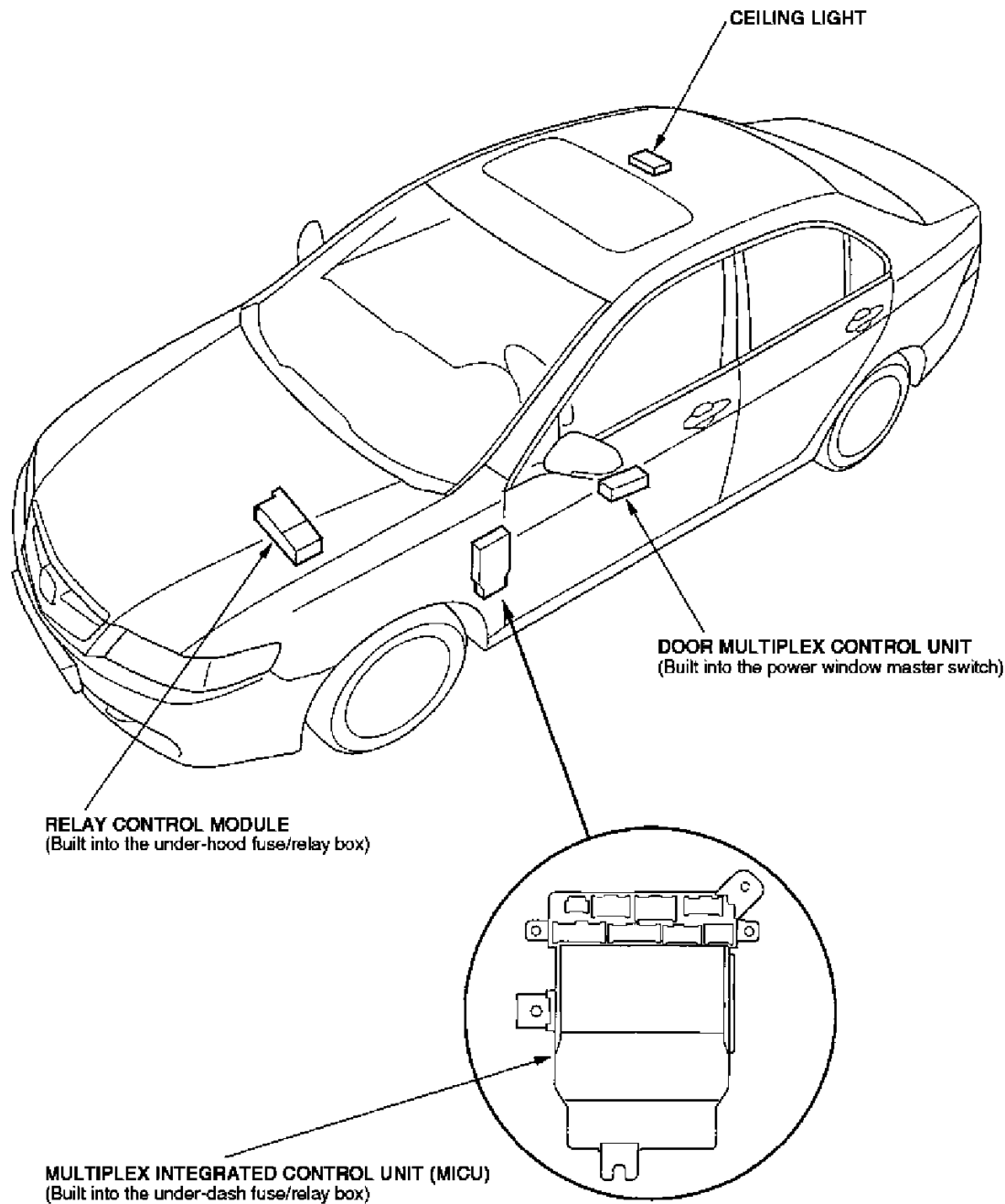


2004 ACCESSORIES & EQUIPMENT

Multiplex Integrated Control System - TSX

COMPONENT LOCATION INDEX



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Fig. 1: Locating Multiplex Integrated Control System Components (1 Of 2)

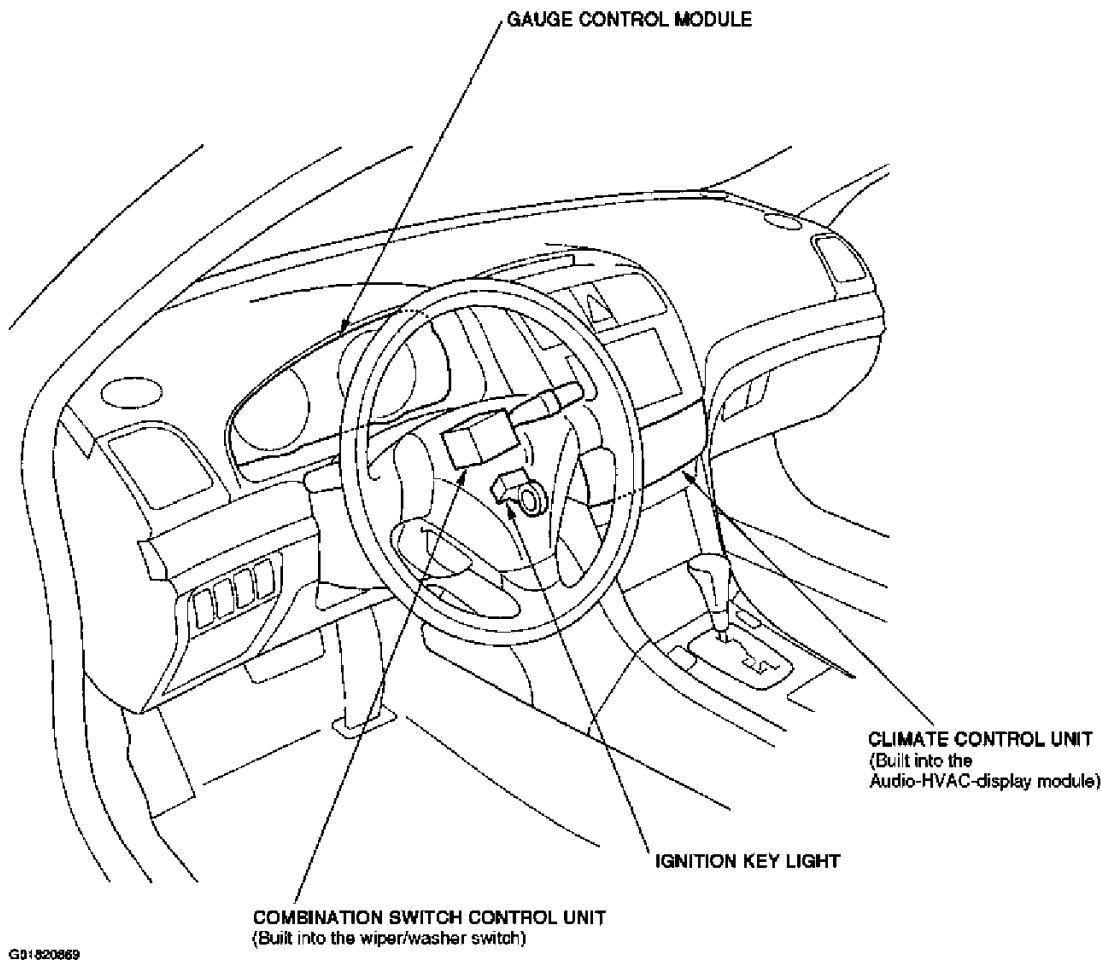


Fig. 2: Locating Multiplex Integrated Control System Components (2 Of 2)

SYSTEM DESCRIPTIONS

BODY CONTROLLER AREA NETWORK (B-CAN) & FAST CONTROLLER AREA NETWORK (F-CAN):

Fast Controller Area Network (F-CAN) and Body Controller Area Network (B-CAN) share information between multiple Electronic Control Units (ECUs). B-CAN communication moves at a slower speed for convenience related items, and for other functions. F-Can information moves at a faster speed for "real time" functions such as fuel and emissions data. To allow both systems to share information, the Gauge Control Module translates information from B-CAN to F-CAN and from F-CAN to B-CAN.

The ECUs on the B-CAN and F-CAN transmit and receive information in the form of structured messages that may be received by several different ECUs on the network at one time. These message are transmitted and received across a communication circuit that consists of a single wire that is shared by all the ECUs on the circuit. Since messages on the F-CAN network are typically of higher importance, a second wire is used for communication circuit integrity monitoring. A backup circuit is also added to the headlight and wiper circuits

on the B-CAN network in the event of a network wire or ECU failure that would effect the operation of the system.

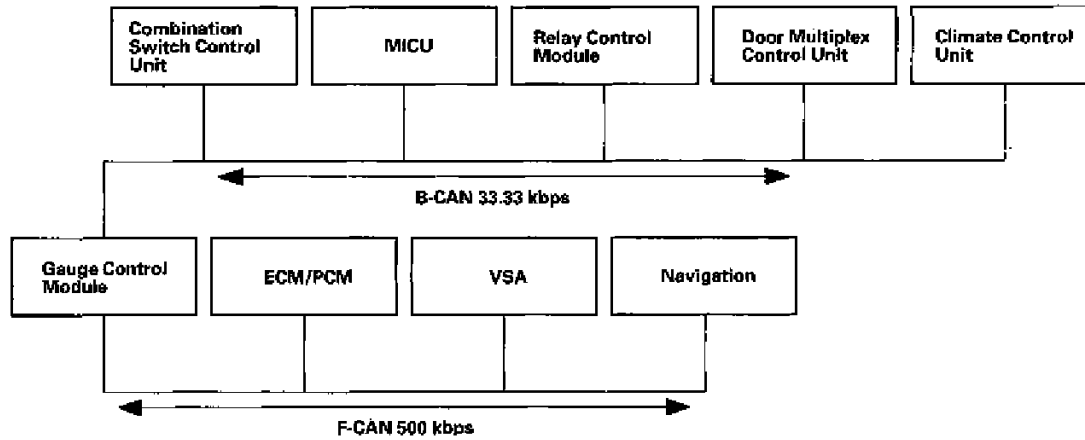
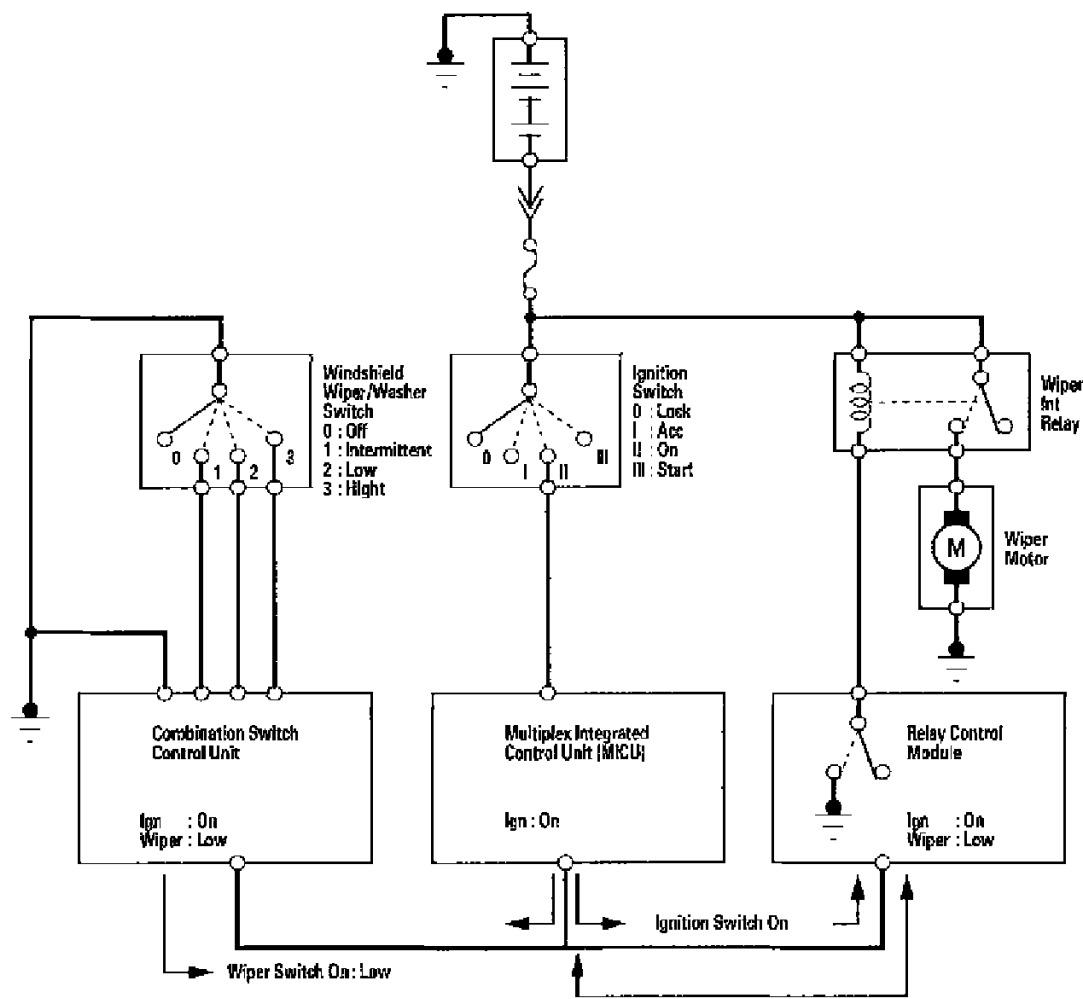


Fig. 3: Network Schematic

Messages are transmitted by an ECU (that monitors an input) over the communication circuit. ECUs that use the message (information related to that input) are the receivers. For example, the Combination Switch Control Unit monitors the wiper switch. When the wiper switch is placed in the low speed position, the Combination Switch Control Unit transmits that message on the communication circuit. The Relay Control Module receives the message and turns on the wipers by providing a ground for the relay.



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Fig. 4: Combination Switch Control Unit Monitoring The Wiper Switch

"CONNECTED" ECUS

Several ECUs are connected to each of the two networks. The Gauge Control Module is part of both networks since it is the "Gateway" between them. Below is a list of ECUs and the network they are connected to.

