TOYOTA

Technical Service BULLETIN

September 3, 2003

Title:

VSC COMMUNICATION BETWEEN SKID CONTROL COMPUTER AND ECM - DTC C1203

Models:

'03 Sequoia

TSB

REVISED

BRAKES

BR002-03

TSB REVISION NOTICE:

September 15, 2003: The VIN information was changed.
The previous TSB should be discarded.

Introduction

Some 2003 model year Sequoia vehicles may experience a VSC light ON condition with DTC C1203 in the Skid Control Computer memory. A modification to the Translate Computer logic has been made to prevent this condition.

Applicable Vehicles

- **2003** model year **Sequoia** vehicles produced **BEFORE** the Production Change Effective VIN shown below.

Production Change Information

MODEL	PRODUCTION CHANGE EFFECTIVE VIN
2003 Sequoia	5TD**##A13S[redacted]

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
89630–0C010	89630–0C011	Computer Assembly, Translate	1

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
BR3001	R & R Translate Computer Assembly	1.0	89630–0C010	95	71

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
Toyota Diagnostic Tester Kit* 	01001271	1
12 Megabyte Diagnostic Tester Program Card with version 10.0a Software (or later)* 	01002593-005	1

* Essential SSTs.

NOTE:

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

Service Hint

Before replacing the Translate Computer:

1. Ensure that the ignition key is in the OFF position.
2. Disconnect the negative battery terminal with the wheels aimed straight ahead.
3. Use the Technical Information System (TIS) for Translate Computer location. Refer to the 2003 Sequoia Repair Manual: Diagnostics, ABS with EBD & BA & TRAC & VSC System: Parts Location.

After replacing the Translate Computer, calibrate the Steering Angle Sensor by following the steps below:

1. Reconnect the battery with the front wheels aimed straight ahead.
2. Start the vehicle and drive the vehicle for at least 1 minute.
3. **During the drive, you must drive in a straight line for at least 5 seconds above 15 mph.**
4. To confirm calibration, make sure the ABS/VSC light is off and no DTCs are present in the Skid Control Computer memory.

T-BR003-03

TOYOTA

Technical Service BULLETIN

November 18, 2003

Title:

VSC COMPUTER LOGIC MODIFICATION FOR DTC C1231

Models:

'03 Sequoia

TSB

REVISED

BRAKES

BR003-03

TSB REVISION NOTICE:

May 13, 2004: The Diagnostic Tester screen flows on pages 3 – 5 have been changed. All previous versions of this TSB should be discarded.

Introduction

Some 2003 model year Sequoia vehicles may experience a VSC light ON condition with DTC C1231 in the Skid Control Computer memory. A modification to the Skid Control Computer logic has been made to prevent this condition.

Applicable Vehicles

- **2003** model year **Sequoia** vehicles produced **BEFORE** the Production Change Effective VIN shown below.

Production Change Information

MODEL	PRODUCTION CHANGE EFFECTIVE VIN
Sequoia	5TD*T##A#3S[redacted]

Required SSTs

SPECIAL SERVICE TOOLS (SSTs)	PART NUMBER	QUANTITY
Toyota Diagnostic Tester Kit* 	01001271	1
12 Megabyte Diagnostic Tester Program Card with version 10.2a Software (or later)* 	01002593-005	1

* Essential SSTs.

NOTE:

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

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
896011	R & R Skid Control Computer Assembly	1.4	89541–0C060	8A	71

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
89541–0C060	89541–0C062	Computer Assembly, Skid Control	1

Repair Procedure

In the event that no problem can be identified in the diagnostic procedure for DTC C1231, replace the Skid Control Computer.

NOTE:

2003 model year Sequoia vehicles produced after the VIN in the Production Change Information table, or the vehicles of which the Skid Control ECU has been changed to the new part will also have changes in the operation procedure of the calibration. Calibrate according to the following procedure.

Calibration Procedure

NOTE:

