Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM100000002BLUJ
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [03/2023 -]
Title: M20A-FXS (ENGINE CONTROL): SFI SYSTEM: P00D562; A/F (O2) Sensor Correlation Bank 1 Sensor 1/Bank 1 Sensor 2 Signal Compare Failure; 2023 - 2024 MY Prius Prius Prime [03/2023 -]		

DTC	**P00D562**	**A/F (O2) Sensor Correlation Bank 1 Sensor 1/Bank 1 Sensor 2 Signal Compare Failure**

DESCRIPTION

Refer to DTC P003012.

Click here INFO

Refer to DTC P003612.

Click here INFO

HINT:

Although the DTC title says O2 sensor, this DTC relates to the air fuel ratio sensors (sensor 1 and sensor 2).

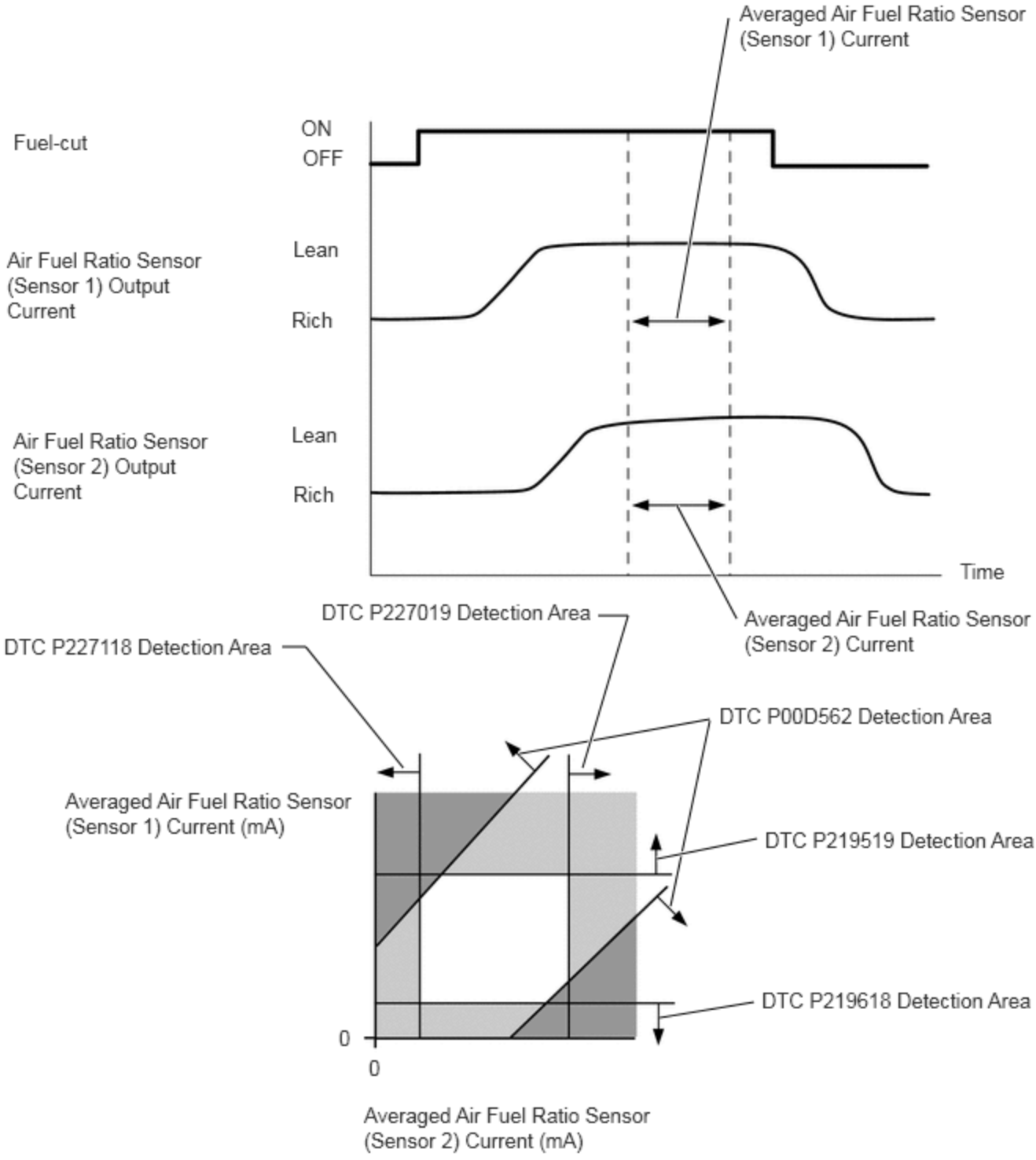
DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	DTC OUTPUT FROM	PRIORITY	NOTE
P00D562	A/F (O2) Sensor Correlation Bank 1 Sensor 1/Bank 1 Sensor 2 Signal Compare Failure	The difference between the averaged output values for air fuel ratio sensor (sensor 1) and air fuel ratio sensor (sensor 2) during fuel cut exceeds the threshold (2 trip detection logic).	• Air fuel ratio sensor (sensor 1) • Air fuel ratio sensor (sensor 2)	Comes on	Engine	B	SAE Code: P00D5

