Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM1000000028X46
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [12/2022 -]
Title: BRAKE CONTROL / DYNAMIC CONTROL SYSTEMS: ELECTRONICALLY CONTROLLED BRAKE SYSTEM: C134500; Linear Solenoid Valve Offset Learning; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

DTC	**C134500**	**Linear Solenoid Valve Offset Learning**

DESCRIPTION

The No. 1 skid control ECU (brake booster with master cylinder assembly) stores the individual characteristics of each linear solenoid built into the brake booster with master cylinder assembly. Based on the stored information, the No. 1 skid control ECU (brake booster with master cylinder assembly) calibrates the individual differences and controls systems.

The No. 2 skid control ECU (brake actuator assembly) receives the shift position P signal from the hybrid vehicle control ECU via CAN communication system.

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	DTC OUTPUT FROM	PRIORITY	NOTE
C134500	Linear Solenoid Valve Offset Learning	When the vehicle speed is 40 km/h (25 mph) or more, the linear solenoid valve offset learning value is not stored.	• Perform linear solenoid valve offset learning and check for DTCs. If no DTCs are output again, the valve is normal. • No. 1 skid control ECU (brake booster with master cylinder assembly)	Comes on	Brake/EPB	B	• SAE Code: C1345 • Output ECU: Both skid control ECUs **HINT:** During Dealer Mode, related DTCs are cleared (except SAE code).

MONITOR DESCRIPTION

After any of the following situations, if the learning value of the linear solenoid (SLM1) or linear solenoid (SLM2) is not stored and the vehicle is being driven at a certain speed or more, the No. 2 skid control ECU (brake actuator assembly) judges that the offset learning of the linear solenoid valve is not performed and illuminates the MIL and stores this DTC.

1. The No. 1 skid control ECU (brake booster with master cylinder assembly) has been replaced with a new one.
2. After the brake pedal stroke sensor assembly, brake pedal, brake booster with master cylinder assembly, brake actuator assembly or yaw rate and acceleration sensor (airbag ECU assembly) has been removed

and installed or replaced, the zero point is cleared.

MONITOR STRATEGY

Related DTCs	C1345: Brake pressure control solenoid open current learning not complete
Required Sensors/Components(Main)	No. 2 skid control ECU (brake actuator assembly)
Required Sensors/Components(Related)	Speed sensor
Frequency of Operation	Continuous
Duration	-
MIL Operation	Immediately
Sequence of Operation	None

TYPICAL ENABLING CONDITIONS

Monitor runs whenever the following DTCs are not stored	U0129: Lost communication with BSCM (CH1) U025E: Lost communication with BSCM2 (CH1)
Vehicle speed	40 km/h (24.85 mph) or more

TYPICAL MALFUNCTION THRESHOLDS

Either of the following conditions is met	-
Brake pressure control solenoid "A" open current learning value	Not stored
Brake pressure control solenoid "B" open current learning value	Not stored

COMPONENT OPERATING RANGE

Both of the following conditions are met	-
CAN COMMUNICATION fail (U0129, U025E)	Not detected
Brake pressure control solenoid "A" open current learning value	Stored
Brake pressure control solenoid "B" open current learning value	Stored

CONFIRMATION DRIVING PATTERN

NOTICE:

When performing the normal judgment procedure, make sure that the driver door is closed and is not opened at any time during the procedure.

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

1. Connect the GTS to the DLC3.
2. Turn the ignition switch to ON and turn the GTS on.
3. Clear the DTCs (even if no DTCs are stored, perform the clear DTC procedure).

4. Turn the ignition switch off.
5. Turn the ignition switch to ON (READY) and turn the GTS on.
6. Drive the vehicle at a speed of 40 km/h (25 mph) or more for 1 second. [*]

HINT:

[*]: Normal judgment procedure.

The normal judgment procedure is used to complete DTC judgment and also used when clearing permanent DTCs.

7. Enter the following menus: Chassis / Brake/EPB* / Utility / All Readiness.

*: Electric Parking Brake System

8. Check the DTC judgment result.

HINT:

- If the judgment result shows NORMAL, the system is normal.
- If the judgment result shows ABNORMAL, the system has a malfunction.
- If the judgment result shows INCOMPLETE, perform driving pattern again.

PROCEDURE

1.	**CHECK DTC**

(a) Check that no DTCs other than those related to incomplete learning are output.

Chassis > Brake Booster > Trouble Codes

Chassis > Brake/EPB > Trouble Codes

OK:

DTCs other than those related to incomplete learning are not output.

NG ▶ **REPAIR CIRCUITS INDICATED BY OUTPUT DTCS**

OK ▼

2.	**PERFORM AIR BLEEDING**

(a) Perform the air bleeding procedure in Bleed Brake System.

HINT:

Click here INFO

NEXT ▼

3.	**PERFORM LINEAR SOLENOID VALVE OFFSET LEARNING**

HINT:

Click here INFO

NOTICE:

If DTC C134500 is output, turn the ignition switch off for 4 minutes or more and then turn the ignition switch to ON again before performing learning.

Chassis > Brake/EPB > Utility

TESTER DISPLAY
Calibration

NEXT

4.	**CLEAR DTC**

Pre-procedure1

(a) None

Procedure1

(b) Clear the DTCs.

Chassis > Brake Booster > Clear DTCs

Post-procedure1

(c) Turn the ignition switch off.

NEXT

5.	**RECONFIRM DTC**

Pre-procedure1

(a) Based on the Freeze Frame Data and interview with the customer, attempt to reproduce the conditions when the malfunction occurred.

Procedure1

(b) Check if the same DTC is output.

Chassis > Brake Booster > Trouble Codes

RESULT	PROCEED TO
C134500 is not output	A
C134500 is output	B

Post-procedure1

(c) None

A **END**

B **REPLACE BRAKE BOOSTER WITH MASTER CYLINDER ASSEMBLY**

Click here INFO