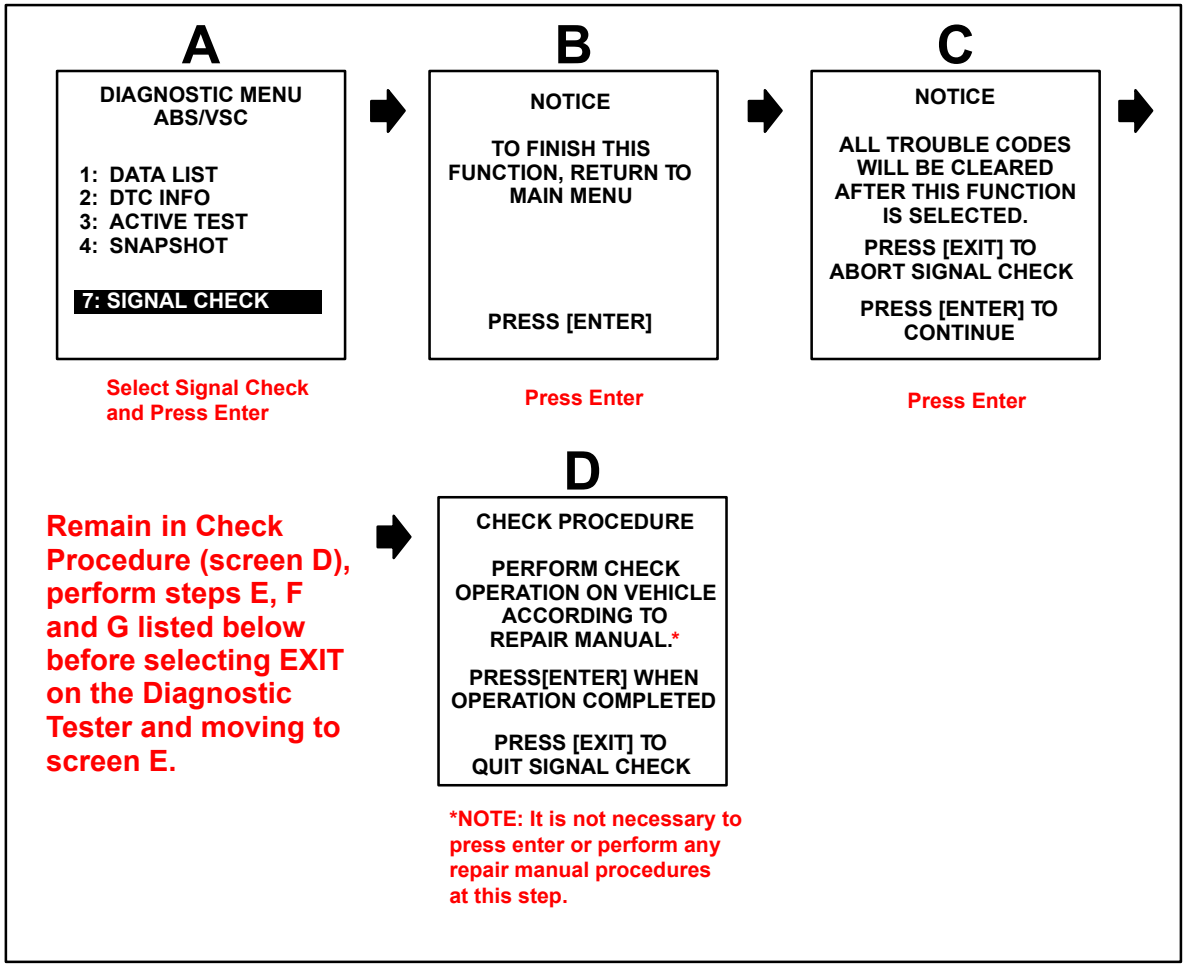
Whenever replacing the master cylinder pressure sensor, yaw rate and deceleration sensor, or the Skid Control ECU, make sure to perform zero point calibration.
While performing the zero point calibration:

- **Do not tilt, move, or shake the vehicle.**
- **The vehicle must maintain a stationary position.**
- **Do not start the engine.**
- **Be sure to perform calibration on a level surface (within an inclination of 1%).**

1. Whenever replacing the Skid Control ECU, registration of the new ECU must first be performed.
   A. For 2WD models: registration is complete. Proceed to step 2.
   B. For 4WD models:
      a. After turning the ignition switch ON, with the shifter in the “P” position, move the transfer lever to the “L4” position.
      b. At this time, the VSC system buzzer will sound for 3 seconds indicating that registration is complete. Now turn the ignition switch OFF. Proceed to step 2.

Calibration Procedure (Continued)

2. Perform master cylinder pressure, yaw rate and deceleration sensor zero point calibration.
   A. Connect Diagnostic Tester to DLC3.
   B. Move the shift lever to the “P” position.
   C. Start the engine.
   D. Place the Diagnostic Tester into Signal Check mode under the ABS/VSC menu.



   E. Keep the vehicle in a stationary position on a level surface for 4 seconds or more.
   F. For 2WD models: press the TRAC OFF switch 3 times within 3 seconds without pressing the brake pedal.
   G. For 4WD models: press the center differential lock switch 3 times within 3 seconds without pressing the brake pedal.

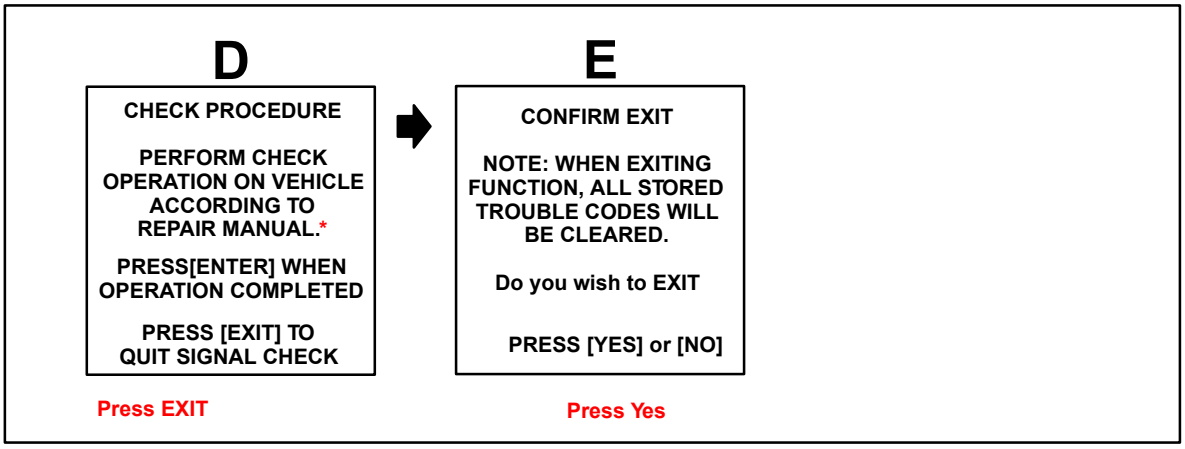
Calibration Procedure (Continued)

H. Check that the VSC buzzer sounds for 3 seconds.

NOTE:

If the VSC buzzer does not sound:

- **Repeat the zero point calibration procedures listed in Step 2.**
- **Check the VSC buzzer circuit.**



