

## VEHICLE STABILITY CONTROL SYSTEM > CALIBRATION

for Preparation [Click here](#)

### DESCRIPTION

- a. After replacing VSC-related components, clearing and reading the sensor calibration data is necessary.
- b. Follow the chart to perform calibration.

Part Replaced	Necessary Operation
Master Cylinder Solenoid (Skid Control ECU)	<ol style="list-style-type: none"><li>1. Clearing zero point calibration data</li><li>2. Yaw rate and acceleration sensor zero point calibration</li><li>3. Steering angle sensor zero point calibration</li><li>4. Downhill assist control calibration (w/ Downhill Assist Control)</li><li>5. Crawl control calibration (w/ Crawl Control)</li></ol>
Yaw Rate and Acceleration Sensor	<ol style="list-style-type: none"><li>1. Clearing zero point calibration data</li><li>2. Yaw rate and acceleration sensor zero point calibration</li><li>3. Steering angle sensor zero point calibration</li></ol>
Spiral Cable Sub-assembly (Steering Angle Sensor)	<ol style="list-style-type: none"><li>1. Clearing zero point calibration data</li><li>2. Yaw rate and acceleration sensor zero point calibration</li><li>3. Steering angle sensor zero point calibration</li></ol>

### PERFORM YAW RATE AND ACCELERATION SENSOR AND STEERING ANGLE SENSOR ZERO POINT CALIBRATION (When Using Intelligent Tester)

#### NOTICE:

- **While obtaining the zero points, keep the vehicle stationary and do not vibrate, tilt, move, or shake it (do not start the engine).**
- **Be sure to perform this procedure on a level surface (with an inclination of less than 1%).**

- a. Clear the zero point calibration data.
  - i. Turn the engine switch off.
  - ii. Check that the steering wheel is centered.
  - iii. Check that the shift lever is in P.
  - iv. Connect the intelligent tester to the DLC3.
  - v. Turn the engine switch on (IG).

- vi. Turn the intelligent tester on.
  - vii. Enter the following menus: Chassis / ABS/VSC/TRC / Utility / Reset Memory.
  - viii. Select the skid control ECU to clear the zero point calibration data using the intelligent tester.
  - ix. Turn the engine switch off.
- b. Perform zero point calibration of the yaw rate and acceleration sensor.

- i. Turn the engine switch off.
- ii. Check that the steering wheel is centered.
- iii. Check that the shift lever is in P.

**NOTICE:**

- **DTCs C1210 (Zero Point Calibration of Yaw Rate Sensor Undone) and C1336 (Zero Point Calibration of Acceleration Sensor Undone) are stored if the shift lever is not in P.**
- **If a DTC is output that indicates zero point calibration is incomplete, repeat the procedure starting at the step for clearing the zero point calibration data and system information.**

- iv. Connect the intelligent tester to the DLC3.
- v. Turn the engine switch on (IG).
- vi. Turn the intelligent tester on.
- vii. Enter the following menus: Chassis / ABS/VSC/TRC / Utility / Test Mode.
- viii. Keep the vehicle stationary on a level surface for 5 seconds or more.
- ix. Check that the slip indicator light comes on for several seconds and then blinks in the test mode pattern (0.125 seconds on and 0.125 seconds off).

**HINT:**

- **If the slip indicator light does not blink, perform zero point calibration again.**
- **The zero point calibration is performed only once after the system enters test mode.**
- **Calibration cannot be performed again until the stored data is cleared.**

- x. Turn the engine switch off and disconnect the intelligent tester.

- c. Drive the vehicle straight ahead at 40 km/h (25 mph) or more for at least 10 seconds.

