

Classification:

ST18-004

Reference:

ITB18-021

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Date:

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DAST CALIBRATION (MODE1) INCOMPLETE OR C13E9-00/C13EB-00 UNABLE TO ERASE

APPLIED VEHICLES: 2014 – 2018 Q50 (V37)
2014 – 2018 Q50 Hybrid (V37)
2017 – 2018 Q60 (V37)
2019 QX50 (J55)

APPLIED SYSTEM: Direct Adaptive Steering (DAST)

SERVICE INFORMATION

This bulletin has information for two services for which a technician may need additional help:

- While performing DAST CALIBRATION (MODE1), the calibration may stop or will not start.
- DTC C13E9-00 (BOOTING ANGLE PROCESSING) and C13EB-00 (BOOTING ANGLE PROCESSING) are stored and cannot be erased.

The above conditions may indicate that DAST CALIBRATION (MODE1) was not performed correctly or was not completed correctly.

Use the SERVICE PROCEDURE in this bulletin as an aid to correctly perform and complete DAST CALIBRATION MODE 1.

NOTE:

- The SERVICE PROCEDURE in this bulletin **does not** contain all of the required steps.
- The Electronic Service Manual (ESM) must be used together with this bulletin.
- This bulletin contains additional clarification as an aid to perform DAST CALIBRATION MODE 1.

Infiniti Bulletins are intended for use by qualified technicians, not 'do-it-yourselfers'. Qualified technicians are properly trained individuals who have the equipment, tools, safety instruction, and know-how to do a job properly and safely. NOTE: If you believe that a described condition may apply to a particular vehicle, DO NOT assume that it does. See your Infiniti retailer to determine if this applies to your vehicle.

SERVICE PROCEDURE

IMPORTANT: Before starting, make sure:

- ASIST on the CONSULT PC has been synchronized to the current date.
- All CONSULT-III plus (C-III plus) software updates (if any) have been installed.
- No current DTCs stored other than C13E9-00 and C13EB-00.
 - Use C-III plus to perform Self Diagnosis for all systems.
 - If there are any current DTCs other than C13E9-00 and C13EB-00; diagnose, perform repairs, and erase DTCs **before** continuing.

NOTE: The DAST CALIBRATION (MODE1) procedure requires the vehicle to be on an alignment rack. It may be helpful to put the vehicle on an alignment rack before starting.

1. Use C-III plus to configure DAST 1, DAST 2, and EPS/DAST 3.
 - Refer to the ESM for instruction to perform these configurations:
 - DAST 1 - CONFIGURATION (STEERING ANGLE MAIN CONTROL MODULE)
 - DAST 2 - CONFIGURATION (STEERING ANGLE SUB CONTROL MODULE)
 - EPS/DAST 3 - CONFIGURATION (STEERING FORCE CONTROL MODULE)
 - Type CONFIGURATION in the ESM Title Search field; then look under Steering.

2. If the vehicle has CAN GATEWAY, use C-III plus to configure CAN Gateway.
 - Refer to the ESM for instruction to perform CONFIGURATION (CAN GATEWAY).
 - Type CONFIGURATION in the ESM Title Search field; then look under Electrical Power Control.

NOTE: If CONFIGURATION (CAN GATEWAY) is not listed under Electrical Power Control, then the vehicle you are working does not have CAN GATEWAY.

3. If not already done, place the vehicle on an alignment rack.
 - Place the front wheels on the turntables.
 - Remove the pins from the front turntables so they are allowed to move freely.

4. Connect the GR8 battery charger, set to power supply mode, to the vehicle 12-volt battery.

NOTE: If the 12-volt battery is in poor condition, the issues listed on page 1 may occur again.

5. Position the steering wheel Tilt to the highest level.

6. Perform DAST CALIBRATION (MODE1) procedures.

NOTE: DAST CALIBRATION MODE 1 procedures include:

- DAST CALIBRATION (MODE1)
- ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION
- SELF-DIAGNOSIS Check
- CONFIRMATION of EPS/DAST 3 ANGLE 1

CAUTION:

- Never move the vehicle during DAST CALIBRATION (MODE1) because the steering gear is held in a neutral position until the ignition switch is turned OFF.
- Never rotate the steering wheel more than 120 degrees just after DAST CALIBRATION (MODE1) has been completed because the spiral cable will be damaged.

WARNING: Be careful of moving parts. The steering wheel and front wheels will move automatically by themselves after starting DAST CALIBRATION (MODE1).

DAST CALIBRATION (MODE1)

IMPORTANT:

- This calibration procedure will be performed twice completely through.
- Do Not turn the ignition OFF at the end of the second time through.

