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Model Year Start: 2020	**Model:** GX460	**Prod Date Range:** [08/2019 -]
Title: BRAKE CONTROL / DYNAMIC CONTROL SYSTEMS: VEHICLE STABILITY CONTROL SYSTEM: CALIBRATION; 2020 MY GX460 [08/2019 -]		

CALIBRATION

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
Skid Control ECU (Master Cylinder Solenoid)	1. Clearing zero point calibration data 2. Yaw rate and acceleration sensor (center airbag sensor assembly) zero point calibration 3. Steering sensor zero point calibration 4. Downhill assist control calibration (w/ Downhill Assist Control) 5. Crawl control calibration (w/ Crawl Control)
Yaw Rate and Acceleration Sensor (Center Airbag Sensor Assembly)	1. Clearing zero point calibration data 2. Yaw rate and acceleration sensor (center airbag sensor assembly) zero point calibration 3. Steering sensor zero point calibration
Steering Sensor	1. Clearing zero point calibration data 2. Yaw rate and acceleration sensor (center airbag sensor assembly) zero point calibration 3. Steering sensor zero point calibration

PERFORM YAW RATE AND ACCELERATION SENSOR (CENTER AIRBAG SENSOR ASSEMBLY) AND STEERING SENSOR ZERO POINT CALIBRATION

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%).

HINT:

When entering test mode, the skid control ECU (master cylinder solenoid) communicates with the driving support ECU assembly to judge whether the vehicle is equipped with the pre-collision system. Therefore, do not exit test mode within 5 seconds of entering test mode.

(a) Clear the zero point calibration data.

(1) Turn the engine switch off.

(2) Check that the steering wheel is centered.

(3) Check that the shift lever is in P.

(4) Connect the Techstream to the DLC3.

(5) Turn the engine switch on (IG).

(6) Turn the Techstream on.

(7) Enter the following menus: Chassis / ABS/VSC/TRAC / Utility / Reset Memory.

(8) Select the skid control ECU (master cylinder solenoid) to clear the zero point calibration data using the Techstream.

(9) Turn the engine switch off.

(b) Perform zero point calibration of the yaw rate and acceleration sensor (center airbag sensor assembly).

(1) Turn the engine switch off.

(2) Check that the steering wheel is centered.

(3) Check that the shift lever is in P.

NOTICE:

- DTCs C1210 (Zero Point Calibration of Yaw Rate Sensor (Center Airbag Sensor Assembly) Undone) and C1336 (Zero Point Calibration of Acceleration Sensor (Center Airbag Sensor Assembly) Undone) are stored if the shift lever is not in P.

(4) Connect the Techstream to the DLC3.

(5) Turn the engine switch on (IG).

(6) Turn the Techstream on.

(7) Enter the following menus: Chassis / ABS/VSC/TRAC / Utility / Test Mode.

(8) Keep the vehicle stationary on a level surface for 5 seconds or more.

(9) 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).

NOTICE:

- 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.
- When DTC C120A is stored, perform the downhill assist control calibration (w/ Downhill Assist Control) or the crawl control calibration (w/ Crawl Control). If DTC C120A cannot be cleared, perform the calibration again after clearing the zero point calibration data and system information.

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.
- w/ Pre-collision System:

  Do not exit test mode within 5 seconds of entering test mode. If test mode is exited within 5 seconds of entering test mode, DTC U1104 may be stored. If DTC U1104 is output after exiting test mode, enter test mode again, wait at least 5 seconds, then recheck for DTCs.

(10) Turn the engine switch off and disconnect the Techstream.

(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.

(1) Turn the engine switch off.

(2) Connect the Techstream to the DLC3.

(3) Turn the engine switch on (IG).

(4) Turn the Techstream on.

(5) Enter the following menus: Chassis / ABS/VSC/TRAC / Utility / Test Mode.

(b) Turn the downhill assist control switch off.

(c) Push the downhill assist control switch and check that the downhill assist control indicator light is blinking.

(d) Turn the downhill assist control switch off.

(e) Turn the engine switch off.

(f) 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.

(1) Turn the engine switch off.

(2) Connect the Techstream to the DLC3.

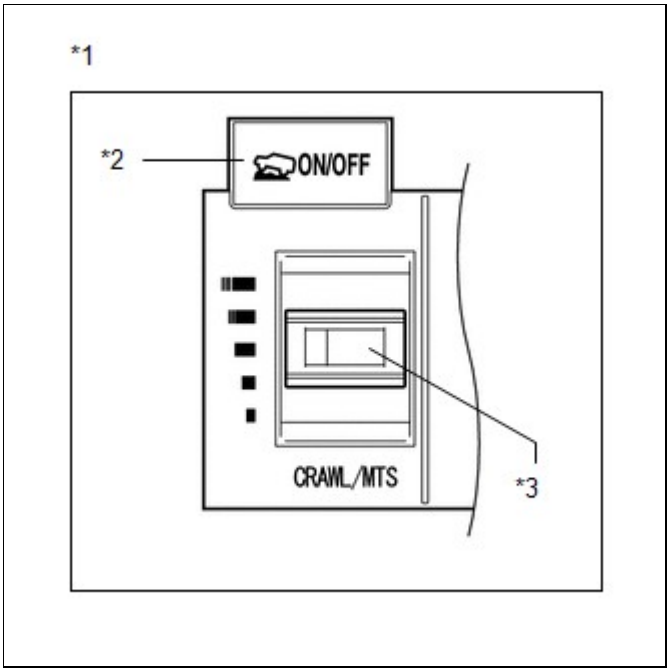
(3) Turn the engine switch on (IG).

(4) Turn the Techstream on.

(5) Enter the following menus: Chassis / ABS/VSC/TRAC / Utility / Test Mode.

(b) Push the ON/OFF switch and check that the crawl indicator light is on while the switch is being pushed.

(c) Turn the ON/OFF switch off.



*1	Crawl ON/OFF Switch / Crawl Speed Selector Switch / Multi-terrain Select Mode Switch (Combination Switch Assembly)
*2	ON/OFF Switch
*3	Speed Selector Switch

(d) Turn the engine switch off.

(e) 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 sensor connector is disconnected, or 3) a fuse related to the steering 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.

(1) Turn the steering wheel to the left and right and confirm that the steering angle display function is normal.