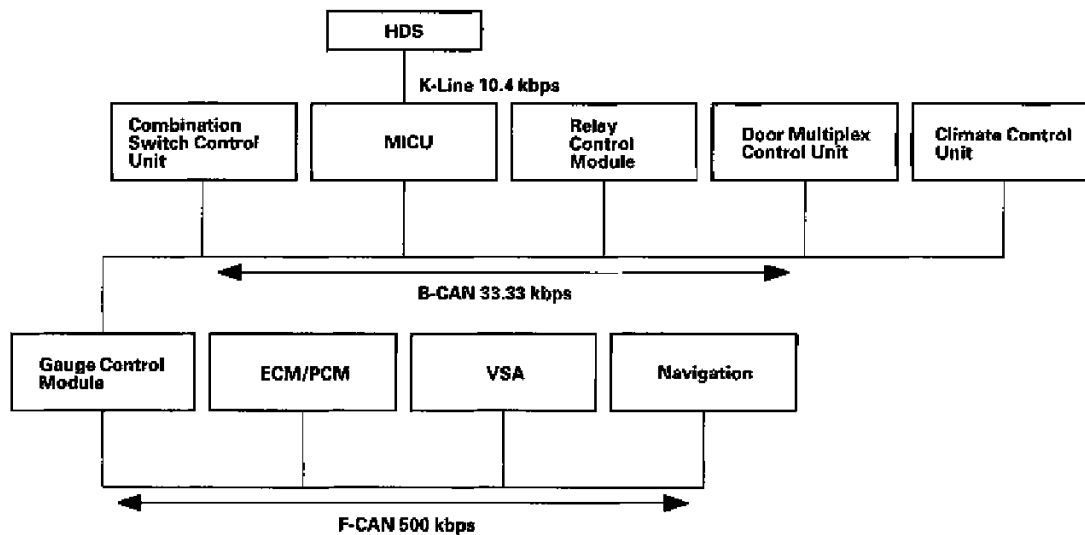
B-CAN ECUS

- Gauge Control Module
- Relay Control Module
- Multiplex Integrated Control Unit (MICU)
- Door Multiplex Control Unit
- Combination Switch Control Unit

- Climate Control Unit

F-CAN ECUS

- Gauge Control Module
- ECM/PCM
- Navigation Control Unit
- VSA (Vehicle Stability Assist)



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Fig. 5: Network Schematic

NETWORK "LOSS OF COMMUNICATION" ERROR CHECKING

The B-CAN and F-CAN systems send messages to each other to check the integrity of the network communication circuit. They do this by sending a specific digital message out after an event. For example, turning the ignition switch to ON. After the switch to ON, all the ECUs on the communication circuit expect to receive a message from other specific units within a specified amount of time. If the message is not received, the ECU will transmit a DTC reporting that the control units did not communicate.

EXAMPLE OF COMMUNICATION CIRCUIT TEST

Normal Circuit

1. Ignition switch turned ON.
2. The door multiplex control unit transmits a door switch signal.
3. The multiplex integrated control unit (MICU), relay control module and gauge control module receive the door lock switch signal.
4. Communication circuit test is passed.

Since the door lock switch message was received by all the ECUs expecting to receive a signal, the communication circuit between those units is OK. There are multiple signal sent and received by each ECU during this time to insure that the communication circuit is intact.

Failed Circuit

1. Ignition switch is turned ON.
2. The door multiplex control unit transmits a door switch signal.
3. The multiplex integrated control unit (MICU), relay control module and gauge control module expect to receive the door lock switch signal, but since there is a break in the communication circuits, it is not received.
4. Each ECU that expects to receive the door lock switch signal from the door multiplex control unit will transmit DTCs for the signal that it did not receive.

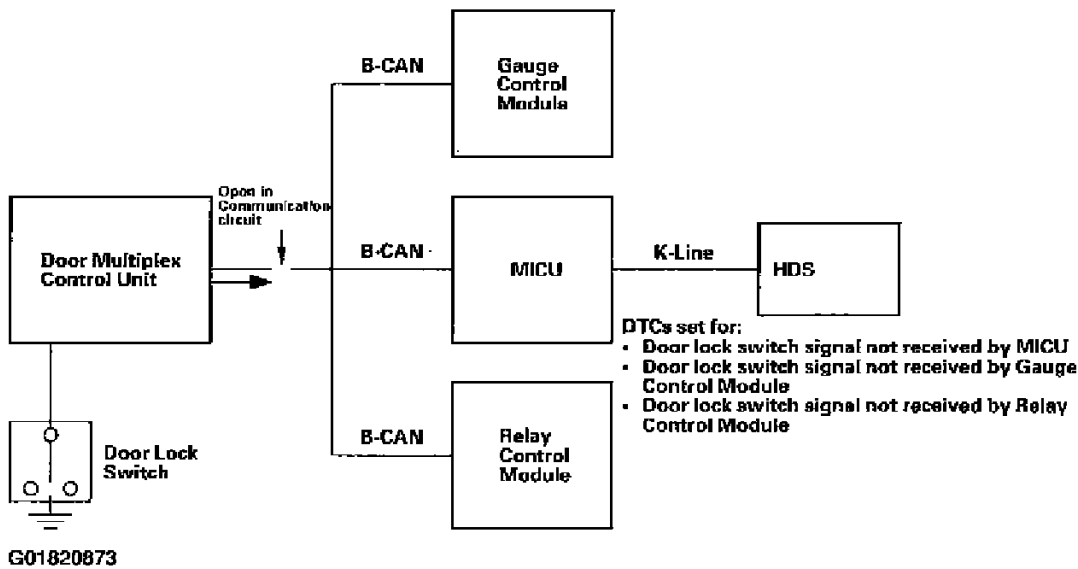


Fig. 6: Example Of Failed Circuit

Since there is a break in the communication circuit, the door lock switch signal could not be received by the gauge control module, multiplex integrated control unit (MICU) or the relay control module. Each of these units will set "loss of communication" error codes for the signal(s) they did not receive. There may be multiple communication DTCs if the unit that has become disconnected from the network would normally transmit multiple messages during the communication line test. For example, the door multiplex control unit sends keyless panic signal and door lock switch signal during the communication circuit test.

DIAGNOSTIC TROUBLE CODES

There are three DTC types used by the CAN networks.

Internal error DTCs	The ECUs run internal checks. If one finds that there is an internal ECU problem, it will set an internal error DTC. Confirm that the battery and charging system are OK. If so, this indicates that the ECU needs to be replaced.
Loss of communication DTCs	Loss of communication DTCs (and Bus-off DTCs) are set when there is a problem with the communication between ECUs. This could be in the connections, the wiring, or the ECU (as called out in the DTC Troubleshooting index).
Signal error DTCs	The ECUs can run diagnostics on some input circuits to determine if that circuit is functioning properly (no opens or shorts). If a circuit fails the diagnostic test, a DTC will set (NOTE: Not all input circuits are tested for errors).

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Fig. 7: CAN Networks Diagnostic Trouble Code Type Table**TROUBLESHOOTING THE CAN CIRCUIT RELATED PROBLEMS****Using the HDS (Preferred method)**

1. Go to B-CAN System Diagnosis Test Mode A to check for "Connected units" and DTCs (see **B-CAN SYSTEM DIAGNOSIS TEST MODE A**).
2. If no DTCs are retrieved, go to B-CAN System Diagnosis Test Mode C or D.

Without the HDS (Should be used only if HDS is unavailable)

1. Check for communication circuit problems using B-CAN System Diagnosis Test Mode 1 (see **B-CAN SYSTEM DIAGNOSIS TEST MODE A**).
2. Check for DTCs while in Mode 1 (see **B-CAN SYSTEM DIAGNOSIS TEST MODE A**).
3. Sort, and then troubleshoot the DTCs in the order below. Refer to the DTC troubleshooting Index for DTC descriptions.
 - 1st:** Internal error and voltage failure DTCs
 - 2nd:** Loss of communication DTCs
 - 3rd:** Signal error DTCs
4. If no DTCs are retrieved, use B-CAN System Diagnosis Test Mode 2 to check all inputs related to failure (see **B-CAN SYSTEM DIAGNOSIS TEST MODE A**).

Loss of Communication DTC cross-reference chart

When an ECU is unable to communicate with the other ECUs on the circuit, the other units will set loss of communication DTCs. Use this chart to find the control unit that is not communicating.

1. Find the Transmitting Unit that is in the same row as all of the loss of communication DTCs retrieved.
2. Perform the input test for the transmitting unit.

Transmitting Unit	Message	Receiving Unit/Loss of Communication DTC					
		MICU	Relay Control Module	Door Multiplex Control unit	Gauge Control Module	Combination Switch Control Unit	Climate Control Unit
MICU	Alarm		B1058				
	MICU		B1055	RX	B1157	B1255	
	Door Switch		B1057	RX	B1159		
Relay Control Module	Relay Control Module	B1005			B1158		
Door Multiplex Control unit	Panic	B1010	B1059				
	Door Lock Switch	B1006	B1058		B1150		
Gauge Control Module	VSP/NE		B1060				B1205
	A/T	B1008	B1061				
	ENGTEMP						B1206
	ILLUMI						B1207
Combination Switch Control Unit	Headlight Switch	B1007	B1062		B1155		
	Wiper Switch	B1009	B1063		B1156		

RX: Receiving unit does not set a loss of communication DTC.

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Fig. 8: Loss Of Communication DTC Cross-Reference Chart

B-CAN SYSTEM SWITCH DEVICE INDEX

Combination Switch Control Unit	
Input signal	Output signal/device
Dimmer switch, Lighting switch, Passing switch, Turn signal switch, Wiper/washer switch, Intermittent dwell time controller	None

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Fig. 9: Combination Switch Control Unit Table

Relay Control Module	
Input signal	Output signal/Device
A/C pressure switch, Climate control switch, Daytime running lights control (Canada), Hood switch, Horn switch, Windshield wiper motor.	Daytime running lights control (Canada), Headlight, Parking light, Horn, Windshield washer motor, Windshield wiper motor.

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Fig. 10: Relay Control Module Table

Door Multiplex Control Unit	
Input signal	Output signal
Driver's door key cylinder switch (lock/unlock), Driver's door lock knob switch (lock/unlock), Driver's door lock switch, Driver's power window switches (up, down, auto up, auto down), Passenger's power window switches (up, down), Driver's power window motor pulser.	Driver's power window motor, Passenger's power window switches, Power window relay control.

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Fig. 11: Door Multiplex Control Unit Table

Multiplex Integrated Control Unit	
Input signal	Output signal/Device
Audio-HVAC display module security ground, Brake pedal position switch, Door switches, Ignition key cylinder switch, Park pin switch (A/T), Passenger's door lock knob switches (unlock), Passenger's door lock switch, Power window motor, Seat belt switch (unbuckled), Transmission range switch (P, R position), Trunk latch switch.	Door lock actuators, Hazard warning lights, Interior lights, Ignition key light, Key interlock solenoid, Turn signal lights, Moonroof relay, Trunk lid opener solenoid, Door courtesy lights.

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Fig. 12: Multiplex Integrated Control Unit Table

Gauge Control Module	
Input signal	Output signal/Device
Dash lights brightness controller, Daytime running lights signal (Canada), Engine oil pressure switch signal, Washer fluid level switch signal (Canada) Parking brake switch, Brake fluid level switch, fuel level sensor, Select /Reset switch, Cruise control combination switch (set, cancel, resume, master).	Dash lights, Fuel gauge, Gauge lights, Indicator, LEDs, Speedometer, Tachometer, ECT gauge, Warning buzzer, Odometer/Outside temperature display

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Fig. 13: Gauge Control Module Table

Climate Control Unit	
Input signal	Output signal/Device
Evaporator temperature sensor, In-car temperature sensor, Outside air temperature sensor, Sunlight sensor Air mix motor position (Driver's and Passenger's), Mode motor position, Blower motor control feedback.	Air mix control motors (Driver's/Passenger's), Blower motor transistor, Mode control motor, Rear defogger relay, A/C Request, Recirculation motor.

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Fig. 14: Climate Control Unit Table

TROUBLESHOOTING

B-CAN SYSTEM DIAGNOSIS TEST MODE A

NOTE:

- Perform this diagnosis first if the symptom is related to the B-CAN system.
- Always cycle the ignition switch within 3 seconds when prompted in the DTC troubleshooting procedures in this section.

1. Make sure the system is related to B-CAN:

- Gauge control module
- Exterior lights
- Turn signals
- Entry light control
- Interior lights
- Safety indicators
- Rear window defogger
- Horns (security and panic)
- Chimes (key, seatbelt and lights ON)
- Power windows
- Moonroof timer
- Wiper/washer
- Security
- Keyless entry
- Power door locks
- Climate control
- Key interlock
- Dash light brightness

Is the symptom related to the B-CAN system?**YES:** Go to step 2.

NO: Go to the system troubleshooting for the system with the symptom.

2. Connect the Honda Diagnostic System (HDS).
3. From BODY ELECTRICAL MENU, select connected units UNIT INFORMATION, and then select CONNECTED UNIT.
 - MICU
 - Door multiplex control unit
 - Gauge control module
 - Combination switch control unit
 - Relay control module
 - Climate control unit

NOTE:

- If the unit is communicating with the scan tool, DETECT will be displayed.
- If the unit is not communicating, "NOT AVAILABLE" will be displayed.

Are all control units communicating with the HDS?

YES: Go to step 4.

NO: If any of them are not communicating, go to B-CAN System Diagnosis Test Mode B. If all units are not communicating, go to DTC B1000 troubleshooting (see **DTC B1000: COMMUNICATION BUS LINE ERROR**).

4. Select the system that has the problem from the BODY ELECTRICAL MENU, then select DTCs.

Are any DTCs indicated?

YES: Go to step 5.

NO: If the problem is related to one the following items, go to B-CAN System Diagnosis Test Mode C:

- Exterior lights
- Turn signals
- Entry light control
- Interior lights
- Rear window defogger (climate control)
- Horns (security and panic)
- Power windows
- Moonroof timer
- Wiper/washer
- Power door locks

NOTE: In the problem is related to one of the following items, go to the troubleshooting for that individual system:

- Gauge control module
 - Safety indicators
 - Chimes (key, seat belt and lights ON)
 - Security
 - Keyless entry
 - Climate control
 - Key interlock
 - Dash light brightness
 - Audio System
 - Navigation
5. Record all DTCs and sort them by DTC type using the DTC troubleshooting Index.
 6. Troubleshoot the DTC(s) in the following order:
 - Battery voltage DTCs.
 - Internal error DTCs.
 - Loss of communicator DTCs. Begin troubleshooting with the lowest number first (Example: if DTC B1006 and B1058 are retrieved, begin by troubleshooting B1006).
 - Signal error DTCs.

