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.
- Applicant's Signature: _____ Date: _____
(Actual user of Seat Belt Extender)

TSB UPDATE NOTICE:

The information contained in this TSB supercedes TSB No. BO025-97.
 TSB No. BO025-97 is now obsolete and should be discarded.

Introduction Beginning in 1998, Toyota introduced side airbags as optional equipment.

Toyota does **NOT** recommend replacement of original seat covers* with non-Toyota leather or other seat cover materials on vehicles due to the following:

- Seat covers NOT recommended by Toyota may affect side airbag performance, in general or in part, during an accident.
- Modifications that negatively affect side airbag performance can result in severe occupant injuries.
- Seat covers are an integral part of this safety system. Replacing fabric seat covers* with non-Toyota leather or other seat cover materials may compromise the effectiveness of this safety system.
- The design of the seat is complex, integrating safety and strength with comfort and luxury.

***NOTE:**

Toyota original seat covers that were NOT designed for side airbag equipped seats cannot be used due to the effect on proper airbag performance.

Toyota strongly discourages modifying original equipment seats that have optional side airbags.

Additionally, Toyota strongly advises against the installation or use of aftermarket seat covers, which could impair the performance of the side airbags in the event of an accident.

Applicable Vehicles

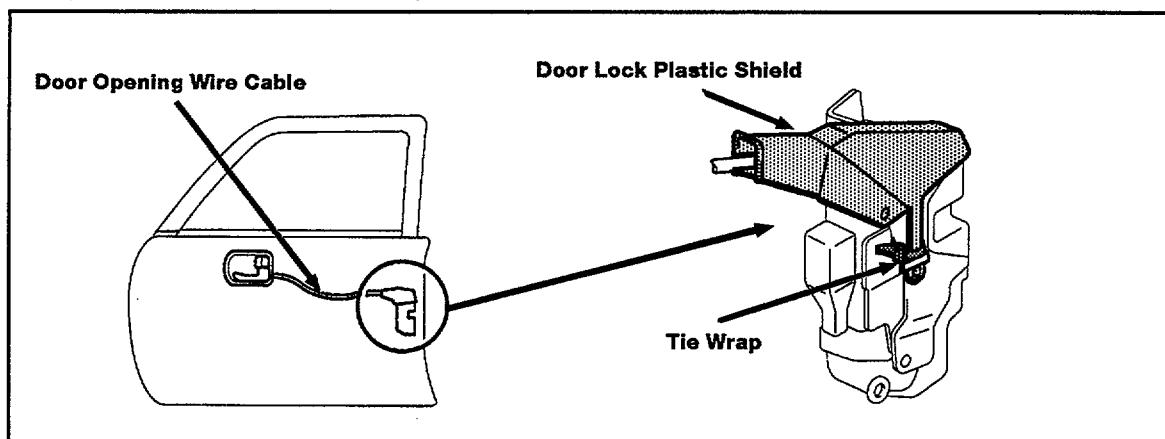
- All **1998 – 2006** model year **Toyota** and **Scion** vehicles equipped with **side airbags**.

Warranty Information

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



Introduction To enhance front door lock operation and promote water proofing of 1996 and 1997 MY RAV4 door locks, Toyota has added a wire cable door lock plastic shield. The new door lock plastic shield covers the top of the latch mechanism.



Affected Vehicles • 1996 and 1997 Model Year RAV4s.

**Parts
Information**

NEW PART NUMBER	PART NAME	QTY
69031-42010	Cover Set, Door Lock , RH (3 Door)	1
69031-42020	Cover Set, Door Lock , RH (5 Door)	1
69032-42010	Cover Set, Door Lock , LH (3 Door)	1
69032-42020	Cover Set, Door Lock , LH (5 Door)	1

Set contains (1) each of the following:

- Door Lock Plastic Shield
- Tie Wrap
- Door Opening Wire Cable

**Warranty
Information**

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
EL7001	R&R front door lock assembly (both sides)	1.1	69030-420XX (RH)	66	73
			69310-420XX (RH)		
			69040-420XX (LH)		
			69320-420XX (LH)		

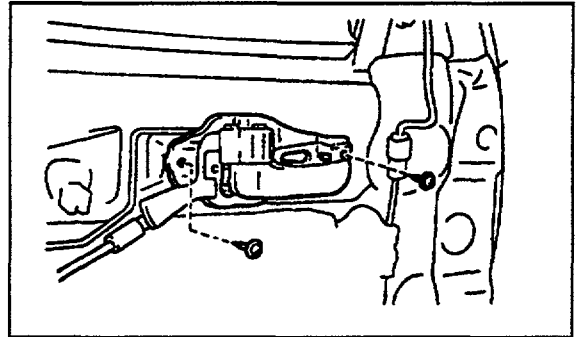
Index • **046934**

**Repair
Procedures****NOTE:**

Remove and replace both Front Door Lock Assemblies (RH and LH) when performing this Service Repair Procedure.

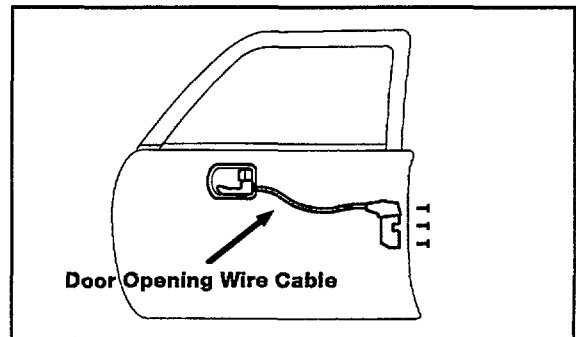
1. Remove interior door trim panel. (Refer to Repair Manual, Page BO-12 and BO-13 for detailed procedures.)

2. Remove inside door handle (2 screws).



3. Remove the (3) door latch attaching screws (Repair Manual pg. BO-13).

4. Slide door latch mechanism forward to gain access to door opening wire cable end.

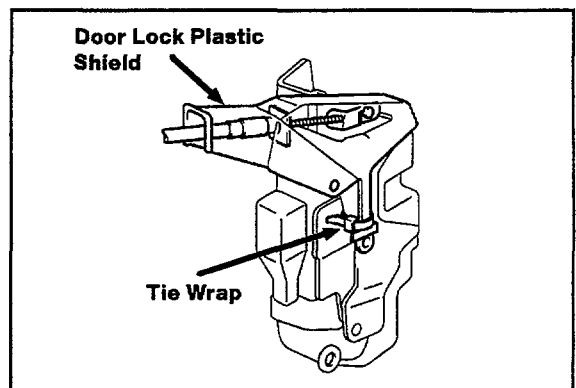


5. Replace door opening wire cable.

6. Attach plastic door lock plastic shield using tie wrap.

NOTE:

Removal of the latch assembly is required to install the Tie Wrap and Door Lock Plastic Shield.



7. Reinstall interior door trim panel.



Technical Service BULLETIN

May 4, 2001

Title:

BLACKOUT TAPE APPLICATION

Models:

'01 RAV4

BODY
BO015-01

Introduction Blackout tape is used instead of black paint on the door sash of the 2001 RAV4. Resistant polyvinyl chloride has been applied to the tape, giving it the same level of weather resistance as high quality paint. Please use the following instructions to apply the blackout tape.

Applicable Vehicles

- 2001 model year **RAV4** vehicles.

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
75921-42020	Blackout Tape No. 1 RH	Front Door Upper Surface
75922-42020	Blackout Tape No. 1 LH	
75923-42020	Blackout Tape No. 2 RH	Front Door Vertical Surfaces
75924-42020	Blackout Tape No. 2 LH	
75941-42010	Center Pillar Stripe RH	Center Pillar
75942-42010	Center Pillar Stripe LH	
75987-42010	Rear Door Outside Stripe RH	Rear Door Upper Surface
75988-42010	Rear Door Outside Stripe LH	
75925-42010	Blackout Tape No. 3 RH	Rear Door Vertical Surfaces Front
75926-42010	Blackout Tape No. 3 LH	
75977-42010	Rear Door Outside Stripe Lower RH	Rear Door Vertical Surfaces Rear
75978-42010	Rear Door Outside Stripe Lower LH	

Required Tools & Material

TOOLS & MATERIALS	QUANTITY
Squeegee (3M PA-1 or Equivalent)	1
Magnet	As Needed

Warranty Information

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

Index # 055158



Toyota Supports ASE Certification

**Vehicle
Preparation
Procedure**

Clean the paint surface with a wax, grease and silicone remover following the instructions on the label of the cleaner you choose to use.

NOTE:

The presence of wax, grease or silicone on the painted surfaces will prevent the tape from adhering properly.

NOTE:

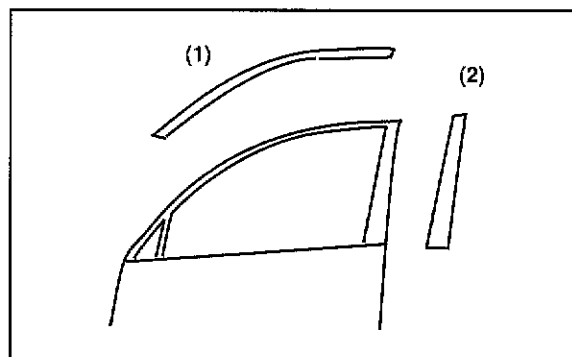
For easier application, the ambient temperature of the body surface and the surrounding area should be between 60° – 90°F.

- The tape is easily stretched. Do not pull it too hard when attaching.
- Shocklines are not apparent as those created by tape with a clear layer. The tape can therefore be removed and reattached to certain extent without damage.

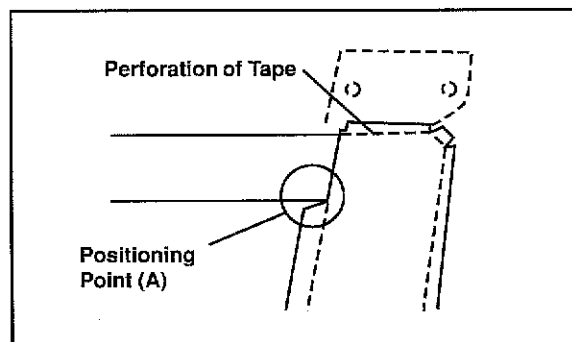
**Application
Procedure**

When replacing the blackout tape on the front door, the vertical piece (2) is applied first with the upper surface (1) applied second, slightly overlapping the vertical piece. Therefore if the vertical piece of tape (2) needs to be replaced, the upper tape (1) will also have to be replaced.

1. Remove the door trim panel, outside rear view mirror and belt molding following the instructions on pages BO-9 & BO-10 in the 2001 RAV4 Repair Manual.
2. Pull the door glass run away from the door window frame, but do not completely remove it from the door.

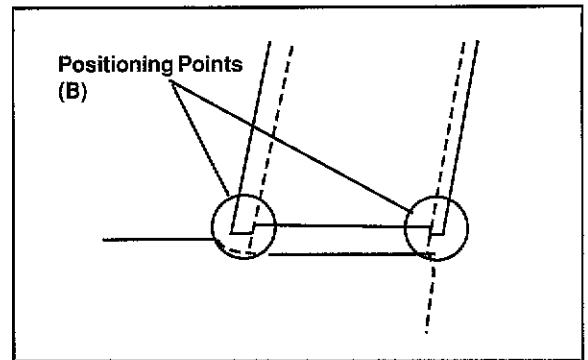
**Front Door Outer Vertical Surfaces**

1. Cut off the excess section of black out tape at the perforated line. Now position the tape against the door as follows:
 - A. Hold the tape against the door sash using point (A) as a reference point.



Application Procedure (Continued)

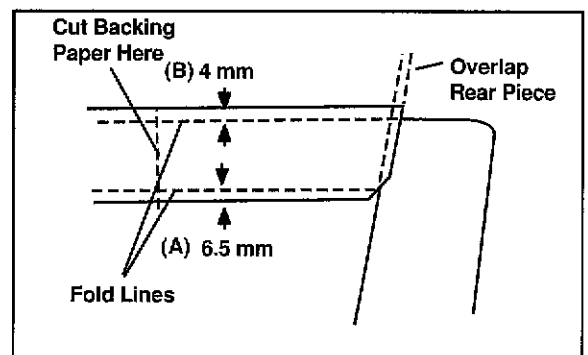
- B. Hold the lower part of the tape to the positioning points (B), and hold it in place with clips or magnetic plate.
2. Cut the separating paper at the top part of tape approximately 80 mm from the top edge, and attach the tape temporarily.
3. Remove the remaining backing paper in a top down direction, and attach the tape. After this, apply pressure twice to the whole area using a squeegee.
4. After applying heat to the rear upper corner with a hair dryer or heat gun, fold it over the corner of the door.
5. Remove bubbles or wrinkles.



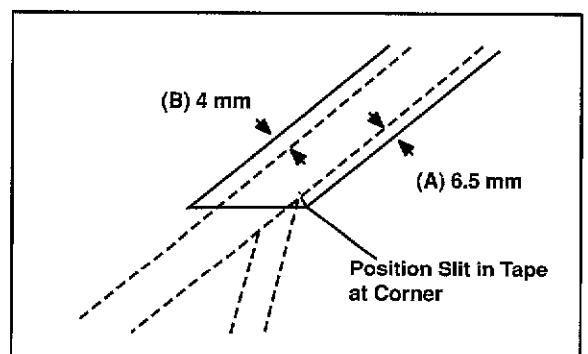
Front Door Outer Upper Surface

1. Attach blackout tape to the door sash with clips or magnets.

- A. At the rear of the door, set the tape position carefully according to the diagram, ensuring fold (A) is 6.5 mm and fold (B) is 4.0 mm in width.



- B. At the front of the door, align the slit in blackout tape to the intersection of the sash and the door mirror bracket. Position the tape so that fold (A) is 6.5 mm and fold (B) is 4.0 mm in width, and hold the tape in place with a clip or magnetic plate.
2. Remove a small piece of the separating paper at the rear of the door in a rearward direction from the cut line, and attach the tape temporarily.

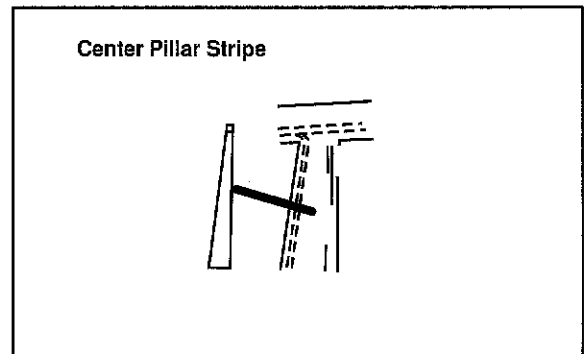


**Application
Procedure**
(Continued)

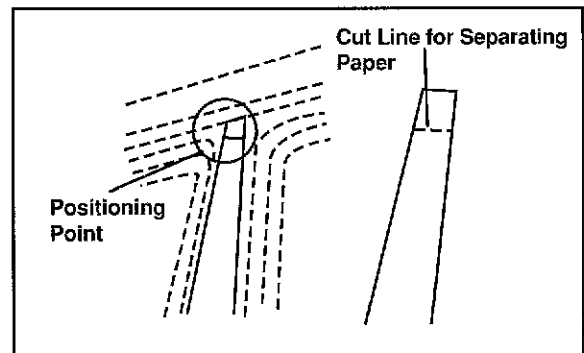
3. Remove the remaining separating paper in a forward direction, and attach the tape. After this, apply pressure twice to the whole area, including the temporarily attached portion.
4. Fold tape over the edges of the door sash and apply pressure.
5. Remove bubbles and wrinkles.

B-Pillar

1. Fit the blackout tape to the attaching position.

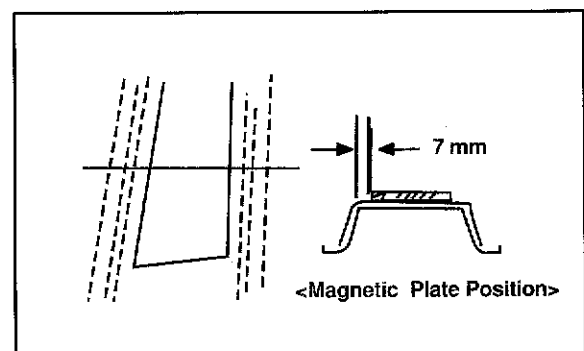


- A. Position the tape by aligning the top edge of the tape to the top of the pillar just before it bends into the roof line.



- B. Set the blackout tape 7 mm from the forward edge of the B-Pillar. Once the blackout tape is in position, attach it temporarily with a magnetic plate.

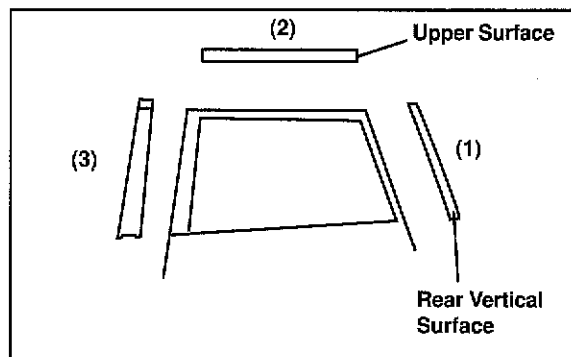
2. Remove the top section of separating paper and attach the tape temporarily.
3. Remove the remaining separating tape in a top-down direction, and attach the tape. After this, apply pressure twice to the whole area, including the temporarily attached position.
4. Remove bubbles and wrinkles.



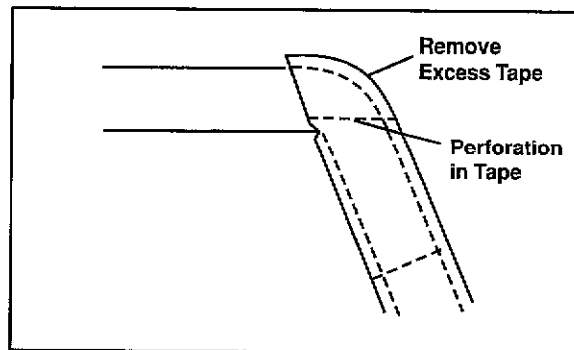
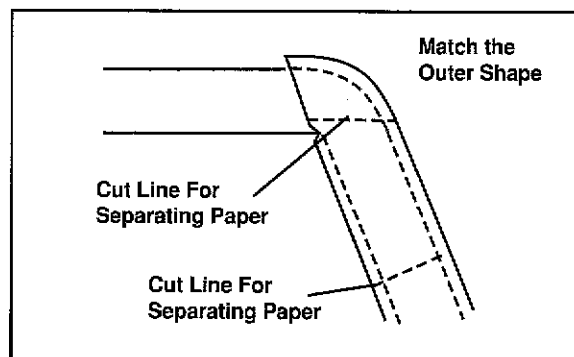
**Application
Procedure**
(Continued)

Rear Door Vertical Surfaces Rear

When replacing the blackout tape on the rear door, the vertical piece is applied first with the upper surface applied second, slightly overlapping the rear vertical piece. The front vertical piece is installed last, slightly overlapping the upper surface piece of tape. Therefore, if the rear vertical piece of tape needs to be replaced, the other two pieces of tape will also have to be replaced.



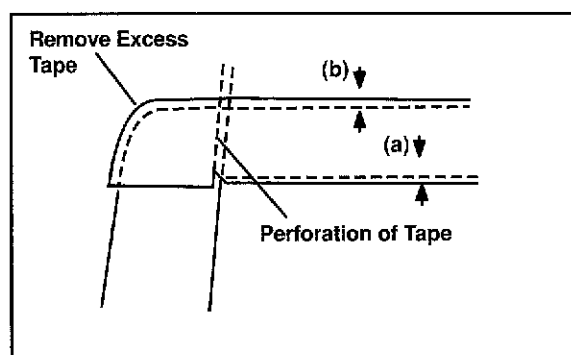
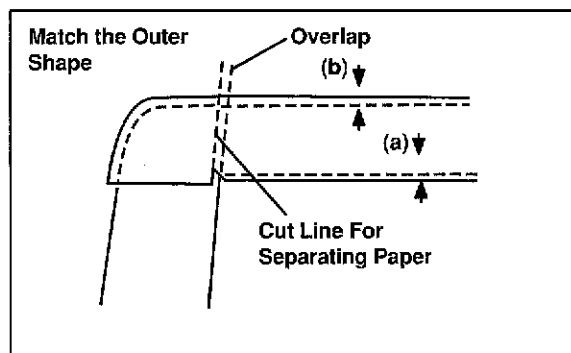
1. Remove the door trim panel, division bar, quarter window glass and door belt molding following the instructions on pages BO-17 & BO-18 in the 2001 RAV4 Repair Manual.
2. Pull the door glass run out of the way. It is not necessary to remove it completely.
3. Fit the blackout tape (1) to the attaching position.
 - For gauging the position of the top part of the tape, see diagram. Position it so that each fold is the same width, and hold it in place with a clip or magnetic plate.
4. Remove the separating paper between the two cut lines. (Do not remove the separating paper from the very top of the piece of tape. This section is only used for locating the tape and will be cut off later.) Temporarily attach the tape to the door.
5. Remove the rest of the separating paper and attach the tape. Then apply pressure twice to the whole area.
6. Place the squeegee at the top of the perforated part, and cut off the excess tape and separating paper. Press the remaining area down with the squeegee.
7. Remove bubbles and wrinkles.



**Application
Procedure**
(Continued)

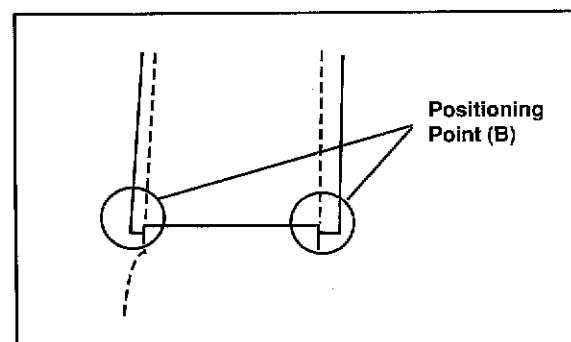
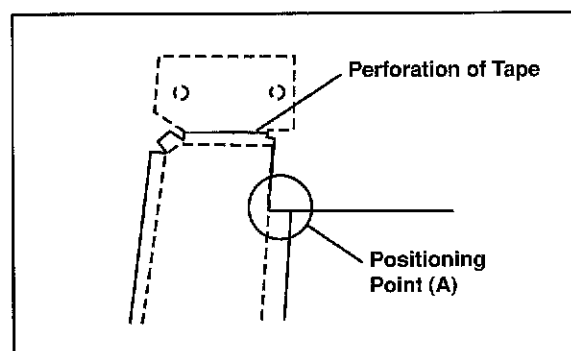
Rear Door Outer Upper Surface

1. Fit the blackout tape to the attaching position.
 - For gauging the position at the rear of the vehicle, see diagram. Position the tape so that fold (a) is 6.5 mm and fold (b) is 4.0 mm in width, and hold the tape in place with a clip or magnetic plate.
2. Remove the separating paper from the blackout tape and attach the tape temporarily.
3. Remove the remaining separating tape in a forward direction, and attach the tape. After this, apply pressure twice to the whole area, including the temporarily fixed position.
4. Now remove the excess tape used to position the tape on the door.
5. Fold the edges of the tape over the edges of the door and apply pressure with the squeegee.
6. After applying heat to the right upper corner sectioned area, fold it over.
7. Remove bubbles and wrinkles.



Rear Door Outer Vertical Surfaces Front

1. Cut the top of tape and separating paper at the perforations, and fit it to the attaching position.
 - A. Attach to the positioning point (A) on the sash as shown in the diagram.
 - B. Fit the lower part of tape to the positioning point (B), and hold it in place with clips or magnetic plate.



**Application
Procedure**
(Continued)

2. Cut approximately 80 mm of the separating paper from the top of the tape, and attach the tape temporarily.
3. Remove the remaining separating paper in a forward direction, and attach the tape. After this, apply pressure twice to the whole area, including the temporarily fixed areas.
4. Fold the edges of the tape over the edges of the door and apply pressure with the squeegee.
5. After applying heat to the right upper corner sectioned area, fold the small tabs over.
6. Remove bubbles and wrinkles.

**Inspection
Procedure**

- If there are no obvious shocklines, bubbles, or creases, and the folded parts and the upper and lower/left and right extremities are positioned correctly, the process is complete.
- If there are large bubbles (over 1 mm diameter) or obvious collection of shocklines, or if there is a series of connecting small bubbles, the tape should be replaced.



Technical Service BULLETIN

August 10, 2001

Title:

SHOULDER BELT ANCHOR TAPE SET

Models:

All Applicable Models

BODY
B0019-01

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**
- 1996–2001 model year **4Runner**^{*1} vehicles.
 - 1996–2001 model year **Land Cruiser** vehicles.
 - 1996–2001 model year **RAV4**^{*2} vehicles.
 - 2001 model year **Sequoia** vehicles.
 - 1996–1998 model year **T100** trucks.
 - 1996–2001 model year **Tacoma**^{*1} trucks.
 - 2000–2001 model year **Tundra** trucks.

^{*1} Except rear seat belt.

^{*2} Except rear seat belt of soft top models.

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.



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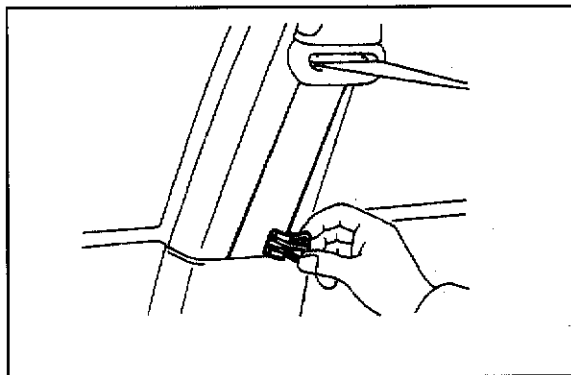
055553

Page 1 of 4

**Installation
Procedure****1. CLEAN SHOULDER BELT ANCHOR****NOTE:**

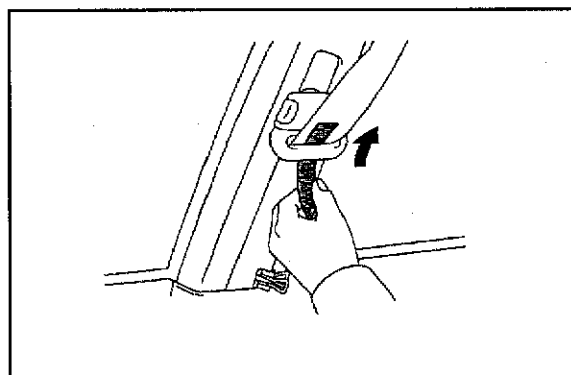
- Do not install the tape when the vehicle temperature is below the freezing point.
- Do not re-use removed fluorocarbon resin tape.

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

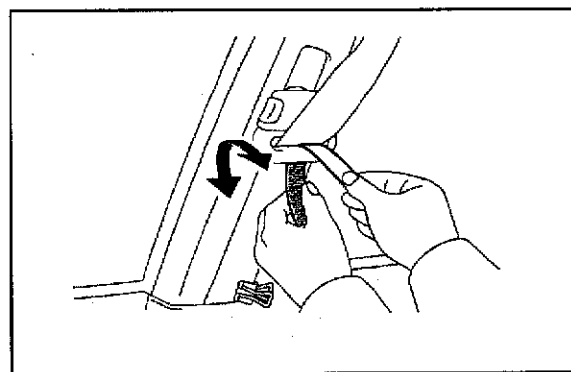
**HINT:**

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.

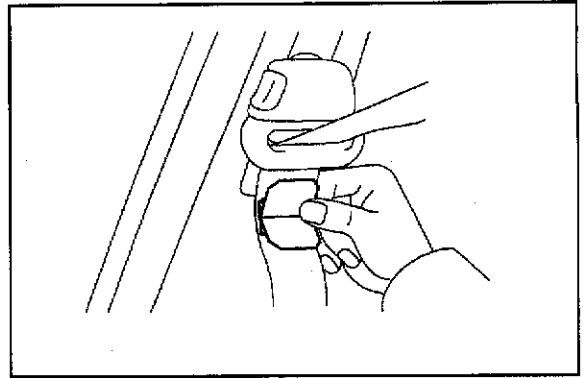
**Installation
Procedure
(Continued)**

2. INSTALL FLUOROCARBON RESIN TAPE

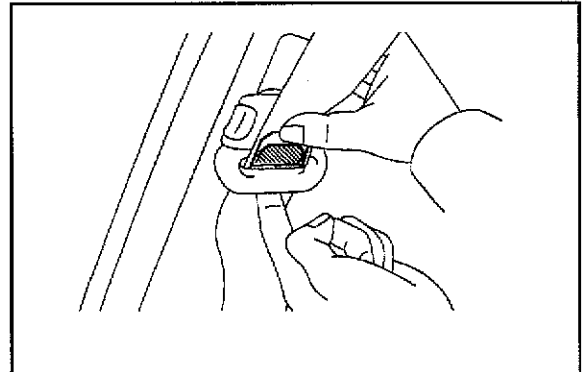
- A. Place the fluorocarbon resin tape onto the seat belt as shown in the illustration.

NOTE:

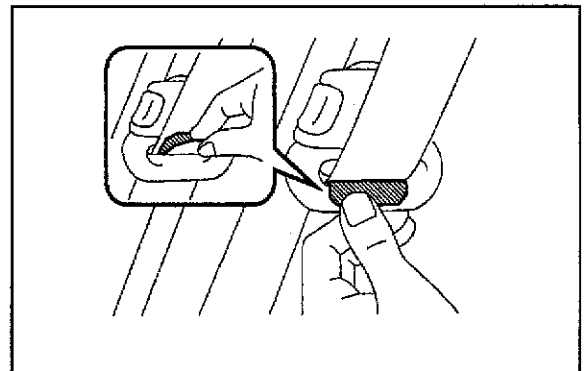
Before installation of the fluorocarbon resin tape, it is necessary to pre-release the colored film about 5 mm for each side. (Not fully released.)



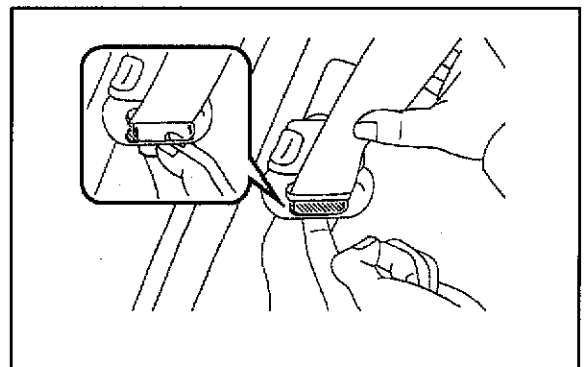
- B. By pulling up the seat belt, put the fluorocarbon resin tape through the hole of the shoulder belt anchor. Match the shoulder belt anchor to the center of the tape.



- 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)

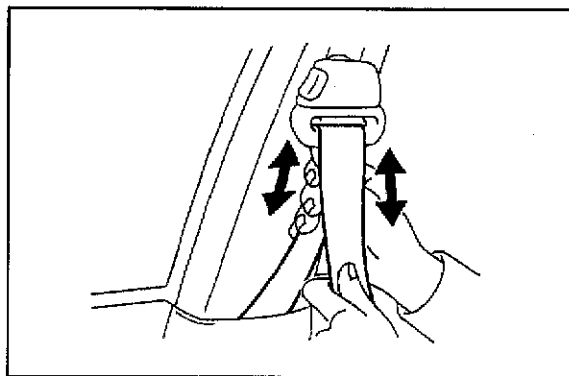
- F. By pulling the seat belt up and down several times, as shown in the illustration, securely affix the fluorocarbon resin tape and confirm the smoothness of the belt movement.

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.





Technical Service BULLETIN

August 11, 2000

Title:

SEAT BELT EXTENDER

Models:

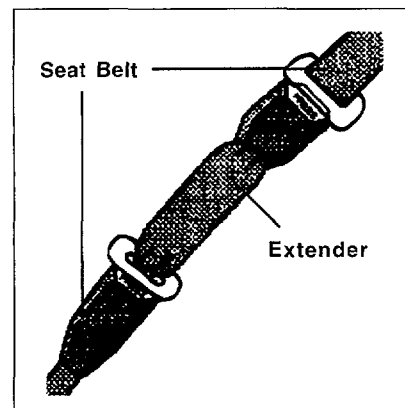
'99 - '01 Model Year

BO020-00

BODY

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.

Index # 053937

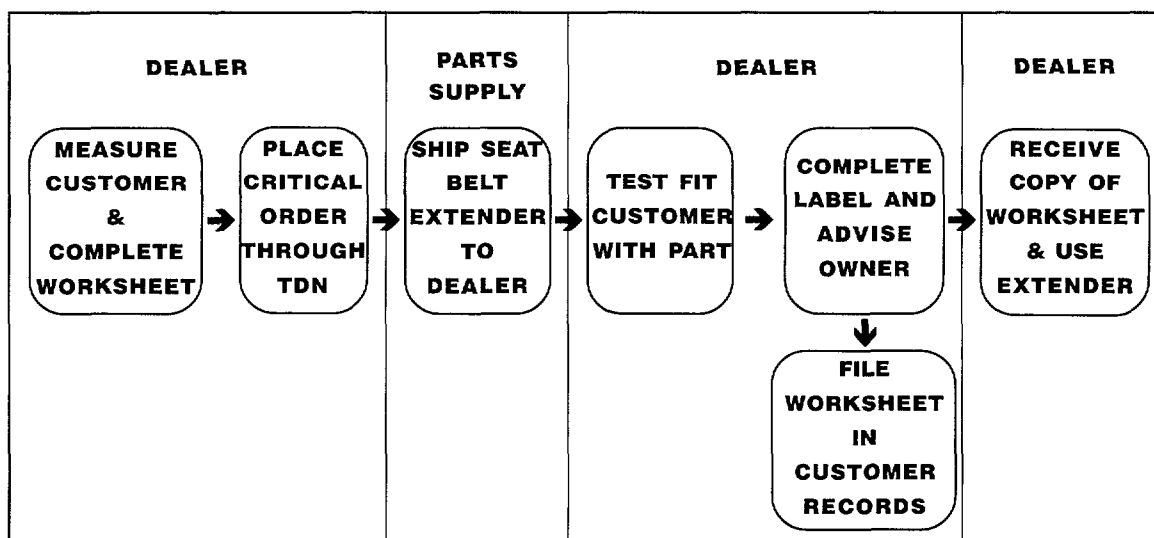
Warranty Information

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



Toyota Supports ASE Certification

- 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.

**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 *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
SEQUOIA	—	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.

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.

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
S-2	-04060	-04070	-04080	-04090	-04100
T-1	-01110	-01120	-01130	-01140	-01150

*¹ Length: 7¼"

**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.

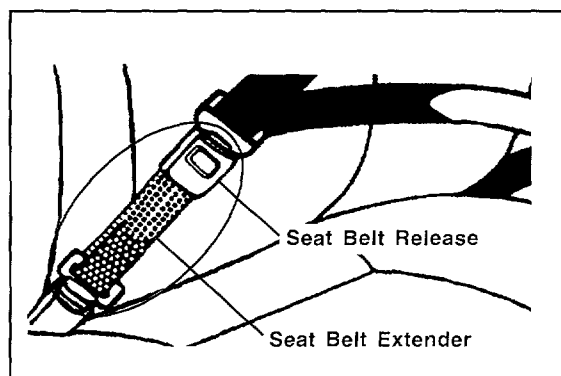
- Never use the Seat Belt Extender if you can **COMFORTABLY** fasten the seat belt without it.
- The Seat Belt Extender must never be used with any child safety seats.
- Remember that the extender provided for you may not be safe when used on a different vehicle, or for another person or at a different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



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:
 - By the person for whom it was provided.
 - 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.

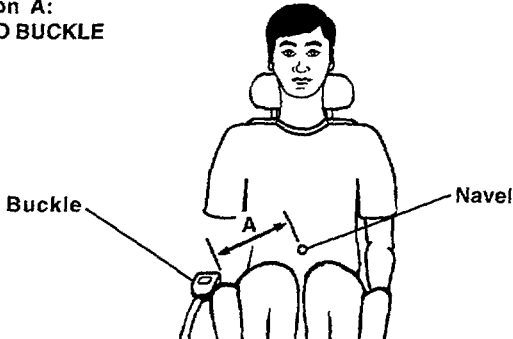
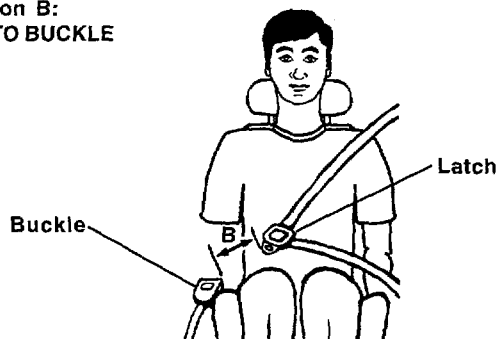
DEALER		SEAT BELT EXTENDER APPLICATION			APPLICANT	
DEALER CODE	DEALER NAME	APPLICANT NAME				
ADDRESS						
CITY & STATE		ZIP	CITY & STATE		ZIP	PHONE
EMPLOYEE NAME	MODEL YEAR	BODY TYPE	SEATING POSITION	VEHICLE IDENTIFICATION NUMBER		

DIRECTIONS FOR DETERMINING PROPER EXTENDER LENGTH

- Place the seat in the position the applicant normally uses.
- 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.
- Measure distance between applicant's navel and seat belt buckle (Dimension A) and enter on Worksheet.
- 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.
- Subtract Dimension B from Dimension A and record number in Check Number box on Worksheet.
- 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 
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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)



Technical Service BULLETIN

November 1, 2006

Title:

COWL PANEL WATER LEAK

Models:

'06 RAV4

BODY
B0021-06

Introduction Some RAV4 customers may complain of water on the passenger's side floorboard after a heavy rainstorm or when going through a carwash. Water may be traveling underneath the outer cowl panel and entering the passenger compartment through the fresh air inlet of the heater box. The following repair procedure has been made available to correct this concern.

Applicable Vehicles

- **2006** model year **RAV4** vehicles produced **BEFORE** the Production Change Effective VINs shown below.

Production Change Information

PLANT	PRODUCTION CHANGE EFFECTIVE VIN			
	WMI	VDS	VIS	
Tahara (11th digit = 5)	JTM	ZD31V#, ZD32V#, ZD33V#, ZD34V#, ZD35V#	65028328	
		ZK31V#, ZK32V#, ZK33V#, ZK34V#, ZK35V#	65004673	
		BD31V#, BD32V#, BD33V#, BD34V#, BD35V#	65044662	
		BK31V#, BK32V#, BK33V#, BK34V#, BK35V#	65010656	
Toyota Industries (11th digit = 6)		ZD31V#, ZD32V#, ZD33V#	66018247	
		ZK31V#, ZK32V#, ZK33V#	66002469	
		BD31V#, BD32V#, BD33V#	66020264	
		BK31V#, BK32V#, BK33V#	66008507	

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
N/A	53244-42040	Plate, Seal Set	1

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
BD5039	R & R Wiper Arms and Plastic Cowl Cover and Install Seal Plate	0.6	55708-42150	66	55

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

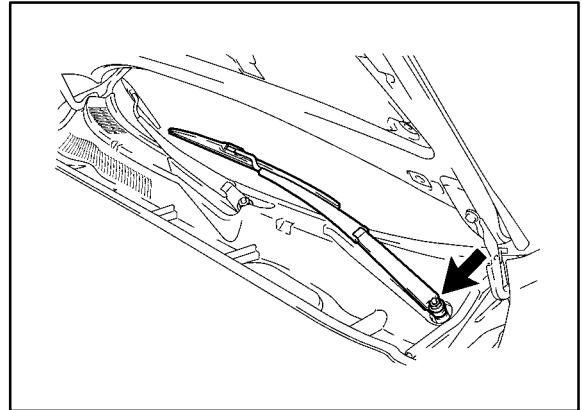
**Repair
Procedure**

1. Disconnect the cable from the negative (–) battery terminal.

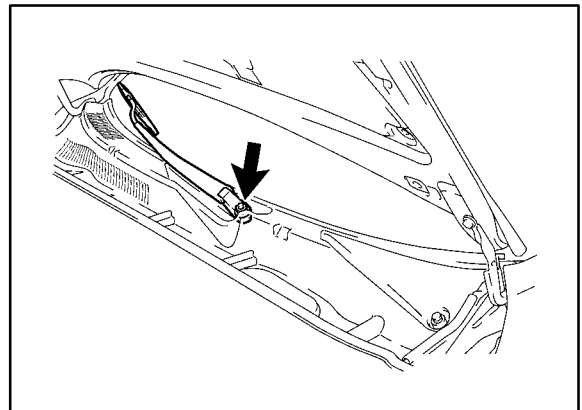
CAUTION:

Wait at **LEAST 90 seconds** after disconnecting the cable from the negative (–) battery terminal to prevent airbag and seat belt pretensioner activation.

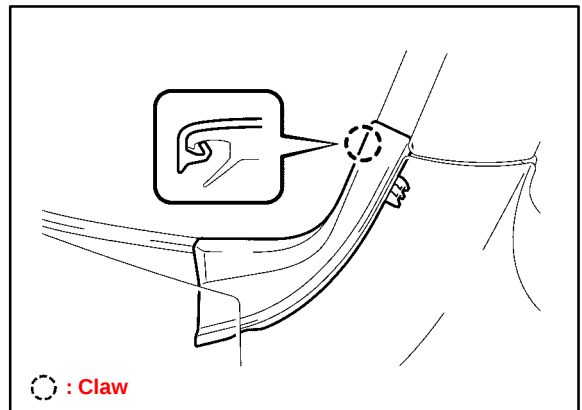
2. Remove the front wiper arm head caps.
3. Remove the front wiper arm and blade assembly LH by removing the nut.