<b>PERFORM YAW RATE AND ACCELERATION SENSOR AND STEERING ANGLE SENSOR ZERO POINT CALIBRATION (When Using SST Check Wire)</b>
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**NOTICE:**

- **While obtaining the zero points, keep the vehicle stationary and do not vibrate, tilt, move, or shake it (do not start the engine).**
- **Be sure to perform this procedure on a level surface (with an inclination of less than 1%).**

**a.** Clear the zero point calibration data.

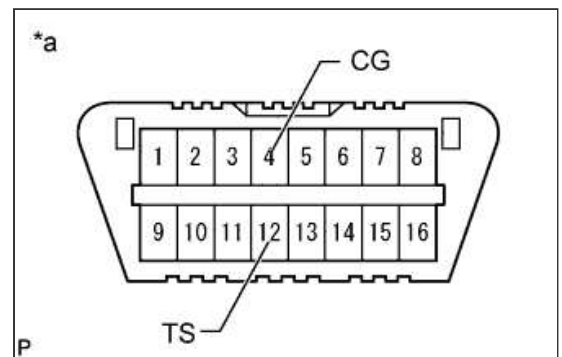
- i.** Turn the engine switch off.
- ii.** Check that the steering wheel is centered.
- iii.** Check that the shift lever is in P.
- iv.** Turn the engine switch on (IG).
- v.** The ABS warning light and slip indicator light come on for 3 seconds to indicate that the initial check is completed.
- vi.** Using SST, connect and disconnect terminals 12 (TS) and 4 (CG) of the DLC3 4 times or more within 8 seconds.

**SST**  
**09843-18040**

**Text in Illustration**

*a	Front view of DLC3
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- vii.** Check that the slip indicator light comes on.



**b.** Perform zero point calibration of the yaw rate and acceleration sensor.

- i.** Turn the engine switch off.
- ii.** Check that the steering wheel is centered.
- iii.** Check that the shift lever is in P.

**NOTICE:**

- **DTCs 36 (Zero Point Calibration of Yaw Rate Sensor Undone) and 39 (Zero Point Calibration of Acceleration Sensor Undone) are stored if the shift lever is not in P.**
- **If a DTC is output that indicates zero point calibration is incomplete, repeat the procedure starting at the step for clearing the zero point calibration data and system information.**

- iv.** Using SST, connect terminals 12 (TS) and 4 (CG) of the DLC3.

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**Text in Illustration**

\*a Front view of DLC3

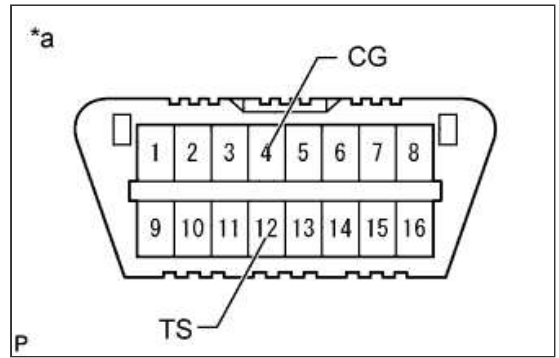
- v. Turn the engine switch on (IG).
- vi. Keep the vehicle stationary on a level surface for 5 seconds or more.
- vii. Check that the slip indicator light comes on for several seconds and then blinks in the test mode pattern (0.125 seconds on and 0.125 seconds off).

**HINT:**

- **If the slip indicator light does not blink, perform zero point calibration again.**
- **The zero point calibration is performed only once after the system enters test mode.**
- **Calibration cannot be performed again until the stored data is cleared.**

- viii. Turn the engine switch off and disconnect SST from the DLC3.

- c. Drive the vehicle straight ahead at 40 km/h (25 mph) or more for at least 10 seconds.



**PERFORM DOWNHILL ASSIST CONTROL CALIBRATION (w/ Downhill Assist Control)**

- a. Enter test mode (when using the intelligent tester).

- i. Turn the engine switch off.
- ii. Connect the intelligent tester to the DLC3.
- iii. Turn the engine switch on (IG).
- iv. Turn the intelligent tester on.
- v. Enter the following menus: Chassis / ABS/VSC/TRC / Utility / Test Mode.

- b. Enter test mode (when using SST check wire).

- i. Turn the engine switch off.
- ii. Using SST, connect terminals 12 (TS) and 4 (CG) of the DLC3.

