LAN SYSTEM (DIAGNOSTICS)

1. Basic Diagnostic Procedure

A: PROCEDURE

1. WITH SUBARU SELECT MONITOR

CAUTION:
• Subaru Select Monitor is required for reading DTC, performing diagnosis and reading current data.
• Remove foreign matter (dust, water, oil, etc.) from the body integrated unit connector during removal and installation.
• For model with immobilizer, registration of immobilizer may be needed after the replacement of controller etc. For details, refer to the "PC application help for Subaru Select Monitor".

NOTE:
• To check harness for open or short circuits, shake the suspected trouble spot or connector.
• Check List for Interview <Ref. to LAN(diag)-3, Check List for Interview.>

	Step	Check	Yes	No
1	**CHECK PRE-INSPECTION.** Ask the customer when and how the trouble occurred using the interview check list. <Ref. to LAN(diag)-3, Check List for Interview.>	Did you interview the customer?	Go to step **2**.	Interview the customer.
2	**BASIC INSPECTION.** Check components which might affect body control. <Ref. to LAN(diag)-6, INSPECTION, General Description.>	Is the component that might influence the body control problem normal?	Go to step **3**.	Repair or replace each component.
3	**CHECK DTC.** 1) Read the DTC. <Ref. to LAN(diag)-15, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.> NOTE: If the communication function of the Subaru Select Monitor cannot be executed normally, check the communication circuit. <Ref. to LAN(diag)-34, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> 2) Record all DTCs and freeze frame data.	Is DTC displayed on the Subaru Select Monitor?	Go to step **5**.	Go to step **4**.
4	**PERFORM GENERAL DIAGNOSTICS.** Inspect using the "General Diagnostics Table". <Ref. to LAN(diag)-75, General Diagnostic Table.>	Is result of inspection OK?	LAN system is normal.	Go to step **5**.
5	**PERFORM DIAGNOSIS.** 1) Correct the cause of trouble. 2) Perform the Clear Memory Mode. <Ref. to LAN(diag)-24, CLEAR MEMORY MODE, OPERATION, Subaru Select Monitor.> 3) Read the DTC. <Ref. to LAN(diag)-15, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>	Is DTC displayed on the Subaru Select Monitor?	Repeat step 5 until DTC is not shown.	Finish the diagnosis.

2. Check List for Interview

A: CHECK

Inspect the following item about the vehicle's state.

1. DISPLAY STATUS IN THE COMBINATION METER

Display status in the combination meter	a) Engine coolant temperature gauge display	❑ OK / ❑ NG
	b) Fuel gauge display	❑ OK / ❑ NG
Display of other indicators	c) Malfunction indicator light	❑ ON / ❑ OFF
	d) Engine coolant temperature warning light	❑ ON / ❑ Blink / ❑ OFF
	e) Fuel level warning light	❑ ON / ❑ Blink / ❑ OFF
	f) EBD warning light	❑ ON / ❑ Blink / ❑ OFF
	g) ABS warning light	❑ ON / ❑ Blink / ❑ OFF
	h) VDC warning light	❑ ON / ❑ Blink / ❑ OFF
	i) Hill start assist warning light	❑ ON / ❑ Blink / ❑ OFF
	j) Immobilizer indicator	❑ ON / ❑ Blink / ❑ OFF
	k) DCCD indicator	❑ ON / ❑ Blink / ❑ OFF

2. SYMPTOM

Vehicle condition	a) Clearance light does not illuminate.	❑ Yes / ❑ No
	b) Clearance light indicator does not illuminate.	❑ Yes / ❑ No
	c) Low beam does not illuminate.	❑ Yes / ❑ No
	d) Hi beam does not illuminate.	❑ Yes / ❑ No
	e) High beam indicator does not illuminate.	❑ Yes / ❑ No
	f) Front fog light does not illuminate.	❑ Yes / ❑ No
	g) Front fog light indicator does not illuminate.	❑ Yes / ❑ No
	h) Key warning switch alarm does not sound.	❑ Yes / ❑ No
	i) Driver's seat belt warning light does not illuminate.	❑ Yes / ❑ No
	j) Seat belt warning alarm does not sound.	❑ Yes / ❑ No
	k) Wiper deicer does not operate.	❑ Yes / ❑ No
	l) Rear defogger does not operate.	❑ Yes / ❑ No
	m) Illumination volume control is not available.	❑ Yes / ❑ No
	n) Combination meter does not dim when headlights are ON.	❑ Yes / ❑ No
	o) Rear wiper does not operate.	❑ Yes / ❑ No
	p) Doors can not be locked/unlocked with central door lock switch.	❑ Yes / ❑ No
	q) Doors can not be locked/unlocked with keyless entry system.	❑ Yes / ❑ No
	r) Rear gate can not be opened when rear gate opener switch is pressed.	❑ Yes / ❑ No
	s) Rear gate/trunk can not be opened with keyless entry system.	❑ Yes / ❑ No
	t) Hazard answer-back does not operate.	❑ Yes / ❑ No
	u) Ignition key illumination does not light.	❑ Yes / ❑ No
	v) Ignition key illumination blinks.	❑ Yes / ❑ No
	w) Room light does not operate in accordance with door open/close operations.	❑ Yes / ❑ No
	x) Room light blinks.	❑ Yes / ❑ No
	y) Foot light does not operate in accordance with door open/close operations.	❑ Yes / ❑ No
	z) Foot light blinks.	❑ Yes / ❑ No
	aa) Indicator does not illuminate when parking brake is operated.	❑ Yes / ❑ No
	ab) Security monitor condition does not occur.	❑ Yes / ❑ No
	ac) Security condition can not be canceled.	❑ Yes / ❑ No
	ad) Hazard light does not blink during security operation.	❑ Yes / ❑ No
	ae) Horn does not sound during security operation.	❑ Yes / ❑ No
	af) Alarm operates as soon as security monitor condition occurs.	❑ Yes / ❑ No
	ag) Security alarm does not operate even when impact is applied (model with impact sensor).	❑ Yes / ❑ No
	ah) DRL does not illuminate.	❑ Yes / ❑ No
	ai) Passenger's seat belt warning light does not illuminate.	❑ Yes / ❑ No
	aj) Engine does not start.	❑ Yes / ❑ No
	ak) Answer-back buzzer does not sound.	❑ Yes / ❑ No

3. CONDITIONS UNDER WHICH TROUBLE OCCURS

Driving condition	❑ At standstill (While idling) ❑ When the vehicle is running Vehicle speed km/h (MPH) ❑ While accelerating Acceleration km/h (MPH) to km/h (MPH) ❑ Decelerating (With braking) Deceleration km/h (MPH) to km/h (MPH) ❑ Decelerating (Without braking) Deceleration km/h (MPH) to km/h (MPH)
	❑ Flat road ❑ Uphill ❑ Downhill ❑ Gravel road ❑ Bumpy road ❑ Snowy road
	Does it occur when operating any part? Operated part: **Trouble symptom:**
	Are there any other troubles occurred? From where: **Trouble symptom:**

3. General Description

A: CAUTION

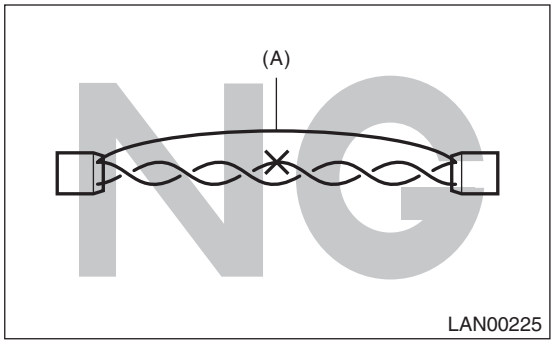
1. SUPPLEMENTAL RESTRAINT SYSTEM "AIRBAG"

Airbag system wiring harness is routed near the body integrated unit and twisted pair line.

CAUTION:
• Do not use electric test equipment on any wiring harnesses and connectors in the airbag system.
• Be careful not to damage the airbag system wiring harness when servicing the body integrated unit and LAN system.

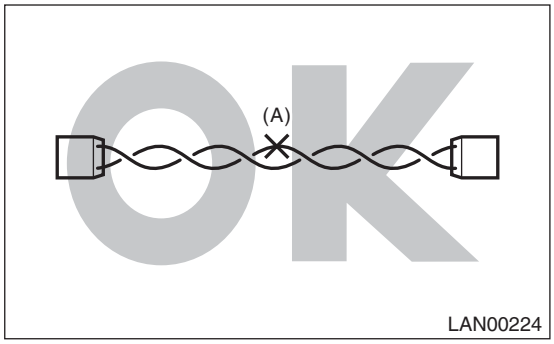
2. LAN SYSTEM

• Bus line of LAN system is twisted pair line. Be careful not to by-pass or partly unbind the twisted pair line.
• Do not make clearance between bus lines (CAN High, CAN Low).
• Difference of bus line length should be within 10 cm (3.94 in).
• Fray near the connector should be within 8 cm (3.14 in).



(A) Bypass wire connection

• If the characteristics of the twisted pair line are changed, it may extremely weaken against noise.
• When repairing the harness, connect the wires using soldering and protect it with insulating tape etc.



(A) Soldering and protection with insulating tape

B: INSPECTION

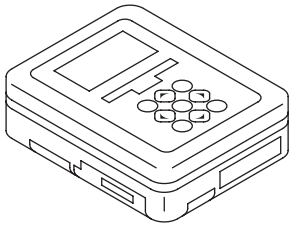
Before performing diagnostics, check the following item which might affect body integrated unit malfunctions.
1) Measure the battery voltage and check electrolyte.

Standard voltage: 12 V or more

Specific gravity: Above 1.260
2) Check the fuse condition.
Make sure that ampere of the fuse is setting value, and it is not blown out.
(Be sure to check the back-up fuse also.)
3) Check the connecting condition of harness and harness connector.
4) Confirm settings of body integrated unit are corresponded to vehicle equipment. <Ref. to LAN(diag)-22, REGISTRATION BODY INTEGRATED UNIT (FUNCTION SETTING), OPERATION, Subaru Select Monitor.>
5) Make sure that a setting that does not match the vehicle equipment, is not set in the function setting (ECM customizing) of the body integrated unit. <Ref. to LAN(diag)-24, FREEZE FRAME DATA, OPERATION, Subaru Select Monitor.>
6) Confirm "Factory initial setting" of body integrated unit registrations is "Market".
7) Confirm key illumination does not blink with ignition switch turned to ON.

C: PREPARATION TOOL

1. SPECIAL TOOL

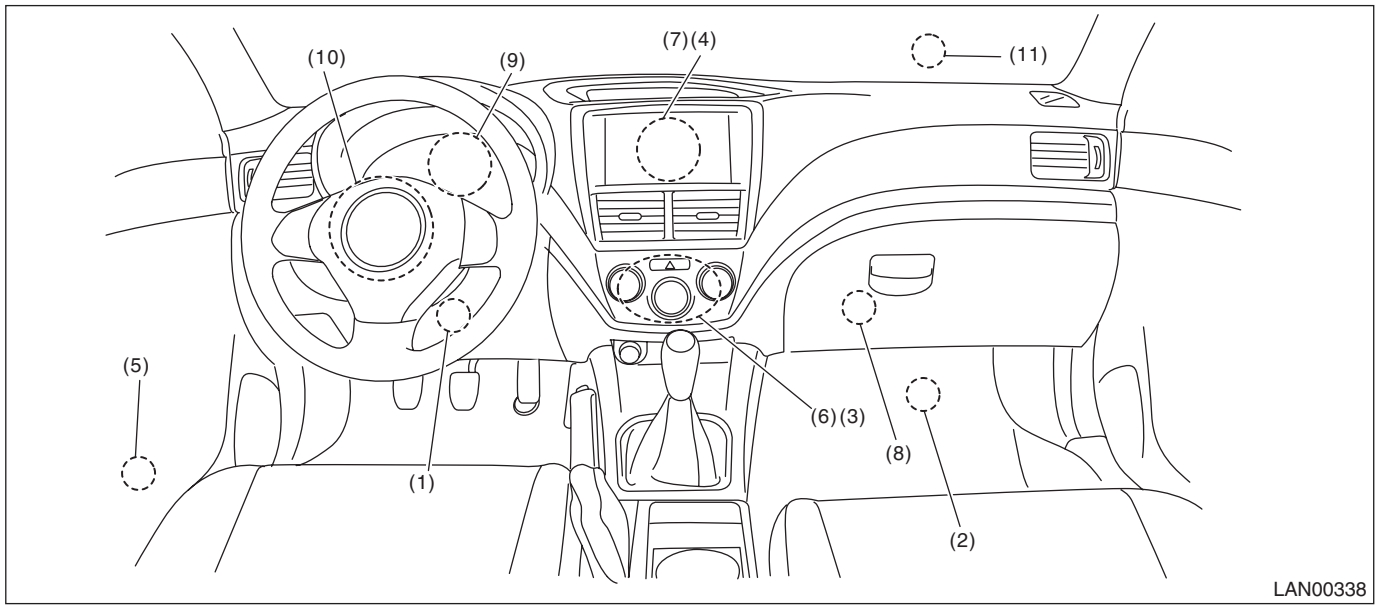
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B021XU0	1B021XU0	SUBARU SELECT MONITOR III KIT	Used for troubleshooting the electrical system.

2. GENERAL TOOL

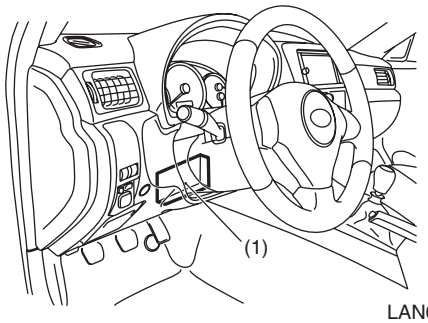
TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.

4. Electrical Component Location

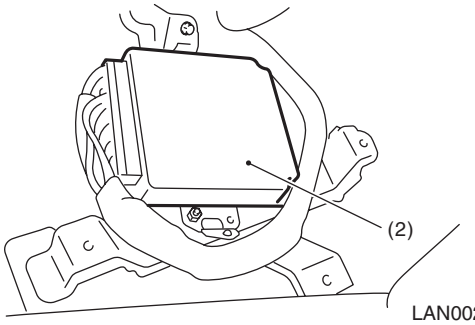
A: LOCATION



(1) Body integrated unit
(2) Engine control module (ECM)
(3) Auto A/C control module
(4) Navigation unit
(5) Keyless entry control module
(6) A/C control panel
(7) Center display
(8) DCCD control module
(9) Combination meter
(10) Steering angle sensor
(11) VDCCM&H/U (In engine compartment)



LAN00339



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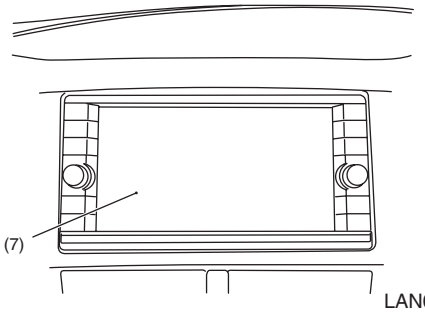
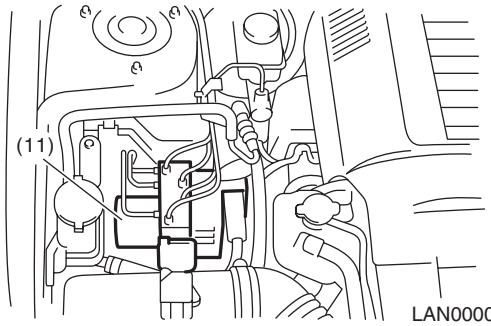
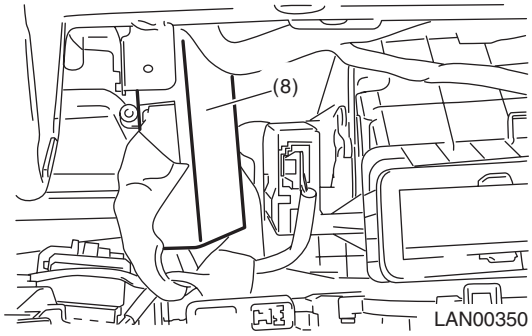


LAN00299



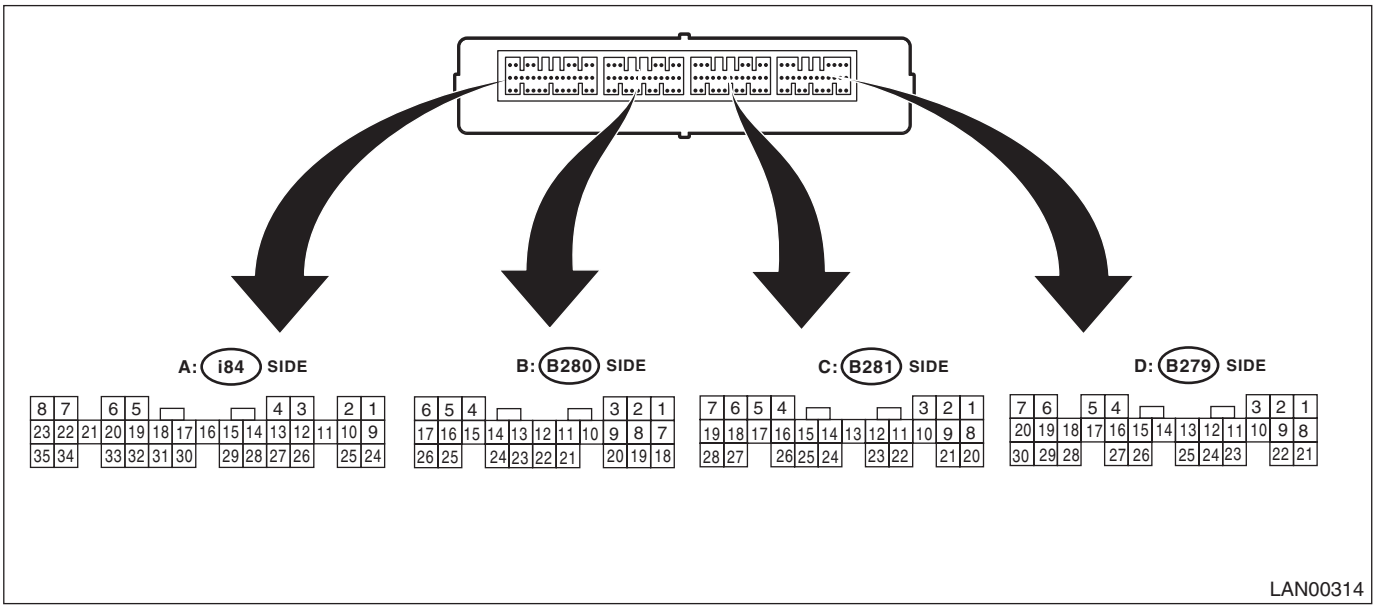
LAN00008



LAN00350

5. Control Module I/O Signal

A: ELECTRICAL SPECIFICATION



Contents	Terminal No.	Standard value	Measuring conditions
BAT (control)	B6 ← → chassis ground	10 — 14 V	Always
BAT (backup)	C2 ← → chassis ground	10 — 14 V	Always
BAT (door lock)	A34 ← → chassis ground	10 — 14 V	Always
ACC (rear wiper)	D21 ← → chassis ground	10 — 15 V	When ACC is ON
Ground	A28 ← → chassis ground	Less than 1.5 V	Always
Ground	B17 ← → chassis ground	Less than 1.5 V	Always
Ground	C20 ← → chassis ground	Less than 1.5 V	Always
Ground	D27 ← → chassis ground	Less than 1.5 V	Always
Key warning switch	D2 ← → chassis ground	Less than 1.5 V → 10 — 15 V	With key removed → inserted
ACC	B7 ← → chassis ground	Less than 1.5 V → 10 — 15 V	IGN OFF → ACC ON
IGN	B1 ← → chassis ground	Less than 1.5 V → 10 — 15 V	IGN OFF → IGN ON

Contents	Terminal No.	Standard value	Measuring conditions
Stop light switch	B2 ← → chassis ground	Less than 1.5 V → 8 V or more	With brake pedal released → depressed
Door switch, driver's seat	A19 ← → chassis ground	8 V or more → less than 1.5 V	With driver's door closed → opened
Door switch, passenger's seat	A32 ← → chassis ground	8 V or more → less than 1.5 V	With passenger's door closed → opened
Door switch, rear RH seat	A6 ← → chassis ground	8 V or more → less than 1.5 V	With rear RH seat door closed → opened
Door switch, rear LH seat	A20 ← → chassis ground	8 V or more → less than 1.5 V	With rear LH seat door closed → opened
Door switch, trunk/rear gate	A33 ← → chassis ground	8 V or more → less than 1.5 V	With trunk/rear gate closed → opened
Rear gate opener switch	C24 ← → chassis ground	8 V or more → less than 1.5 V	Switch OFF→ ON
Manual switch (LOCK)	A15 ← → chassis ground	8 V or more → less than 1.5 V	Switch OFF→ ON
Manual switch (UNLOCK)	A29 ← → chassis ground	8 V or more → less than 1.5 V	Switch OFF→ ON
Delivery (test) mode connector	A17 ← → chassis ground	8 V or more → less than 1.5 V	When delivery (test) mode connector is connected
Front wiper input RTN	C5 ← → chassis ground	8 V or more → less than 1.5 V	When front wiper is reversed
Rear wiper switch ON	C18 ← → chassis ground	8 V or more → less than 1.5 V	Switch OFF→ ON
Rear wiper switch (INT)	C27 ← → chassis ground	8 V or more → less than 1.5 V	Switch OFF→ ON
Rear wiper switch, washer	C28 ← → chassis ground	8 V or more → less than 1.5 V	Switch OFF→ ON
Lighting I switch	B11 ← → chassis ground	8 V or more → less than 1.5 V	Switch OFF→ ON
Lighting II switch	C8 ← → chassis ground	8 V or more → less than 1.5 V	Switch OFF→ ON
	D6 ← → chassis ground	8 V or more → less than 1.5 V	Key warning switch ON and lighting switch OFF→ ON
Dimmer switch, Hi beam	B12 ← → chassis ground	8 V or more → less than 1.5 V	Switch OFF→ ON
Dimmer switch, passing	B22 ← → chassis ground	8 V or more → less than 1.5 V	Switch OFF→ ON

