Body Electrical Troubleshooting - B-CAN System Diagnosis Test Mode 1 and Test Mode 2 (without the HDS)

Shift to Test Mode 1

Check the PCM for DTCs and troubleshoot PCM or F-CAN loss of communication errors first, then do this diagnosis if the HDS is not available.

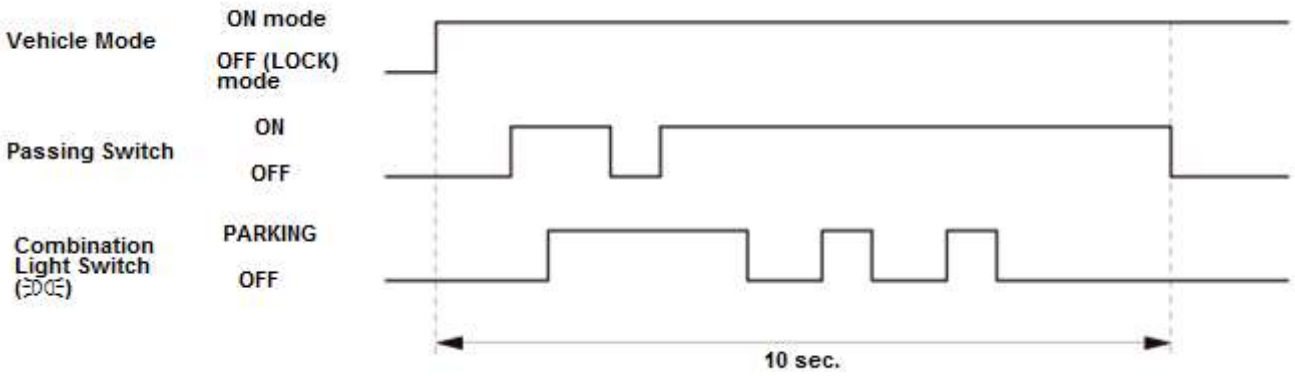
1. Check the No. A18 (10 A) fuse in the under-hood fuse/relay box, and the No. B7 (10 A) fuse in the under-dash fuse/relay box. If a fuse is blown, find and correct the cause, then replace the fuse.

2. Move the front individual map light switch OFF, the interior light switch to the DOOR position, the ceiling light switch to the MIDDLE position, and close all doors and tailgate.

   NOTE: Do steps 3—7 within 10 seconds.

3. Turn the vehicle to the ON mode.

4. Pull and hold the passing switch in its PASSING position.



5. While holding the combination light switch is in PASSING position, turn to the PARKING position, then release, pull, and hold the combination light switch in its PASSING position.

6. Turn the combination light switch to OFF, then turn to the PARKING position, and turn to OFF two more times.

7. Release the combination light switch.

8. Wait 5 seconds, and watch the front individual map lights and ceiling light. When the lights flash quickly once, the system enters in Test Mode 1.

