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BCM Circuit Check	
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APS Actuator and Electric Unit Circuit Circuit Circuit	F
ABS Actuator and Electric Unit (Control Unit) Circuit	
Check	
IPDM E/R Circuit Check 446	
CAN Communication Circuit Check	G
IPDM E/R Ignition Relay Circuit Check	
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BCM Circuit Check 469	
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# PRECAUTIONS

## PRECAUTIONS

#### Precautions for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT **BELT PRE-TENSIONER**"

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The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

#### WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death • in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SRS section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

## Precautions When Using CONSULT-II

When connecting CONSULT-II to data link connector, connect them through CONSULT-II CONVERTER. CAUTION:

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication.

#### CHECK POINTS FOR USING CONSULT-II

- 1 Has CONSULT-II been used without connecting CONSULT-II CONVERTER on this vehicle?
- If YES, GO TO 2.
- If NO, GO TO 5.
- 2 Is there any indication other than indications relating to CAN communication system in the self-diagnosis results?
- If YES, GO TO 3. \_
- If NO, GO TO 4.
- 3. Based on self-diagnosis results unrelated to CAN communication, carry out the inspection.
- 4. Malfunctions may be detected in self-diagnosis depending on control units carrying out CAN communication. Therefore, erase the self-diagnosis results.
- Diagnose CAN communication system. Refer to LAN-8, "CAN System Type" . 5.

## Precautions for CAN System

- Do not apply voltage of 7.0V or higher to terminal to be measured.
- Maximum open terminal voltage of tester in use must be less than 7.0V.
- Before checking harnesses, turn ignition switch OFF and disconnect battery negative cable.
- Area to be repaired must be soldered and wrapped with tape. Make sure that fraying of twisted wire is within 110 mm (4.33 in).



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• Do not make a bypass connection to repaired area. (If the circuit is bypassed, characteristics of twisted wire will be lost.)



## Wiring Diagrams and Trouble Diagnosis

When you read wiring diagrams, refer to the following:

- GI-12, "How to Read Wiring Diagrams"
- PG-3, "POWER SUPPLY ROUTING CIRCUIT"

When you perform trouble diagnosis, refer to the following:

- GI-10, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES"
- GI-25, "How to Perform Efficient Diagnosis for an Electrical Incident"

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## **CAN COMMUNICATION**

#### System Description

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

# CAN System Type

Refer to the following table to determine CAN system type.

Body type		Sedan																	
Axle		2WD																	
Engine		VQ35DE																	
Transmission		5 M/	Г		6 M/T	-			4 A/T	-					5	A/T			
Brake control		ABS		TCS ABS		V	C		ABS		VDC		TCS						
Navigation system			х			х			х		х			х		х			х
Automatic drive posi- tioner		x	x		x	x		x	x	x	x		x	x	x	x		x	x
CAN system type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
CAN system trouble diagnosis	<u>LA</u> <u>N-</u> 23	<u>LA</u> <u>N-</u> <u>43</u>	<u>LA</u> <u>N-</u> 65	<u>LA</u> <u>N-</u> 87	<u>LA</u> <u>N-</u> <u>10</u> <u>7</u>	<u>LA</u> <u>N-</u> <u>12</u> <u>9</u>	<u>LA</u> <u>N-</u> <u>15</u> 1	<u>LA</u> <u>N-</u> <u>17</u> <u>4</u>	<u>LA</u> <u>N-</u> <u>19</u> <u>9</u>	<u>LA</u> <u>N-</u> <u>22</u> <u>4</u>	<u>LA</u> <u>N-</u> <u>25</u> <u>0</u>	<u>LA</u> <u>N-</u> <u>27</u> <u>6</u>	<u>LA</u> <u>N-</u> <u>29</u> <u>9</u>	<u>LA</u> <u>N-</u> <u>32</u> <u>4</u>	<u>LA</u> <u>N-</u> <u>34</u> <u>9</u>	<u>LA</u> <u>N-</u> <u>37</u> <u>5</u>	<u>LA</u> <u>N-</u> <u>40</u> 1	<u>LA</u> <u>N-</u> <u>42</u> <u>4</u>	<u>LA</u> <u>N-</u> <u>44</u> <u>9</u>