B-CAN SYSTEM DIAGNOSIS TEST MODE B

NOTE:

- Perform this diagnosis if any of the control units are not communicating (NONE displayed in the HDS.) as found by the B-CAN system Diagnosis Test Mode A.
- Always cycle the ignition switch within 3 seconds when prompted in the DTC troubleshooting procedures in this section.

1. Using the Honda Diagnostic System (HDS), select the system that has the symptom from the BODY ELECTRICAL MENU.
2. Select DTCs, and then check for loss of communication DTCs (use the DTC Troubleshooting Index to find the DTC type).

Are loss of communication DTCs indicated?

YES: Go to step 3.

NO: Replace the MICU.

3. Perform the input test for the unit not communicating with the HDS.
 - MULTIPLEX INTEGRATED CONTROL UNIT INPUT TEST
 - GAUGE CONTROL MODULE INPUT TEST
 - DOOR MULTIPLEX CONTROL UNIT INPUT TEST
 - COMBINATION SWITCH CONTROL UNIT INPUT TEST
 - RELAY CONTROL MODULE INPUT TEST

- **DTC B1205: CLIMATE CONTROL UNIT LOST COMMUNICATION WITH THE GAUGE CONTROL MODULE (VSP/NE MESSAGES); DTC B1206: CLIMATE CONTROL UNIT LOST COMMUNICATION WITH THE GAUGE CONTROL MODULE (ECT MESSAGES); DTC B1207: CLIMATE CONTROL UNIT LOST COMMUNICATION WITH THE GAUGE CONTROL MODULE (ILLUMI MESSAGES)**

B-CAN SYSTEM DIAGNOSIS TEST MODE C**NOTE:**

- Perform this diagnosis if a component that is controlled by the B-CAN system does not stop or does not turn off.
- If the component does not turn ON, go to B-CAN System Diagnosis Test Mode D.
- See the B-CAN system unit input/output index for a list of input and output devices and the control units that monitor the input and controls the output devices (see **B-CAN SYSTEM SWITCH DEVICE INDEX**).
- Always cycle the ignition switch within 3 seconds when prompted in the DTC troubleshooting procedures in this section.

1. Check for DTCs by selecting the TEST MODE MENU from the Honda Diagnostic System (HDS).

Are any DTCs indicated?

YES: Go to B-CAN System Diagnosis Test Mode A.

NO: Go to step 2.

2. Turn OFF the switch that controls the malfunctioning component.
3. Select DATA LIST from the TEST MODE MENU, and check the input of the switch that controls the component.

Does the tester indicate the switch is OFF?

YES: Go to step 4.

NO: Go to step 6 .

4. In the DATA LIST of, check the output signal of the malfunctioning component.

Is the output signal OFF?

YES: Go to step 5.

NO: Replace the control unit that controls the device that will not turn OFF (see **B-CAN SYSTEM SWITCH DEVICE INDEX**).

5. Check the relay if applicable, then check for a short in the wire between the relay and the component, relay and control unit or the component and control unit.

Are the relay and the wire harness OK?

YES: Replace the control unit that controls the component that will not turn OFF.

NO: Replace the relay or repair the wire harness.

6. Check the switch, then check for a short in the wire between the switch and the control unit that monitors the switch.

Is the switch and wire harness OK?

YES: Replace the control unit that monitors the switch.

NO: Replace the switch or repair the wire harness.

B-CAN SYSTEM DIAGNOSIS TEST MODE D

NOTE:

- Perform this diagnosis a component that is controlled by the B-CAN system does not run or does not come on.
- If the component does not turn off or does not stop, go to B-CAN System Diagnosis Test Mode C.
- See the B-CAN system unit input/output index for a list of input and output devices and the control units that monitor the input and controls the output devices (see B-CAN SYSTEM SWITCH DEVICE INDEX).
- Always cycle the ignition switch within 3 seconds when prompted in the DTC troubleshooting procedures in this section.

1. Check the fuse of the malfunctioning output device.

Is the fuse OK?

YES: Go to step 2.

NO: Replace the fuse and recheck.

2. Check for DTCs by selecting the TEST MODE MENU from the Honda Diagnostic System (HDS).

Are any DTCs indicated?

YES: Go to B-CAN System Diagnosis Test Mode A.

NO: Go to step 3.

3. Turn ON the switch that controls the malfunctioning component.
4. Select DATA LIST from the TEST MODE MENU, and check output signal for the malfunctioning component.

Is there an output signal?

YES: Go to step 5.

NO: Go to step 9 .

5. Check the relay and ground, then check for an open or a short in the circuit for the malfunctioning component.

Are the relay and circuit OK?

YES: Go to step 6.

NO: Replace the relay or repair the wire circuit.

6. Perform the function test for the malfunctioning component.

Does the output device pass the function test?

YES: Go to step 7.

NO: Replace the component.

7. With the malfunctioning output component, connect a voltmeter between the malfunctioning component and body ground on the wire that the control unit uses to control the component circuit.

8. Select MISC. TEST from the TEST MODE MENU, and do the forced operation test of the malfunctioning component.

Is there a change in voltage (12 V to 0 V or 0 V to 12 V)?

YES: Replace the component.

NO: Replace the control unit that controls the malfunctioning component.

9. Select DATA LIST from the TEST MODE MENU, and make sure the switch signal input for the malfunctioning system indicates a change when operated.

Does the switch input indicate ON when the switch is ON?

YES: Replace the control unit that controls the malfunctioning component.

NO: Go to step 10.

10. Check the switch and its ground (if applicable), then check for an open or a short in the wire between the switch and the control unit that monitors it.

Is the switch and the wire harness OK?

YES: Replace the control unit that monitors the switch.

NO: Replace the switch or repair the wire harness.

B-CAN SYSTEM DIAGNOSIS TEST MODE 1 (TROUBLESHOOTING WITHOUT THE HDS)

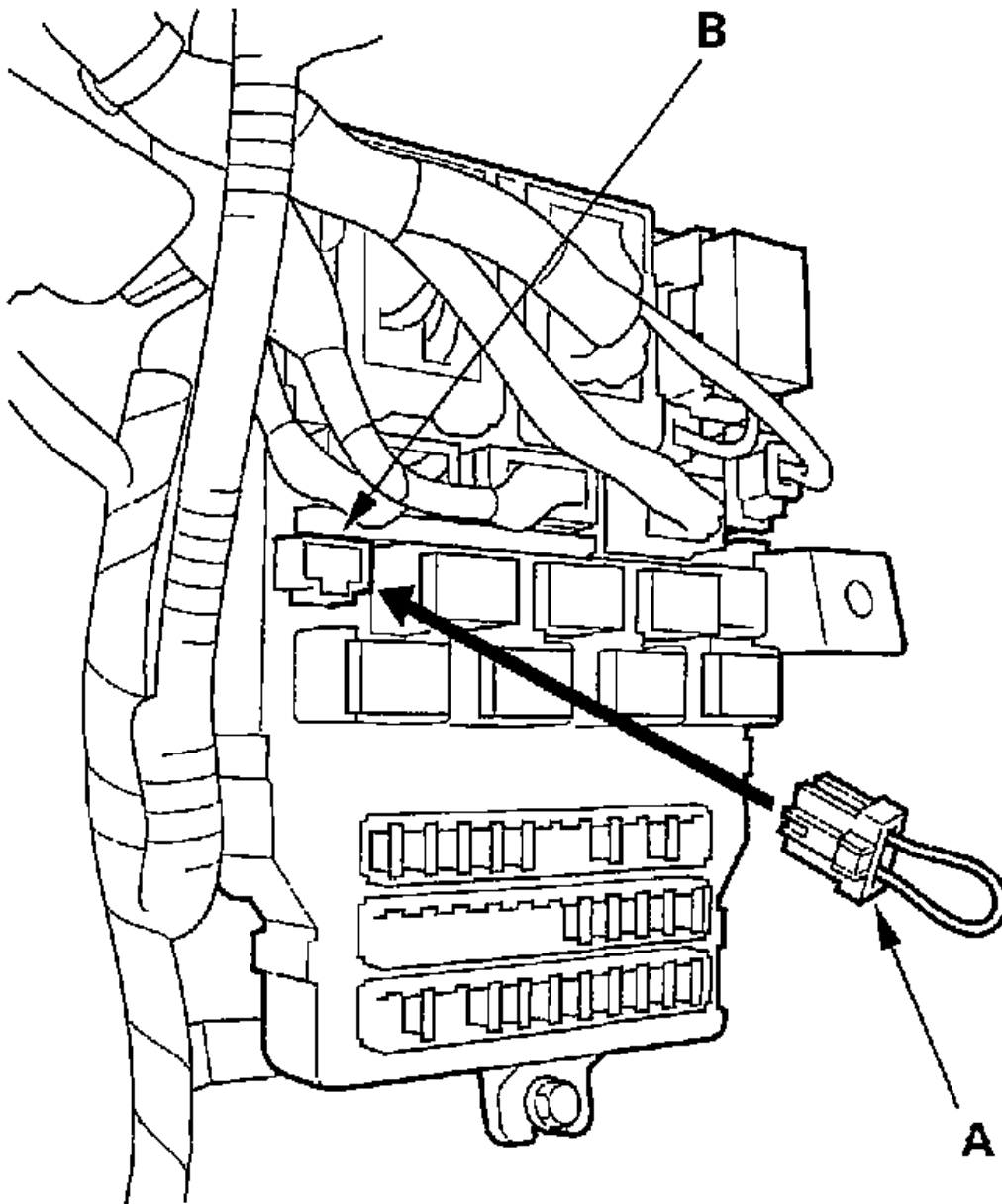
1. Check the No. 7 (10A) fuse and No. 21 (7.5A) fuse in the under-dash fuse/relay box.

Are the fuses OK?

YES: Go to step 2.

NO: Find and repair the cause of the blown fuse.

2. Remove the left kick panel (see **TRIM REMOVAL/INSTALLATION - DOOR AREA**).
3. Turn the ignition switch ON (II).
4. Connect the MPCS Service connector (A) to the MCIC socket (B) in the under-dash fuse/relay box.



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Fig. 15: Connecting The MPCS Service Connector To The MCIC Socket In The Under-Dash Fuse/Relay Box

5. Wait 5 seconds, then watch the ceiling light.
6. If there is a DTC, the ceiling light and ignition switch light will blink, pause, then repeat the DTC as long

as the ignition switch ON (II).

Is there a repeating DTC?

YES: Count the blinks, then go to step 7.

NO: Go to step 8 .

7. About 1 second after you go into self-diagnosis Mode 1, the ceiling light will indicate the DTC, and repeat it every 3 seconds. If there is more than one DTC, the system will indicate them in ascending order, beginning from the DTC with the lowest numerical value. Troubleshoot the DTCs as indicated below:
- **DTC 2, 3, 4 And 5 Simultaneously:** Check for an open in the BLU wire between multiplex integrated control unit D11 and relay module J7, BRN/RED wire between multiplex integrated control unit J4 and door multiplex control unit No. 16, LT GRN wire between multiplex integrated control unit X27 and combination switch control unit No. 4, BRN/YEL wire between multiplex integrated control unit N28 and gauge B25. If the wire is OK, substitute a known-good under-dash fuse/relay box (multiplex integrated control unit), under-hood fuse/relay box, power window master switch, wiper/washer switch and gauge one at a time, in that order, and recheck for the DTCs after each substitution.
 - **DTC 1 Only:** Go to MICU input test (see MULTIPLEX INTEGRATED CONTROL UNIT INPUT TEST).
 - **DTC 2 Only (No Other DTCs Present):** Go to the relay module input test. If all inputs are OK, substitute a known-good relay module and then a MICU, one at a time, and then check for DTCs. If a DTC recurs after a substitution, replace that unit.
 - **DTC 3 Only (No Other DTCs Present):** Go to the door multiplex control unit input test. If all inputs are OK, substitute a known-good door multiplex control unit and then a MICU, one at a time, and then check for DTCs. If a DTC recurs after a substitution, replace that unit.
 - **DTC 4 Only (No Other DTCs Present):** Go to the combination switch control unit input test. If all inputs are OK, substitute a known-good wiper/washer switch and then a MICU, one at a time, and then check for DTCs. If a DTC recurs after a substitution, replace that unit.
 - **DTC 5 Only (No Other DTCs Present):** Go to the gauge control module input test. If all inputs are OK, substitute a known-good gauge control module and then a MICU, one at a time, and then check for DTCs. If a DTC recurs after a substitution, replace that unit.

DTC	Cause
1	The MICU cannot receive signals from the bus communication line.
2	The MICU cannot receive signals from the relay module communication line.
3	The MICU cannot receive signals from the power window communication line.
4	The MICU cannot receive signal from the combination switch communication line.
5	The MICU cannot receive signals from the gauge control module.

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Fig. 16: DTC Table

8. Check for B-CAN DTCs indicated by the gauge control module while still in Test Mode 1.
Are any DTCs indicated?
YES: Go to step 9.
NO: Go to step 11 .
9. Record all DTCs and sort them by type using the DTC Troubleshooting Index.
10. Troubleshoot the DTCs in the following order:
 - Battery voltage DTCs
 - Internal error DTCs
 - Loss of communication DTCs (begin with the lowest number first; for example, if B1006 and B1059 are retrieved, troubleshoot B1006 first)
 - Signal error DTCs
11. Remove the MPCS service connector from the under-dash fuse/relay box socket for 5-10 seconds, then re-insert it.

NOTE: If the MPCS connector is disconnected for too short or too long of a time, or the ignition switch is turned OFF, the system will return to Test Mode 2.

12. In the table below is a list of 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 ceiling light will blink once. If the circuit is faulty, there will be no indication.

Does the ceiling light indicate proper switch operation?

YES: Go to function and input test for the system related to the failure.

NO: Repair the open, short, or replace the faulty switch.