Contents	Terminal No.	Standard value	Measuring conditions
Front fog light switch	B24 ← → chassis ground	8 V or more → less than 1.5 V	Switch OFF→ ON
TPMS answer-back request input	B13 ← → chassis ground	8 V or more → less than 1.5 V	When TPMS transmitter registration answer-back is output
MT reverse switch	B18 ← → chassis ground	8 V or more → less than 1.5 V	Other than reverse → reverse
Parking brake switch	C15 ← → chassis ground	8 V or more → less than 1.5 V	With parking brake not operated → operated
Bright switch	A14 ← → chassis ground	8 V or more → less than 1.5 V	Switch OFF→ ON
Illumination (Vi1)	A12 ← → chassis ground	Approx. 5 V	While clearance light illuminates
Illumination (Vi2)	A3 ← → chassis ground	0.5 V — 4.5 V	While clearance light illuminates
Illumination (Vi3)	A26 ← → chassis ground	Less than 1.5 V	Always
Fuel level sensor	C7 ← → chassis ground	Approx. 2 —96 Ω	Ignition ON
Wiper deicer & rear defogger switch	A16 ← → chassis ground	8 V or more → less than 1.5 V	Switch OFF→ ON
Seat belt switch (driver's seat)	C16 ← → chassis ground	Less than 1.5 V → 8 V or more	With seat belt unbuckled → buckled
Seat belt switch (Passenger's seat)	C26 ← → chassis ground	Less than 1.5 V → 8 V or more	With seat belt unbuckled → buckled
Impact sensor	B8 ← → chassis ground	Less than 1.5 V ⇔ 8 V or more → 8 V or more	When impact is applied
Rear wiper output ON	D9 ← → chassis ground	Less than 1.5 V → 10 V or more	When rear wiper operates
Rear wiper output RTN	D8 ← → chassis ground	Less than 1.5 V → 10 V or more	When rear wiper reversed
Door lock output	A7 ← →A8	Less than 1.5 V → 10 V or more	While lock output
Door unlock output	A8 ← →A7	Less than 1.5 V → 10 V or more	While unlock output
Driver's door unlock output	A23 ← → chassis ground	Less than 1.5 V → 10 V or more	While unlock output
Trunk/rear gate UNLOCK output	A22 ← → chassis ground	Less than 1.5 V → 10 V or more	Sedan: While trunk UNLOCK output Wagon: While rear gate UNLOCK output

Contents	Terminal No.	Standard value	Measuring conditions
Lighting power supply	C1 ← → chassis ground	Less than 1.5 V → 10 V or more	With back-up fuse inserted, ACC ON or IGN ON
	D1 ← → chassis ground	Less than 1.5 V → 10 V or more	When key warning switch is ON
Clearance light relay output	D19 ← → chassis ground	8 V or more → less than 1.5 V	Small light ON
Lo beam relay output	C3 ← → chassis ground	8 V or more → less than 1.5 V	Headlight switch ON
	D7 ← → chassis ground	8 V or more → less than 1.5 V	Headlight switch ON
Hi beam relay output	D20 ← → chassis ground	8 V or more → less than 1.5 V	Headlight switch ON and Hi beam ON Passing switch ON
Front fog light relay output	D17 ← → chassis ground	8 V or more → less than 1.5 V	Headlight switch ON, and front fog light switch ON
DRL cancel output	D18 ← → chassis ground	8 V or more → less than 1.5 V	When Hi beam 100 % illuminates
Room light output	D5	Pulse control	Illumination is adjusted through PWM control
Key ring illumination output	C23	Pulse control	Illumination is adjusted through PWM control
Illumination output	A2	Pulse control	Illumination is adjusted through PWM control
Foot light output	D4 ← →chassis ground	Pulse control	Illumination is adjusted through PWM control
Rear defogger relay output	D16 ← → chassis ground	8 V or more → less than 1.5 V	While rear defogger output
Wiper deicer relay output	D15 ← → chassis ground	8 V or more → less than 1.5 V	While wiper deicer output
Seat belt warning light (passenger's seat)	A25 ← → chassis ground	8 V or more → less than 1.5 V	Indicator go off → illuminate
Answer-back buzzer output	D24 ← → chassis ground	Can not be measured because of high speed ON/OFF	Door lock → unlock with keyless entry system
Turn & hazard output	C22 ← → chassis ground	8 V or more → less than 1.5 V	Door lock or unlock with keyless entry system
Horn relay output	D29 ← → chassis ground	8 V or more → less than 1.5 V	While security alarm operates
Security indicator output	A10 ← → chassis ground	8 V or more → less than 1.5 V	While indicator in combination meter blinks
Immobilizer antenna 1	B26 ← →B25	-30 — +30 V	While key secret code is verified
Immobilizer antenna 2	B25 ← →B26		

Contents	Terminal No.	Standard value	Measuring conditions
Immobilizer communication_1	B4	Can not be measured because of digital communication	Serial communication line
Immobilizer communication_2	B15	Can not be measured because of digital communication	Serial communication line
Keyless entry control module communication	A24	Can not be measured because of digital communication	Serial communication line
SSM communication (K line)	B20	Can not be measured because of digital communication	Serial communication line
Body system CAN_Hi	A1 ← → chassis ground	Can not be measured because of digital communication	Serial communication line
Body system CAN_Lo	A9 ← → chassis ground	Can not be measured because of digital communication	Serial communication line
Driving system CAN_Hi	B3 ← → chassis ground	Can not be measured because of digital communication	Serial communication line
Driving system CAN_Lo	B9 ← → chassis ground	Can not be measured because of digital communication	Serial communication line

B: WIRING DIAGRAM

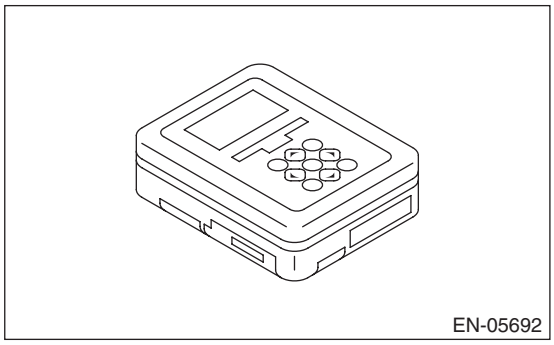
<Ref. to WI-128, WIRING DIAGRAM, CAN Communication System.>

6. Subaru Select Monitor

A: OPERATION

1. READ DIAGNOSTIC TROUBLE CODE (DTC)

1) Prepare the Subaru Select Monitor kit. <Ref. to LAN(diag)-7, PREPARATION TOOL, General Description.>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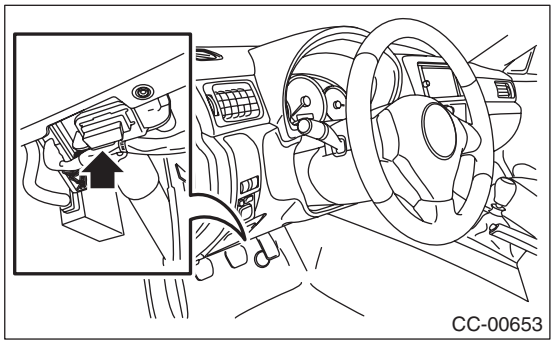
2) Prepare the personal computer which has been installed the Subaru Select Monitor.
3) Connect the USB cable between SDI (Subaru Diagnosis Interface) and USB port on the personal computer (dedicated port for the Subaru Select Monitor).

NOTE:
The dedicated port for the Subaru Select Monitor means the USB port which was used to install the Subaru Select Monitor.

4) Connect the diagnosis cable to SDI.
5) Connect the SDI to data link connector located in the lower portion of the instrument panel (on the driver's side).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6) Start a PC.
7) Turn the ignition switch to ON (engine OFF), and run the "PC application for Subaru Select Monitor".
8) Call up DTC and data, then record them.

NOTE:
For detailed operation procedure, refer to the "PC application help for Subaru Select Monitor".

2. READ CURRENT DATA

1) On the «Main Menu», select {Each System Check}.
2) On the «System Selection Menu» display screen, select the {Integ. unit mode}.
3) Select «Current Data Display & Save» screen.
4) Using the scroll key, scroll the display screen up or down until the desired data is shown.

3. DISPLAY OF DATA

Items to be displayed	Unit of measure	Remarks	Note
BATT voltage (control)	10 — 15 V	Body integrated unit input value	Always
BATT voltage (BACKUP)	10 — 15 V	Body integrated unit input value	Always
ABS_CM Power Voltage	10 — 15 V	Body integrated unit input value	Ignition switch ON
ACC voltage	10 — 15 V	Body integrated unit input value	Ignition switch ACC
Illumination VR Voltage	0 — 5 V	Body integrated unit output value	Input value from illumination volume
Illumi. output d-ratio	0 — 100%	Body integrated unit input value	Small light ON Illumination volume is other than bright.
Ambient Temperature	–40 — 87.5°C	Body integrated unit output value	Ignition switch ON
Fuel level voltage	0 — 8 V	Body integrated unit input value	Ignition switch ON
Fuel level resistance	0 — 102.3 Ω	Body integrated unit input value	Ignition switch ON
number of regist.	0 — 4	Number of keyless key registered	
Front Wheel Speed	km/h	CAN data input value	Reception from VDC unit
VDC/ABS latest f-code	DTC display (Temporarily)	CAN data input value	It is normal when DTC is not been input even if this code is displayed. Reception from VDC
Blower Fan Steps	0 — 2 levels	CAN data input value	0: OFF, 1: Low, 2: 2 levels or more Reception from air conditioner ECM
Fuel level resistance 2	0 — 102.3 Ω	CAN data output value	Reception from body integrated unit
Fuel consumption	cc/s	CAN data input value	Reception from ECM and transmission to center monitor
Coolant Temp.	–40 — 130°C	CAN data input value	Reception from ECM
Vehicle lateral G	m/s^2	CAN data input value	Reception from VDC unit
VDC/ABS condition	0 — 4	CAN data input value	
Destination Code	0 — 16	CAN data input value	
Touch SW	0 — 64	CAN data input value	
key-lock warning SW	ON/OFF	Body integrated unit input value	ON when ignition key is inserted
Stop Light Switch	ON/OFF	Body integrated unit input value	ON when brake pedal is depressed
Front fog lamp SW input	ON/OFF	Body integrated unit input value	When front fog light switch is ON
Rear fog lamp SW input	ON/OFF	Body integrated unit input value	Not supported
TPMS input	ON/OFF	Body integrated unit input value	ON when tire pressure is low or malfunction occurs
Door key-lock SW input	ON/OFF	Body integrated unit input value	Not supported
Door unlock SW input	ON/OFF	Body integrated unit input value	Not supported
Driver's door SW input	ON/OFF	Body integrated unit input value	ON when driver's door is open
P-door SW input	ON/OFF	Body integrated unit input value	ON when passenger's door is open
Rear right door SW input	ON/OFF	Body integrated unit input value	ON when rear right door is open
Rear left door SW input	ON/OFF	Body integrated unit input value	ON when rear left door is open
R Gate SW input	ON/OFF	Body integrated unit input value	ON when trunk/rear gate is open
Manual lock SW input	ON/OFF	Body integrated unit input value	Manual lock switch ON
Manual unlock SW input	ON/OFF	Body integrated unit input value	Manual unlock switch ON
Lock SW	ON/OFF	Body integrated unit input value	Not supported
Bright SW input	ON/OFF	Body integrated unit input value	ON when bright switch is ON (only for model with clock)
MT Reverse Switch	ON/OFF	Body integrated unit input value	ON when shift lever is at reverse position
R wiper ON SW input	ON/OFF	Body integrated unit input value	Rear wiper switch ON
R wiper INT SW input	ON/OFF	Body integrated unit input value	Rear wiper switch (INT ON)
R washer SW input	ON/OFF	Body integrated unit input value	Rear washer switch ON

Items to be displayed	Unit of measure	Remarks	Note
wiper deicer SW input	ON/OFF	Body integrated unit input value	Wiper deicer switch ON
Rear Defogger Switch Input	ON/OFF	Body integrated unit input value	Defogger switch ON
Driver's Seat SW input	ON/OFF	Body integrated unit input value	Driver's seat buckle switch ON
P seatbelt SW input	ON/OFF	Body integrated unit input value	Passenger's seat buckle switch ON
Fr wiper input	ON/OFF	Body integrated unit input value	ON when front wiper is operating
Parking Brake Switch Input	ON/OFF	Body integrated unit input value	
Registration SW input	ON/OFF	Body integrated unit input value	Not supported
Driver's seat lock status SW input	ON/OFF	Body integrated unit input value	Not supported
Passenger's seat lock status SW input	ON/OFF	Body integrated unit input value	Not supported
R gate lock status SW input	ON/OFF	Body integrated unit input value	
Smart wake-up input	ON/OFF	Body integrated unit input value	Not supported
R Gate Release SW input	ON/OFF	Body integrated unit input value	When rear gate opener switch is ON
Rr defogger output	ON/OFF	Body integrated unit output value	ON when rear defogger relay is operating
lock actuat. LOCK output	ON/OFF	Body integrated unit output value	ON when lock signal is output
All seat UNLOCK output	ON/OFF	Body integrated unit output value	ON when unlock signal is output
D-seat UNLOCK output	ON/OFF	Body integrated unit output value	ON when unlock signal is output
R gate/trunk UNLK output	ON/OFF	Body integrated unit output value	ON when rear gate/trunk unlock signal is output
Double lock output	ON/OFF	Body integrated unit output value	Not supported
R wiper output	ON/OFF	Body integrated unit output value	ON when rear wiper motor is operating
wiper deicer output	ON/OFF	Body integrated unit output value	ON when wiper deicer relay is operating
Hazard Output	ON/OFF	Body integrated unit output value	ON when answer-back signal is received or when hazard is operating
Keyless Buzzer Output	ON/OFF	Body integrated unit output value	ON when lock/unlock signal is received
Horn Output	ON/OFF	Body integrated unit output value	ON when security warning is operating
P-belt warning light O/P	ON/OFF	Body integrated unit output value	ON when Ignition switch is turned to ON, occupant is seated, and buckle switch is turned off
Illumination lamp O/P	ON/OFF	Body integrated unit output value	ON when illumination is illuminated
Room lamp output	ON/OFF	Body integrated unit output value	ON when any door is open
key illumi. lamp o/p	ON/OFF	Body integrated unit output value	ON when driver' door is open
R fog lamp output	ON/OFF	Body integrated unit output value	Not supported
R fog lamp monitor	ON/OFF	Body integrated unit output value	Not supported
Immobilizer lamp output	ON/OFF	Body integrated unit output value	ON when immobilizer pilot light blinks
Keyless operation 1	Registration/Normal	Body integrated unit input value	When keyless is registered
Keyless operation 2	Clear/Normal	Body integrated unit input value	When keyless registration is deleted

Items to be displayed	Unit of measure	Remarks	Note
EK alarm output	ON/OFF	Body integrated unit output value	Not supported
TL alarm output	ON/OFF	Body integrated unit output value	Not supported
CC Main Lamp	ON/OFF	CAN data input value	Cruise control switch on Reception from ECM and transmission to combination meter
CC Set Lamp	ON/OFF	CAN data input ONvalue	ON when cruise control vehicle speed is set Reception from ECM and transmission to combination meter
ABS/VDC Judging	ABS/VDC	CAN data input value	Transmission from vehicle dynamic control (VDC) to high speed control module
Small Light SW	ON/OFF	CAN data output value	ON when small light is illuminated
Headlamp	ON/OFF	CAN data output value	When headlight LO is ON
High Beam	ON/OFF	CAN data output value	When headlight HI is ON
Rr Defogger SW	ON/OFF	CAN data input value	Rear defogger switch ON
Australia Judging Flag	Australia/others	CAN data output value	North American specifications have others
large Diameter Tire	large Tire/others	CAN data output value	When standard tire is large (18 in. or more) Reception from combination meter
Number of cylinders	4 cylinders/ 6 cylinders	CAN data input value	Display engine equipped
Cam shaft specification	SOHC/DOHC	CAN data input value	Display engine equipped
Turbo	Turbo/Non-turbo	CAN data input value	Display engine equipped
E/G displacement (2.5L)	2.5 L/ OFF	CAN data input value	Display engine equipped
E/G displacement (3.0L)	3.0 L/ OFF	CAN data input value	Display engine equipped
AT Vehicle ID Signal	AT model / MT model	CAN data input value	Display transmission equipped
Blower fan information	ON/OFF	CAN data input value	ON when blower fan is operating (always OFF for auto A/C equipped models)
Center display failure	OK/NG	CAN data input value	NG when there is a center display failure Reception from center display (NAVI monitor)
NAVI Failure	OK/NG	CAN data input value	NG when there is a navigation system failure Reception from Center Display
IE Bus failure	Can not use	CAN data input value	Reception from Center Display
Auto A/C failure	OK/NG	CAN data input value	NG when there is a failure in auto air conditioning system Reception from auto A/C module
EBD Warning Light	OK/OFF	CAN data input value	OK when EBD warning light is illuminated Reception from VDC/ABS and transmission to combination meter
ABS Warning Light	OK/OFF	CAN data input value	OK when ABS warning light is illuminated Reception from VDC/ABS and transmission to combination meter
VDC OFF flag	ON/OFF	CAN data input value	Vehicle dynamics control OFF SW is ON Reception from VDC/ABS and transmission to combination meter

Items to be displayed	Unit of measure	Remarks	Note
VDC/ABS OK B	OK/NG	CAN data input value	NG when there is an error in VDC/ABS system Reception from VDC/ABS
Lighting I Switch Input	ON/OFF	Body integrated unit input value	ON when lighting switch, illumination is ON
Lighting II Switch Input	ON/OFF	Body integrated unit input value	ON when lighting switch, headlight is ON
Dimmer Hi Switch Input	ON/OFF	Body integrated unit input value	ON when dimmer switch is Hi beam position
Dimmer Pass Switch Input	ON/OFF	Body integrated unit input value	ON when dimmer switch is passing position
Lighting I Lamp Output	ON/OFF	Body integrated unit output value	ON when small light is illuminated
Lighting II Lamp Output	ON/OFF	Body integrated unit output value	ON when headlight is illuminated
Lighting Hi Lamp Output	ON/OFF	Body integrated unit output value	ON when Hi beam is illuminated
Front Fog Lamp Output	ON/OFF	Body integrated unit output value	ON when Front fog light is ON.
DRL Cancel Output	ON/OFF	Body integrated unit output value	ON when small light is illuminated
Power Supply Tr	ON/OFF	Body integrated unit output value	Headlight auxiliary power supply ON
Foot Lamp Output	ON/OFF	Body integrated unit output value	ON when foot light is illuminated
Off delay time	OFF, Short, Normal, Long	Body integrated unit setting items	Customize setting
Auto lock time	20, 30, 40, 50, 60 seconds	Body integrated unit setting items	Not supported
Rr defogger op. mode	Continuous/Normal	Body integrated unit setting items	Customize setting
Wiper deicer op. mode	Continuous/Normal	Body integrated unit setting items	Customize setting
Security Alarm Setup	ON/OFF	Body integrated unit setting items	Customize setting
Impact Sensor Setup	ON/OFF	Body integrated unit setting items	Customize setting
Alarm delay setup	ON/OFF	Body integrated unit setting items	Customize setting
Lockout prevention	ON/OFF	Body integrated unit setting items	Customize setting
Impact sensor	ON/OFF	Body integrated unit setting items	Customize setting
Answer-back buzzer setup	ON/OFF	Body integrated unit setting items	Customize setting
Hazard answer-back setup	ON/OFF	Body integrated unit setting items	Customize setting
Automatic locking setup	ON/OFF	Body integrated unit setting items	Customize setting
Ans.-back Buzzer	ON/OFF	Body integrated unit setting items	Inside condition of unit
Auto locking	ON/OFF	Body integrated unit setting items	Not supported
Initial keyless setting	- / Execution	Body integrated unit setting items	Excecute initialization of setting

Items to be displayed	Unit of measure	Remarks	Note
Initial button setting	- / Execution	Body integrated unit setting items	Excecute initialization of setting
Initial Security setting	- / Execution	Body integrated unit setting items	Not supported
Select unlock switch	ON/OFF	Body integrated unit setting items	Not supported
Passive Alarm	ON/OFF	Body integrated unit setting items	Customize setting
Door open warning	ON/OFF	Body integrated unit setting items	Customize setting
Dome Light Alarm Setting	ON/OFF	Body integrated unit setting items	Customize setting
Belt Warning Switch	ON/OFF	Body integrated unit setting items	Customize setting
A/C ECM setting	ON/OFF	Body integrated unit setting items	Equipment setting
wiperdeicer	ON/OFF	Body integrated unit setting items	Equipment setting
Rear fog light setting	ON/OFF	Body integrated unit setting items	Not supported
Illumination Control On/Off	ON/OFF	Body integrated unit setting items	Not supported
Sedan/Wagon Setting	Sedan/Wagon	Body integrated unit setting items	Equipment setting
MT/AT Setting	MT/AT	Body integrated unit setting items	Equipment setting
6MT Setting	6MT/Other than 6MT	Body integrated unit setting items	Equipment setting
Destination Setting	Each destination	Body integrated unit setting items	—
Double Lock On/Off Setting	ON/OFF	Body integrated unit setting items	Equipment setting
Factory initial setting	Factory/Market	Body integrated unit setting items	Equipment setting
Security setup	ON/OFF	Body integrated unit setting items	Not supported

NOTE:
For details concerning the operation procedure, refer to the “PC application help for Subaru Select Monitor”.