I. Zero point of master cylinder pressure, yaw rate and deceleration sensor is complete. Proceed to step 3.

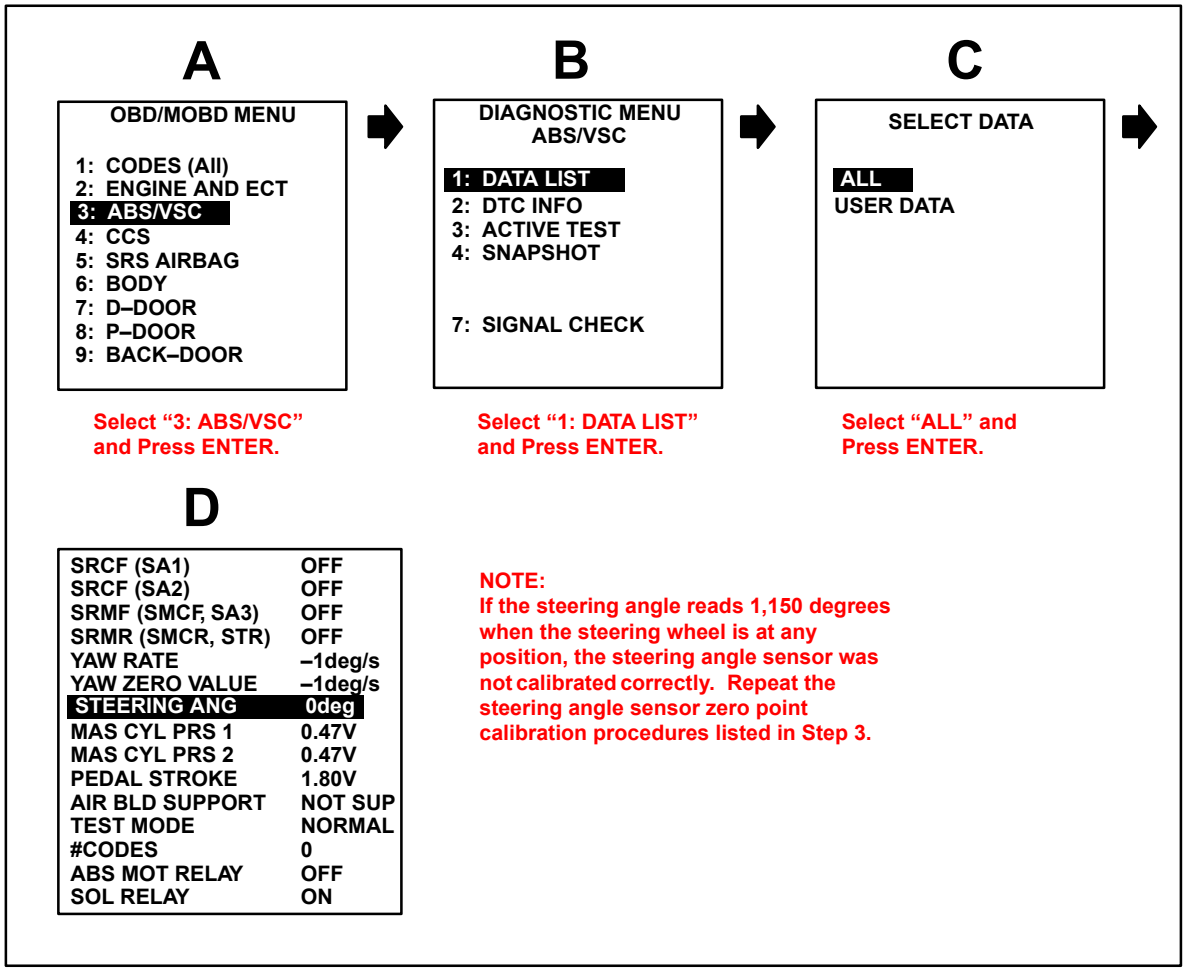
3. Perform steering angle sensor zero point calibration.

A. Disconnect the Diagnostic Tester.

B. Calibrate the steering angle sensor by driving the vehicle above 28 mph (45 km/h).

Calibration Procedure (Continued)

4. Confirm zero point calibration.
   A. Stop the vehicle.
   B. Place the shifter in the “P” position.
   C. Connect the Diagnostic Tester to DLC3.
   D. View the ABS/VSC Data List to see that the steering angle value changes when turning the steering wheel.



5. Disconnect the Diagnostic Tester and turn the ignition switch OFF.

T-BR006-06

TOYOTA

Technical Service BULLETIN

March 31, 2006

Title:

M.I.L. "ON" DTC C1247 & C1310: SKID CONTROL COMPUTER LOGIC CHANGE

Models:

'03 – '05 Sequoia

TSB

BRAKES

REVISED

BR006-06

TSB REVISION NOTICE:

- **August 3, 2007: Step 1A of the Calibration Procedure has been updated.**

Previous versions of this TSB should be discarded.

Introduction

Some 2003 – 2005 model year Sequoia vehicles may exhibit the Brake, ABS, and/or VSC warning lights coming ON with DTC C1247 and/or C1310 stored in the skid control computer memory with no problem found. A software change has been made to the skid control computer logic to correct this condition.

Applicable Vehicles

- **2003 – 2005** model year **Sequoia** vehicles produced **BEFORE** the Production Change Effective VINs shown below.

Production Change Information

MODEL	DRIVETRAIN	PRODUCTION CHANGE EFFECTIVE VIN
Sequoia	2WD	5TDZT3#A#6S[redacted]
	4WD	5TDBT4#A#6S[redacted]

Parts Information

MODEL YEAR	PREVIOUS PART NUMBER*	CURRENT PART NUMBER	PART NAME	QTY
2003 – 2004	89541–0C062	Same	Computer, Skid Control	1
2005	89541–0C070	Same		1

Warranty Information

OP CODE	DESCRIPTION	MODEL YEAR	TIME	OFP	T1	T2
896011	R & R Skid Control Computer	2003 – 2004	1.4	89541–0C062	8A	71
		2005	1.4	89541–0C070		

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

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 13.3a 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.