Item
Driver's door switch (OPEN)
Front passenger's door switch (OPEN)
Left rear door switch (OPEN)
Right rear door switch (OPEN)
Trunk latch switch (OPEN)
Front passenger's door lock knob switch (UNLOCK)*
Left rear door lock knob switch (UNLOCK)
Right rear door lock knob switch (UNLOCK)*
Audio-HVAC display module security ground (disconnected)
Driver's seat belt switch (unbuckled)
Brake pedal position switch (ON; brake pedal pressed)
Passenger's door lock switch (LOCK/UNLOCK)

- * The front passenger's and right rear door lock knob switches must be in the locked position when beginning the test.

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Fig. 17: MICU Table

Item
Windshield wiper switch (AUTO STOP/PARK)
Hood switch (open)
A/C pressure switch (/thermal protector (A/C ON)

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Fig. 18: Relay Control Module Table

Item
Turn signal switch (LEFT)
Turn signal switch (RIGHT)
Combination light switch (ON; each position)
Dimmer switch (ON)
Passing switch (ON)
Windshield wiper switch (ON)
Intermittent wiper dwell timer
Windshield washer switch (ON)

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Fig. 19: Combination Switch Control Unit Table

Item
Power window master switch (Driver's Window UP)
Power window master switch (Driver's Window DOWN)
Power window master switch (Driver's Window AUTO UP)
Power window master switch (Driver's Window AUTO DOWN)
Power window master switch (Front Passenger's Window UP)
Power window master switch (Front Passenger's Window DOWN)
Power window master switch (Left Rear Window UP)
Power window master switch (Left Rear Window DOWN)
Power window master switch (Right Rear Window UP)
Power window master switch (Right Rear Window DOWN)
Driver's door key cylinder switch (LOCK)
Driver's door key cylinder switch (UNLOCK)
Driver's door lock switch (LOCK)
Driver's door lock switch (UNLOCK)
Driver's door lock knob switch (LOCK)
Driver's door lock knob switch (UNLOCK)

- * 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.

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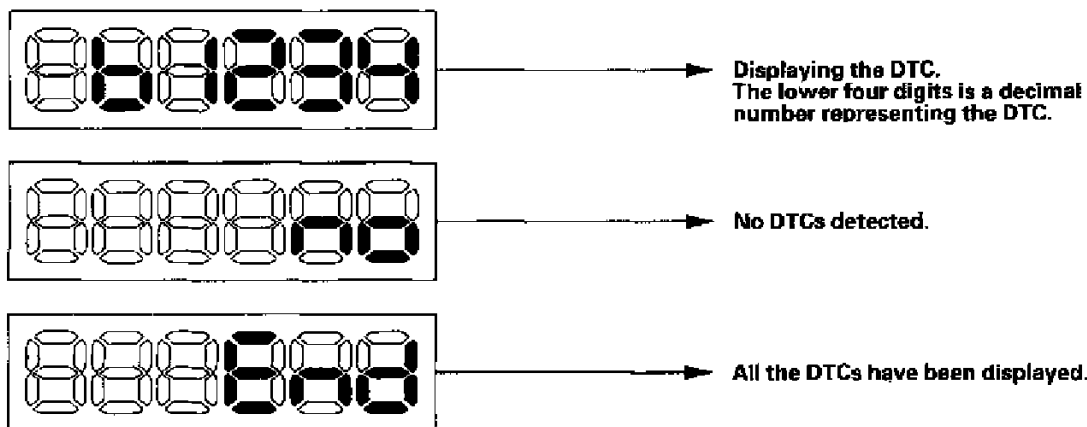
Fig. 20: Power Window Master Switch (Door Multiplex Control Unit) Table

Item
Parking brake switch (ON; parking brake applied)
Cruise control SET/RESUME/CANCEL switch (ON; switch pressed)
Transmission range switch (P, R, N, D)
Washer fluid level switch (Canada)
Brake fluid level switch (fluid removed)

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Fig. 21: Gauge Control Module Table**HOW TO DISPLAY DTC ON THE GAUGE CONTROL MODULE**

While in Test Mode 1, the DTCs which have been detected and stored individually by various B-CAN (Body-Controller Area Network) units, will be shown one by one on the ODO display when the communication between the Multiplex Integrated Control Unit (MICU) and the gauge control module is normal. To scroll through the DTCs, press the RESET knob on the gauge control module.



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Fig. 22: Displaying DTCs On The Gauge Control Module

MICU	10
Relay Control Module	11
Door Multiplex Control Unit	30
Gauge Control Module	50
Climate Control Module	51
Combination Switch Control Unit	70

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Fig. 23: Control Unit DTC Table**HOW TO CLEAR THE DTC**

1. While in Test Mode 1, press and hold down the RESET knob for more than 10 seconds.
2. The unit that has stored the code can be identified by the number shown on the trip display.

DTC TROUBLESHOOTING INDEX

DTC	Description	ECU	DTC type	Page
B1000	Communication circuit error (BUS Off)	MICU	Loss of Communication	(see page 22-102)
B1001	MICU Internal Error	MICU	Internal Error	(see page 22-103)
B1002	MICU Internal Error	MICU	Internal Error	(see page 22-103)
B1005	MICU lost communication with Relay Control Module	MICU	Loss of Communication	(see page 22-104)
B1006	MICU lost communication with Door Multiplex Control Unit (door lock switch message)	MICU	Loss of Communication	(see page 22-104)
B1007	MICU lost communication with Combination Switch Control Unit (headlight switch message)	MICU	Loss of Communication	(see page 22-105)
B1008	MICU lost communication with Gauge Control Module (A/T message)	MICU	Loss of Communication	(see page 22-105)
B1009	MICU lost communication with Combination Switch Control Module (wiper switch message)	MICU	Loss of Communication	(see page 22-106)
B1010	MICU lost communication with Door Multiplex Control Unit (panic message)	MICU	Loss of Communication	(see page 22-106)
B1026	Passenger's door lock switch malfunction	MICU	Signal Error	(see page 22-134)
B1050	Communication circuit error (BUS Off)	Relay Control Module	Loss of Communication	(see page 22-102)

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Fig. 24: DTC Troubleshooting Index (1 Of 6)

DTC	Description	ECU	DTC type	Page
B1055	Relay Control Module lost communication with MICU	Relay Control Module	Loss of Communication	(see page 22-62)
B1056	Relay Control Module lost communication with MICU (alarm message)	Relay Control Module	Loss of Communication	(see page 22-62)
B1057	Relay Control Module lost communication with MICU (door switch message)	Relay Control Module	Loss of Communication	(see page 22-62)
B1058	Relay Control Module lost communication with Door Multiplex Control Unit (door lock switch message)	Relay Control Module	Loss of Communication	(see page 22-62)
B1059	Relay Control Module lost communication with Door Multiplex Control Unit (panic message)	Relay Control Module	Loss of Communication	(see page 22-62)
B1060	Relay Control Module lost communication with Gauge Control Module (VSP/NE message)	Relay Control Module	Loss of Communication	(see page 22-62)
B1061	Relay Control Module lost communication with Gauge Control Module (A/T message)	Relay Control Module	Loss of Communication	(see page 22-62)
B1062	Relay Control Module lost communication with Combination Switch Control Module (headlight switch message)	Relay Control Module	Loss of Communication	(see page 22-62)
B1063	Relay Control Module lost communication with Combination Switch Control Module (wiper switch message)	Relay Control Module	Loss of Communication	(see page 22-62)

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Fig. 25: DTC Troubleshooting Index (2 Of 6)

DTC	Description	ECU	DTC type	Page
B1075	Headlight switch malfunction	Relay Control Module	Signal Error	(see page 22-155)
B1076	Windshield wiper signal error	Relay Control Module	Signal Error	(see page 22-206)
B1077	Wiper switch (As) malfunction	Relay Control Module	Signal Error	(see page 22-207)
B1078	Daytime running lights malfunction	Relay Control Module	Signal Error	(see page 22-156)
B1080	Power supply circuit (IG1 line) input error for Relay Control Module and MICU	Relay Control Module	Signal Error	(see page 22-108)
B1100	Communication circuit error (BUS Off)	Door Multiplex Control Unit	Loss of Communication	(see page 22-102)
B1102	Door Multiplex Control Unit Internal Error	Door Multiplex Control Unit	Internal Error	(see page 22-107)
B1125	Driver's power window motor A pulse malfunction	Door Multiplex Control Unit	Signal Error	(see page 22-202)
B1126	Driver's power window motor B pulse malfunction	Door Multiplex Control Unit	Signal Error	(see page 22-202)
B1127	Driver's door lock key cylinder switch malfunction	Door Multiplex Control Unit	Signal Error	(see page 22-135)
B1128	Driver's door lock switch malfunction	Door Multiplex Control Unit	Signal Error	(see page 22-136)
B1129	Driver's door knob switch malfunction	Door Multiplex Control Unit	Signal Error	(see page 22-137)
B1140	Driver's power window position detect circuit malfunction	Door Multiplex Control Unit	Signal Error	(see page 22-202)
B1150	Communication circuit error (BUS Off)	Gauge Control Module	Loss of Communication	(see page 22-102)
B1152	Gauge Control Module Internal Error	Gauge Control Module	Internal Error	(see page 22-230)
B1155	Gauge Control Module lost communication with Combination Switch Control Module (headlight switch message)	Gauge Control Module	Loss of Communication	(see page 22-231)
B1156	Gauge Control Module lost communication with Combination Switch Control Module (wiper switch message)	Gauge Control Module	Loss of Communication	(see page 22-231)

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Fig. 26: DTC Troubleshooting Index (3 Of 6)

DTC	Description	ECU	DTC type	Page
B1157	Gauge Control Module lost communication with MICU	Gauge Control Module	Loss of Communication	(see page 22-232)
B1158	Gauge Control Module lost communication with Relay Control Module	Gauge Control Module	Loss of Communication	(see page 22-232)
B1159	Gauge Control Module lost communication with MICU (door switch message)	Gauge Control Module	Loss of Communication	(see page 22-233)
B1160	Gauge Control Module lost communication with Door Multiplex Control Unit (door lock switch message)	Gauge Control Module	Loss of Communication	(see page 22-233)
B1168	Gauge Control Module lost communication with ECM/PCM (engine messages)	Gauge Control Module	Loss of Communication	(see page 22-107)
B1169	Gauge Control Module lost communication with PCM (A/T messages)	Gauge Control Module	Loss of Communication	(see page 22-107)
B1175	Fuel gauge sending unit signal malfunction	Gauge Control Module	Signal Error	(see page 22-234)
B1177	Abnormal battery voltage (7.5 V)	Gauge Control Module	Signal Error	(see page 22-235)
B1178	F-CAN communication circuit error	Gauge Control Module	Loss of Communication	(see page 22-107)
B1200	Communication circuit error (BUS Off)	Climate Control Unit	Loss of Communication	(see page 22-102)
B1202	Climate Control Unit Internal Error	Climate Control Unit	Internal Error	(see page 21-47)
B1205	Climate Control Unit lost communication with Gauge Control Module (VSP/NE message)	Climate Control Unit	Loss of Communication	(see page 21-48)
B1206	Climate Control Unit lost communication with Gauge Control Module (ENGTEMP message)	Climate Control Unit	Loss of Communication	(see page 21-48)
B1207	Climate Control Unit lost communication with Gauge Control Module (ILLUMI message)	Climate Control Unit	Loss of Communication	(see page 21-48)
B1225	Open in the in-car temperature sensor circuit	Climate Control Unit	Signal Error	(see page 21-26)
B1226	Short in the in-car temperature sensor circuit	Climate Control Unit	Signal Error	(see page 21-27)
B1227	Open in the outside air temperature sensor circuit	Climate Control Unit	Signal Error	(see page 21-28)

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Fig. 27: DTC Troubleshooting Index (4 Of 6)

DTC	Description	ECU	DTC type	Page
B1228	Short in the outside air temperature sensor circuit	Climate Control Unit	Signal Error	(see page 21-29)
B1229	Open in the sunlight sensor circuit	Climate Control Unit	Signal Error	(see page 21-30)
B1230	Short in the sunlight sensor circuit	Climate Control Unit	Signal Error	(see page 21-32)
B1231	Open in the evaporator temperature sensor circuit	Climate Control Unit	Signal Error	(see page 21-33)
B1232	Short in the evaporator temperature sensor circuit	Climate Control Unit	Signal Error	(see page 21-34)
B1233	Open in the driver's air mix control motor circuit	Climate Control Unit	Signal Error	(see page 21-35)
B1234	Short in the driver's air mix control motor circuit	Climate Control Unit	Signal Error	(see page 21-36)
B1235	Problem in the driver's air mix control linkage, door, or motor	Climate Control Unit	Signal Error	(see page 21-38)
B1236	Open in the passenger's air mix control motor circuit	Climate Control Unit	Signal Error	(see page 21-45)
B1237	Short in the passenger's air mix control motor circuit	Climate Control Unit	Signal Error	(see page 21-46)
B1238	Problem in the passenger's air mix control linkage, door, or motor	Climate Control Unit	Signal Error	(see page 21-47)
B1239	Open or short in the mode control motor circuit	Climate Control Unit	Signal Error	(see page 21-38)
B1240	Problem in the mode control linkage, doors, or motor	Climate Control Unit	Signal Error	(see page 21-40)
B1241	Problem in the blower motor circuit	Climate Control Unit	Signal Error	(see page 21-41)
B1250	Communication circuit error (BUS Off)	Combination Switch Control Unit	Loss of Communication	(see page 22-102)
B1251	Combination Switch Control Unit internal error	Combination Switch Control Unit	Internal Error	(see page 22-109)
B1255	Combination Switch Control Unit lost communication with MICU	Combination Switch Control Unit	Loss of Communication	(see page 22-109)

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Fig. 28: DTC Troubleshooting Index (5 Of 6)