4. CONFIRMATION OF CURRENT SETTING

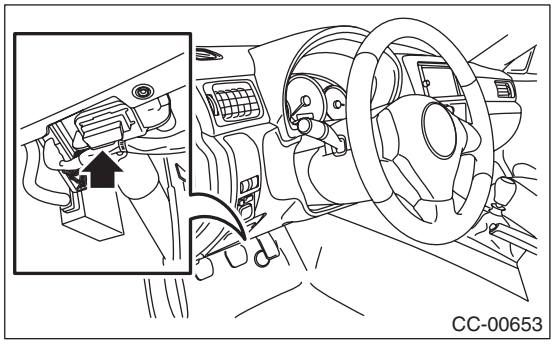
1) On the «Main Menu» display screen, select the {Each System Check}.
2) On the «System Selection Menu» display screen, select the {Integ. unit mode}.
3) On the «Integ. unit mode failure diag» display screen, select the {Current Data Display & Save}.
4) Using the scroll key, scroll the display screen up or down until the desired data is shown.
5) Display the following item and record the settings.

Required items for new registration (Except for system not equipped)

Contents	Item to confirm				Remarks
number of regist.	1	2	3	4	Registered ID type
Off delay time	OFF	Long	Normal	Short	Setting for lighting off time
Auto lock time	60,50,40,30,20		OFF		Not supported
Rr defogger op. mode	Normal		Continuous		
Wiper deicer op. mode	Normal		Continuous		Option setting
Security Alarm Setup	ON		OFF		
Impact Sensor Setup	ON		OFF		Option setting
Alarm delay setup	ON		OFF		
Lockout prevention	ON		OFF		
Impact sensor	ON		OFF		Option setting
Answer-back buzzer setup	ON		OFF		
Hazard answer-back setup	ON		OFF		
Automatic locking setup	ON		OFF		Not supported
Ans.-back Buzzer	ON		OFF		
Auto locking	ON		OFF		Not supported
Select unlock switch	Selection		ALL		Not supported
Passive Alarm	ON		OFF		
Door open warning	ON		OFF		
Dome Light Alarm Setting	ON		OFF		
Belt Warning Switch	ON		OFF		
A/C ECM setting	ON		OFF		Model with auto A/C
wiperdeicer	ON		OFF		Option setting
Rear fog light setting	ON		OFF		Not supported
Illumination Control On/Off	ON		OFF		Not supported
Sedan/Wagon Setting	Sedan		Wagon		
MT/AT Setting	AT		MT		
6MT Setting	6MT		Other than 6MT		
Double Lock On/Off Setting	ON		OFF		Not supported
Factory initial setting	Factory		Market		Do not change to factory mode.
Security setup	ON		OFF		Not supported

5. REGISTRATION BODY INTEGRATED UNIT (FUNCTION SETTING)

CAUTION:
Body integrated unit is core of LAN system, and also can select the function of all vehicle system control. It is possible to control the original functions of vehicle when registrations of body integrated unit and function setting are corresponded to vehicle equipment.
If registrations and function setting are different from vehicle equipment, vehicle system does not operate normally and diagnosis cannot be performed correctly. Pay attention to following item.
• Be sure to correspond registrations and function settings to vehicle equipment.
• Do not change the settings of vehicle improperly.
• Confirm key illumination does not blink or "Factory initial setting" of body integrated unit registrations is "Market". If "Factory initial setting" is set to "Factory," key illumination blinks when ignition key is turned ON, to notify that the settings are unconfirmed.
• Key illumination does not blink with ignition switch turned to ON and go off with door closed.
• Be sure to register immobilizer if body integrated unit is replaced with a new part. (Model with immobilizer)
• Make a registration of immobilizer when the parts related to immobilizer have been replaced. Refer to the "PC application help for Subaru Select Monitor".
1) Connect the SDI to data link connector located in the lower portion of the instrument panel (on the driver's side).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CAUTION:
Do not connect the scan tools other than the Subaru Select Monitor.
2) Start a PC.
3) Turn the ignition switch to ON (engine OFF), and run the "PC application for Subaru Select Monitor".
4) On the «Main Menu», select {Each System Check}.
5) On the «System Selection Menu» display screen, select the {Integ. unit mode}.
6) Click the [OK] button after the control module name {Integ. Unit} is displayed.
7) On the «Integ. unit mode failure diag» display screen, select the {Integ. Unit customizing}.
8) Change the setting with UP/DOWN key.

- List of body integrated unit registration item

NOTE:
Setting is different depending on the grade of vehicle.

Data	Initial setting	Registration	Remarks
A/C ECM setting	OFF	ON	Set to «ON» in case of model with auto A/C. Set to «OFF» in case of model without auto A/C.
		OFF	
wiperdeicer	OFF	ON	Be sure to set exactly according to vehicle equipment. ON signal does not output even when the switch is operated, if “OFF” is set.
		OFF	
Rear fog light setting (Maker OP)	OFF	ON	Be sure to set exactly according to vehicle equipment. ON signal does not output even when the switch is operated, if “OFF” is set.
		OFF	
Illumination Control On/Off	ON	ON	Be sure to set exactly according to vehicle equipment. Lighting adjustment is not possible even when the volume is operated, if “OFF” is set.
		OFF	
Sedan/Wagon Setting	Wagon	Sedan	Be sure to set exactly according to vehicle model. This relates to door lock control.
		Wagon	
MT/AT Setting	AT	MT	Be sure to set exactly according to vehicle model. This relates to key interlock control, shift lock control.
		AT	
6MT Setting	Other than 6MT	6MT	Set “6MT” for 6MT model, and set “Other than 6MT” for AT/5AT model.
		Other than 6MT	
Factory initial setting	Factory	Factory	Be sure to set to “Market”. After setting, turn the ignition switch to OFF and settle the changed settings.
		Market	

CAUTION:
- **To perform normal operation of vehicle and diagnosis, the above settings must match the actual vehicle equipment.**
- **When body integrated unit is a new part or “Factory” mode, key illumination blinks to show equipment settings have not been completed. Check the detailed procedures of function setting.**
- **Be sure not to change Factory initial setting except installation of new body integrated unit.**

NOTE:
“Factory” mode:
- Body integrated unit has not been set yet. It can be recognized by key illumination blinking with ignition switch turned to ON.
- All replacement body integrated units are set to Factory mode. When replacing a body integrated unit, be sure to perform the registration operation.

“Market” mode:
- Each settings have been set. It can be recognized by key ring illumination coming on in concocting with room light and going off with ignition switch turned to ON.

9) Perform the Factory setting. On the «Integ. Unit customizing" display screen of Subaru Select Monitor, select the {Factory initial setting}.
10) Change the mode from Factory to Market and then turn the ignition switch to OFF.
11) Change the Subaru Select Monitor system section to «Immobilizer» to register the immobilizer key. (Model with immobilizer)
12) Perform the operation according to the "PC application help for Subaru Select Monitor".
13) When key registration is completed, "Do you want to register remote engine start?" is displayed. Perform registration only for equipped models.
14) Perform the function setting (ECM customizing).
<Ref. to LAN(diag)-25, USER CUSTOMIZING, OPERATION, Subaru Select Monitor.>

NOTE:
For details concerning the operation procedure, refer to the "PC application help for Subaru Select Monitor".

6. CLEAR MEMORY MODE

1) On the «Main Menu» display screen, select the {2. Each System Check}.
2) On the «System Selection Menu» display screen, select the {Integ. unit mode}.
3) Press the [OK] key after the information of body integrated unit type is displayed.
4) On the «Integ. unit mode failure diag» display screen, select {Clear Memory} and press the [OK] key.

Display	Contents to be monitored
Clear Memory ?	Clear function of DTC and freeze frame data

5) When "Done" is shown on the display screen, turn the ignition switch to OFF.

NOTE:
For details concerning the operation procedure, refer to the «PC application help file for Subaru Select Monitor».

7. FREEZE FRAME DATA

NOTE:
- Data stored at the time of trouble occurrence is shown on the display.
- Freeze frame data will be memorized maximum to 20.
- If freeze frame data is not stored in memory correctly (caused by low power supply of body integrated unit), DTC will be displayed with "?" on the head of it in the Subaru Select Monitor display. This shows it may be an unreliable reading.

8. USER CUSTOMIZING

1) On the «Main Menu» display screen, select the {Each System Check}.
2) On the «System Selection Menu» display screen, select the {Integ. unit mode}.
3) On the «Integ. unit mode failure diag» display screen, select the {Integ. Unit customizing}.
4) Change the setting with UP/DOWN key and set with the [OK] key.

• List of function setting item (Unit customizing)

Data	Initial setting value	Customize setting	Remarks	
Off delay time	Normal		Delay time below can be selected by setting.	
			After door closed	After keyless unlock
		OFF	0 sec.	0 sec.
		Short	10 sec.	30 sec.
		Normal	20 sec.	30 sec.
		Long	30 sec.	30 sec.
Auto lock time	30 sec.	20 — 60 sec.	Workable when Auto locking is set to “ON” and Automatic locking setup is “ON”. Time can be changed by 10 seconds: 20 — 60 (maximum).	
Rr defogger op. mode	15 min.	15 min.	Wiper deicer stops in 15 minutes automatically after switch is turned to ON.	
		Continuous	The wiper deicer activates for 15 minutes and turns inactive for 2 minutes repeatedly until the switch is turned OFF.	
Wiper deicer op. mode	15 min.	15 min.	Wiper deicer stops in 15 minutes automatically after switch is turned to ON.	
		Continuous	The wiper deicer activates for 15 minutes and turns inactive for 2 minutes repeatedly until the switch is turned OFF.	
Security Alarm Setup	OFF	ON	Security alarm (hazard, horn or siren) in active condition	
		OFF	Security alarm in inactive condition	
Impact Sensor Setup	OFF	ON	Workable when Impact Sensor Setup is set to “ON” Impact sensor function becomes activated.	
		OFF	Impact sensor in inactive condition (Set to “OFF” in models without sensors.)	
Alarm delay setup	ON		After the keyless lock operation, the alarm monitor starts after the following delay time has passed.	
		ON	Delay time is 30 seconds.	
		OFF	Delay time is 0 seconds.	
Lockout prevention	ON	ON	Lockout prevention in inactive condition (The function does not operate if safety knob is locked by hand.)	
		OFF	Lockout prevention in inactive condition	
Answer-back buzzer setup	ON	ON	Workable when answer-back buzzer setup is set to “ON”. When lock/unlock is selected by keyless entry system operated, hazard answer-back buzzer operates.	
		OFF	When lock/unlock is selected by keyless entry system operated, answer-back buzzer does not sound.	
Hazard answer-back setup	ON	ON	Workable when hazard answer-back setup is set to “ON” When lock/unlock is selected by keyless entry system operated, hazard answer-back buzzer operates.	
		OFF	When lock/unlock is selected by keyless entry system operated, hazard answer-back does not operate.	
Automatic locking setup	ON	ON	Not supported	
		OFF		
Passive Alarm	OFF	ON	Setting only for North American models	
		OFF		

Data	Initial setting value	Customize setting	Remarks
Door open warning	OFF	ON	If detecting door open for 30 minutes, room light, key ring illumination are turned off to prevent battery run-out.
		OFF	Room light, key illumination and door warning light is not turned off.
Dome Light Alarm Setting	OFF	ON	The room light lights by being interlocked with the activation of the alarm.
		OFF	
Belt Warning Switch	ON	ON	When using normally
		OFF	Stop the belt warning buzzer beep and warning light illumination.

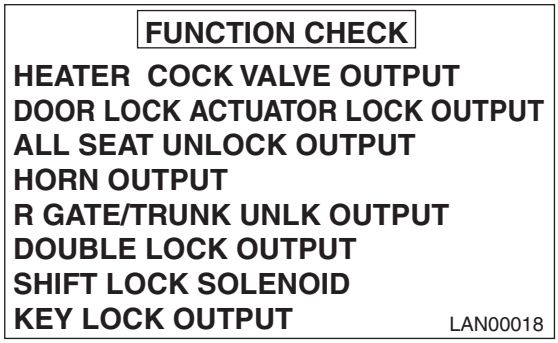
5) After setting, make sure that vehicle equipment is same as the setting changed in the {Current Data Display & Save}.

CAUTION:
- **The above settings must match the actual vehicle equipment.**
- **Do not change settings other than the above while setting the functions.**
- **Be sure not to change Factory initial setting except installation of new body integrated unit.**

NOTE:
For details concerning the operation procedure, refer to the «PC application hep file for Subaru Select Monitor».

9. FUNCTION CHECK

In order to check the body integrated unit function, inspect the body integrated unit and actuator using Subaru Select Monitor without operating switches.
1) On the «Main Menu» display screen, select the {Each System Check}.
2) On the «System Selection Menu» display screen, select the {Integ. unit mode}.
3) On the «Integ. unit mode failure diag» display screen, select the {Function check}.
4) Select the item to be operated on the «Function check» display screen with «UP/Down key» and press the [Next] button.



5) Pressing [Next] starts, [Quit] cancels the operation and [OK] returns to the System Operation Check Mode display screen.

NOTE:
If not equipped (based on area or condition), process will not go on.

7. Read Diagnostic Trouble Code (DTC)

A: OPERATION

1. WITHOUT SUBARU SELECT MONITOR

NOTE:
Use the Subaru Select Monitor; DTCs cannot be read without it.

2. WITH SUBARU SELECT MONITOR

For details concerning DTC reading procedure, refer to “Subaru Select Monitor”. <Ref. to LAN(diag)-15, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>

8. Clear Memory Mode

A: OPERATION

1. WITHOUT SUBARU SELECT MONITOR

NOTE:
Use the Subaru Select Monitor for the Clear Memory Mode.

2. WITH SUBARU SELECT MONITOR

For details concerning DTC clear operation, refer to “Subaru Select Monitor”. <Ref. to LAN(diag)-24, CLEAR MEMORY MODE, OPERATION, Subaru Select Monitor.>

9. Read Current Data

A: OPERATION

1) On the «Main Menu» display screen, select the {Each System Check}.
2) On the «System Selection Menu» display screen, select the {Integ. unit mode}.
3) On the «Integ. unit mode failure diag» display screen, select the {Current Data Display & Save}.
4) Using the scroll key, scroll the display screen up or down until the desired data is shown.
<Ref. to LAN(diag)-16, DISPLAY OF DATA, OPERATION, Subaru Select Monitor.>

10.Function Setting (Customize)

A: OPERATION

1. WITHOUT SUBARU SELECT MONITOR

NOTE:
Applicable to models with center display.
1) Press “INFO” switch on the center display to display the information display screen.
2) Select “SET” on the touch panel displayed in the upper right corner of the center display.
3) Select an item on the touch panel “Keyless”, “Each function”, “Security alarm”.
4) On the touch panel of the item for the setting to be changed, change the setting.
5) Return to the information display screen to complete the setting.
Item list for setting functions

Contents	Setting
Keyless	Auto lock
	Auto lock time setting
	Answer-back hazard
	Answer-back buzzer
Functions	Room light delay time
	Lockout prevention
	Rear defogger
	Wiper deicer
Burglar alarm	Alarm
	Impact sensor (ON/OFF, sensitivity adjustment)
	Alarm monitor start

2. WITH SUBARU SELECT MONITOR

For detailed procedures of function setting (Integ. Unit customizing), refer to “SUBARU SELECT MONITOR”. <Ref. to LAN(diag)-25, USER CUSTOMIZING, OPERATION, Subaru Select Monitor.>

11.List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Contents	Diagnosis content	Index
None	Communication for Initializing Impossible	• Open or short in Subaru Select Monitor communication line • Back-up power supply circuit malfunction	<Ref. to LAN(diag)-34, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1100	Integ. Unit System Error	Memory read out error in body integrated unit	<Ref. to LAN(diag)-36, DTC B1100 INTEG. UNIT SYSTEM ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1101	Batt P/Supply Malfunction Cont	• Open or short in battery power supply control circuit • Voltage malfunction caused by poor contact	<Ref. to LAN(diag)-37, DTC B1101 BATT P/SUPPLY MALFUNCTION CONT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1102	Batt P/Supply Malfunction Backup	Voltage malfunction caused by poor contact of battery power supply backup circuits	<Ref. to LAN(diag)-39, DTC B1102 BATT P/SUPPLY MALFUNCTION BACKUP, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1103	Ignition Power Failure	Voltage malfunction caused by poor contact of IGN power supply circuits	<Ref. to LAN(diag)-41, DTC B1103 IGNITION POWER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1104	ACC Power Failure	Voltage malfunction caused by poor contact of ACC power supply circuits	<Ref. to LAN(diag)-43, DTC B1104 ACC POWER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1201	CAN-HS Counter Abnormal	Communication is unstable because of high speed CAN communication error.	<Ref. to LAN(diag)-45, DTC U1201 CAN-HS COUNTER ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1202	CAN-HS Bus Off	• Open or power supply-output short, GND-output short occurs in CAN line. • End resistance malfunction • Internal error in each control module	<Ref. to LAN(diag)-48, DTC U1202 CAN-HS BUS OFF, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1211	CAN-HS ECM Data Abnormal	Received error data from ECM.	<Ref. to LAN(diag)-51, DTC U1211 CAN-HS ECM DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1213	CAN-HS VDC/ABS Data Abnormal	Received error data from VDC/ABS unit.	<Ref. to LAN(diag)-53, DTC U1213 CAN-HS VDC/ABS DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1216	High-speed CAN (DCCD) Data Error	Received error data from DCCD.	<Ref. to LAN(diag)-55, DTC U1216 HIGH-SPEED CAN (DCCD) DATA ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1221	CAN-HS ECM No-Receive Data	Not received error data from ECM.	<Ref. to LAN(diag)-57, DTC U1221 CAN-HS ECM NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1223	CAN-HS VDC/ABS No-Receive Data	Not received error data from VDC/ABS CM.	<Ref. to LAN(diag)-59, DTC U1223 CAN-HS VDC/ABS NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1226	High-speed CAN (DCCD) Data is not received	Not received error data from DCCD.	<Ref. to LAN(diag)-61, DTC U1226 HIGH-SPEED CAN (DCCD) DATA IS NOT RECEIVED , Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1300	CAN-LS Malfunction	Open or short in CAN-LS circuit, on ether side	<Ref. to LAN(diag)-63, DTC U1300 CAN-LS MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Contents	Diagnosis content	Index
U1301	CAN-LS Counter Abnormal	Communication is unstable because of low speed CAN communication error.	<Ref. to LAN(diag)-65, DTC U1301 CAN-LS COUNTER ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1302	CAN-LS Bus OFF	• Open or power supply-output short, GND-output short occurs in both CAN line. • Internal error in each control module	<Ref. to LAN(diag)-68, DTC U1302 CAN-LS BUS OFF, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1311	CAN-LS Meter Unit Data Abnormal	Received error data from meter.	<Ref. to LAN(diag)-70, DTC U1311 CAN-LS METER UNIT DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1321	CAN-LS Meter No-Receive Data	Not received error data from meter.	<Ref. to LAN(diag)-71, DTC U1321 CAN-LS METER NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1401	M collation NG	Malfunction related immobilizer	<Ref. to IM(diag)-22, DTC B1401 M COLLATION NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1402	Immobirizer Key collation NG	Malfunction related immobilizer	<Ref. to IM(diag)-22, DTC B1402 IMMOBILIZER KEY COLLATION NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1403	E/G Request NG	Malfunction related immobilizer	<Ref. to IM(diag)-22, DTC B1403 E/G REQUEST NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1500	Keyless UART Com. Malfunction	Open or short circuit in keyless UART circuit	<Ref. to LAN(diag)-73, DTC B1500 KEYLESS UART COM. MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

1. DTC TABLE

NOTE:
When more than two DTC codes are recorded, referring to their combination will make it easy to identify the possible cause. Refer to the list for typical examples.

DTC to Check	Diagnostic Code that was displayed.				Probable cause
	Body integrated unit	ECM	VDC/ABS CM	DCCD CM	
B1100 <Ref. to LAN(diag)-36, DTC B1100 INTEG. UNIT SYSTEM ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	B1100	—	—	—	There could be a problem in the body integrated unit.
U1221 <Ref. to LAN(diag)-57, DTC U1221 CAN-HS ECM NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	U1221	—	C0057	—	It is possible that the ECM is faulty.
U1223 <Ref. to LAN(diag)-59, DTC U1223 CAN-HS VDC/ABS NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	U1223	P0600	—	—	It is possible that the VDC/ABS CM is faulty.
U1226 <Ref. to LAN(diag)-61, DTC U1226 HIGH-SPEED CAN (DCCD) DATA IS NOT RECEIVED , Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	U1226	—	—	—	It is possible that the DCCD CM is faulty.
U1321 <Ref. to LAN(diag)-71, DTC U1321 CAN-LS METER NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	U1321	—	—	—	It is possible that the combination meter is faulty.
B1500 <Ref. to LAN(diag)-73, DTC B1500 KEYLESS UART COM. MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	B1500	—	—	—	It's possible that there is an internal problem in the keyless entry control module, or a open circuit in the communication line.