4. Remove the front wiper arm and blade assembly RH by removing the nut.

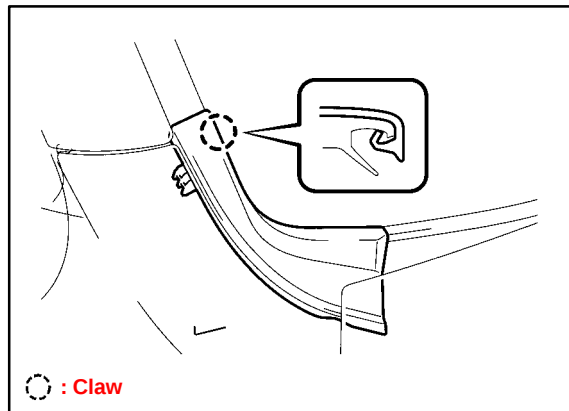


5. Remove the front fender to cowl side seal LH by detaching the claw.

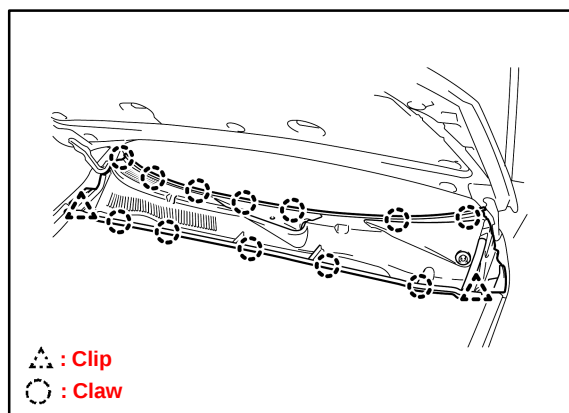


**Repair
Procedure**
(Continued)

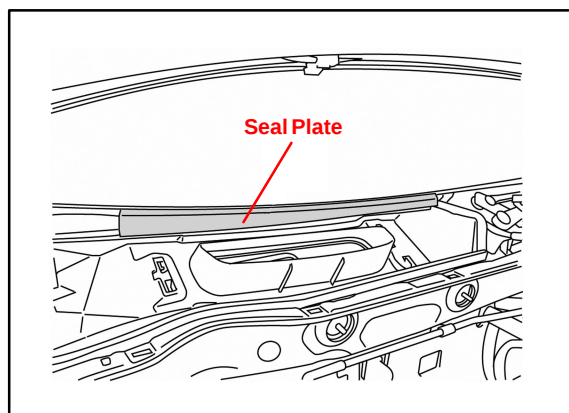
6. Remove the front fender to cowl side seal RH by detaching the claw.



7. Remove the cowl top ventilator louver.
- A. Remove the 2 clips.
 - B. Detach the 12 claws and remove the louver.

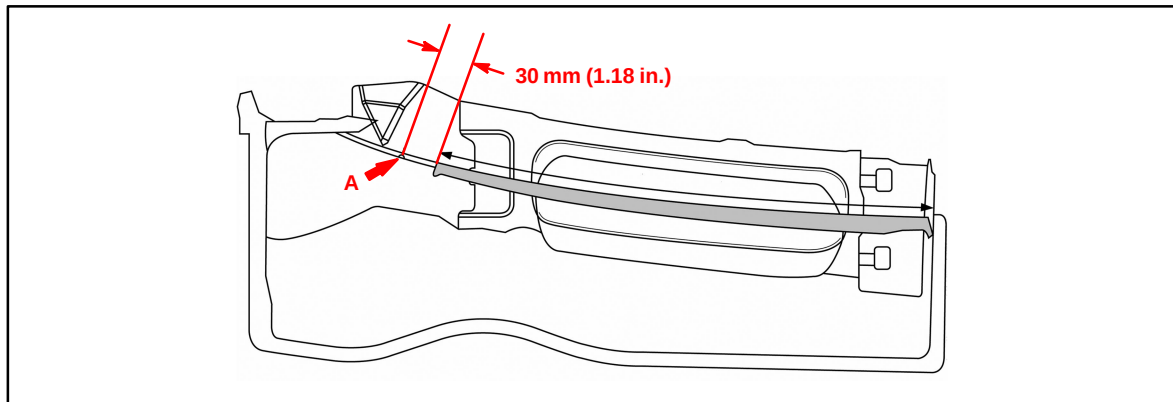


8. Install the seal plate on the cowl top outer panel as follows.

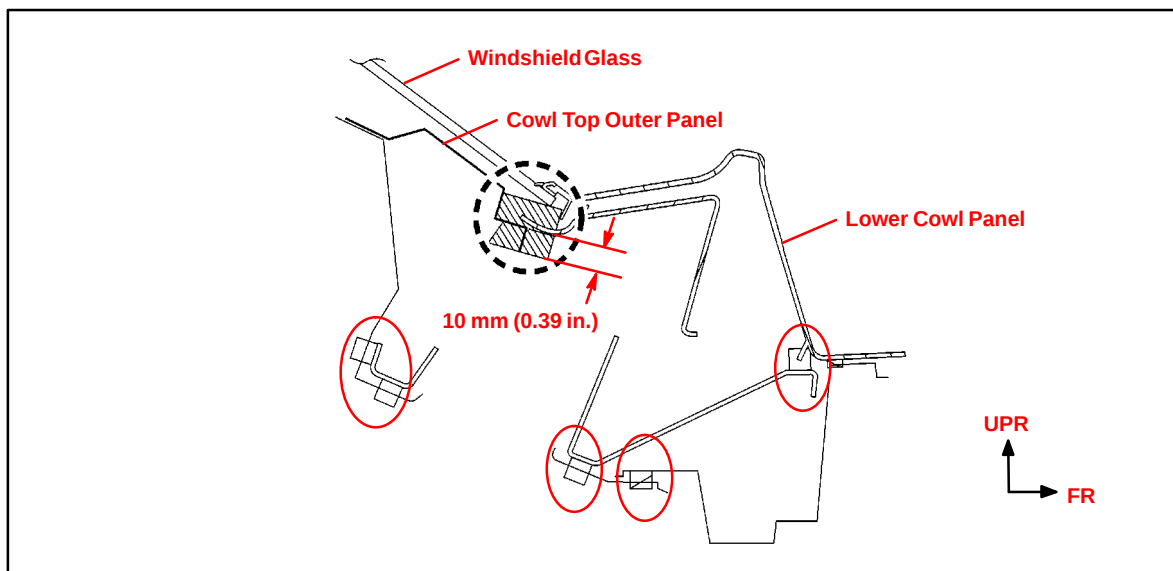


**Repair
Procedure**
(Continued)

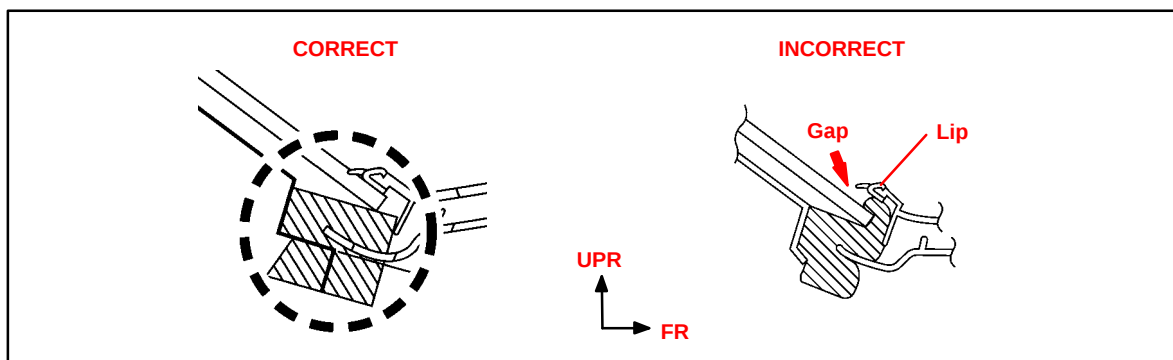
- A. Attach the end of the seal plate at 30 mm (1.18 in.) from the cut line (point A) toward the air conditioner vent duct.



- B. Make sure the lower part of the seal plate is 10 mm (0.39 in.) below the edge of the body as shown.

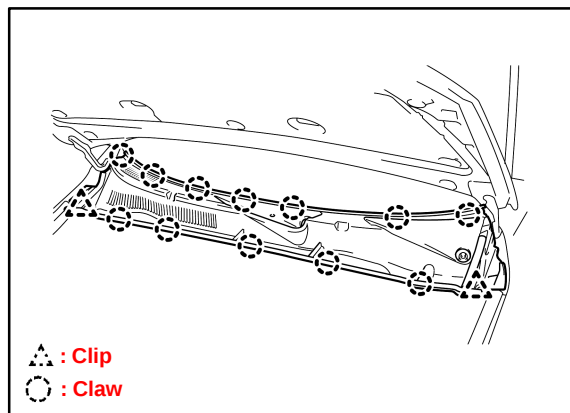
**NOTE:**

- Confirm that the lower cowl panel is properly installed and the seals are NOT damaged or deformed.
- Do NOT leave a gap between the lip and windshield glass.

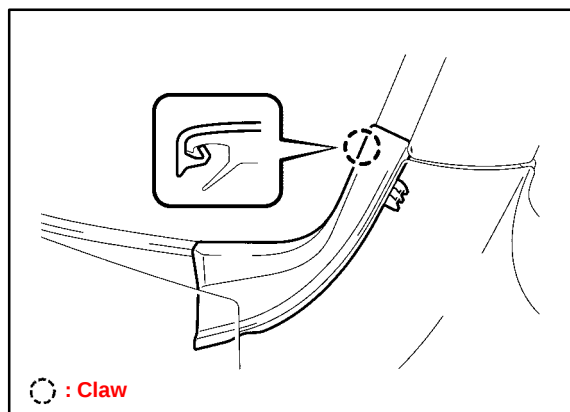


**Repair
Procedure**
(Continued)

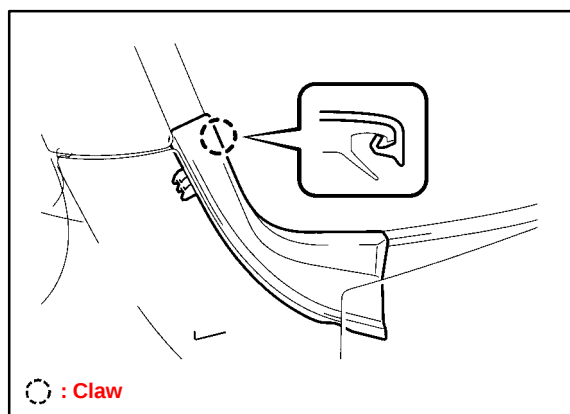
9. Install the cowl top ventilator louver.
 - A. Attach the 12 claws to install the louver.
 - B. Install the 2 clips.



10. Install the front fender to cowl side seal LH by attaching the claw.

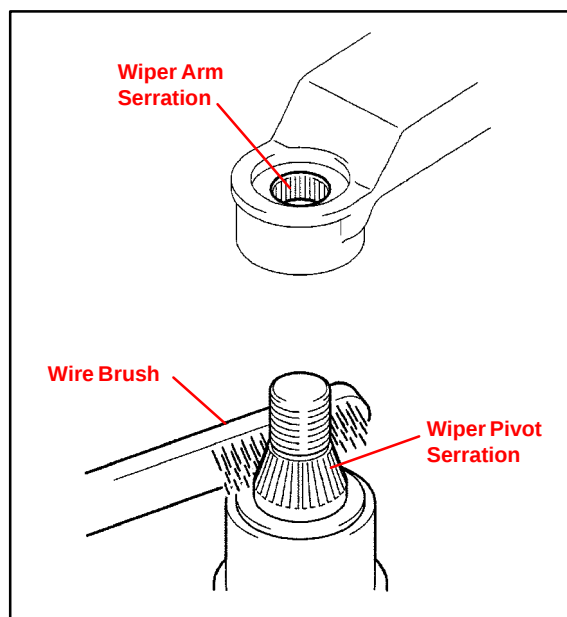


11. Install the front fender to cowl side seal RH by attaching the claw.



**Repair
Procedure**
(Continued)

12. Install the front wiper arm and blade assembly RH.
Clean the wiper arm and pivot serration with a wire brush.

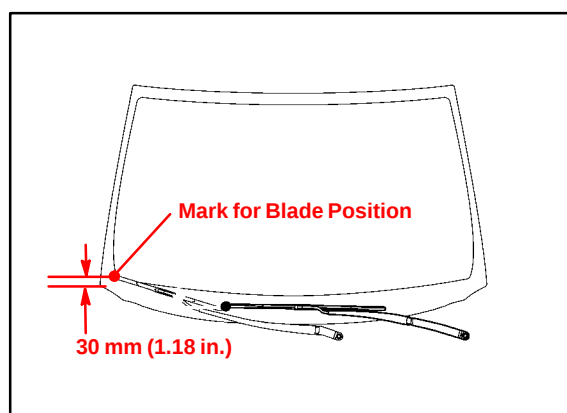


- C. Install the arm and blade with the nut. Make sure that the arm and blade come to the position shown in the illustration.

Torque: 21 N•m
(214 kgf•cm, 23 ft•lbf)

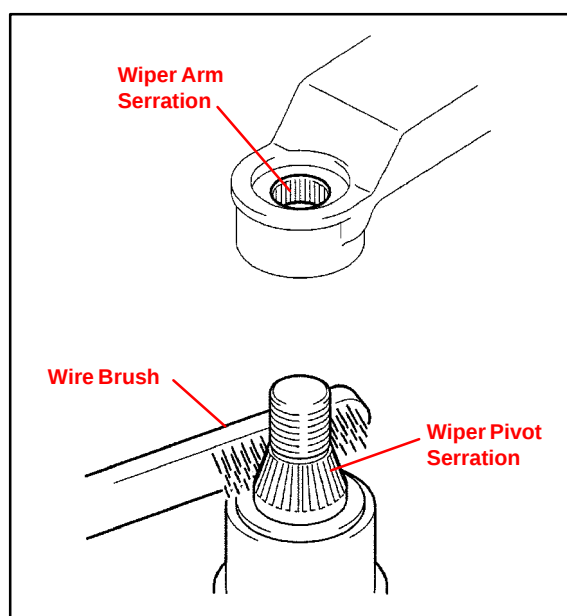
HINT:

Hold down the arm hinge while tightening the nut.



13. Install the front wiper arm and blade assembly LH.

- A. Clean the wiper arm and pivot serration with a wire brush.



**Repair
Procedure**
(Continued)

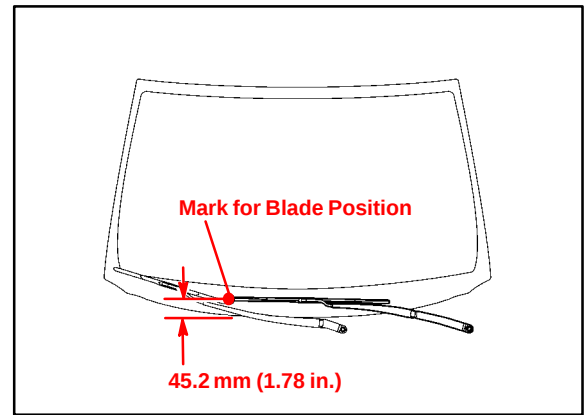
- B. Install the arm and blade with the nut. Make sure that the arm and blade comes to the position shown in the illustration.

**Torque: 21 N•m
(214 kgf•cm, 23 ft•lbf)**

HINT:

Hold down the arm hinge with your hand while tightening the nut.

- C. Operate the front wipers while spraying water or washer fluid on the windshield. Ensure that there is NO interference between the blades and A-pillar.
14. Install the front wiper arm head caps.
15. Connect the cable to the negative (–) battery terminal.
16. Confirm that the issue has been resolved by water testing.





Technical Service BULLETIN

July 17, 1998

Title:

FRONT FENDER LINER VIBRATION NOISE

Models:

'97-'98 RAV4

BO021-98

BODY

Introduction On some 1997 and 1998 RAV4 vehicles, customers may experience a vibration noise coming from the right or left front fender. To eliminate the condition, EPT-sealer has been added to the fender liner.

Required Materials

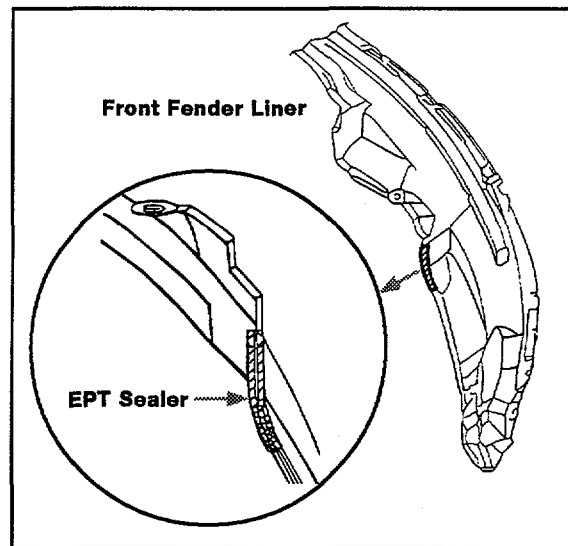
PART NUMBER	PART NAME
08231-00810	Wind Noise Kit (EPT-sealer)

Production Change Information

MODEL	VIN #
2 Dr. 4WD	JT3YP10V * W0174822
4 Dr. 4WD	JT3HP10V3W0165263
	JT3HP10V * W7083877
2 Dr. 2WD	JT3XP10V * W0010122
4 Dr. 2WD	JT3GP10V * W0021911
	JT3GP10V * W7028406

Repair Procedure

1. Test drive the vehicle and identify which side (RH or LH) the vibration noise is coming from.
2. Remove the affected Front Fender Liner.
3. Cut EPT-Sealer into strips (L: 70 mm, W: 10 mm, H: 5 mm).
4. Add EPT-sealer to the Fender Liner as shown.
5. Reinstall the Front Fender Liner.
6. Test drive the vehicle to confirm that vibration noise has been eliminated.



Warranty Information

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
531041	R &R Front Fender Liner	0.4	53875-42012	44	44

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 complaint.



Toyota Supports ASE Certification

Index : 049916



Technical Service BULLETIN

August 14, 1998

Title:

FRONT DOOR LOCK KNOB OPERATION

Models:

'98 RAV4

BO022-98

BODY

Introduction To improve door lock operation "feel" by minimizing free-play at the bell crank pivot, the shape of the Front Door Inside Link Protector has been changed for 1998 RAV4 models.

Production Change Information

MODEL	TYPE	STARTING VIN
2 Door	4WD	JT3YP10V * W0172795
4 Door	4WD	JT3HP10V * W0159826
		JT3HP10V * W7079547
2 Door	2WD	JT3XP10V * W0009309
4 Door	2WD	JT3GP10V * W0020172
		JT3GP10V * W7026787

Parts Information

• 2 Door Models -

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
69725-42010	69725-42011	Front Door Inside Locking Link Protector (RH)
69726-42010	69726-42011	Front Door Inside Locking Link Protector (LH)

• 4 Door Models -

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
69725-42020	69725-42021	Front Door Inside Locking Link Protector (RH)
69726-42020	69726-42021	Front Door Inside Locking Link Protector (LH)

Warranty Information

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
BD8011	Door Lock Knob Operation R&R (both sides)	0.2	69725-420X0	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 complaint.



Toyota Supports ASE Certification

050093

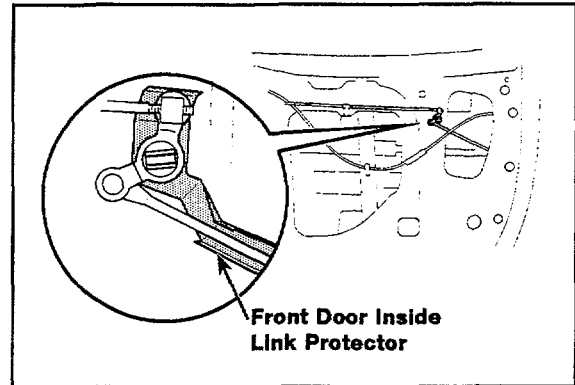
**Field-Fix
Procedure**

1. Remove the interior door trim panel.

NOTE:

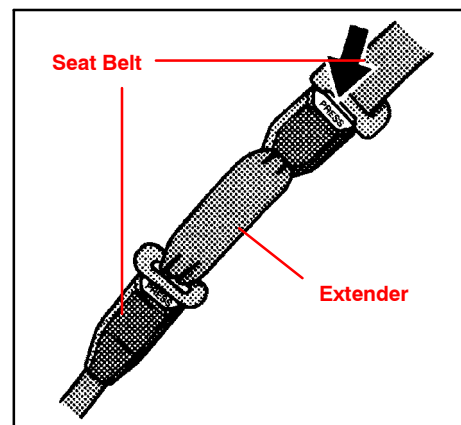
Refer to RAV4 Repair Manual (page
BO10-12) for Interior Door Panel
removal/installation.

2. Remove original locking link protector
and replace with modified part.



Introduction Toyota and Scion 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** order through the **TDN Parts Network** or **Dealer Daily**.

The dealership service department should complete the affixed Seat Belt Extender Customer Information Label on the part 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:

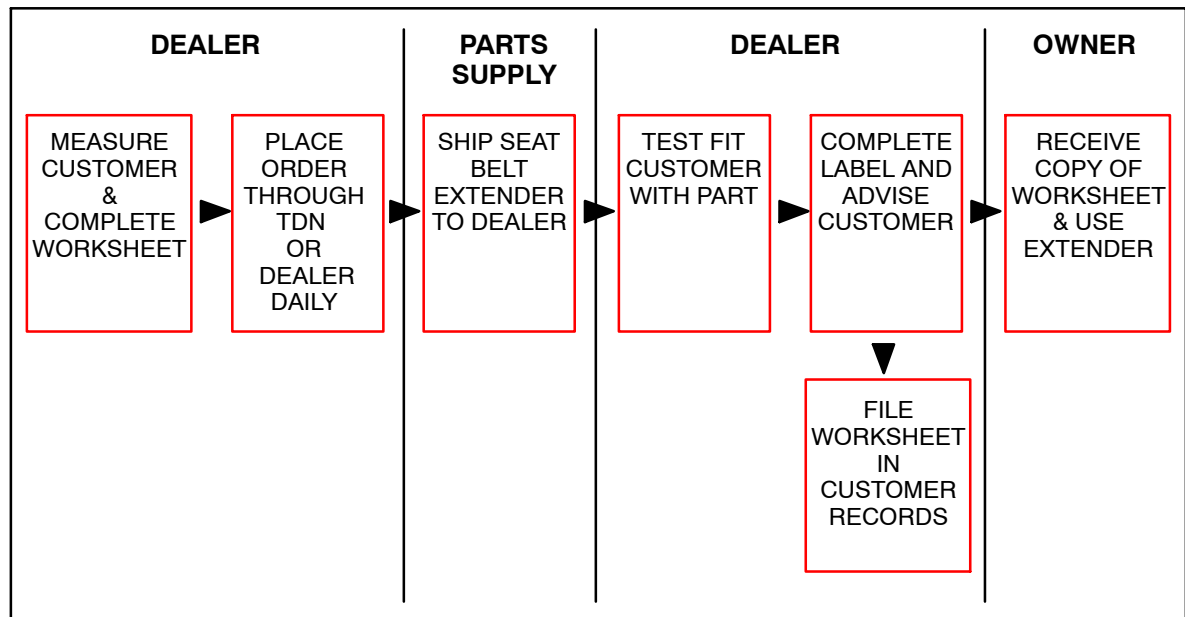
Procedure and Sample Label	Page 2
Application Charts	Pages 3 - 5
Part Number Information	Page 6
Owner Instructions	Page 7
Seat Belt Extender Worksheet	Page 8

- Applicable Vehicles**
- **2002 - 2004** model year **Toyota** vehicles.
 - **2004** model year **Scion** vehicles.

Warranty Information

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

- Procedure**
1. Customer 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 place a Critical Order order for the part through the TDN Parts Network or Dealer Daily.
 4. Dealer receives Seat Belt Extender and calls the customer to check the 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.

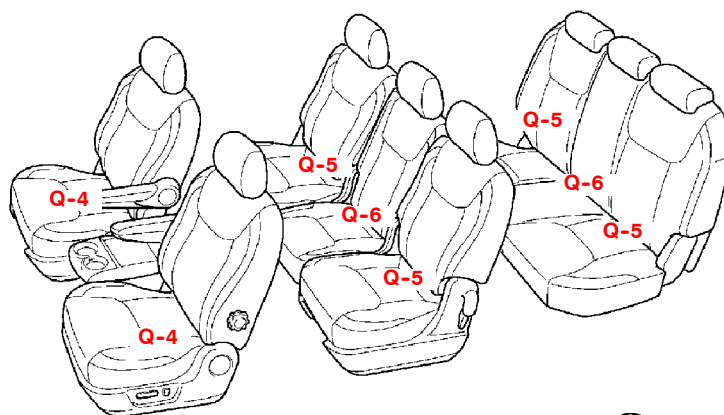
**Sienna Front
Seat Belt
Extender
Applications**

FRONT SEAT - EXTENDER APPLICATION				
MODEL	TYPE	'04	'03	'02
Sienna	All Models	Q-4	Q-4	Q-4

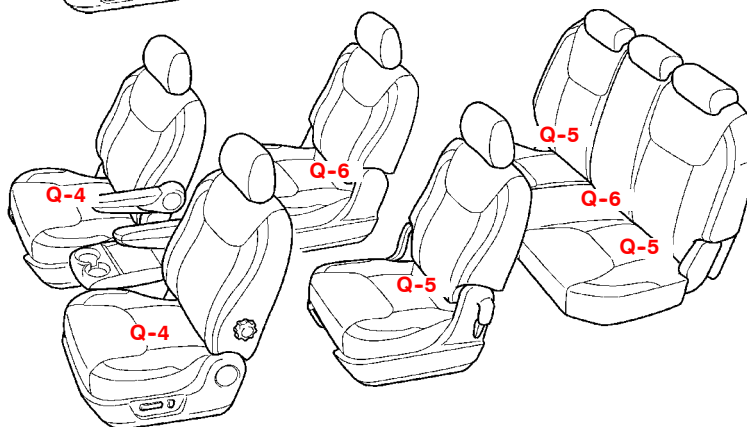
**Sienna Rear
Seat Belt
Extender
Applications**

REAR SEAT - EXTENDER APPLICATION				
MODEL	TYPE	'04	'03	'02
Sienna	Rear Seat 2nd Row RH - 7 Passengers	Q-6	Q-4	Q-4
	Rear Seat 2nd Row RH - 8 Passengers	Q-5	N/A	N/A
	Rear Seat 2nd Row & 3rd Row Center Seat	Q-6	N/A	N/A
	Rear Seat 2nd Row & 3rd Row Left Side	Q-5	Q-4	Q-4

8 Passengers



7 Passengers



**Front Seat
Belt Extender
Applications**

TOYOTA FRONT SEAT - EXTENDER APPLICATION				
MODEL	TYPE	'04	'03	'02
4Runner	All Models	K-6	K-6	K-5
Avalon*		T-1	T-1	T-1
Camry		R-6	Q-4	Q-4
Celica		N-7	N-7	N-7
Corolla		Q-5	Q-4	Q-4
ECHO		K-5	K-5	K-5
Highlander		R-6	R-5	R-5
Land Cruiser		K-6	K-6	K-5
Matrix		Q-5	Q-4	-
MR2 Spyder		N-7	N-7	N-7
Prius		R-6	N-7	N-7
RAV4		R-6	R-5	R-5
RAV4 EV		-	R-5	R-5
Sequoia		Q-4	Q-4	Q-4
Solara		Q-5	Q-4	Q-4
Tacoma*		S-2	S-2	S-2
Tundra*		Q-4	Q-4	Q-4

* A seat belt extender must not be used for the center seat of an Avalon, Tacoma, or Tundra that have a bench seat.

SCION FRONT SEAT - EXTENDER APPLICATION				
MODEL	TYPE	'04	'03	'02
Scion xA	All Models	R-6	-	-
Scion xB		R-6	-	-

**Rear Seat
Belt Extender
Applications**

REAR SEAT - EXTENDER APPLICATION				
MODEL	TYPE	'04	'03	'02
4Runner	All Models	-	R-6	R-5
	Without 3rd Row Seat	R-6	-	-
	With 3rd Row Seat	K-5	-	-
Avalon	All Models	T-1	T-1	T-1
Camry		Q-4	Q-4	Q-4
Celica	Liftback	N-7	N-7	N-7
Corolla	TMMC Production (CAN)	Q-5	Q-4	Q-4
	NUMMI Production (US)	Q-5		T-1
	Takaoka Production (JPN)	Q-5		-
ECHO	All Models	R-6	R-6	R-5
Highlander		R-6	R-5	R-5
Land Cruiser		K-5	K-5	K-5
Matrix		T-1	T-1	-
Prius		R-6	N-7	N-7
RAV4		R-6	R-5	R-5
RAV4 EV		-	R-5	Q-4
Sequoia	Rear Seat #1	T-1	T-1	T-1
	Rear Seat #2	Q-4	Q-4	Q-4
Solara	All Models	Q-5	Q-4	Q-4
Tacoma	Xtracab	K-3	T-1	T-1
	Double Cab	S-2	S-2	S-2
Tundra	Access Cab	Q-4	Q-4	Q-4

NOTE:

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

SCION REAR SEAT - EXTENDER APPLICATION				
MODEL	TYPE	'04	'03	'02
Scion xA	All Models	R-6	-	-
Scion xB		R-6	-	-

Part Number
Information

PART NUMBER PREFIX: 73399-					
SERIES	LENGTH				
	6 INCH	9 INCH	12 INCH	15 INCH	18 INCH
K-3	-22060	-22070	-22080	-22090	-22100
K-5	-35010	-35020	-35030	-35040	-35050
K-6	-35060	-35070	-35080	-35090	-35100
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
Q-4	-0W010	-0W020	-0W030	-0W040	-0W050
Q-5	-AE011	AE021	-AE031	-AE041	-AE051
Q-6	-AE060	-AE070	-AE080	-AE090	-AE100
R-5	-16060	-16070	-16080	-16090	-16100
R-6	-35110	-35120	-35130	-35140	-35150
S-1	-04010	-04020	-04030	-04040	-04050
S-2	-04060	-04070	-04080	-04090	-04100
T-1	-01110	-01120	-01130	-01140	-01150

**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.

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.

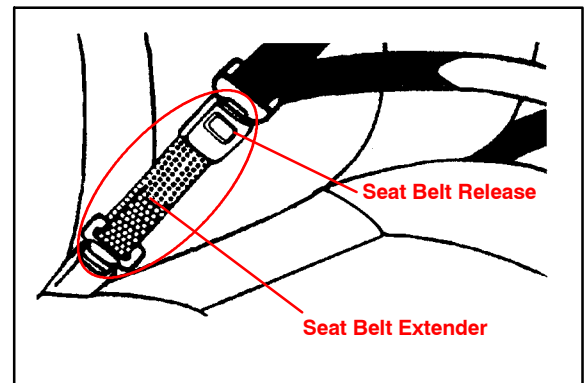
Please visit your local Toyota dealer so that the dealer can order the proper required length extender. Bring the heaviest coat you expect to wear for proper measurement and selection of length. Additional ordering information is available at your Toyota dealer.

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

To connect the extender to the seat belt, insert the tab into the seat belt buckle so that 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 not in use, remove the extender and store in the vehicle for future use.

**CAUTION:**

On vehicles equipped with SRS - Occupant Classification System (OCS)*, it is critical that the extender tab be buckled into the buckle AFTER the occupant sits down in the seat.

Leaving extender installed in the buckle before sitting down will cause the OCS to be in the "airbag off" or disarmed state.

* OCS will enable or disable the passenger front and side airbags based on passenger weight and seat belt latch position classifying the passenger as a child or adult.

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.

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:
 - By the person for whom it was provided.
 - 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.

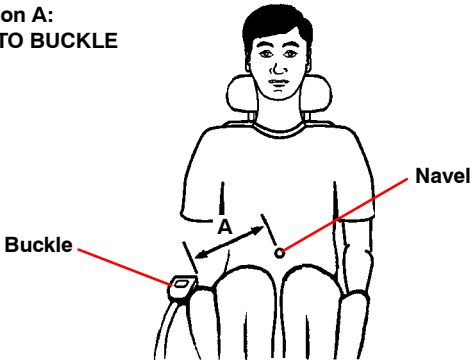
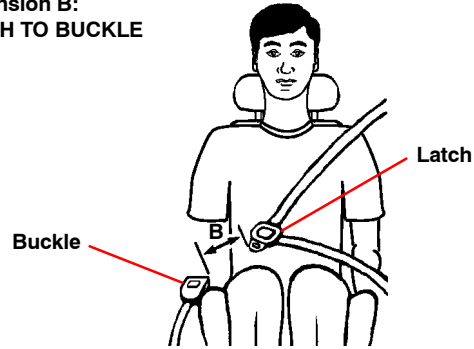
DEALER		SEAT BELT EXTENDER APPLICATION		APPLICANT	
DEALER CODE	DEALER NAME	APPLICANT NAME			
ADDRESS		ADDRESS			
CITY & STATE	ZIP	CITY & STATE	ZIP	PHONE	
EMPLOYEE NAME	MODEL YEAR	BODY TYPE	SEATING POSITION	VEHICLE IDENTIFICATION NUMBER	

DIRECTIONS FOR DETERMINING PROPER EXTENDER LENGTH

- Place the seat in the position the applicant normally uses.
- 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.
- Measure distance between applicant's navel and seat belt buckle (Dimension A) and enter on Worksheet.
- 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.
- Subtract Dimension B from Dimension A and record number in Check Number box on Worksheet.
- 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)



Technical Service BULLETIN

December 12, 2006

Title:

FRONT MANUAL SEAT DIFFICULT TO RETURN FROM RECLINE POSITION

Models:

'06 RAV4

BODY
B0028-06

Introduction Some customers may complain that the seat back may be difficult to return from the recline position if it is tilted beyond 30 degrees. Improved seat springs are available for driver and passenger's seats. The following repair information has been provided to correct this concern.

- Applicable Vehicles**
- **2006** model year **RAV4** vehicles produced **BEFORE** the Production Change Effective VINs shown below.

Production Change Information

PLANT	PRODUCTION CHANGE EFFECTIVE VIN		
	WMI	VDS	VIS
Tahara (11th digit = 5)	JTM	BD31V#, BD32V#, BD33V#, BD34V#, BD35V#	65040222
		BK31V#, BK32V#, BK33V#, BK34V#, BK35V#	65009104
		ZD31V#, ZD32V#, ZD33V#, ZD34V#, ZD35V#	65025460
		ZK31V#, ZK32V#, ZK33V#, ZK34V#, ZK35V#	65003981
Toyota Industries (11th digit = 6)	JTM	BD31V#, BD32V#, BD33V#	66017318
		BK31V#, BK32V#, BK33V#	66006897
		ZD31V#, ZD32V#, ZD33V#	66015375
		ZK31V#, ZK32V#, ZK33V#	66001947

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
BD5043	R & R Seat Back Spring (One Side)	0.4	72637-42010	87	14
Combo A	Opposite Side	0.4			

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.



**Parts
Information**

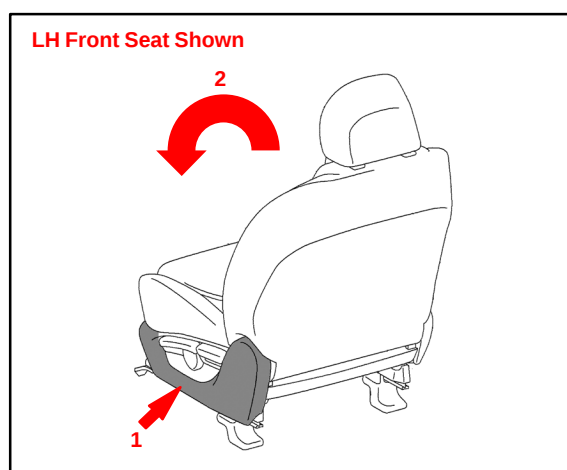
PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
72637-42010	Same	Spring, Seat Back	1 per Seat

**Required
Tools &
Material**

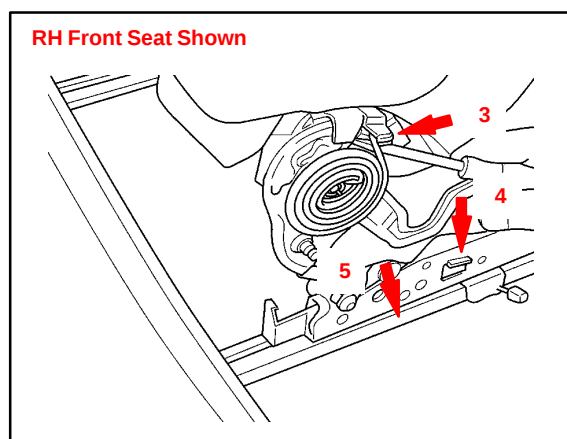
TOOLS & MATERIAL	QUANTITY
Screwdriver	1
No. 2 Philips Screwdriver	1
Rope	As Needed

**Repair
Procedure**

1. Remove the outer shield (refer to “1” in the illustration).
 - A. Remove the 2 shield screws.
 - B. Remove the seat level handle cover and the 2 screws.
 - C. Remove the seat recline handle.
2. Fold the seat back forward (refer to “2” in the illustration).



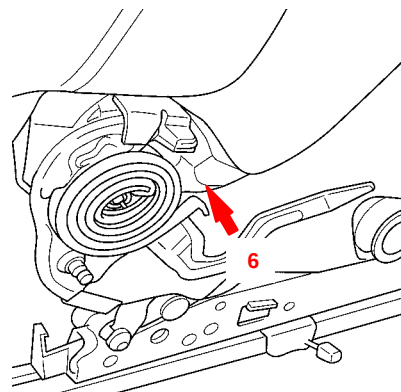
3. Remove the outside spiral spring.
 - A. Insert a screwdriver between the spiral spring and the side frame (refer to “3” in the illustration).
 - B. Using the screwdriver, push against the spiral spring, just below the frame stopper and against the side frame lip behind the spring (refer to “4” in the illustration).
 - C. Remove the spiral spring. Use caution when removing the spring (refer to “5” in the illustration).



**Repair
Procedure**
(Continued)

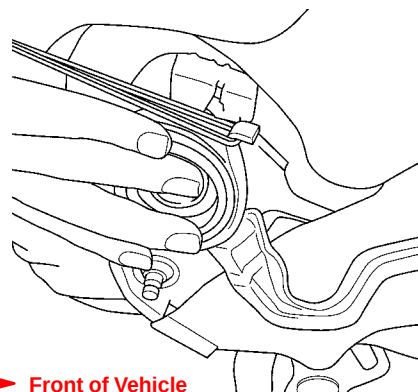
4. Install the NEW spiral spring.
 - A. Replace the spiral spring with a NEW one and install (refer to “6” in the illustration).

RH Front Seat Shown



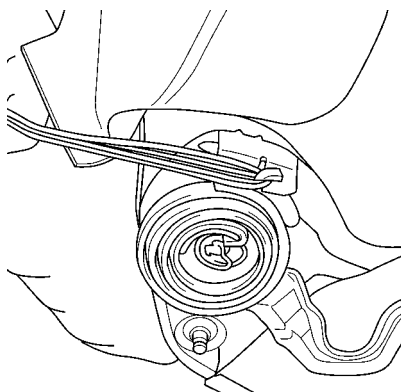
- B. Using the rope, pull the spring end until it rests against the frame stopper (pull backwards, towards rear of car).

RH Front Seat Shown



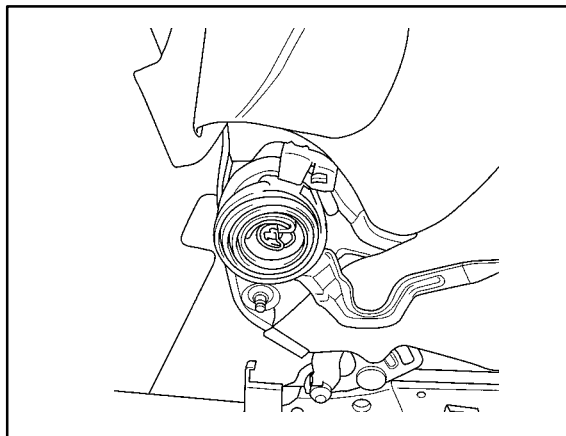
- C. Remove the rope.

RH Front Seat Shown



**Repair
Procedure**
(Continued)

5. Push the seat back forward and backward several times.
6. Install the outer shield.
7. Return the seat back to its original position.
8. Repeat for opposite side.





Technical Service BULLETIN

December 7, 2001

Title:

WINDSHIELD WIPER BLADE MAINTENANCE AND CLEANING

Models:

All Models & All Years Through Current

REVISED

B0030-01

BODY

TSB REVISION NOTICE:

July 13, 2004: The Applicable Vehicles has been changed to all models and all years through current.

All previous versions of this TSB should be discarded.

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

Applicable Vehicles

- All models and model years through current.

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	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.

Introduction The following information is intended to clarify the repair manual procedures for Zero Point Calibration and sensor checks after the replacement of any of the following components.

- Vehicle Stability Control Computer
- Steering Angle Sensor
- Yaw Rate Sensor
- Deceleration Sensor

Zero point calibration of the above sensors must also be performed when replacing or repairing steering related parts. These steps are necessary for the correct and accurate repair of VSC related systems.