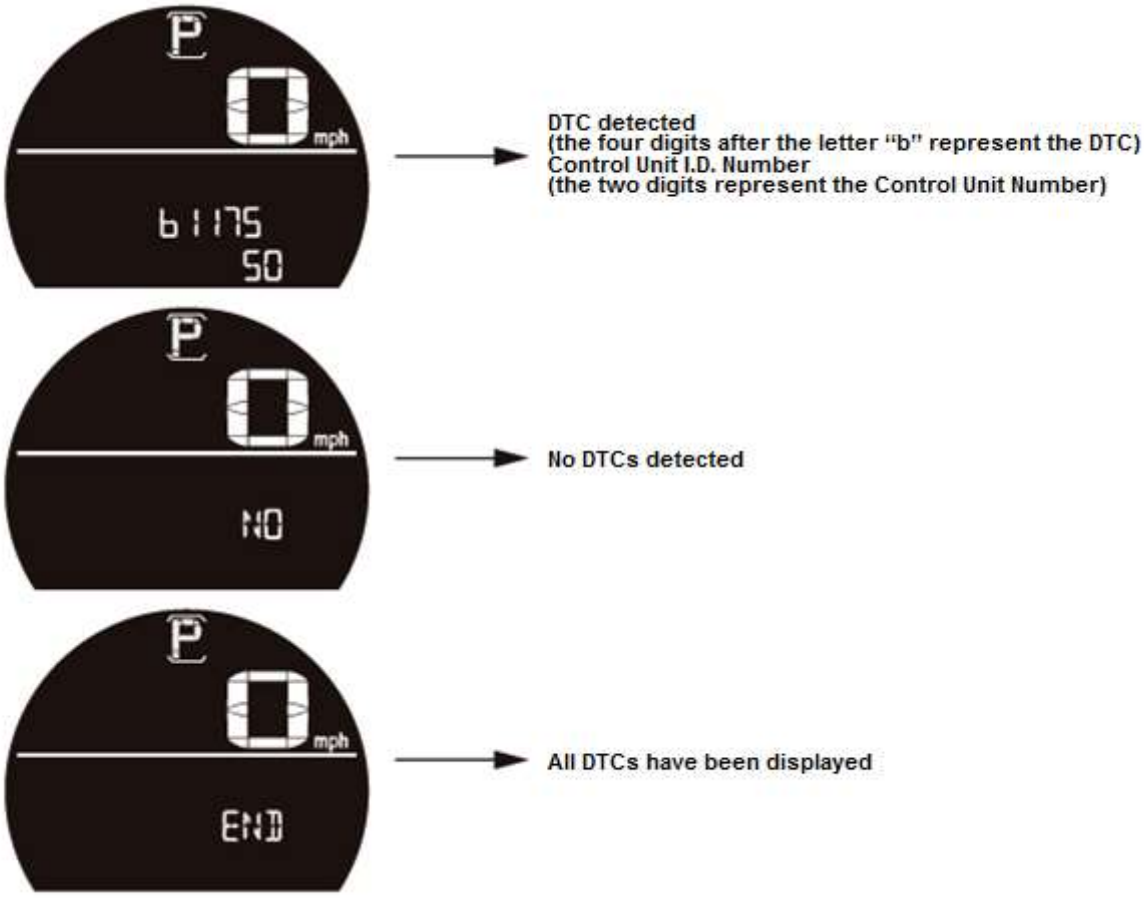
9. If the individual map lights keeps blinking after entering Test Mode 1. Check for B-CAN unit communication error.

Error	Display code (blinking pattern)
Communication bus line error (BUS OFF).	1
The body control module cannot receive signals from the gauge control module.	5