1st DAST CALIBRATION MODE1

1. Make sure the plus VI is still connected to the vehicle.

2. Turn the ignition ON (engine OFF / Not Ready).

IMPORTANT: Do NOT start the engine (for Hybrid models the READY light must be OFF).

3. Turn ON the CONSULT PC, and then open C-III plus (if not already open).

4. On the C-III plus screen, select **Diagnosis (All Systems)**. After system call has completed, select **EPS/DAST 3 >> Work support >> DAST CALIBRATION (MODE1)**. See Figure 1.

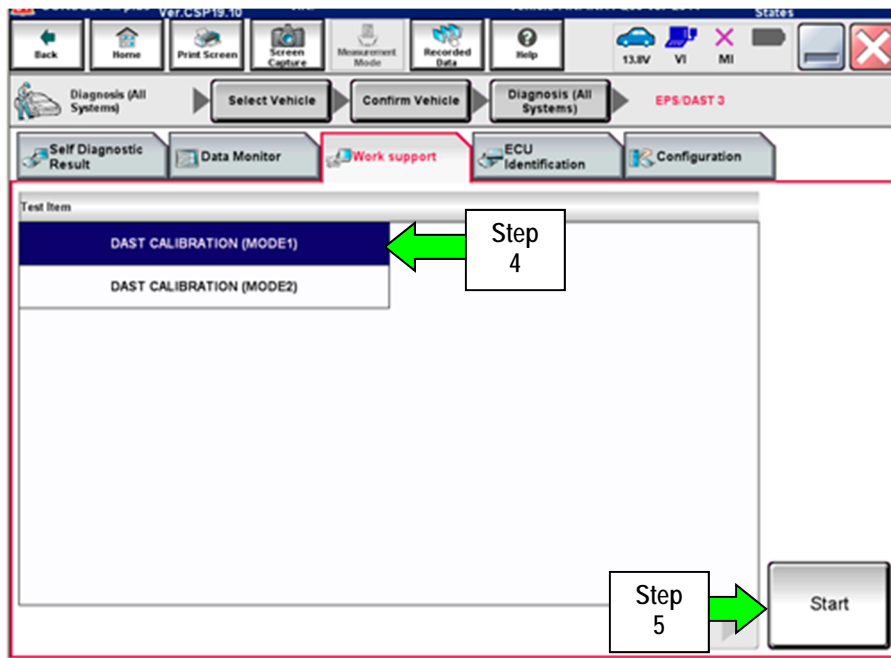


Figure 1

5. Select **START**, and then **START** a second time to begin **DAST CALIBRATION (MODE1)**.

- Do not rotate the road wheels during the DAST calibration.

WARNING: Be careful of moving parts. The steering wheel and front wheels will move automatically by themselves after starting DAST CALIBRATION (MODE1).

- When Auto steering has completed, center the steering wheel to the neutral (straight ahead) position, and then select **Start** again (see Figure 2).

IMPORTANT: The steering wheel must be positioned in the neutral (straight ahead) position, for step 6 above, to ensure that the steering wheel will be centered when driving straight.

CAUTION: When DAST CALIBRATION (MODE1) has completed, the steering wheel is disconnected from the steering gear and the force feedback of the steering is reduced. **Never turn the steering wheel beyond 120 degrees otherwise the spiral cable will be damaged.**