12.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: COMMUNICATION FOR INITIALIZING IMPOSSIBLE

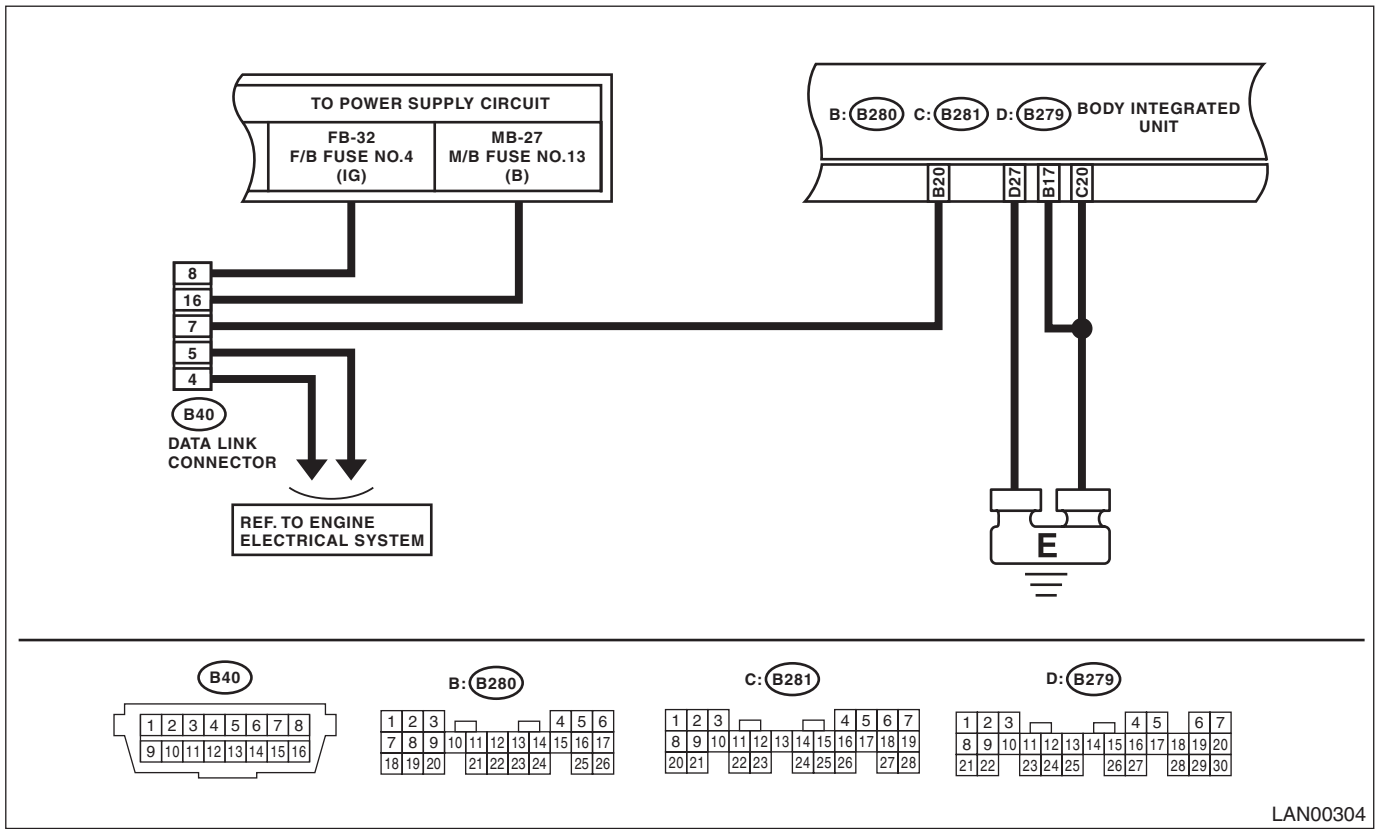
DIAGNOSIS:

- Subaru Select Monitor communication line is open or shorted.
- Back-up power supply circuit malfunction

TROUBLE SYMPTOM:

Not communicable with Subaru Select Monitor.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK IGNITION SWITCH.**	Is the ignition switch ON?	Go to step **2**.	Turn the ignition switch to ON, and select Integ. Unit mode using Subaru Select Monitor.
2	**CHECK BATTERY.** 1) Turn the ignition switch to OFF. 2) Measure the battery voltage.	Is the voltage 11 V or more?	Go to step **3**.	Charge or replace the battery.
3	**CHECK BATTERY TERMINAL.**	Is there poor contact at battery terminal?	Repair or tighten the battery terminal.	Go to step **4**.
4	**CHECK COMMUNICATION OF SUBARU SELECT MONITOR.** 1) Turn the ignition switch to ON. 2) Using the Subaru Select Monitor, check whether communication to other systems can be executed normally.	Is the system name displayed?	Go to step **7**.	Go to step **5**.

Step		Check	Yes	No
5	**CHECK COMMUNICATION OF SUBARU SELECT MONITOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector. 3) Turn the ignition switch to ON. 4) Check whether communication to other systems can be executed normally.	Is the system name displayed?	Go to step **7**.	Go to step **6**.
6	**CHECK HARNESS CONNECTOR BETWEEN EACH CONTROL UNIT AND SUBARU SELECT MONITOR.** 1) Turn the ignition switch to ON. 2) Disconnect the body integrated unit connector. 3) Measure the resistance between data link connector and chassis ground. ***Connector & terminal*** ***(B40) No. 7 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **7**.	Repair the harness and connector between each control module and Subaru Select Monitor.
7	**CHECK OUTPUT SIGNAL TO BODY INTEGRATED UNIT.** 1) Turn the ignition switch to ON. 2) Measure the voltage between body integrated unit and chassis ground. ***Connector & terminal*** ***(B40) No. 7 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **8**.	Repair the harness and connector between each control module and Subaru Select Monitor.
8	**CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED UNIT AND DATA LINK CONNECTOR.** Measure the resistance between body integrated unit and data link connector. ***Connector & terminal*** ***(B40) No. 7 — (B280) No. 20:***	Is the resistance less than 1 Ω?	Go to step **9**.	Repair the harness and connector between body integrated unit and Subaru Select Monitor.
9	**CHECK BACK-UP FUSE.** Check that back-up fuse is not blown out, or check that it is inserted.	Is back-up fuse OK?	Go to step **10**.	Replace the back-up fuse, or insert it into the fuse holder.
10	**CHECK POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to ON (engine OFF). 2) Measure the ignition voltage between body integrated unit connector and chassis ground. ***Connector & terminal*** ***(B280) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **11**.	Repair the open circuit of harness between body integrated unit and battery.
11	**CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED UNIT AND CHASSIS GROUND.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from body integrated unit. 3) Measure the resistance of harness between the body integrated unit and chassis ground. ***Connector & terminal*** ***(B280) No. 20 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **12**.	Repair the poor contact of harness between body integrated unit and ground.
12	**CHECK POOR CONTACT OF CONNECTOR.**	Is there poor contact at control unit ground and Subaru Select Monitor?	Replace the body integrated unit. <Ref. to SL-47, Body Integrated Unit.>	Repair the poor contact of connector.

CAUTION:
When replacing body integrated unit on the model with immobilizer system, refer to the "PC application help for Subaru Select Monitor".

B: DTC B1100 INTEG. UNIT SYSTEM ERROR

DTC DETECTING CONDITION:

Memory read out error in body integrated unit

Trouble symptom:

- Check light comes on in the combination meter.
- LAN communication immobilizer function may not be executed normally.

Step		Check	Yes	No
1	**CHECK DTC.** Check the DTC displayed in the body integrated unit.	Is the DTC B1100 displayed current malfunction?	Go to step **2**.	Temporary EEPROM access error occurred.
2	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is the DTC B1100 displayed current malfunction?	Replace the body integrated unit. <Ref. to SL-47, Body Integrated Unit.>	Temporary EEPROM access error occurred.

C: DTC B1101 BATT P/SUPPLY MALFUNCTION CONT

DTC DETECTING CONDITION:

- Battery power supply backup circuit is open or shorted.
- Input voltage is too high or too low.

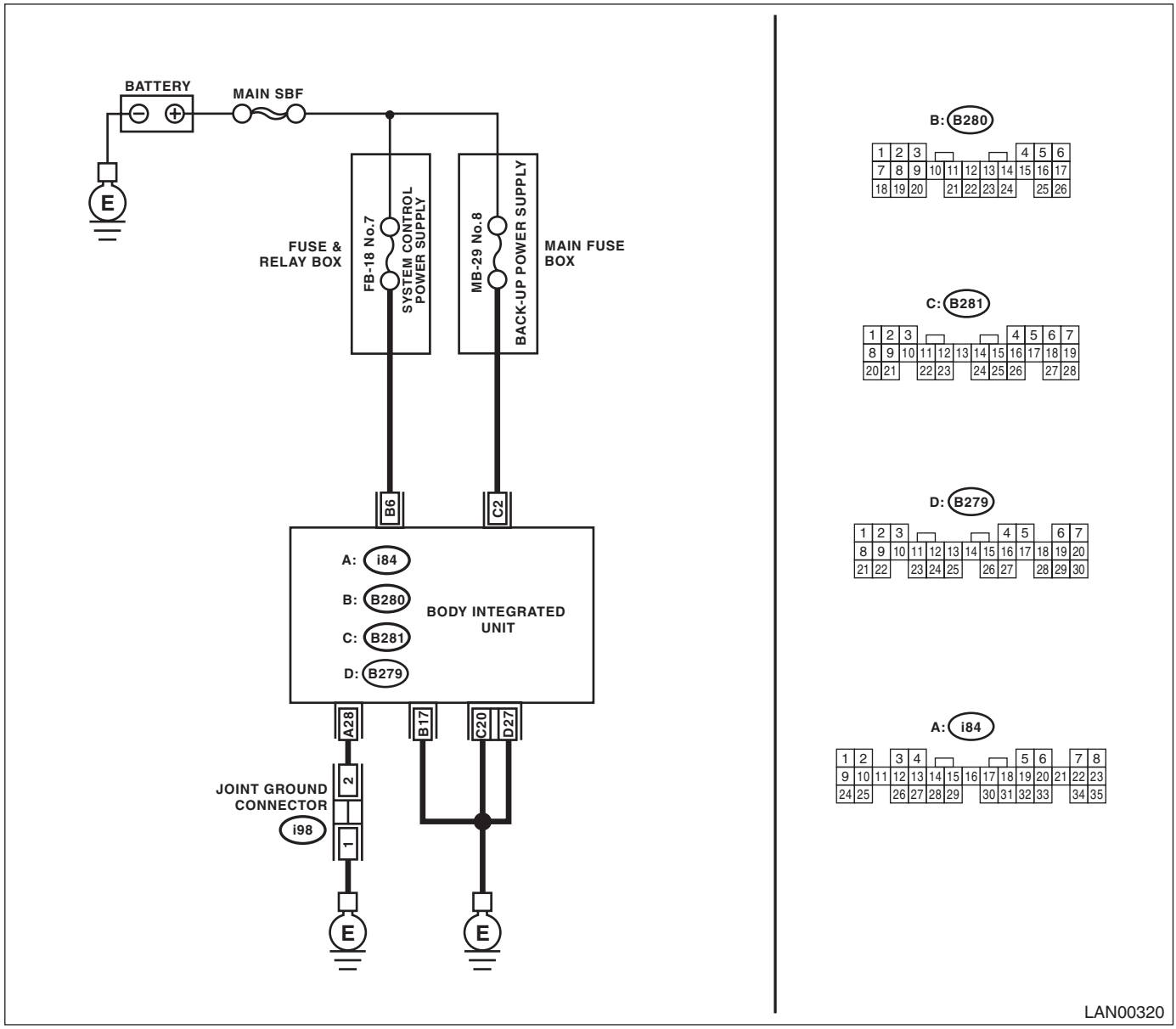
TROUBLE SYMPTOM:

Each function (such as door lock control) stops operation.

NOTE:

- When B1102 BATT p/supply (backup) malfunction is output at the same time, all the function of body integrated unit may not operate.
- B1101 may input when the battery run-out occurs.

WIRING DIAGRAM:



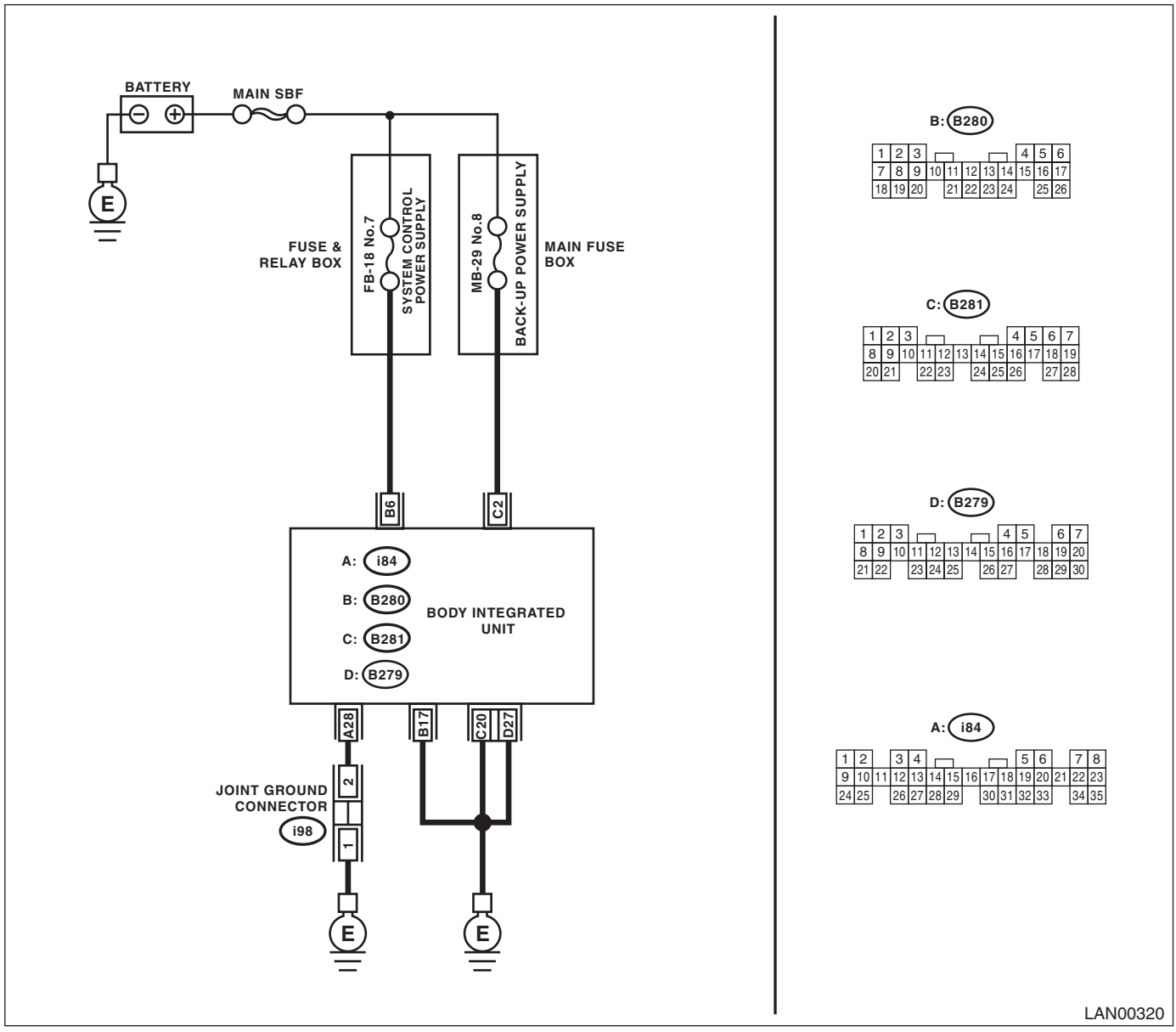
Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1101 current malfunction?	Go to step **2**.	Go to step **5**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from body integrated unit and reconnect. 3) Wait approx. 2 minutes. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1101 current malfunction?	Go to step **3**.	Go to step **5**.
3	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Inspect the fuse.	Is fuse normal?	Go to step **4**.	Replace the defective fuse.
4	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (B280). 2) Measure the voltage between body integrated unit connector and chassis ground using tester. ***Connector & terminal*** ***(B280) No. 6 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Replace the body integrated unit. <Ref. to SL-47, Body Integrated Unit.>	Repair or replace the open or shorted circuit between body integrated unit and fuse.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector (B280).	Is there poor contact in connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

D: DTC B1102 BATT P/SUPPLY MALFUNCTION BACKUP

DTC DETECTING CONDITION:
Input voltage is too high or too low because of poor contact of back-up power supply circuits
TROUBLE SYMPTOM:
No influence.

NOTE:
- When some B1101 BATT p/supply (control) malfunction cont. is output at the same time, all function of body integrated unit may not function.
- B1101 may input when the battery run-out occurs.

WIRING DIAGRAM:

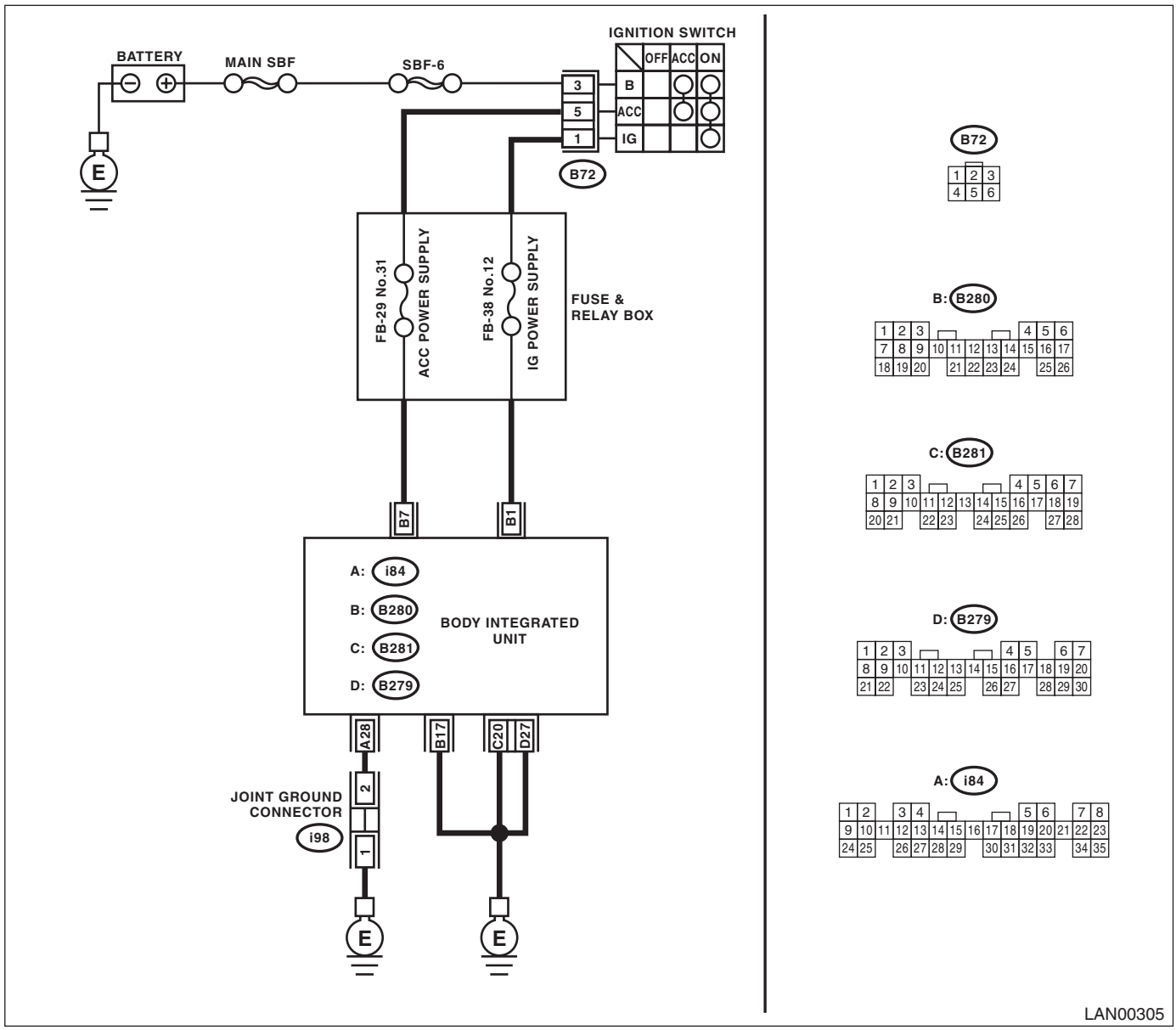


Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1102 current malfunction?	Go to step **2**.	Go to step **5**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from body integrated unit and reconnect. 3) Wait approx. 2 minutes. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1102 current malfunction?	Go to step **3**.	Go to step **5**.
3	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Inspect the fuse.	Is fuse normal?	Go to step **4**.	Replace the defective fuse.
4	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (B281). 2) Measure the voltage between body integrated unit connector and chassis ground using tester. ***Connector & terminal*** ***(B281) No. 2 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Replace the body integrated unit. <Ref. to SL-47, Body Integrated Unit.>	Repair or replace the open or shorted circuit between body integrated unit and fuse.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector (B280).	Is there poor contact in connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

E: DTC B1103 IGNITION POWER FAILURE

DTC DETECTING CONDITION:
Input voltage is too high or too low because of poor contact of IGN power supply circuits
TROUBLE SYMPTOM:
Error related to LAN system will not be detected.