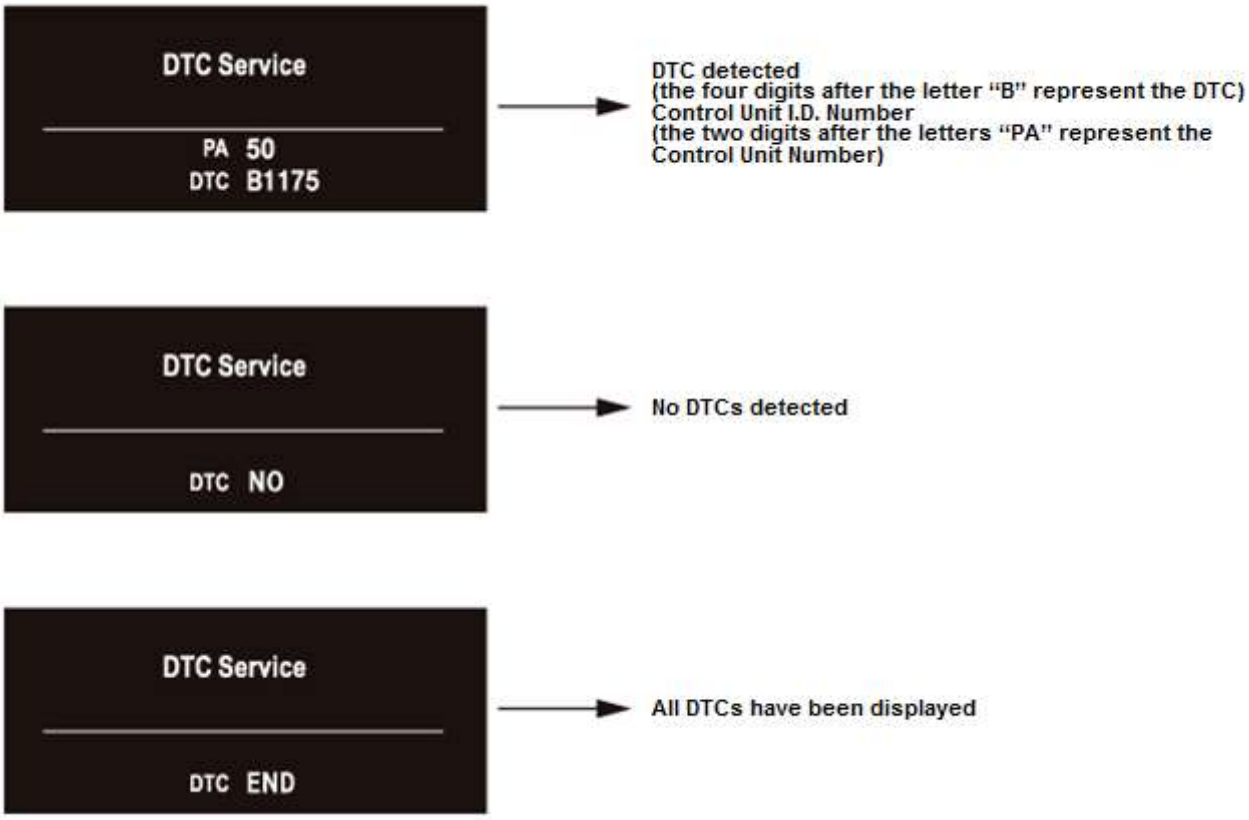
10. Check for B-CAN DTCs indicated by the LCD display while still in Test Mode 1. Press the TRIP button to display the next code. After you get to the last code, the display shows END. If no DTCs are stored, the display reads NO.

NOTE: If the test times out, turn the vehicle to the OFF (LOCK) mode, and repeat steps 3－7.

Without Multi-Information Display (MID)



With Multi-Information Display (MID)



The control unit that has stored the code can be identified by the number shown after the letter "PA" on the multi-information display (MID).

Control Unit	Control Unit I.D. Number
Body control module	18
Power window master switch	30
Gauge control module	50
Climate control unit	51
Automatic lighting control unit-sensor	72
Automatic lighting/rain sensor	74
Immobilizer-keyless control unit	96
Front seat heater control unit	A2
Wireless charger	AF

NOTE: You can also check B-CAN communication status by the following methods:

- The body control module self-diagnostic function Test Mode 1 and Test Mode 2 can check some communication statuses and some switch circuits.
- The gauge control module self-diagnostic function can check communication status.

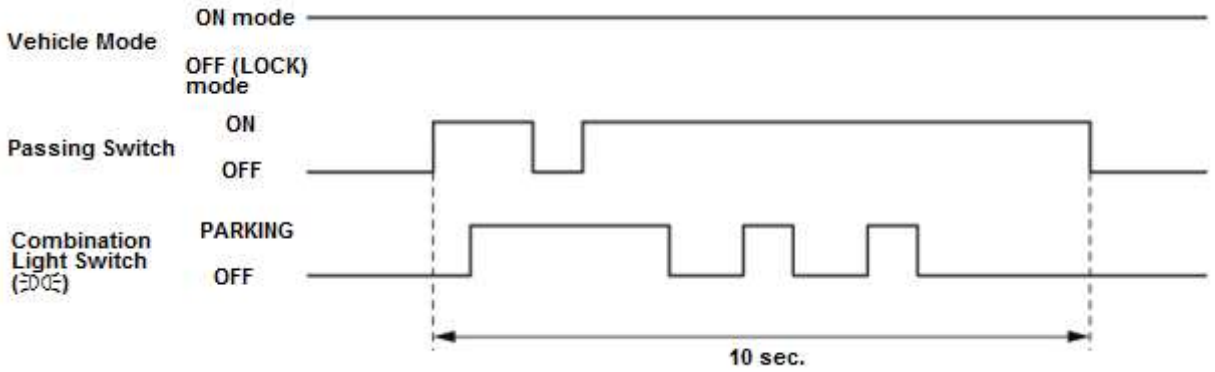
11. Record all DTCs and sort them by DTC type, then troubleshoot them in this order:
    - Internal error DTCs
    - Loss of communication DTCs
    - Signal error DTCs
12. Clear the DTCs by pressing and holding the SEL/RESET knob for about 10 seconds.