Applicable Vehicles • **2004** model year **4Runner, Camry, Highlander, Land Cruiser, RAV4, Sienna, Solara, Tundra** and **Scion xB** vehicles equipped with VSC.

**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
Diagnostic Check Wire* (or equivalent)	09843-18040	1

* Essential SSTs.

NOTE:

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

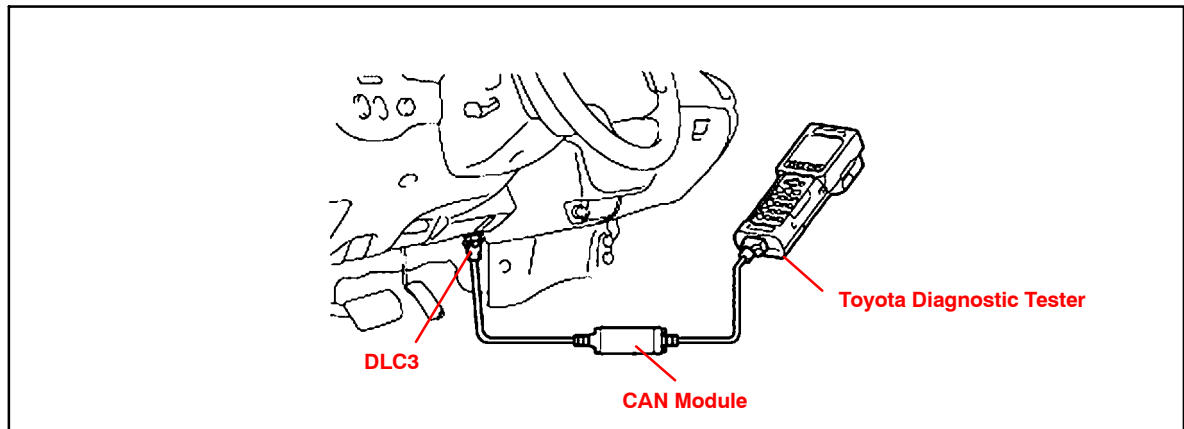
**Warranty
Information**

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

**Calibration
Procedure
With
Diagnostic
Tester**

Zero Point Calibration Procedure Using Diagnostic Tester

1. Connect Diagnostic Tester to DLC3.

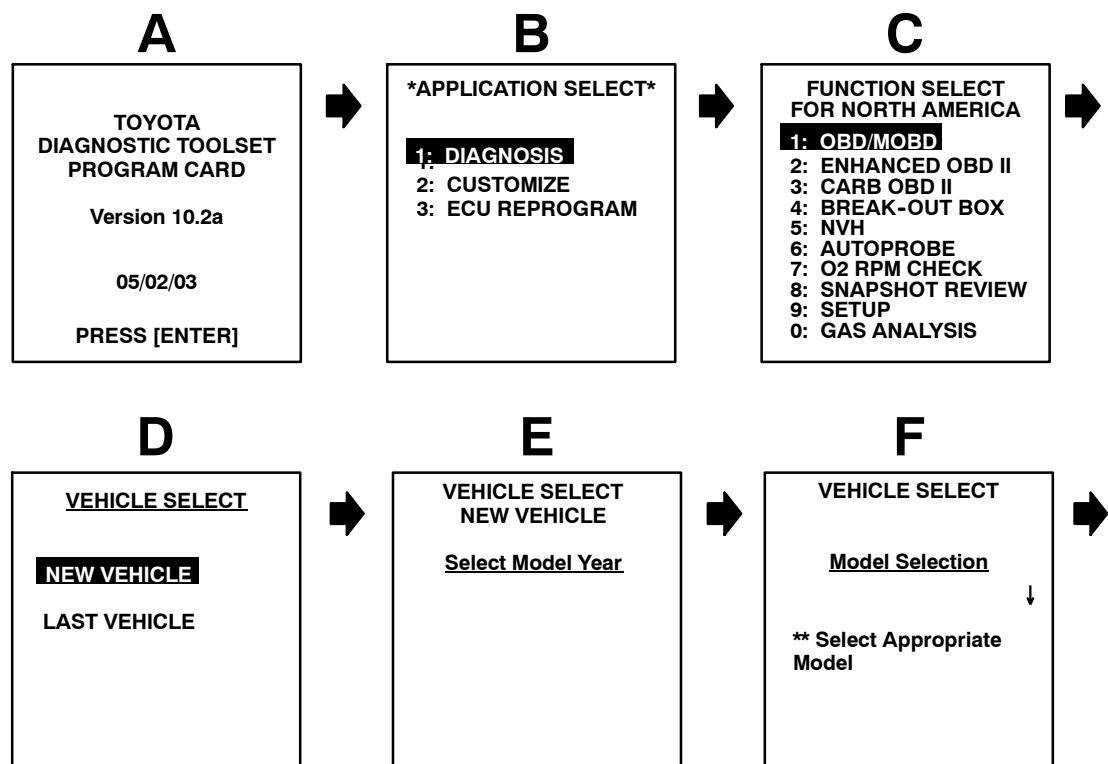


2. Follow the flow below for the calibration procedure.

NOTE:

While performing the Zero Point Calibration, do not tilt, move or shake the vehicle. The vehicle must remain in a stationary condition throughout the entire process. Be sure to perform the procedure on a level surface with an inclination of less than 1%.

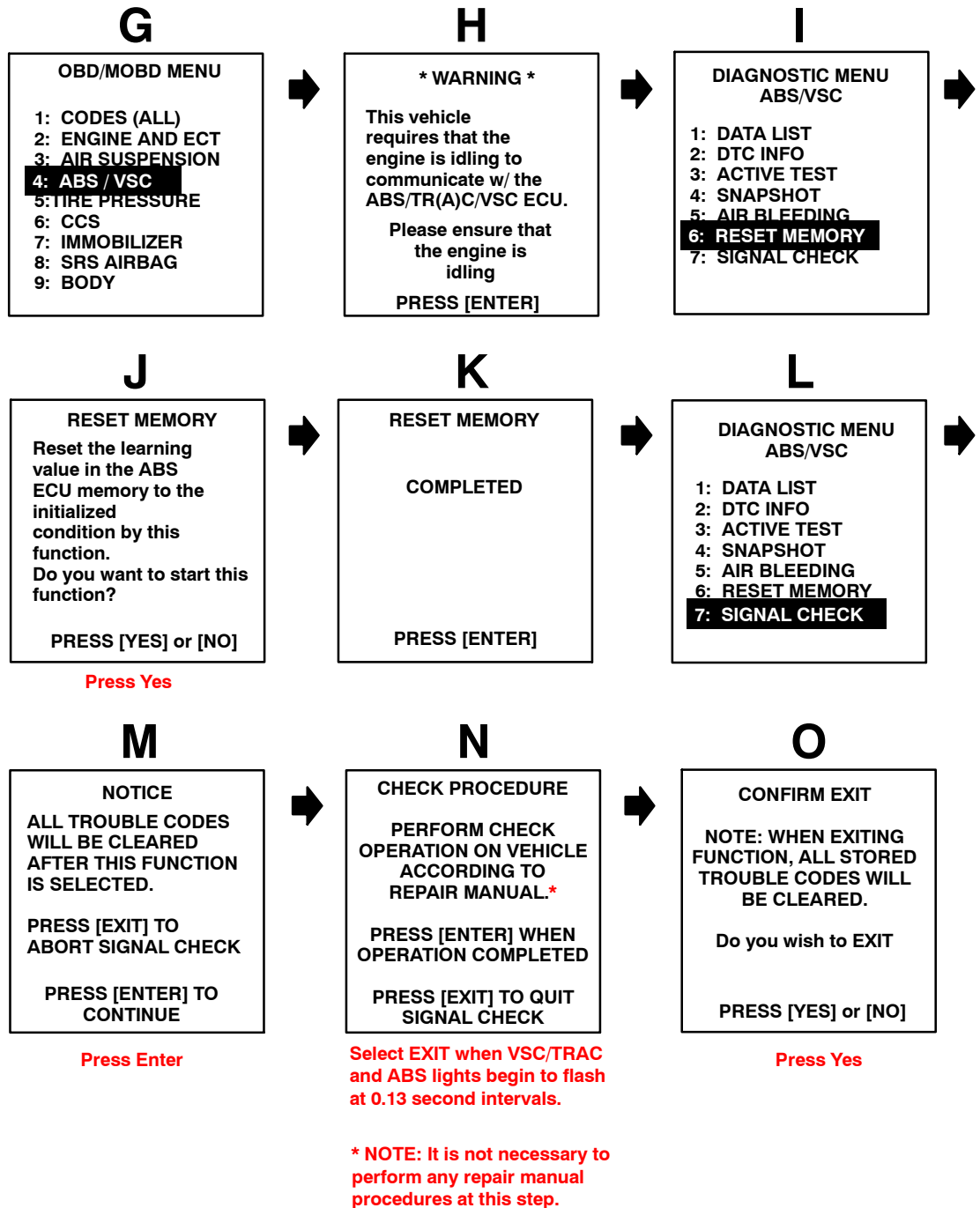
Zero Point Calibration



(Continued on next page)

**Calibration
Procedure
With
Diagnostic
Tester
(Continued)**

Zero Point Calibration (Continued)



3. Drive the vehicle for **at least 5 minutes** to confirm Zero Point Calibration is complete.

NOTE:

If viewing Diagnostic Tester Data List after repair, the Steering Angle Sensor may remain at 1150 until the vehicle reaches 28 mph. This is a normal condition until the learned values of the steering angle have been achieved.

**Calibration
Procedure
With SST****Zero Point Calibration Using SST 09843-18040**

The following procedure may be used in the cases where a Diagnostic Tester is not available.

NOTE:

While performing the Zero Point Calibration, do not tilt, move or shake the vehicle. The vehicle must remain in a stationary condition throughout the entire process. Be sure to perform the procedure on a level surface with an inclination of less than 1%.

1. Ensure the shift lever is in the “P” range.
2. Turn the ignition switch ON.
3. Using SST 09843-18040, repeat a cycle of short and open between terminals Ts and CG of DLC3 4 times or more within 8 seconds (refer to the specific vehicle EWD for TS and CG pin location in the DLC3).
4. Verify that the VSC indicator light is lit indicating the recorded zero point is erased.
5. Turn the ignition switch OFF.
6. Be sure the terminals Ts and CG of DLC3 are disconnected.
7. Turn the ignition switch ON.
8. Check that the VSC warning light goes off about 15 seconds after the ignition switch is turned ON.
9. After ensuring that the VSC warning light remains OFF for 2 seconds, turn the ignition switch OFF.
10. Connect terminals Ts and CG of DLC3 using SST 09843-18040.
11. Turn the ignition switch ON.
12. After turning the ignition switch ON, check that the VSC warning light is lit for about 4 seconds and then starts quick blinking at 0.13 second intervals.
13. After ensuring the blinking of the VSC warning light for 2 seconds, turn the ignition switch OFF.
14. Remove the SST from terminals Ts and CG of DLC3.
15. Drive the vehicle for **at least 5 minutes** to confirm Zero Point Calibration is complete.

NOTE:

If viewing Diagnostic Tester Data List after repair, the Steering Angle Sensor may remain at 1150 until the vehicle reaches 28 mph. This is a normal condition until the learned values of the steering angle have been achieved.



Technical Service BULLETIN

February 17, 2006

Title:

PARKING BRAKE CLICK NOISE

Models:

'06 RAV4

BRAKES
BR003-06

Introduction Some customers may experience a click noise coming from the left rear brake area when utilizing the parking brake hand lever. Updated parking brake shoe lever service parts are available to improve the noise condition.

- Applicable Vehicles**
- **2006** model year **RAV4** vehicles produced **BEFORE** the Production Change Effective VINs shown below.

Production Change Information

MODEL	PLANT	DRIVETRAIN	PRODUCTION CHANGE EFFECTIVE VIN
RAV4	Tahara	2WD	JTMBD3#V#65011830
		AWD	JTMZD3#V#65006549
	Shokki	2WD	JTMBD3#V#66004062
		AWD	JTMZD3#V#66003964

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
46602-42040	Same	Lever, Parking Brake Shoe, LH	1

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
473061	Rear Disc (One Side)	0.6	46602-42040	91	57
Combo D	Parking Brake Shoe (One Side)	0.5			

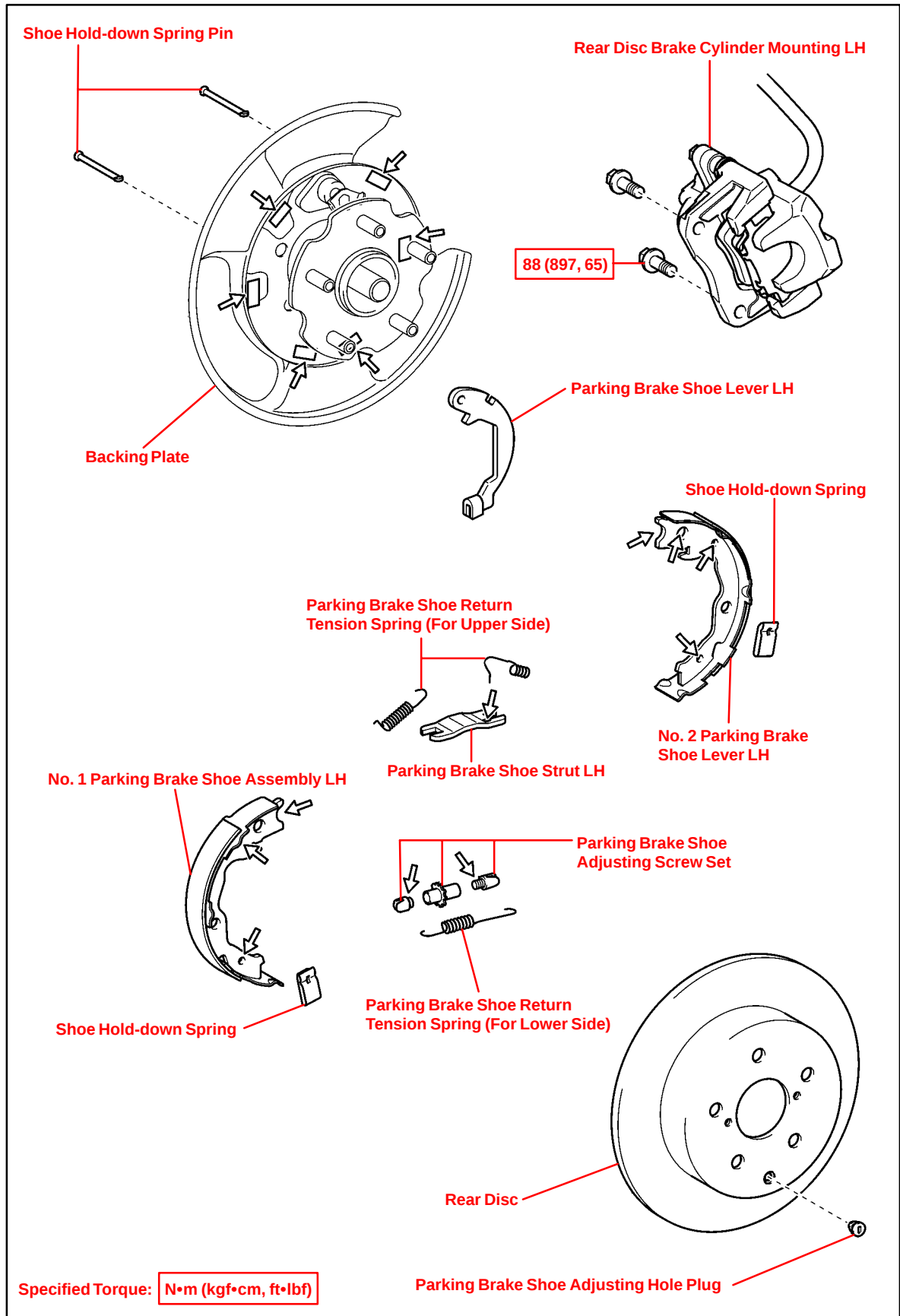
Applicable Warranty*:

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.



Components



**Repair
Procedure**

1. Operate the parking brake lever several times and listen for a click noise coming from the left rear brake area.
2. Remove and replace the left rear Parking Brake Shoe Lever (P/N: 46602–42040) by following the procedures in the Technical Information System (TIS):

Disassembly:

- 2006 model year RAV4 Repair Manual: *Parking Brake: Parking Brake Assembly: Components, Disassembly, Inspection.*

Reassembly:

- 2006 model year RAV4 Repair Manual: *Parking Brake: Parking Brake Assembly: Reassembly.*

3. Confirm repair by operating the parking brake lever.



Technical Service BULLETIN

October 20, 2000

Title:

BRAKE PAD CLICKING NOISE

Models:

'90 – '00 All Models

BR004-00
BRAKES

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	—	—	—	—



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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:

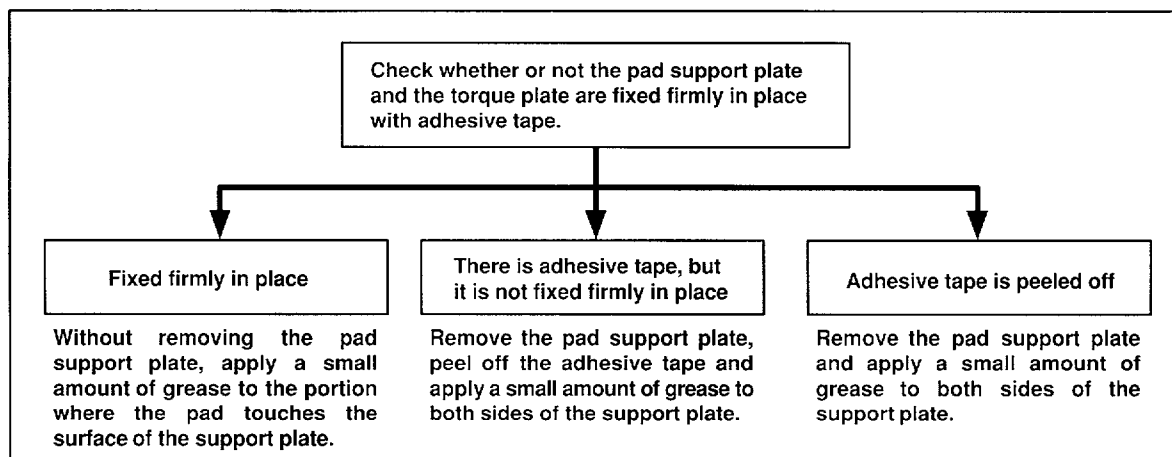
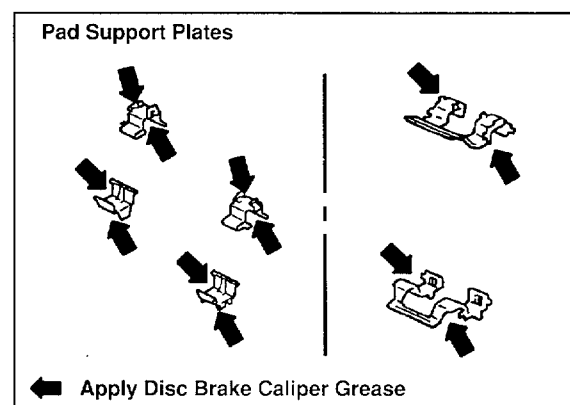
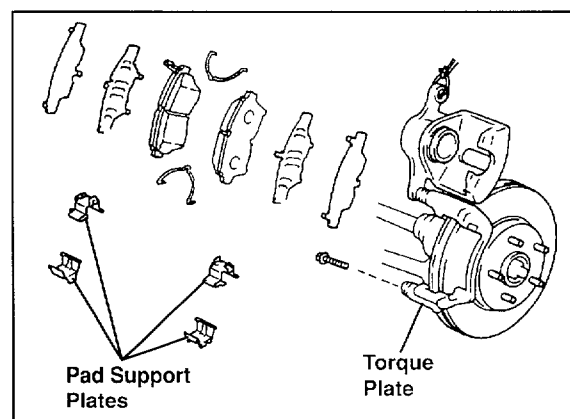
Do not disconnect the flexible hose from the brake caliper.

- 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:

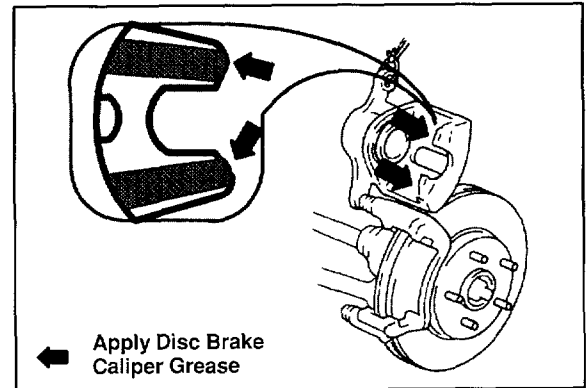
Do NOT apply grease to the friction surfaces of the brake pads or the disc rotor.

- 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:

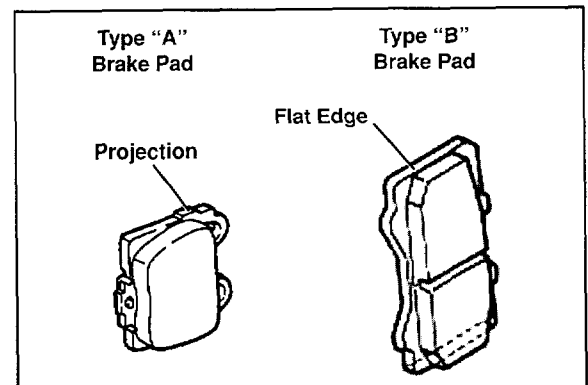
- Clean excess grease from brake pad and caliper.
- Do NOT apply grease to the friction surfaces of the brake pads or the disc rotor.

- K. Install the wheel assembly.

2. Fixed Type Brake Caliper

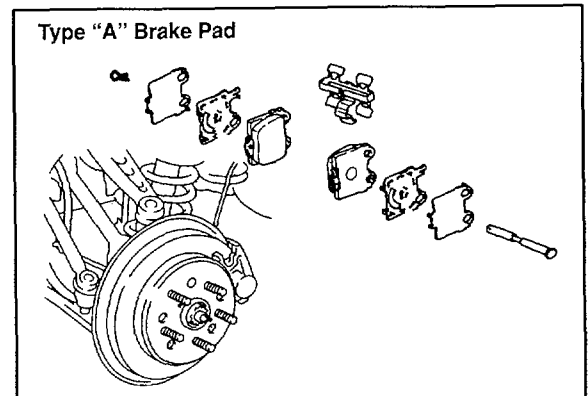
There are two types of brake pads:

- 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:

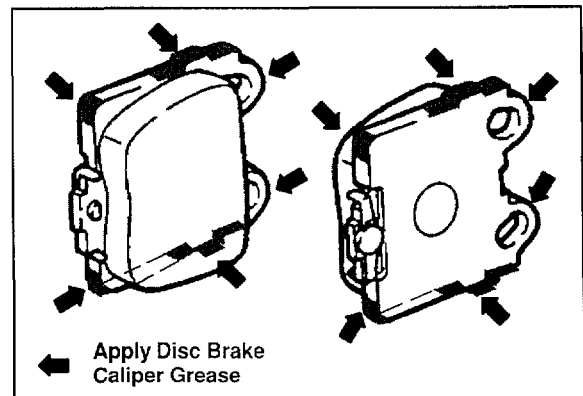
Do NOT apply grease to the friction surfaces of the brake pads or the disc rotor.

- 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:

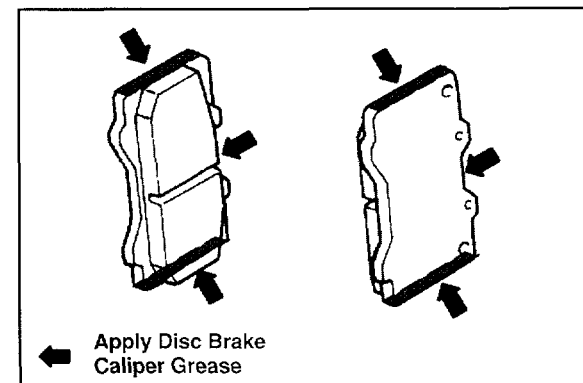
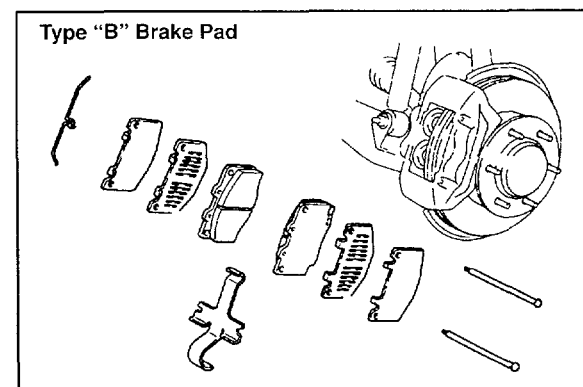
Do NOT apply grease to the friction surfaces of the brake pads or the disc rotor.

- 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

August 3, 2001

Title:

FRONT BRAKE GROAN NOISE

Models:

'01 RAV4

BRAKE
BR007-01
REVISED

TSB Revision Notice:

The image updated in this TSB is outlined in red.

Introduction New front brake pads are available to reduce the possibility of front brake groan noise.

Applicable Vehicles

- 2001 model year **RAV4** vehicles.

Production Change Information

MODEL	STARTING VIN
RAV4 (2WD)	JTEGH20V#10035678
RAV4 (4WD)	JTEHH20V#10118762

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
04465-42070	04465-42071	Pad Kit, Disc Brake

Repair Procedure

If the customer encounters a front brake groan noise, replace the front brake pads (see 2001 RAV4 Repair Manual page BR-23, Pub. No. RM 797U2).

Repair of brake groan on this vehicle only requires replacement of the brake pads. If inspection reveals additional brake servicing is required, this can be performed per standard warranty policy and procedures.

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
473301	R & R Front Disc Brake Pad and/or Disc Brake Pad Shim (If needed for Groan Noise) (Both Sides)	0.8	04465-42070	91	99

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.



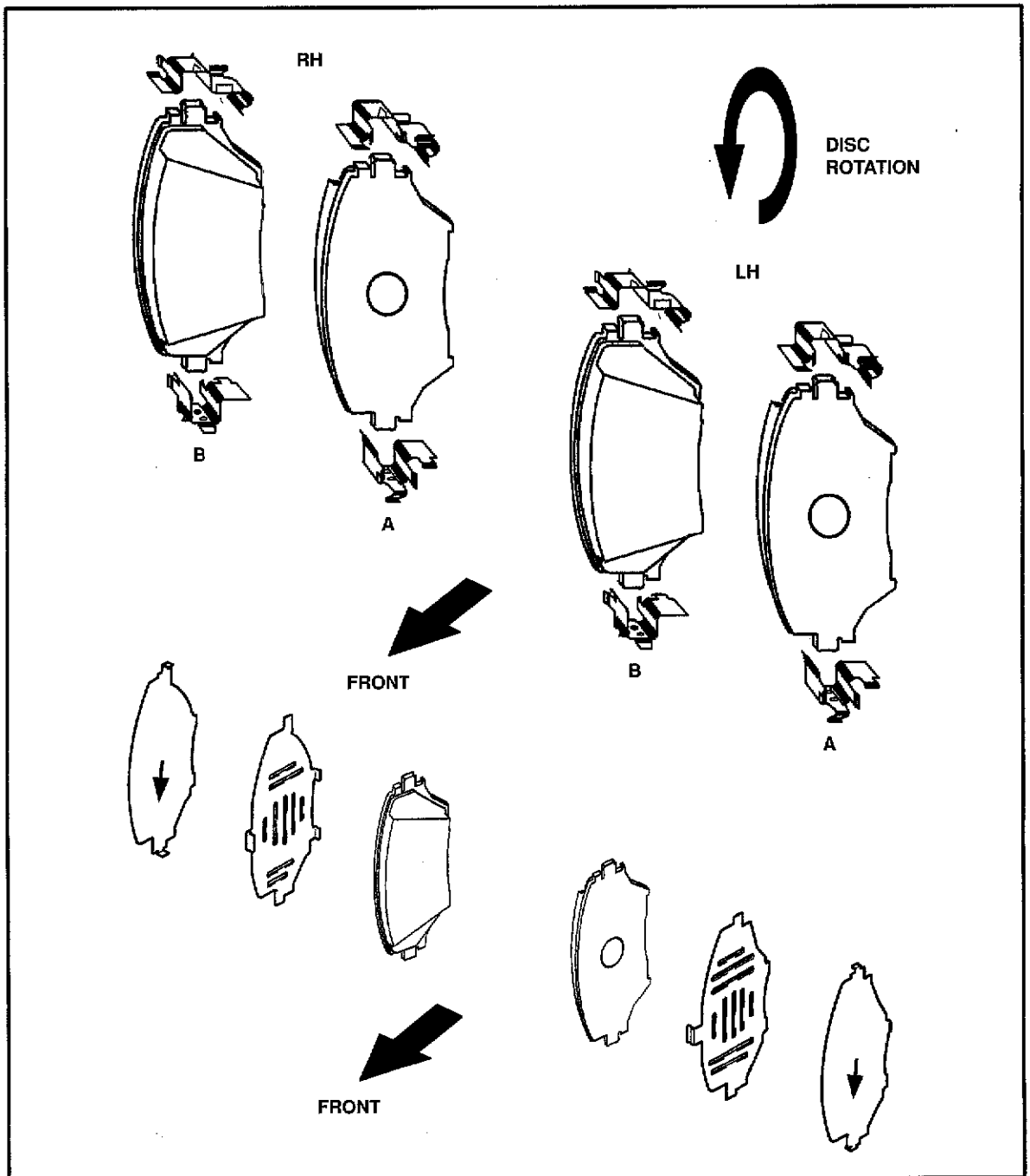
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Page 1 of 2

**Installation
Procedure****Front Brake Pad Installation****NOTICE:**

- Make sure that pad A and pad B are correctly installed.
- Make sure to install the shims so that the arrow mark on the shim matches the direction of disc rotation.





Technical Service BULLETIN

November 16, 2001

Title:

REAR BRAKE SQUEAL NOISE

Models:

'01 – '02 RAV4

REVISED
BR009-01
BRAKES

TSB Revision Notice:

The information updated in this TSB is red and underlined.

Introduction New rear brake drums are available to reduce the possibility of rear brake squeal noise.

Applicable Vehicles

- 2001 – 2002 model year **RAV4** vehicles.

Production Change Information

MODEL	STARTING VIN
RAV4 (2WD)	JTEGH20V#20042534
RAV4 (4WD)	JTEHH20V#20130638
	JTEHH20V#26014721

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
42431-42011	42431-42050	Drum Sub-Assy, Rear Brake	2

Repair Procedure If the customer encounters a rear brake squeal noise, replace the rear brake drums.
(See the 2001 RAV4 Repair Manual, Pub. No. RM797U2, page BR-32.)

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
472151	R & R Rear Brake Drum (One Side)	0.4	42431-42011	36	99
Combo A	Opposite Side	0.1			

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.



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Technical Service BULLETIN

December 1, 2006

Title:

WHEEL SPEED SENSOR DTCS: M.I.L. "ON" C0210 & C0215

Models:

'06 RAV4

BRAKES
BR011-06

Introduction Some 2006 model year RAV4 vehicles may exhibit an ABS M.I.L. "ON" condition with either or both of the following DTCS:

- C0210
- C0215

The rear wheel speed sensors (skid control sensors) have been modified to correct this condition.

**Applicable
Vehicles**

- **2006** model year **RAV4** vehicles produced **BEFORE** the Production Change Effective VINs shown below.

**Production
Change
Information**

MODEL	PLANT	ENGINE	DRIVETRAIN	PRODUCTION CHANGE EFFECTIVE VIN
RAV4	Tahara	L4	2WD	JTMZD3#V#65029729
		V6	2WD	JTMZK3#V#65005007
		L4	AWD	JTMBD3#V#65046804
		V6	AWD	JTMBK3#V#65011351
	Shokki	L4	2WD	JTMZD3#V#66019207
		V6	2WD	JTMZK3#V#66002691
		L4	AWD	JTMBD3#V#66021203
		V6	AWD	JTMBK3#V#66009078

**Warranty
Information**

OP CODE	DESCRIPTION	DRIVETRAIN	TIME	OFP	T1	T2
896091	R & R Rear Speed Sensor (One Side)	2WD	1.0	89544-52040 89545-42040 89546-42040	8B	71
		AWD	0.7			
Combo A	Opposite Side	2WD	0.6			
		AWD	0.3			

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.



Parts
Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
89544-52040	Same	Sensor, Speed, Rear RH (2WD)	1
89545-42040	Same	Sensor, Speed, Rear RH (4WD)	1
89544-52040	Same	Sensor, Speed, Rear LH (2WD)	1
89546-42040	Same	Sensor, Speed, Rear LH (4WD)	1

Required
SSTs

ITEM NO.	SPECIAL SERVICE TOOLS (SSTs)	PART NUMBER	QTY	DRW**
1	Bearing Remover* 	09950-00020	1	–
2	Crankshaft Pulley Replacer* 	09214-76011	1	–
3	Rear Axle Shaft Puller* 	09520-00031	1	–
COMPONENT(S) OF KIT/SET	Two (2) components from this kit/set are required: • Socket (P/N 09520-00040)  • Rod With Grip (P/N 09521-00020) 			
4	Toyota Diagnostic Tester Kit* NOTE: • All components from this kit/set are required. • 12 Megabyte Diagnostic Tester Program Card (P/N 01002593-005) with version 14.0a Software (or later) is required. 	TOY220036	1	9
5	CAN Interface Module Kit* NOTE: • All components from this kit/set are required. 	01002744	1	9
6	Pitman Arm Puller* 	09610-20012-01	1	13
7	Drive Shaft Nut Chisel* 	09930-00010-01	1	15

* Essential SSTs.

** Drawer number in SST Storage System.

NOTE:

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

**Repair
Procedure**

1. Using the diagnostic tester, check for DTCs in the ABS ECU.

If either DTC C0210 or C0215 is present, replace the appropriate wheel speed sensor (skid control sensor) per the Parts Information provided in this document.

Refer to the Technical Information System (TIS), 2006 model year RAV4

Repair Manual:

- **For 2WD:**

- *Brake – Brake Control/Dynamic Control System – “Brake Control: Skid Control Sensor (For 2WD): Removal”*
- *Brake – Brake Control/Dynamic Control System – “Brake Control: Skid Control Sensor (For 2WD): Installation”*

- **For 4WD:**

- *Brake – Brake Control/Dynamic Control System – “Brake Control: Rear Speed Sensor (For 4WD): Removal”*
- *Brake – Brake Control/Dynamic Control System – “Brake Control: Rear Speed Sensor (For 4WD): Installation”*

2. Using the Diagnostic Tester, clear all of the DTCs.
3. Perform a test drive and confirm that NO pending DTCs set.



Technical Service BULLETIN

March 6, 1998

Title:

FRONT AXLE HUB NUT REPLACEMENT

Models:

'92 - '98 Tercel, Paseo, Corolla, Celica, Camry
'96 - '98 RAV4

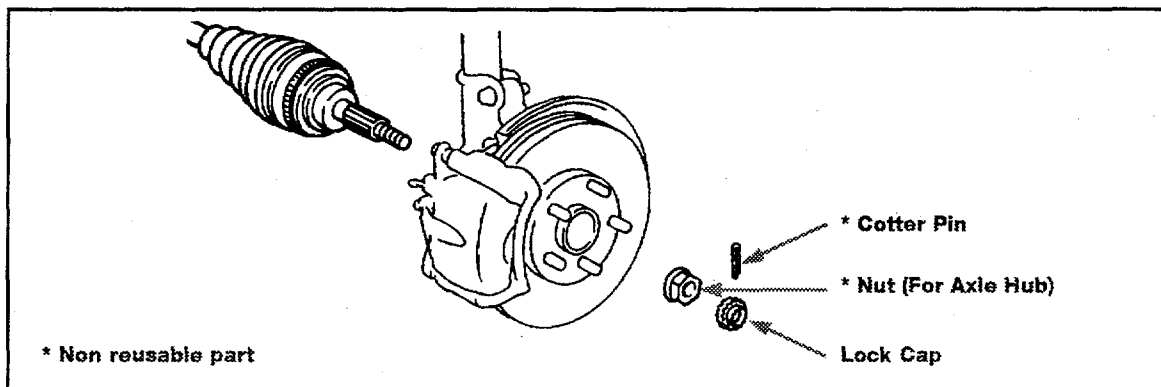
DL001-98

DRIVELINE/DIFFERENTIAL

Introduction Due to a change of the friction control treatment on the nut thread, both types of Front Axle Hub Nuts (silver and black) for 1992 - 1998 Tercel, Paseo, Corolla, Celica, Camry and 1996 - 1998 RAV4s are **NOT reusable**.

NOTE:

When replacing the Front Axle Hub Nut the new part must be the same color as the old part. When replacing a Silver nut -- use a NEW Silver nut and when replacing a Black nut -- use a NEW Black nut.



Affected Vehicles

- 1992 - 1998 Tercel, Paseo, Corolla, Celica, Camry and 1996 - 1998 RAV4s.

Parts Information

PART NUMBER	PART NAME	COLOR
90179-22020	Nut, Axle Hub	Silver
90178-22001	Nut, Axle Hub	Black

Warranty Information

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not applicable to warranty	-	-	-	-

Index * 049208



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Technical Service BULLETIN

March 29, 2002

Title:

READINESS MONITOR DRIVE PATTERNS

Models:

All '96 – '02

ENGINE
EG003-02
REVISED

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.