NOTE:
B1103 may output when the ignition switch turns to ON with the weak battery condition.
WIRING DIAGRAM:

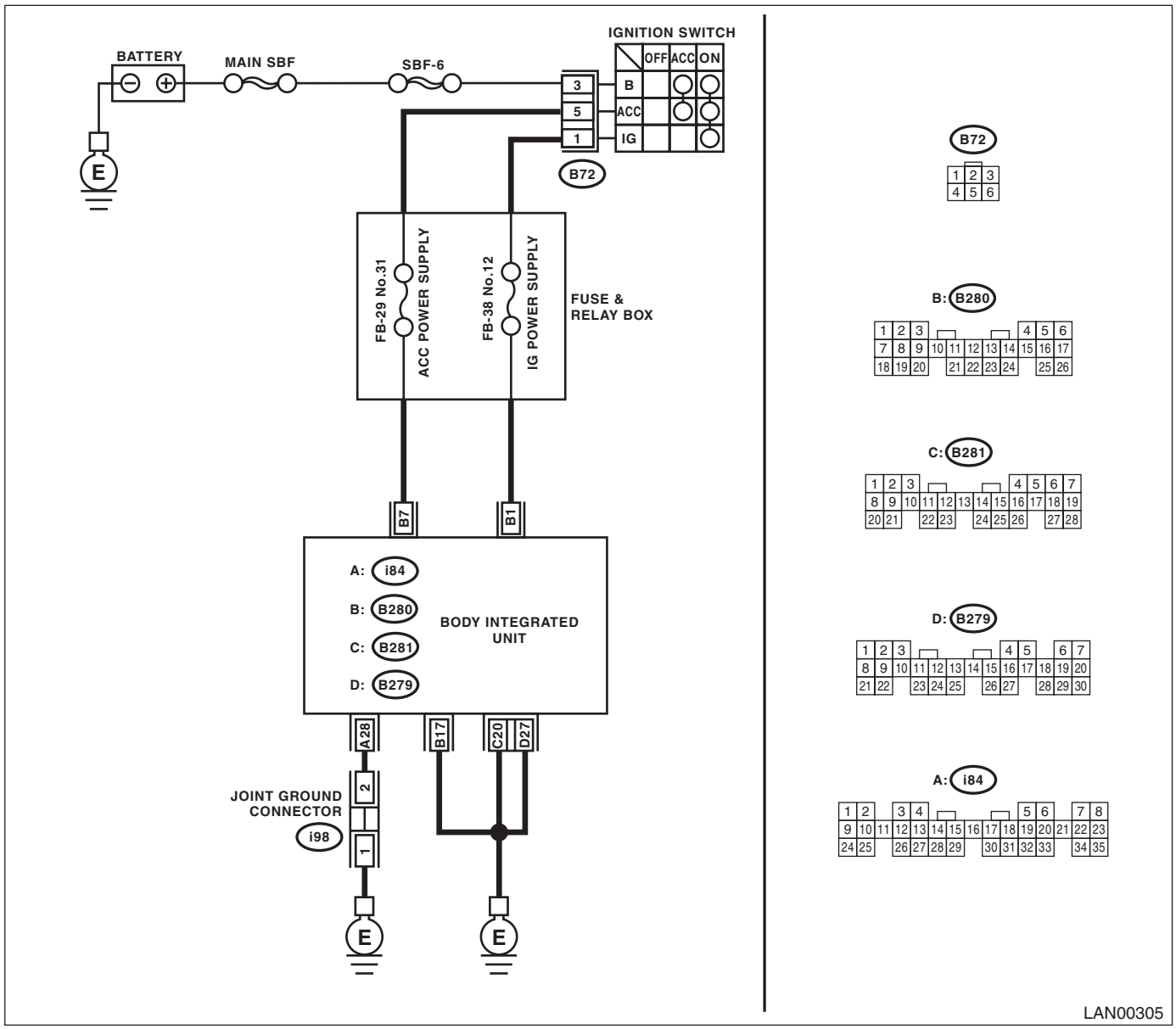


Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1103 current malfunction?	Go to step **2**.	Go to step **5**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from body integrated unit and reconnect. 3) Turn the ignition switch to ON. 4) Wait approx. 2 minutes. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1103 current malfunction?	Go to step **3**.	Go to step **5**.
3	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Inspect the fuse.	Is fuse normal?	Go to step **4**.	Replace the defective fuse.
4	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (B280). 2) Measure the voltage between body integrated unit connector and chassis ground using tester. ***Connector & terminal*** ***(B280) No. 1 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Replace the body integrated unit. <Ref. to SL-47, Body Integrated Unit.>	Repair or replace the open or shorted circuit between body integrated unit and fuse.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector (B280).	Is there poor contact in connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

F: DTC B1104 ACC POWER FAILURE

DTC DETECTING CONDITION:
Input voltage is too high or too low because of poor contact of ACC power supply circuits
TROUBLE SYMPTOM:
Does not exist.

NOTE:
B1104 may output when the ignition switch turns to ACC with the weak battery condition.
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1104 current malfunction?	Go to step **2**.	Go to step **5**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from body integrated unit and reconnect. 3) Turn the ignition switch to ACC. 4) Wait approx. 2 minutes. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1104 current malfunction?	Go to step **3**.	Go to step **5**.
3	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Inspect the fuse.	Is fuse normal?	Go to step **4**.	Replace the defective fuse.
4	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (B279). 2) Measure the voltage between body integrated unit connector and chassis ground using tester. ***Connector & terminal*** ***(B280) No. 7 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Replace the body integrated unit. <Ref. to SL-47, Body Integrated Unit.>	Repair or replace the open or shorted circuit between body integrated unit and fuse.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector (B280).	Is there poor contact in connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

G: DTC U1201 CAN-HS COUNTER ABNORMAL

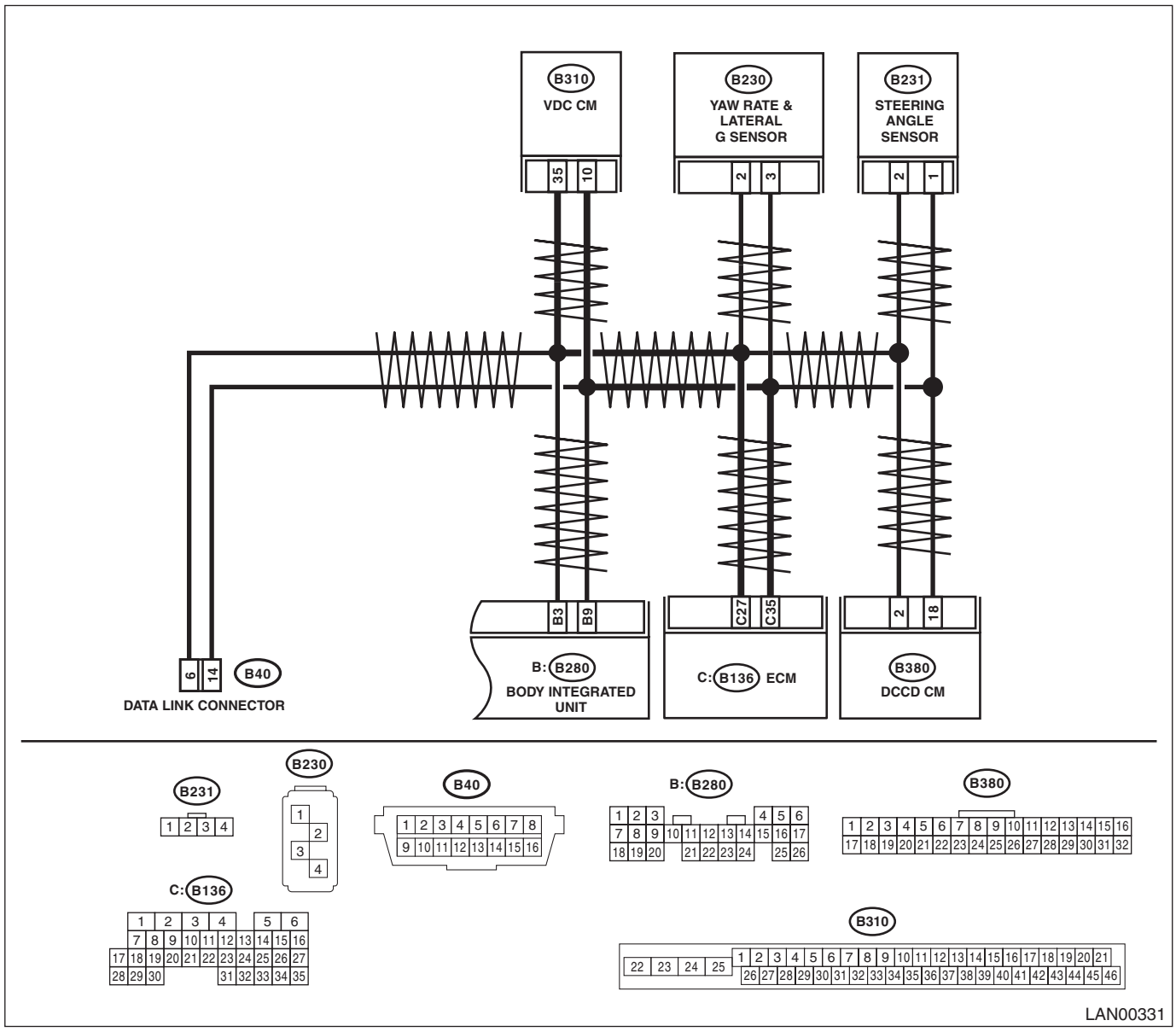
DTC DETECTING CONDITION:

Communication becomes unstable because of high speed CAN communication error.

TROUBLE SYMPTOM:

Malfunction indicator light illuminates.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Is there DTC U1202?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check DTC indicated by body integrated unit.	Is U1201 a current malfunction?	Go to step **3**.	Go to step **14**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B136, B230, B231, B380) that are connected to high speed CAN communication line. 3) Connect all the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **4**.	Go to step **14**.
4	**CHECK DCCD CM.** 1) Turn the ignition switch to OFF. 2) Disconnect the DCCD CM connector (B380). 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **5**.	Go to step **16**.
5	**CHECK STEERING ANGLE SENSOR.** 1) Turn the ignition switch to OFF. 2) Connect the DCCD CM connector. 3) Disconnect the steering angle sensor connector (B231). 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **6**.	Go to step **17**.
6	**CHECK YAW RATE SENSOR.** 1) Turn the ignition switch to OFF. 2) Connect the steering angle sensor connector. 3) Disconnect the yaw rate sensor connector (B230). 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **7**.	Go to step **18**.
7	**CHECK VDC/ABS CM HARNESS.** 1) Turn the ignition switch to OFF. 2) Connect the yaw rate sensor connector. 3) Disconnect the VDC/ABS CM connector (B310). 4) Install the 120 Ωresistance to VDC/ABS CM connector terminals. ***Terminals*** ***(B310) No. 10 — No. 35:*** 5) Using the tester, measure the resistance between terminals of data link connector. ***Terminals*** ***(B40) No. 6 — No. 14:***	Is the resistance 60 Ω?	Go to step **8**.	Go to step **10**.
8	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **16**.	Go to step **9**.
9	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1202 a current malfunction?	Replace the VDC/ABS CM. <Ref. to VDC-7, REMOVAL, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step **10**.

Step		Check	Yes	No
10	**CHECK ECM.** 1) Turn the ignition switch to OFF. 2) Connect the VDC/ABS CM. 3) Disconnect the ECM connector (B136). 4) Install the 120 Ωresistance to ECM connector. ***Terminals*** ***(B136) No. 27 — No. 35:*** 5) Using the tester, measure the resistance between terminals of data link connector. ***Connector & terminal*** ***(B40) No. 6 — No. 14:***	Is the resistance 60 Ω?	Go to step **11**.	Repair or replace the open circuit of harness.
11	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **12**.	Repair or replace the open circuit of measured related harness.
12	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1202 a current malfunction?	Replace the ECM. <Ref. to FU(STI)-49, REMOVAL, Engine Control Module (ECM).>	Go to step **13**.
13	**CHECK DTC.** 1) Reconnect all the disconnected connectors. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Replace the body integrated unit. <Ref. to SL-47, REMOVAL, Body Integrated Unit.>	Go to step **14**.
14	**CHECK HARNESS.** 1) Shake the instrument harness and bulkhead harness, rear harness. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Repair or replace the harness.	Go to step **15**.
15	**CHECK CONNECTOR.** Connect the tester to ECM terminal, and measure the resistance. ***Connector & terminal*** ***(B136) No. 27 — No. 35:*** 1) Disconnect the connector used for CAN circuit. 2) Check the connector terminal.	Is there poor contact in connector terminal?	Repair the connector terminal where poor contact exists, or replace harness.	Replace the ECM. <Ref. to FU(STI)-49, REMOVAL, Engine Control Module (ECM).>
16	**CHECK HARNESS.** Using the tester, measure the resistance between terminals of data link connector and DCCD CM. ***Connector & terminal*** ***(B40) No. 14 — (B380) No. 18:*** ***(B40) No. 6 — (B380) No. 2:***	Is the resistance less than 10 Ω?	Go to step **17**.	Repair or replace the harness.
17	**CHECK HARNESS.** Using the tester, measure the resistance between terminals of data link connector and steering angle sensor. ***Connector & terminal*** ***(B40) No. 14 — (B230) No. 2:*** ***(B40) No. 6 — (B230) No. 1:***	Is the resistance less than 10 Ω?	Go to step **18**.	Repair or replace the harness.
18	**CHECK HARNESS.** Using the tester, measure the resistance between terminals of data link connector and yaw rate sensor. ***Connector & terminal*** ***(B40) No. 14 — (B231) No. 2:*** ***(B40) No. 6 — (B231) No. 3:***	Is the resistance less than 10 Ω?	Replace the yaw rate sensor.	Repair or replace the harness.

H: DTC U1202 CAN-HS BUS OFF

DTC DETECTING CONDITION:

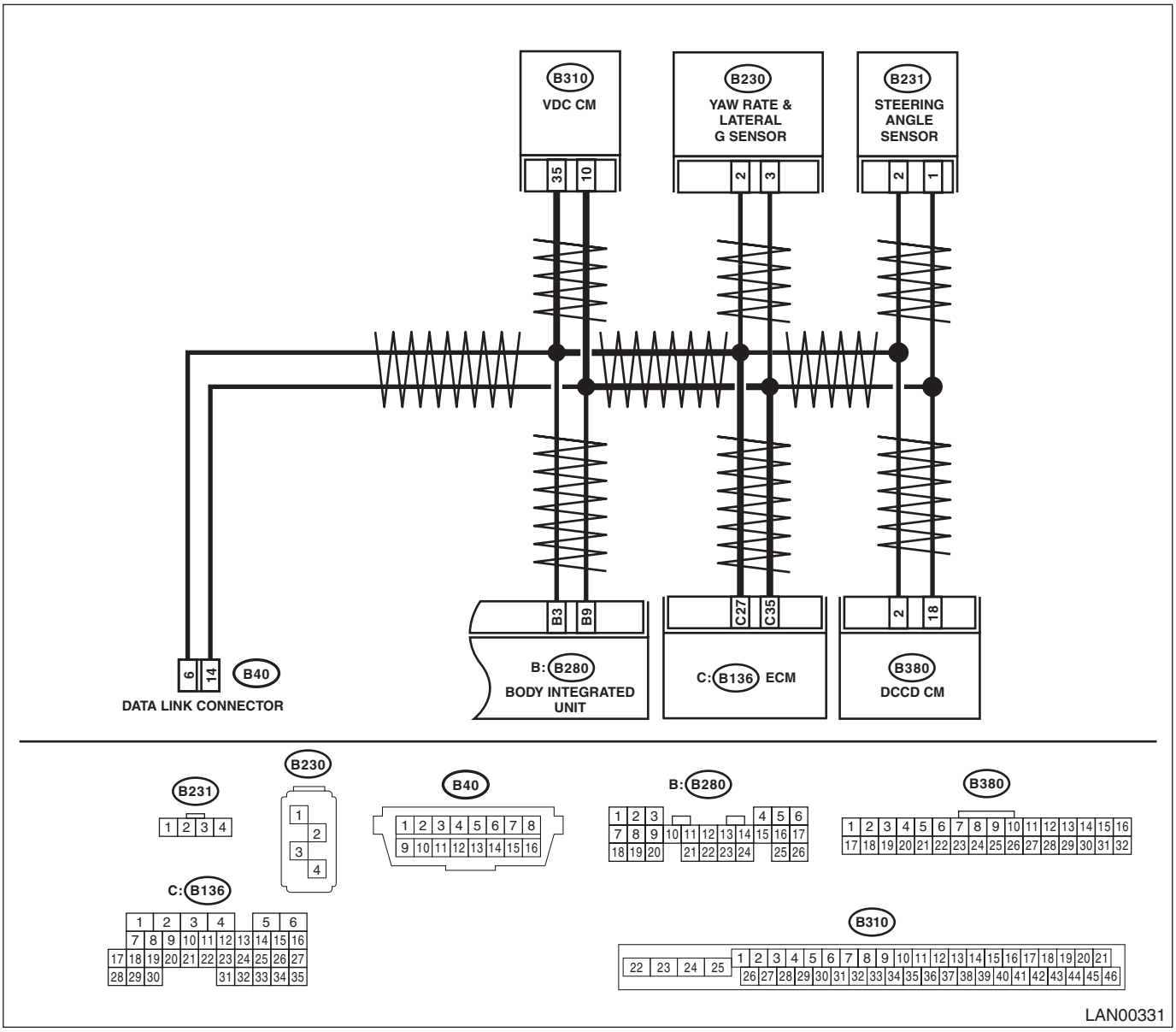
Communication with body integrated unit is not possible because of the following reasons.

- Open or power supply-output short, GND-output short occurs in CAN line.
- End resistance malfunction
- Internal error in each control module

TROUBLE SYMPTOM:

Each warning light illuminate because the CAN communication (sending and receiving) is not normal.

WIRING DIAGRAM:

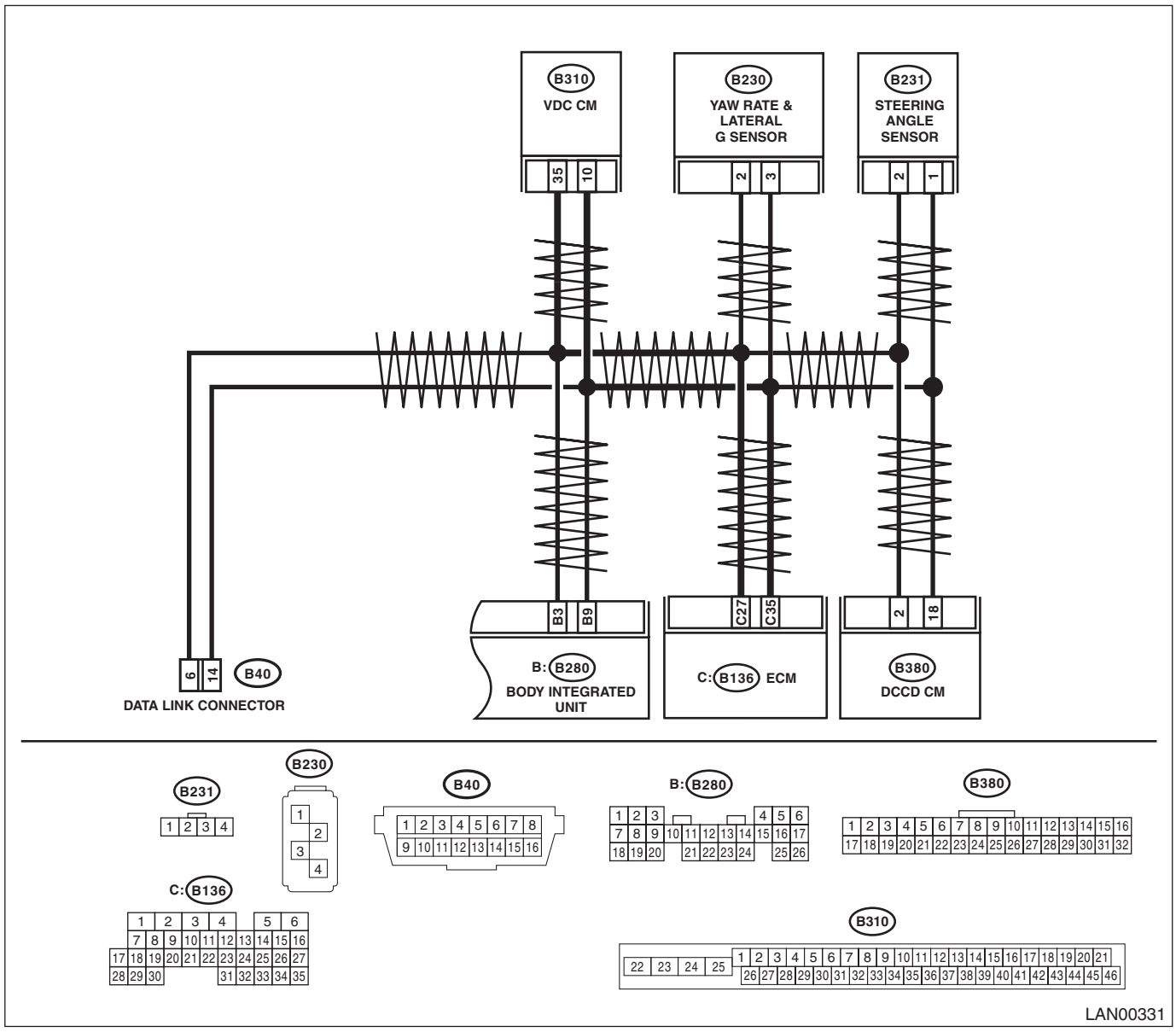


Step		Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, confirm all DTCs.	Is any DTC other than for the body integrated unit displayed?	Perform the diagnosis according to displayed DTC.	Go to step **2**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1202 a current malfunction?	Go to step **3**.	Go to step **10**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B136, B230, B231, B380) that are connected to high speed CAN communication line. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1202 a current malfunction?	Go to step **4**.	Go to step **10**.
4	**CHECK HARNESS.** 1) Disconnect all connectors (B280, B310, B136, B230, B231, B380) that are connected to high speed CAN communication line. 2) Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(B40) No. 6 — (B136) No. 27:*** ***(B40) No. 6 — (B310) No. 35:*** ***(B40) No. 6 — (B230) No. 2:*** ***(B40) No. 6 — (B231) No. 2:*** ***(B40) No. 6 — (B380) No. 2:*** ***(B40) No. 6 — (B280) No. 3:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair or replace the open circuit of harness.
5	**CHECK HARNESS.** Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(B40) No. 14 — (B136) No. 35:*** ***(B40) No. 14 — (B310) No. 10:*** ***(B40) No. 14 — (B230) No. 3:*** ***(B40) No. 14 — (B231) No. 1:*** ***(B40) No. 14 — (B380) No. 18:*** ***(B40) No. 14 — (B280) No. 9:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair or replace the open circuit of harness.
6	**CHECK ECM.** 1) Connect the ECM. 2) Using the tester, measure the resistance between terminals of data link connector. ***Connector & terminal*** ***(B40) No. 6 — No. 14:***	Is the resistance 120±5 Ω?	Go to step **7**.	Inspect the ECM. <Ref. to VDC(diag)-15, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>
7	**CHECK VDC/ABS CU.** 1) Disconnect the ECM connector (B136). 2) Connect the VDC/ABS CM. 3) Using the tester, measure the resistance between terminals of data link connector. ***Connector & terminal*** ***(B40) No. 6 — No. 14:***	Is the resistance 120±5 Ω?	Go to step **8**.	Replace the VDC/ABS CM.