13. You will hear a beep to confirm the codes have been cleared. Operate the devices that failed, and recheck for codes.

Shift to Test Mode 2

NOTE: Do steps 14—17 within 10 seconds.

14. Pull and hold the combination light switch in its PASSING position.



15. While holding the combination light switch is in PASSING position, turn to the PARKING position, then release, pull, and hold the combination light switch in its PASSING position.

16. Turn the combination light switch to OFF, then turn to the PARKING position, and turn to OFF two more times.

17. Release the combination light switch.

18. Wait 5 seconds, and watch the individual map lights. When the lights flash two times quickly and then go off, the system is in Test Mode 2.

    NOTE: If you repeat this procedure, the system automatically returns to Test Mode 1.

19. The following tables list the circuits that can be checked in Test Mode 2. Operate the switch that is most closely related to the problem. If the circuit is OK, the individual map lights and ceiling light blink once. If the circuit is faulty, there is no such indication.

    — If the front individual map lights and ceiling light do not blink even when a switch is operated, check two or three other circuits listed in the table. If the front individual map lights and ceiling light blink for each circuit, the additional circuits are OK; repair the short or open circuit that failed the test in step 19.

    — If the front individual map lights and ceiling light do not blink again, this means that the control unit has failed without triggering a DTC. Test a few more circuits. If they also fail, check the related control units using their input tests.

Body Control Module

Item	
Driver's door switch	Park pin switch
Front passenger's door switch	Clutch pedal position switch
Left rear door switch	Turn signal switch (LEFT)
Right rear door switch	Turn signal switch (RIGHT)
Tailgate latch switch	Hazard warning switch
Tailgate outer handle switch	Headlight switch (ON)
Tailgate lock switch	Headlight switch (OFF)
Left rear door lock knob switch (UNLOCK)	Lighting switch
Right rear door lock knob switch (UNLOCK)	Passing switch
Windshield wiper HI/LO switch	Fog light switch
Windshield wiper INT/LO switch	Ignition key switch

Item	
Windshield wiper MIST switch	Brake pedal position switch
Windshield wiper intermittent dwell time controller	Back-up light switch
Windshield washer switch	Transmission range switch
Rear window wiper switch	Driver's door outer handle touch sensor
Rear window wiper INT switch	Front passenger's door outer handle touch sensor
Rear window washer switch	Driver's door outer handle lock switch
Hood latch switch	Front passenger's door outer handle lock switch
Electric parking brake switch	

Door Multiplex Control Unit

Item	
Driver's door lock switch (UNLOCK)	Power window master switch (Driver's window UP, DOWN, AUTO)
Driver's door lock switch (LOCK)	
Driver's door lock knob switch (UNLOCK)	Power window master switch (Front passenger's window UP, AUTO)
Driver's door lock knob switch (LOCK)	
Driver's door key cylinder switch (UNLOCK)*	Power window master switch (Left rear window UP, DOWN)
Driver's door key cylinder switch (LOCK)*	
	Power window master switch (Right rear window UP, DOWN)

*: A second key is necessary to check the key cylinder inputs. Be sure to rotate the key cylinder switch two times to each position (lock and lock, unlock and unlock) to ensure the door lock knob switch is in the appropriate position.

Gauge Control Module

Item	
ACC/cruise control combination switch	Automatic brake hold switch
VSA OFF switch	SEL/RESET switch
TPMS switch	CMBS OFF switch
ECON switch	Integrated drive-mode switch