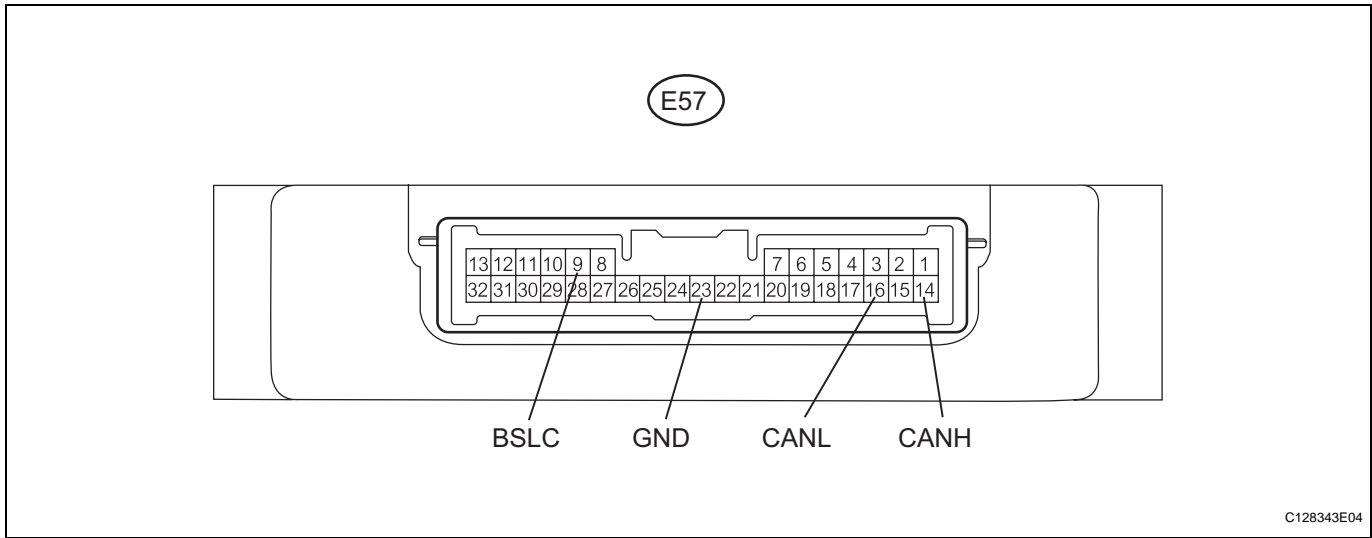


13. CHECK 4WD CONTROL ECU (for 4WD)



CA

- (a) Disconnect the E57 ECU connector.
- (b) Measure the resistance of the wire harness side connector.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (E57-14) - CANL (E57-16)	P - W	Ignition switch OFF	54 to 69 Ω
CANH (E57-14) - GND (E57-23)	P - W-B	Ignition switch OFF	200 Ω or more
CANL (E57-16) - GND (E57-23)	W - W-B	Ignition switch OFF	200 Ω or more
CANH (E57-14) - BSLC (E57-9)	P - R	Ignition switch OFF	1 MΩ or more
CANL (E57-16) - BSLC (E57-9)	W - R	Ignition switch OFF	1 MΩ or more

DIAGNOSIS SYSTEM

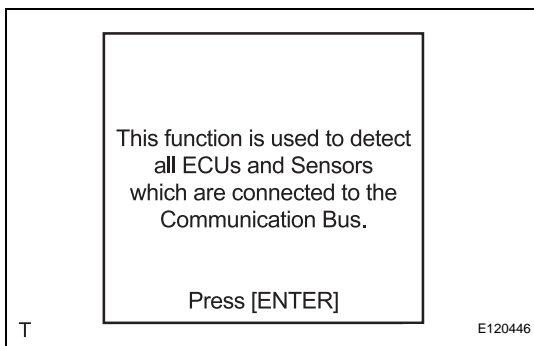
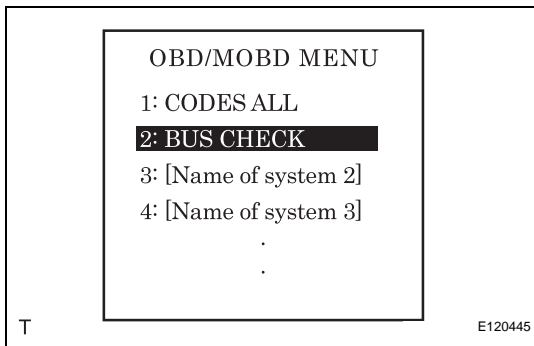
1. BUS CHECK