Repair Procedure

1. Confirm the ABS/TRAC/VSC skid control computer has DTC codes C1247 and/or C1310.
2. Follow the diagnostics for these DTCs. Refer to the specific model year Repair Manual on the Technical Information System (TIS).

   In the event that NO problem can be found for these DTCs, replace the skid control computer.
3. To remove and replace the ABS/TRAC/VSC skid control computer following the procedures outlined on TIS, 2003, 2004, or 2005 model year Sequoia Repair Manual: *Brake: ABS & VSC Actuator: Disassembly* and *Reassembly.*
4. Calibrate skid control computer using the following calibration procedure.

Calibration Procedure

NOTE:

Whenever replacing the master cylinder pressure sensor, yaw rate and deceleration sensor, or the Skid Control ECU, make sure to perform zero point calibration.
While performing the zero point calibration:

- **Do NOT tilt, move, or shake the vehicle.**
- **The vehicle MUST maintain a stationary position.**
- **Be sure to perform calibration on a level surface (with less than 1% inclination).**

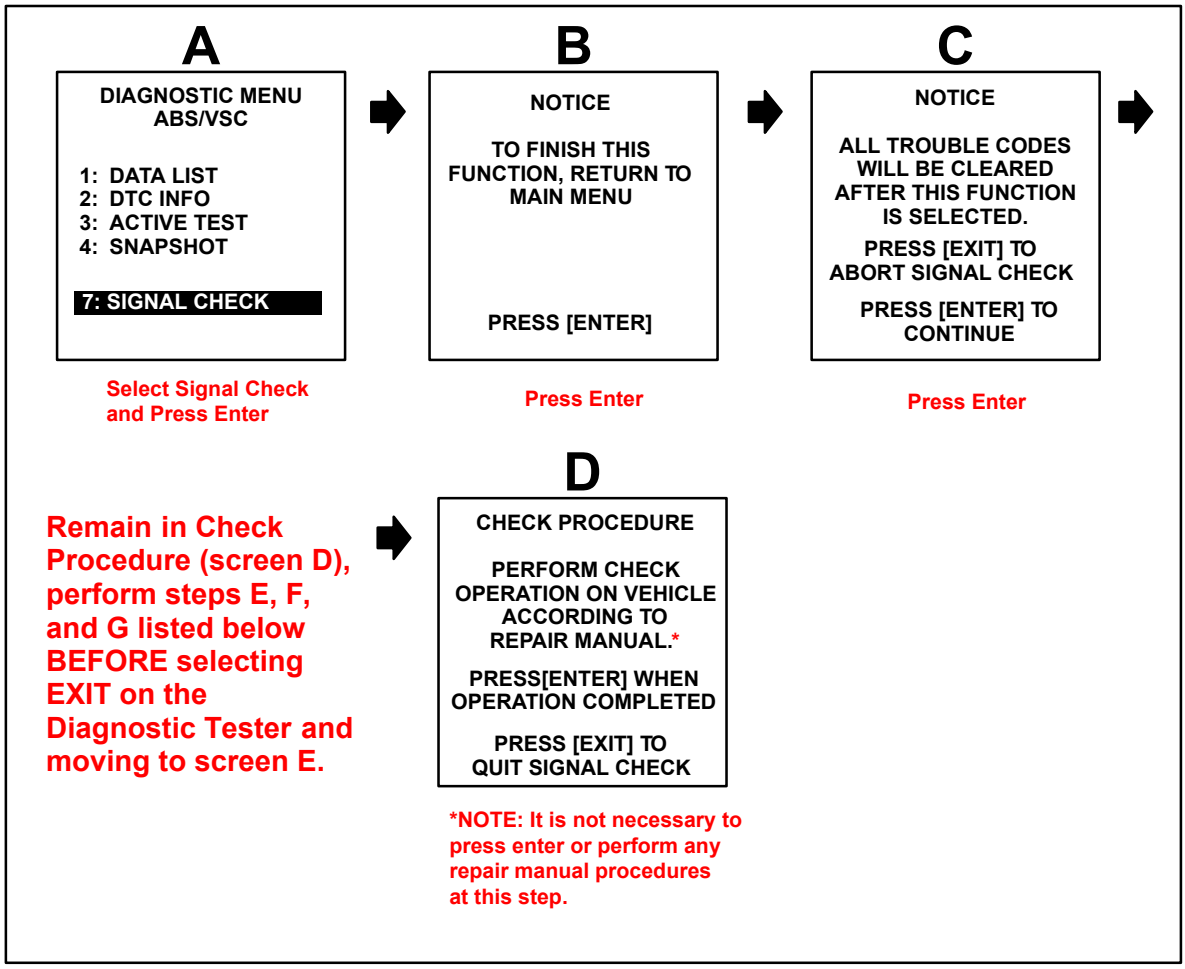
MODEL YEAR	DRIVETRAIN	ACTION
2003 – 2004	2WD	Start at step 2
	4WD	Start at step 1
2005	–	Start at step 2

ONLY perform step 1 for the 2003 – 2004 model year 4WD Sequoia vehicles.

Calibration Procedure (Continued)

1. **2003 – 2004 Model Year 4WD Sequoia:** Whenever replacing the Skid Control ECU, registration of the new ECU MUST first be performed.
   - **A. Vehicles with Transfer Lever:** After turning the ignition switch ON, with the shift lever in the "P" position, move the transfer lever to the "L4" position.