Contents

SECTION		PAGE(S)
Readiness Monitor Drive Pattern Application Tables		3-9
Readiness Monitor Drive Patterns		
1	EGR Monitor (All Except 1FZ-FE Engine)	10
2	EGR Monitor (For 1FZ-FE Engine)	11
3	Catalyst Monitor (O2S Type)	12
4	Catalyst Monitor (AF Sensor Type)	13
5	EVAP Monitor (Internal Pressure Monitor/Non-Intrusive Type)	14-15
6	EVAP Monitor (Vacuum Pressure Monitor/Intrusive Type)	16-17
7	EVAP Monitor (Without Leak Detection)	18
8	EVAP Monitor (For Prius)	19-20
9	Oxygen Sensor Monitor (Front and Rear O2S System)	21
10	Oxygen/AF Sensor Monitor (Front AF Sensor and Rear O2S System)	22
11	Oxygen/AF Sensor Heater Monitor	23

Applicable Vehicles

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

Warranty Information

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



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056863

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

TOYOTA		VEHICLE EMISSION CONTROL INFORMATION	
TOYOTA MOTOR CORPORATION			
TEST GROUP : 1TYXV02.2JJA		SFI, EGR, A/F S, WU-TWC, TWC, HO2S	
EVAP. FAMILY : 1TYXR0135AK1		2.2 LITER	
ENGINE TUNE-UP SPECIFICATIONS FOR ALL ALTITUDES			
VALVE CLEARANCE (ENGINE AT COLD)	INTAKE	0.1 mm	[0.007–0.011 in.]
	EXHAUST		[0.011–0.015 in.]
NO OTHER ADJUSTMENTS REQUIRED.			
THIS VEHICLE CONFORMS TO THE REGULATIONS APPLICABLE TO GASOLINE-FUELED 2002 NEW ULEV PASSENGER CARS AND TO CALIFORNIA APPLICABLE TO 2002 MODEL YEAR NEW ULEV PASSENGER CARS.			
		CATALYST	
2 2 V A G J J Y		PA	
7A650 2AZ-FE USA		OBD II CERTIFIED	

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

**Readiness
Monitor
Drive Pattern
Application
Tables**

MODEL YEAR	MODEL	ENGINE	DRIVE TRAIN	CATEGORY	DRIVE PATTERN NUMBER*										
					EGR		CATALYST		EVAP				O2S/AF		
					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) | 7. EVAP (Without Leak Detection) |
| 2. EGR (For 1FZ-FE Engine) | 8. EVAP (For Prius) |
| 3. Catalyst (O2S Type) | 9. Oxygen Sensor Monitor (Front & Rear O2S System) |
| 4. Catalyst (AF Sensor Type) | 10. Oxygen/AF Sensor Monitor (Front AF Sensor & Rear O2S System) |
| 5. EVAP (Internal Pressure Monitor/Non-Intrusive Type) | 11. Oxygen/AF Sensor Heater Monitor |
| 6. EVAP (Vacuum Pressure Monitor/Intrusive Type) | |

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

**Readiness
Monitor
Drive Pattern
Application
Tables**
(Continued)

MODEL YEAR	MODEL	ENGINE	DRIVE TRAIN	CATEGORY	DRIVE PATTERN NUMBER*											O2S/AF	
					EGR		CATALYST		EVAP				SENSOR		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) | 7. EVAP (Without Leak Detection) |
| 2. EGR (For 1FZ-FE Engine) | 8. EVAP (For Prius) |
| 3. Catalyst (O2S Type) | 9. Oxygen Sensor Monitor (Front & Rear O2S System) |
| 4. Catalyst (AF Sensor Type) | 10. Oxygen/AF Sensor Monitor (Front AF Sensor & Rear O2S System) |
| 5. EVAP (Internal Pressure Monitor/Non-Intrusive Type) | 11. Oxygen/AF Sensor Heater Monitor |
| 6. EVAP (Vacuum Pressure Monitor/Intrusive Type) | |

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

**Readiness
Monitor
Drive Pattern
Application
Tables**
(Continued)

MODEL YEAR	MODEL	ENGINE	DRIVE TRAIN	CATEGORY	DRIVE PATTERN NUMBER*										
					EGR		CATALYST		EVAP				O2S/AF		HTR
					1	2	3	4	5	6	7	8	9	10	
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
	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) | 7. EVAP (Without Leak Detection) |
| 2. EGR (For 1FZ-FE Engine) | 8. EVAP (For Prius) |
| 3. Catalyst (O2S Type) | 9. Oxygen Sensor Monitor (Front & Rear O2S System) |
| 4. Catalyst (AF Sensor Type) | 10. Oxygen/AF Sensor Monitor (Front AF Sensor & Rear O2S System) |
| 5. EVAP (Internal Pressure Monitor/Non-Intrusive Type) | 11. Oxygen/AF Sensor Heater Monitor |
| 6. EVAP (Vacuum Pressure Monitor/Intrusive Type) | |

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

**Readiness
Monitor
Drive Pattern
Application
Tables**
(Continued)

MODEL YEAR	MODEL	ENGINE	DRIVE TRAIN	CATEGORY	DRIVE PATTERN NUMBER*										
					EGR		CATALYST		EVAP				O2S/AF		HTR
					1	2	3	4	5	6	7	8	9	10	
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			N/A		X		X				X		X

*** Readiness Monitor Drive Patterns:**

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

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

**Readiness Monitor
Drive Pattern
Application
Tables**
(Continued)

MODEL YEAR	MODEL	ENGINE	DRIVE TRAIN	CATEGORY	DRIVE PATTERN NUMBER*										
					EGR		CATALYST		EVAP				O2S/AF		HTR
					1	2	3	4	5	6	7	8	9	10	
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
		2UZ-FE		CA				X	X					X	X
							X		X				X		X
	Land Cruiser	2UZ-FE					X		X				X		X

*** Readiness Monitor Drive Patterns:**

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

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

Readiness Monitor Drive Pattern Application Tables
(Continued)

MODEL YEAR	MODEL	ENGINE	DRIVE TRAIN	CATEGORY	DRIVE PATTERN NUMBER*										
					EGR		CATALYST		EVAP				O2S/AF		HTR
					1	2	3	4	5	6	7	8	9	10	
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
	Highlander	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		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 Pattern
Application
Tables**
(Continued)

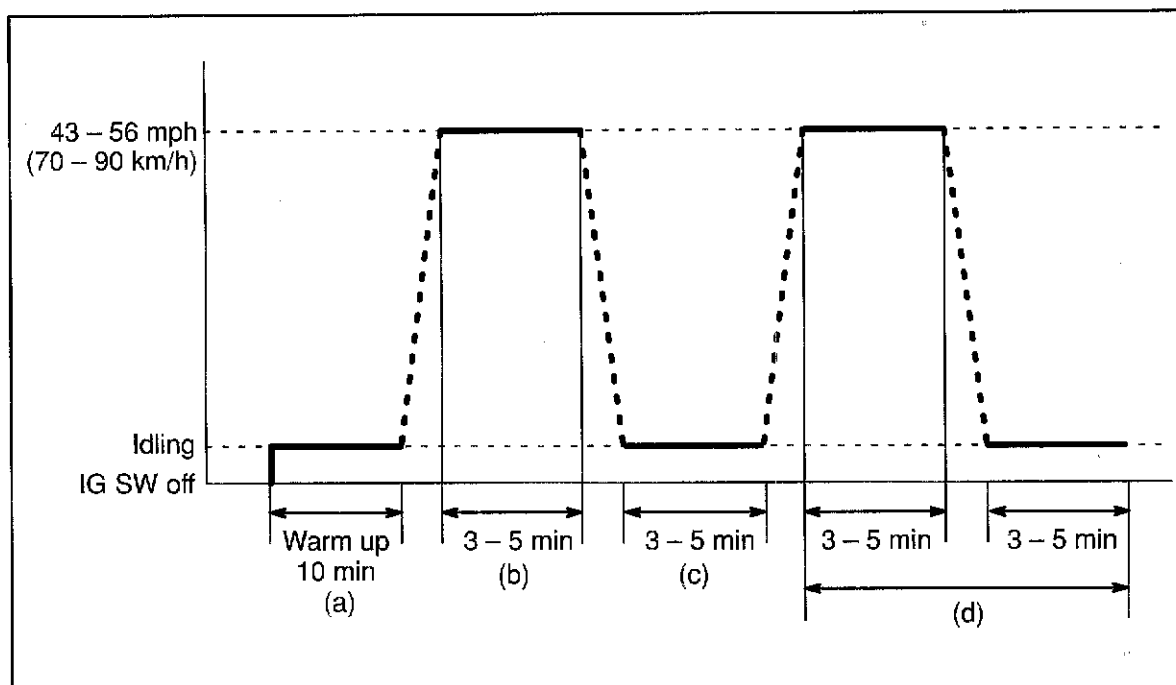
MODEL YEAR	MODEL	ENGINE	DRIVE TRAIN	CATEGORY	DRIVE PATTERN NUMBER*										
					EGR		CATALYST		EVAP				O2S/AF		HTR
					1	2	3	4	5	6	7	8	9	10	
2002	ECHO	1NZ-FE			N/A		X			X			X		X
	Corolla	1ZZ-FE					X			X			X		X
	Celica	1ZZ-FE					X			X			X		X
		2ZZ-GE					X			X			X		X
	MR2	1ZZ-FE					X			X			X		X
	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) | 7. EVAP (Without Leak Detection) |
| 2. EGR (For 1FZ-FE Engine) | 8. EVAP (For Prius) |
| 3. Catalyst (O2S Type) | 9. Oxygen Sensor Monitor (Front & Rear O2S System) |
| 4. Catalyst (AF Sensor Type) | 10. Oxygen/AF Sensor Monitor (Front AF Sensor & Rear O2S System) |
| 5. EVAP (Internal Pressure Monitor/Non-Intrusive Type) | 11. Oxygen/AF Sensor Heater Monitor |
| 6. EVAP (Vacuum Pressure Monitor/Intrusive Type) | |

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."

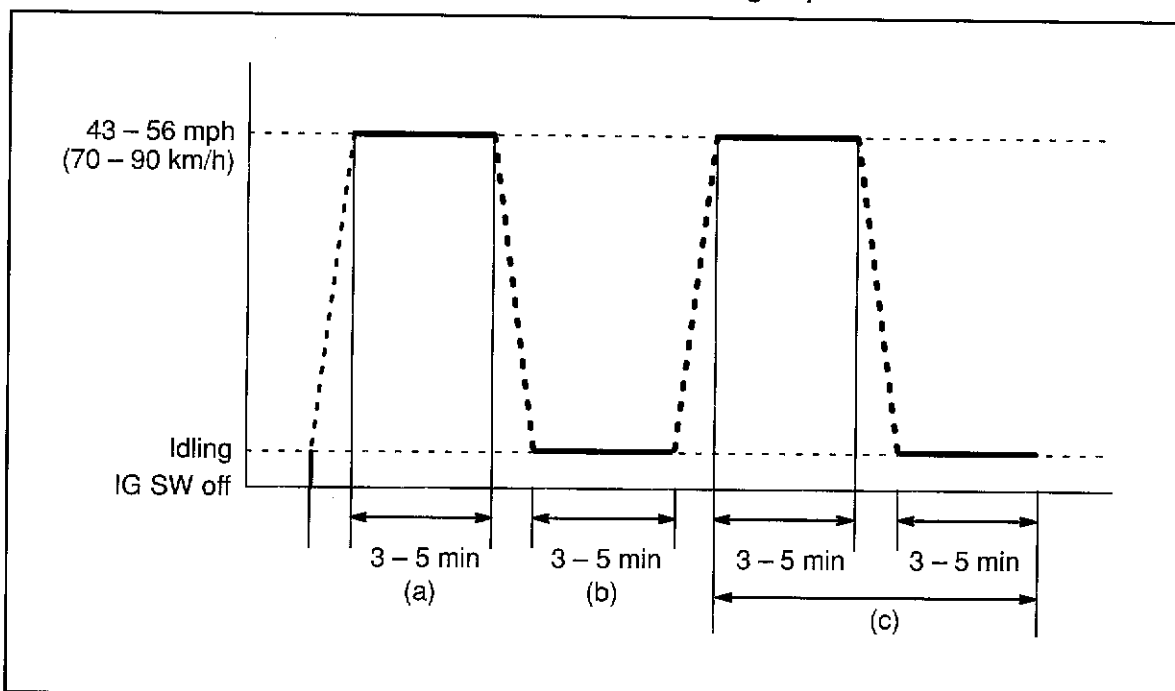
NOTE:

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.”

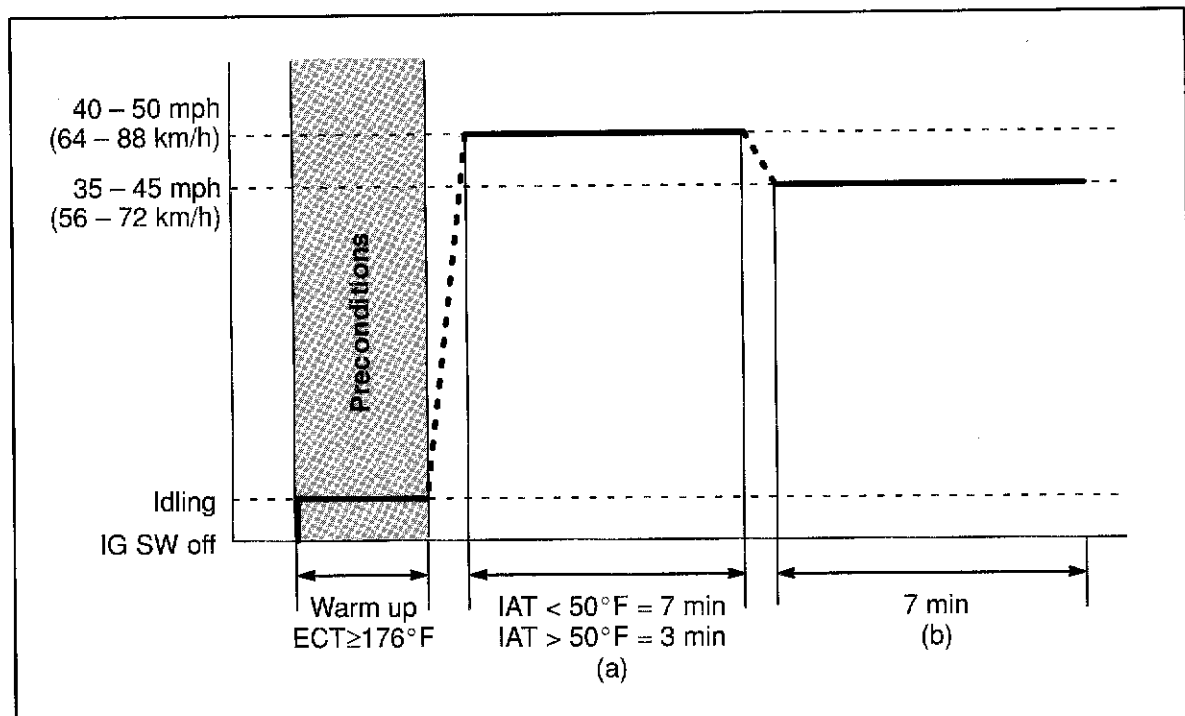
NOTE:

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.

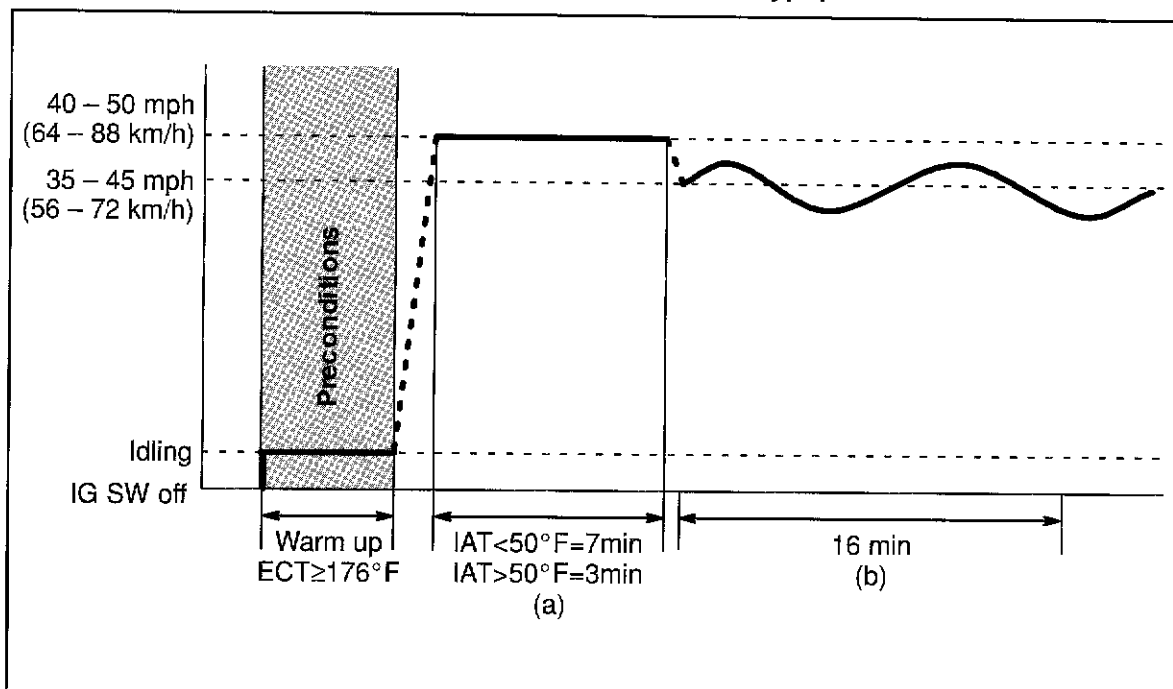
If readiness status does not switch to "complete," ensure preconditions are met, turn the ignition OFF, then repeat steps "a" and "b."

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."

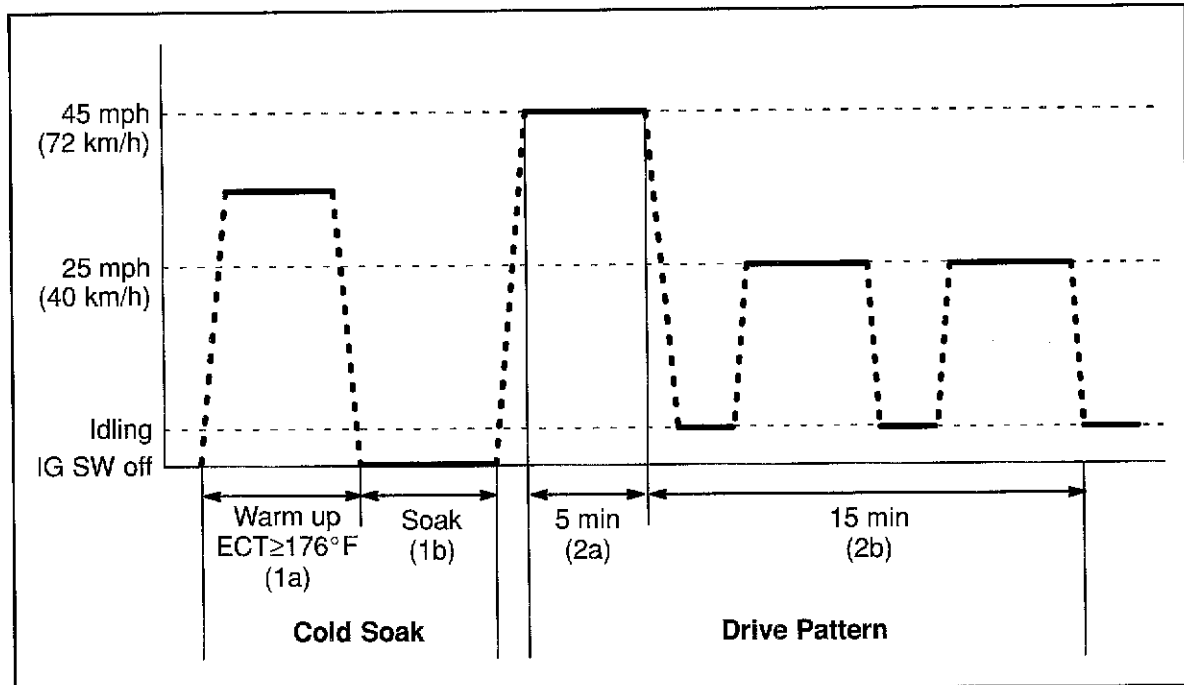
NOTE:

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.

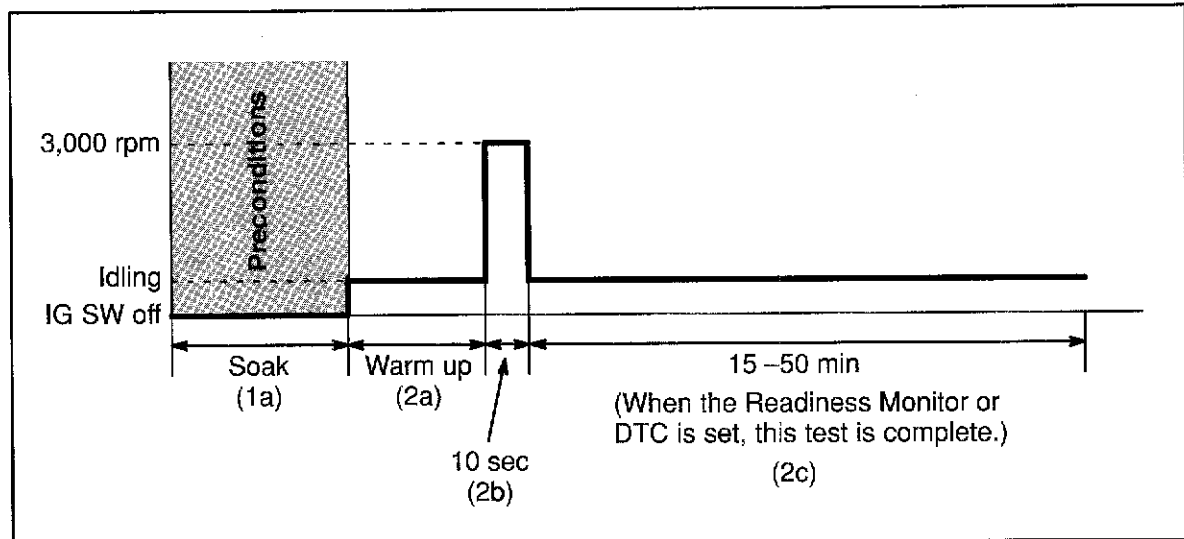
NOTE:

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.

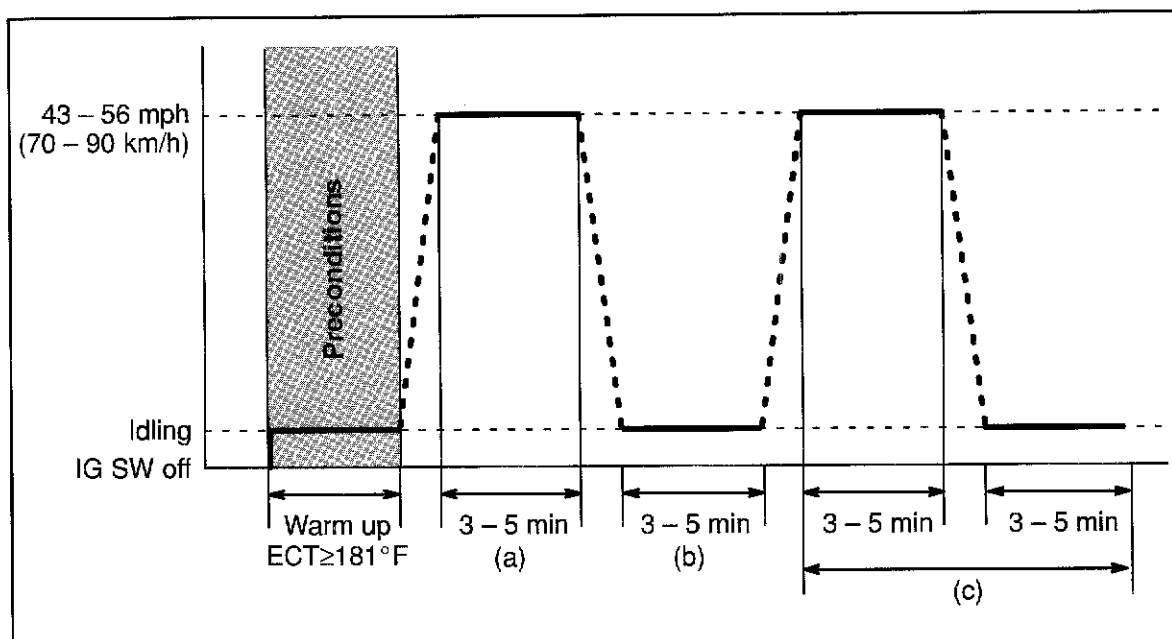
NOTE:

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.”

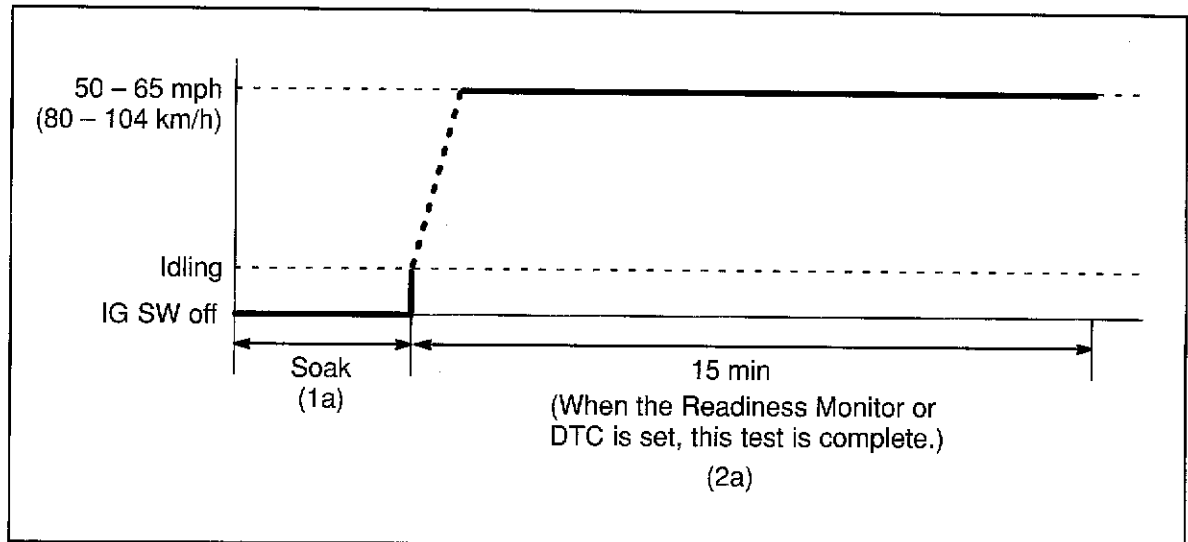
NOTE:

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.)

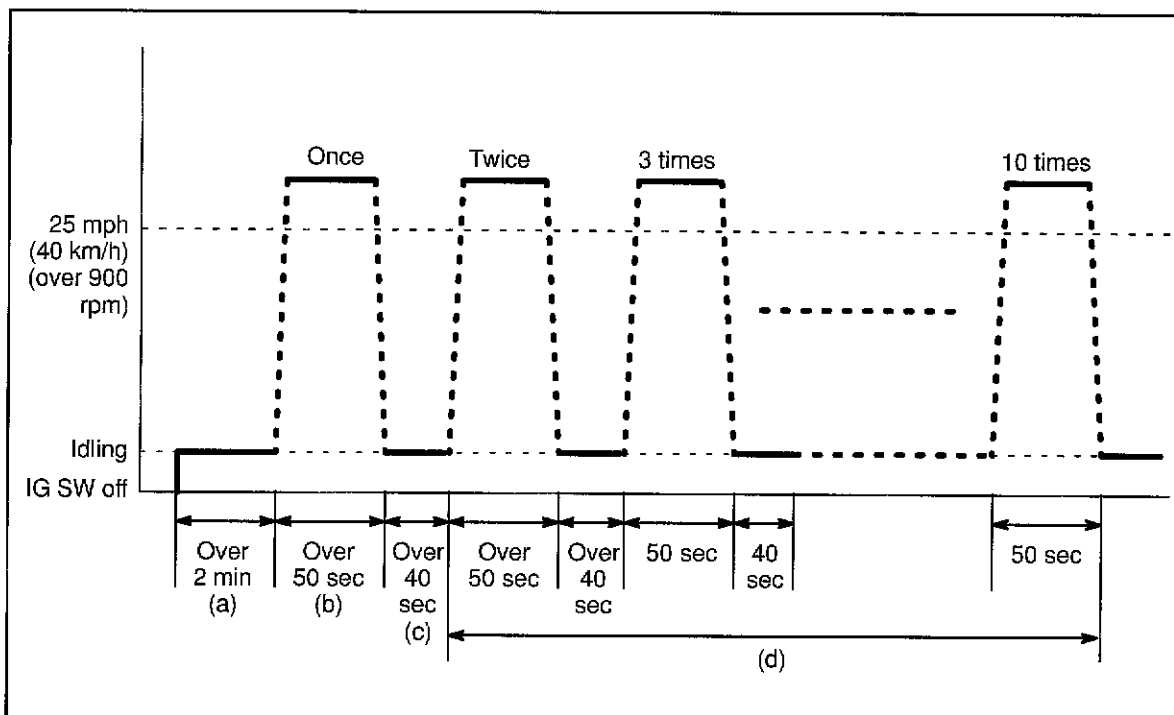
NOTE:

- **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.

- Start the engine and allow it to idle for 2 minutes or more.
- Drive the vehicle at 25 mph (40 km/h) or more for at least 50 seconds. Be sure engine speed remains above 900 rpm.
- Stop the vehicle and allow the engine to idle for 40 seconds or more.
- 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."

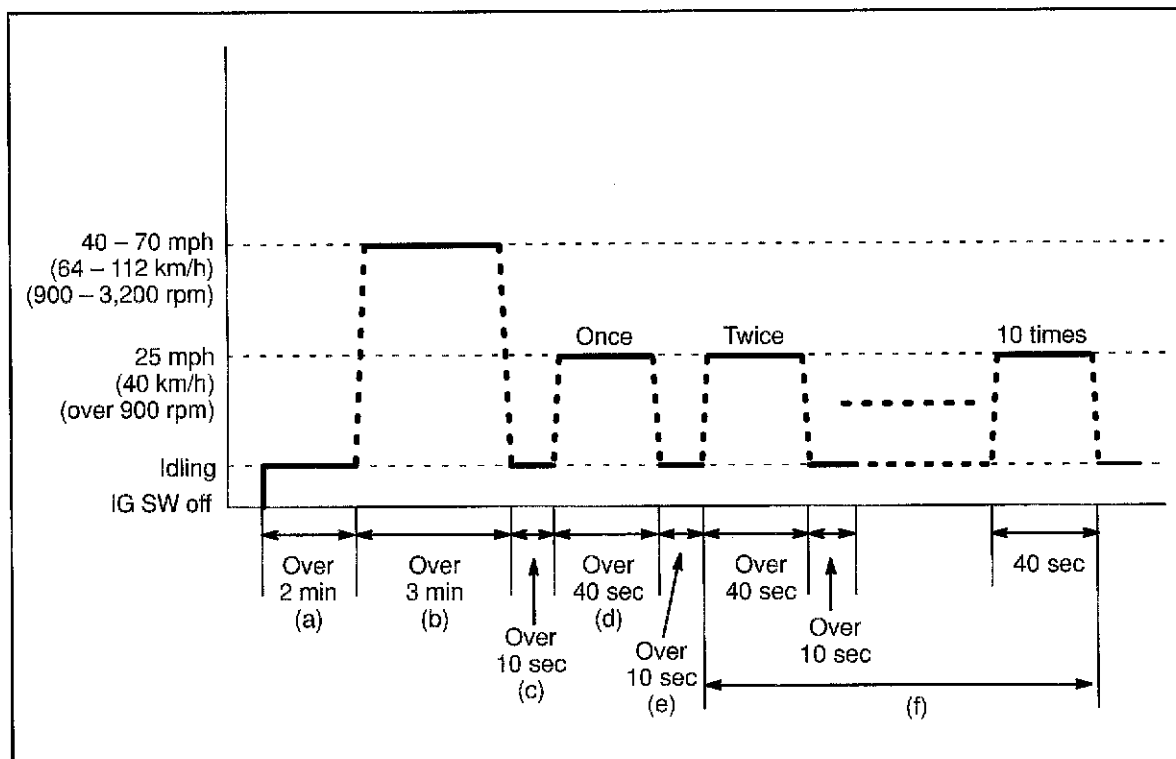
NOTE:

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.”

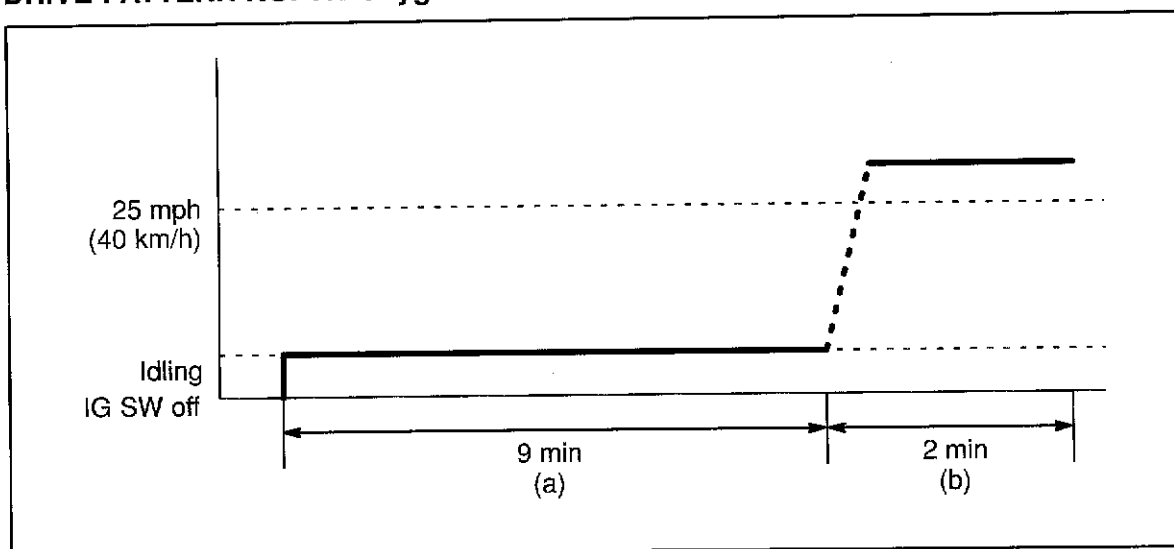
NOTE:

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.

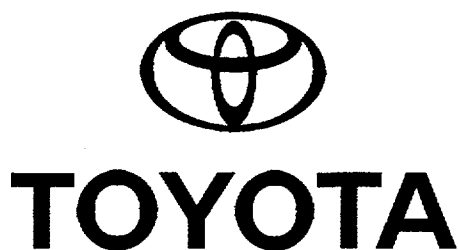
- Start the engine and allow it to idle for 9 minutes.
- Drive the vehicle at 25 mph (40 km/h) or more for at least 2 minutes.

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.



TECHNICAL SERVICE BULLETIN

Ref.: ENGINE

No.: EG003-96

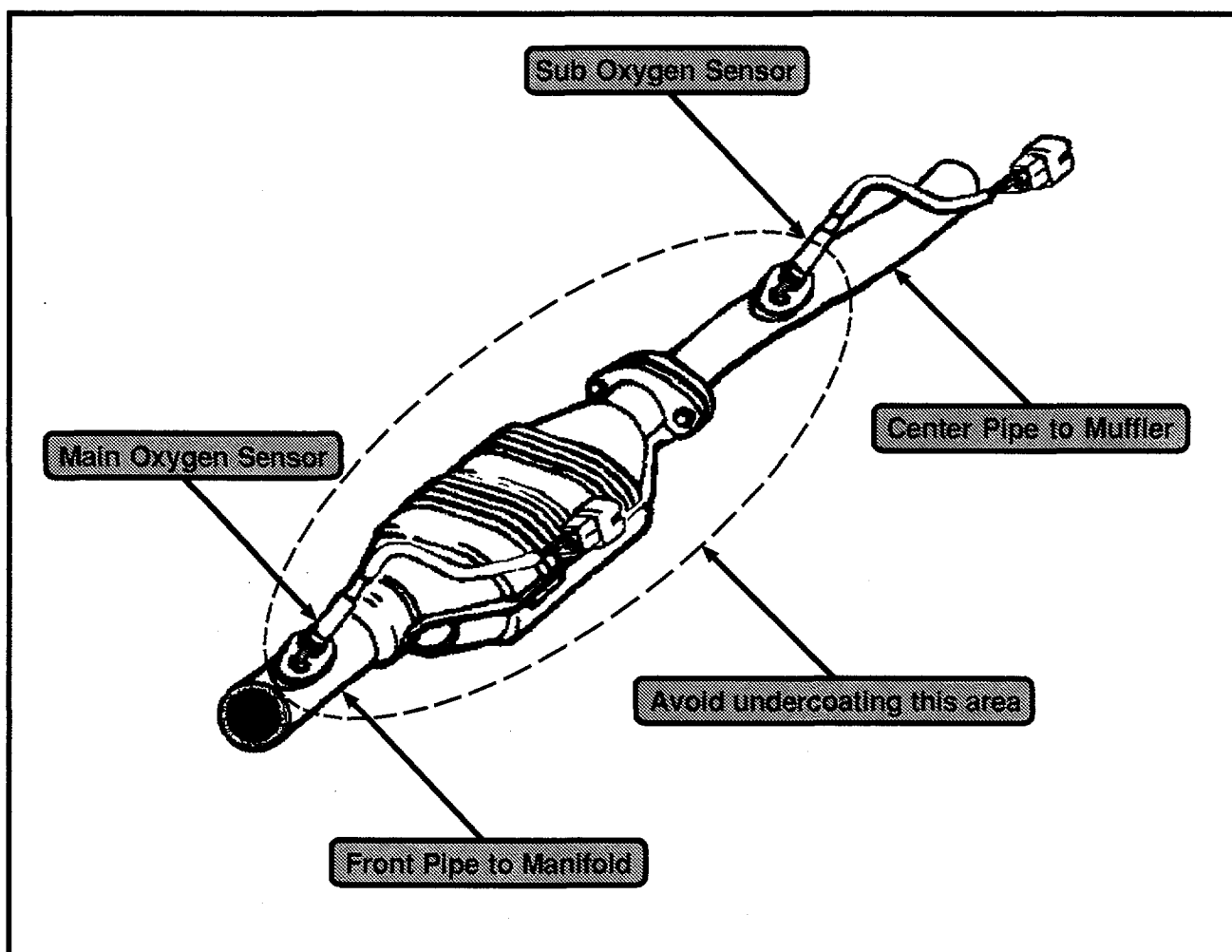
Date: OCTOBER 11, 1996

Model: ALL MODELS

Title: UNDERCOATING ON OXYGEN SENSORS

Page 1 of 1

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.



Index # 045757



**Technical Service
BULLETIN**
April 3, 1998

Title: **EVAP SYSTEM DIAGNOSIS: P0441 / P0446**

Models:
**RAV4, Tercel, Paseo, Camry, Avalon,
Tacoma, 4Runner, T-100**

EG003-98

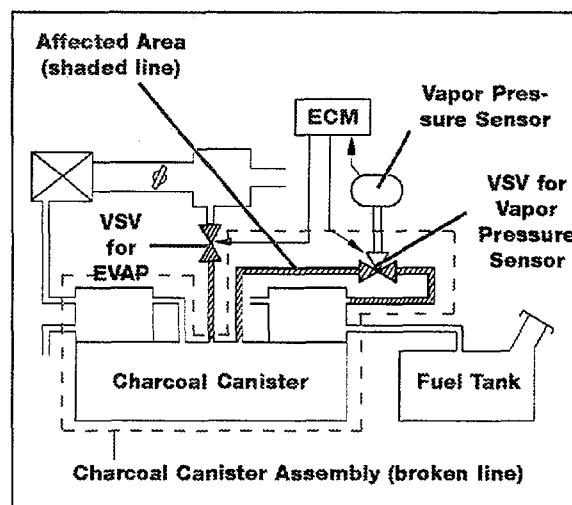
ENGINE

Introduction The following procedure is recommended for repair of MIL "ON" conditions involving confirmed DTC P0441 and P0446.

Affected Vehicles • All RAV4, Tercel, Paseo, Camry, Avalon, Tacoma, 4Runner, T-100 that display codes P0441 or P0446.

**Repair
Procedure**

- A. Diagnostics for P0441:
1. Remove Vacuum Hoses between EVAP VSV and Charcoal Canister and discard.
 2. If there is a metal vapor pipe between EVAP VSV and Charcoal Canister, clean inside of vapor pipe.
 3. Replace EVAP VSV and Charcoal Canister assembly with new parts.
 4. Install new vacuum hoses between EVAP VSV and Charcoal Canister.
- B. Diagnostics for P0446:
1. Inspect vacuum hoses and pipes between EVAP (Purge) VSV and Charcoal Canister for leaks.
 2. Replace Vapor Pressure VSV and Canister.



NOTE:

When performing diagnostics for an occurrence of a MIL "ON" condition, Diagnostic Trouble Code (DTC) P0441 may be result of debris in Evaporative Emission Control System. This may cause blockage of a vapor line, or a stuck VSV, as described in troubleshooting area of Repair Manual.

**Warranty
Information**

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

Index # **049355**



Toyota Supports ASE Certification



Technical Service BULLETIN

April 27, 2001

Title:

EVAP SYSTEM OPERATION INFORMATION

Models:

All '96 – '01 Models

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	—	—	—	—



Toyota Supports ASE Certification

Index * 055028

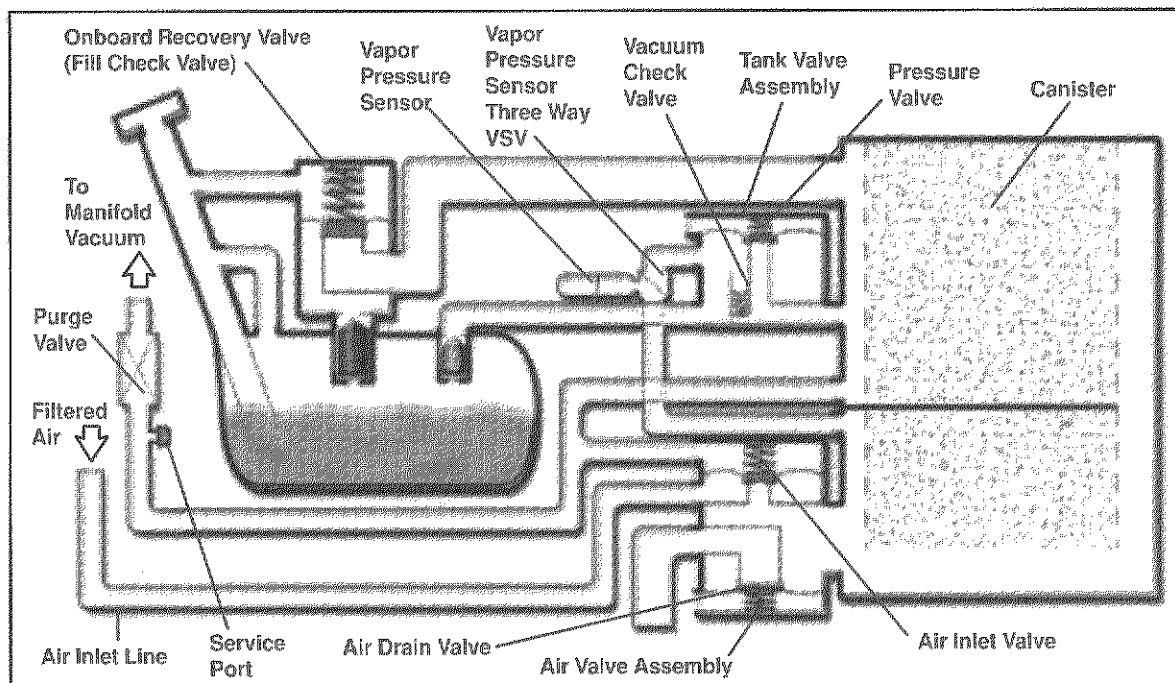
Page 1 of 14

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.

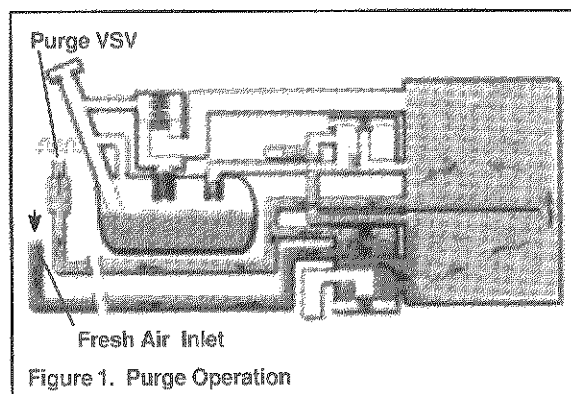
The first system described is the Early Type (Non-Intrusive) EVAP System. Refer to the Applicable Vehicles chart for applicability information.



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.

