Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM100000002BN8N
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [03/2023 -]
Title: BRAKE CONTROL / DYNAMIC CONTROL SYSTEMS: ELECTRONICALLY CONTROLLED BRAKE SYSTEM: U011000,...,U117D87; Lost Communication with Drive Motor Control Module "A"; 2023 - 2024 MY Prius Prius Prime [03/2023 -]		

DTC	**U011000**	**Lost Communication with Drive Motor Control Module "A"**

DTC	**U012987**	**Lost Communication with Brake System Control Module "A" Missing Message**

DTC	**U029300**	**Lost Communication with Hybrid/EV Powertrain Control Module**

DTC	**U110600**	**Lost Communication with Electric Parking Brake Module**

DTC	**U114A00**	**Lost Communication with Sub Battery System (System 2) Missing Message**

DTC	**U115000**	**Lost Communication with Hybrid Powertrain Control Module (ch2)**

DTC	**U117D87**	**Lost Communication with Brake System Control Module (ch4) Missing Message**

DESCRIPTION

The No. 1 skid control ECU (brake booster with master cylinder assembly) communicates with the following ECUs and sensors via CAN communication.

- No. 2 skid control ECU (brake actuator assembly)
- Inverter with converter assembly
- Hybrid vehicle control ECU
- Integration control supply

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	DTC OUTPUT FROM	PRIORITY	NOTE
U011000	Lost Communication with Drive Motor Control Module "A"	When terminal IGR voltage is 9.5 V or more, data from the inverter with converter assembly	• CAN communication line • Inverter with converter assembly	Comes on	Brake/EPB	B	• SAE Code: U0110 • Output ECU: Both skid

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	DTC OUTPUT FROM	PRIORITY	NOTE
		cannot be received for 2 seconds or more.	• No. 1 skid control ECU (brake booster cylinder assembly)				control ECUs
U012987	Lost Communication with Brake System Control Module "A" Missing Message	When the voltage at terminal IGR is 9.5 V or more, communication between the No. 1 skid control ECU (brake booster with master cylinder assembly) and No. 2 skid control ECU (brake actuator assembly) is not possible for 2 seconds or more.	• CAN communication line • No. 2 skid control ECU (brake actuator assembly) • No. 1 skid control ECU (brake booster with master cylinder assembly)	Comes on	Brake/EPB	B	• SAE Code: U0129 • Output ECU: Both skid control ECUs
U029300	Lost Communication with Hybrid/EV Powertrain Control Module	When terminal IGR voltage is 9.5 V or more, data from the hybrid vehicle control ECU cannot be received for 2 seconds or more.	• CAN communication line • Hybrid vehicle control ECU • No. 1 skid control ECU (brake booster with master cylinder assembly)	Comes on	Brake/EPB	B	• SAE Code: U0293 • Output ECU: Both skid control ECUs
U110600	Lost Communication with Electric Parking Brake Module	With terminal IGR voltage at 9.5 V or more, data cannot be received from the No. 2 skid control ECU (brake actuator assembly) for	• CAN communication line • No. 2 skid control ECU (brake actuator assembly) • No. 1 skid control ECU (brake booster	Does not come on	Brake Booster	B	Output ECU: No. 1 skid control ECU (brake booster with master cylinder assembly)

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	DTC OUTPUT FROM	PRIORITY	NOTE
		1 second or more.	with master cylinder assembly)				
U114A00	Lost Communication with Sub Battery System (System 2) Missing Message	When terminal IGR voltage is 9.5 V or more, data from the integration control supply cannot be received for 2 seconds or more.	• CAN communication line • Integration control supply • No. 1 skid control ECU (brake booster with master cylinder assembly)	Does not come on	Brake Booster	B	Output ECU: No. 1 skid control ECU (brake booster with master cylinder assembly)
U115000	Lost Communication with Hybrid Powertrain Control Module (ch2)	When terminal IGR voltage is 9.5 V or more, data from the hybrid vehicle control ECU cannot be received for 2 seconds or more.	• CAN communication line • Hybrid vehicle control ECU • No. 1 skid control ECU (brake booster with master cylinder assembly)	Comes on	Brake/EPB	B	• SAE Code: U1150 • Output ECU: Both skid control ECUs
U117D87	Lost Communication with Brake System Control Module (ch4) Missing Message	When the voltage at terminal IGR is 9.5 V or more, communication between the No. 1 skid control ECU (brake booster with master cylinder assembly) and No. 2 skid control ECU (brake actuator assembly) is not possible for 2 seconds or more.	• CAN communication line • No. 2 skid control ECU (brake actuator assembly) • No. 1 skid control ECU (brake booster with master cylinder assembly)	Comes on	Brake/EPB	B	• SAE Code: U117D • Output ECU: Both skid control ECUs