     Vehicles with Push Button Selector: Place the vehicle in NEUTRAL, press the "L4" button, and then place the vehicle in the "P" position.
   - B. At this time, the VSC system buzzer will sound for 3 seconds indicating that registration is complete. Now turn the ignition switch OFF . Go to step 2.
2. Perform master cylinder pressure, yaw rate, and deceleration sensor zero point calibration.
   - A. Connect the Diagnostic Tester to DLC3.
   - B. Move the shift lever to the "P" position.
   - C. Start the engine.
   - D. Place the Diagnostic Tester into Signal Check mode under the ABS/VSC menu.



   - E. Keep the vehicle in a stationary position on a level surface for 4 seconds or more.
   - **F. For 2WD models:** Press the TRAC OFF switch 3 times within 3 seconds without pressing the brake pedal.

Calibration Procedure (Continued)

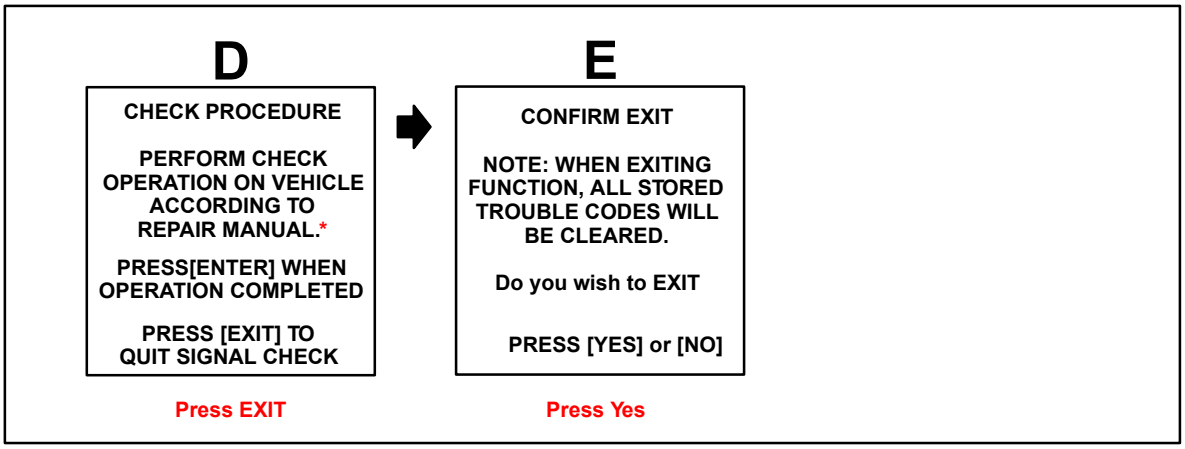
G. **For 4WD models:** Press the center differential lock switch 3 times within 3 seconds without pressing the brake pedal.

H. Check that the VSC buzzer sounds for 3 seconds.

NOTE:

If the VSC buzzer does not sound:

- **Repeat the zero point calibration procedures listed in Step 2.**
- **Check the VSC buzzer circuit.**



I. Zero point of master cylinder pressure, yaw rate, and deceleration sensor is complete. Go to step 3.

3. Perform steering angle sensor zero point calibration.

A. Disconnect the Diagnostic Tester.

B. Calibrate the steering angle sensor by driving the vehicle above 28 mph (45 km/h).

4. Confirm zero point calibration.

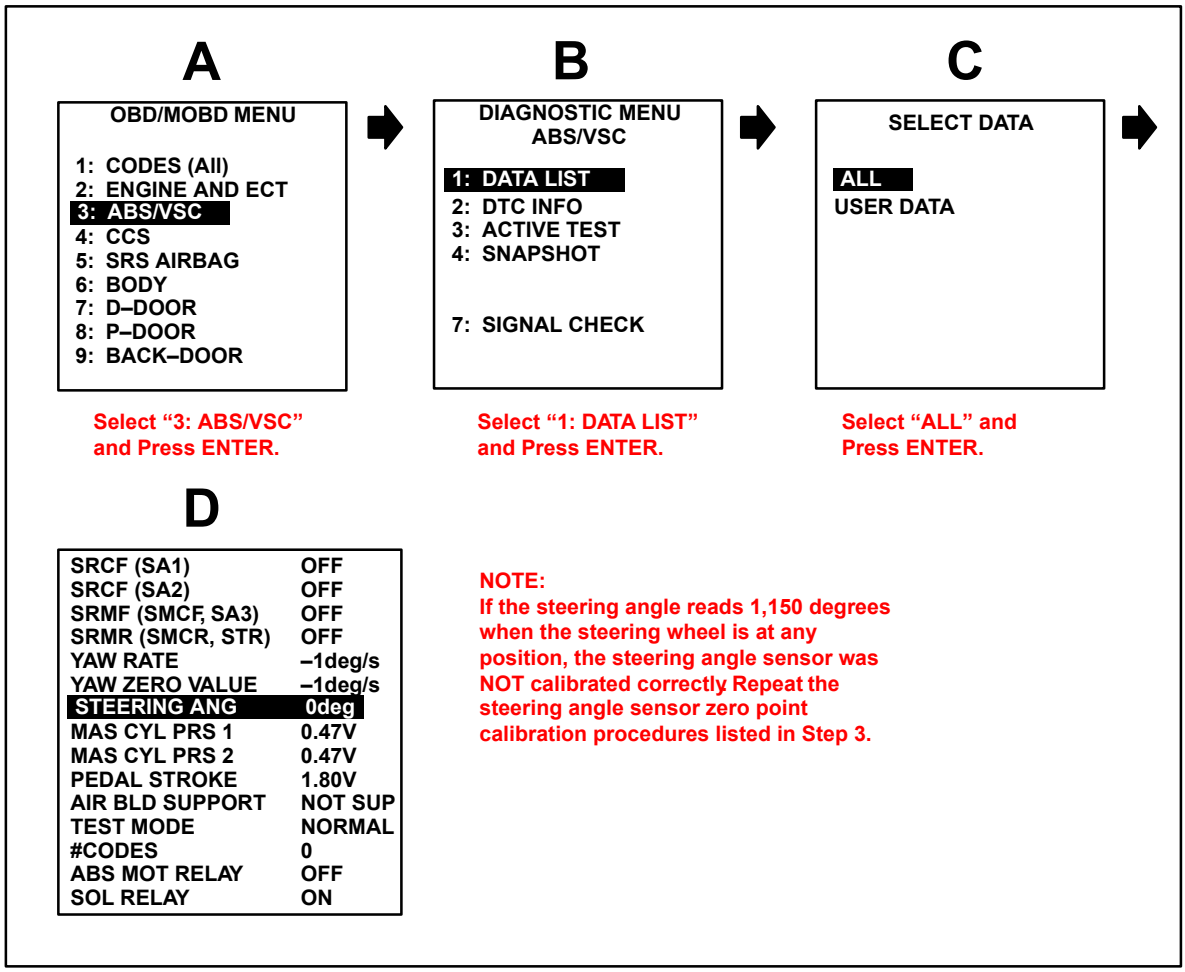
A. Stop the vehicle.