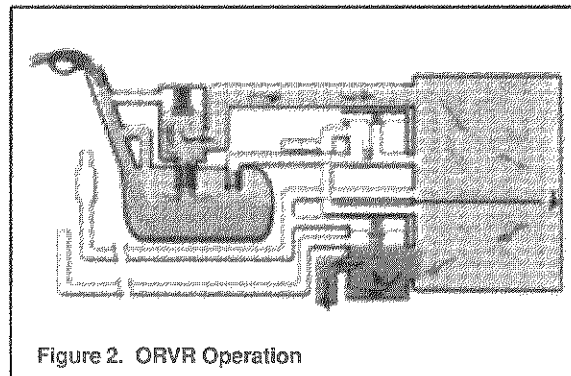
The ECM will change the duty ratio cycle of the purge VSV thus controlling purge flow volume. Purge flow volume is determined by manifold pressure and the duty ratio cycle of the purge VSV. Atmospheric pressure is allowed into the canister to ensure that purge flow is constantly maintained whenever purge vacuum is applied to the canister (see Figure 1).



**Early Type
System
Description**
(Continued)

ORVR Operation

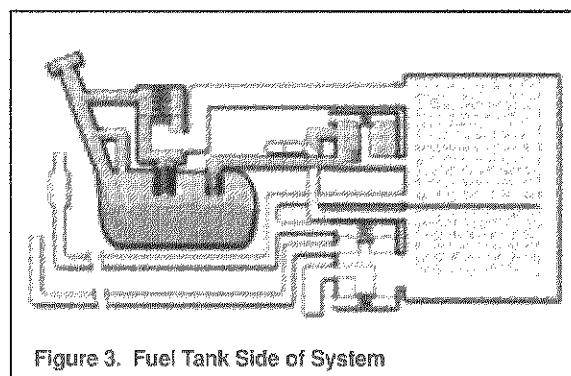
During refueling, low pressure above the diaphragm in the onboard recovery valve lifts allowing fuel vapors into the charcoal canister. At the same time, the air drain valve opens and the charcoal absorbs the fuel vapors (see Figure 2).



Early Type (Non-Intrusive) EVAP System DTCs

EVAP Monitor Leak Operation P0440

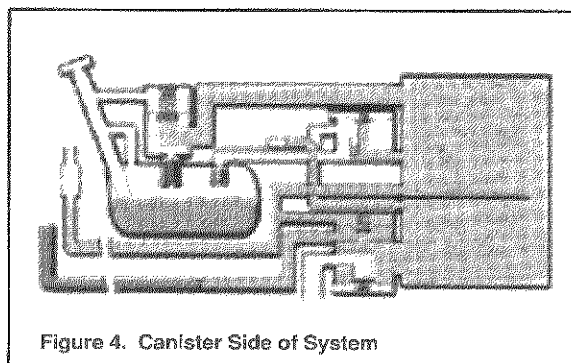
The ECM tests for leaks by measuring EVAP system pressure in the lines, charcoal canister, and fuel tank. When the EVAP pressure is higher or lower than atmospheric pressure, the ECM concludes that no leaks are present. EVAP pressure is measured by the vapor pressure sensor. If either the tank or canister purge side is at atmospheric pressure under specific conditions, the ECM determines there is a leak.



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).



**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

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.

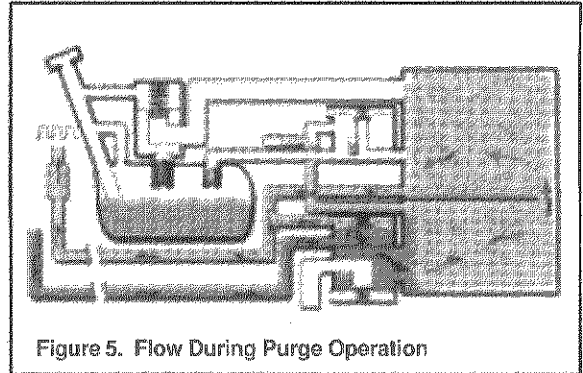


Figure 5. Flow During Purge Operation

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**

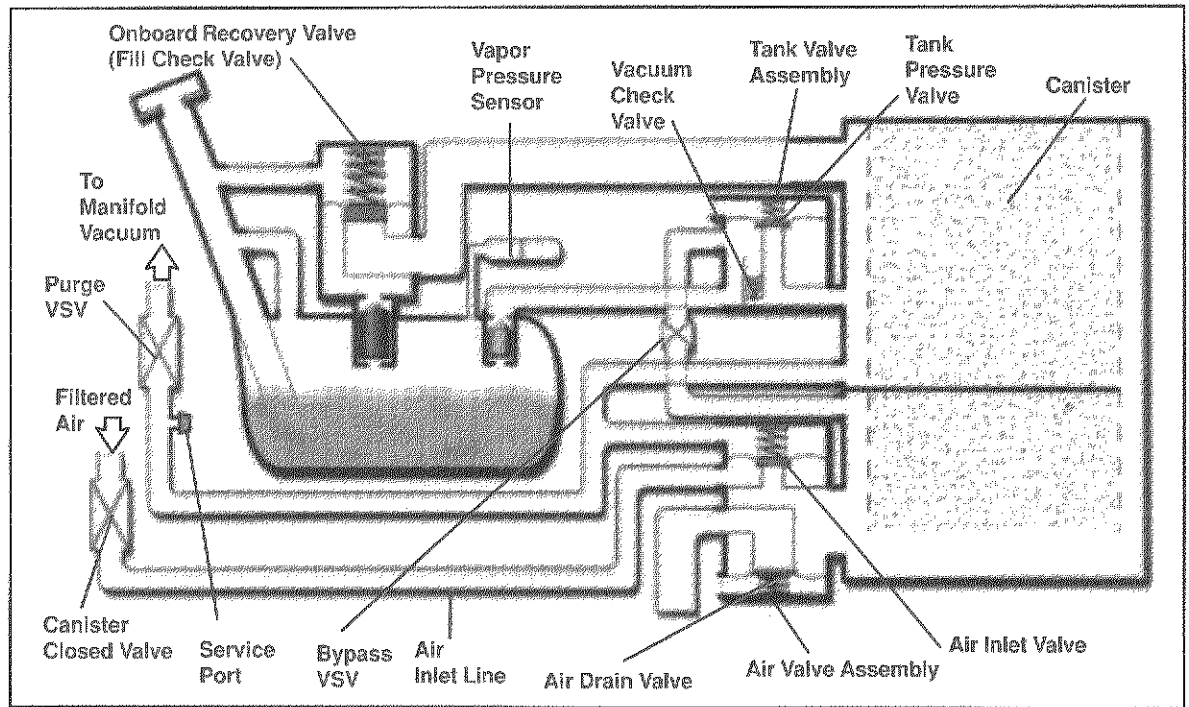
The Late Type EVAP System, also known as the Intrusive type, was developed to meet the very stringent, mandated standard of detecting a hole 0.020 inch (0.5 mm). This system uses many of the same components as the early type EVAP system. Purge, vacuum relief, pressure relief, and ORVR operations are 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.

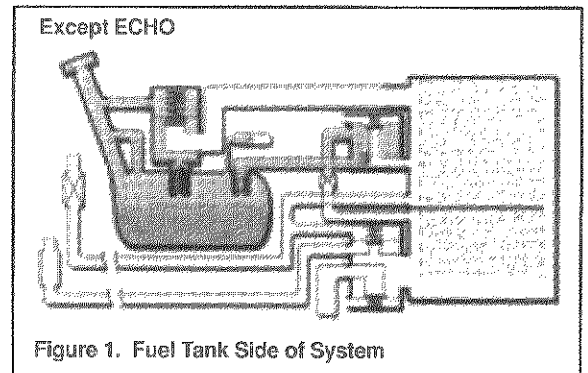
**Late Type
System
Description
(Continued)**

Late Type (Intrusive EVAP System) (Except ECHO)



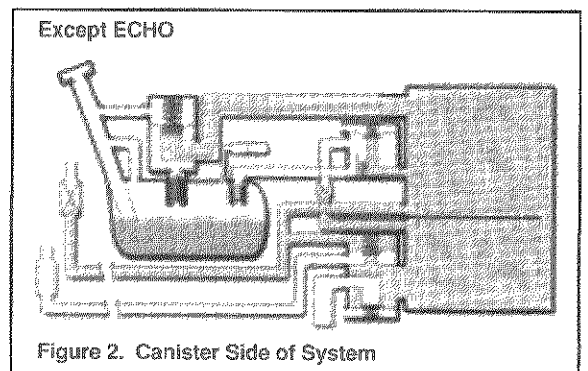
Tank Side

The bypass VSV and the fill check valve assembly isolates the tank pressure side from the canister side (see Figure 1).



Canister Side

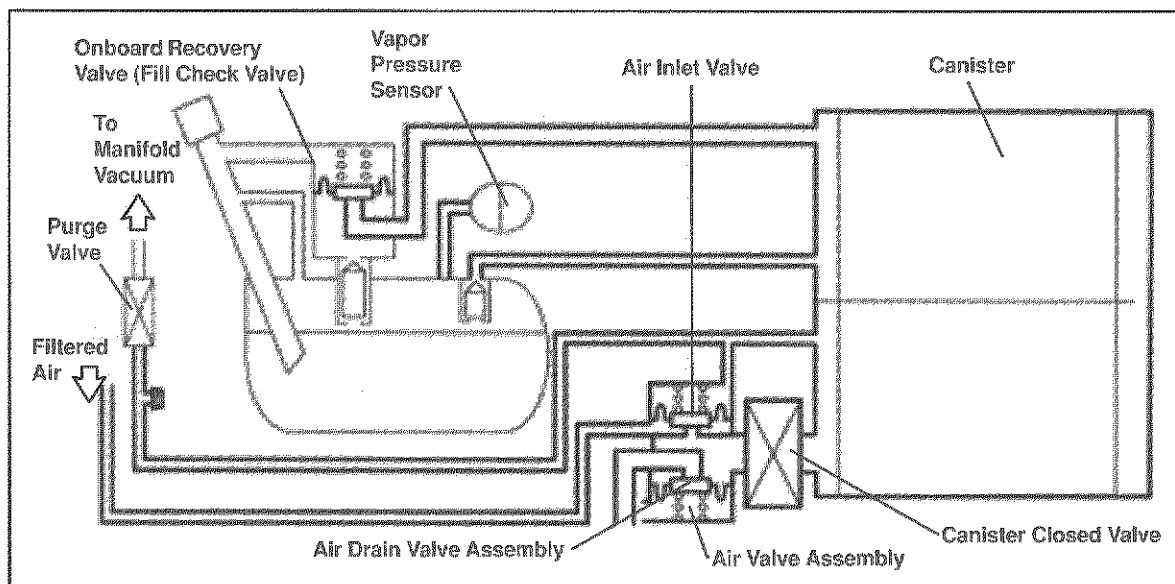
The bypass VSV and the Fill Check valve also isolate the canister side from the tank side (see Figure 2).



**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.

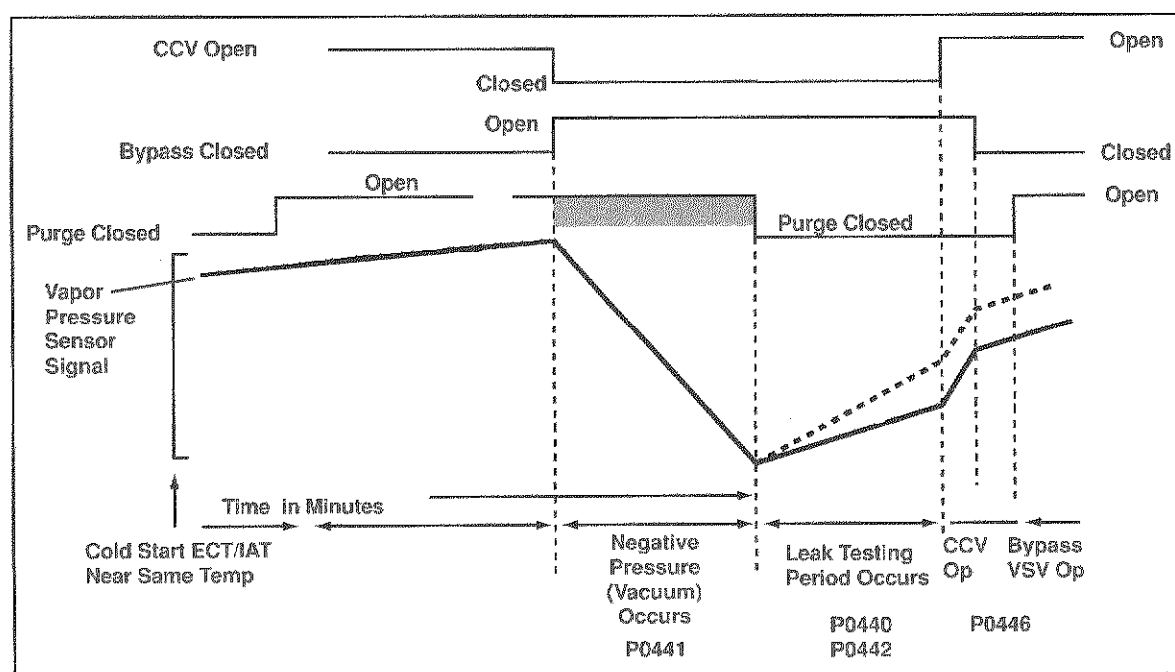


**Late Type
System
Monitor
Sequence**

Late Type (Intrusive) EVAP System Monitor Sequence

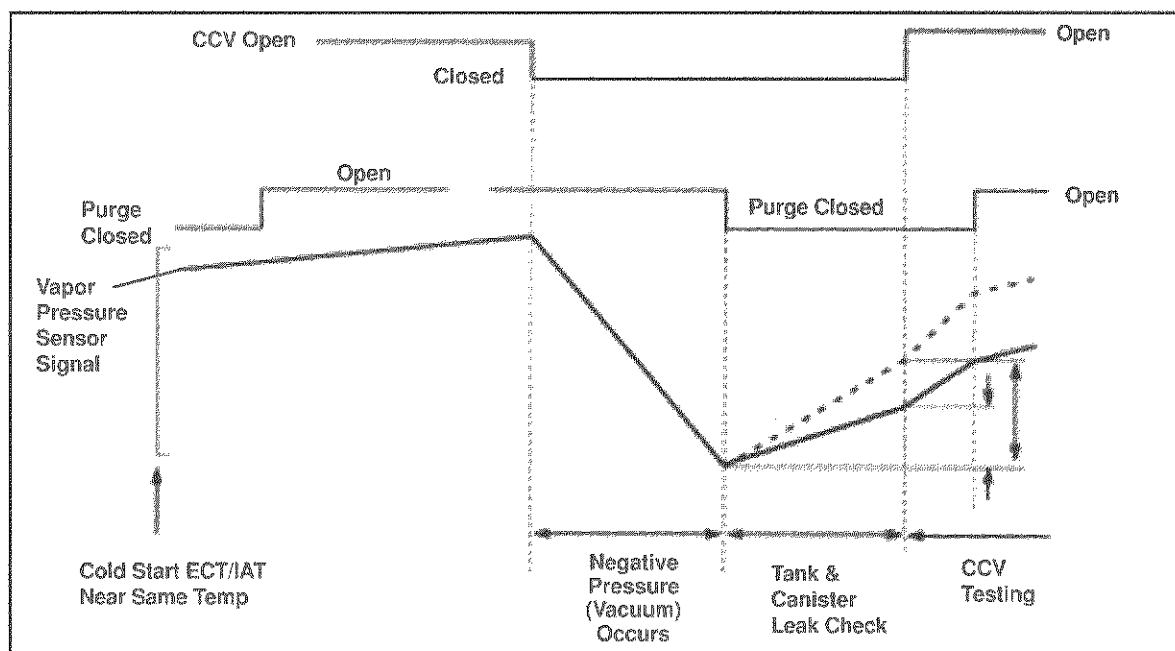
The monitoring sequence for leak detection is different from that of the Early Type EVAP System. The Late Type applies a very small vacuum to the EVAP system. The ECM then determines if there is a problem in the system based on the vapor pressure sensor signal.

Monitor Sequence (Except ECHO)



**Late Type
System
Monitor
Sequence
(Continued)**

ECHO Monitor Sequence

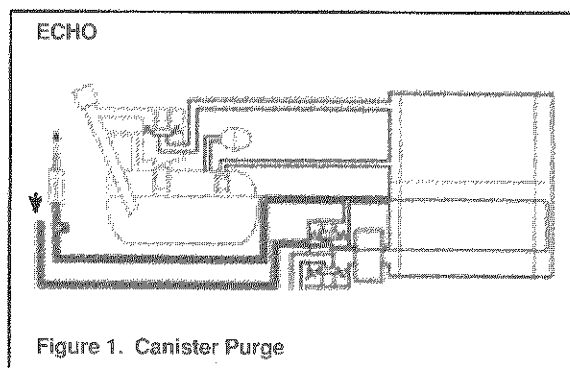
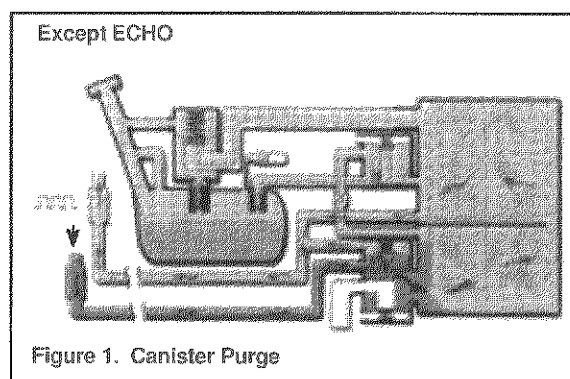


Monitor Operation

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.

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.



**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

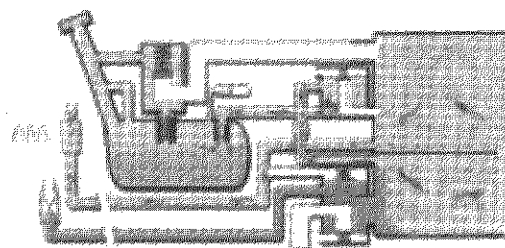


Figure 2. Vacuum Application

ECHO

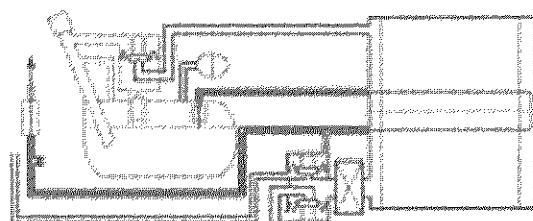


Figure 2. Vacuum Application

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

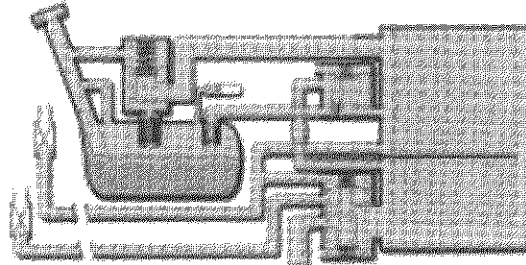


Figure 3. System Sealed

ECHO

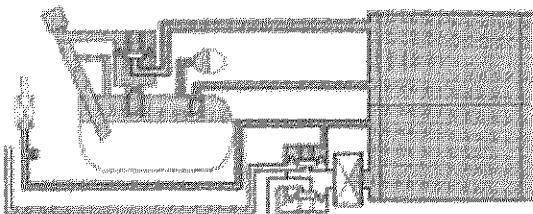


Figure 3. System Sealed

**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

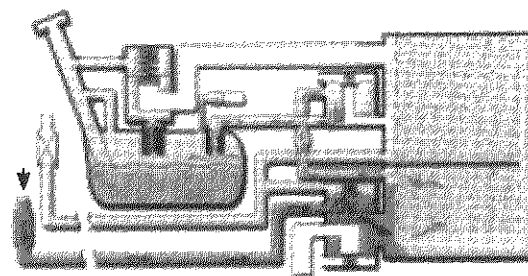


Figure 4. CCV Opens

ECHO

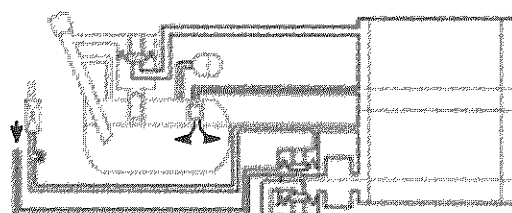


Figure 4. CCV Opens

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

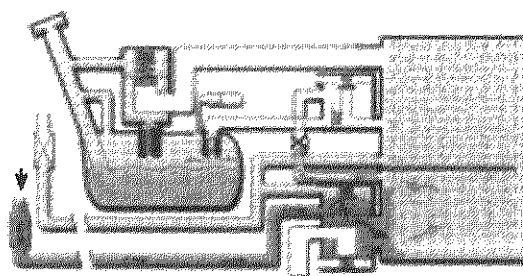


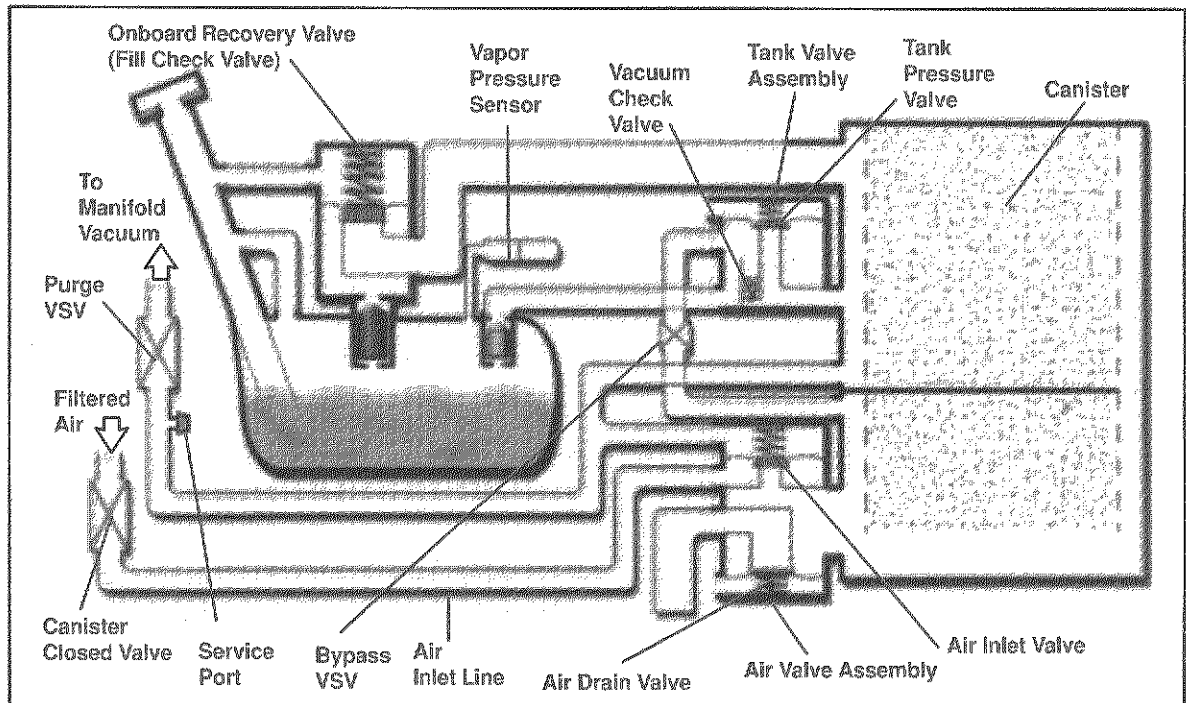
Figure 5. Bypass VSV Closes

**Diagnostic
Tips for Late
Type EVAP
System**

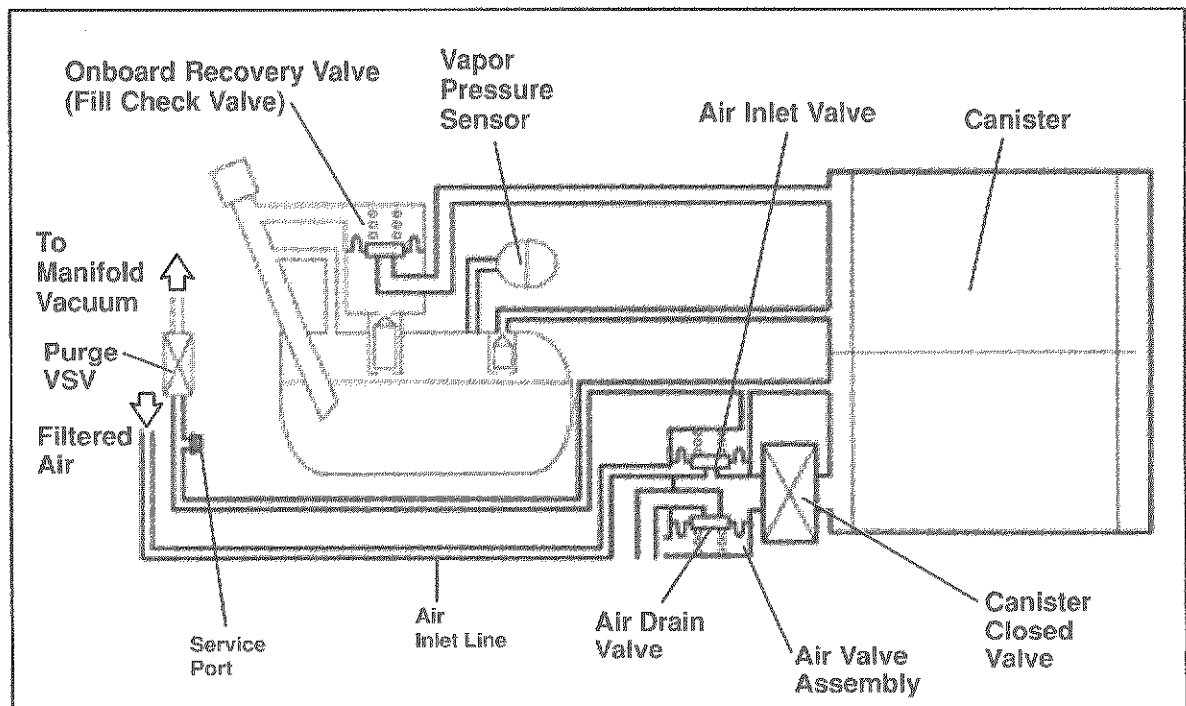
This diagnostic process tests the EVAP System. The following diagnostic tips may be used in conjunction with the Diagnostic Procedures for EVAP DTCs listed in the Repair Manual. They may be used for all Late Type (Intrusive) EVAP Systems and for all EVAP DTCs. Refer to the Applicable Vehicles chart for 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)

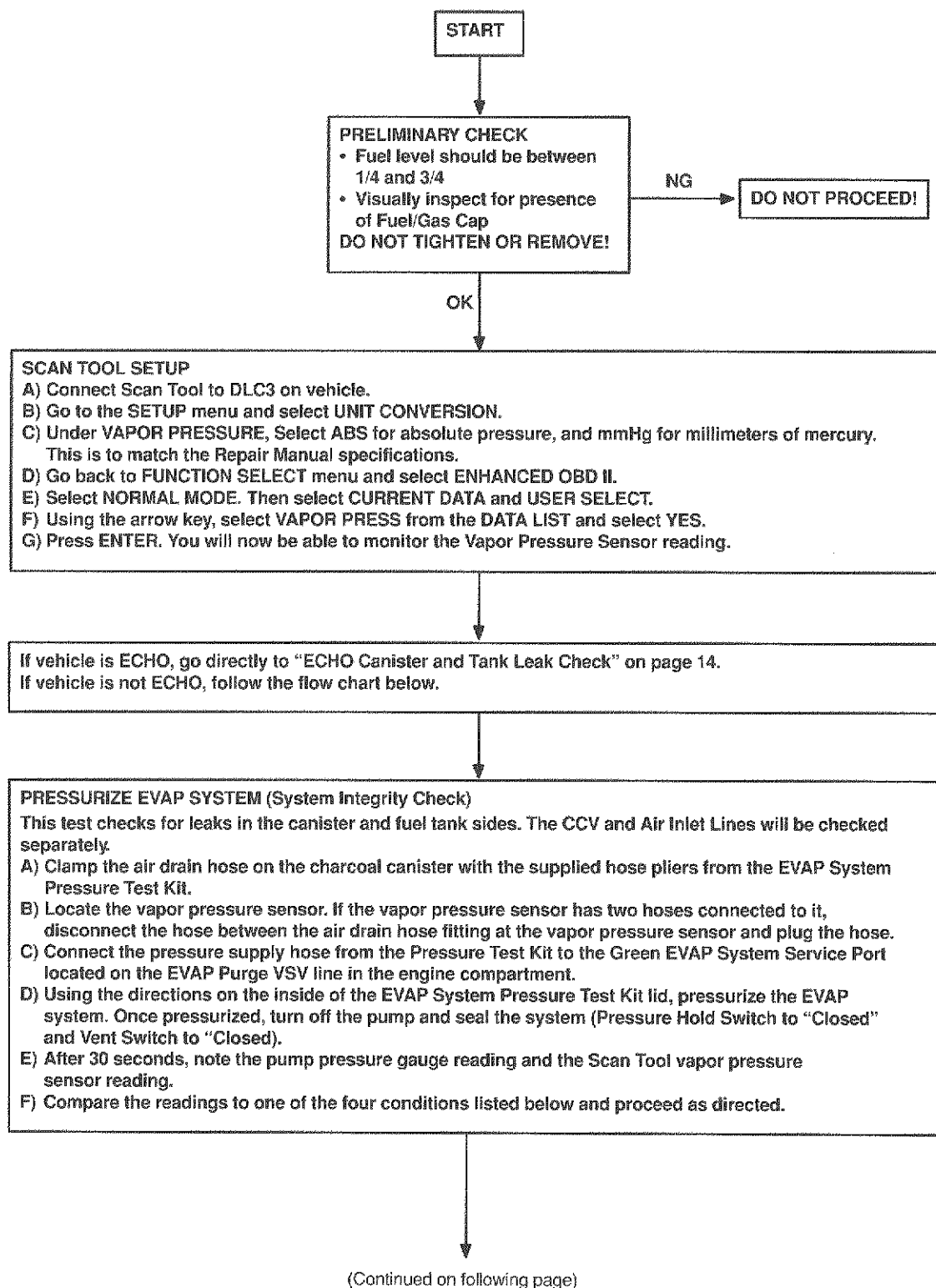


ECHO System Outline



**Diagnostic
Tips for Late
Type EVAP
System**
(Continued)

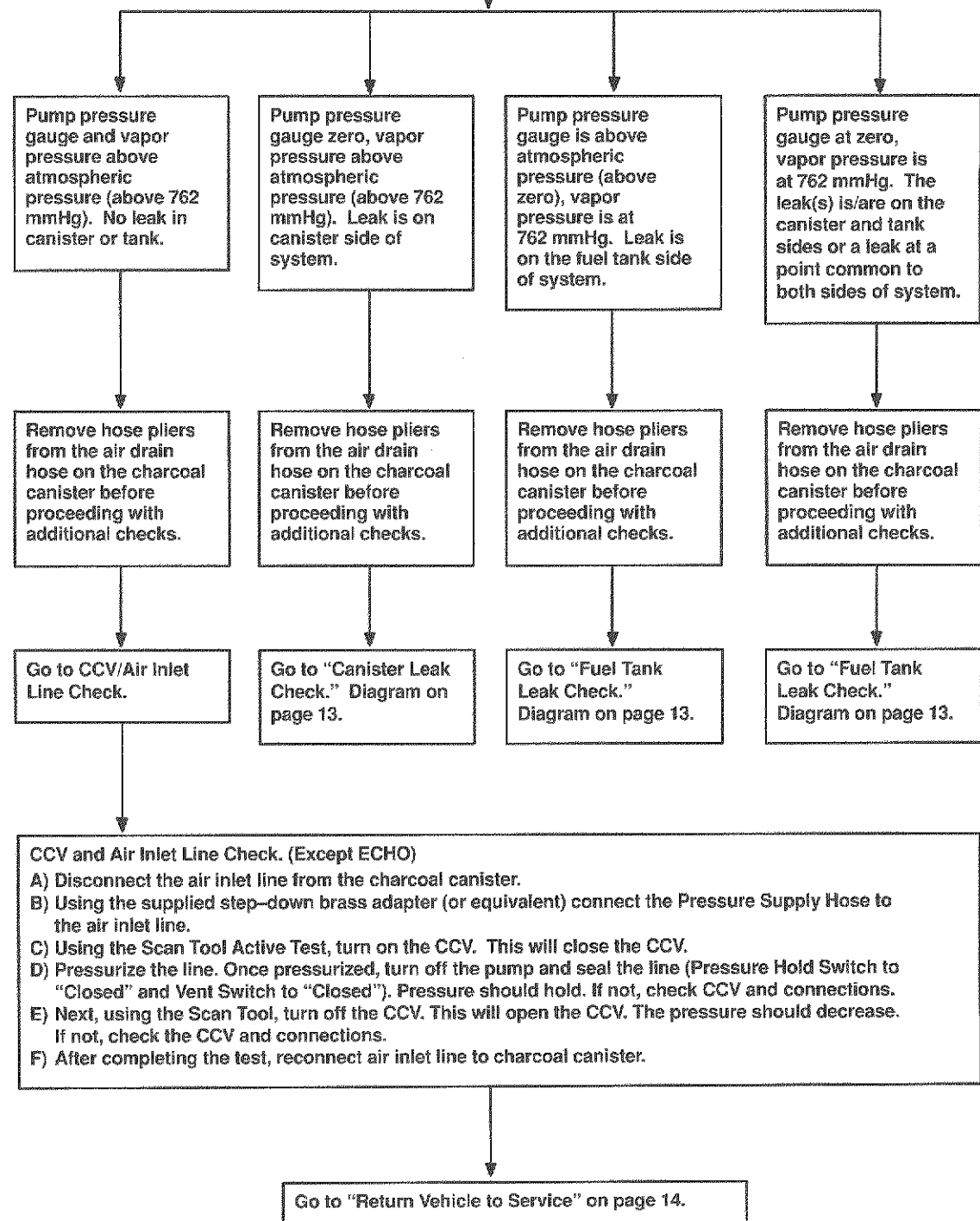
Diagnostic Process Flow Chart



**Diagnostic
Tips for Late
Type EVAP
System
(Continued)**

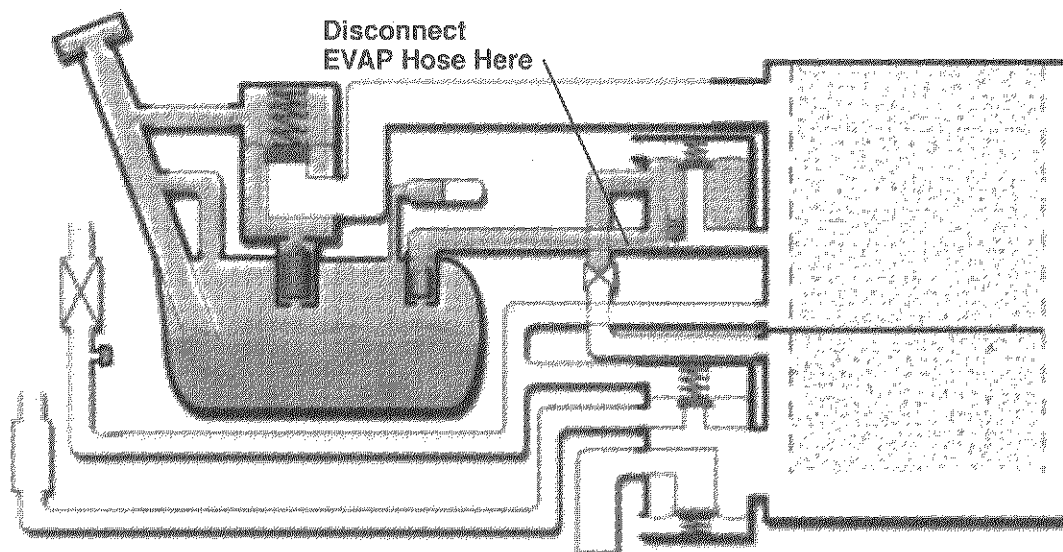
Diagnostic Process Flow Chart (Continued)

(Continued from previous page)



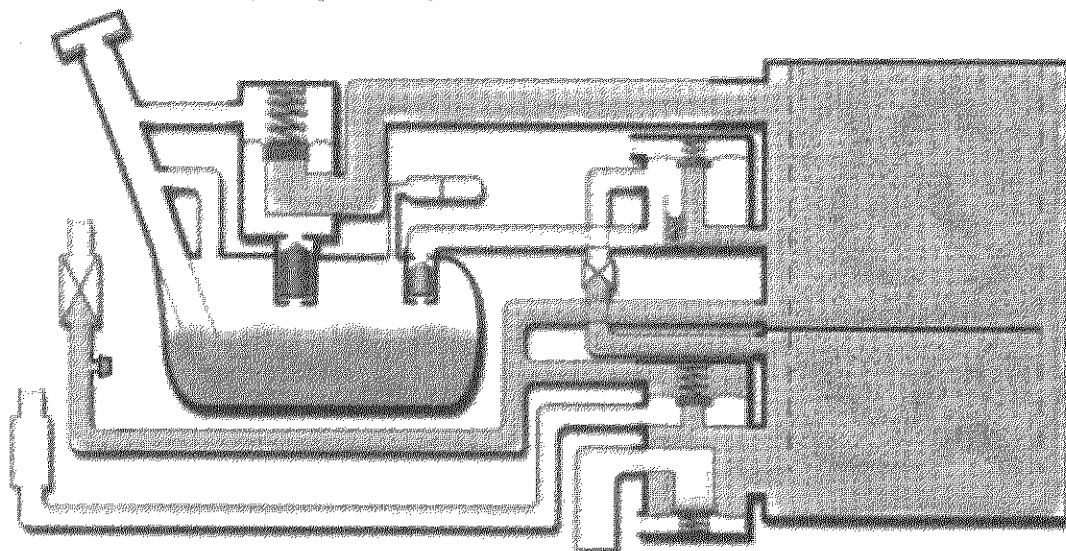
**Diagnostic
Tips for Late
Type EVAP
System
(Continued)**

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.

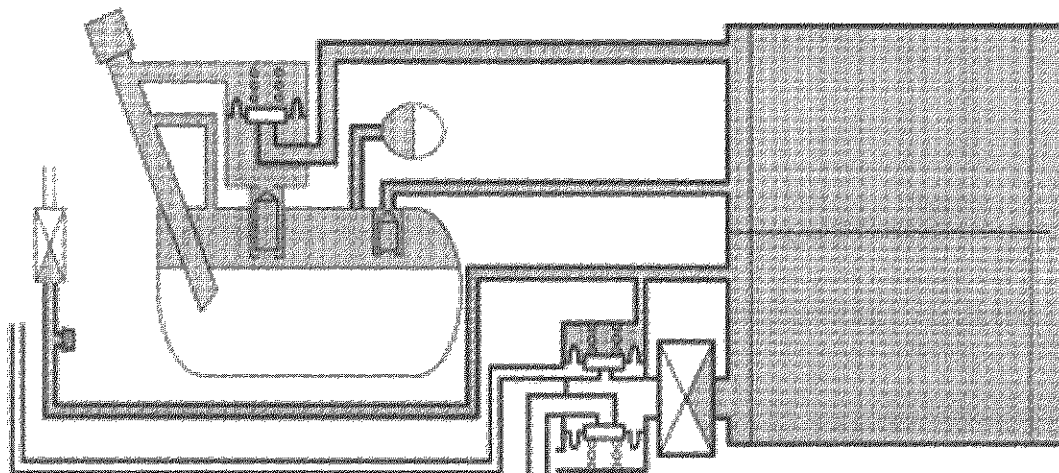
Canister Leak Check (Except ECHO)



- 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.

Introduction To improve muffler and tailpipe durability, the Tail Pipe Assembly has been modified. For 4WD models, a dynamic damper has also been added on the Center Exhaust Pipe Assembly.

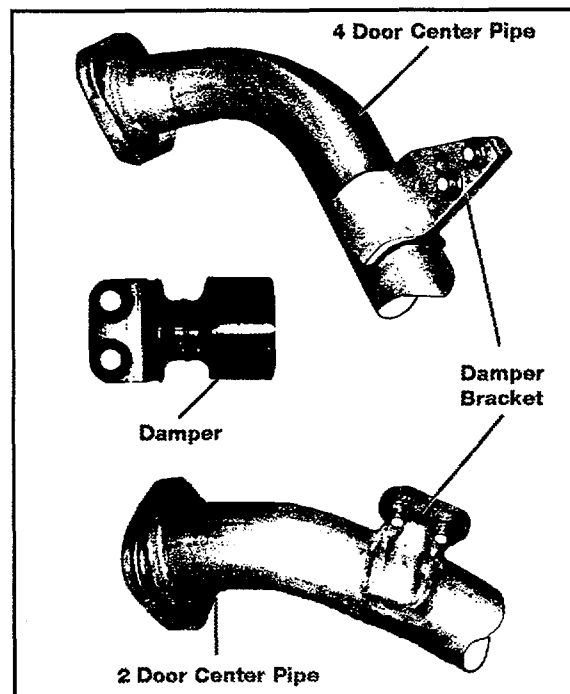
Affected Vehicles • 1995 through 1997 model years **RAV4**

Part Number Information

OLD PART NUMBER	NEW PART NUMBER	QTY	PART NAME
17430-7A530	17430-7A780	1	Tail Pipe Assembly, 2WD & 4WD
17420-74820	17420-7A070	1	Center Pipe Assembly, 4WD, 2 Door
17420-74880	17420-7A080	1	Center Pipe Assembly, 4WD, 4 Door
N/A	17581-17010	1	Exhaust Pipe Damper No.2
N/A	91651-60835	2	Bolt

Repair Procedure

- A. 2WD Models:
- Replace Tail Pipe Assembly.
- B. 4WD Models:
1. Replace Tail Pipe Assembly.
 2. Install Exhaust Pipe Damper No.2 to bracket indicated in illustration.



Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
170151	R & R Tail Pipe	0.3	17430-7A530	44	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.





Technical Service BULLETIN

March 22, 2002

Title:

GENERAL MAINTENANCE TIP

Models:

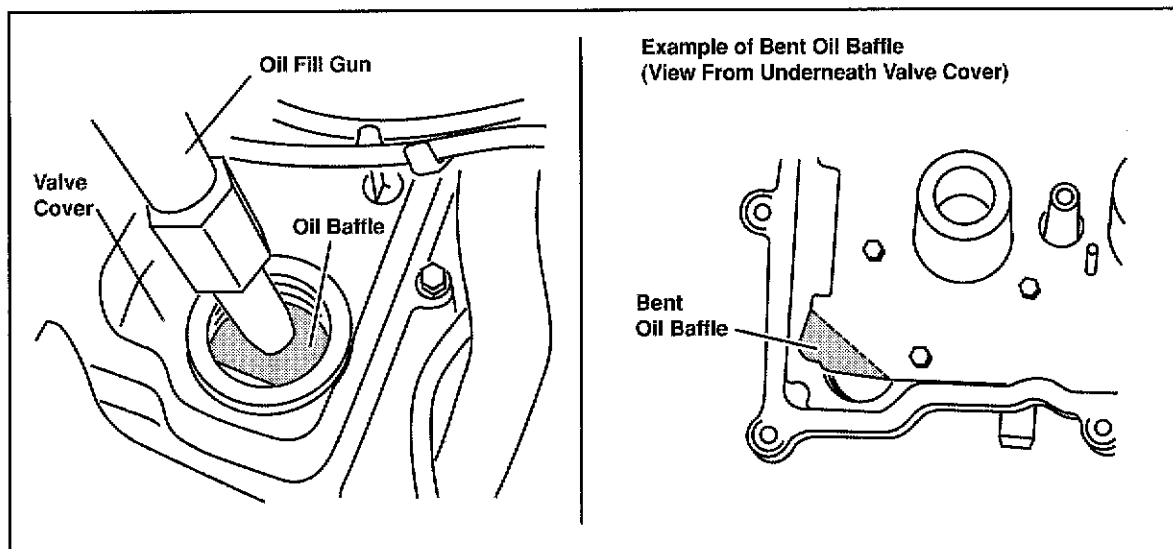
All '93 – '03 Models

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	—	—	—	—



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**Technical Service
BULLETIN**
May 29, 1998

Title:

CHARCOAL CANISTER INTERCHANGEABILITY

Models:

'95-'97 Avalon, '96-'97 Camry, '96-'97 RAV4

**ENGINE
EG007-98**

Introduction Charcoal Canister Assembly supply parts have been changed to simplify parts production and permit interchangeability with current model RAV4, Camry and Avalon.

**Affected
Vehicles**

- 1995 - 1997 model year **Avalon**,
- 1996 - 1997 model year **RAV4**,
- 1997 model year **V6 Camry** and
- 1996 - 1997 model year **L4 Camry** with automatic transmission.

**Parts
Information**

The following table contains the part number replacement data for the involved models:

OLD PART NUMBER	NEW PART NUMBER	MODEL	VENDOR	APPLICATION
77740-33071	77740-33072	Avalon	JPP	9508- MCX10
77740-07011	77740-07012	Avalon	NAP	9508- MCX10
77740-41010	77740-41011	Avalon	JPP	9409- MCX10 Cal. Spec.
77740-33061	77740-33062	Camry L4	JPP	9508- SXV20 NAP..ATM
77740-06061	77740-06062	Camry V6	NAP	9607- MCV20 NAP..ATM
77740-42031	77740-42032	RAV4	JPP	9511- SXA1#

NOTE:

New part numbers are fully interchangeable with previous part numbers.

**Warranty
Information**

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

Index # **049570**



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Technical Service BULLETIN

March 22, 2002

Title:

M.I.L. "ON" DTC P0442, P0440

Models:

'02 RAV4

T S B

ENGINE
EG008-02

Introduction Some 2002 model year RAV4 vehicles may exhibit a M.I.L. "ON" with DTC P0442 (Evaporative Emission Control System Malfunction [Small Leak]) and/or DTC P0440 (Evaporative Emission Control System Malfunction). This may be due to slight damage to the Fuel Tank Vent Hose during the assembly process.

Applicable Vehicles

- 2002 model year **RAV4** vehicles assembled at the Shokai assembly plant (11th digit on the VIN is 6) produced BEFORE the Production Change Effective VIN shown below.

Production Change Information

MODEL	PRODUCTION CHANGE EFFECTIVE VIN
RAV4	JTEHH20V126030428

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
77404-42010	Same	Fuel Tank Vent Hose	1

Required Tools & Material

PART NUMBER	TOOLS & MATERIALS	QUANTITY
00002-6872A	EVAP System Pressure Tester	1

Warranty Information

MODEL	OP CODE	DESCRIPTION	TIME	OPN	T1	T2
2WD	EG1005	R & R Fuel Tank Vent Hose Assembly	2.2	77404-42010	64	11
4WD	EG1006		2.8			

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, Massachusetts or Vermont, this repair is covered under the California emissions warranty, which is 36 months or 50,000, 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.



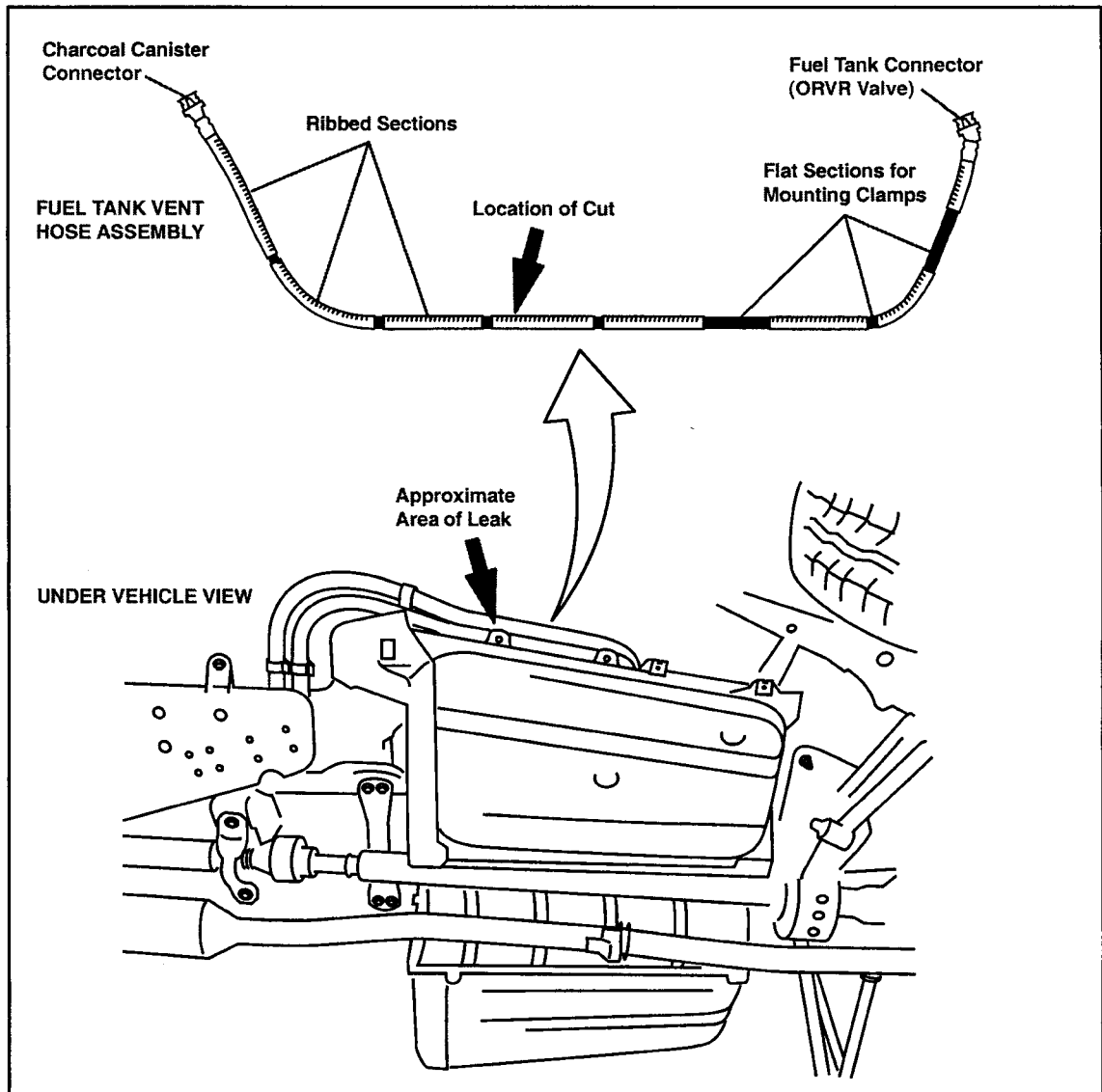
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630838

**Repair
Procedure**

1. Pressure test the EVAP system to confirm leak from system using the EVAP Pressure Tester (P/N 00002–6872A). (Follow instructions on EVAP Pressure Tester.)
2. Examine the Fuel Tank Vent Hose Assembly **very closely** for a small cut in the 4th ribbed section from the charcoal canister (see illustration).



3. If cut is present, replace the Fuel Tank Vent Hose Assembly (P/N 77404–42010).
4. If no damage is found, perform EVAP system diagnostics for P0440 in the 2002 RAV4 Repair Manual, Volume 1, page DI–74.



Technical Service BULLETIN

November 21, 1997

Title:

3S-FE ECM TAU FUEL CUT LOGIC CHANGED

Models:

'96 & '97 RAV4

ENGINE
EG008-97

Introduction To improve engine operating smoothness when driving on downhill grades, the engine ECM program logic has been changed.

Affected Vehicles • 1996 and 1997 model year **RAV4** with **manual transmission** manufactured **before VINs** listed in Production Change Information table below.

Production Change Information

STARTING VIN	MODEL
JT3YP10V6V0154205	4WD 2-door 5 speed manual
JT3HP10V0V0128861	4WD 4-door 5 speed manual
JT3HP10V5V7042277	
JT3XP10V2V0006941	2WD 2 door 5 speed manual
JT3GP10V5V0013057	2WD 4-door 5 speed manual
JT3GP10V6V7013317	

Parts Information

OLD PART NUMBER	NEW PART NUMBER	NEW PART NAME & APPLICATION
89661-42130 89661-42250	89661-42251	4WD Engine Control Module
89661-42230 89661-42110	89661-42231	2WD Engine Control Module

- New parts **may** be used on previous vehicles. Old parts **cannot** be used on newer vehicles.

Warranty Information

OP CODE	VWC	DESCRIPTION	TIME	OPN	T1	T2
895011	N	R&R Engine Control Module	0.5	89661-42#30	03	99

Applicable Warranty:

This repair is covered under the Toyota Powertrain Warranty. This warranty is in effect for 60 months or 60,000 miles, whichever occurs first, from the vehicle's in-service date.



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**Technical Service
BULLETIN**

July 17, 1998

Title:

VACUUM HOSE PRODUCTION CHANGE

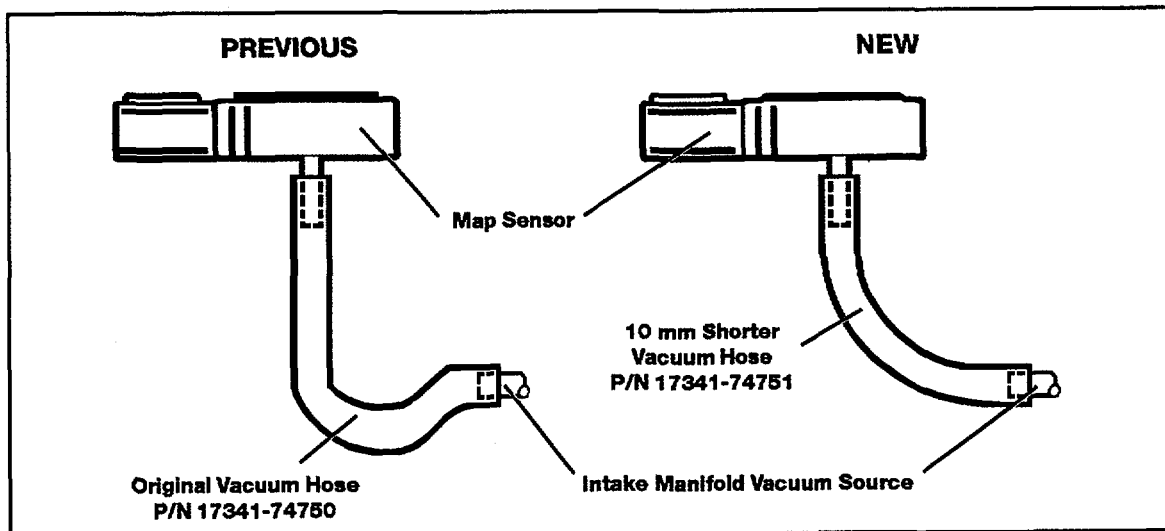
Models:

'98 RAV4

EG009-98

ENGINE

Introduction To minimize moisture retention and improve MAP Sensor operation, the length of the connecting vacuum line has been shortened 10 mm.



Affected Vehicles • 1998 model year RAV4s built after the following VINs have the new style hose installed:

JT3YP10V*W0170362

JT3HP10V*W0154688

JT3HP10V*W7074617

JT3XP10V*W0008479

JT3GP10V*W0018617

JT3GP10V*W7024861

**Parts
Information**

OLD PART NUMBER	NEW PART NUMBER	PART NAME
17341-74750	17341-74751	Hose, Vacuum

**Warranty
Information**

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

Index # **049918**



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Technical Service BULLETIN

April 12, 2002

Title:

ECM CALIBRATION UPDATE - M.I.L. "ON" DTC P0420 OR P0430 AND ENHANCED ENGINE PERFORMANCE

Models:

'01 - '02 RAV4

ENGINE
EG010-02

Introduction The Engine Control Module (ECM) calibration has been revised to enhance Engine Performance and to prevent a M.I.L. "ON" with DTC P0420 (Bank 1 Catalyst System Efficiency Below Threshold) or DTC P0430 (Bank 2 Catalyst System Efficiency Below Threshold) under certain driving conditions.

NOTE:

These calibration files supercede the calibration files found in TSB EG008-01 M.I.L. "ON" P0420, P0430 dated May 18, 2001.

Applicable Vehicles

- 2001 - 2002 model year **RAV4** vehicles produced before the VINs shown below.

Production Change Information

MODEL	PLANT	STARTING VIN
2WD RAV4	Tahara	JTEGH20V#20069250
	Shokki	JTEGH20V#26006687
4WD RAV4	Tahara	JTEHH20V#20164086
	Shokki	JTEHH20V#26060655

Warranty Information

OP CODE	DESCRIPTION		TIME	OPN	T1	T2
EL1011	Recalibrate ECM	2WD, AT	0.5	89661-42650	87	99
				89661-42651		
				89661-42652		
				89661-42810		
	Recalibrate ECM	2WD, MT		89661-42630		
				89661-42631		
				89661-42632		
				89661-42790		
	Recalibrate ECM	4WD, AT		89661-42660		
				89661-42661		
				89661-42662		
				89661-42820		
	Recalibrate ECM	4WD, MT		89661-42640		
				89661-42641		
				89661-42642		
				89661-42800		

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.



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**Calibration
Information**

PREVIOUS CALIBRATION ID NUMBER	NEW CALIBRATION ID NUMBER	MODEL YEAR	MODEL
34207000 34207100 34207200	34207300	2001	2WD, AT
34220000	34220100	2002	2WD, AT
34205000 34205100 34205200	34205300	2001	2WD, MT
34218000	34218100	2002	2WD, MT
34208000 34208100 34208200	34208300	2001	4WD, AT
34221000	34221100	2002	4WD, AT
34206000 34206100 34206200	34206300	2001	4WD, MT
34219000	34219100	2002	4WD, MT

**Parts
Information**

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	MODEL
N/A	00451-00001-LBL	Authorized Modification Label	ALL
89661-42650 89661-42651 89661-42652 89661-42810	89661-42810	ECM	2WD, AT
89661-42630 89661-42631 89661-42632 89661-42790	89661-42790	ECM	2WD, MT
89661-42660 89661-42661 89661-42662 89661-42820	89661-42820	ECM	4WD, AT
89661-42640 89661-42641 89661-42642 89661-42800	89661-42800	ECM	4WD, MT

NOTE:

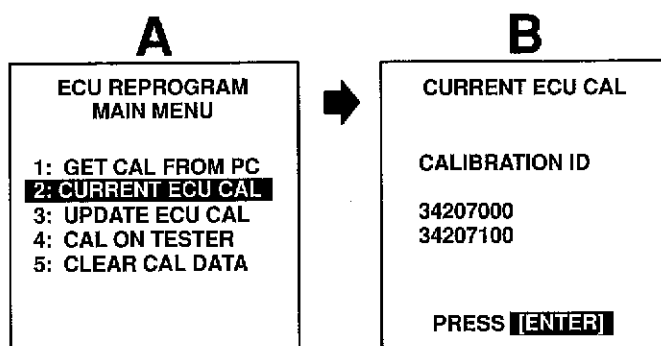
Authorized Modifications Labels may be ordered in packages of 25 from the Material Distribution Center (MDC) through the TDN Dealer Support Material System, or by calling the MDC at 1-800-622-2033.

**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

**Repair
Procedure****VERIFY VEHICLE CONDITION**

1. Check for the Authorized Modifications Label affixed to the vehicle in the location shown in Figure 2 (page 4). Confirm updated ECM calibration. If not the latest ECM calibration, go to step 2.
2. Connect the Diagnostic Tester to the vehicle and select **CURRENT ECU CAL** from the **ECU REPROGRAM MAIN MENU**. Determine the vehicle's current ECU calibration. (See Figure 1.)

Figure 1. Determining Current ECU Calibration**NOTE:**

- If calibration ID matches “Previous Calibration ID” as shown on Page 2, proceed with flash reprogramming.
- If calibration ID matches “New Calibration ID” as shown on Page 2, this vehicle has already been reprogrammed.

NOTE:

- 2001 RAV4 can contain a 2002 RAV4 ECM if ECM was previously replaced.
- 2001 ECM calibration file will not update a 2002 ECM in a 2001 RAV4.
- ECM calibration must be updated with ECM calibration file which matches.

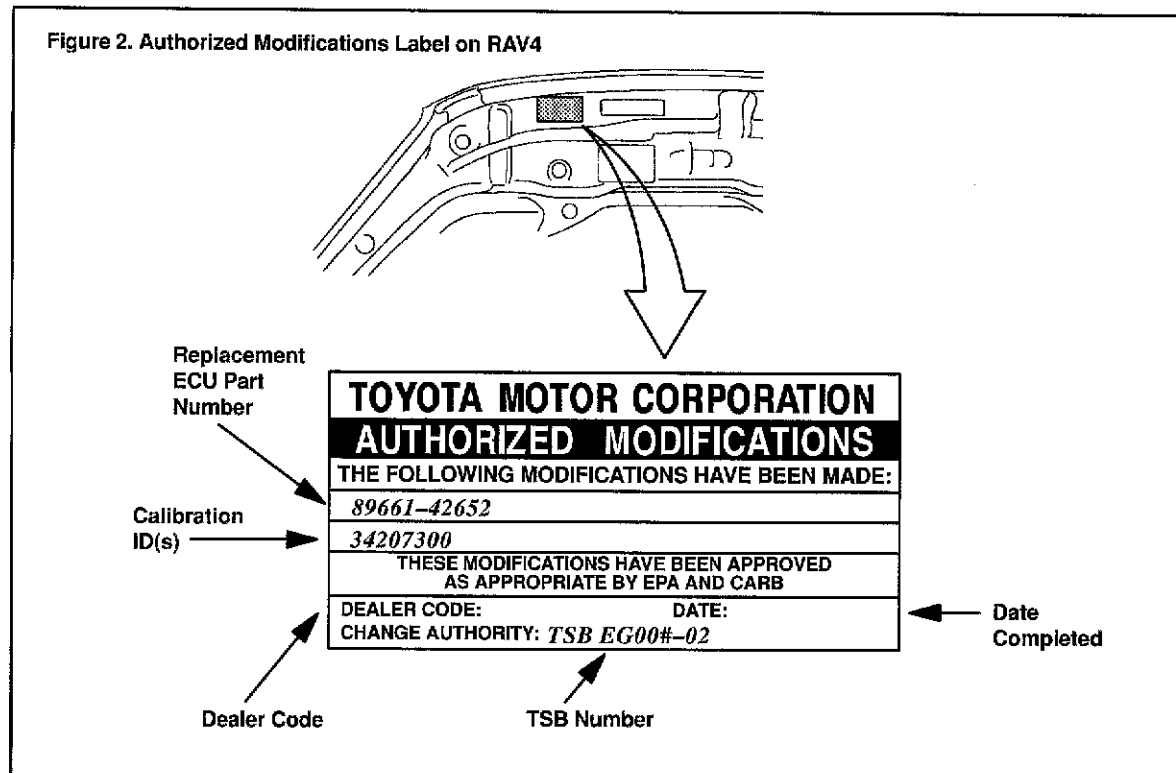
FLASH REPROGRAM ECM

1. Follow the procedures outlined in TSB SS002–01, *ECU Flash Reprogramming Process*, dated March 9, 2001.
2. Select the proper ECM calibration file for the vehicle based on the current ECU calibration ID and reprogram the ECM.
3. After flash reprogramming the ECM, enter the following information on the Authorized Modifications Label using a permanent marker.
 - ECM part number and new calibration ID
 - Your dealer code
 - Reprogramming date
 - This TSB number

**Repair
Procedure**
(Continued)

4. Attach the Authorized Modifications Label to the underside of the engine hood as shown below. (See Figure 2.)

Figure 2. Authorized Modifications Label on RAV4





Technical Service BULLETIN

May 7, 2004

Title:

EXCESSIVE SULFUR DIOXIDE ODOR

Models:

'04 RAV4

ENGINE
EG010-04
REVISED

TSB REVISION NOTICE:

**May 21, 2004: The Warranty and Parts Information tables have been updated.
All previous versions of this TSB should be discarded.**

Introduction Some customers may complain of excessive sulfur dioxide odor on 2004 model year RAV4 vehicles under the following conditions:

- Stop and go driving.
- Heavy acceleration.

In order to reduce the sulfur dioxide odor, a new catalytic converter has been developed.

NOTE:

**For more complete understanding of the root cause, refer to TSB No. EG003-03
"Sulfur Odor from Exhaust" dated February 24, 2003.**

Applicable Vehicles

- **2004** model year **RAV4** vehicles.

Parts Information

ORIGINAL PART NUMBER*	REPAIR PART NUMBER*	PART NAME	QTY
17420-28380	17420-28570	Pipe Assembly, Exhaust Center	1

* The original part (17420-28380) is currently used in vehicle production and is still available as a service part. The repair part (17420-28570) should be used when the customer complains of sulfur dioxide odor.

Repair Procedure

Refer to the Technical Information System (TIS): 2004 model year RAV4 Repair Manual: *Emmission Control: Three-way Catalytic Converter (TWC) System*.

Warranty Information

OP CODE	DESCRIPTION	TIME	OFF	T1	T2
170181	R & R Catalytic Converter Assembly	0.5	17420-28380	60	99

Applicable Warranty*:

**This repair is covered under the Toyota Specified Major Emission Control 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.





TOYOTA

Technical Service BULLETIN

August 10, 2001

Title:

M.I.L. "ON" DTC P1133

Models:

'98 - '00 RAV4

ENGINE
EG012-01

Introduction Under certain driving conditions, some 1998–2000 model year RAV4 vehicles may exhibit a M.I.L. "ON" with DTC P1133 (Air Fuel Ratio Sensor Slow Response Malfunction). The A/F sensor has been modified to correct this condition.

Applicable Vehicles

- 1998–2000 model year **RAV4** vehicles.

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
89467-41020	89467-42030	Sensor, Air Fuel Ratio
89467-41021		

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, replace the A/F Sensor with the new part number.

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
895131	R & R A/F Sensor	0.4	89467-41021	72	71

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, Massachusetts or Vermont, this repair is covered under the California emissions warranty, which is 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.



Toyota Supports ASE Certification

055557

Page 1 of 1

TSB UPDATE NOTICE:

The information contained in this TSB supercedes TSB No. EG001-06.
TSB No. EG001-06 is now obsolete and should be discarded.

Introduction Toyota Motor Corporation manufacturing plants have begun using ILSAC GF-4 engine oil. This engine oil is recommended due to its superiority in terms of fuel economy and engine protection and due to its benefits for both the customer and the environment. ILSAC GF-4 can be used in all Toyota and Scion engines.

NOTE:

- The recommended viscosity grade for this oil differs according to vehicle model. Use the recommended grade specified on the oil filler cap or in the Repair Manual or Owner's Manual for each vehicle.
- For Prius vehicles, refer to TSB No. EG050-04, "Engine Oil Specifications."

Applicable Vehicles

- 2006 – 2007 model year **Toyota** and **Scion** vehicles.

Warranty Information

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

Recommended Engine Oils

ILSAC GF-4 SAE 5W-20

This oil has been set as the Toyota genuine engine oil, starting in February 2006 for the U.S. This oil is superior in terms of fuel economy, engine protection, and cold starting performance.

ILSAC GF-4 SAE 0W-20

This oil has even better fuel efficiency and cold starting performance than 5W-20. Initial application for 0W-20 is in the 2006 model year 2AZ-FE engine and will be used in new engines to be developed.



**Recommended
Engine Oils**
(Continued)

Engines That Can Use 5W-20 and 0W-20:

OIL	ENGINE
ILSAC GF-4 SAE 5W-20	AZ series GR series JZ series MZ series NZ series RZ series UZ series VZ series 1ZZ-FE 2TR-FE
ILSAC GF-4 SAE 0W-20 (Beginning with 2006 MY)	2AZ-FE Camry 2AZ-FE Solara 2AZ-FE Highlander 2AZ-FE RAV4 (ACA3#)

NOTE:

DO NOT use these oils in engines other than those listed above. These low-viscosity oils cannot maintain lubrication effectiveness in engines with older designs and could result in smoke emissions from the tailpipe and/or unusual engine noise.



Technical Service BULLETIN

August 25, 2004

Title:

M.I.L. "ON" DTC P0031 AND/OR P2238

Models:

'04 RAV4

ENGINE
EG036-04

Introduction Under certain driving conditions, some 2004 model year RAV4 vehicles may exhibit a M.I.L. "ON" condition with one or both of the following DTC's.

- P0031 - Oxygen (A/F) Sensor Heater Control Circuit Low (Bank 1 Sensor 1)
- P2238 - Oxygen Sensor Pumping Current Circuit Low (For A/F Sensor) (Bank 1 Sensor 1)

The A/F sensor manufacturing process and the Engine Control Module (ECM) (SAE term: Powertrain Control Module/PCM) logic have been modified to improve these conditions.

CAUTION:

Version 11.0a or later Diagnostic Tester software is required.

**Applicable
Vehicles**

- All 2004 model year **RAV4** vehicles.

**Parts
Information**

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
89467-42040	Same	Sensor, Air Fuel Ratio	1
N/A	00451-00001-LBL	Authorized Modifications Label	1

NOTE:

Authorized Modification Labels may be ordered in packages of 25 from the Materials Distribution Center (MDC) through Dealer Daily Dealer Support Materials System, or by calling the MDC at 1-800-622-2033.

**Warranty
Information**

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
EG4013	Recalibrate ECM (PCM) Engine and R & R A/F Sensor	1.3	89661-42A60 89661-42A70 89661-42A81 89661-42A91 89661-42B00	8A	99

Applicable Warranty*:

This repair is covered under the Toyota Specified Major Emission Control Component 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.



**Required
SSTs**

SPECIAL SERVICE TOOLS (SSTs)		PART NUMBER	QUANTITY
Toyota Diagnostic Tester Kit*		01001271	1
12 Megabyte Diagnostic Tester Program Card with version 11.0a 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.

**Calibration
Information**

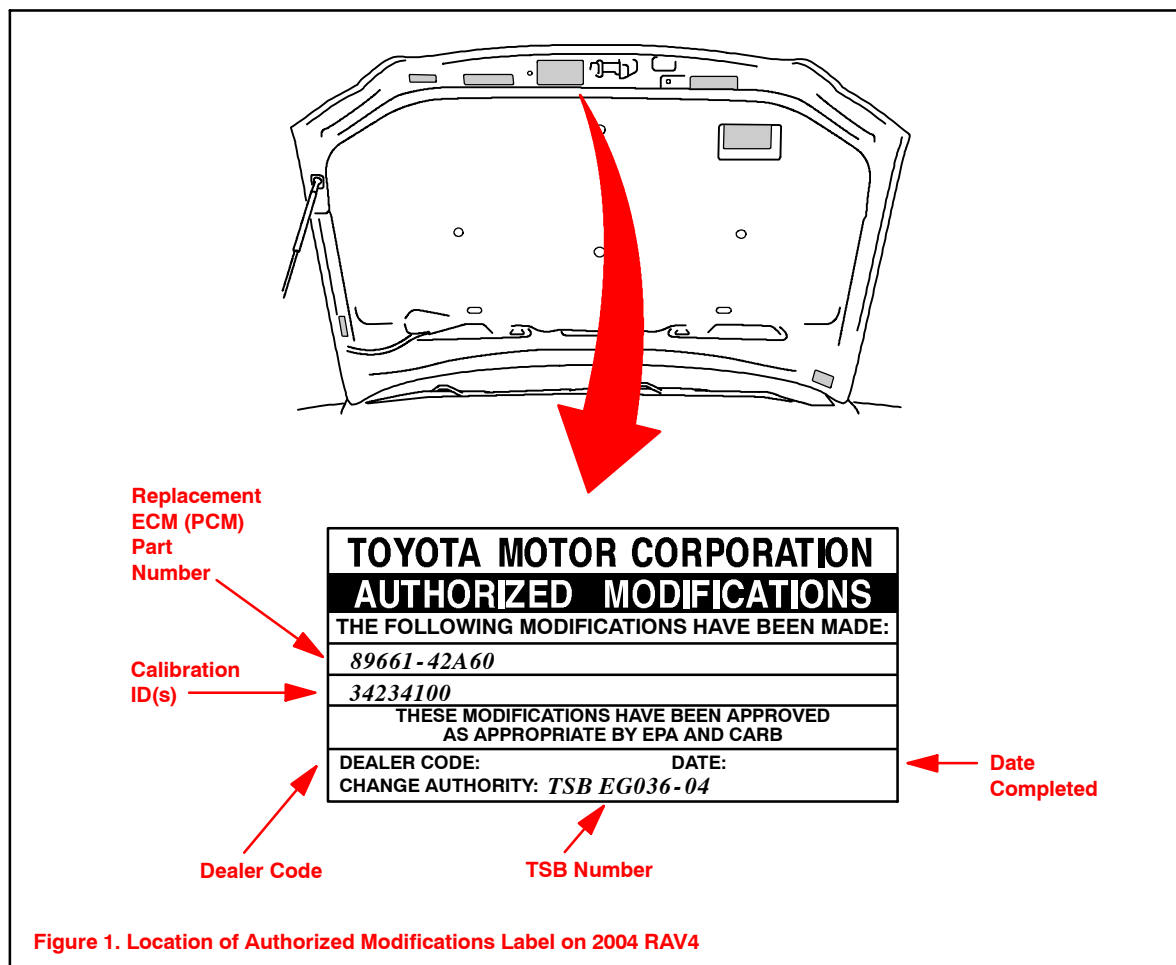
MODEL	VDS	CURRENT CALIBRATION ID	NEW CALIBRATION ID
2WD MT	GD20V	34234000	34234100
2WD AT		34236000 34236100	34236200
4WD MT	HD20V	34235000	34235100
4WD AT		34237000 34237100	34237200

**Repair
Procedure****For DTC P0031 and/or P2238:**

1. Replace Bank 1 Sensor 1 A/F Sensor.
2. Perform ECM (PCM) recalibration (see Calibration Procedure) with New Calibration ID as shown above in Calibration Information table.

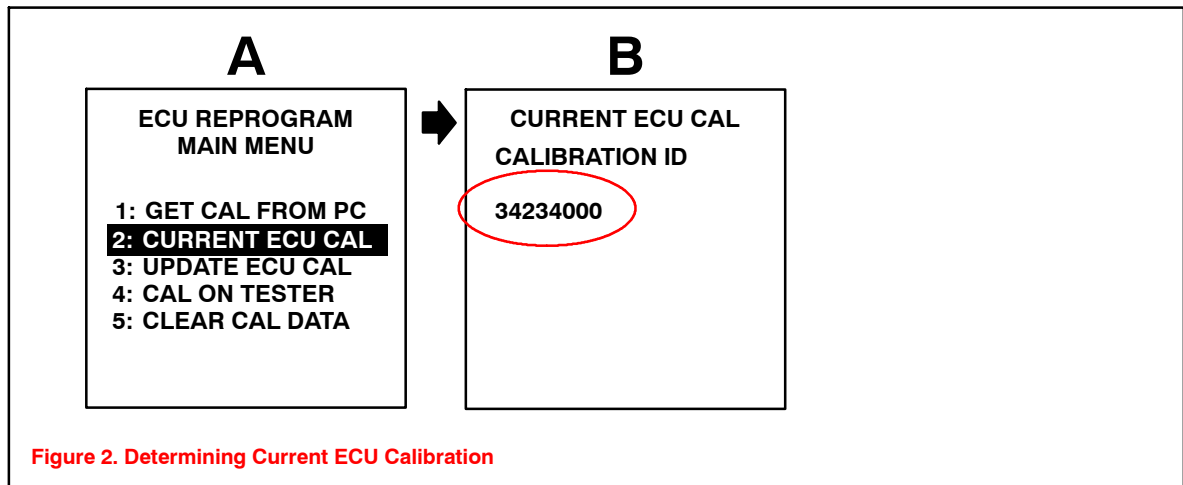
**Calibration
Procedure****Verify Vehicle Condition**

1. Check for the Authorized Modifications Label affixed to the vehicle in the location shown in Figure 1. Confirm if ECM (PCM) calibration has been updated. If not the latest ECM (PCM) calibration - **go to step 2.**



Calibration Procedure
(Continued)

2. Connect the Diagnostic Tester to the vehicle's DLC3 connector and select CURRENT ECU CAL from the ECU REPROGRAM MAIN MENU. Determine the vehicle's current ECU calibration (see Figure 2).

**NOTE:**

- If Calibration ID matches "Current Calibration ID" as shown on page 2, proceed with flash reprogramming.
- If Calibration ID matches "New Calibration ID" as shown on page 2, this vehicle has already been reprogrammed. Refer to Repair Manual or TIS for diagnosis.

3. If ECU calibration ID is not the same as the "New Calibration ID" listed previously, proceed to Flash Reprogram ECM (PCM).

Flash Reprogram ECM (PCM)

1. Follow the procedures outlined in TSB No. SS002-01, "ECU Flash Reprogramming Process," and flash the ECM (PCM) with new calibration file update.
2. Enter the required information on the Authorized Modifications Label and affix it to the vehicle at the location shown in Figure 1 (page 3). The Authorized Modifications Label is available through the MDC, P/N 00451-00001-LBL.
3. Calibration update is complete.



Technical Service BULLETIN

September 8, 2004

Title:

ACCESSORY DRIVE BELT SQUEAL/ BELT TENSIONER RATTLE

Models:

'01 - '04 Camry, Highlander, Solara & '04 RAV4

ENGINE
EG040-04

Introduction Some 2001 - 2004 model year Camry, Highlander, Solara and 2004 model year RAV4 vehicles with the 2AZ-FE engine may exhibit squealing and/or rattling noises coming from the engine compartment during vehicle operation especially after a cold soak. The belt tensioner assembly has been improved to correct this condition.

Applicable Vehicles

- **2001 - 2004** model year **Camry, Highlander** and **Solara** vehicles equipped with **2AZ-FE engines** produced **BEFORE** the Production Change Effective VINs shown below.
- **2004** model year **RAV4** vehicles produced **BEFORE** the Production Change Effective VINs shown below.

Production Change Information

MODEL	ENGINE	LINE	PRODUCTION CHANGE EFFECTIVE VIN
Camry	2AZ-FE	TMMK Line 1	4T1BE3#K#4U358206
		TMMK Line 2	4T1BE3#K#4U914052
		Tsutsumi	JTDBE3#K#40296732
Highlander		TMK	JTE#D2#A#40100501
Solara		TMMK	4T1CE3#P#4U914074
RAV4		Tahara	JTE#D2#V#40029797

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
16620-28010	16620-28011	Tensioner Assembly, V-ribbed Belt	1

Warranty Information

OP CODE	DESCRIPTION	TIME	OFF	T1	T2
EG8001	R & R Accessory Belt Tensioner	0.9	16620-28010	91	55

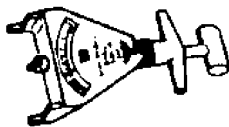
Applicable Warranty*:

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.



**Required
SSTs**

SPECIAL SERVICE TOOLS (SSTs)		PART NUMBER	QUANTITY
Belt Tension Gauge (or equivalent)		09216-00021	1
Torque Wrench Adaptor (or equivalent)		09249-63010	1

NOTE:

Additional SSTs may be ordered by calling SPX/OTC at 1-800-933-8335.

**Repair
Procedure**

1. Remove the accessory drive belt per the instructions contained in the Technical Information System (TIS), applicable model year, applicable model Repair Manual: *Engine Mechanical: Drive Belt (2AZ-FE)*.
2. Remove and replace the Accessory Belt Tensioner per the instructions contained in TIS, applicable model year, applicable model Repair Manual: *Engine Mechanical: Partial Engine Assembly (2AZ-FE)*.
3. Replace the accessory drive belt per the instructions contained in TIS, applicable model year, applicable model Repair Manual: *Engine Mechanical: Drive Belt (2AZ-FE)*.

Title:
**ENTERING VIN DURING ECM (PCM)
 REPLACEMENT AND/OR DTC P0630**
 Models:
All '04 – '06 Models

TSB REVISION NOTICE:

- **June 3, 2005:** Content has been updated to include 2004 and 2006 model year vehicles. Highlander HV has been added to step 4 of the VIN Write Procedure (page 2). Step 3 of the VIN Read Procedure (page 3) has been clarified to include Prius and Highlander HV vehicles.
- **January 24, 2005:** Step 4 on page 2 has been clarified to include Prius vehicles. Previous versions of this TSB should be discarded.

Introduction All 2005 and subsequent model year Toyota and Scion vehicles have the VIN (Vehicle Identification Number) stored in the Electronic Control Module (ECM) (SAE term: Powertrain Control Module/PCM) non-volatile memory. The VIN is accessible on the data stream using the Toyota Diagnostic Tester and can also be written to a new ECM (PCM) using a "VIN Read/Write" utility.

Service ECMs (supply parts) are shipped without the VIN; therefore, as part of the ECM (PCM) replacement procedure, the VIN must be written to the replacement ECM (PCM) using the Diagnostic Tester utility function.

For most 2005 model year vehicles, failure to write the VIN to the ECM (PCM) will result in a M.I.L. "ON" condition and set DTC P0630: VIN Not Programmed or Mismatch – ECM (PCM). The five models listed below do not support DTC P0630.

- Corolla
- ECHO
- Matrix
- Scion xA
- Scion xB

It is very important to remember to enter the VIN on these vehicles. Vehicles with missing VINs are subject to failing some state and local vehicle emissions Inspection and Maintenance programs.

NOTE:

2004 model year vehicles which have been flash reprogrammed may contain updated 2005 model year OBD II logic. These vehicles will require VIN entry into the ECM (PCM) after reprogramming.

- Applicable Vehicles**
- **2004** model year vehicles that have been **flash reprogrammed**.
 - **All 2005 – 2006** model year vehicles.

**Warranty
 Information**

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



**Required
SSTs**

ITEM NO.	SPECIAL SERVICE TOOLS (SSTs)	PART NUMBER	QTY	DRW**
1	Toyota Diagnostic Tester Kit* NOTE: - All components from this kit/set are required 12 Megabyte Diagnostic Tester Program Card (P/N 01002593–005) with version 12.2a Software (or later) is required 	TOY220036	1	9
2	CAN Interface Module Kit* NOTE: All components from this kit/set are required 	01002744	1	9

* Essential SSTs.

** Refers to drawer number in SST Storage System.

NOTE:

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

**VIN Write
Procedure**

To write a VIN to a replacement ECM (PCM), use the following process:

1. Confirm the VIN. It is located on the front left of the instrument panel.
2. Connect the Diagnostic Tester to DLC3.
3. Turn the ignition switch and Diagnostic Tester switch ON.
4. **All vehicles except Prius and Highlander HV:**
Select from the Diagnostic Tester menus: DIAGNOSIS, ENHANCED OBDII, VIN, and VIN WRITE.

Prius and Highlander HV vehicles:

Select from the Diagnostic Tester menus: DIAGNOSIS, OBD/MOBD, HV ECU, VIN, and VIN WRITE.

5. Write the VIN in accordance with the Diagnostic Tester display.
6. Compare the VIN displayed on the Diagnostic Tester with the VIN on the instrument panel. If these are not the same, write the VIN again after turning the ignition switch OFF.