MONITOR DESCRIPTION

U0110, U0129, U0293, U1150 and U117D:

When a communication error with any ECU or sensor continues for a certain amount of time or communication is unstable (communication is invalid for a certain amount of time a certain amount of times), the No. 2 skid control ECU (brake actuator assembly) judges that communication with the respective ECU is abnormal and illuminates the MIL and stores a DTC.

MONITOR STRATEGY

Related DTCs	U0110: Lost communication with DMCM "A" (CH2) U0129: Lost communication with BSCM (CH1) U0293: Lost communication with HPCM (CH1) U1150: Lost communication with HPCM (CH2) U117D: Lost communication with BSCM (CH2)
Required Sensors/Components(Main)	No. 2 skid control ECU (brake actuator assembly)
Required Sensors/Components(Related)	No. 2 skid control ECU (brake actuator assembly)
Frequency of Operation	Continuous
Duration	2 seconds
MIL Operation	Immediately
Sequence of Operation	None

TYPICAL ENABLING CONDITIONS

U0110

Monitor runs whenever the following DTCs are not stored	C14C8: Brake system voltage circuit high U0293: Lost communication with HPCM (CH1)
All of the following conditions are met	A, B, C, D, E and F
A. Both of the following conditions a and b are met	More than 1 second
a. Both of the following conditions are met	More than 0.198 seconds
+BS cut MOS	Valid
+BS cut MOS voltage	Higher than 7.4 V
b. Both of the following conditions are met	More than 0.012 seconds
+BS cut MOS	Valid
+BS cut MOS voltage	Below 23.2 V
B. CAN communication status	Enable
C. Following condition is met	More than 3 seconds
IGP_PT2 voltage	Higher than 9.5 V
D. Following condition is met	More than 3 seconds
IGR voltage	Higher than 9.5 V
E. Following condition is met	More than 3 seconds

IGP_PT2	On
F. +BS cut MOS voltage	Higher than 7.8 V

U0129 and U117D

Monitor runs whenever the following DTCs are not stored	C14C8: Brake system voltage circuit high
All of the following conditions are met	A, B, C, D and E
A. Both of the following conditions a and b are met	More than 1 second
a. Both of the following conditions are met	More than 0.198 seconds
+BS cut MOS	Valid
+BS cut MOS voltage	Higher than 7.4 V
b. Both of the following conditions are met	More than 0.012 seconds
+BS cut MOS	Valid
+BS cut MOS voltage	Below 23.2 V
B. CAN communication status	Enable
C. Following condition is met	More than 3 seconds
IGR voltage	Higher than 9.5 V
D. Following condition is met	More than 3 seconds
IGR	On
E. +BS cut MOS voltage	Higher than 7.8 V

U0293

Monitor runs whenever the following DTCs are not stored	C14C8: Brake system voltage circuit high
All of the following conditions are met	A, B, C, D and E
A. Both of the following conditions a and b are met	More than 1 second
a. Both of the following conditions are met	More than 0.198 seconds
+BS cut MOS	Valid
+BS cut MOS voltage	Higher than 7.4 V
b. Both of the following conditions are met	More than 0.012 seconds
+BS cut MOS	Valid
+BS cut MOS voltage	Below 23.2 V
B. CAN communication status	Enable
C. Both of the following conditions are met	More than 3 seconds
IGR voltage	Higher than 9.5 V
IGP_PT2 voltage	Higher than 9.5 V
D. Both of the following conditions are met	More than 3 seconds
IGR	On
IGP_PT2	On