B. Place the shift lever in the "P" position.

C. Connect the Diagnostic Tester to DLC3.

Calibration Procedure (Continued)

D. View the ABS/VSC Data List to see that the steering angle value changes when turning the steering wheel.



5. Disconnect the Diagnostic Tester and turn the ignition switch OFF.
6. Test drive the vehicle to confirm the repair is complete.

T-BR007-06

TOYOTA

Technical Service BULLETIN

April 5, 2006

Title:

VSC-RELATED ZERO POINT CALIBRATION & SENSOR CHECK

Models:

'03 – '06 Sequoia

TSB

BRAKES

REVISED BR007-06

TSB REVISION NOTICE:

- **August 3, 2007: Step1B of the Calibration Procedure has been updated.**

Previous versions of this TSB should be discarded.

Introduction

The following information is intended to clarify the Repair Manual procedures for using the Toyota Diagnostic Tester to perform zero point calibration and sensor checks after the replacement of any of the following components on 2003 – 2006 model year Sequoia vehicles.

- Vehicle Skid Control Computer
- Steering Angle Sensor
- Master Cylinder Pressure Sensor
- Yaw Rate Sensor
- Deceleration Sensor

Zero point calibration of the above sensors must also be performed when replacing or repairing steering related parts and when changing the vehicle's straight-ahead condition for toe adjustment.

Applicable Vehicles

- **2003 – 2006** model year **Sequoia** vehicles.

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	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 13.3a 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.

Calibration Procedure

NOTE:

Whenever replacing the master cylinder pressure sensor, yaw rate and deceleration sensor, or the Skid Control ECU, make sure to perform zero point calibration.
While performing the zero point calibration:

- **Do NOT tilt, move, or shake the vehicle.**
- **The vehicle MUST maintain a stationary position.**
- **Do NOT start the engine.**
- **Be sure to perform calibration on a level surface (within an inclination of 1%).**

1. Whenever replacing the Skid Control ECU, registration of the new ECU must first be performed.
   A. **For 2WD models:** Registration is complete. Go to step 2.
   B. **For 4WD models:**
      a. Vehicles with Transfer Lever: After turning the ignition switch ON, with the shifter in the “P” position, move the transfer lever to the “L4” position.
      Vehicles with Push Button Selector: Place the vehicle in NEUTRAL, press the “L4” button, and then place the vehicle in the “P” position.
      b. At this time, the VSC system buzzer will sound for 3 seconds indicating that registration is complete. Now turn the ignition switch OFF. Go to step 2.