Step		Check	Yes	No
8	**CHECK HARNESS.** 1) Connect the disconnected connectors. 2) Using the tester, measure the resistance between terminals of data link connector and chassis ground. ***Connector & terminal*** ***(B40) No. 6 — Chassis ground:*** ***(B40) No. 14 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **9**.	Go to step **12**.
9	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals of data link connector and chassis ground. ***Connector & terminal*** ***(B40) No. 6 — Chassis ground:*** ***(B40) No. 14 — Chassis ground:***	Is the voltage 6 V or more?	Go to step **13**.	Replace the body integrated unit.
10	**CHECK HARNESS.** 1) Shake the harness. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1202 a current malfunction?	Repair or replace the harness.	Go to step **11**.
11	**CHECK CONNECTOR.** Disconnect the connector used for high speed CAN circuit.	Is there poor contact in connector terminal?	Repair the connector terminal, or replace harness.	It is possible that temporary poor contact occurs.
12	**CHECK CONTROL MODULE.** With the tester connected, disconnect each control module connector.	Is there any control module whose resistance has changed?	Replace the control module whose resistance has changed.	Repair or replace the open or short circuit of the harness.
13	**CHECK ECM.** With the tester connected, disconnect each control module connector.	Is there any control module whose voltage has changed?	Replace the control module whose voltage has changed.	Repair or replace the short circuit of the harness.

I: DTC U1211 CAN-HS ECM DATA ABNORMAL

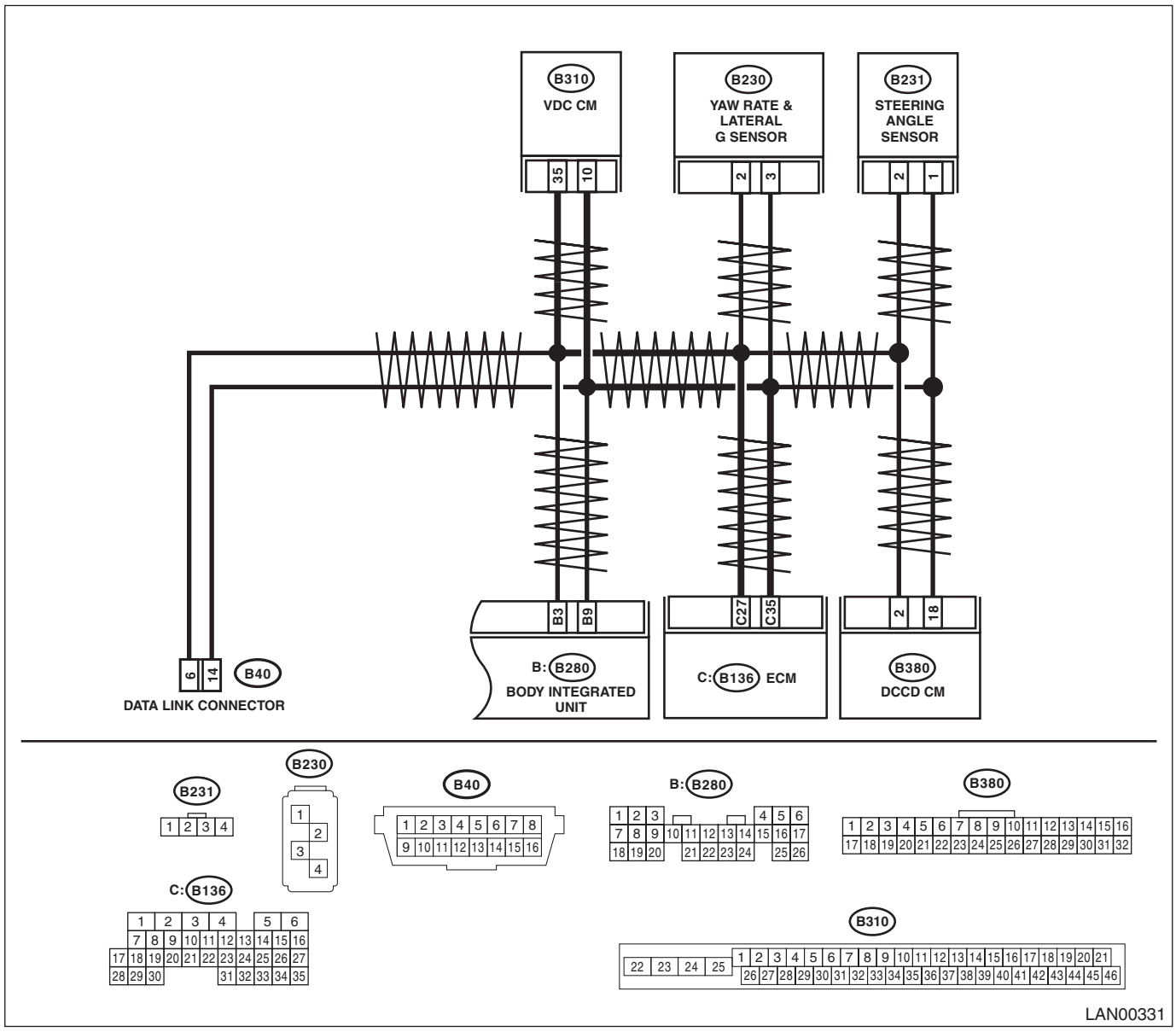
DTC DETECTING CONDITION:
Received error data from ECM.
TROUBLE SYMPTOM:
It is possible that engine control error may occur.
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are there any U1201, U1202, DTCs other than for the body integrated unit?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1211 a current malfunction?	Go to step **3**.	Go to step **4**.
3	**CHECK ECM.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1211 a current malfunction?	Replace the ECM. <Ref. to FU(STI)-49, Engine Control Module (ECM).>	Go to step **4**.
4	**CHECK HARNESS.** 1) Shake the harness used for CAN communication circuit. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1211 a current malfunction?	Repair the poor contact or temporary open circuit of harness.	Go to step **5**.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector that is connected to high speed CAN circuit.	Is there poor contact in connector?	Repair the connector terminal where poor contact exists, or replace harness.	It is possible that temporary poor contact occurs.

J: DTC U1213 CAN-HS VDC/ABS DATA ABNORMAL

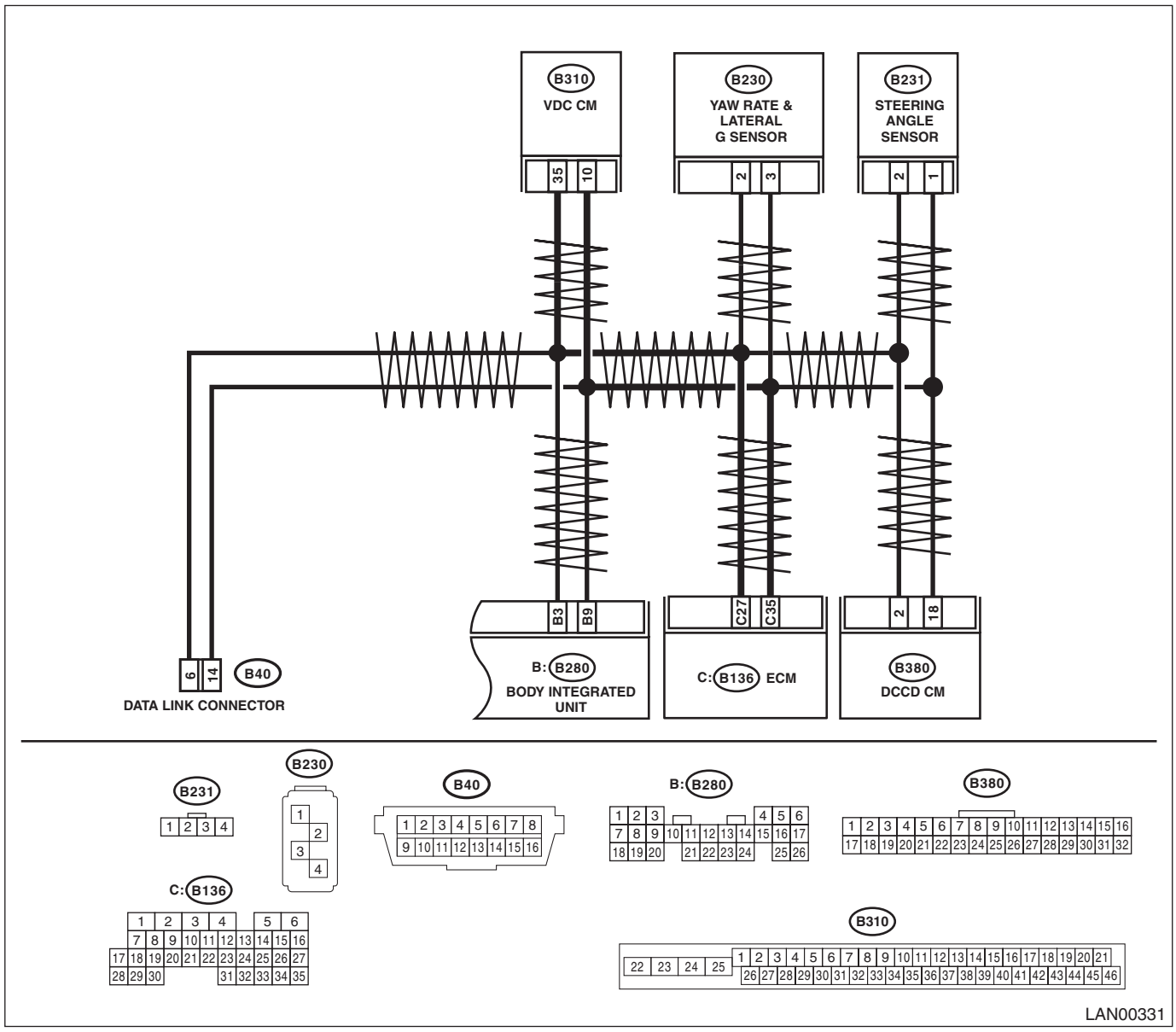
DTC DETECTING CONDITION:
Received error data from VDC/ABS CM.
TROUBLE SYMPTOM:
It is possible that brake control error may occur.
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are there any U1201, U1202, DTCs other than for the body integrated unit?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1213 a current malfunction?	Go to step **3**.	Go to step **4**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the VDC/ABS CU connector. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1213 a current malfunction?	Replace the VDC/ABS CM. <Ref. to VDC-7, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step **4**.
4	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Shake the harness used for CAN communication circuit. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1213 a current malfunction?	Repair or replace the harness.	Go to step **5**.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector that is connected to high speed CAN circuit.	Is there poor contact in connector terminal?	Repair the connector terminal, or replace harness.	It is possible that temporary poor contact occurs.

K: DTC U1216 HIGH-SPEED CAN (DCCD) DATA ERROR

DTC DETECTING CONDITION:
Received error data from DCCD CM.
TROUBLE SYMPTOM:
DCCD indicator blinks.
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are there DTC U1201 or U1202?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1212 a current malfunction?	Go to step **3**.	Go to step **4**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the DCCD CM connector. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1212 a current malfunction?	Replace the DCCD CM. <Ref. to 6MT-126, REMOVAL, Driver's Control Center Differential Control Module.>	Go to step **4**.
4	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Shake the harness used for CAN communication circuit. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1212 a current malfunction?	Repair or replace the harness.	Go to step **5**.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector that is connected to high speed CAN circuit.	Is there poor contact in connector terminal?	Repair the connector terminal, or replace harness.	Temporary poor contact occurs.

L: DTC U1221 CAN-HS ECM NO-RECEIVE DATA

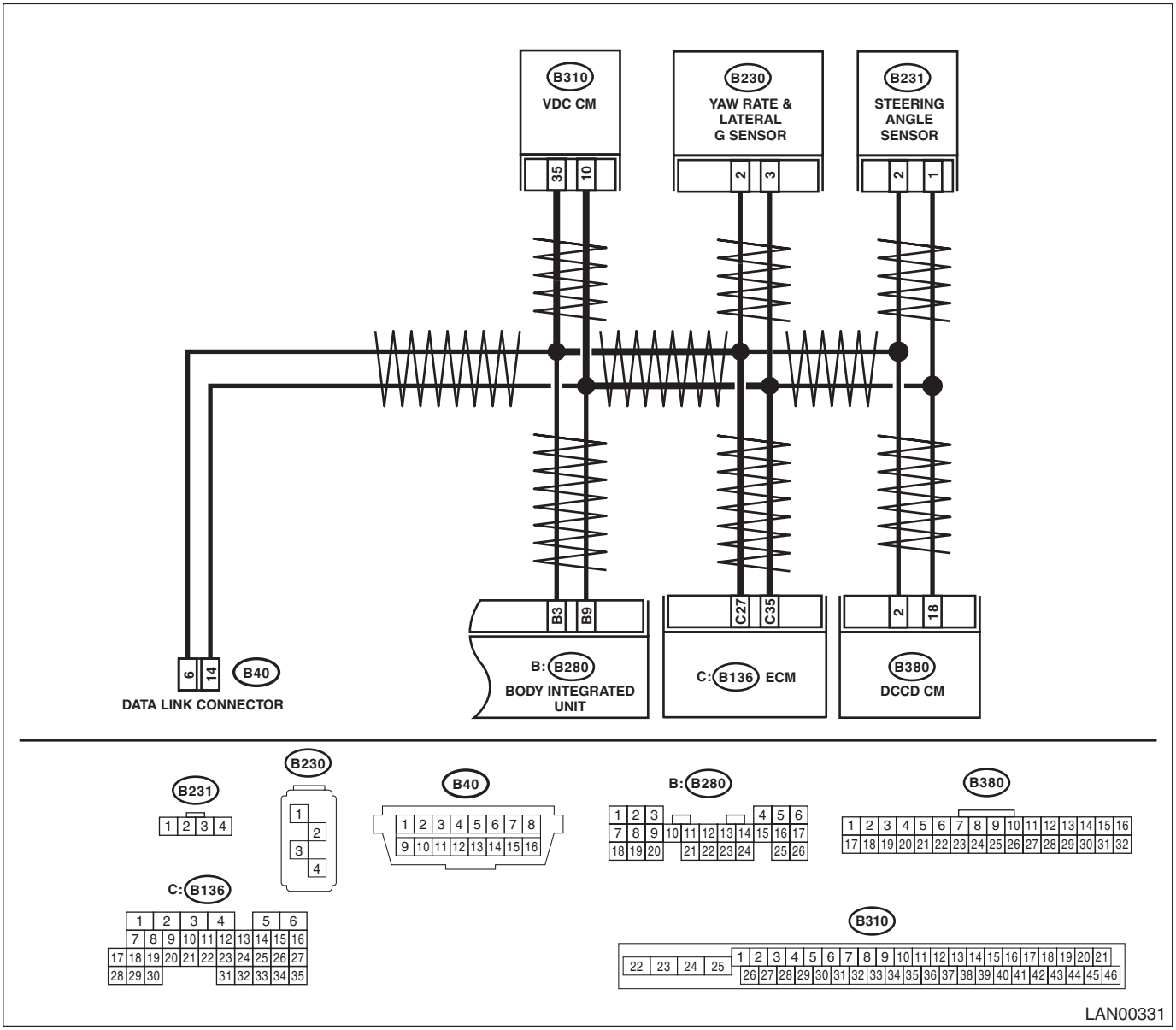
DTC DETECTING CONDITION:

Not received error data from ECM. (If error is in the main harness, DTC P0600 CAN communication link is input.)

TROUBLE SYMPTOM:

Malfunction indicator light illuminates.

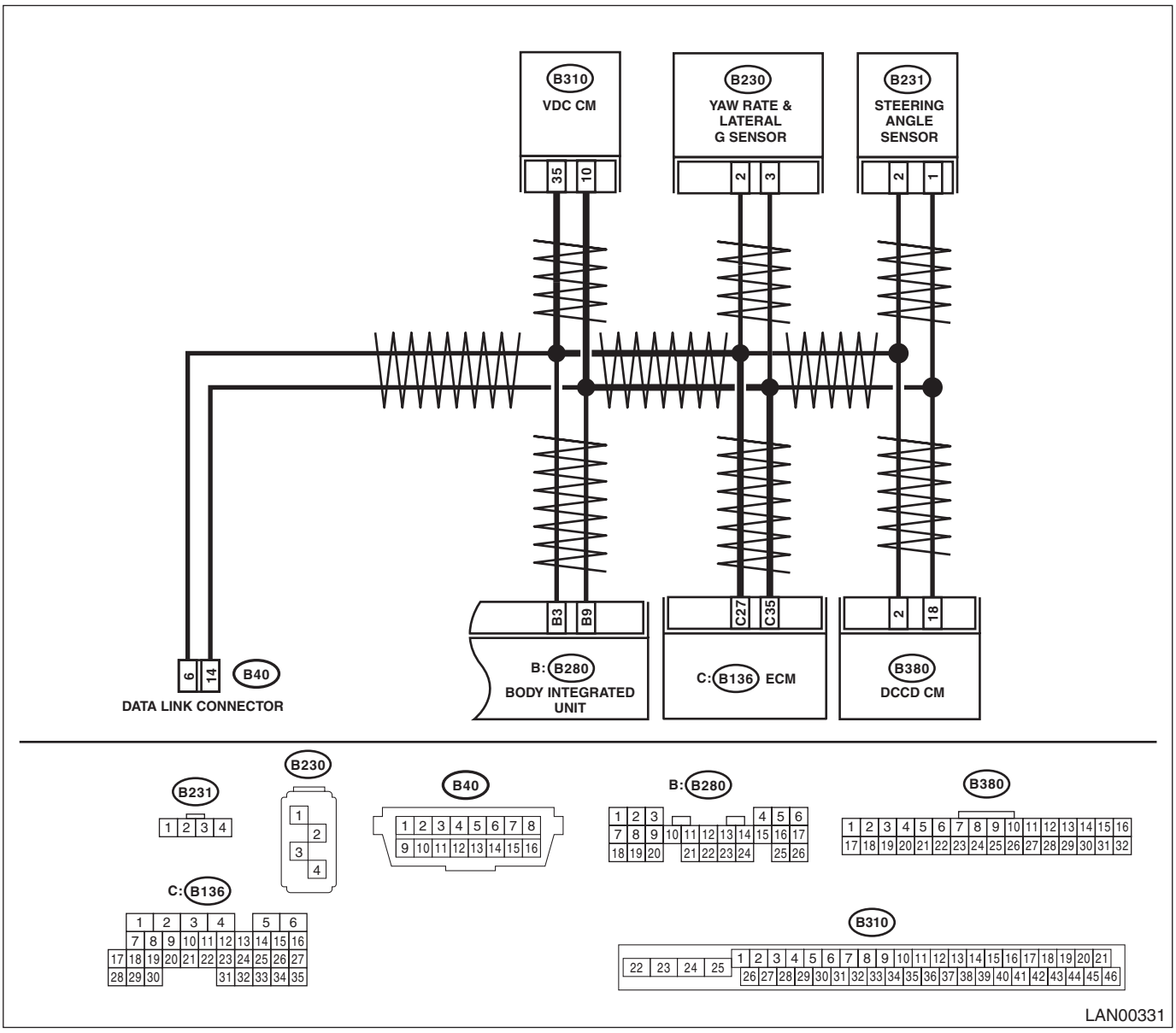
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are there any U1201, U1202, DTCs other than for the body integrated unit?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1221 a current malfunction?	Go to step **3**.	Go to step **8**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B136, B230, B231, B380) that are connected to high speed CAN communication line. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1221 a current malfunction?	Go to step **4**.	Go to step **8**.
4	**CHECK CURRENT DATA.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B136, B230, B231, B380) that are connected to high speed CAN communication line. 3) Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(B40) No. 6 — (B136) No. 27:*** ***(B40) No. 6 — (B310) No. 35:*** ***(B40) No. 6 — (B230) No. 2:*** ***(B40) No. 6 — (B231) No. 2:*** ***(B40) No. 6 — (B380) No. 2:*** ***(B40) No. 6 — (B280) No. 3:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair or replace the open circuit of the harness.
5	**CHECK HARNESS.** Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(B40) No. 14 — (B136) No. 35:*** ***(B40) No. 14 — (B310) No. 10:*** ***(B40) No. 14 — (B230) No. 3:*** ***(B40) No. 14 — (B231) No. 1:*** ***(B40) No. 14 — (B380) No. 18:*** ***(B40) No. 14 — (B280) No. 9:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair or replace the open circuit of the harness.
6	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Connect the disconnected connectors. 3) Start the engine. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1221 a current malfunction?	Go to step **7**.	Go to step **8**.
7	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are DTCs P1718 or P0044, P0045, P0140 detected?	Replace the ECM.	Replace the body integrated unit.
8	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Shake the harness used for CAN communication circuit. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1221 a current malfunction?	Repair or replace the harness.	Go to step **9**.
9	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all the connector that is connected to high speed CAN circuit.	Is there poor contact in connector terminal?	Repair the connector terminal where poor contact exists, or replace harness.	Temporary poor contact occurs.