 $\times$ : Applicable

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#### Input/Output Signal Chart TYPE 1/TYPE 2/TYPE 3

Signals	ECM	Dis- play con- trol unit	Dis- play unit	BCM	Uni- fied meter and A/ C amp.	Driver seat con- trol unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R	B
Engine speed signal	Т	R			R		R		D
Engine status signal	Т			R					
Engine coolant temperature signal	Т				R				Е
Key switch signal				т		R			
Ignition switch signal				т		R		R	
Fuel consumption monitor signal	Т	R	R		R T				F
A/C switch signal	R			Т					G
A/C compressor request signal	Т							R	
Blower fan motor switch signal	R			т					
		Т	Т		R				Н
A/C control signal		R	R		Т				
Cooling fan speed request signal	Т							R	1
Cooling fan speed signal	R							Т	
Position light request signal				Т	R			R	
Low beam request signal				Т				R	J
Low beam status signal	R							Т	
High beam request signal				Т	R			R	ΙΔΝ
High beam status signal	R							Т	
Front fog light request signal				Т				R	
Day time running light request signal				Т	R				L
Vahiala anaod aignal					R		Т		
venicle speed signal	R	R		R	Т	R			ЪЛ
Sleep wake up signal				Т	R	R			IVI
Door switch signal		R	R	Т	R	R		R	
Turn indicator signal				Т	R				
Cornering lamp request signal				Т				R	
Key fob ID signal				Т		R			
Key fob door unlock signal				Т		R			
Oil pressure switch signal				R T	R			T	
Buzzer output signal				Т	R				
Fuel level sensor signal	R				Т				
ASCD SET indicator signal	Т				R				
ASCD CRUISE indicator signal	Т				R				
Malfunction indicator lamp signal	Т				R				

Revision: June 2004

[CAN]

T: Transmit R: Receive

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ABS actua-Uni-Dis-Driver tor and fied play Disseat elec-IPDM meter Signals ECM BCM conplay contric E/R and A/ trol unit trol unit С unit unit (conamp. trol unit) Т Front wiper request signal R R Т Front wiper stop position signal Rear window defogger switch signal Т R Rear window defogger control signal R R R Т Hood switch signal R Т Theft warning horn request signal Т R т R Horn chirp signal R Т ABS warning lamp signal R Т Brake warning lamp signal Т Т R R System setting signal R R Т Т Distance to empty signal R R Т т Seat belt buckle switch signal R Т R Parking brake switch signal

## TYPE 4/TYPE 5/TYPE 6

						T: Tra	ansmit R	: Receive	А
Signals	ECM	Dis- play con- trol unit	Dis- play unit	BCM	Uni- fied meter and A/ C amp.	Driver seat con- trol unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R	B
Engine speed signal	Т	R			R		R	<u> </u>	D
Engine status signal	Т			R					
Engine coolant temperature signal	Т				R				
Key switch signal				Т		R			E
Ignition switch signal				Т		R		R	
Fuel consumption monitor signal	Т	R	R		R T				F
A/C switch signal	R			Т					
A/C compressor request signal	Т							R	G
Blower fan motor switch signal	R			Т					
A/C control signal		Т	Т		R				Ц
		R	R		Т				11
Cooling fan speed signal	R							Т	
Position light request signal				Т	R			R	
Low beam request signal				Т				R	
Low beam status signal	R							Т	
High beam request signal				Т	R			R	J
High beam status signal	R							Т	
Front fog light request signal				Т				R	LAN
Day time running light request signal				Т	R				
Vehicle speed signal	D	D		D	R T	D	Т		L
Sleep wake up signal		IX		Т	R	R			
Door switch signal		R	R	т	R	R		R	N. /
Turn indicator signal				Т	R				IVI
Cornering lamp request signal				Т				R	
Key fob ID signal				Т		R			
Key fob door unlock signal				т		R			
				R				т	
Oil pressure switch signal				т	R				
Buzzer output signal				т	R				
Fuel level sensor signal	R				Т				
ASCD SET indicator signal	Т				R				
ASCD CRUISE indicator signal	Т				R				
Malfunction indicator lamp signal	т				R				
Front wiper request signal				Т				R	
Front wiper stop position signal				R				Т	

