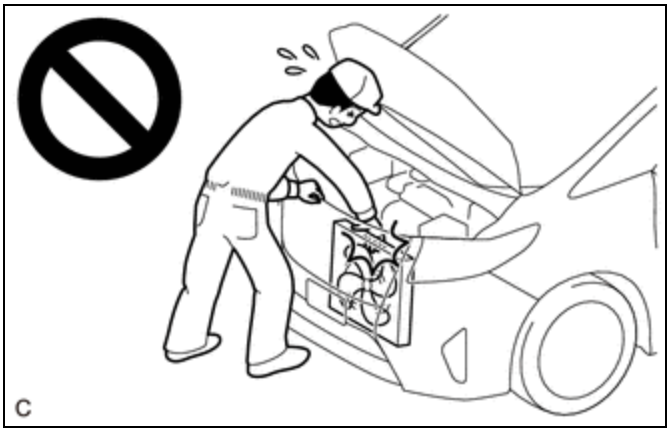
Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM100000002AZ0A
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [03/2023 -]
Title: M20A-FXS (EMISSION CONTROL): EMISSION CONTROL SYSTEM: ON-VEHICLE INSPECTION; 2023 - 2024 MY Prius Prius Prime [03/2023 -]		

ON-VEHICLE INSPECTION

CAUTION / NOTICE / HINT

CAUTION:

To prevent injury due to contact with an operating cooling fan, keep your hands and clothing away from the cooling fans when working in the engine compartment with the engine running or the power switch on (IG).



PROCEDURE

1. VISUALLY INSPECT HOSES, CONNECTIONS AND GASKETS

(a) Visually check that the hoses, connections and gaskets have no cracks, leaks or damage.

NOTICE:

- Detachment or other problems with the engine oil level dipstick, oil filler cap sub-assembly, ventilation hose or other components may cause the engine to run improperly.
- Air suction caused by disconnections, looseness or cracks in any part of the air induction system between the throttle body assembly and cylinder head sub-assembly will cause engine failure or engine malfunctions.

If any defects are found, replace parts as necessary.

2. INSPECT EVAPORATIVE EMISSION CONTROL SYSTEM

CAUTION:

To prevent injury due to contact with an operating cooling fan, keep your hands and clothing away from the cooling fans when working in the engine compartment with the engine running or the power switch on (IG).

Pre-procedure1

(a) Connect the GTS to the DLC3.

(b) Turn the power switch on (IG).

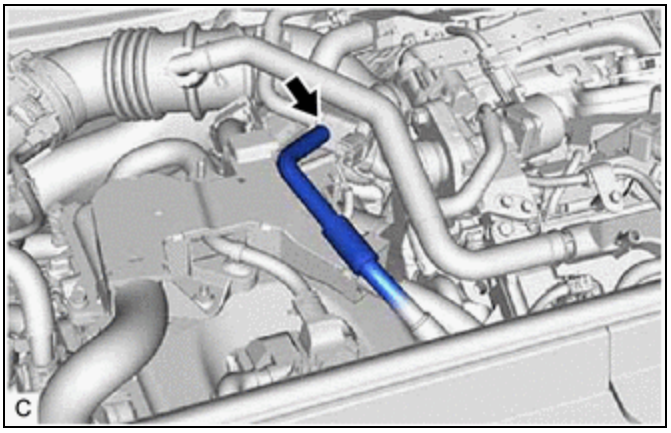
(c) Turn the GTS on.

(d) Put the engine in inspection mode (maintenance mode).

Powertrain > Hybrid Control > Utility

TESTER DISPLAY
Inspection Mode

(e) Disconnect the fuel vapor feed hose assembly from the purge valve (purge VSV).



(f) Enter the following menus: Powertrain / Engine / Active Test / Activate the Evap Purge VSV.

Powertrain > Engine > Active Test

TESTER DISPLAY
Activate the EVAP Purge VSV

Procedure1

(g) Check that vacuum occurs at the purge valve (purge VSV) port.

(h) If vacuum does not occur, check the following items.

- Purge valve (purge VSV)
- Clogging in the No. 2 fuel vapor feed hose that connects the intake manifold and purge valve (purge VSV)
- Voltage from the ECM PRG terminal

HINT:

Click here INFO

Post-procedure1

(i) Exit Active Test mode and connect the fuel vapor feed hose assembly.

If the result is not as specified, replace the purge valve (purge VSV), wire harness or ECM.

Pre-procedure2

(j) Enter the following menus: Powertrain / Engine / Data List / EVAP (Purge) VSV.

Powertrain > Engine > Data List

TESTER DISPLAY
EVAP (Purge) VSV

(k) Warm up the engine and drive the vehicle.

Procedure2

(l) Confirm that the purge valve (purge VSV) opens.

If the result is not as specified, replace the purge valve (purge VSV), wire harness or ECM.