M: DTC U1223 CAN-HS VDC/ABS NO-RECEIVE DATA

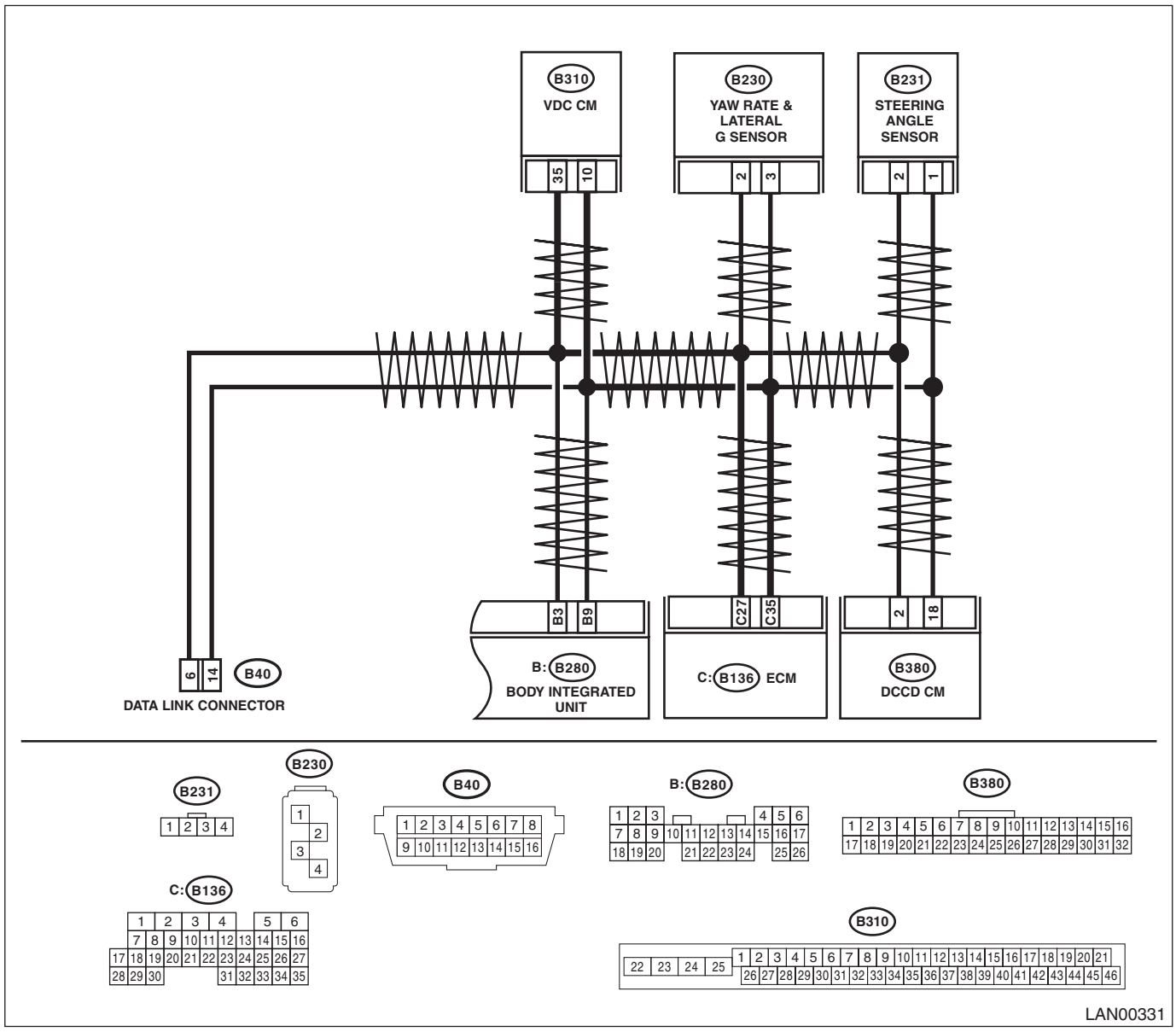
DTC DETECTING CONDITION:
Not received error data from VDC/ABS CM.
TROUBLE SYMPTOM:
ABS warning light and VDC warning light illuminates.
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are there any U1201, U1202, DTCs other than for the body integrated unit?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1223 a current malfunction?	Go to step **3**.	Go to step **7**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B136, B230, B231, B380) that are connected to high speed CAN communication line. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1223 a current malfunction?	Go to step **4**.	Go to step **7**.
4	**CHECK HARNESS.** 1) Disconnect all connectors (B280, B310, B136, B230, B231, B380) that are connected to high speed CAN communication line. 2) Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(B40) No. 6 — (B310) No. 35:*** ***(B40) No. 14 — (B310) No. 10:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair or replace the harness.
5	**CHECK DTC.** 1) Connect the disconnected connectors. 2) Start the engine. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1223 a current malfunction?	Go to step **6**.	Go to step **7**.
6	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Is P1718 or P0600 displayed?	Replace the VDC/ABS CM. <Ref. to VDC-7, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Replace the body integrated unit. <Ref. to SL-47, REMOVAL, Body Integrated Unit.>
7	**CHECK HARNESS.** 1) Shake the harness used for CAN communication circuit. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1223 a current malfunction?	Repair or replace the harness.	Go to step **8**.
8	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B136, B230, B231, B380) that are connected to high speed CAN communication line.	Is there connector terminal where poor contact exists?	Repair the connector terminal where poor contact exists, or replace harness.	Temporary poor contact occurs.

N: DTC U1226 HIGH-SPEED CAN (DCCD) DATA IS NOT RECEIVED

DTC DETECTING CONDITION:
Not received error data from DCCD CM.
TROUBLE SYMPTOM:
DCCD indicator blinks.
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are there DTC U1201 or U1202?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1222 a current malfunction?	Go to step **3**.	Go to step **7**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B136, B230, B231, B380) that are connected to high speed CAN communication line. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1222 a current malfunction?	Go to step **4**.	Go to step **7**.
4	**CHECK HARNESS.** 1) Disconnect all connectors (B280, B310, B136, B230, B231, B380) that are connected to high speed CAN communication line. 2) Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(B380) No. 18 — (B40) No. 14:*** ***(B380) No. 2 — (B40) No. 6:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair or replace the harness.
5	**CHECK DTC.** 1) Connect the disconnected connectors. 2) Start the engine and stop. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1222 a current malfunction?	Go to step **6**.	Go to step **7**.
6	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are DTCs P0600 or P0044, P0045, C0140 displayed?	Replace the DCCD CM. <Ref. to 6MT-126, REMOVAL, Driver's Control Center Differential Control Module.>	Replace the body integrated unit. <Ref. to SL-47, REMOVAL, Body Integrated Unit.>
7	**CHECK HARNESS.** 1) Shake the harness used for CAN communication circuit. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1222 a current malfunction?	Repair or replace the harness.	Go to step **8**.
8	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all the connector that is connected to high speed CAN circuit.	Is there poor contact in connector terminal?	Repair the connector terminal where poor contact exists, or replace harness.	Temporary poor contact occurs.

O: DTC U1300 CAN-LS MALFUNCTION

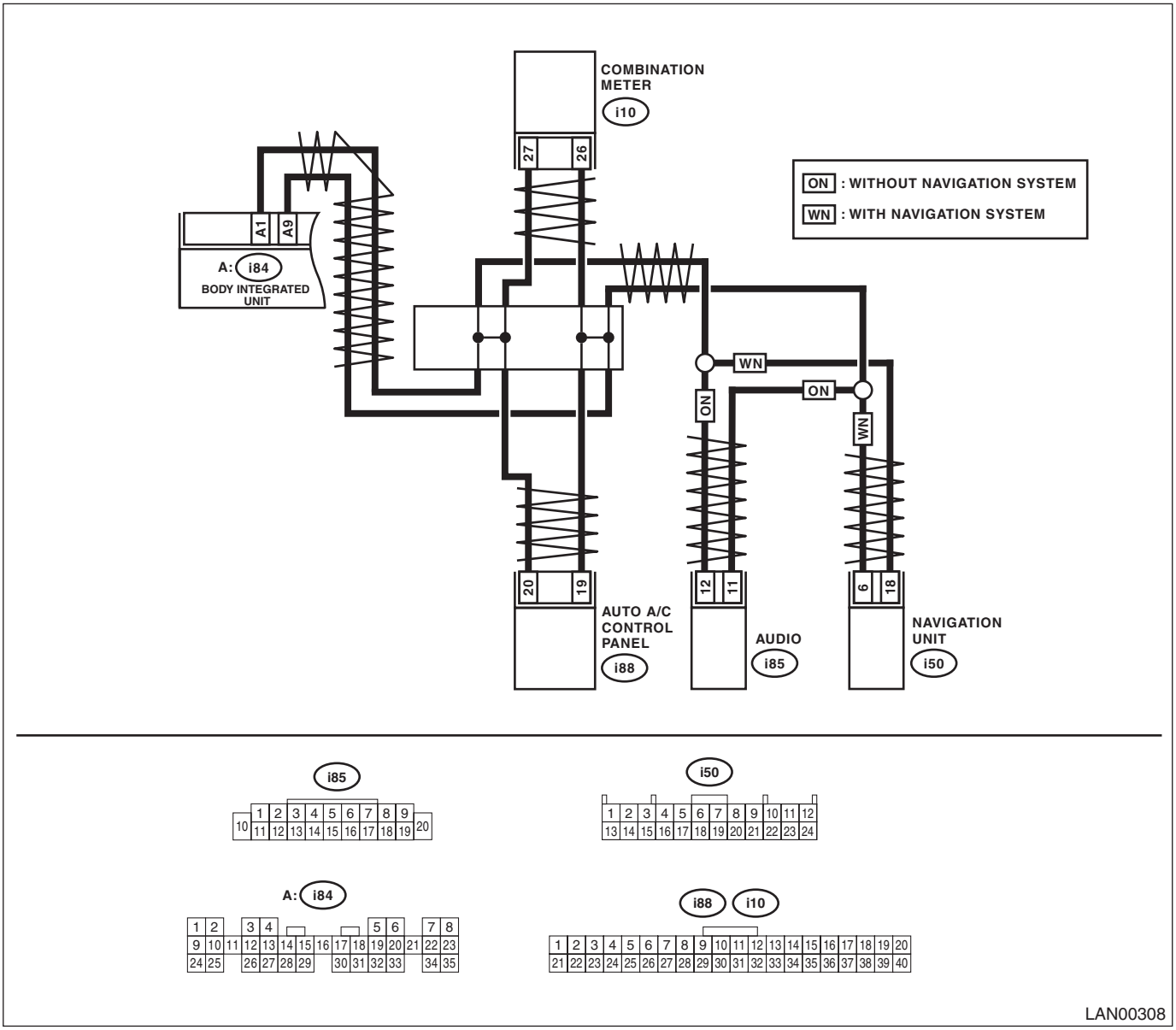
DTC DETECTING CONDITION:

Either end of low-speed CAN communication line is open or shorted, the connector is not connected properly, or the terminal has poor crimping.

TROUBLE SYMPTOM:

No influence.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1300 current malfunction?	Go to step **2**.	Go to step **7**.
2	**CHECK DTC.** 1) Disconnect all connectors (i84, i10, i88, i85 or i50) that are connected to low speed CAN communication line. 2) Connect the disconnected connectors. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1300 current malfunction?	Go to step **3**.	Go to step **7**.

Step		Check	Yes	No
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (i84, i10, i88, i85 or i50) that are connected to low speed CAN communication line. 3) Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(i84) No. 1 — (i10) No. 27 (combination meter):*** ***(i84) No. 9 — (i10) No. 26 (combination meter):*** ***(i84) No. 1 — (i88) No. 20 (auto A/C):*** ***(i84) No. 9 — (i88) No. 19 (auto A/C):*** ***(i84) No. 1 — (i85) No. 12 (audio):*** ***(i84) No. 9 — (i85) No. 11 (audio):*** ***(i84) No. 1 — (i50) No. 18 (navigation):*** ***(i84) No. 9 — (i50) No. 6 (navigation):***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair or replace the harness.
4	**CHECK AUDIO OR NAVIGATION.** 1) Turn the ignition switch to OFF. 2) Connect the disconnected connectors. 3) Disconnect the connector of navigation (i85) or audio (i50). 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1300 current malfunction?	Go to step **5**.	Repair the navigation or audio.
5	**CHECK AUTO A/C ECM.** 1) Turn the ignition switch to OFF. 2) Connect the audio or navigation connectors. 3) Disconnect the auto A/C ECM connector (i88). 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1300 current malfunction?	Go to step **6**.	Replace the auto A/C control module.
6	**CHECK BODY INTEGRATED UNIT.** 1) Turn the ignition switch to OFF. 2) Connect the auto A/C control module. 3) Replace the body integrated unit of your vehicle with the body integrated unit from other vehicle, which is working normally. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1300 current malfunction?	Replace the combination meter. <Ref. to IDI-13, REMOVAL, Combination Meter.>	Replace the body integrated unit.
7	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Shake the harness used for CAN communication circuit. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1300 current malfunction?	Repair or replace the harness.	Go to step **8**.
8	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector that is connected to low speed CAN circuit.	Is there poor contact at disconnected connector?	Repair the connector terminal, or replace harness.	Temporary poor contact occurs.

P: DTC U1301 CAN-LS COUNTER ABNORMAL

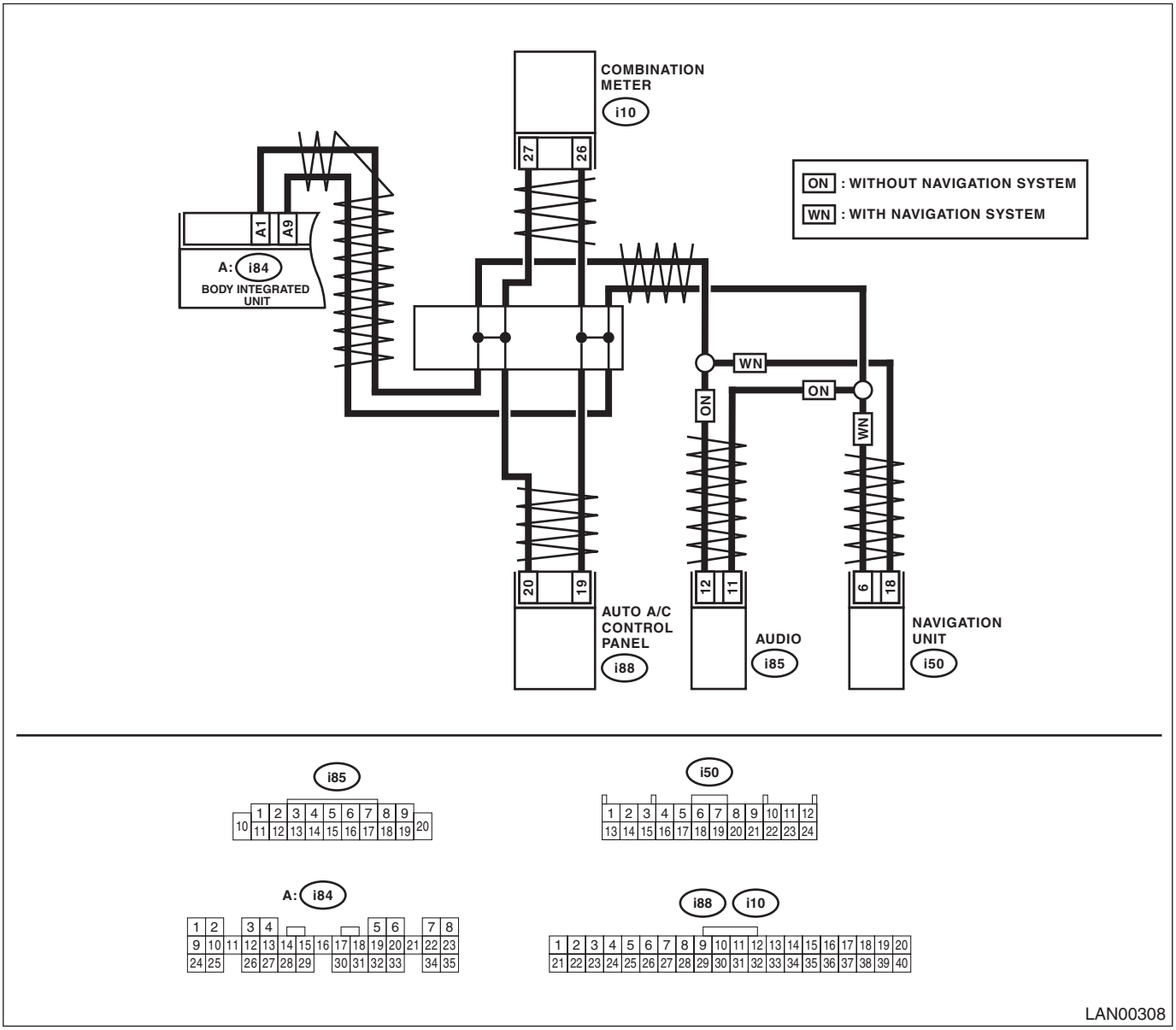
DTC DETECTING CONDITION:

Communication becomes unstable because of low speed CAN communication error.

TROUBLE SYMPTOM:

Display error may occur in fuel gauge because the CAN communication is not transmitted (sending/receiving) normally.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Are there DTC U1300 or U1301?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1301 current malfunction?	Go to step **3**.	Go to step **9**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (i84, i10, i88, i85 or i50) that are connected to low speed CAN communication line. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1301 current malfunction?	Go to step **4**.	Go to step **9**.
4	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (i84, i10, i88, i85 or i50) that are connected to low speed CAN communication line. 3) Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(i84) No. 1 — (i10) No. 27 (combination meter):*** ***(i84) No. 9 — (i10) No. 26 (combination meter):*** ***(i84) No. 1 — (i88) No. 20 (auto A/C):*** ***(i84) No. 9 — (i88) No. 19 (auto A/C):*** ***(i84) No. 1 — (i85) No. 12 (audio):*** ***(i84) No. 9 — (i85) No. 11 (audio):*** ***(i84) No. 1 — (i50) No. 18 (navigation):*** ***(i84) No. 9 — (i50) No. 6 (navigation):***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair or replace the harness.
5	**CHECK AUDIO OR NAVIGATION.** 1) Connect the disconnected connectors. 2) Disconnect the connector of navigation (i85) or audio (i50). 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1301 current malfunction?	Go to step **6**.	Go to step **9**.
6	**CHECK AUTO A/C CONTROL MODULE.** 1) Turn the ignition switch to OFF. 2) Connect the audio or navigation module. 3) Disconnect the auto A/C control module connector (i88). 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1301 current malfunction?	Go to step **7**.	Replace the auto A/C control module. <Ref. to AC-25, REMOVAL, Control Unit (Auto A/C Model).>
7	**CHECK COMBINATION METER.** 1) Turn the ignition switch to OFF. 2) Connect the disconnected connectors. 3) Perform the self-diagnosis of combination meter.	Is the self-diagnosis of combination meter OK?	Go to step **8**.	Replace the combination meter.
8	**CHECK BODY INTEGRATED UNIT.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (i84, i10, i88, i85 or i50) that are connected to low speed CAN communication line. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is DTC U1301 a current malfunction?	Replace the body integrated unit.	Go to step **9**.

Step		Check	Yes	No
9	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Shake the harness used for low speed CAN communication circuit. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1301 current malfunction?	Repair or replace the harness.	Go to step **10**.
10	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (i84, i10, i88, i85 or i50) that are connected to low speed CAN communication line.	Is there poor contact in connector terminal?	Repair the connector terminal, or replace harness.	Temporary poor contact occurs.