E. +BS cut MOS voltage	Higher than 7.8 V

U1150

Monitor runs whenever the following DTCs are not stored	C14C8: Brake system voltage circuit high U0293: Lost communication with HPCM (CH1)
All of the following conditions are met	A, B, C, D, E and F
A. Both of the following conditions a and b are met	More than 1 second
a. Both of the following conditions are met	More than 0.198 seconds
+BS cut MOS	Valid
+BS cut MOS voltage	Higher than 7.4 V
b. Both of the following conditions are met	More than 0.012 seconds
+BS cut MOS	Valid
+BS cut MOS voltage	Below 23.2 V
B. CAN communication status	Enable
C. Both of the following conditions are met	More than 3 seconds
IGR voltage	Higher than 9.5 V
IGP_PT2 voltage	Higher than 9.5 V
D. Both of the following conditions are met	More than 3 seconds
IGR	On
IGP_PT2	On
E. +BS cut MOS voltage	Higher than 7.8 V

TYPICAL MALFUNCTION THRESHOLDS

U0110

Either of the following conditions is met	A or B
A. Following condition is met	More than 3 times
Communication reception with inverter with converter assembly "A" (CH2)	Delayed
B. Checksum error exist with inverter with converter assembly "A" (CH2)	-

U0129

Either of the following conditions is met	A or B
A. Following condition is met	More than 3 times
Communication reception with No. 2 skid control ECU (brake actuator assembly) (CH1)	Delayed
B. Checksum error exist with No. 2 skid control ECU (brake actuator assembly) (CH1)	-

U0293

Either of the following conditions is met	A or B

A. Following condition is met	More than 3 times
Communication reception with hybrid vehicle control ECU (CH1)	Delayed
B. Checksum error exist with hybrid vehicle control ECU (CH1)	-

U1150

Either of the following conditions is met	A or B
A. Following condition is met	More than 3 times
Communication reception with hybrid vehicle control ECU (CH2)	Delayed
B. Checksum error exist with hybrid vehicle control ECU (CH2)	-

U117D

Either of the following conditions is met	A or B
A. Following condition is met	More than 3 times
Communication reception with No. 2 skid control ECU (brake actuator assembly) (CH2)	Delayed
B. Checksum error exist with No. 2 skid control ECU (brake actuator assembly) (CH2)	-

COMPONENT OPERATING RANGE

U0110

Both of the following conditions are met	-
Communication reception with inverter with converter assembly "A" (CH2)	Not delayed
No checksum error with inverter with converter assembly "A" (CH2)	-

U0129

Both of the following conditions are met	-
Communication reception with No. 2 skid control ECU (brake actuator assembly) (CH1)	Not delayed
No checksum error with No. 2 skid control ECU (brake actuator assembly) (CH1)	-

U0293

Both of the following conditions are met	-
Communication reception with hybrid vehicle control ECU (CH1)	Not delayed
No checksum error with hybrid vehicle control ECU (CH1)	-

U1150

Both of the following conditions are met	-
Communication reception with hybrid vehicle control ECU (CH2)	Not delayed
No checksum error with hybrid vehicle control ECU (CH2)	-

U117D

Both of the following conditions are met	-
Communication reception with No. 2 skid control ECU (brake actuator assembly) (CH2)	Not delayed
No checksum error with No. 2 skid control ECU (brake actuator assembly) (CH2)	-

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. Wait for 60 seconds or more. [*]

   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 (HEALTH CHECK)**

(a) Perform the Health Check using the GTS.

RESULT	PROCEED TO
DTCs for related systems are output together with DTC U011000, U012987, U029300, U110600, U114A00, U115000 or U117D87.	A
DTC U011000, U012987, U029300, U110600, U114A00, U115000 or U117D87 is output.	B

RESULT	PROCEED TO
DTCs are not output.	C

A ▶ **GO TO DIAGNOSTIC TROUBLE CODE CHART (RELATED SYSTEM)**

B ▶ **INSPECT CAN COMMUNICATION SYSTEM**

for HEV Model: Click here INFO

for PHEV Model: Click here INFO

C ▶ **USE SIMULATION METHOD TO CHECK**