Input a new VIN

If you want to clear the VIN, press [NO] key.

PRESS **[ENTER]**

WRITING COMPLETE

The following VIN has been written.

The DTCs have been erased correctly.

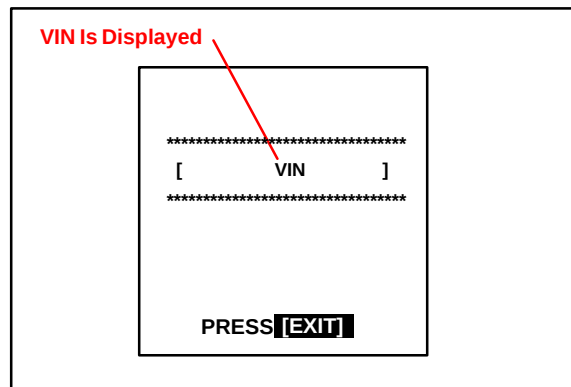
PRESS **[ENTER]**

VIN Read Procedure

1. Connect the Diagnostic Tester to DLC3.
2. Turn the ignition switch and Diagnostic Tester switch ON.
3. **All vehicles except Prius and Highlander HV:**
Select from the Diagnostic Tester menus: DIAGNOSIS, ENHANCED OBDII, VIN, and VIN READ.
Prius and Highlander HV vehicles:
Select from the Diagnostic Tester menus: DIAGNOSIS, OBD/MOBD, HV ECU, VIN, and VIN READ.
4. Check the VIN displayed on the Diagnostic Tester.

HINT:

For further explanations, refer to the Technical Information System (TIS), appropriate model repair manual:
Diagnostics: SFI System: Registration.





Technical Service BULLETIN

August 1, 2006

Title:

EXCESSIVE SULFUR ODOR

Models:

'06 RAV4

ENGINE
EG048-06

Introduction Some customers may complain of excessive sulfur odor on 2006 model year RAV4 vehicles under the following conditions:

- Stop and go driving
- Heavy acceleration

In order to reduce the sulfur odor, a new catalytic converter assembly has been made available. Follow the repair procedure to replace the catalytic converter assembly.

NOTE:

For more complete understanding of the root cause, refer to TSB No. EG003-03, "Sulfur Odor from Exhaust."

**Applicable
Vehicles**

- 2006 model year **RAV4** vehicles.

**Parts
Information**

ENGINE	ORIGINAL PART NUMBER*	REPAIR PART NUMBER*	PART NAME	QTY
4 Cylinder	17420-28620	17420-28770	Pipe Assembly, Exhaust, Front	1
V6	17404-31020	17404-31070		

*** NOTE:**

The original part numbers (17420-28620 and 17404-31020) are currently used in vehicle production and are still available as service parts. The repair part numbers (17420-28770 and 17404-31070) should only be used when the customer complains of sulfur odor.

**Repair
Procedure**

Refer to the Technical Information System (TIS), 2006 model year RAV4 Repair Manual:
Exhaust: Exhaust Pipe Assy.

**Warranty
Information**

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
170171	R & R Front Exhaust Pipe Assembly	0.7	17420-28620 17404-31020	60	99

Applicable Warranty:**

This repair is covered under the Specific components of Toyota Federal Emission Control Warranty. This warranty is in effect for 96 months or 80,000 miles, whichever occurs first, from the vehicle's in-service date.

For California specification vehicles sold, registered, and operated in California, Maine, Massachusetts, and Vermont, this repair is covered under the California Long-term Emission Defect Warranty. This warranty is in effect 84 months or 70,000 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.





Technical Service BULLETIN

December 22, 2006

Title:

ECM CALIBRATION UPDATE: PERFORMANCE ENHANCEMENT DURING ENGINE WARM-UP

Models:

'06 RAV4 (2AZ-FE)

ENGINE
EG061-06

Introduction To enhance acceleration under "cold start" conditions, the Engine Control Module/ECM (SAE term: Powertrain Control Module/PCM) calibration has been revised. Please use the following procedure to update the transmission calibration.

NOTE:

- Version 14.0a or later Diagnostic Tester software is required to perform this procedure.
- Before proceeding, verify the ECM (PCM) calibration has NOT been updated by checking for the Authorized Modifications Label (shown in step 1 of the Repair Procedure).

**Applicable
Vehicles**

- 2006 model year **RAV4** vehicles equipped with **2AZ-FE engine** and **4-speed automatic transmission**.

**Parts
Information**

DRIVETRAIN	PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
4x2	89661-42###	89661-42E51	Computer, Engine Control (ECM/PCM)	1
4x4	89661-42###	89661-42E61		1
All	N/A	00451-00001-LBL	Authorized Modifications Label	1

NOTE:

- The ECM (PCM) should NOT be replaced as part of the repair procedure.
- Authorized Modification Labels may be ordered in packages of 25 from the Materials Distribution Center (MDC) through Dealer Daily Dealer Support Materials System, or by calling the MDC at 1-800-622-2033.

**Warranty
Information**

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
EG5051	Recalibrate ECM (PCM) Engine & Transmission	0.7	89661-42### 89661-42###	26	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.



**Required
SSTs**

ITEM NO.	SPECIAL SERVICE TOOLS (SSTs)	PART NUMBER	QTY	DRW**
1	Toyota Diagnostic Tester Kit* NOTE: - All components from this kit/set are required. 12 Megabyte Diagnostic Tester Program Card (P/N 01002593–005) with version 14.0a Software (or later) is required. 	TOY220036	1	9
2	CAN Interface Module Kit* NOTE: All components from this kit/set are required. 	01002744	1	9

* Essential SSTs.

** Drawer number in SST Storage System.

NOTE:

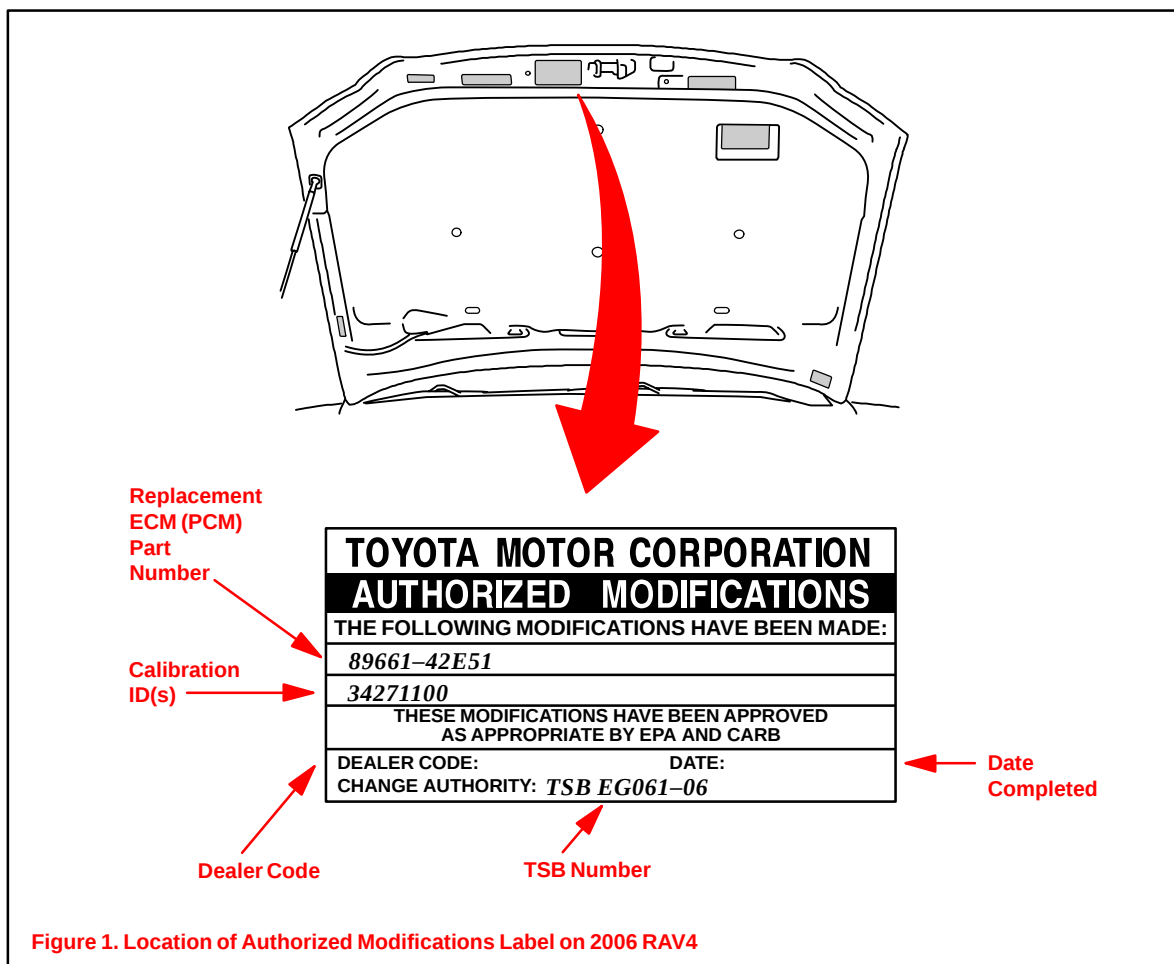
Additional Diagnostic Tester Kits, CAN Interface Modules, Program Cards, or other SSTs may be ordered by calling SPX/OTC at 1-800-933-8335.

**Calibration
Identification
Chart**

MODEL YEAR	MODEL	ENGINE	DRIVETRAIN	PREVIOUS CALIBRATION ID	NEW CALIBRATION ID	VDS
2006	RAV4	2AZ-FE	4X2	34248000 34248100 34271000	34271100	ZD31V ZD32V ZD33V ZD34V ZD35V
			4X4	34249000 34249100 34272000	34272100	BD31V BD32V BD33V BD34V BD35V

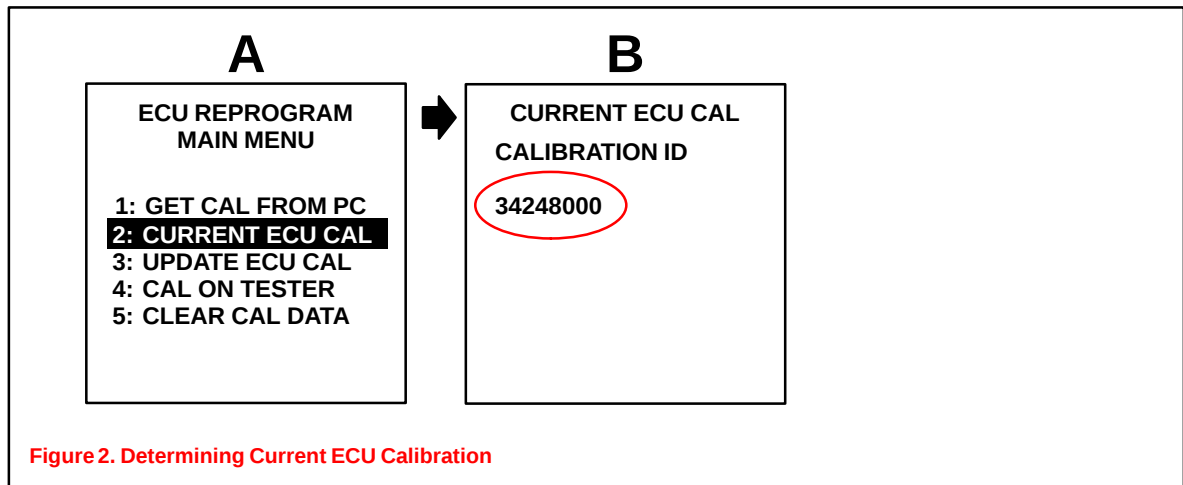
**Repair
Procedure**

1. Check for the Authorized Modifications Label affixed to the vehicle in the location shown in Figure 1. Confirm if the ECM (PCM) calibration has been updated. If the calibration listed is NOT the latest ECM (PCM) calibration — go to step 2.



Repair Procedure
(Continued)

2. Connect the Diagnostic Tester to the vehicle and select CURRENT ECU CAL from the ECU REPROGRAM MAIN MENU. Determine the vehicle's current ECU calibrations (see Figure 2).
 - The sample screen prints seen below are the 14.0a software version and may differ from subsequent software versions.



NOTE:

- If the Calibration ID matches the “Previous Calibration ID” as shown in the Calibration Identification Chart in this TSB, proceed with flash reprogramming.
- If the Calibration ID matches the “New Calibration ID” as shown in the Calibration Identification Chart, this vehicle has already been programmed. Refer to the Technical Information System (TIS) for diagnostic procedures applicable to any stored DTCs.

3. If the ECU calibration ID is NOT the same as the “New Calibration ID” listed previously, proceed to Flash Reprogram ECM (PCM).

4. Flash Reprogram ECM (PCM)

NOTE:

A battery charger **MUST** be connected to the battery and set at a medium charge setting during the Flash Reprogram procedure in order to maintain battery voltage above 11.4 volts and prevent damage to the ECM (PCM).

Follow the procedures outlined in TSB No. SS002-01, “*ECU Flash Reprogramming Process*,” and flash the ECM (PCM) with the NEW calibration file update.

NOTE:

If the “Check Engine” light is ON when the ignition is turned back ON to begin the reprogramming process, a scan tool cable problem exists. Refer to TSB No. SS004-01, “*ECU Flash Reprogramming Error Message*.”

5. Start the engine and warm it up to normal operating temperature before test-driving.

**Repair
Procedure**
(Continued)

6. Test-drive vehicle to confirm proper vehicle operation and to complete the ECM learning process.
 - A. Complete the first ECM learning process:

Allow the vehicle to accelerate 5 times while maintaining steady accelerator pedal angle (approximately 25 degrees) during the transmission upshifts.
 - B. Complete the second ECM learning process:

Moderately accelerate engine until vehicle speed is over 45 mph and transmission has completed all shifts including torque converter lockup.
7. Enter the required information on the Authorized Modifications Label and affix it to the vehicle at the location shown in Figure 1. The Authorized Modifications Label is available through the MDC, P/N 00451–00001–LBL.
8. Calibration update is complete.



TOYOTA

**Technical Service
BULLETIN**

March 23, 2001

Title:

**DELAYED UPSHIFT TO OVERDRIVE
WITH CRUISE CONTROL ENGAGED**

Models:

'98 – '00 RAV4

**ELECTRICAL
EL002-01**

Introduction A new cruise control computer has been developed for 1998 – 2000 model year RAV4 vehicles equipped with automatic transmission. While the cruise control is engaged, the new ECU improves the upshift delay from 3rd to 4th gear after the vehicle comes over the crest of a hill. To improve this condition, replace the cruise control ECU and inspect the cruise control actuator cable adjustment as shown in this bulletin.

- Applicable Vehicles**
- 1998 – 2000 model year **RAV4** vehicles with **automatic transmission** equipped with **cruise control**.

**Parts
Information**

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
88240-0W020	88240-0W021	Cruise Control ECU

**Warranty
Information**

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
EL0001	R & R C/C ECU, Adjust Cable Free Play as Necessary	0.6	88240-0W020	26	99

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.



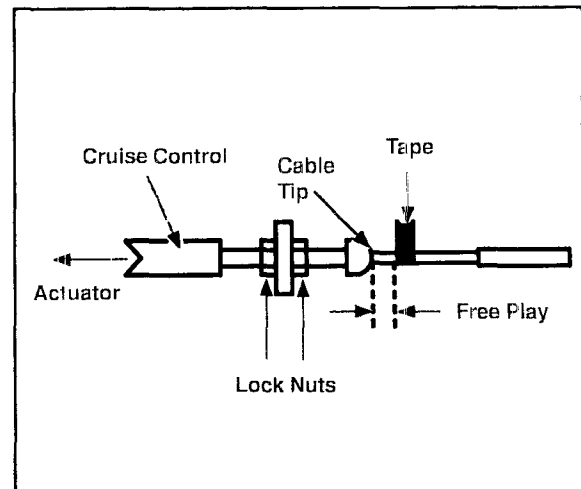
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Repair Procedure After replacing the cruise control ECU, perform the cruise control actuator cable adjustment procedure, as necessary.

1. Confirm cable free play:
 - A. Eliminate slack of the inner cable by pushing it towards the actuator until it stops. While the cable is held tight, mark the position of the cable by using tape.
 - B. Pull the inner cable toward the throttle cam and measure the free play between the tape mark and the outer cable tip.
2. Adjust cable free play:
 - A. Loosen the throttle cam side lock nut and adjust the free play to 1 or 2 mm.
(Please refer to the illustration above)
 - B. Tighten the actuator side lock nut.
Torque: 12 N•m(8ft•lbs)
 - C. Confirm free play of 1 to 2 mm.





Technical Service BULLETIN

July 19, 2002

Title:

PROGRAMMING OEM WIRELESS DOOR LOCK REMOTE TRANSMITTERS

Models:

Applicable Models

ELECTRICAL
EL004-01
REVISED

TSB REVISION NOTICE:

- January 16, 2003: Camry, Corolla and Matrix added to applicable vehicles. Added model years: 2000 through current Celica, 2002 Avalon.
- July 19, 2002: 2003 Avalon added to applicable vehicles, 2002 through current model years added to Celica, ECHO, Highlander, Prius and RAV4 vehicles.

Introduction This bulletin clarifies information provided in the Repair Manuals regarding the programming of OEM wireless remotes on the models listed below.

Applicable Vehicles

- 2000 through current model year **Celica** vehicles.
- 2001 through current model year **ECHO, Highlander, Prius** and **RAV4** vehicles.
- 2002 through current model year **Avalon** and **Camry** vehicles.
- 2003 model year **Corolla** and **Matrix** vehicles.

Warranty Information

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

Programming Procedure

To Program Wireless Transmitters:

1. Begin with:
 - The driver's door open and unlocked.
 - Key out of the ignition.
2. Insert and remove the key from the ignition switch 2 times within 5 seconds.
3. Close and open driver's door **TWICE** within 40 seconds.
4. Insert the key into the ignition and remove it.
5. Close and open the driver's door twice within 40 seconds.
6. Insert the key into the ignition.
7. Close the door.
8. Turn the ignition switch from "Lock" to "On" and back to "Lock" at about 1 second intervals to select the desired mode:
 - 1 time for ADD mode.
 - 2 times for REWRITE mode.
 - 3 times for CONFIRMATION mode.
 - 5 times for PROHIBITION mode.
9. Remove the key from the ignition.



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**Programming
Procedure**
(Continued)

10. To confirm your mode selection, the power locks will now cycle “lock” to “unlock” a number of times corresponding to your key cycles in step 8.

NOTE:

If Confirmation or Prohibition modes have been selected, opening the door will complete the procedure.

11. For Add or Rewrite modes, within 40 seconds of Door Lock confirmation...
- A. Press both transmitter Lock and Unlock buttons simultaneously between 1 and 1.5 seconds and release.
 - B. Within 3 seconds of step A, press the transmitter Lock button for more than 1 second and release.
 - C. If the transmitter has been successfully programmed, the power locks will cycle “lock” to “unlock” once at this time. If there are problems with the transmitter or the procedure up to this point, the locks will cycle twice. If this occurs, verify that you have received the correct transmitter, and then repeat the above procedure.
 - D. If multiple remotes are to be reprogrammed, repeat steps A–C.
12. Open the Driver's Door.



Technical Service BULLETIN

October 8, 1999

Title:

ENGINE IMMOBILIZER SYSTEM PRECAUTIONS

Models:

All Models

EL006-99

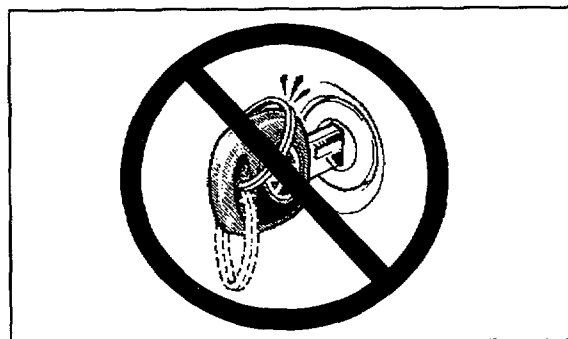
ELECTRICAL

REVISION NOTICE:

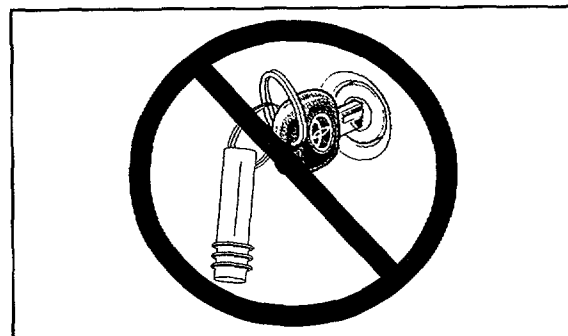
The information contained in this TSB updates EL001-98 dated January 23, 1998.

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.

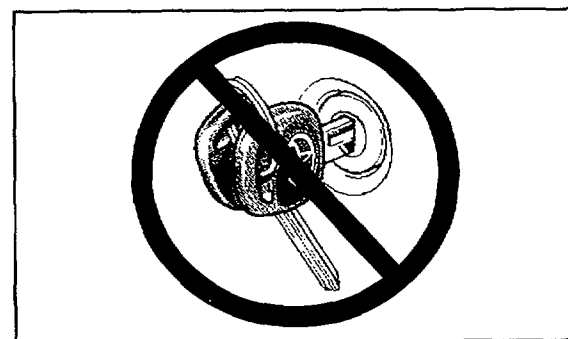
1. The key ring should **not** rest on or be pressed against the key grip.



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

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	-	-	-	-



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Technical Service BULLETIN

December 20, 2002

Title:

WIRELESS TRANSMITTER & PROGRAMMING GUIDE

Models:

All Applicable

ELECTRICAL
EL008-02
REVISED

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 supersedes 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	OFF	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.



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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	RM 02 V2, BE–99
	2000 – 2001	RS3200 / Fig. 5	2000 VIP Manual *6		TSB – EL004–01
	2002 – 2003	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	Fig. 7	TSB – EL008–98
	1997				
	1998 – 1999	RS3000 / Fig. 4	2000 VIP Manual *6	Fig. 11	RM 01 V2, BE–86
	2000 – 2001	RS3200 / Fig. 5 or 6 *7		Fig. 9 *2	TSB – EL004–01
	2002 – 2003				
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	Fig. 11	TSB – EL004–01
	1998 – 1999	RS3000 / Fig. 4			
	2000 – 2003	RS3200 / Fig. 5	2000 VIP Manual *6		
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	Fig. 11	TSB – EL004–01
	1998 – 2002	RS3000 / Fig. 4			
	2003	RS3200 / Fig. 5	2000 VIP Manual *6		
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	Fig. 10 *5	RM 02 V2, BE–98
	1998	RS3000 / Fig. 4			
	1999				
	2000 – 2002	RS3200 / Fig. 5	2000 VIP Manual *6	RM 03, 73–16	
	2003	N/A	N/A		
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	Fig. 13	RM 02 V1, DI–624
	1998 – 2002	N/A	N/A		RM 03 V2, BE–93
	2003				

**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				
	2000	RS3000 / Fig.4 *4	2000 VIP Manual *6	Fig. 11 / Fig. 12	RM 02 V2, BE–87
	2001 – 2002	RS3200 / Fig. 5			RM 03 V2, BE–91
	2003	N/A			N/A
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.

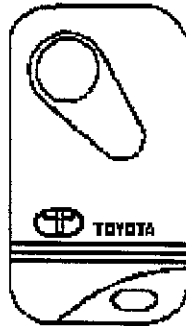
TVSS/TDSE
1990 – 1994

Figure 2.

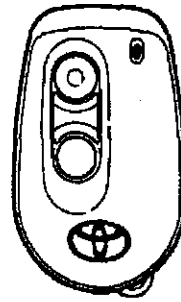
TVSS/TDSE
1995

Figure 3.

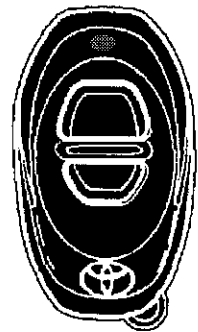
RS3000 (BLACK)
1996 – 1997

Figure 4.

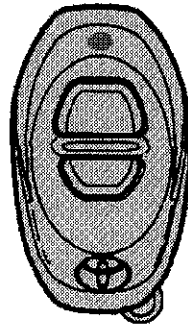
RS3000 (GRAY)
1998 – 2002

Figure 5.

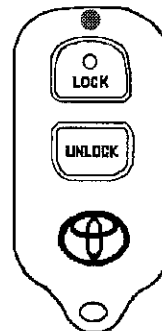
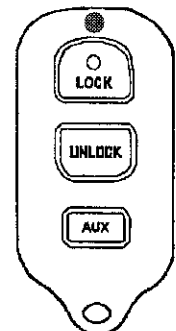
RS3200*
2000 – 2003

Figure 6.

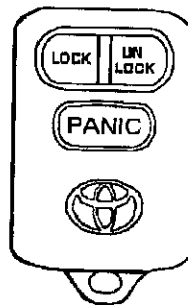
RS3200*
2000 – 2002

* Panic Button on Back Side

Wireless
Transmitter
Identification
(Continued)

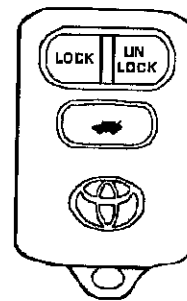
FACTORY INSTALLED or "ORIGINAL EQUIPMENT" SYSTEMS

Figure 7.



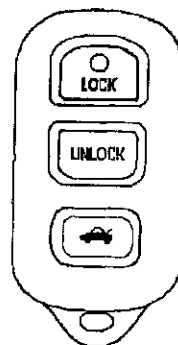
O.E. 3 Button
1997 – 1999

Figure 8.



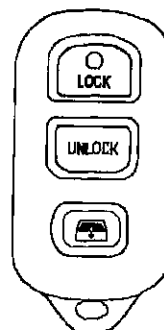
O.E. 3 Button
1995 – 1997

Figure 9.



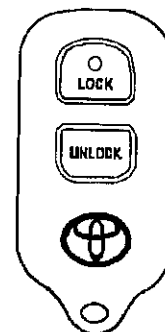
O.E. 4 Button*
1998 – 2003

Figure 10.



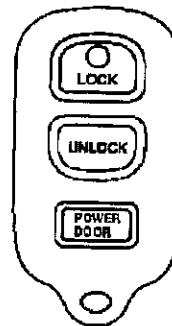
O.E. 4 Button*
1999 – 2003

Figure 11.



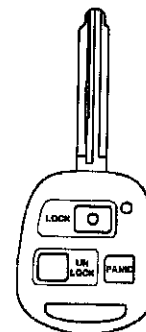
O.E. 3 Button*
1999 – 2003

Figure 12.



O.E. 4 Button*
1999 – 2003

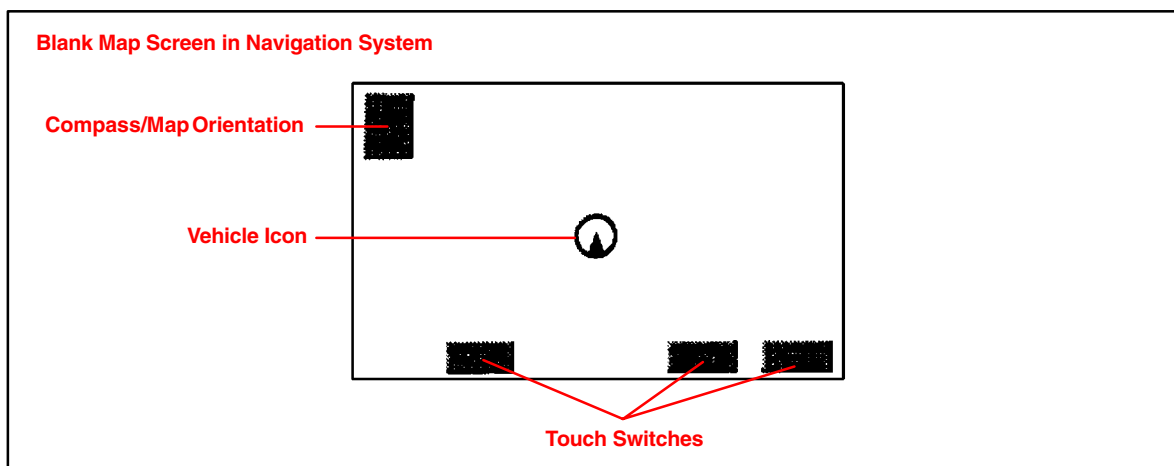
Figure 13.



O.E. In-Key
1998 – 2003

* Panic Button on Back Side

Introduction In some cases, when a vehicle arrives at a U.S. or Canadian port, and/or is in new inventory at the dealer, a blank map screen may occur, as shown below, just after turning the ignition switch ON and then touching the "I agree" switch. The only items that can be seen are the touch switches, compass, and the vehicle icon.



This condition is not a system failure. This is due to the system position memory originally identifying a set location near the manufacturing plant in Japan when the vehicle is brand-new. To re-initialize the navigation system memory location, follow the instructions on page 2.

Applicable Vehicles

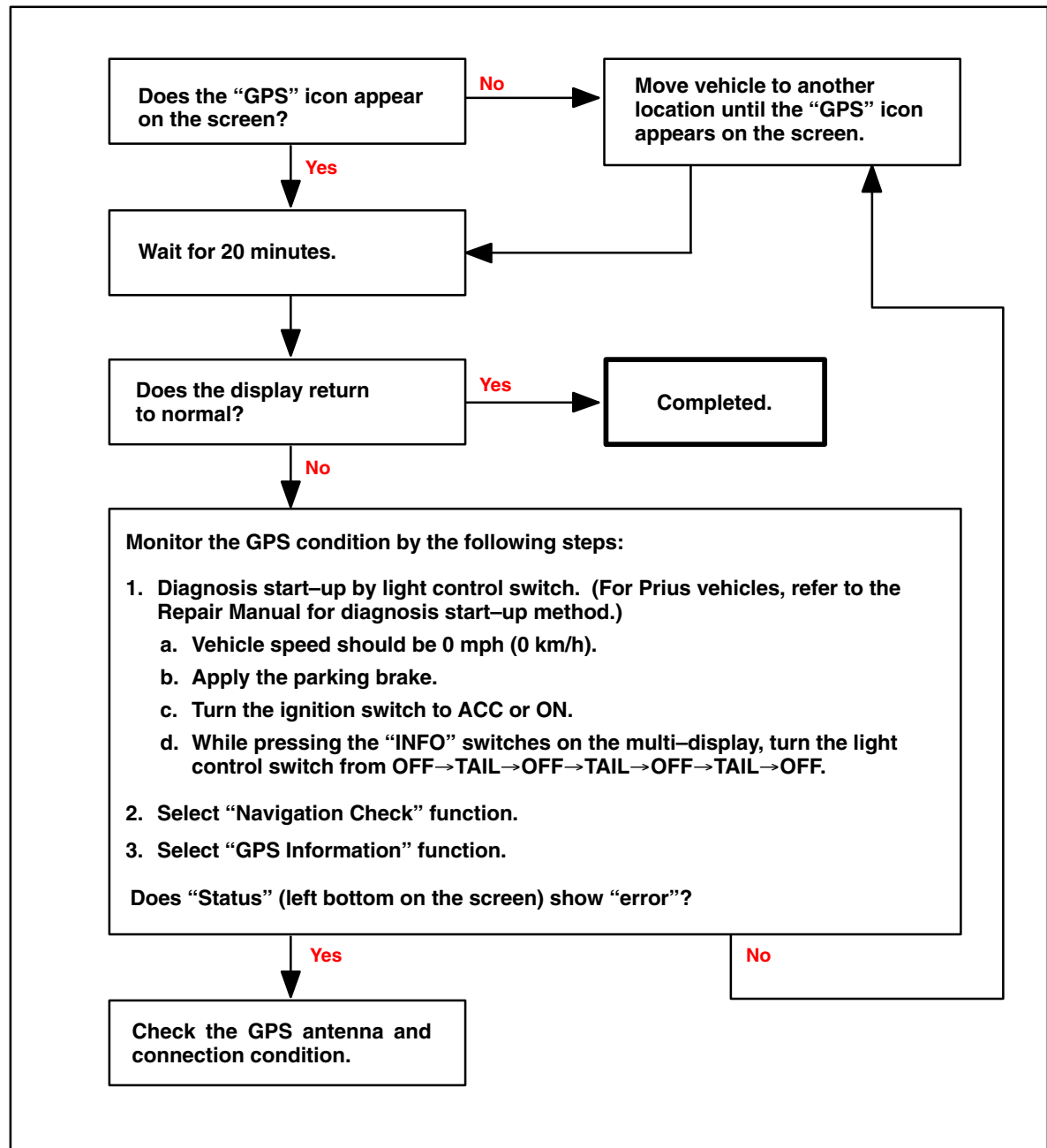
- All 2003 model year **Toyota** vehicles with **Navigation System**.

**Warranty
Information**

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

**Repair
Procedure**

Follow the flow chart below to fix the blank map screen condition.





Technical Service BULLETIN

October 26, 2001

Title:

WIRELESS TRANSMITTER & PROGRAMMING GUIDE

Models:

All Applicable

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.



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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	RM 02 V2, BE–99
	2000 – 2001	RS3200 / Fig. 5	2000 VIP Manual *6		
	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	Fig. 7	TSB – EL008–98
	1997				
	1998 – 1999	RS3000 / Fig. 4	2000 VIP Manual *6	Fig. 11	RM 01 V2, BE–86
	2000 – 2001	RS3200 / Fig. 5 or 6		Fig. 9 *2	RM 02 V2, 73–8
	2002				
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	Fig. 11	TSB – EL004–01
	1998 – 1999	RS3000 / Fig. 4			
	2000 – 2002	RS3200 / Fig. 5	2000 VIP Manual *6		
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	Fig. 10 *5	RM 02 V2, BE–98
	1998	RS3000 / Fig. 4			
	1999				
	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	Fig. 13	RM 02 V1, DI–624
	1998 – 2002	N/A	N/A		
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

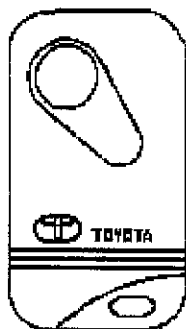
**Application
Chart**
(Continued)

- *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**

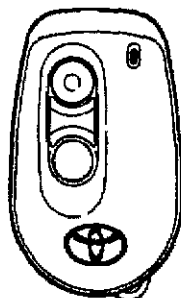
DEALER or PORT INSTALLED SYSTEMS

Figure 1.



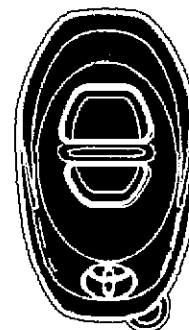
TVSS/TDSE
1990 – 1994

Figure 2.



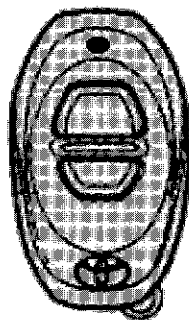
TVSS/TDSE
1995

Figure 3.



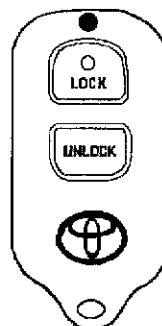
RS3000 (BLACK)
1996 – 1997

Figure 4.



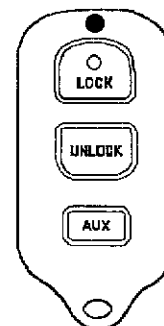
RS3000 (GRAY)
1998 – 2002

Figure 5.



RS3200
2000 – 2002

Figure 6.

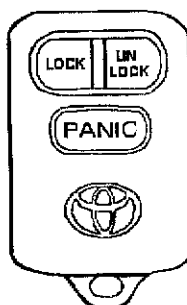


RS3200
2000 – 2002

Wireless
Transmitter
Identification
(Continued)

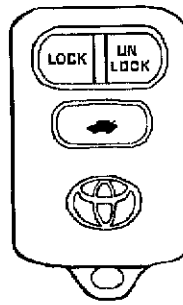
FACTORY INSTALLED or "ORIGINAL EQUIPMENT" SYSTEMS

Figure 7.



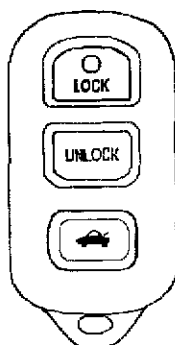
O.E. 3 Button
1997 – 1999

Figure 8.



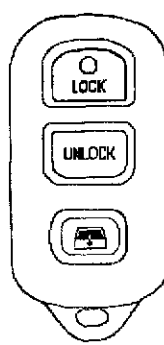
O.E. 3 Button
1995 – 1997

Figure 9.



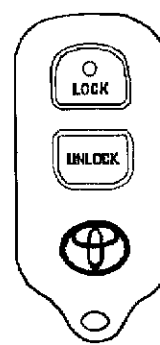
O.E. 4 Button*
2000 – 2002

Figure 10.



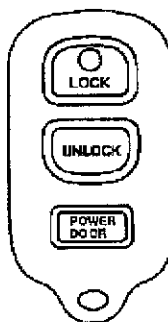
O.E. 4 Button*
1999 – 2002

Figure 11.



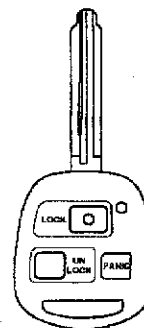
O.E. 3 Button*
2000 – 2002

Figure 12.



O.E. 4 Button*
1999 – 2002

Figure 13.



O.E. In-Key
1998 – 2002

* Panic Button on Back Side



Technical Service BULLETIN

October 6, 2000

Title:

DAYTIME RUNNING LIGHT DISABLING PROCEDURE

Models:

All Models

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

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	-	-	-	-



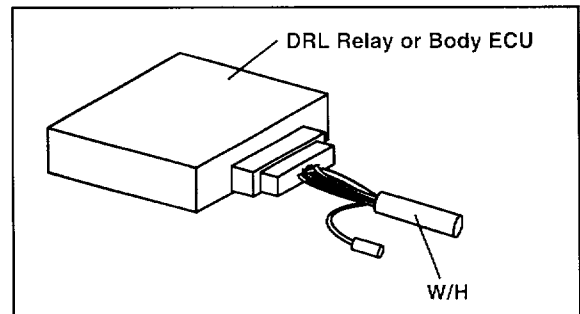
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Index # 054234

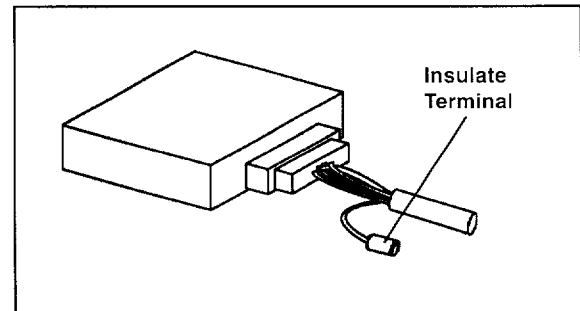
Page 1 of 3

Repair Procedure

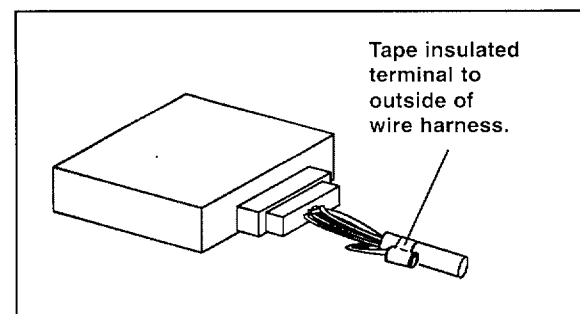
1. Disconnect the Battery.
2. Use the locking pick tool from the wire harness repair kit and back out the terminal from the appropriate connector for the DRL Relay or Body ECU. See the Reference Chart on Page 1 of this bulletin for pin and connector information.



3. Insulate the removed terminal using vinyl electrical tape.

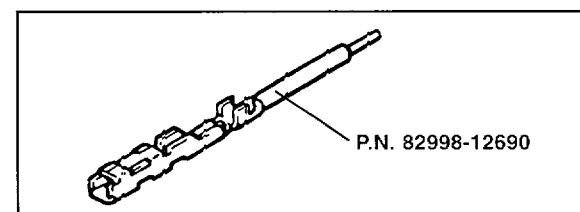


4. Secure the wire and terminal to the outside of the wire harness using vinyl electrical tape.

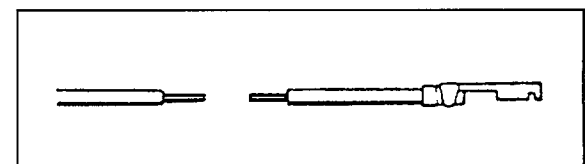
**NOTE:**

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)

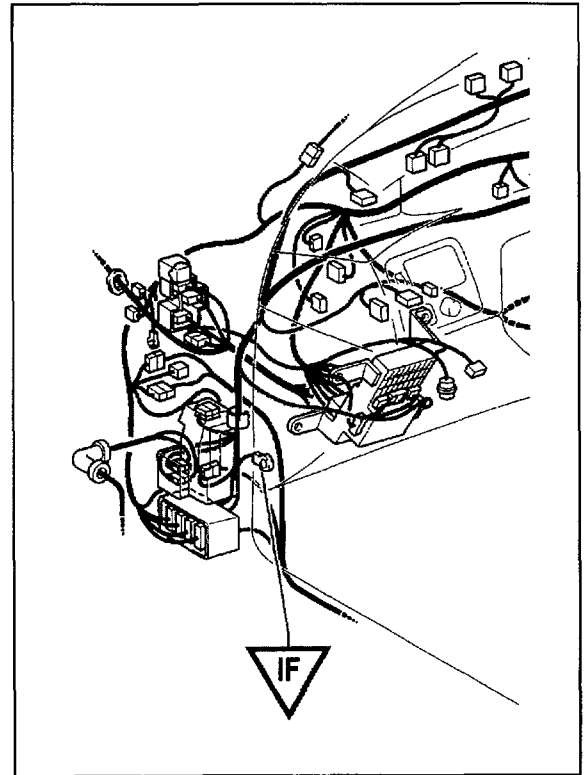
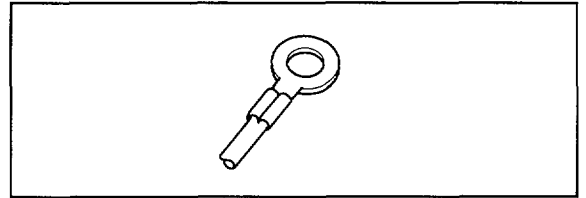


- B. Securely attach a 45 cm/ 18 in wire with an outside diameter of 2.0 mm or larger to the tail of the new terminal.



