TOYOTA
SCION
Technical Service BULLETIN
February 4, 2004

Title:

ZERO POINT CALIBRATION

Models:

'04 4Runner, Camry, Highlander, Land Cruiser, RAV4, Sienna, Solara, Tundra & Scion xB with VSC

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.

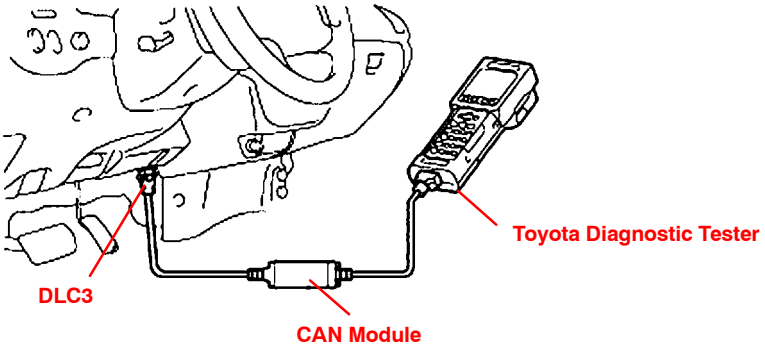
Warranty Information

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

Calibration Procedure With Diagnostic Tester

Zero Point Calibration Procedure Using Diagnostic Tester

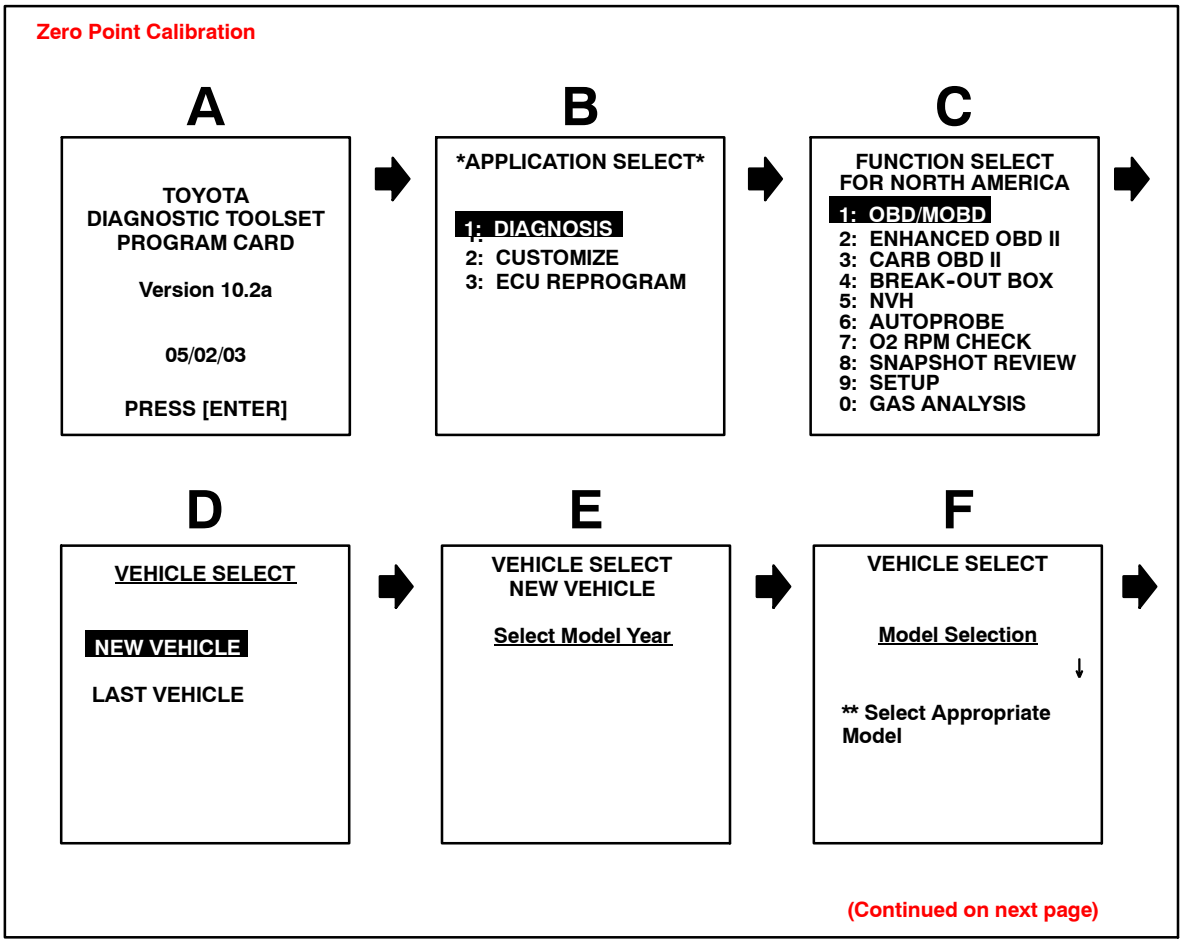
1. Connect Diagnostic Tester to DLC3.



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%.



Calibration Procedure With Diagnostic Tester (Continued)

Zero Point Calibration (Continued)

G

OBD/MOBD MENU

1: CODES (ALL)
2: ENGINE AND ECT
3: AIR SUSPENSION
4: ABS / VSC
5: TIRE PRESSURE
6: CCS
7: IMMOBILIZER
8: SRS AIRBAG
9: BODY

H

* WARNING *

This vehicle requires that the engine is idling to communicate w/ the ABS/TR(A)C/VSC ECU.

Please ensure that the engine is idling

PRESS [ENTER]

I

DIAGNOSTIC MENU
ABS/VSC

1: DATA LIST
2: DTC INFO
3: ACTIVE TEST
4: SNAPSHOT
5: AIR BLEEDING
6: RESET MEMORY
7: SIGNAL CHECK

J

RESET MEMORY

Reset the learning value in the ABS ECU memory to the initialized condition by this function.
Do you want to start this function?

PRESS [YES] or [NO]

Press Yes

K

RESET MEMORY

COMPLETED

PRESS [ENTER]

L

DIAGNOSTIC MENU
ABS/VSC

1: DATA LIST
2: DTC INFO
3: ACTIVE TEST
4: SNAPSHOT
5: AIR BLEEDING
6: RESET MEMORY
7: SIGNAL CHECK

M

NOTICE

ALL TROUBLE CODES WILL BE CLEARED AFTER THIS FUNCTION IS SELECTED.

PRESS [EXIT] TO ABORT SIGNAL CHECK

PRESS [ENTER] TO CONTINUE

Press Enter

N

CHECK PROCEDURE

PERFORM CHECK OPERATION ON VEHICLE ACCORDING TO REPAIR MANUAL.*

PRESS [ENTER] WHEN OPERATION COMPLETED

PRESS [EXIT] TO QUIT SIGNAL CHECK

Select EXIT when VSC/TRAC and ABS lights begin to flash at 0.13 second intervals.

* NOTE: It is not necessary to perform any repair manual procedures at this step.

O

CONFIRM EXIT

NOTE: WHEN EXITING FUNCTION, ALL STORED TROUBLE CODES WILL BE CLEARED.

Do you wish to EXIT

PRESS [YES] or [NO]

Press Yes

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.**