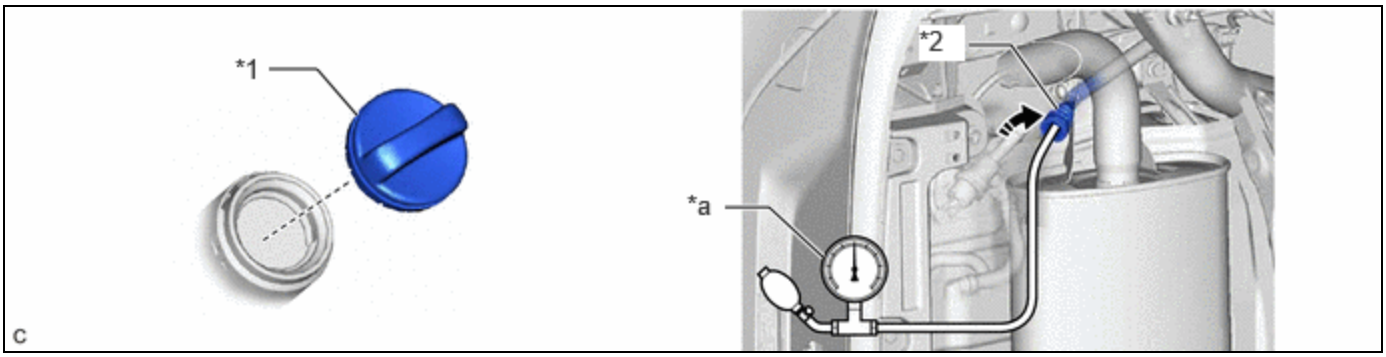
Post-procedure2

(m) None

3. CHECK FUEL TANK AND VENT LINE (for PHEV Model)

Pre-procedure1

(a) Disconnect the No. 2 fuel tank breather tube sub-assembly from the fuel vapor containment valve (close tank with bolt valve assembly).



*1	Fuel Tank Cap Assembly	*2	No. 2 Fuel Tank Breather Tube Sub-assembly
*a	Pressure Gauge	-	-

(b) Connect a pressure gauge to the No. 2 fuel tank breather tube sub-assembly.

Procedure1

(c) Apply 4 kPa (0.04 kgf/cm^2, 0.6 psi) of pressure to the vent line of the fuel tank assembly.

HINT:

Perform this inspection with the fuel tank assembly less than 90% full. When the fuel tank assembly is full, the fuel fill check valve closes and the pressure is released through the 2 mm (0.0787 in.) orifice. As a result, when the fuel tank cap assembly is removed, the pressure does not decrease smoothly.

(d) Check that the fuel tank assembly pressure is maintained for some time and does not decrease immediately.

HINT:

If the pressure decreases immediately, one of the following may apply:

- The fuel tank cap assembly is not completely tightened.
- The fuel tank cap assembly is damaged.
- Air is leaking from the vent line.
- The fuel tank assembly is damaged.

(e) Remove the fuel tank cap assembly and check that the pressure is released smoothly.

If the pressure is not released smoothly, replace the fuel tank assembly.

Post-procedure1

(f) Connect the No. 2 fuel tank breather tube sub-assembly to the fuel vapor containment valve (close tank with bolt valve assembly).

4. CHECK FUEL TANK AND VENT LINE (for HEV Model)

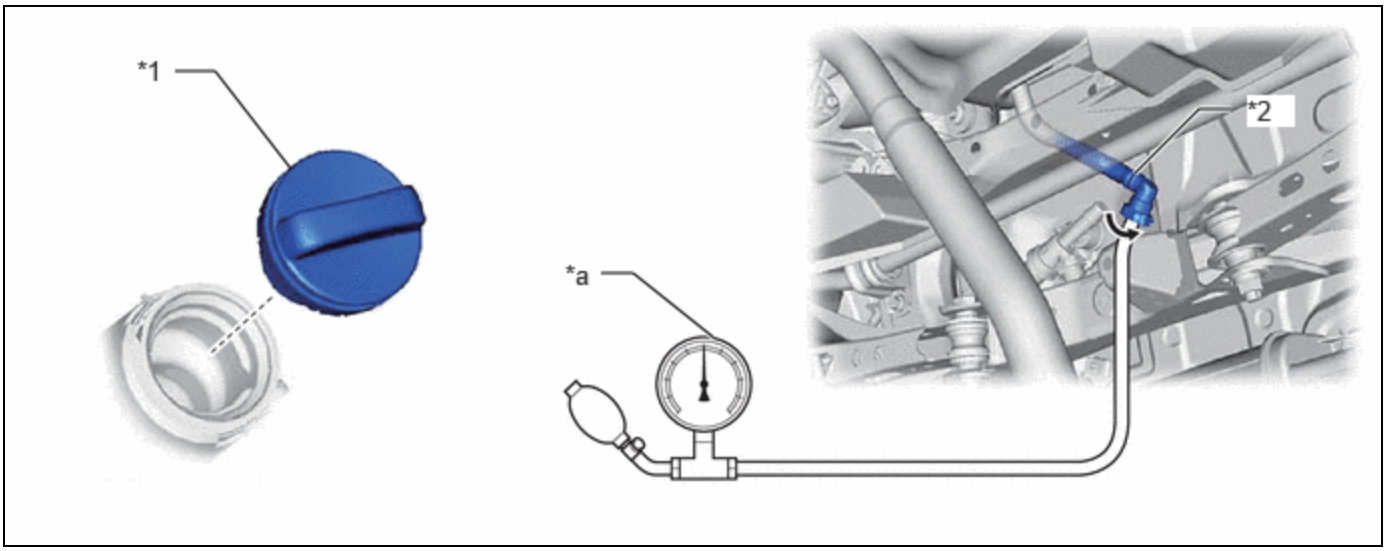
Pre-procedure1

(a) Remove the rear floor side member cover RH.