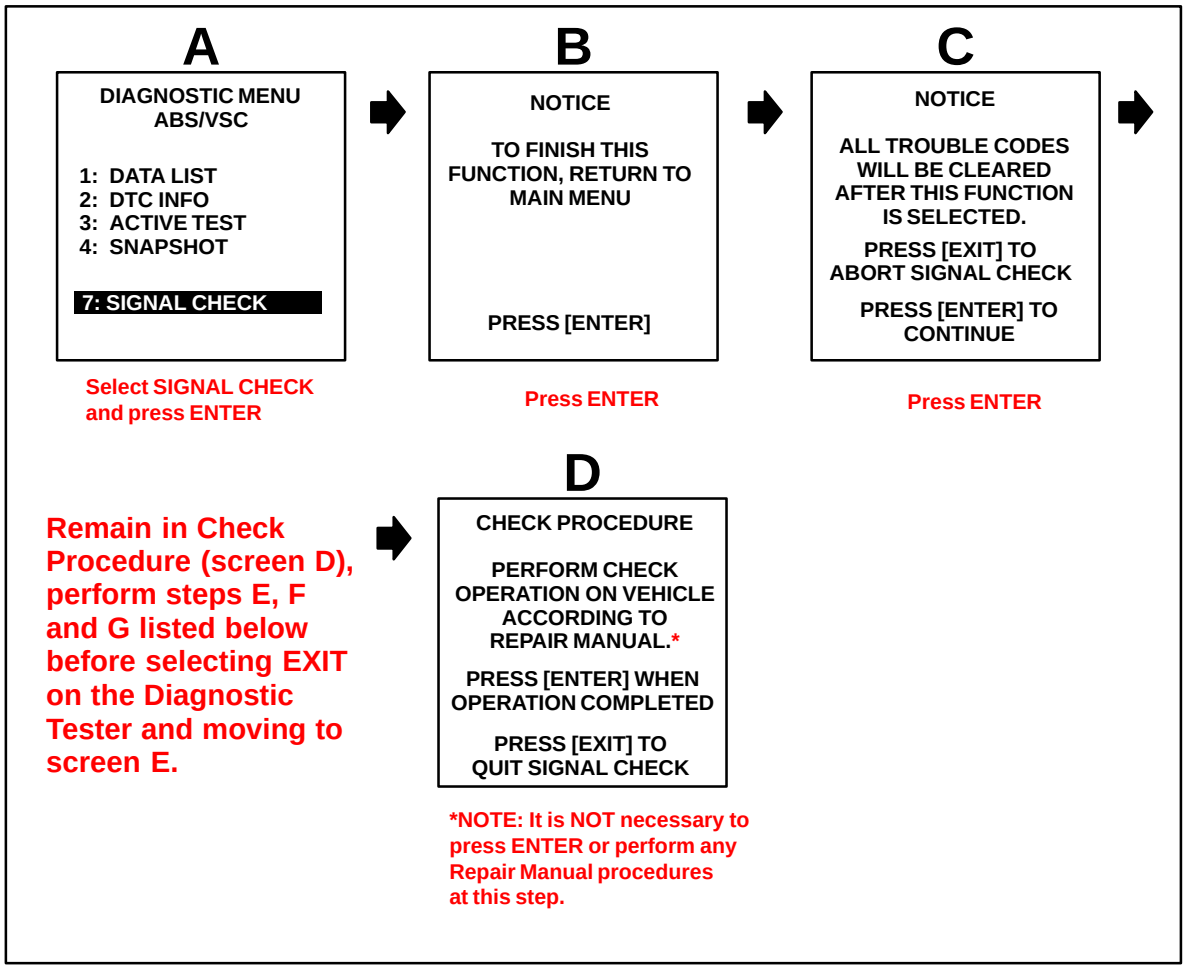
NOTE:

For the 2001 – 2002 model year Sequoia zero point calibration procedure, refer to TSB No. BR001-02, “*VSC Related Zero Point Calibration and Sensor Check*.”

2. Perform master cylinder pressure, yaw rate, and deceleration sensor zero point calibration.
   A. Connect Diagnostic Tester to DLC3.
   B. Move the shift lever to the “P” position.
   C. Turn the ignition switch to the “ON” position.

Calibration Procedure (Continued)

D. Place the Diagnostic Tester into Signal Check mode under the ABS/VSC menu.



E. Keep the vehicle in a stationary position on a level surface for 4 seconds or more.

F. **For 2WD models:** Press the TRAC OFF switch 3 times within 3 seconds without pressing the brake pedal.

G. **For 4WD models:** Press the center differential lock (TRAC OFF) switch 3 times within 3 seconds without pressing the brake pedal.

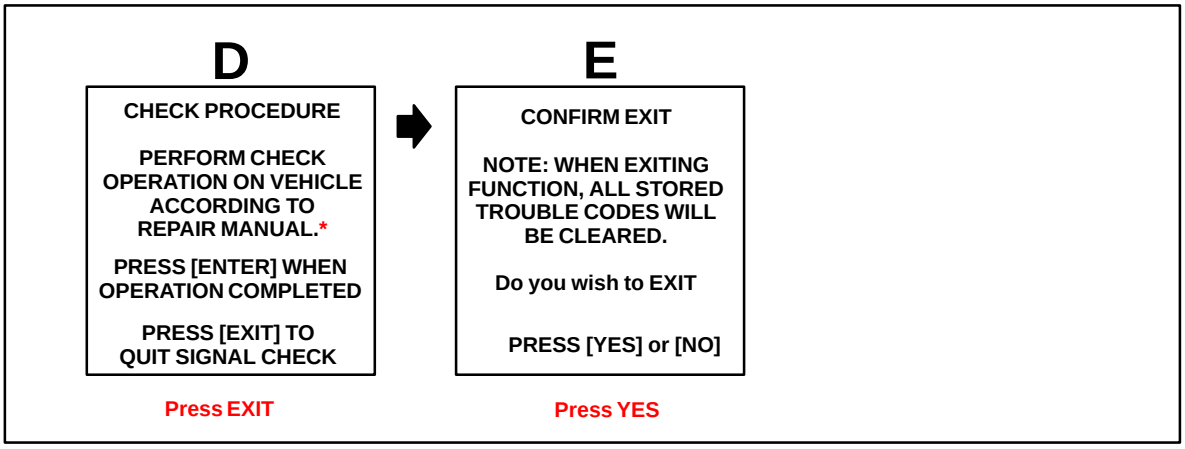
Calibration Procedure (Continued)

H. Check that the VSC buzzer sounds for 3 seconds.

NOTE:

If the VSC buzzer does not sound:

- **Repeat the zero point calibration procedures listed in Step 2.**
- **Check the VSC buzzer circuit.**