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**Text in Illustration**

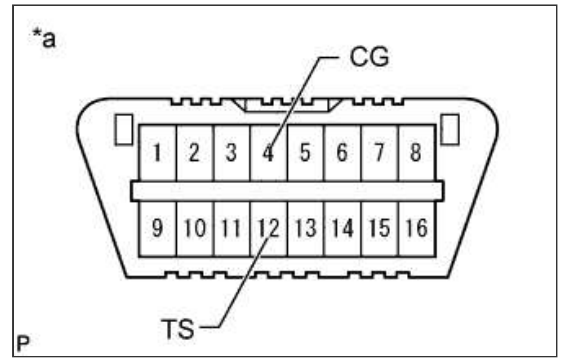
\*a Front view of DLC3

- c. Turn the downhill assist control switch off.

- d. Push the downhill assist control switch and check that the downhill assist control indicator light is blinking.
- e. Turn the downhill assist control switch off.
- f. Turn the engine switch off.
- g. Check if DTC C120A is output.

**HINT:**

If DTC C120A is not output, calibration was performed successfully.



**PERFORM CRAWL CONTROL CALIBRATION (w/ Crawl Control)**

- a. Enter test mode (when using the intelligent tester).
  - i. Turn the engine switch off.
  - ii. Connect the intelligent tester to the DLC3.
  - iii. Turn the engine switch on (IG).
  - iv. Turn the intelligent tester on.
  - v. Enter the following menus: Chassis / ABS/VSC/TRC / Utility / Test Mode.

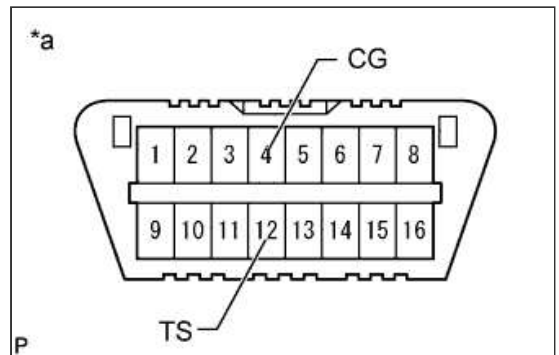
- b. Enter test mode (when using SST check wire).

- i. Turn the engine switch off.
- ii. Using SST, connect terminals 12 (TS) and 4 (CG) of the DLC3.

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**Text in Illustration**

*a	Front view of DLC3
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- c. Push the ON/OFF switch and check that the crawl indicator light is on while the switch is being pushed.

- d. Turn the ON/OFF switch off.

**Text in Illustration**

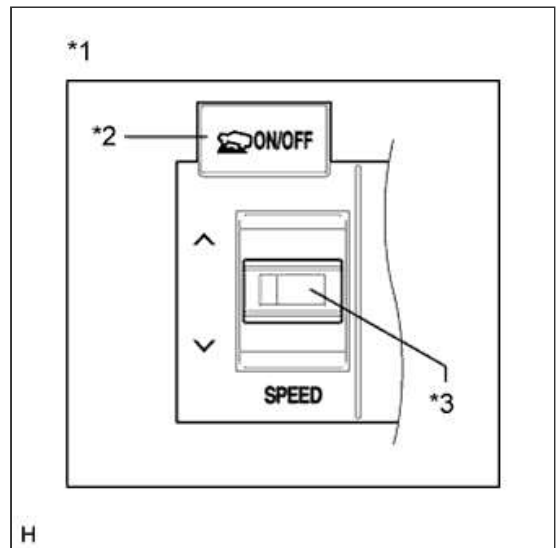
*1	Crawl Control Switch (Combination Switch)
*2	ON/OFF Switch

\*3 Speed Selector Switch

- e. Turn the engine switch off.
- f. Check if DTC C120A is output.

**HINT:**

If DTC C120A is not output, calibration was performed successfully.



**PROCEDURES NECESSARY WHEN CABLE IS DISCONNECTED/RECONNECTED TO BATTERY TERMINAL**

**NOTICE:**

The steering angle display on the combination meter does not appear if any of the following is performed: 1) The cable is disconnected and reconnected to the negative (-) battery terminal, 2) the steering angle sensor connector is disconnected, or 3) a fuse related to the steering angle sensor is removed.

- a. Drive the vehicle straight ahead at 40 km/h (25 mph) or more for at least 10 seconds.
- b. Confirm the steering angle display function.
  - i. Turn the steering wheel to the left and right and confirm that the steering angle display function is normal.