MONITOR DESCRIPTION

Abnormality in Output Current Comparison between Air Fuel Ratio Sensor (Sensor 1) and Air Fuel Ratio Sensor (Sensor 2) during Fuel Cut

Comparing the averaged output values during fuel cut for air fuel ratio sensor (sensor 1) and air fuel ratio sensor (sensor 2), if the difference between these two is outside the normal range, the ECM illuminates the MIL and stores a DTC.

Abnormality in Output Current Comparison between Air Fuel Ratio Sensor (Sensor 1) and Air Fuel Ratio Sensor (Sensor 2) during Fuel Cut



MONITOR STRATEGY

Related DTCs	P00D5: Air fuel ratio sensors comparison monitor during fuel cut
Required Sensors/Components (Main)	Air fuel ratio sensor (sensor 1)

	Air fuel ratio sensor (sensor 2)
Required Sensors/Components (Related)	Crankshaft position sensor Engine coolant temperature sensor Throttle position sensor
Frequency of Operation	Once per driving cycle
Duration	10 seconds
MIL Operation	2 driving cycles
Sequence of Operation	None

TYPICAL ENABLING CONDITIONS

Monitor runs whenever the following DTCs are not stored	None
Auxiliary battery voltage	11 V or higher
Engine coolant temperature	75°C (167°F) or higher
Atmospheric pressure	76 kPa(abs) [11.02 psi(abs)] or higher
Air fuel ratio sensor (sensor 1) status	Activated
Fuel cut	On
Air fuel ratio sensor (sensor 1) malfunction (P2237, P2238, P2239, P2252, P2253)	Not detected
Air fuel ratio sensor (sensor 2) malfunction (P22AB, P22AC, P22AD, P22B3, P22B4)	Not detected

TYPICAL MALFUNCTION THRESHOLDS

(Averaged air fuel ratio sensor (sensor 1) current during fuel cut / air fuel ratio sensor (sensor 1) base) - (averaged air fuel ratio sensor (sensor 2) current during fuel cut / air fuel ratio sensor (sensor 2) base)	Less than -1.18, or higher than 0.85

MONITOR RESULT

Refer to detailed information in Checking Monitor Status.