Revision: June 2004

ABS actua-Uni-Dis-Driver tor and fied play Disseat elec-IPDM meter Signals ECM BCM conplay contric E/R and A/ trol unit trol unit С unit unit (conamp. trol unit) Т Rear window defogger switch signal R R R R Т Rear window defogger control signal R Т Hood switch signal Т Theft warning horn request signal R Horn chirp signal Т R ABS warning lamp signal Т R R т Brake warning lamp signal R т Slip indicator lamp signal Т R Accelerator pedal position signal Т Т R R System setting signal R R Т Т Distance to empty signal R R Т т Seat belt buckle switch signal R Т R Parking brake switch signal

## TYPE 7/TYPE 8/TYPE 9

Signals	ECM	тсм	Dis- play con- trol unit	Dis- play unit	всм	Uni- fied meter and A/ C amp.	Driver seat con- trol unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R	B
Engine speed signal	Т		R			R		R		D
Engine status signal	Т				R					
Engine coolant temperature signal	Т					R				
Key switch signal					Т		R			Е
Ignition switch signal					Т		R		R	
Fuel consumption monitor signal	Т		R	R		R T				F
A/C switch signal	R				Т					
A/C compressor request signal	Т								R	G
Blower fan motor switch signal	R				т					
			Т	Т		R				
A/C control signal			R	R		Т				H
Cooling fan speed request signal	Т								R	
Cooling fan speed signal	R								Т	
Position light request signal					Т	R			R	
Low beam request signal					Т				R	-
Low beam status signal	R								Т	J
High beam request signal					Т	R			R	_
High beam status signal	R								Т	IAN
Front fog light request signal					Т				R	
Day time running light request signal					Т	R				
Vehicle speed signal	R		R		R	R T	R	Т		L
Sleep wake up signal					Т	R	R		R	
Door switch signal			R	R	Т	R	R		R	IVI
Turn indicator signal					Т	R				
Cornering lamp request signal					Т				R	-
Key fob ID signal					Т		R			
Key fob door unlock signal					Т		R			-
					R				Т	
Oil pressure switch signal					Т	R				
Buzzer output signal					Т	R				
Fuel level sensor signal	R					Т				
ASCD SET indicator signal	Т					R				
ASCD CRUISE indicator signal	Т					R				
Malfunction indicator lamp signal	Т					R				
Front wiper request signal					Т				R	-

Revision: June 2004

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T: Transmit R: Receive

ABS actua-Uni-Dis-Driver tor and fied play Disseat elec-IPDM meter ECM TCM BCM Signals conplay contric and A/ E/R trol unit trol unit С unit unit (conamp. trol unit) т Front wiper stop position signal R Т R Rear window defogger switch signal R R R R т Rear window defogger control signal Hood switch signal R Т Theft warning horn request signal Т R Т Horn chirp signal R Т ABS warning lamp signal R т R Brake warning lamp signal т Т R R System setting signal R R Т Т R Т Distance to empty signal R Seat belt buckle switch signal R Т Parking brake switch signal R Т т A/T self-diagnosis signal R Engine and A/T integrated control signal R Т R Т R Т A/T self-diagnosis signal Т R Accelerator pedal position signal Closed throttle position signal Т R Wide open throttle position signal Т R P range signal Т R R R range signal Т R Stop lamp switch signal R Т Т Input shaft revolution signal R т R Output shaft revolution signal R Т ASCD operation signal R ASCD OD cancel request Т A/T position indicator lamp signal Т R A/T CHECK indicator lamp signal Т R 3rd position switch signal R Т