DTC	Description	ECU	DTC type	Page
B1275	Headlight switch OFF position circuit malfunction	Combination Switch Control Unit	Signal Error	(see page 22-158)
B1276	Headlight switch SMALL position circuit malfunction	Combination Switch Control Unit	Signal Error	(see page 22-158)
B1277	Headlight switch AUTO position circuit malfunction	Combination Switch Control Unit	Signal Error	(see page 22-158)
B1278	Headlight switch ON position circuit malfunction	Combination Switch Control Unit	Signal Error	(see page 22-158)
B1279	Dimmer switch circuit malfunction	Combination Switch Control Unit	Signal Error	(see page 22-159)
B1280	Turn signal switch circuit malfunction	Combination Switch Control Unit	Signal Error	(see page 22-160)
B1281	Windshield wiper switch MIST position circuit malfunction	Combination Switch Control Unit	Signal Error	(see page 22-210)
B1282	Windshield wiper switch INT (AUTO) position circuit malfunction	Combination Switch Control Unit	Signal Error	(see page 22-210)
B1283	Windshield wiper switch LOW position circuit malfunction	Combination Switch Control Unit	Signal Error	(see page 22-210)
B1284	Windshield wiper switch HIGH position circuit malfunction	Combination Switch Control Unit	Signal Error	(see page 22-210)

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Fig. 29: DTC Troubleshooting Index (6 Of 6)

DESCRIPTION

HDS INPUTS & COMMANDS

System Menu	Data List	Data List Indication
Wiper	Brake Pedal Position	Brake pedal pushed: ON Brake pedal released: OFF
	Windshield Wiper Park Switch (AUTO STOP/PARK)	Wipers in park position: ON Wipers in other position: OFF
	Windshield Wiper Switch (BACK-UP)	Wiper switch in HI position: ON Wiper switch in other position: OFF
	Windshield Wiper Switch (INTERMITTENT)	Wiper switch in INT position: ON Wiper switch in other position: OFF
	Windshield Wiper Switch (LOW)	Wiper switch in LOW position: ON Wiper switch in other position: OFF
	Windshield Wiper Switch (HIGH)	Wiper switch in HI position: ON Wiper switch in other position: OFF
	Windshield Wiper Switch (MIST)	Wiper switch in MIST position: ON Wiper switch in other position: OFF
	Windshield Washer Switch	Washer switch on: ON Washer switch off: OFF
	Windshield Wiper Motor HI Command	Wiper high speed command on: ON Wiper high speed command off: OFF
	Windshield Wiper Motor Lo Command	Wiper low speed command on: ON Wiper high low command off: OFF
	Windshield Washer Motor Command	Washer command on: ON Washer command off: OFF
	Intermittent Wiper Dwell Timer	Switch at short setting: 0.0 Switch at long setting: 25
Power window	Driver's Door Switch	Door open: ON Door closed: OFF
	Front Passenger's Door Switch	Door open: ON Door closed: OFF
	P/W Main Switch	On: ON Off: OFF
	P/W Master Switch (Driver's window AUTO)	Auto position: ON Neutral position: OFF
	P/W Master Switch (Driver's window UP)	Up position: ON Neutral position: OFF
	P/W Master Switch (Driver's window DOWN)	Down position: ON Neutral position: OFF
	P/W Master SW. (Front Psngr's Wndw UP)	Up position: ON Neutral position: OFF
	P/W Master SW. (Front Psngr's Wndw DOWN)	Down position: ON Neutral position: OFF
	P/W Master Switch (Left Rear window UP)	UP position: ON Neutral position: OFF
	P/W Master Switch (Left Rear window DOWN)	Down position: ON Neutral position: OFF
	P/W Master Switch (Right Rear Wndw UP)	UP position: ON Neutral position: OFF
	P/W Master SW. (Right Rear Wndw DOWN)	Down position: ON Neutral position: OFF
	Driver's P/W Motor Pulse A	Window in motion: EXIST Window stopped: N/A
	Driver's P/W Motor Pulse B	Window in motion: EXIST Window stopped: N/A
	Driver's P/W Motor Command	OFF/UP/DOWN
	Front Passenger's P/W Motor Command	OFF/UP/DOWN
	Left Rear P/W Motor Command	OFF/UP/DOWN
	Right Rear P/W Motor Command	OFF/UP/DOWN
	P/W Relay Command	On command: ON Off command: OFF
	Moonroof Timer Command	Enabled: ON Disabled: OFF

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Fig. 30: HDS Inputs & Commands Table (1 Of 8)

2004 Acura TSX

2004 ACCESSORIES & EQUIPMENT Multiplex Integrated Control System - TSX

System Menu	Data List	Data List Indication
Lighting	Driver's Door Switch	Door open: ON Door closed: OFF
	Ignition Switch (IG1)	Ignition ON (II): ON Other positions: OFF
	Horn Command	Horn on command: ON Horn off command: OFF
	Headlight Switch (OFF)	In off position: ON In other positions: OFF
	Headlight Switch (Parking)	In park light position: ON In other positions: OFF
	Headlight Switch (HEADLIGHT)	In headlight position: ON In other position: OFF
	Headlight Switch (BACK-UP)	In headlight position: ON In headlight position: OFF
	Headlight Switch (DIMMER)	In hi-beam position: ON In low-beam position: OFF
	Headlight Switch (PASSING)	Passing switch on: ON Passing switch off: OFF
	Turn Signal Switch (LEFT)	In left position: ON Neutral position: OFF
	Turn Signal Switch (RIGHT)	In right position: ON Neutral position: OFF
	DRL Signal (Canada)	
	Ignition Key Cylinder Light Command	Light on command: ON Light off command: OFF
	Interior Light Command	Light on command: ON Light off command: OFF
	Foot Light Command	Light on command: ON Light off command: OFF
	Left Turn Signal Command	Light on command: ON Light off command: OFF
	Right Turn Signal Command	Light on command: ON Light off command: OFF
	Hazard Signal Command	Hazard on command: ON Hazard off command: OFF
	DRL Relay command (Canada)	Relay on command: ON Relay off command: OFF
	Headlight Command	Light on command: ON Light off command: OFF
	Headlight High Beam Command	Light on command: ON Light off command: OFF
	Parking Light Command	Light on command: ON Light off command: OFF
	Fog Light Command	Light on command: ON Light off command: OFF
	Rear Defroster Command	Defroster on command: ON Defroster off command: OFF
	DRL Command (Canada)	DRL on command: ON DRL off command: OFF

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Fig. 31: HDS Inputs & Commands Table (2 Of 8)

2004 Acura TSX

2004 ACCESSORIES & EQUIPMENT Multiplex Integrated Control System - TSX

System Menu	Data List	Data List Indication
Gauge	Driver's Door Switch	Door open: ON Door Closed: OFF
	Front Passenger's Door Switch	Door open: ON Door Closed: OFF
	Left Rear Door Switch	Door open: ON Door Closed: OFF
	Right Rear Door Switch	Door open: ON Door Closed: OFF
	Trunk Lid/Tailgate Switch	Trunk open: ON Trunk Closed: OFF
	Trunk Lid Release Command	Release command: ON Other: OFF
	Headlight Switch (OFF)	In off position: ON In other positions: OFF
	Headlight Switch (Parking)	In park light position: ON In other positions: OFF
	Headlight Switch (HEADLIGHT)	In headlight position: ON In other positions: OFF
	Headlight Switch (DIMMER)	In hi-beam position: ON In low-beam position: OFF
	Headlight Switch (PASSING)	Passing switch on: ON Passing switch off: OFF
	Turn Signal Switch (LEFT)	In left position: ON Neutral position: OFF
	Turn Signal Switch (RIGHT)	In right position: ON Neutral position: OFF
	DRL Signal (Canada)	
	Left Turn Signal Command	Light on command: ON Light off command: OFF
	Right Turn Signal Command	Light on command: ON Light off command: OFF
	Hazard Signal Command	Hazard on command: ON Hazard off command: OFF
	Headlight Command	Light on command: ON Light off command: OFF
	Headlight High Beam Command	Light on command: ON Light off command: OFF
	Parking Light Command	Light on command: ON Light off command: OFF
	Fog Light Command	Light on command: ON Light off command: OFF
	Brake Pedal Position Switch	Brake pedal pushed: ON Brake pedal released: OFF

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Fig. 32: HDS Inputs & Commands Table (3 Of 8)

System Menu	Data List	Data List Indication
Gauge	Ignition Key Cylinder Switch	Key in ignition: ON Key out of ignition: OFF
	Driver's Seat Belt Buckle Switch	Unbuckled: ON Buckled: OFF
	A/T Gear Position Switch (R)	Shifter in reverse position: ON Shifter in other position: OFF
	Cruise Control Main Switch Input	Cruise main switch on: ON Cruise main switch off: OFF
	Engine Oil Pressure Switch	Engine off (low pressure): ON Engine running: OFF
	Washer Fluid Level Switch (Canada)	Fluid level low: ON Fluid level normal: OFF
	Gauge Select/Reset Switch	Reset button pushed: ON Reset button released: OFF
	Parking Brake Switch	Park brake lever pulled: ON Park brake lever released: OFF
	Brake Fluid Level Switch	Fluid level low: ON Fluid level normal: OFF
	Fuel Sending Unit Input 1	Fuel tank empty: 4V Fuel tank half full: 2.5V Fuel tank full: 1V
	Fuel Sending Unit Input 2	Fuel tank empty: 5" Fuel tank half full: 50" Fuel tank full: 100"
	ABS Indicator	Indicator command on: ON Indicator command off: OFF
	EBD (Brake Light) Indicator	Indicator command on: ON Indicator command off: OFF
	MIL Indicator	Indicator command on: ON Indicator command off: OFF
	Washer Fluid Level Indicator (Canada)	Indicator command on: ON Indicator command off: OFF
	DRL Indicator (Canada)	Indicator command on: ON Indicator command off: OFF
	Low Oil Pressure Indicator	Indicator command on: ON Indicator command off: OFF
	Charge System Indicator	Indicator command on: ON Indicator command off: OFF
	Cruise Main Switch ON Indicator	Indicator command on: ON Indicator command off: OFF
	Maintenance Required Indicator	Indicator command on: ON Indicator command off: OFF
	High Beam Indicator	Indicator command on: ON Indicator command off: OFF
	Parking Light ON Indicator	Indicator command on: ON Indicator command off: OFF
	Low Fuel Warning Indicator	Indicator command on: ON Indicator command off: OFF
	Security Indicator	Indicator command on: ON Indicator command off: OFF
	Fuel gauge Needle Command	Fuel tank empty: 4V Fuel tank half full: 2.5V Fuel tank full: 1V

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Fig. 33: HDS Inputs & Commands Table (4 Of 8)

2004 Acura TSX

2004 ACCESSORIES & EQUIPMENT Multiplex Integrated Control System - TSX

System Menu	Data List	Data List Indication
Door lock	Driver's Door Switch	Door open: ON Door closed: OFF
	Front Passenger's Door Switch	Door open: ON Door closed: OFF
	Left Rear Door Switch	Door open: ON Door closed: OFF
	Right Rear Door Switch	Door open: ON Door closed: OFF
	Driver's Door Lock Switch (LOCK)	Switch pushed: ON Switch released: OFF
	Driver's Door Lock Switch (UNLOCK)	Switch pushed: ON Switch released: OFF
	Front Psngr's Door Lock Switch (LOCK)	Switch pushed: ON Switch released: OFF
	Front Psngr's Door Lock Switch (UNLOCK)	Switch pushed: ON Switch released: OFF
	Driver's Door Lock Knob Switch (LOCK)	Knob up: ON Knob down: OFF
	Driver's Door Lock Knob Switch (UNLOCK)	Knob up: ON Knob down: OFF
	Front Psngr's Door Lock Knob Sw. (LOCK)	Knob up: ON Knob down: OFF
	Front Psngr's Door Lock Knob Sw. (UNLOCK)	Knob up: ON Knob down: OFF
	Left Rear Door Lock Knob Switch (UNLOCK)	Knob up: ON Knob down: OFF
	Right Rear Door Lock Knob Switch (UNLOCK)	Knob up: ON Knob up: OFF
	Driver's Door Key Cylinder Switch (LOCK)	Key turned to lock: ON Neutral position: OFF
	Driver's Door Key Cylinder Switch (UNLOCK)	Key turned to unlock: ON Neutral position: OFF
	Door LOCK Command	Lock command: ON Other: OFF
	Door UNLOCK Command	Unlock command: ON Other: OFF
	Driver's Door UNLOCK Command	Unlock command: ON Other: OFF
Climate control	Air Pressure Switch/Thermal Protector	A/C on: ON

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Fig. 34: HDS Inputs & Commands Table (5 Of 8)

2004 Acura TSX

2004 ACCESSORIES & EQUIPMENT Multiplex Integrated Control System - TSX

System Menu	Data List	Data List Indication
Keyless	Driver's Door Switch	Door open: ON Door Closed: OFF
	Front Passenger's Door Switch	Door open: ON Door Closed: OFF
	Left Rear Door Switch	Door open: ON Door Closed: OFF
	Right Rear Door Switch	Door open: ON Door Closed: OFF
	Trunk Lid/Tailgate Switch	Trunk open: ON Trunk closed: OFF
	Driver's Door Lock Switch (LOCK)	Switch pushed: ON Switch released: OFF
	Driver's Door Lock Switch (UNLOCK)	Switch pushed: ON Switch released: OFF
	Front Passenger's Door Lock Sw. (LOCK)	Switch pushed: ON Switch released: OFF
	Front Passenger's Door Lock Sw. (UNLOCK)	Switch pushed: ON Switch released: OFF
	Driver's Door Lock Knob Switch (LOCK)	Knob up: ON Knob down: OFF
	Driver's Door Lock Knob Switch (UNLOCK)	Knob up: ON Knob down: OFF
	Front Passenger's Door Lock Knob Switch (LOCK)	Knob up: ON Knob down: OFF
	Front Passenger's Door Lock Knob Switch (UNLOCK)	Knob up: ON Knob down: OFF
	Left Rear Door Lock Knob Switch (UNLOCK)	Knob up: ON Knob down: OFF
	Right Rear Door Lock Knob Switch (UNLOCK)	Knob up: ON Knob down: OFF
	Driver's Door Key Cylinder Switch (LOCK)	Key turned to lock: ON Neutral position: OFF
	Driver's Door Key Cylinder Switch (UNLOCK)	Key turned to lock: ON Neutral position: OFF
	Ignition Switch (IG1)	Ignition ON (II): ON Other positions: OFF
	Door LOCK Command	Lock command: ON Other: OFF
	Door UNLOCK Command	Unlock command: ON Other: OFF
	Driver's Door UNLOCK Command	Unlock command: ON Other: OFF
	Trunk Lid/Tailgate Release Command	Release command: ON Other: OFF