Click here INFO

P00D5: O2 Sensor / OUTPUT RATE B1S1/B1S2

MONITOR ID	TEST ID	SCALING	UNIT	DESCRIPTION
$01	$97	Multiply by 0.001	No dimension	Output rate bank 1 sensor 1/bank 1 sensor 2

CONFIRMATION DRIVING PATTERN

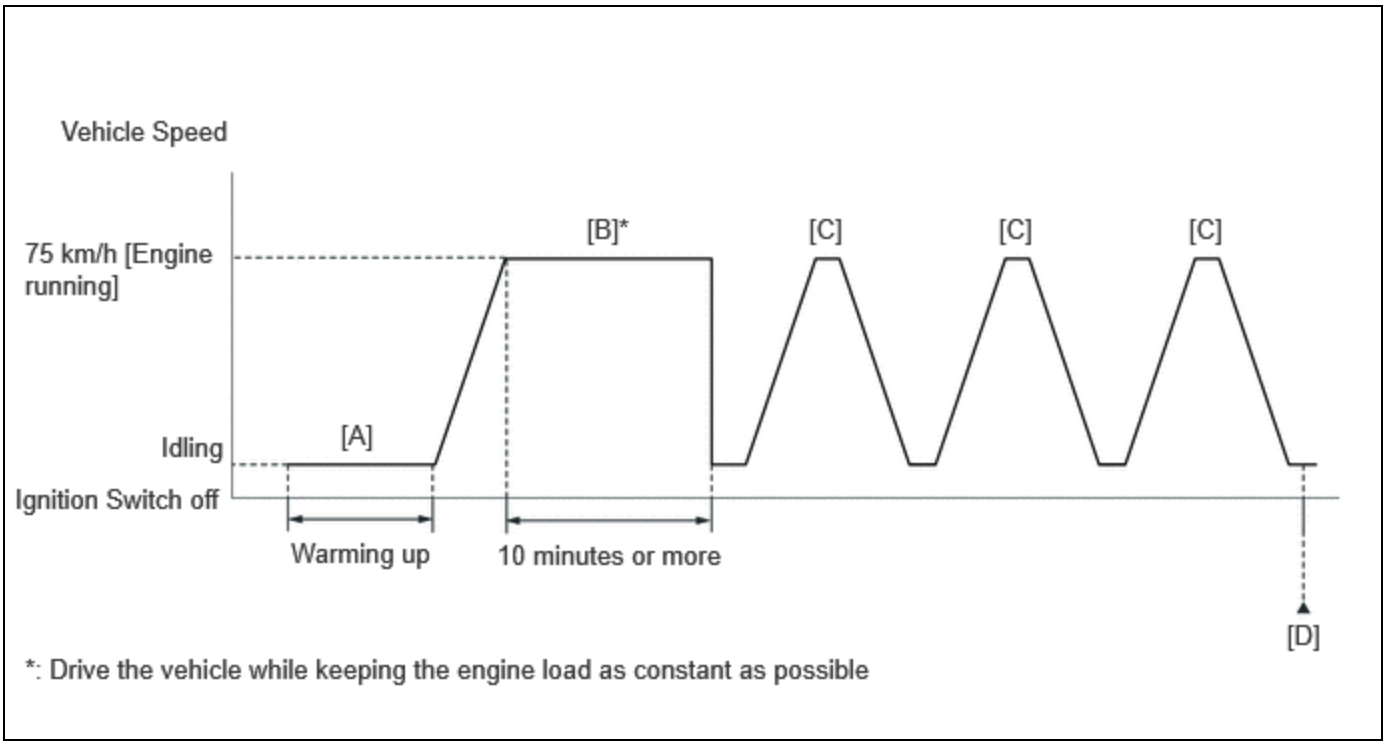
HINT:

- After repair has been completed, clear the DTC and then check that the vehicle has returned to normal by performing the following All Readiness check procedure.

Click here INFO

- When clearing the permanent DTCs, refer to the "CLEAR PERMANENT DTC" procedure.

Click here INFO



1. Clear the DTCs (even if no DTCs are stored, perform the clear DTC procedure).
2. Turn the ignition switch off and wait for at least 30 seconds.
3. Enter the following menus: Powertrain / Engine / Monitor / Current Monitor.
4. Check that Catalyst Efficiency / Current is Incomplete.
5. Put the engine in Inspection Mode (Maintenance Mode).

Click here INFO

6. Start the engine and warm it up until the engine coolant temperature is 75°C (167°F) or higher with the shift lever in P [A].