HINT:

Click here INFO

(b) Disconnect the fuel tank vent hose sub-assembly (fuel tank side) from the fuel vapor containment valve (close tank with bolt valve assembly).



*1	Fuel Tank Cap Assembly	*2	Fuel Tank Vent Hose Sub-assembly (Fuel Tank Side)
*a	Pressure Gauge	-	-

(c) Connect a pressure gauge to the fuel tank vent hose sub-assembly (fuel tank side) .

Procedure1

(d) Apply 4 kPa (0.04 kgf/cm^2, 0.6 psi) of pressure to the vent line of the fuel tank assembly.

HINT:

Perform this inspection with the fuel tank assembly less than 90% full. When the fuel tank assembly is full, the fuel fill check valve closes and the pressure is released through the 2 mm (0.0787 in.) orifice. As a result, when the fuel tank cap assembly is removed, the pressure does not decrease smoothly.

(e) Check that the fuel tank assembly pressure is maintained for some time and does not decrease immediately.

HINT:

If the pressure decreases immediately, one of the following may apply:

- The fuel tank cap assembly is not completely tightened.
- The fuel tank cap assembly is damaged.
- Air is leaking from the vent line.
- The fuel tank assembly is damaged.

(f) Remove the fuel tank cap assembly and check that the pressure is released smoothly.

If the pressure is not released smoothly, replace the fuel tank assembly.

Post-procedure1

(g) Connect the fuel tank vent hose sub-assembly (fuel tank side) to the fuel vapor containment valve (close tank with bolt valve assembly).

(h) Install the rear floor side member cover RH.

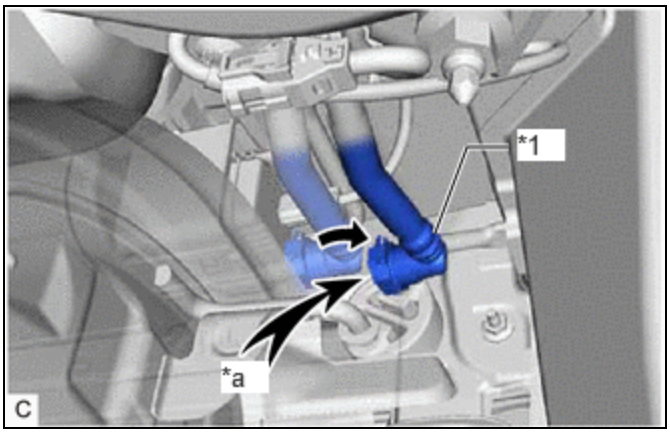
HINT:

Click here INFO

5. INSPECT AIR LINE (for PHEV Model)

Pre-procedure1

(a) Disconnect the No. 6 fuel tank breather tube from the leak detection pump sub-assembly.



*1	No. 6 Fuel Tank Breather Tube
*a	Air

Procedure1

(b) Check that air flows freely into the air line.

If air does not flow freely into the air line, repair or replace the No. 6 fuel tank breather tube.

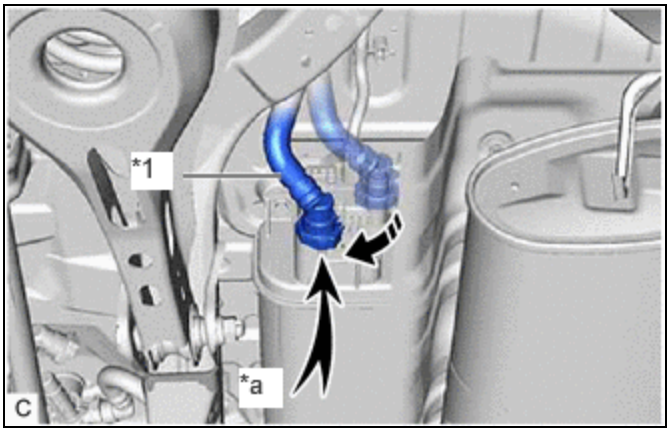
Post-procedure1

(c) Connect the No. 6 fuel tank breather tube to the leak detection pump sub-assembly.

6. INSPECT AIR LINE (for HEV Model)

Pre-procedure1

(a) Disconnect the fuel tank vent hose sub-assembly (fuel lid side) from the leak detection pump sub-assembly.



*1	Fuel Tank Vent Hose Sub-assembly (Fuel lid side)
*a	Air

Procedure1

(b) Check that air flows freely into the air line.

If air does not flow freely into the air line, repair or replace the fuel tank vent hose sub-assembly (fuel lid side).

Post-procedure1

(c) Connect the fuel tank vent hose sub-assembly (fuel lid side) to the leak detection pump sub-assembly.