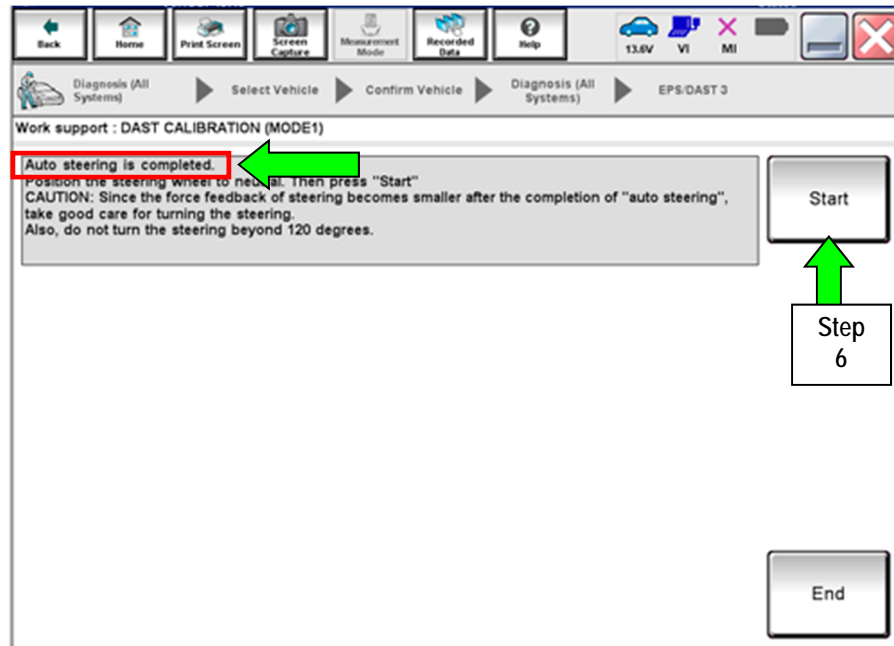


Figure 2

7. Select End.

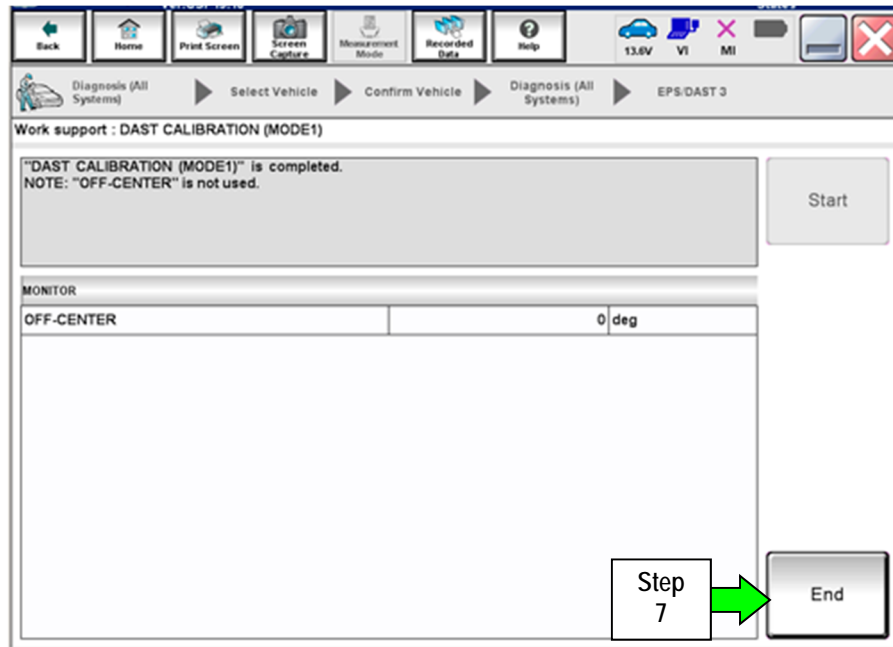


Figure 3

8. Turn the ignition OFF.

2nd DAST CALIBRATION MODE1

9. With the C-III plus still connected, repeat steps 1-7 (on pages 3 - 6) a second time, but **Do Not** turn the ignition OFF after step 7, and then proceed to step 10.

10. Select the **BACK** button twice, and then select **Yes** to "Delete results".

- After system call completes, proceed to **ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION** on the next page.

IMPORTANT: Do not turn the ignition OFF.

- If the ignition is turned OFF between the DAST CALIBRATION (MODE1) and ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION, the procedure for DAST CALIBRATION (MODE1) **must** be started over from step 1.

ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION

1. With C-III plus in **Diagnosis (All Systems)**, select **ABS >> Work support >> ST ANGLE SENSOR ADJUSTMENT**, and then select **START**.
2. When the message "Waiting for your operation..." is displayed, select **Start**.

IMPORTANT: Do not touch the steering wheel during this procedure.