Q: DTC U1302 CAN-LS BUS OFF

DTC DETECTING CONDITION:

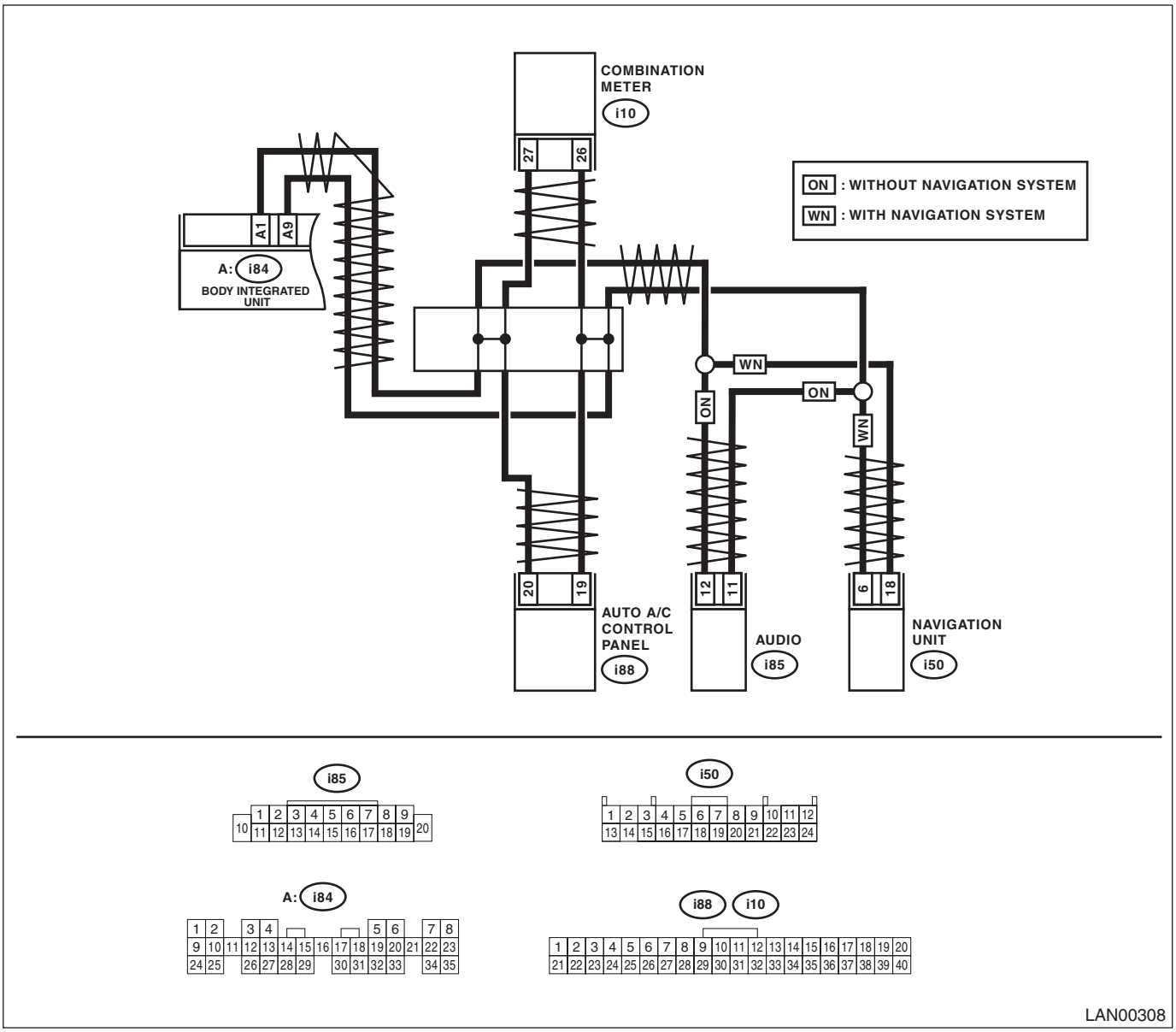
Communication with body integrated unit is not possible because of the following reasons.

- Open or power supply-output short, GND-output short occurs in both CAN line.
- Internal error in each control module

TROUBLE SYMPTOM:

Display error may occur in fuel gauge because the CAN communication is not transmitted (sending/receiving) normally.

WIRING DIAGRAM:

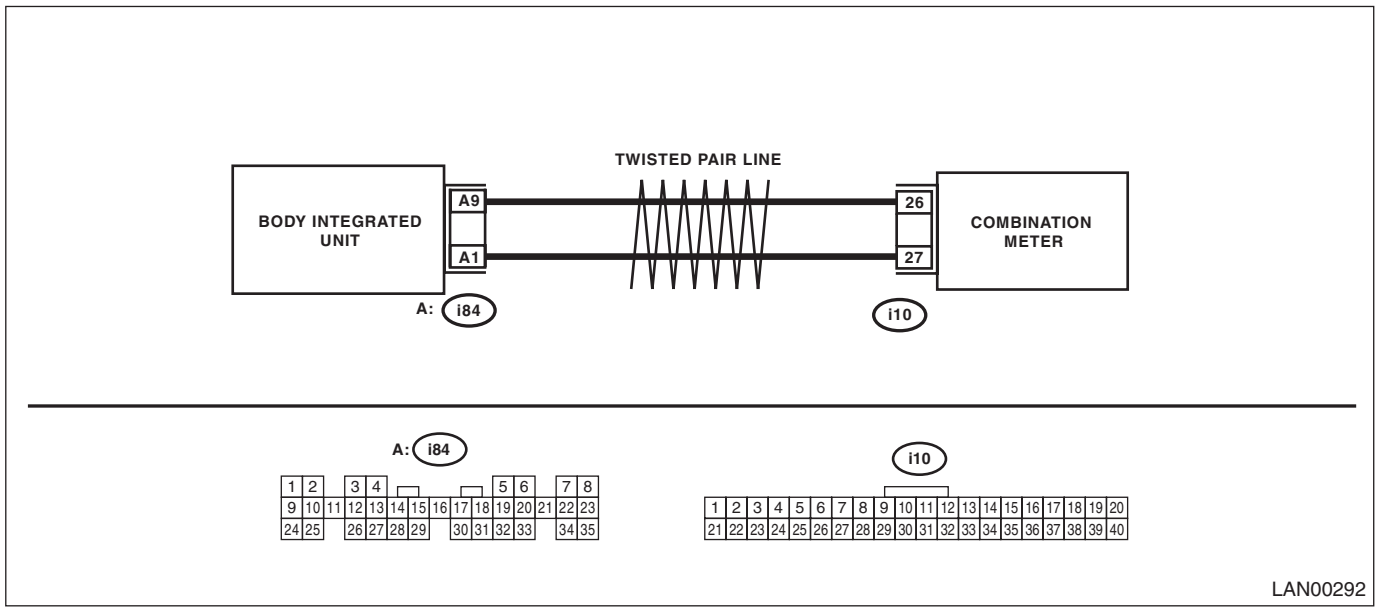


Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1302 current malfunction?	Go to step **2**.	Go to step **8**.

Step		Check	Yes	No
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (i84, i10, i88, i85 or i50) that are connected to low speed CAN communication line. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1302 current malfunction?	Go to step **3**.	Go to step **8**.
3	**CHECK HARNESS.** 1) Disconnect all connectors (i84, i10, i88, i85 or i50) that are connected to low speed CAN communication line. 2) Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(i84) No. 1 — (i10) No. 27 (combination meter):*** ***(i84) No. 9 — (i10) No. 26 (combination meter):*** ***(i84) No. 1 — (i88) No. 20 (auto A/C):*** ***(i84) No. 9 — (i88) No. 19 (auto A/C):*** ***(i84) No. 1 — (i85) No. 12 (audio):*** ***(i84) No. 9 — (i85) No. 11 (audio):*** ***(i84) No. 1 — (i50) No. 18 (navigation):*** ***(i84) No. 9 — (i50) No. 6 (navigation):***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair or replace the harness.
4	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Connect the disconnected connectors. 3) Using the tester, measure the resistance between harness connector and chassis ground. ***Connector & terminal*** ***(i84) No. 1 — Chassis ground:*** ***(i84) No. 9 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Go to step **7**.
5	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between harness connector and chassis ground. ***Connector & terminal*** ***(i84) No. 1 — Chassis ground:*** ***(i84) No. 9 — Chassis ground:***	Is the voltage less than 6 V?	Replace the body integrated unit.	Go to step **6**.
6	**CHECK HARNESS.** With the tester connected, disconnect control module.	Is there any control module that the voltage becomes 6 V or less.	Replace the control module whose voltage has changed.	Repair or replace the short circuit of the harness.
7	**CHECK HARNESS.** With the tester connected, disconnect control module.	Is there any control module whose resistance has changed?	Replace the control module whose resistance has changed.	Repair or replace the short circuit of the harness.
8	**CHECK HARNESS.** 1) Shake the harness used for low speed CAN communication circuit. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1302 current malfunction?	Repair or replace the open, short circuit of the harness.	Go to step **9**.
9	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (i84, i10, i88, i85 or i50) that are connected to low speed CAN communication line.	Is there poor contact in connector terminal?	Repair the connector terminal, or replace harness.	Temporary poor contact occurs.

R: DTC U1311 CAN-LS METER UNIT DATA ABNORMAL

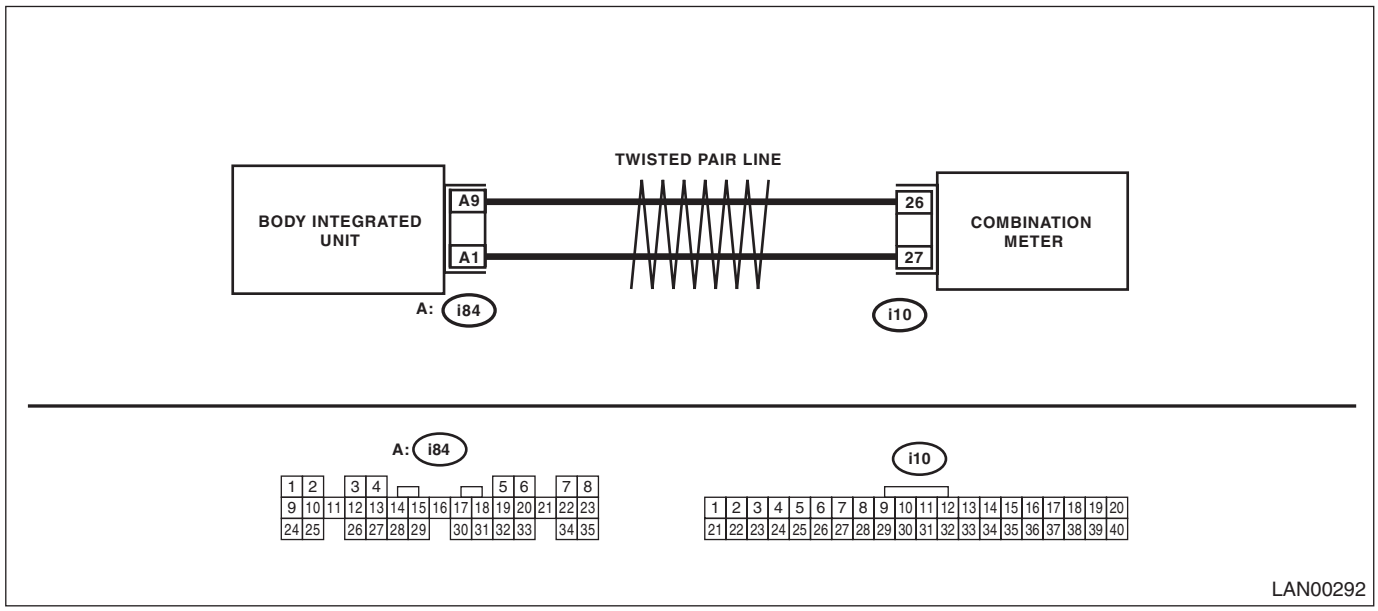
DTC DETECTING CONDITION:
Error data is received from combination meter.
Trouble symptom:
Defective data from combination meter occurs.
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is DTC U1301 or U1302 displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1311 a current malfunction?	Go to step **3**.	Go to step **4**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the combination meter connector (i10). 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1311 a current malfunction?	Replace the combination meter. <Ref. to IDI-13, REMOVAL, Combination Meter.>	Go to step **4**.
4	**CHECK HARNESS.** 1) Shake the harness used for low speed CAN communication circuit. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1311 a current malfunction?	Repair or replace the harness.	Go to step **5**.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (i84, i10, i88, i85 or i50) that are connected to low speed CAN communication line.	Is there poor contact in connector terminal?	Repair the connector terminal, or replace harness.	Temporary communication error occurs.

S: DTC U1321 CAN-LS METER NO-RECEIVE DATA

DTC DETECTING CONDITION:
Data is not received from combination meter.
Trouble symptom:
Engine may not be started.
WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK ALL DTCS.** Using the Subaru Select Monitor, read all DTCs.	Is DTC U1301 or U1302 displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1321 a current malfunction?	Go to step **3**.	Go to step **7**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (i84, i10, i88, i85 or i50) that are connected to low speed CAN communication line. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1321 a current malfunction?	Go to step **4**.	Replace the combination meter. <Ref. to IDI-13, REMOVAL, Combination Meter.>
4	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (i84, i10, i88, i85 or i50) that are connected to low speed CAN communication line. 3) Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(i84) No. 1 — (i10) No. 27 (combination meter):*** ***(i84) No. 9 — (i10) No. 26 (combination meter):*** ***(i84) No. 1 — (i88) No. 20 (auto A/C):*** ***(i84) No. 9 — (i88) No. 19 (auto A/C):*** ***(i84) No. 1 — (i85) No. 12 (audio):*** ***(i84) No. 9 — (i85) No. 11 (audio):*** ***(i84) No. 1 — (i50) No. 18 (navigation):*** ***(i84) No. 9 — (i50) No. 6 (navigation):***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair or replace the harness.
5	**CHECK COMBINATION METER.** 1) Connect the disconnected connectors. 2) Perform the self-diagnosis of combination meter.	Is the self-diagnosis OK?	Go to step **6**.	Replace the combination meter.
6	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (i84, i10, i88, i85 or i50) that are connected to low speed CAN communication line. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1321 a current malfunction?	Replace the body integrated unit. <Ref. to SL-47, Body Integrated Unit.>	Go to step **7**.
7	**CHECK DTC.** 1) Shake the harness used for low speed CAN communication circuit. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1321 a current malfunction?	Repair the poor contact, open circuit of harness or replace harness.	Go to step **8**.
8	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (i84, i10, i88, i85 or i50) that are connected to low speed CAN communication line.	Is there poor contact in connector terminal?	Repair the connector terminal, or replace harness.	It is possible that temporary communication error occurs.

T: DTC B1500 KEYLESS UART COM. MALFUNCTION

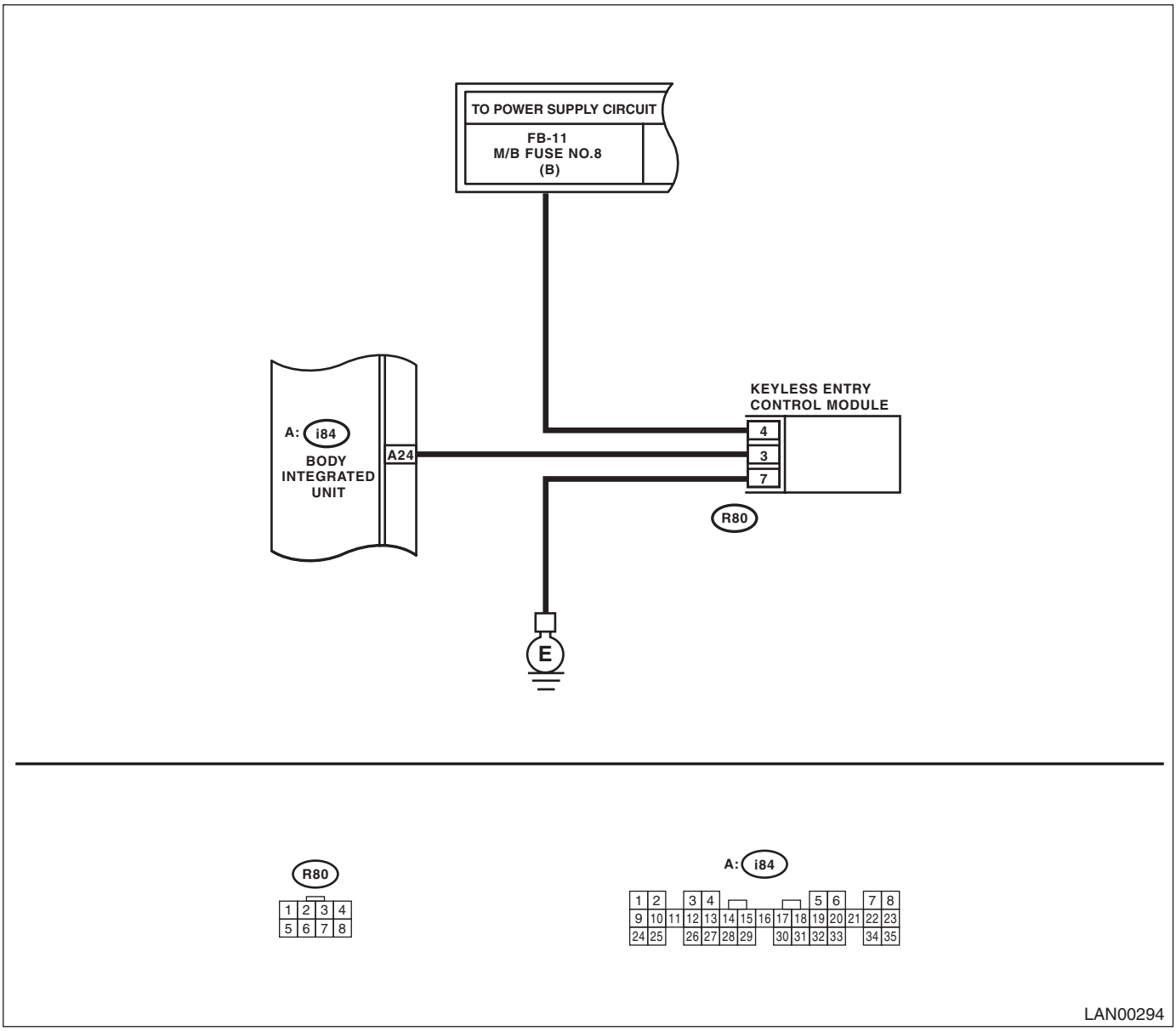
DTC DETECTING CONDITION:

UART between keyless entry control module and body integrated unit is open or shorted, the connector is not connected properly, or the terminal is crimped improperly.

TROUBLE SYMPTOM:

Door lock does not operate with keyless.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1500 current malfunction?	Go to step **2**.	Go to step **6**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from body integrated unit and keyless entry control module. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1500 current malfunction?	Go to step **3**.	Go to step **6**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from body integrated unit and keyless entry control module. 3) Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(i84) No. 24 — (R80) No. 3:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair the open circuit of harness or replace harness.
4	**CHECK HARNESS.** Using the tester, measure the voltage between keyless entry control module and chassis ground. ***Connector & terminal*** ***(R80) No. 4 — Chassis ground:***	Is the voltage battery voltage?	Go to step **5**.	Check the power supply circuit for keyless entry control module. Replace the body integrated unit. <Ref. to SL-47, REMOVAL, Body Integrated Unit.>
5	**CHECK OPERATION.** 1) Install the keyless entry control module from other vehicle, which is working normally. 2) Register the keyless key which is working normally. 3) Operate the keyless key.	Is the door locking operate?	Replace the keyless entry control module. <Ref. to SL-45, REMOVAL, Keyless Entry Control Module.>	Replace the body integrated unit. <Ref. to SL-47, Body Integrated Unit.>
6	**CHECK CONNECTOR.** Disconnect the connectors from body integrated unit and keyless entry control module.	Is there poor contact in connector?	Repair the connector, or replace harness.	Temporary poor contact occurs.

13.General Diagnostic Table

A: INSPECTION

Read the DTC or inspect and diagnose the following data in the current data display using Subaru Select Monitor.

1. LAN SYSTEM

Item	Operation	Specifications		Note
		YES	NO	
DTC	DTC is not displayed when inspecting all DTCs.	DTC is not displayed.	Perform the diagnosis according to DTC.	—
Coolant Temp.	Check the current data display of ECM and body integrated unit. Two data value are the same.	Same values	Inspect LAN system.	If engine coolant temperature sensor is not OK, inspect the sensor circuit.
R defogger SW	It turns to ON when pressing switch. (Low-speed CAN is OK)	Turns to ON.	Inspect rear defogger switch.	Rear defogger switch is connected with Low-speed CAN.
R defogger output	When switch input, it is output.	Output	Replace the body integrated unit.	If not operating with output, check the rear defogger relay.
Door lock SW	When locked with door lock switch, it turns to ON.	Turns to ON.	Inspect door lock switch.	The door lock switch is connected to the Low-speed CAN.
Door lock actuator	When locked with door lock switch, it is output.	Output	Replace the body integrated unit.	—

2. BODY INTEGRATED UNIT

Item	Operation	Specifications		Note
		YES	NO	
Illumination VR Voltage	Operate the illumination volume, illumination light is controlled according to the change of voltage on data display.	Illumination light is controlled with changing of data.	Inspect the illumination volume.	—
Fuel level resistance	Check the fuel level resistance and fuel level resistance 2. Both resistances are same.	Same values	Inspect the body integrated unit.	Compare the input and output values of body integrated unit.
R wiper SW input	When rear wiper SW to ON, data display turns to ON.	Turns to ON.	Inspect the rear wiper switch.	—
R wiper output	When rear wiper switch to ON, output signal turns to ON.	Turns to ON.	Replace the body integrated unit.	If not operate with output turned to ON, check the rear wiper motor.
Keyless Entry	Keyless entry LOCK/UNLOCK the doors.	Operate	Inspect the keyless antenna.	If the antenna is OK, replace the body integrated unit.
Brake Switch	When brake pedal is depressed, it turns to ON.	Turns to ON.	Inspect the brake switch.	—
Body integrated unit registration function setting	Does Vehicle equipment correspond to setting values?	Correspondence	Reconfigure the values according to vehicle equipment.	—
Customize	When changing customize setting, the registration completes correctly.	Registered	Inspect the body integrated unit.	—
Function check	Each checking item operate correctly. (Except for not equipped)	Operate	Inspect for non-functional actuator.	—
Security	After locking with keyless entry system and open the door, the security system operates and the horn sounds.	Horn sounds. (Security system operates.)	Inspect the security system.	—