HINT:

In order to keep the idle stable, turn off the A/C and all other electric loads and do not perform any shift operations.

7. Press the EV/HV mode selection switch to select HV mode. (for PHEV Model)
8. Drive the vehicle at approximately 75 km/h (46 mph) for 10 minutes or more [B].

CAUTION:

When performing the confirmation driving pattern, obey all speed limits and traffic laws.

HINT:

- Drive the vehicle while keeping the engine load as constant as possible.
- If the engine stops, further depress the accelerator pedal to restart the engine.

9. With the shift lever in B, drive the vehicle at 75 km/h (46 mph), and then decelerate the vehicle by releasing the accelerator pedal for 10 seconds or more to perform the fuel-cut [C].

CAUTION:

When performing the confirmation driving pattern, obey all speed limits and traffic laws.

HINT:

If the engine stops, further depress the accelerator pedal to restart the engine.

10. Repeat step [C] 2 times or more in one driving cycle.
11. Enter the following menus: Powertrain / Engine / Trouble Codes / Pending [D].
12. Read the pending DTCs.

HINT:

- If a pending DTC is output, the system is malfunctioning.
- If a pending DTC is not output, perform the following procedure.

13. Enter the following menus: Powertrain / Engine / Utility / All Readiness.
14. Input the DTC: P00D562.
15. Check the DTC judgment result.

HINT:

- If the judgment result is NORMAL, the system is normal.
- If the judgment result is ABNORMAL, the system is malfunctioning.
- If the judgment result is INCOMPLETE, drive the vehicle with the shift lever in B, and then perform step [C] again.
- [A] to [D]: Normal judgment procedure.

  The normal judgment procedure is used to complete DTC judgment and also used when clearing permanent DTCs.
- When clearing the permanent DTCs, do not disconnect the cable from the auxiliary battery terminal or attempt to clear the DTCs during this procedure, as doing so will clear the universal trip and normal judgment histories.

CAUTION / NOTICE / HINT

NOTICE:

- Vehicle Control History may be stored in the hybrid vehicle control ECU if the engine is malfunctioning. Certain vehicle condition information is recorded when Vehicle Control History is stored. Reading the vehicle conditions recorded in both the Freeze Frame Data and Vehicle Control History can be useful for troubleshooting.

  for HEV Model: Click here INFO

  for PHEV Model: Click here INFO

  (Select Powertrain in Health Check and then check the time stamp data.)
- If any "Engine Malfunction" Vehicle Control History item has been stored in the hybrid vehicle control ECU, make sure to clear it. However, as all Vehicle Control History items are cleared simultaneously, if any Vehicle Control History items other than "Engine Malfunction" are stored, make sure to perform any troubleshooting for them before clearing Vehicle Control History.

  for HEV Model: Click here INFO

  for PHEV Model: Click here INFO

HINT:

- Sensor 1 refers to the sensor closest to the engine assembly.
- Sensor 2 refers to the sensor farthest away from the engine assembly.

PROCEDURE

1.	**CHECK ANY OTHER DTCS OUTPUT (IN ADDITION TO DTC P00D562)**

(a) Read the DTCs.

Powertrain > Engine > Trouble Codes

RESULT	PROCEED TO
P00D562 and other DTCs are output	A
P00D562, P219519 or P219618 is output	B
P00D562, P227019 or P227118 is output	C
P00D562 is output	D

HINT:

If any DTCs other than P00D562 are output, troubleshoot those DTCs first.

A ▶ **GO TO DTC CHART**

B ▶ **GO TO DTC P219519, P219618**

C ▶ **GO TO DTC P227019, P227118**

D ▶ **REPLACE AIR FUEL RATIO SENSOR (SENSOR 1) AND AIR FUEL RATIO SENSOR (SENSOR 2)**

Air fuel ratio sensor (sensor 1):

Click here INFO

Air fuel ratio sensor (sensor 2):

Click here INFO