Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM1000000028UYN
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [12/2022 -]
Title: SUPPLEMENTAL RESTRAINT SYSTEMS: OCCUPANT CLASSIFICATION SYSTEM: INITIALIZATION; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

INITIALIZATION

DESCRIPTION

(a) The zero point of the occupant classification sensors may deviate in the following situations. To ensure sensor accuracy, be sure to perform Zero Point Calibration.

    1. The airbag ECU assembly is replaced.

        HINT:

        As the zero point is not automatically stored in a new airbag ECU assembly, it is necessary to perform zero point calibration after replacing the airbag ECU assembly.

    2. Accessories (seatback tray, seat cover, etc.) are installed or removed.

        HINT:

        As the weight of accessories will be added or decreased to the weight of the occupant, the system will not be able to perform classification accurately.

    3. The front passenger seat is removed from the vehicle.

        HINT:

        As the seat frame will warp slightly when the bolts that are used to install the front passenger seat are tightened, the load applied to the occupant classification sensor will change and the system will not be able to perform classification accurately.

    4. Any of the bolts that are used to install the front passenger seat are removed and reinstalled.

        HINT:

        As the seat frame will warp slightly when the bolts that are used to install the front passenger seat are tightened, the load applied to the occupant classification sensor will change and the system will not be able to perform classification accurately.

    5. The passenger airbag ON/OFF indicator ("ON") illuminates when the front passenger seat is not occupied or the airbag OFF indicator illuminates when the front passenger seat is occupied (by an adult).

        HINT:

        If any load or pressure is applied to the occupant classification sensors, the system will not be able to perform classification accurately.

    6. An occupant classification sensor collision detection DTC is output due to an accident or a collision.

        HINT:

        If the seat frame or vehicle floor has become deformed and additional pressure is applied to the occupant classification sensor, the system will not be able to perform classification accurately.

NOTICE:

Make sure that the front passenger seat is not occupied before performing the operation.

ZERO POINT CALIBRATION

(a) Zero point calibration procedure

(1) Check that all of the following conditions are met:

- The vehicle is parked on a level surface.
- No objects are placed on the front passenger seat.
- No objects are touching the front passenger seat.

(2) Adjust the seat position according to the table below.

ADJUSTMENT ITEM	POSITION
Slide Direction	Rearmost position
Headrest Height	Lowest position
Recline Angle	Upright position
Seat Lifter Height	Lowest position

(3) Perform zero point calibration by following the prompts on the GTS screen.

Body Electrical > SRS Airbag > Utility

TESTER DISPLAY
Occupant Detection Sensor Zero Point Calibration

OK:

"Occupant Detection Sensor Zero Point Calibration is complete." is displayed.

(4) Clear the Vehicle Control History (RoB).

Body Electrical > SRS Airbag > Utility

TESTER DISPLAY
Vehicle Control History (RoB)

(5) Check for Vehicle Control History (RoB).

Body Electrical > SRS Airbag > Utility

TESTER DISPLAY
Vehicle Control History (RoB)

OK:

X20D0 is not output.

HINT:

- Refer to the GTS operator's manual for further details.
- If Occupant Detection Sensor Zero Point Calibration does not complete normally, check the Error Code List to determine the cause of malfunction.
  Error Code List

ERROR CODE	ITEM NAME	CAUSE	COUNTERMEASURE
01	Out of FI Load Sensor Upper Limit Standard	**When any of the following conditions is detected:** - The sensor load value before learning is not as specified (upper limit exceeded) - The sensor load value after learning is not as specified (upper limit exceeded)	**Check for the following** - Check whether the vehicle and seat are subject to vibration or a load - Check front seat assembly RH installation **INFO** - Perform Occupant Detection Sensor Zero Point Calibration again **HINT:** If the error code is output again, replace the front seat adjuster assembly RH (occupant classification sensor). **INFO**
02	Out of FI Load Sensor Lower Limit Standard	**When any of the following conditions is detected:** - The sensor load value before learning is not as specified (below lower limit) - The sensor load value after learning is not as specified (below lower limit)	**Check for the following** - Check whether the vehicle and seat are subject to vibration or a load - Check front seat assembly RH installation **INFO** - Perform Occupant Detection Sensor Zero Point Calibration again **HINT:** If the error code is output again, replace the front seat adjuster assembly RH (occupant classification sensor). **INFO**
03	Out of RI Load Sensor Upper Limit Standard	**When any of the following conditions is detected:** - The sensor load value before learning is not as specified (upper limit exceeded) - The sensor load value after learning is not as specified (upper limit exceeded)	**Check for the following** - Check whether the vehicle and seat are subject to vibration or a load - Check front seat assembly RH installation **INFO** - Perform Occupant Detection Sensor Zero Point Calibration again **HINT:** If the error code is output again, replace the front seat adjuster assembly RH (occupant classification sensor). **INFO**
04	Out of RI Load Sensor Lower Limit Standard	**When any of the following conditions is detected:** The sensor load value before learning is not as	**Check for the following** Check whether the vehicle and seat are subject to vibration or a load