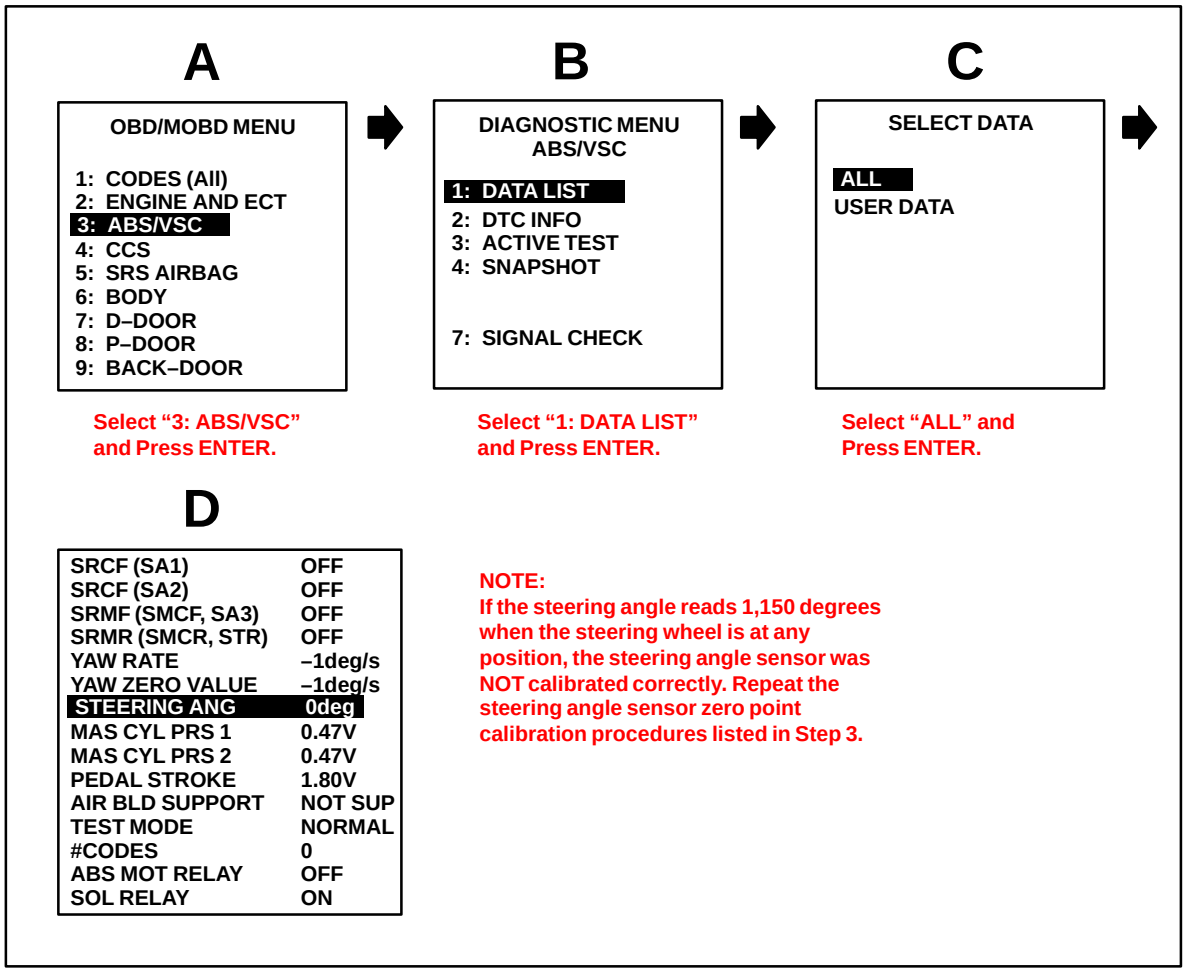


I. Zero point of master cylinder pressure, yaw rate and deceleration sensor is complete. Go to step 3.

3. Perform steering angle sensor zero point calibration.
   A. Disconnect the Diagnostic Tester.
   B. Calibrate the steering angle sensor by driving the vehicle above 28 mph (45 km/h).
4. Confirm zero point calibration.
   A. Stop the vehicle.
   B. Place the shifter in the “P” position.
   C. Connect the Diagnostic Tester to DLC3.

Calibration Procedure (Continued)

D. View the ABS/VSC Data List to see that the steering angle value changes when turning the steering wheel.



5. Disconnect the Diagnostic Tester and turn the ignition switch OFF.

T-SB-0020-08

Disconnect Battery & Perform Zero Point Calibration After Wheel Alignment Adjustment

Service Category Brake

Section Brake Control/Dynamic Control System **Market** USA

Toyota Supports ASE Certification

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
1998 – 2009	4Runner, Avalon, Camry, Camry HV, Corolla, FJ Cruiser, Highlander, Highlander HV, Land Cruiser, Matrix, Prius, RAV4, Sequoia, Sienna, Solara, Tacoma, Tundra	

Introduction

The purpose of this TSB is to provide information on when and how to perform the zero point calibration on vehicles equipped with Vehicle Stability Control (VSC). Momentarily disconnecting the battery is a necessary step for performing the zero point calibration.

Warranty Information

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

Disconnect Battery & Perform Zero Point Calibration After Wheel Alignment Adjustment

Required Tools & Equipment

REQUIRED EQUIPMENT	SUPPLIER	PART NUMBER	QTY
TIS techstream* NOTE: Software version 2.20.015 or later is required.	ADE	TSPKG1	1

* Essential SST.

NOTE

- **Additional TIS techstream units may be ordered by calling Approved Dealer Equipment (ADE) at 1-800-368-6787.**
- **The Toyota Diagnostic Tester and CAN Interface Module may also be used to perform the service procedures listed in this bulletin.**

Preliminary Information

Perform this procedure if any of these repairs have been performed on the vehicle:

- Wheel alignment has been adjusted.
- Any chassis components have been removed/installed or replaced.

Repair Procedure

1. Disconnect the cable from the negative (–) battery terminal for **MORE THAN** two (2) seconds.
2. Reconnect the cable to the negative (–) battery terminal.
3. Perform the applicable zero point calibration of the yaw rate sensor and/or the steering angle sensor.

   HINT

   Refer to the applicable TSB or Repair Manual for the zero point calibration procedure.

4. Re-initialize all applicable systems available on the vehicle (power window, sunroof, power lift door, etc.).