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Fig. 35: HDS Inputs & Commands Table (6 Of 8)

2004 Acura TSX

2004 ACCESSORIES & EQUIPMENT Multiplex Integrated Control System - TSX

System Menu	Data List	Data List Indication
Security	Driver's Door Switch	Door open: ON Door closed: OFF
	Front Passenger's Door Switch	Door open: ON Door closed: OFF
	Left Rear Door Switch	Door open: ON Door closed: OFF
	Right Rear Door Switch	Door open: ON Door closed: OFF
	Trunk Lid/Tailgate Switch	Trunk open: ON Trunk closed: OFF
	Hood Switch	Hood open: ON Hood closed: OFF
	Driver's Door Lock Switch (LOCK)	Switch pushed: ON Switch released: OFF
	Driver's Door Lock Switch (UNLOCK)	Switch pushed: ON Switch released: OFF
	Front Psngr's Door Lock Sw. (LOCK)	Switch pushed: ON Switch released: OFF
	Front Psngr's Door Lock Sw. (UNLOCK)	Switch pushed: ON Switch released: OFF
	Driver's Door Lock Knob Switch (LOCK)	Knob up: ON Knob down: OFF
	Driver's Door Lock Knob Switch (UNLOCK)	Knob up: ON Knob down: OFF
	Front Psngr's Lock Knob Sw. (LOCK)	Knob up: ON Knob down: OFF
	Front Psngr's Lock Knob Sw. (UNLOCK)	Knob up: ON Knob down: OFF
	Left Rear Door Lock Knob Switch (UNLOCK)	Knob up: ON Knob down: OFF
	Right Rear Door Lock Knob Switch (UNLOCK)	Knob up: ON Knob down: OFF
	Ignition Switch (IG1)	Ignition ON (II): ON Other position: OFF
	Horn Command	Horn on command: ON Horn off command: OFF
	Door LOCK Command	Lock command: ON Other: OFF
	Door UNLOCK Command	Unlock command: ON Other: OFF
	Driver's Door UNLOCK Command	Unlock command: ON Other: OFF
	Trunk Lid/Tailgate Release Command	Release command: ON Other: OFF
	Headlight Command	Light on command: ON Light off command: OFF
	Headlight High Beam Command	Light on command: ON Light off command: OFF
	Parking Light Command	Light on command: ON Light off command: OFF

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Fig. 36: HDS Inputs & Commands Table (7 Of 8)

System	Description	Data List
Gauge	Speedometer displays value inputted	Speedometer
	Tachometer displays value inputted	Tachometer
	Fuel gauge displays value inputted	Fuel Level Gauge
	Temperature gauge displays value inputted	Engine Temperature Gauge
	Turns ABS indicator on/off	ABS Indicator
	Turns BRAKE indicator on/off	EBD Indicator
	Turns MIL on/off	MIL Status
	Turns washer level indicator on/off	Windshield Washer Fluid Level Indicator (Canada)
	Turns DRL indicator on/off	Daytime Running Lights Indicator (Canada)
	Turns Low oil pressure indicator on/off	Engine Oil Pressure Indicator
	Turns charging system indicator on/off	Charging System Indicator
	Turns cruise main switch indicator on/off	Cruise Control Main Switch Indicator
	Turns maintenance required indicator on/off	Maintenance Required Indicator
	Turns high beam indicator on/off	High Beam Indicator
	Turns light on indicator on/off	Lights On Indicator
	Turns low fuel indicator on/off	Low Fuel Indicator
	Turns security indicator on/off	Security Indicator
	Displays inputted value	Trip Meter
	Turns A/T P position indicator on/off	A/T Gear Position Indicator (P)
	Turns A/T R position indicator on/off	A/T Gear Position Indicator (R)
	Turns A/T N position indicator on/off	A/T Gear Position Indicator (N)
	Turns A/T D position indicator on/off	A/T Gear Position Indicator (D)
	Turns A/T D3 position indicator on/off	A/T Gear Position Indicator (D3)
	Turns A/T 2 position indicator on/off	A/T Gear Position Indicator (2)
	Turns A/T 1 position indicator on/off	A/T Gear Position Indicator (1)
	Turns VSA indicator on/off	VSA Indicator
	Turns VSA activation indicator on/off	VSA Activation Indicator
	Controls gauge illumination brightness to inputted value	Illumination Brightness Control
	Turns key chime on/off	Key Chime
	Turns headlight chime on/off	Headlight Chime
	Turns seatbelt chime on/off	Seatbelt Reminder Chime
Lighting	Turns ignition key cylinder light on/off	Ignition Key Cylinder Light Command
	Turns interior light(s) on/off	Interior Light Command
	Turns foot light on/off	Foot Light Command
	Turns left signal light on/off	Left Turn Signal Command
	Turns right turn signal light on/off	Right Signal Command
	Turns hazard lights on/off	Hazard Signal Command
	Turns DRL relay on/off	Daytime Running Lights Relay Command (Canada)
	Turns headlights on/off	Headlight Command
	Turns high beams on/off	Headlight High Beam Command
	Turns parking lights on/off	Parking Lights Command
	Controls DRL functions on command	Daytime Running Lights Signal (Canada)
Door lock	Controls lock and unlock functions on command	Door LOCK Command
Keyless	Turns trunk release actuator on/off	Trunk Lid/Tailgate Release Command
Climate control	Turns rear defroster on/off	Rear Defroster
Power window	Runs driver's window up	Driver's Window Up
	Runs driver's window down	Driver's Window Down
	Runs passenger's window up	Front Passenger's Window Up
	Runs passenger's window down	Front Passenger's Window Down
	Runs left rear window up	Left Rear Window Up
	Runs left rear window down	Left Rear Window Down
	Runs right rear window up	Right Rear Window Up
	Runs right rear window down	Right Rear Window Down
	Turns power window relay on/off	Power Window Relay Command
Wiper	Turns wiper low speed on/off	Windshield Wiper Motor Low Command
	Turns wiper high speed on/off	Windshield Wiper Motor High Command
	Turns washer on/off	Windshield Washer Command
	Turns wiper intermittent function on/off	Intermittent Wiper Dwell Timer
Security	Turns horns on/off	Horn Command
Climate control	Initiates climate control self test function	Climate Control Self Test (INSPECTION MENU)

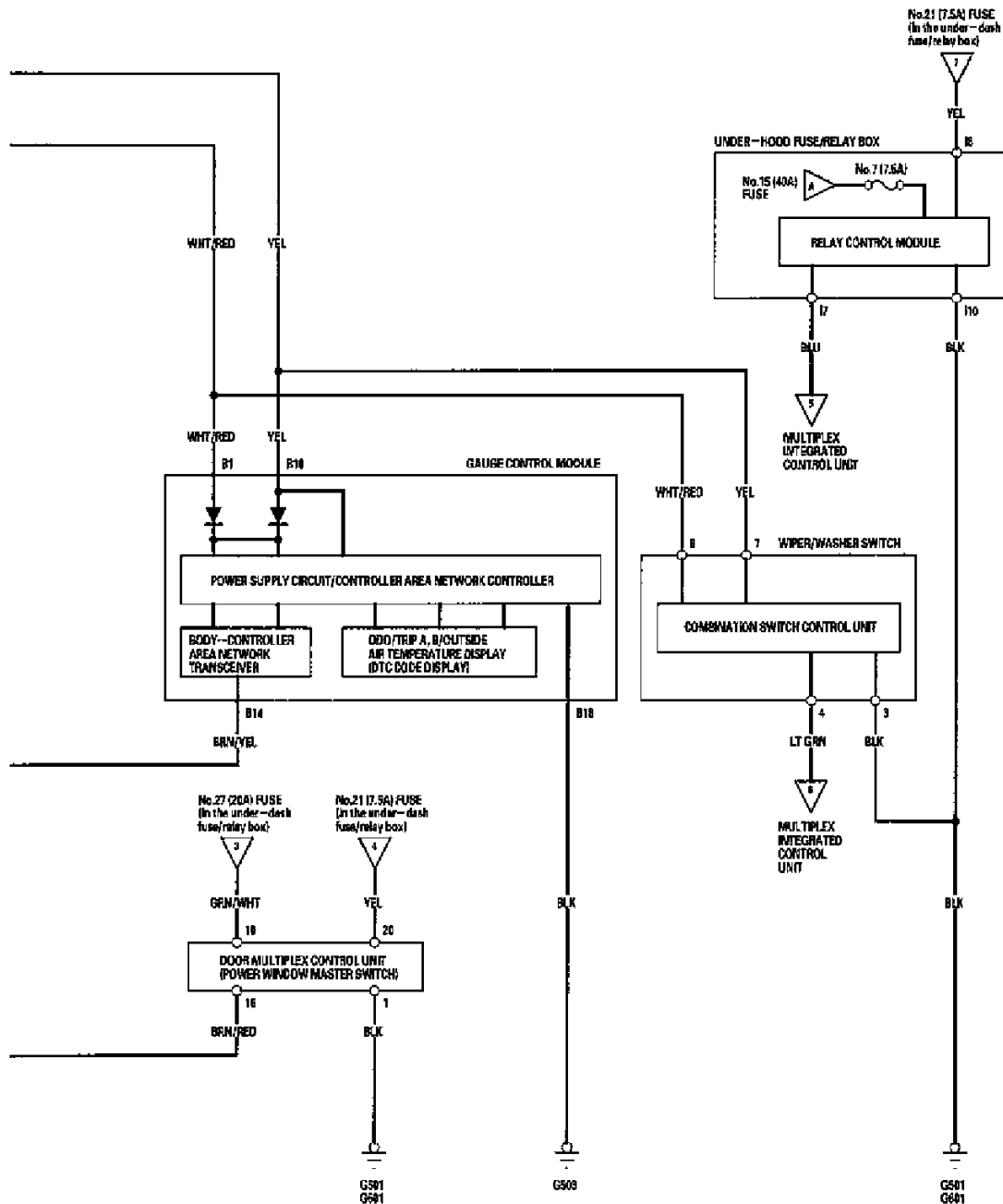
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Fig. 37: HDS Inputs & Commands Table (8 Of 8)

CIRCUIT DIAGRAM



Fig. 38: Multiplex Integrated Control System Wiring Diagram (1 Of 2)



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Fig. 39: Multiplex Integrated Control System Wiring Diagram (2 Of 2)

DTC TROUBLESHOOTING

DTC B1000: COMMUNICATION BUS LINE ERROR

1. Clear the DTCs using the HDS.
2. Cycle the ignition switch to OFF and then back ON.

3. Check for DTCs using the HDS.

Is DTC B1000 indicated?

YES: Go to step 4.

NO: Intermittent failure. The communication bus line is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition and the charging system. See **GENERATORS & REGULATORS** .

4. Check for DTCs using the HDS.

Are DTC B1005, B1006, B1007, B1008, B1009 and B1010 indicated?

YES: Go to step 5.

NO: Replace the MICU.

5. Disconnect each control unit one at a time. Clear the DTC, then recheck for DTCs after each unit is disconnected.

- Gauge control module
- Relay control module
- Driver's multiplex control unit
- Climate control unit
- Combination switch control unit

Is DTC B1000 indicated with each unit disconnected?

YES: Check for a short to power or ground in the communication circuit by disconnecting the harness at each control unit and testing for continuity to ground or short to power. Repair or replace the harness as necessary.

NO: Replace the control unit that was disconnected, and did not set DTC B1000.

DTC B1050, B1100, B1150, B1200, B1250: COMMUNICATION BUS LINE ERROR

1. Clear the DTCs using the HDS.
2. Cycle the ignition switch to OFF and then back ON.
3. Check for DTCs using the HDS.

Are DTC(s) B1050, B1100, B1150, B1200 or B1250 indicated?

YES: Go to step 4.

NO: Intermittent failure, the system is OK at this time.

B1050	Relay Control Module
B1100	Door Multiplex Control Unit
B1150	Gauge Control Module
B1200	Audio-HVAC-Display Module
B1250	Combination Switch Control Unit

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Fig. 40: DTC Table

4. Check for DTCs using the HDS.

Is DTC(s) B1000 indicated?**YES:** Troubleshoot DTC B1000.

NO: If DTC B1050 is indicated, replace the relay control module. If DTC B1100 is indicated, replace the door multiplex control unit. If DTC B1150 is indicated, replace the gauge control module (see **GAUGE CONTROL MODULE REPLACEMENT**). If DTC B1200 is indicated, replace the climate control unit. If DTC B1250 is indicated, replace the combination switch control unit.

DTC B1001, B1002: MULTIPLEX INTEGRATED CONTROL UNIT (MICU) INTERNAL ERROR

1. Clear the DTCs using the HDS.
2. Cycle the ignition switch to OFF and then back ON.
3. Operate the door lock (LOCK/UNLOCK).
4. Check for DTCs using the HDS.

Is DTC B1001 or B1002 indicated?**YES:** Faulty MICU; replace the under-dash fuse/relay box.

NO: Intermittent failure, the MICU is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition and the charging system. See **GENERATORS & REGULATORS**.

DTC B1005: MICU LOST COMMUNICATION WITH RELAY CONTROL MODULE

1. Clear the DTCs using the HDS.
2. Cycle the ignition switch to OFF and then back ON.
3. Check for DTCs using the HDS.

Is DTC B1005 indicated?**YES:** Go to step 4.

NO: Intermittent failure, the relay module is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition and the charging system. See **GENERATORS & REGULATORS** .

4. Check for DTCs in the gauge control module using the HDS.

Is DTC B1158 indicated?

YES: Go to Relay Control Module Input Test (see **RELAY CONTROL MODULE INPUT TEST**).

NO: Check for an open, or a short to power or ground in the communication circuit between the MICU and the relay control module. If the circuit is OK, replace the MICU. If the circuit is bad, repair the open, or short to power or ground.

DTC B1006: MICU LOST COMMUNICATION WITH DOOR MULTIPLEX CONTROL UNIT DOOR LOCK SWITCH MESSAGE

1. Clear the DTCs using the HDS.
2. Cycle the ignition switch to OFF and then back ON.
3. Check for DTCs using the HDS.

Is DTC B1006 indicated?

YES: Go to step 2.

NO: Intermittent failure, the door multiplex control unit is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition and the charging system. See **GENERATORS & REGULATORS** .