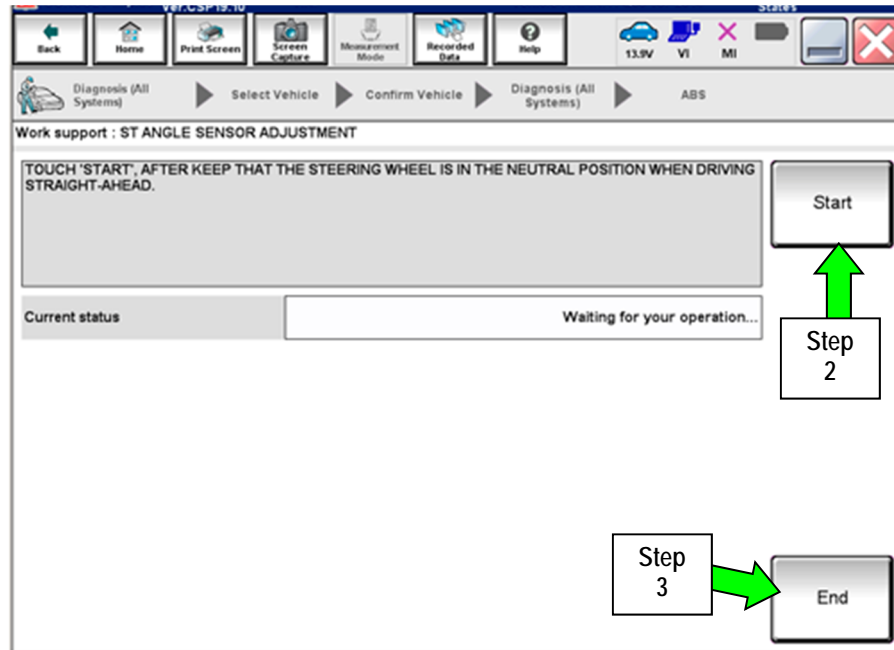


Figure 4

3. When the message **COMPLETE** is shown (after approx. 10 seconds), select **End**.
4. Turn the ignition OFF and wait at least 60 seconds.
5. Disconnect the GR8 (battery charger) from the vehicle 12 volt battery.
6. Go to **Self-Diagnosis Check** on the next page.

SELF-DIAGNOSIS Check

1. Start the engine or place in READY mode (turn ignition ON with brake pressed).
2. Check for DTCs in DAST 1, DAST 2, and EPS/DAST 3 as follows:
 - a. On C-III plus, return to the Home screen.
 - b. Select **Diagnosis (All Systems)**, and then select **Confirm**.
 - c. Wait for system call to complete.
 - d. Check for stored DTCs.
 - If no DTCs are stored, go to CONFIRMATION of EPS/DAST 3 ANGLE 1 on the next page.
 - If DTCs are stored, refer to the ESM for diagnosis and repair.

CONFIRMATION of EPS/DAST 3 ANGLE 1

NOTE: At this point the ignition should still be ON with the engine running or the READY light ON.

1. With C-III plus in **Diagnosis (All Systems)**, select **EPS/DAST 3 >> DATA MONITOR >> ANGLE 1**, and then check the value of **ANGLE 1** (see Figure 5).
 - ANGLE 1 should be within the standard value shown below.
 - If ANGLE 1 is **not** within the standard value:
 - a. Change the steering wheel tilt to a slightly lower position.
 - b. Perform DAST CALIBRATION (MODE1) again.
 - c. Perform CONFIRMATION of EPS/DAST 3 ANGLE 1 again.
 - d. Repeat a – c above until ANGLE 1 is within the standard value.

Monitor item	Standard value
ANGLE 1	between -4.4 and 4.4

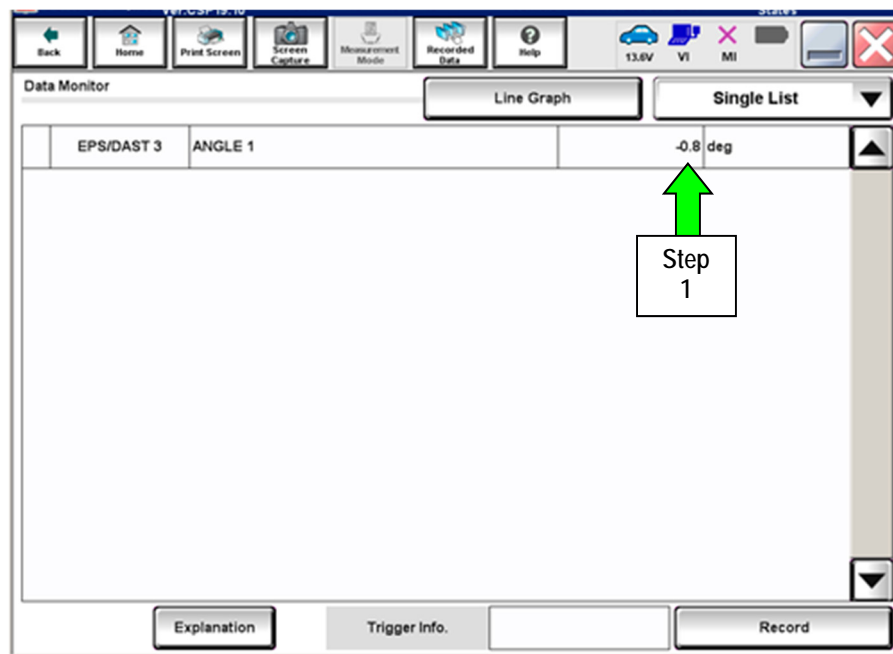


Figure 5

2. Disconnect C-III plus from the vehicle.

Procedure is complete.