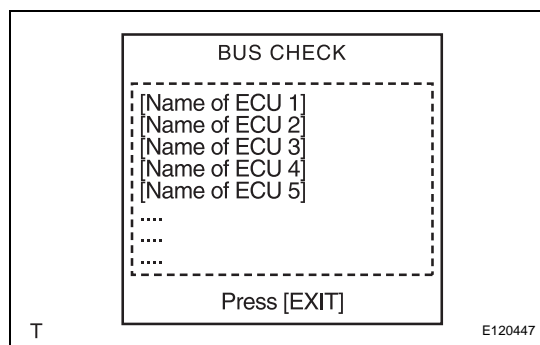
- (a) Select "BUS CHECK" from the "OBD / MOBD MENU" screen.

HINT:

The ECUs and sensors that are properly connected to the CAN communication system can be displayed using the intelligent tester via CAN VIM.

- (b) Press "ENTER" on the intelligent tester via CAN VIM.





- (c) The screen displayed the ECUs and sensors that are properly connected to the CAN communication system.

HINT:

There is a communication stop in the system of any properly connected ECUs or sensors that are not displayed (see page CA-10).

2. CHECK INSTALLED SYSTEMS (ECUS AND SENSORS) THAT USE CAN COMMUNICATION

- (a) System (ECUs and sensors) that use CAN communication vary depending on the vehicle's optional settings. Check which systems (ECUs and sensors) are installed on the vehicle.

ECU / Sensor name	Installed to
ABS and traction actuator (skid control ECU)	Vehicle with VSC
Steering sensor	Vehicle with VSC
Yaw rate sensor	Vehicle with VSC
Air conditioning amplifier	All vehicles (Automatic air conditioning system and manual air conditioning system)
ECM	All vehicles
Center airbag sensor assembly	All vehicles
Power steering ECU	All vehicles
Main body ECU	All vehicles
Combination meter ECU	All vehicles
4WD control ECU	Vehicle with 4WD

3. DTC TABLE BY ECU

HINT:

- In the CAN communication system, CAN communication system DTCs output by the ECU can be displayed by using the intelligent tester.
- If CAN communication system DTCs are output, the trouble cannot be determined solely from the DTCs. Perform troubleshooting according to "HOW TO PROCEED WITH TROUBLESHOOTING" (see page CA-8).

- (a) ABS AND TRACTION ACTUATOR (SKID CONTROL ECU)

HINT:

DTC communication uses the CAN communication system.

DTC No.	Detection Item
U0073/94	Control Module Communication Bus OFF
U0100/65	Lost Communication with ECM / PCM
U0123/62	Lost Communication with Yaw Rate Sensor Module
U0124/95	Lost Communication with Lateral Acceleration Sensor Module
U0126/63	Lost Communication with Steering Angle Sensor Module

- (b) POWER STEERING ECU

HINT:

DTC communication uses the CAN communication system.

DTC No.	Detection Item
U0073/49	Control Module Communication Bus OFF
U0105/41	Lost Communication with ECM
U0121/42	Lost Communication with Anti-lock Brake System (ABS) Control Module

- (c) ECM
HINT:
DTC communication uses the CAN communication system.

DTC No.	Detection Item
U0122	Lost Communication with Vehicle Dynamic Control Module
U0129	Lost Communication with Brake System Control Module

- (d) AIR CONDITIONING AMPLIFIER
For vehicle with air conditioning (Automatic air conditioning system and Manual air conditioning system).
HINT:
DTC communication uses the CAN communication system.

DTC No.	Detection Item
B1499/99	Multiplex Communication Circuit

- (e) COMBINATION METER ECU
HINT:
DTC communication uses the CAN communication system.

DTC No.	Detection Item
U0100	Lost Communication with ECM/PCM "A"
U0129	Lost Communication with Skid Control ECU

- (f) 4WD CONTROL ECU
For vehicle with 4WD only.
HINT:
DTC communication uses the CAN communication system.