4. Check for DTCs in the gauge control module and relay module using the HDS.

Is DTC B1160 and B1058 indicated?

YES: Go to Door Multiplex Control Unit Input Test (see **DOOR MULTIPLEX CONTROL UNIT INPUT TEST**).

NO: Check for an open, or a short to power or ground in the communication circuit between the MICU and the door multiplex control unit. If the circuit is OK, replace the MICU. If the circuit is bad, repair the open, or short to power or ground.

DTC B1007: MICU LOST COMMUNICATION WITH THE COMBINATION SWITCH CONTROL UNIT (HEADLIGHT SWITCH MESSAGE)

1. Clear the DTCs using the HDS.
2. Cycle the ignition switch to OFF and then back ON.
3. Check for DTCs using the HDS.

Is DTC B1007 indicated?

YES: Go to step 4.

NO: Intermittent failure, the MICU is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition and the charging system. See **GENERATORS & REGULATORS** .

4. Check for DTCs of the gauge control module and relay control module using the HDS.

Is DTC B1155 and B1062 indicated?

YES: Go to the Combination Switch Control Unit Input Test (see **COMBINATION SWITCH CONTROL UNIT INPUT TEST**).

NO: Check for an open, or a short to power or ground in the communication circuit between the MICU and the combination switch control unit. If the circuit is OK, replace the MICU. If the circuit is bad, repair the open, or short to power or ground.

DTC B1008: MICU LOST COMMUNICATION (A/T MESSAGE) WITH THE GAUGE CONTROL MODULE

1. Clear the DTCs using the HDS.
2. Cycle the ignition switch to OFF and then back ON.
3. Check for DTCs using the HDS.

Is DTC B1008 indicated?

YES: Go to step 4.

NO: Intermittent failure, the gauge control module is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition and the charging system. See **GENERATORS & REGULATORS** .

4. Check for DTCs in the relay control module using the HDS.

Is DTC B1161 indicated?

YES: Go to the Gauge Control Module Input Test (see **GAUGE CONTROL MODULE INPUT TEST**).

NO: Check for an open, or a short to power or ground in the communication circuit between the MICU and the gauge control module. If the circuit is OK, replace the MICU. If the circuit is bad, repair the open, or short to power or ground.

DTC B1009: MICU LOST COMMUNICATION WITH THE COMBINATION SWITCH CONTROL UNIT (WIPER/WASHER SWITCH MESSAGE)

1. Clear the DTCs using the HDS.
2. Cycle the ignition switch to OFF and then back ON.
3. Check for DTCs using the HDS.

Is DTC B1009 indicated?

YES: Go to step 4.

NO: Intermittent failure, the combination switch control unit is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition and the charging system. See **GENERATORS & REGULATORS** .

4. Check for DTCs of the gauge control module and relay control module using the HDS.

Is DTC B1156 and B1063 indicated?

YES: Go to the Combination Switch Control Unit Input Test (see **COMBINATION SWITCH CONTROL UNIT INPUT TEST**).

NO: Check for an open, or a short to power or ground in the communication circuit between

the MICU and the combination switch control unit. If the circuit is OK, replace the MICU. If the circuit is bad, repair the open, or short to power or ground.

DTC B1010: MICU LOST COMMUNICATION (PANIC MESSAGE) WITH THE DOOR MULTIPLEX CONTROL UNIT

1. Clear the DTCs using the HDS.
2. Cycle the ignition switch to OFF and then back ON.
3. Check for DTCs using the HDS.

Is DTC B1010 indicated?

YES: Go to step 4.

NO: Intermittent failure, the door multiplex control unit is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition and the charging system. See **GENERATORS & REGULATORS** .

4. Check for DTCs of the relay control module using the HDS.

Is DTC B1059 indicated?

YES: Go to the Door Multiplex Control Unit Input Test (see **DOOR MULTIPLEX CONTROL UNIT INPUT TEST**).

NO: Check for an open, or a short to power or ground in the communication circuit between the MICU and the door multiplex control unit. If the circuit is OK, replace the MICU. If the circuit is bad, repair the open, or short to power or ground.

DTC B1102: DOOR MULTIPLEX CONTROL UNIT INTERNAL ERROR

1. Clear the DTCs using the HDS.
2. Cycle the ignition switch to OFF and then back ON.
3. Operate the power window (UP/DOWN).
4. Check for DTCs using the HDS.

Is DTC B1102 indicated?

YES: Faulty door multiplex control unit; replace the power window master switch.

NO: Intermittent failure, the door multiplex control unit is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition and the charging system. See **GENERATORS & REGULATORS** .

DTC B1178: F-CAN COMMUNICATION LINE ERROR; DTC B1168: GAUGE CONTROL MODULE LOST COMMUNICATION WITH ECM/PCM (ENGINE MESSAGES); DTC B1169: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE PCM (A/T MESSAGES)

1. Clear the DTCs using the HDS.
2. Turn the ignition switch OFF then back to the ON (II).
3. Start and run the engine for at least 5 seconds then turn the engine off.
4. Check for DTCs using the HDS.

Is DTC B1178, B1168 and/or B1169 indicated?

YES: Go to step 5.

NO: Intermittent failure, the F-CAN communication line is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition and the charging system. See **GENERATORS & REGULATORS** .

5. Check for DTCs in the ECM/PCM.

Are any DTCs indicated?

YES: Troubleshoot the ECM/PCM DTCs.

NO: Go to step 6.

6. Perform the Gauge Control Module Input Test (see **GAUGE CONTROL MODULE INPUT TEST**).

Are all inputs OK?

YES: Go to step 7.

NO: Repair the faulty input then recheck for DTCs.

7. Substitute a known-good gauge control module.
8. Clear the DTCs using the HDS.
9. Turn the ignition switch OFF then back to the ON (II).
10. Start and run the engine for at least 5 seconds then turn the engine off.
11. Check for DTCs using the HDS.

Is DTC B1178, B1168 and/or B1169 indicated?

YES: Replace the ECM/PCM.

NO: The original gauge control module is faulty; replace the gauge control module (see **GAUGE CONTROL MODULE REPLACEMENT**).

DTC B1080: POWER SUPPLY CIRCUIT (IG1 LINE) INPUT ERROR FOR RELAY CONTROL MODULE & MICU

1. Clear the DTCs using the HDS.
2. Cycle the ignition switch to OFF and then back ON.
3. Turn the ignition switch ON (II) and wait for 2 seconds or more.

Is DTC B1080 indicated again?

YES: Go to step 4.

NO: Intermittent failure, the relay control module is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition and the charging system. See **GENERATORS & REGULATORS** .

4. Check the MICU IG1 power supply No. 21 (7.5A) fuse in the under-dash fuse/relay box.

Is the fuse OK?

YES: Go to MICU Input Test (see **MULTIPLEX INTEGRATED CONTROL UNIT INPUT TEST**).

NO: Replace the fuse and recheck for DTCs.

DTC B1251: COMBINATION SWITCH CONTROL UNIT INTERNAL ERROR

1. Clear the DTCs using the HDS.
2. Cycle the ignition switch to OFF and then back ON.
3. Check for DTCs using the HDS.

Is DTC B1251 indicated?

YES: Faulty combination switch control unit; replace the wiper/washer switch.

NO: Intermittent failure, the CPU in the combination switch control unit is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition and the charging system. See **GENERATORS & REGULATORS** .

DTC B1255: COMBINATION SWITCH CONTROL UNIT LOST COMMUNICATION WITH MICU

1. Clear the DTCs using the HDS.
2. Cycle the ignition switch to OFF and then back ON.
3. Check for DTCs using the HDS.

Is DTC B1255 indicated?

YES: Go to step 4.

NO: Intermittent failure, MICU is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition and the charging system. See **GENERATORS & REGULATORS** .

4. Check for DTCs in the combination switch control using the HDS.

Is DTC B1055 and B1157 indicated?

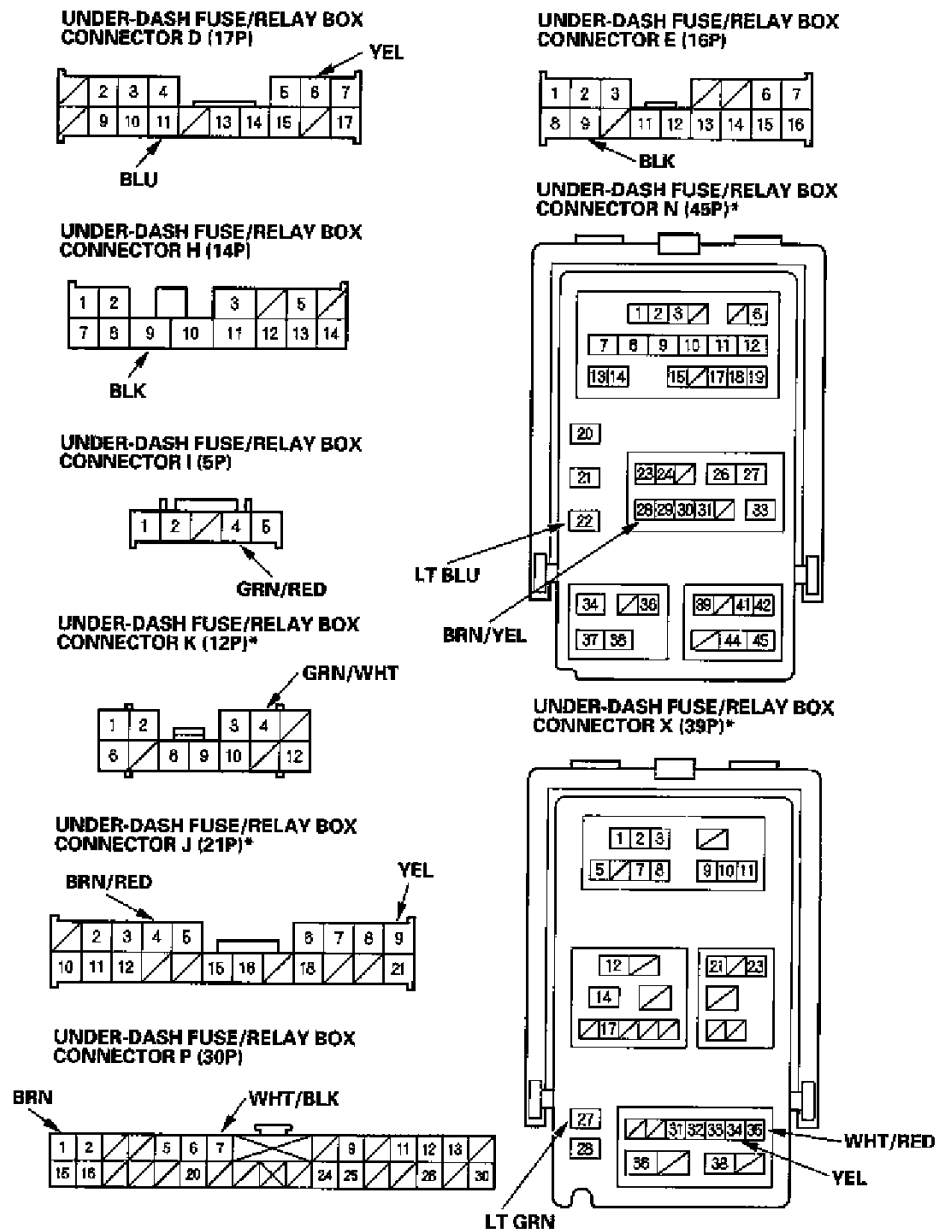
YES: Go to MICU input test (see **MULTIPLEX INTEGRATED CONTROL UNIT INPUT TEST**).

NO: Replace the combination switch control unit.

MULTIPLEX INTEGRATED CONTROL UNIT INPUT TEST

1. Remove the left side kick panel (see **TRIM REMOVAL/INSTALLATION - DOOR AREA**).
2. Disconnect the under-dash fuse/relay box connectors D, E, H, I, J, K, N, P and X.

NOTE: All connectors shown in **Fig. 41** are wire side of female terminals.



* Connector view shown rotated 180° from actual position in the under-dash fuse relay box.

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Fig. 41: Identifying Multiplex Integrated Control Unit Connector Terminals

3. Inspect the connector and socket terminals to be sure they are all making good contact.
 - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
 - If the terminals look OK, go to step 4.
4. With the connectors still disconnected from the under-hood fuse/relay box, make these input tests at the connector(s). See **Fig. 42** .
 - If any test indicates a problem, find and correct the cause, then recheck the system.