ERROR CODE	ITEM NAME	CAUSE	COUNTERMEASURE
		specified (below lower limit) ○ The sensor load value after learning is not as specified (below lower limit)	2. Check front seat assembly RH installation [INFO] 3. Perform Occupant Detection Sensor Zero Point Calibration again **HINT:** If the error code is output again, replace the front seat adjuster assembly RH (occupant classification sensor). [INFO]
10	Nonvolatile Memory Storage Failure	**When a memory malfunction caused by either of the following is detected:** ○ Writing failure ○ IGR low voltage (below 8 V)	**Check for the following** 1. Check for DTC 2. Check Vehicle Control History (RoB) [INFO] 3. Measure IGR terminal voltage [INFO] **HINT:** If below 8 V, check the power source circuit. 4. Perform Occupant Detection Sensor Zero Point Calibration again **HINT:** If the error code is output again, replace the airbag ECU assembly. [INFO]
11	Zero Point Learning Timeout	Occupant Detection Sensor Zero Point Calibration does not complete within 2 seconds (within the specified number of seconds)	**Check for the following** 1. Clear the Vehicle Control History (RoB) [INFO] 2. Check Vehicle Control History (RoB) [INFO] 3. Check whether the vehicle and seat are subject to vibration or a load 4. Check front seat assembly RH installation [INFO] 5. Perform Occupant Detection Sensor Zero Point Calibration again **HINT:** If the error code is output again, replace the airbag ECU assembly. [INFO]
13	FI Load Sensor Malfunction	When a load sensor malfunction is detected	**Check for the following** 1. Check for DTC

ERROR CODE	ITEM NAME	CAUSE	COUNTERMEASURE
			2. Perform Occupant Detection Sensor Zero Point Calibration again **HINT:** If the error code is output again, replace the front seat adjuster assembly RH (occupant classification sensor). INFO
14	RI Load Sensor Malfunction	When a load sensor malfunction is detected	**Check for the following** 1. Check for DTC 2. Perform Occupant Detection Sensor Zero Point Calibration again **HINT:** If the error code is output again, replace the front seat adjuster assembly RH (occupant classification sensor). INFO
17	FI LIN Communication Lost	When a communication malfunction with the load sensor is detected	**Check for the following** 1. Check for DTC 2. Perform Occupant Detection Sensor Zero Point Calibration again **HINT:** If the error code is output again, Refer to "LIN Communication Circuit" INFO
18	RI LIN Communication Lost	When a communication malfunction with the load sensor is detected	**Check for the following** 1. Check for DTC 2. Perform Occupant Detection Sensor Zero Point Calibration again **HINT:** If the error code is output again, Refer to "LIN Communication Circuit" INFO
21	ECU Malfunction	When an airbag ECU assembly malfunction is detected	**Check for the following** 1. Check for DTC 2. Perform Occupant Detection Sensor Zero Point Calibration again **HINT:** If the error code is output again, replace the airbag ECU assembly.

ERROR CODE	ITEM NAME	CAUSE	COUNTERMEASURE
			INFO
22	IGR Voltage Malfunction	When IGR voltage (below 8 V or 16 V or higher) is detected	**Check for the following** 1. Check Vehicle Control History (RoB) INFO 2. Measure IGR terminal voltage INFO **HINT:** If below 8 V or 16 V or higher, check the power source circuit.
23	Load Unstable	**When any of the following conditions is detected:** ○ The vehicle and seat are subject to vibration or a load ○ Sensor malfunction	**Check for the following** 1. Check whether the vehicle and seat are subject to vibration or a load 2. Perform Occupant Detection Sensor Zero Point Calibration again **HINT:** If the error code is output again, replace the front seat adjuster assembly RH (occupant classification sensor). INFO