DTC No.	Detection Item
U0073/86	Control Module Communication Bus OFF
U0100/85	Lost Communication with ECM / PCM "A"
U0126/84	Lost Communication with Steering Angle Sensor Module
U0129/83	Lost Communication with Brake System Control Module

- (g) MAIN BODY ECU
HINT:
The center airbag sensor is connected to the CAN communication system but CAN communication DTCs are not output.
- (h) CENTER AIRBAG SENSOR
HINT:
The center airbag sensor is connected to the CAN communication system but CAN communication DTCs are not output.

4. DTC COMBINATION TABLE

DTC		Detected Communication Stop Mode				
Output from	Output DTC	ABS AND TRACTION ACTUATOR (SKID CONTROL ECU) COMMUNICATION STOP MODE	POWER STEERING ECU COMMUNICATION STOP MODE	STEERING ANGLE SENSOR COMMUNICATION STOP MODE	YAW RATE SENSOR COMMUNICATION STOP MODE	ECM COMMUNICATION STOP MODE
ABS and Traction Actuator (Skid Control ECU)	U0073/94	○	X	X	X	X
	U0100/65	○	X	X	X	○
	U0123/62	○	X	X	○	X
	U0124/95	○	X	X	○	X
	U0126/63	○	X	○	X	X
Power Steering ECU	U0073/49	X	○	X	X	X
	U0105/41	X	○	X	X	X
	U0121/42	X	○	X	X	X
ECM	U0122	○	X	X	X	○
	U0129	○	X	X	X	○
Air Conditioning Amplifier	B1499/99	X	X	X	X	○
Combination Meter ECU	U0100	X	X	X	X	○
	U0129	○	X	X	X	X
4WD Control ECU	U0073/86	X	X	X	X	X
	U0100/85	X	X	X	X	○
	U0126/84	X	X	○	X	X
	U0129/83	○	X	X	X	X

HINT:

- ○: Outputs under condition shown in table above
- X: Not output

DTC		Detected Communication Stop Mode				
Output from	Output DTC	CENTER AIRBAG ASSEMBLY COMMUNICATION MODE	AIR CONDITIONING AMPLIFIER COMMUNICATION STOP MODE	COMBINATION METER ECU COMMUNICATION STOP MODE	MAIN BODY ECU COMMUNICATION STOP MODE	4WD CONTROL ECU COMMUNICATION STOP MODE
ABS and Traction Actuator (Skid Control ECU)	U0073/94	X	X	X	X	X
	U0100/65	X	X	X	X	X
	U0123/62	X	X	X	X	X
	U0124/95	X	X	X	X	X
	U0126/63	X	X	X	X	X
Power Steering ECU	U0073/49	X	X	X	X	X
	U0105/41	X	X	X	X	X
	U0121/42	X	X	X	X	X
ECM	U0122	X	X	X	X	X
	U0129	X	X	X	X	X
Air Conditioning Amplifier	B1499/99	X	○	○	X	X
Combination Meter ECU	U0100	X	X	X	X	X
	U0129	X	X	X	X	X

DTC		Detected Communication Stop Mode				
4WD Control ECU	U0073/86	X	X	X	X	○
	U0100/85	X	X	X	X	○
	U0126/84	X	X	X	X	○
	U0129/83	X	X	X	X	○

HINT:

- ○: Outputs under condition shown in table above
- X: Not output
- Check the stop mode by using the results of the BUS CHECK for the center airbag sensor (see page [CA-69](#)) and main body ECU (see page [CA-64](#)).

(a) Perform troubleshooting according to the combination of DTCs output.

- ABS AND TRACTION ACTUATOR (SKID CONTROL ECU) COMMUNICATION STOP MODE: (see page [CA-42](#))
- POWER STEERING ECU COMMUNICATION STOP MODE: (see page [CA-49](#))
- STEERING ANGLE SENSOR COMMUNICATION STOP MODE: (see page [CA-52](#))
- YAW RATE SENSOR COMMUNICATION STOP MODE: (see page [CA-55](#))
- ECM COMMUNICATION STOP MODE: (see page [CA-58](#))
- AIR CONDITIONING AMPLIFIER COMMUNICATION STOP MODE: (see page [CA-45](#))
- COMBINATION METER ECU COMMUNICATION SYSTEM: (see page [CA-67](#))
- 4WD CONTROL ECU COMMUNICATION STOP MODE: (see page [CA-72](#))