- If all the input tests prove okay, go to step 5.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
H9	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	• Poor ground (G601) • An open in the wire
P1	BRN	Under all conditions	Check for continuity to ground: There should be continuity.	• Poor ground (G502) • An open in the wire
E9	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	• Poor ground (G601) • An open in the wire
N22	LT BLU	Under all conditions	Check for continuity between terminal N22 and the climate control unit B (16P) connector terminal No. 14: There should be continuity.	• An open in the wire
		Climate control unit B (16P) connector disconnected	Check for continuity to ground: There should be no continuity.	• Short to ground
J4	BRN/RED	Under all conditions	Check for continuity between terminal J4 and power window master switch 23P connector terminal No. 16: There should be continuity.	• An open in the wire
		Power window master switch 23P connector disconnected	Check for continuity to ground: There should be no continuity.	• Short to ground
D11	BLU	Under all conditions	Check for continuity between terminal D11 and relay module J (10P) connector terminal No. 7: There should be continuity.	• An open in the wire
		Relay control module J (10P) connector disconnected	Check for continuity to ground: There should be no continuity.	• Short to ground
X27	LT GRN	Under all conditions	Check for continuity between terminal X27 and wiper/washer switch 8P connector terminal No. 4: There should be continuity.	• An open in the wire
		Wiper/washer switch 8P connector disconnected	Check for continuity to ground: There should be no continuity.	• Short to ground
N28	BRN/YEL	Under all conditions	Check for continuity between terminal N28 and gauge assembly (30P) connector terminal No. 25: There should be continuity.	• An open in the wire
		Gauge control module B (18P) connector disconnected	Check for continuity to ground: There should be no continuity.	• Short to ground

G01820910

Fig. 42: Multiplex Integrated Control Unit Input Test Table

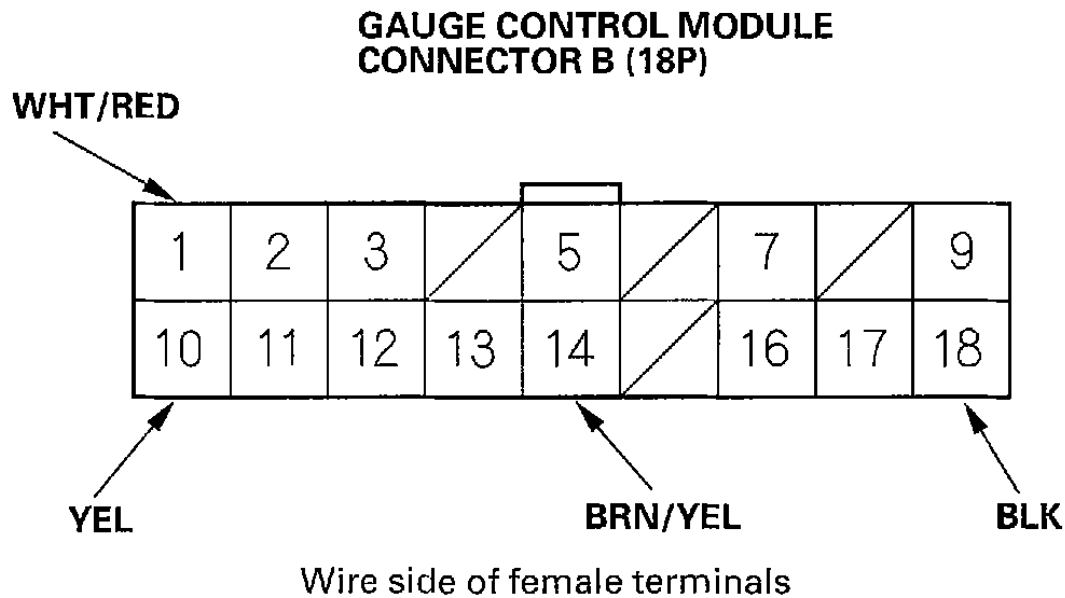
- Reconnect the connectors to the under-dash fuse/relay box, and make these input tests at the appropriate connectors on the under-dash fuse/relay box. See **Fig. 43** .
 - If any test indicates a problem, find and correct the cause, then recheck the system.
 - If all the input tests prove OK, the multiplex integrated control unit must be faulty, replace the under-dash fuse/relay box assembly.

Cavity	Wire	Test condition	Test; Desired result	Possible cause if result is not obtained
P7	WHT/BLK	Under all conditions	Attach to ground: The ignition key light should come on.	• Blown No. 13 (20A) fuse in the under-hood fuse/relay box • Blown LED • An open in the wire
14	GRN/RED	Ceiling light switch in the middle position, all doors closed	Attach to ground: The ceiling light should come on.	• Blown No. 6 (7.5A) fuse in the under-dash fuse/relay box • Faulty ceiling light • An open in the wire
D6 J9 X34	YEL	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	• Blown No. 21 (7.5A) fuse in the under-dash fuse/relay box • An open in the wire
K4	WHT/GRN	Under all conditions	Check for voltage to ground: There should be battery voltage.	• Blown No. 27 (20A) fuse in the under-dash fuse/relay box • An open in the wire
X35	WHT/RED	Under all conditions	Check for voltage to ground: There should be battery voltage.	• Blown No. 7 (10A) fuse in the under-dash fuse/relay box • An open in the wire

G81820911

Fig. 43: Identifying Under-Dash Fuse/Relay Box Input Tests**GAUGE CONTROL MODULE INPUT TEST**

1. Remove the gauge control module (see **GAUGE CONTROL MODULE REPLACEMENT**).
2. Disconnect the 18P connector from the gauge control module.
3. Inspect the connector and socket terminals to be sure they are all making good contact.
 - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
 - If the terminals look OK, go to step 4.



G01820912

Fig. 44: Identifying Gauge Control Module Connector Terminals

4. With the connector still disconnected, make these input tests at the connector:
- If any test indicates a problem, find and correct the cause, then recheck the system.
 - If all the input tests prove OK, replace the gauge control module.

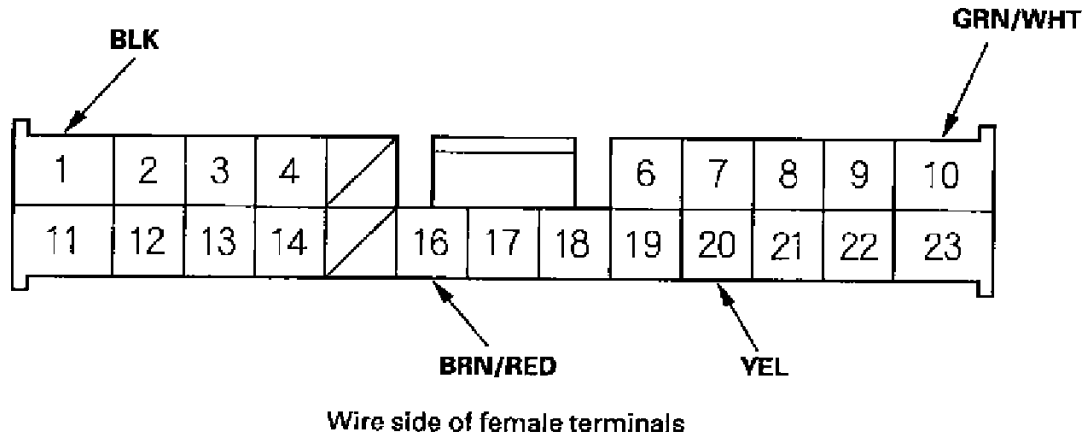
Cavity	Wire	Test Condition	Test: Desired result	Possible cause if result is not obtained
B10	YEL	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage	• Blown No. 21 (7.5A) fuse in the under-dash fuse/relay box • An open in the wire
B1	WHT/RED	Under all conditions	Check for voltage to ground: There should be battery voltage	• Blown No. 7 (10A) fuse in the under-dash fuse/relay box • An open in the wire
B18	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	• Poor ground (G503) • An open in the wire
B14	BRN/YEL	Under all conditions	Check for continuity between the No. 14 terminal and under-dash fuse/relay box N (45P) connector No. 28 terminal: There should be continuity	• An open in the wire
		Under-dash fuse/relay box connector N (45P) disconnected	Check continuity to ground: There should be no continuity	• Short to ground on the wire

G01820913

Fig. 45: Gauge Control Module Input Test Table

DOOR MULTIPLEX CONTROL UNIT INPUT TEST

1. Remove the driver's door switch panel (see **FRONT DOOR PANEL REMOVAL/INSTALLATION**).
2. Disconnect the 23P connector from the power window master switch.



G01820914

Fig. 46: Identifying Door Multiplex Control Unit Connector Terminals

3. Inspect the connector and socket terminals to be sure they are all making good contact.
 - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
 - If the terminals look OK, go to step 4.
4. With the door multiplex control unit still disconnected, make these input tests at the connector:
 - If any test indicates a problem, find and correct the cause, then recheck the system.
 - If all the input tests prove OK, the door multiplex control unit must be faulty, replace the power window master switch.

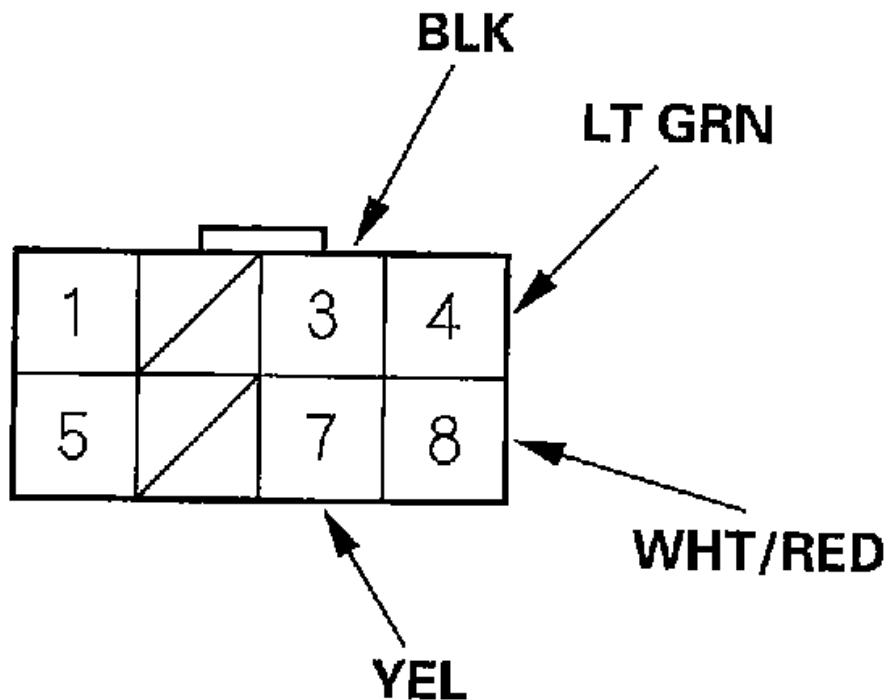
Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
1	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	• Poor ground (G501, G601) • An open in the wire
10	GRN/WHT	Under all conditions	Check for voltage to ground: There should be battery voltage.	• Blown No. 27 (20A) fuse in the under-dash fuse/relay box • An open in the wire
20	YEL	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	• Blown No. 21 (7.5A) fuse in the under-dash fuse/relay box • An open in the wire
18	BRN/RED	Under all conditions	Check for continuity between terminal 18 and the under-dash fuse/relay box connector J (21P) connector terminal No. 4: There should be continuity.	• An open in the wire
		Under-dash fuse/relay box connector J (21P) disconnected	Check for continuity to ground: There should be no continuity.	• Short to ground

G01820915

Fig. 47: Door Multiplex Control Unit Input Test

COMBINATION SWITCH CONTROL UNIT INPUT TEST

1. Remove the steering column covers (see STEERING COLUMN REMOVAL AND INSTALLATION).
2. Disconnect the 8P connector (A) from the wiper/washer switch (B).



Wire side of female terminals

G01820916

Fig. 48: Identifying Combination Switch Control Unit Connector Terminals

3. Inspect the connector and socket terminals to be sure they are all making good contact.
 - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
 - If the terminals look OK, go to step 4.
4. With the control unit still disconnected, make these input tests at the connector:
 - If any test indicates a problem, find and correct the cause, then recheck the system.
 - If all the input tests prove OK, the combination switch control unit must be faulty, replace the wiper/washer switch.

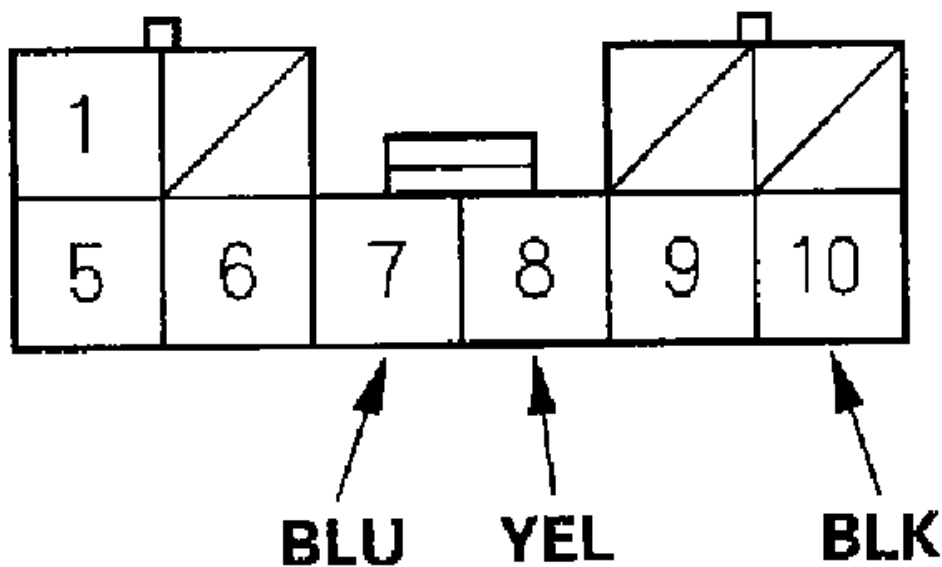
Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
3	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	• Poor ground (G501, G601) • An open in the wire
8	WHT/RED	Under all conditions	Check for voltage to ground: There should be battery voltage.	• Blown No. 7 (10A) fuse in the under-dash fuse/relay box • An open in the wire
7	YEL	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	• Blown No. 21 (7.5A) fuse in the under-dash fuse/relay box • An open in the wire
4	LT GRN	Under all conditions	Check for continuity between terminal 4 and the under-dash fuse/relay box connector X (39P) connector terminal No. 27: There should be continuity.	• An open in the wire
		Under-dash fuse/relay box connector X (39P) connector disconnected	Check for continuity to ground: There should be no continuity.	• Short to ground

G01820817

Fig. 49: Combination Switch Control Unit Input Test**RELAY CONTROL MODULE INPUT TEST**

1. Remove the under-hood fuse/relay box under cover.
2. Disconnect the 10P connector (A) from the under -hood fuse/relay box (B).

UNDER-HOOD FUSE/RELAY BOX CONNECTOR I (10P)



Wire side of female terminals

G01820918

Fig. 50: Identifying Relay Control Module Connector Terminals

3. Inspect the connector and socket terminals to be sure they are all making good contact.
 - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
 - If the terminals look OK, go to step 4.
4. With the connector still disconnected, make these input tests at the connector:
 - If any test indicates a problem, find and correct the cause, then recheck the system.

- If all the input tests prove OK, the relay control module must be faulty, replace the under-hood fuse/relay box.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
10	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	• Poor ground (G501, G601) • An open in the wire
8	YEL	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	• Blown No. 21 (7.5A) fuse in the under-dash fuse/relay box • An open in the wire
7	BLU	Under all conditions	Check for continuity between terminal 7 and the under-dash fuse/relay box connector D (17P) connector terminal No. 11: There should be continuity.	• An open in the wire
		Under-dash fuse/relay box connector D (17P) disconnected	Check for continuity to ground: There should be no continuity.	• Short to ground

GC1820919

Fig. 51: Relay Control Module Input Test