**Repair
Procedure**
(Continued)

- 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.



Technical Service BULLETIN

October 20, 2000

Title:

IMPROVED CRUISE CONTROL SWITCH

Models:

'97 – '00 RAV4

ELECTRICAL
EL012-00

Introduction A change has been made to the Cruise Control Main Switch applicable to 1997 through 2000 model year RAV4 vehicles. A screw has been installed on the back of the switch to increase switch casing durability.

Applicable Vehicles

- 1997 – 2000 model year **RAV4** vehicles.

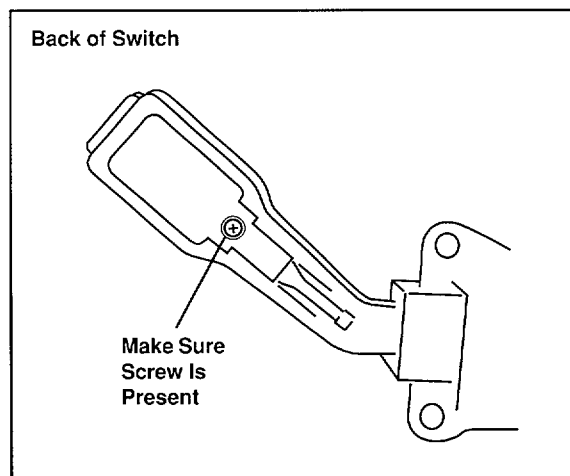
**Production
Change
Information**

MODEL	STARTING VIN
RAV4 (2WD)	JT3GP10V3Y7065553
RAV4 (4WD)	JT3HP10V1Y7151491

**Parts
Information**

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
84630-42010	Same	Main Switch, Cruise Control

Inspection Procedure When replacing the Cruise Control Main Switch verify that the new part is equipped with a screw on the back of the switch. The screw can be seen from outside the part.



**Warranty
Information**

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



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Page 1 of 1

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MAR 20 2002

SB628677

POSTED



Technical Service BULLETIN

January 11, 2002

Title:

NOISE FROM ROOF RACK

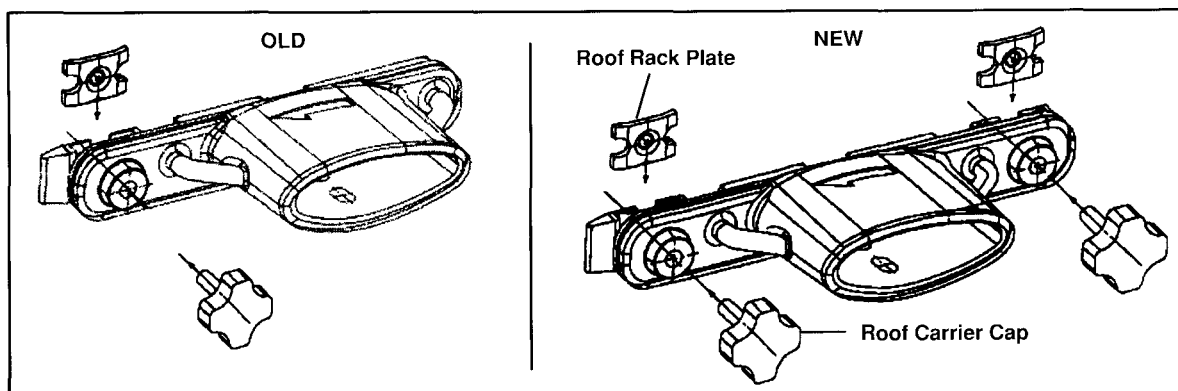
Models:

'01 RAV4

NV001-02

NVH

Introduction Some customers may complain of a rattle or buzz sound from the roof rack assembly when traveling over rough roads. The roof rack cross bar joints have been improved by adding an additional thumbscrew to provide a more secure attachment to the roof rack assembly.



Applicable Vehicles

- 2001 model year **RAV4** vehicles.

Production Change Information

MODEL	STARTING VIN
RAV4	JTEHH20V##6021053 JTEHH20V##0137494 JTEGH20V##0047091

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
63456-42010	63456-42011	Joint, Roof Rack Bar	2
63457-42010	63457-42011	Joint, Roof Rack Bar No. 2	2
63467-42010	Same	Plate, Roof Rack, Rear	4
63498-42010	Same	Cap, Roof Carrier	4

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
NV1008	R & R Roof Rack Cross Bar	0.5	63456-42010 63457-42010	91	43

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.

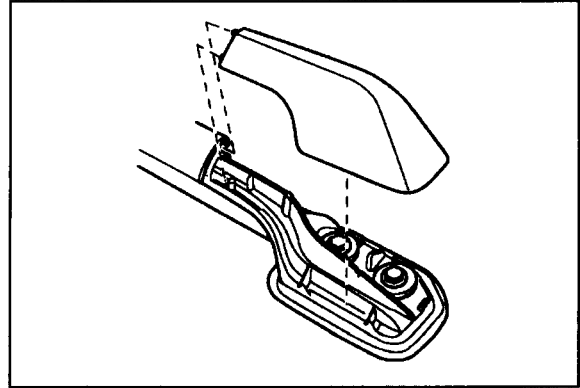


Toyota Supports ASE Certification

628677

Repair Procedure

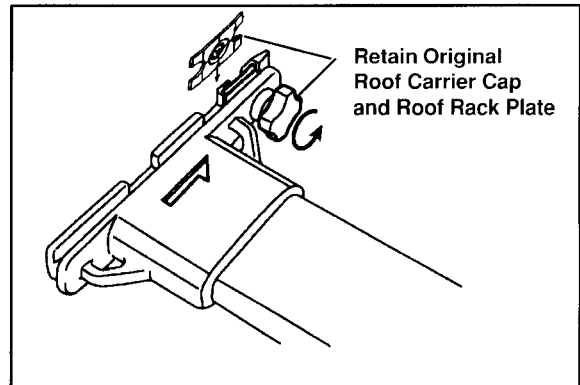
1. Remove the two rear roof rack leg covers.
2. Slide both roof rack cross bars rearward off of the vehicle.



3. Replace the joints with the new parts as listed in the Parts Information table.

NOTE:

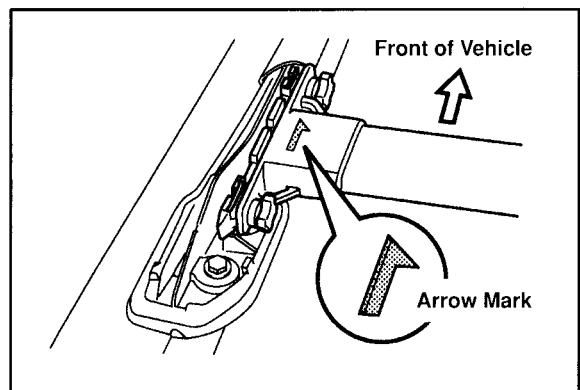
Retain the roof carrier caps and roof rack plates from the original joints for use with the new parts.



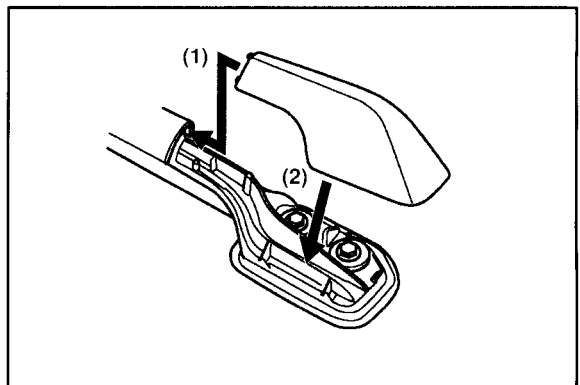
4. Reinstall the cross bars, making sure that the directional arrows stamped on the joints are facing forward on the vehicle.

NOTE:

If the cross bars are reinstalled backwards, they will create wind noise at highway speeds.



5. Confirm that all roof carrier caps are secure.
6. Install the right and left rear roof rack leg covers, as shown.
 - A. Insert the tabs (1) at the front of the cover into the roof rack rail.
 - B. Press the cover down firmly (2).
 - C. Confirm that the cover is installed securely.





Technical Service BULLETIN

March 27, 1998

Title: **WINDSHIELD AREA WIND NOISE IMPROVEMENTS**

Models:
'96-'97 RAV4

NV001-98

NV

Introduction In an effort to reduce the possibility of wind whistle or wind turbulence noise from the windshield area on 1996 and 1997 RAV4 vehicles, the following field fixes were developed.

Production Change Information

For Wind Whistle -

- 1996 and 1997 RAV4s starting with the following VINs:

4x4, 2 door	JT3YP10V * W0138390
4x2, 2 door	JT3XP10V * W0004792
4x4, 4 door	JT3HP10V * W0108410
	JT3HP10V * W7019730
4x2, 4 door	JT3GP10V * W0008958
	JT3GP10V * W7006262

For Wind Turbulence-

- 1996 and 1997 RAV4s starting with the following VINs:

4x4, 2 door	JT3YP10V * W0156911
4x2, 2 door	JT3XP10V * W0007231
4x4, 4 door	JT3HP10V * W0133275
	JT3HP10V * W7046834
4x2, 4 door	JT3GP10V * W0014103
	JT3GP10V * W7014567

Required Tools & Materials

TOOL & MATERIALS	QTY
3M Urethane Windshield Sealer #08634 (or equivalent)	1
Kent Urethane Windshield Sealer #10545 (or equivalent)	1
Scissors	1
Rotary Cut-off Tool or Fine Tooth Hacksaw	1
280 - 360 Grit Sand Paper	1

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
75533-42010 75533-42020	75533-42030	Molding, Windshield Outside

Warranty Information

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
NV8002	Wind Whistle	0.2	75533-42010	59	55
NV8003	Wind Turbulence	0.5	75533-42010	59	55

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.



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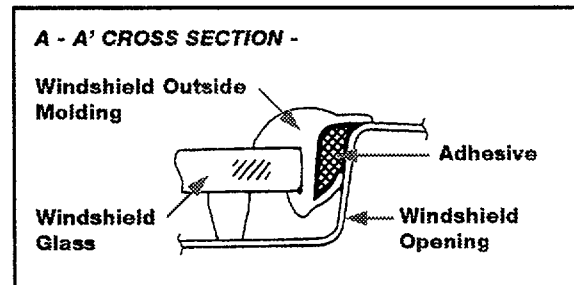
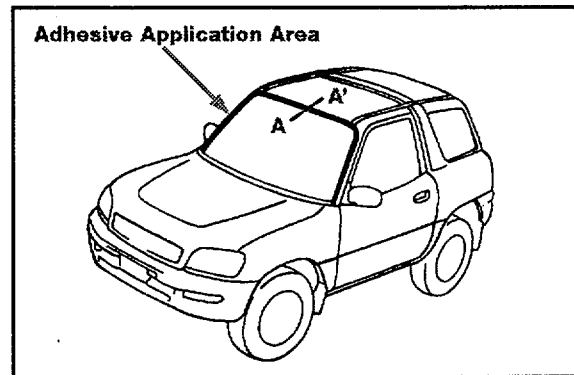
Index # 049209

Repair Procedures

Wind Whistle

"Wind Whistle" is a high pitch sound generated when airflow speeds up as it passes through a narrow passage. In the windshield area, air enters at the bottom of the windshield molding and exits near the top of the molding.

1. Test drive the vehicle to confirm wind whistle is coming from the windshield molding area.
2. If wind whistle is present, use Urethane adhesive to fill any gap between the rubber portion of the windshield molding and the painted portion of the body windshield opening.

**Repair Procedures**

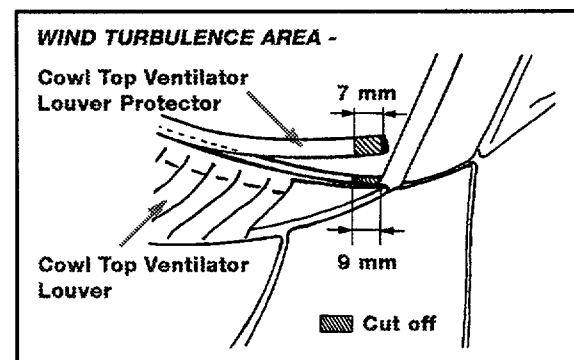
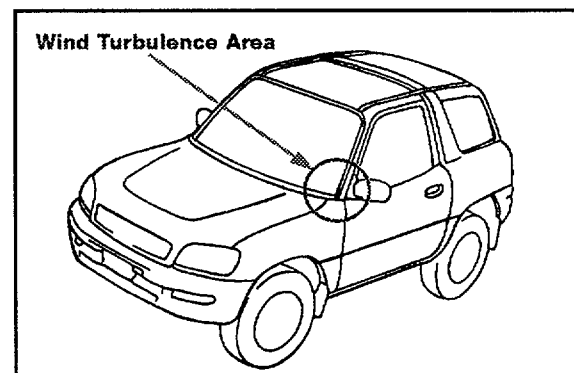
Wind Turbulence

"Wind Turbulence" is a vibration sound caused by accelerated air flow as it travels around and past the windshield "A" Pillar and moldings.

1. Test drive the vehicle to confirm wind turbulence is coming from the windshield molding area.
2. If wind turbulence is present, shorten the length of the plastic cowl top ventilator and ventilator Louver protector.

NOTE:
Use fine sand paper to smooth edge of Cowl Top Ventilator Louver.

3. Remove and replace the windshield outside molding with P/N 75533-42030.





Technical Service BULLETIN

April 17, 1998

Title: **OUTSIDE MIRROR WIND TURBULENCE**

Models:
'96-'97 RAV4

NV002-98

NVH

Introduction In an effort to reduce wind turbulence from around the outer mirrors on 1996 and 1997 RAV4 vehicles, the clearance between the mirror and mirror base has been reduced.

Production Change Information

- **1996 and 1997 RAV4s** starting with the following VINs:

4x4, 2 door	JT3YP10V * W0142068
4x2, 2 door	JT3XP10V * W0007231
4x4, 4 door	JT3HP10V * W0111868
	JT3HP10V * W7023991
4x2, 4 door	JT3GP10V * W0014103
	JT3GP10V * W7014567

Required Tools & Materials

TOOL & MATERIALS		QTY
Washer (OD: 9.7 mm, ID: 5.5mm, Thickness: 0.5mm)		1
Loctite Thread Locking Compound (or equivalent).		1

Warranty Information

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
NV8001	Mirror, Outer	0.3	87961-42180	59	43

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 complaint.

Repair Procedures

1. Remove the 3 screws holding the mirror cover to the mirror base.

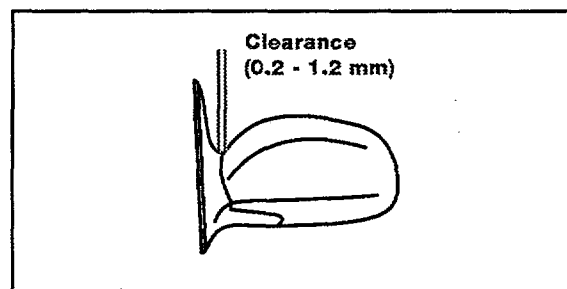
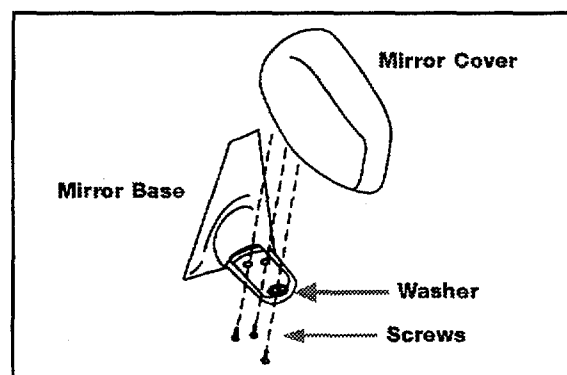
NOTE:

Thread Locking Compound is used on the screws, use caution not to damage the screw heads when removing the screws.

2. Reduce the clearance between the mirror cover and mirror base to 0.2 - 1.2 mm (target is 0.7 mm) by adding a washer between the mirror cover and mirror base on top of the outboard base

NOTE:

Use a Cadmium or Zinc plated steel washer to prevent future corrosion.



Toyota Supports ASE Certification

Index : 049360



Technical Service BULLETIN

November 23, 2001

Title:

TICK NOISE AT BASE OF WINDSHIELD

Models:

'01 RAV4

NVH
REVISED
NV004-01

TSB Revision Notice:

The information on pages 3 through 6 has been added.

Introduction Some customers may experience a tick noise coming from the front of the passenger compartment when hitting sharp bumps in the road. A field fix has been developed to help prevent this noise.

Applicable Vehicles

- 2001 model year **RAV4** vehicles.

Parts Information

PART NUMBER	PART NAME
08231-00801	Noise Kit
08231-00810	Wind Noise Kit

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
NV1004	R & R Cowl Top Ventilator Louver	1.1	55781-42060	91	57
NV1005	R & R Cowl Top Panel Sub-Assembly	1.0	55701-42330		

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.

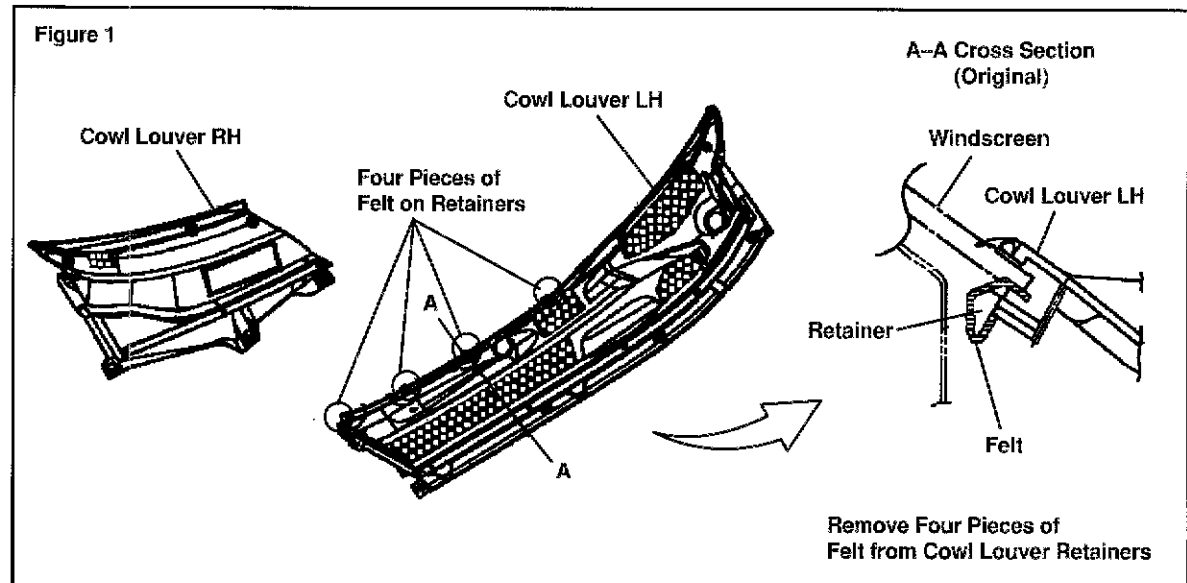


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**Repair
Procedure:
Cowl Louver**

1. Determine root cause of noise (cowl louver or cowl panel). Remove the cowl louver as described below and re-confirm the customer's complaint with a test drive. If the noise is gone, perform the repair instructions pertaining to the cowl louver. If the noise is still present, perform the repair procedure for the cowl panel.
2. Remove both windshield wiper arms.
3. Remove RH cowl top ventilator louver/battery cover.
4. Remove driver's side (center) cowl top ventilator louver.
5. Remove the four original pieces of felt from the LH cowl louver retainers as shown in Figure 1.



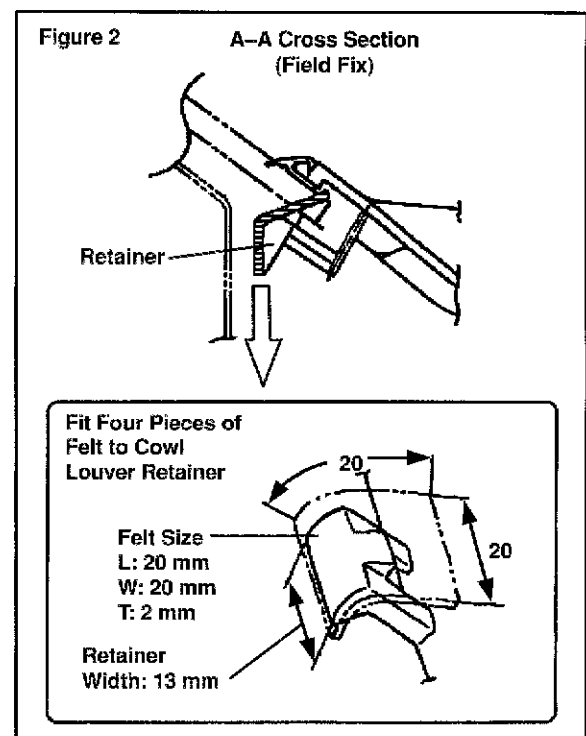
6. Cut four new pieces of felt to the dimensions shown below and apply them to the four retainers as shown in Figure 2.

Felt Size:

Length: 20 mm

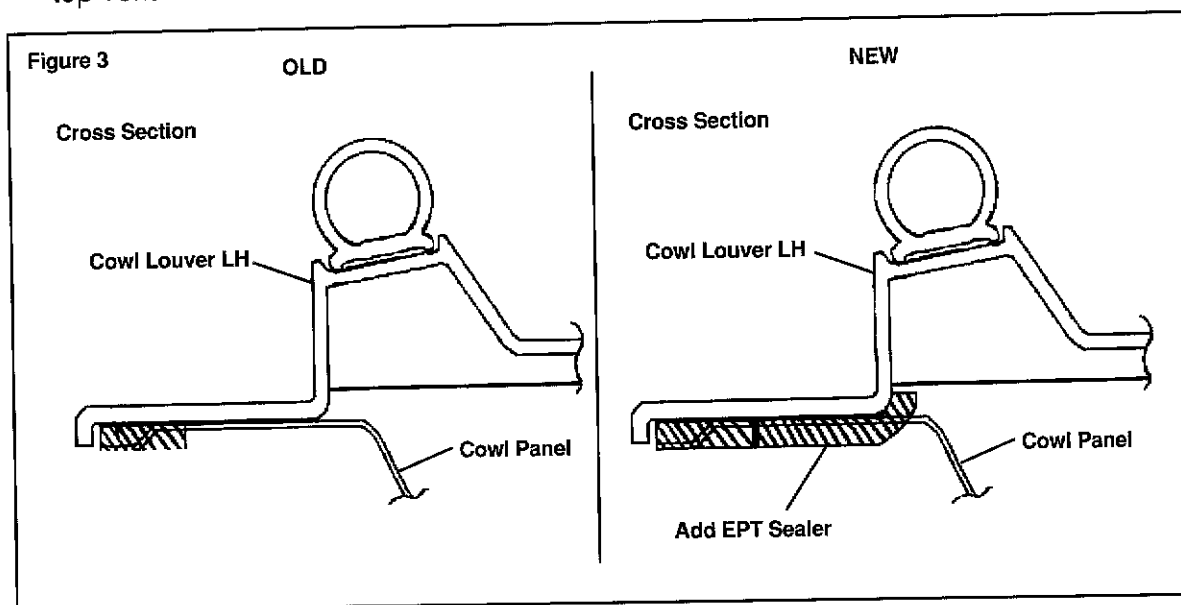
Width: 20 mm

Thickness: 2 mm



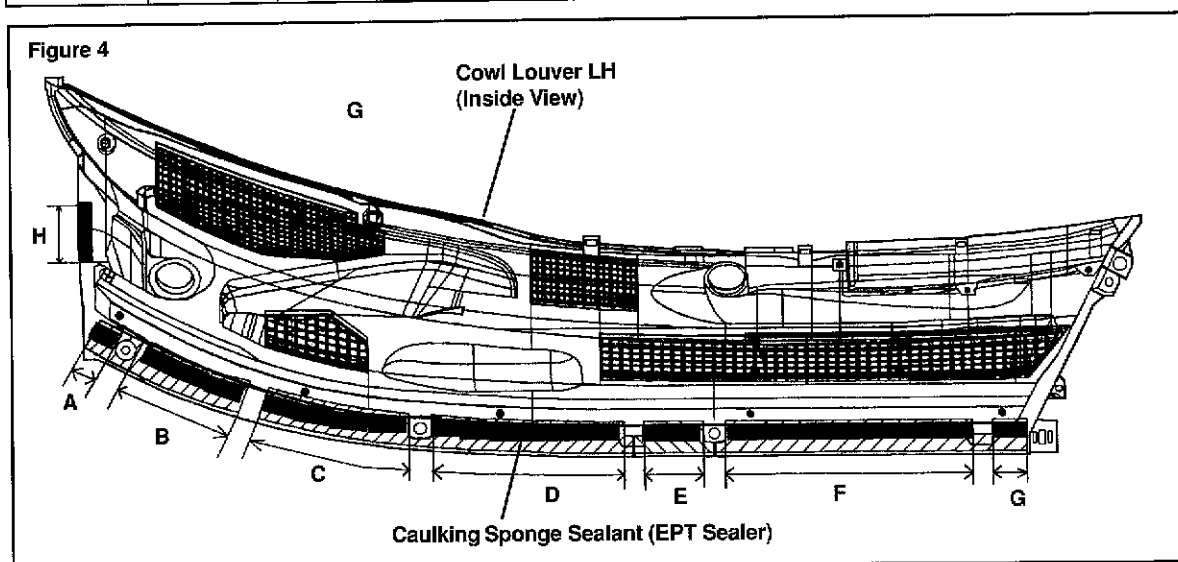
**Repair
Procedure:
Cowl Louver
(Continued)**

7. Add to the caulking sponge sealant (EPT sealer) applied originally to the center cowl top ventilator louver in the area shown in Figure 3.



8. Prepare eight new pieces of EPT sealer in the sizes shown in table below.

LOCATION	A	B	C	D	E	F	G	H
Length	30 mm	110 mm	145 mm	180 mm	50 mm	230 mm	15 mm	54
Width	20 mm	20 mm	20 mm	20 mm	20 mm	20 mm	20 mm	10
Thickness	3 mm	3 mm	3 mm	3 mm	3 mm	3 mm	3 mm	3

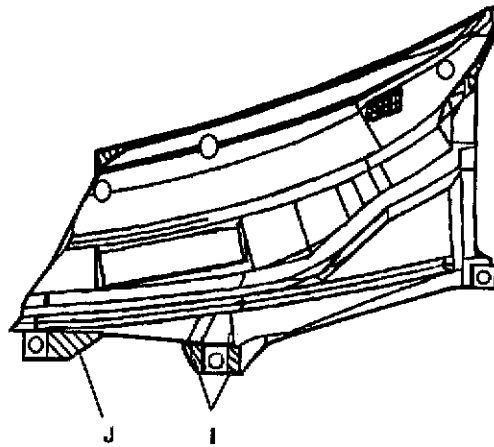


9. Apply the new strips of EPT sealer to the front of the cowl louver (See Figure 4).

**Repair
Procedure:
Cowl Louver
(Continued)**

Prepare three more pieces of EPT sealer for the RH side cowl louver (covering the battery).

LOCATION	I (2)	J
Length	20 mm	60 mm
Width	10 mm	30 mm
Thickness	3 mm	3 mm

Figure 5**Cowl Louver RH (Inside View)****Caulking Sponge Sealant (EPT Sealer)**

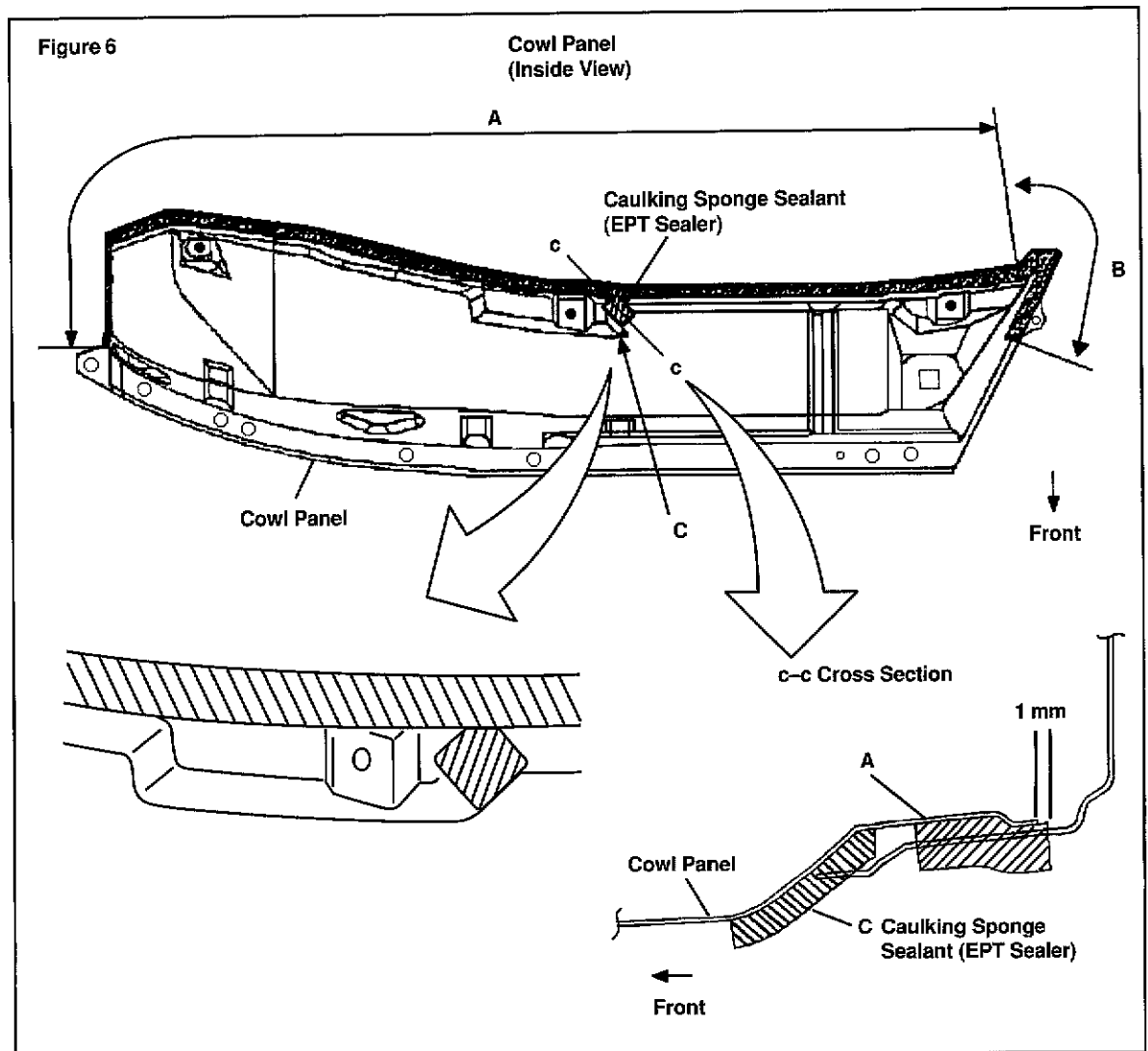
10. Trim the EPT sealer to match the shape of the cowl louver.

**Repair
Procedure:
Cowl Panel**

1. If you have confirmed that the tick sound continues with the cowl louver removed proceed with the following field fix.
2. Once the cowl louver is removed, remove the wiper motor and link assembly. Unclip the wiper motor's wire harness from the cowl panel.
3. Remove the cowl panel and remove the original 2 pieces EPT sealer from the cowl panel.
4. Prepare the three new pieces of EPT sealer as listed below.

LOCATION	A	B	C
Length	1190 mm	230 mm	30 mm
Width	16 mm	16 mm	30 mm
Thickness	10 mm	10 mm	5 mm

5. Make sure that the mating surfaces are clean and apply the new EPT sealer as shown below. Make sure that the EPT sealer hangs off of the edge of the panel by 1 mm while applying it to section "A".



**Repair
Procedure:
Cowl Panel**
(Continued)

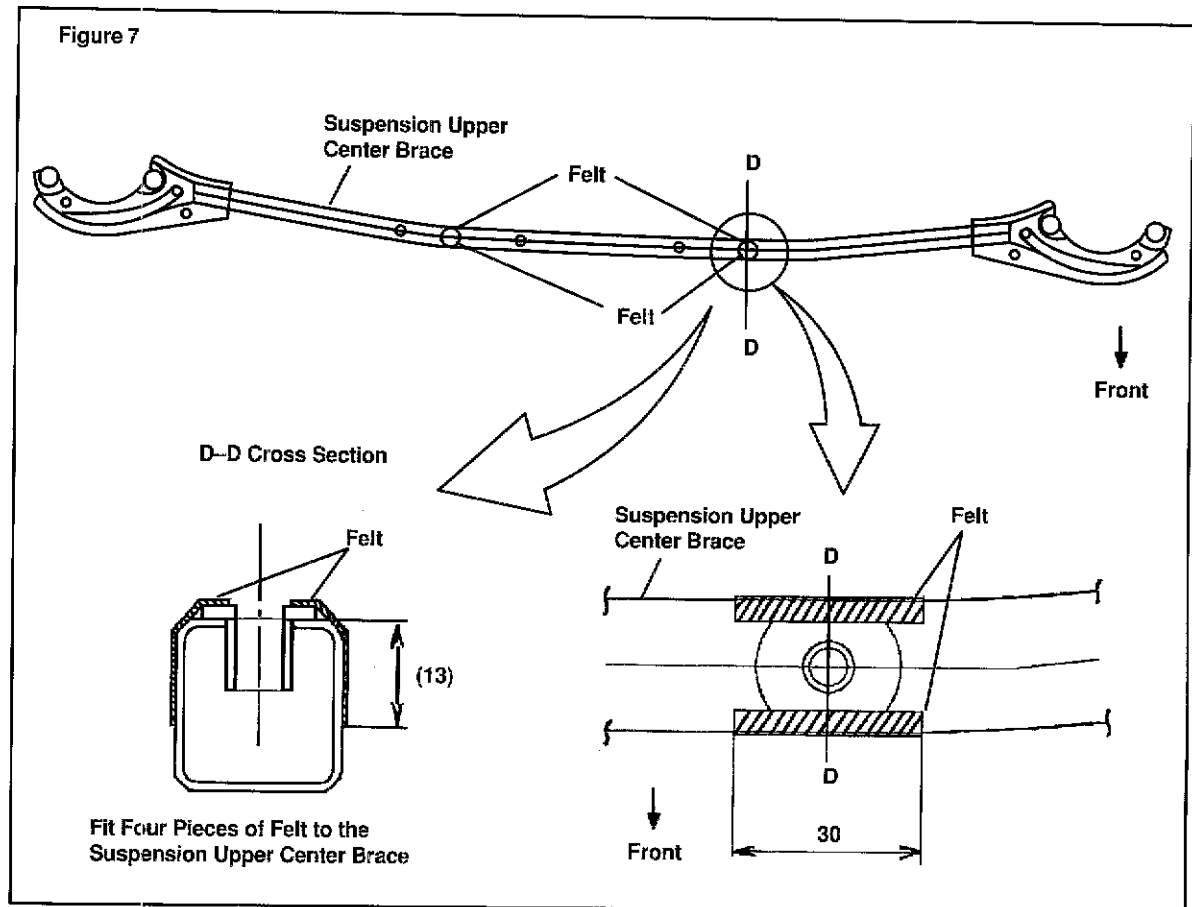
6. Before reinstalling the cowl panel add the four pieces of felt to the front suspension upper center brace as shown below.

Felt size:

Length: 30 mm

Width: 22 mm

Thickness: 0.5 mm



7. Reinstall the cowl panel, wiper motor assembly, cowl louver, and wiper arms.

APR 02 2002

Title:
**WIND WHISTLE FROM FRONT EDGE
OF HOOD**
Models:
'02 RAV4

SB629481 YID

NV004-02

NVH

Introduction Some customers may experience a high-pitched wind whistle from the leading edge of the hood at highway speeds. The following field fix procedure is recommended to improve this condition.

- Applicable Vehicles**
- **2002** model year **RAV4** vehicles produced before the VINs shown below.

**Production
Change
Information**

MODEL	STARTING VIN
RAV4 4WD	JTEHH20V220149012
	JTEHH20V826034590
RAV4 2WD	JTEGH20V920057844
	JTEGH20V626000000

**Parts
Information**

PART NUMBER	PART NAME
08231-00810	Wind Noise Kit

**Warranty
Information**

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
BD1038	R & R Hood to Radiator Grille Seal	0.3	53395-42010	59	43

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.

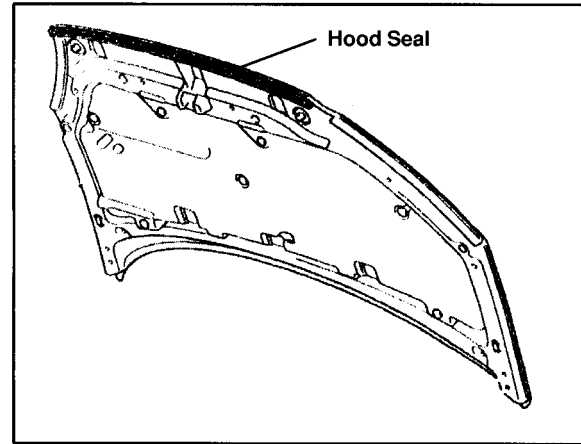


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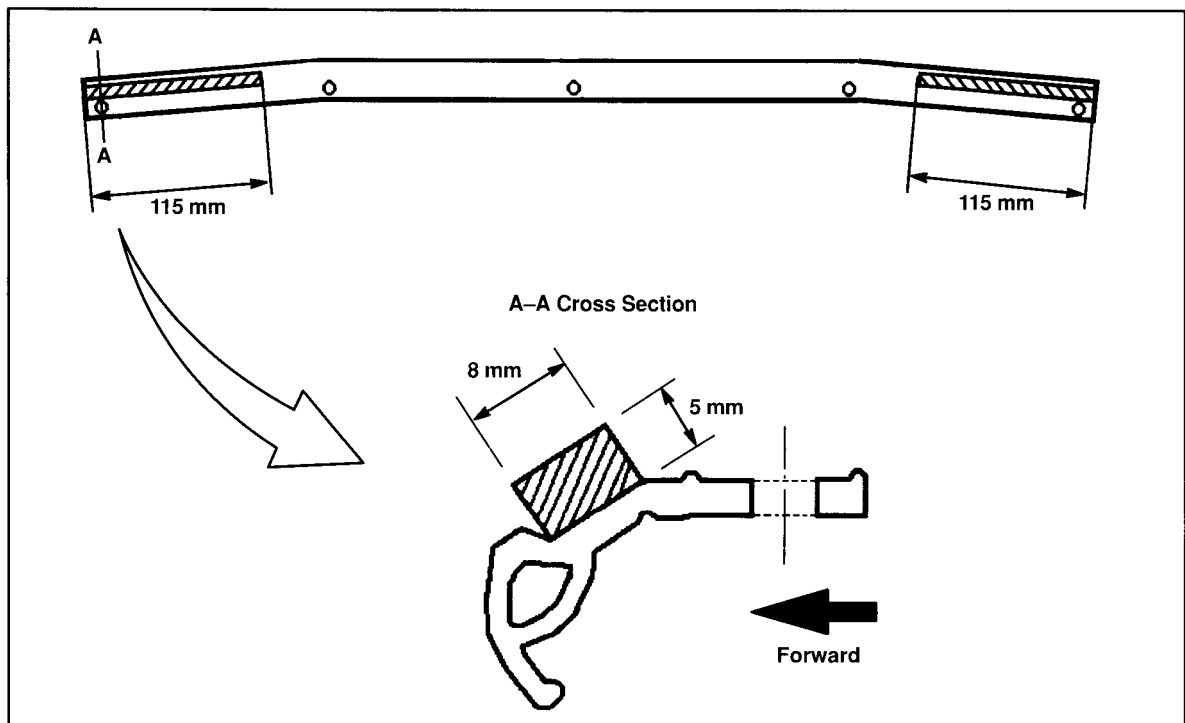
629481

**Repair
Procedure**

1. Remove the hood to radiator grille seal from the hood.



2. Cut two pieces of EPT sealer from the wind noise kit, and apply them to the hood seal as shown.

EPT Size**Length: 115 mm****Width: 8 mm****Thickness: 5 mm**

3. Reinstall the hood seal.