## **TYPE 10/TYPE 11**

Signals	ECM	ТСМ	Dis- play con- trol unit	Dis- play unit	BCM	Uni- fied meter and A/ C amp.	Steer- ing angle sensor	Driver seat con- trol unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R
Engine speed signal	Т		R			R			R	
Engine status signal	Т				R					
Engine coolant temperature signal	Т					R				
Key switch signal					Т			R		
Ignition switch signal					Т			R		R
Fuel consumption monitor signal	Т		R	R		R T				
A/C switch signal	R				т	•				
A/C compressor request signal	Т									R
Blower fan motor switch signal	R				т					
			т	т		R				
A/C control signal			P	P		Т				
Cooling fan speed request signal	Т			K		•				R
Cooling fan speed signal	R									Т
Position light request signal					Т	R				R
Low beam request signal					Т					R
Low beam status signal	R									Т
High beam request signal					Т	R				R
High beam status signal	R									Т
Front fog light request signal					Т					R
Day time running light request signal					Т	R				
Vehicle speed signal						R			Т	
· •	R		R		R	Т		R		
Sleep wake up signal					Т	R		R		R
Door switch signal			R	R	Т	R		R		R
Turn indicator signal					Т	R				
Cornering lamp request signal					Т					R
Key fob ID signal					Т			R		
Key fob door unlock signal					Т			R		
Oil pressure switch signal					R T	R				T
Buzzer output signal					Т	R				
Fuel level sensor signal	R					Т				
ASCD SET indicator signal	Т					R				
ASCD CRUISE indicator signal	т					R				
Malfunction indicator lamp signal	Т					R				
Front wiper request signal					Т					R

[CAN]

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T: Transmit R: Receive

Signals	ECM	тсм	Dis- play con- trol unit	Dis- play unit	BCM	Uni- fied meter and A/ C amp.	Steer- ing angle sensor	Driver seat con- trol unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R
Front wiper stop position signal					R					Т
Rear window defogger switch signal					Т					R
Rear window defogger control signal	R		R	R						Т
Hood switch signal					R					Т
Theft warning horn request signal					Т					R
Horn chirp signal					Т					R
ABS warning lamp signal						R			Т	
Brake warning lamp signal						R			Т	
System acting signal			Т	Т	R			R		
System setting signal			R	R	Т			Т		<u> </u>
Distance to empty signal			R	R		Т				
Seat belt buckle switch signal					R	Т				
Parking brake switch signal					R	Т				<u> </u>
A/T self-diagnosis signal	R	Т								
Engine and A/T integrated control signal	Т	R								
Engine and A/T integrated control signal	R	Т								
Accelerator pedal position sensor	Т								R	
Closed throttle position signal	Т	R								
Wide open throttle position signal	Т	R								
P range signal		Т						R	R	
R range signal		Т						R		
Stop lamp switch signal		R				Т				
TCS operation signal	R								Т	
VDC operation signal	R								Т	
Input shaft revolution signal	R	Т								
Output shaft revolution signal	R	Т								
ASCD operation signal	Т	R								
ASCD OD cancel request	Т	R								
Steering angle sensor signal							Т		R	
VDC OFF indicator lamp signal						R			Т	
SLIP indicator lamp signal						R			Т	
A/T CHECK indicator lamp signal		Т				R				
A/T position indicator lamp signal		Т				R				
A/T shift schedule change demand sig- nal		R							Т	
3rd position switch signal		R				Т				

## **TYPE 12/TYPE 13/TYPE 14**

Signals	ECM	ТСМ	Dis- play con- trol unit	Dis- play unit	ВСМ	Uni- fied meter and A/ C amp.	Driver seat con- trol unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R	B
Engine speed signal	Т	R	R			R		R		D
Engine status signal	Т				R					
Engine coolant temperature signal	Т	R				R				
Key switch signal					Т		R			Ε
Ignition switch signal					Т		R		R	
ABS operation signal		R						Т		Г
	Т					R				Γ
Fuel consumption monitor signal			R	R		Т				
A/C switch signal	R				Т					G
A/C compressor request signal	Т								R	
Blower fan motor switch signal	R				Т					ш
			Т	Т		R				Н
A/C control signal			R	R		Т				
Cooling fan speed request signal	Т								R	
Cooling fan speed signal	R								Т	
Position light request signal					Т	R			R	
Low beam request signal					Т				R	J
Low beam status signal	R								Т	
High beam request signal					Т	R			R	LA
High beam status signal	R								Т	
Front fog light request signal					Т				R	
Day time running light request signal					Т	R				L
Vehicle speed signal						R		Т		
	R	R	R		R	Т	R			M
Sleep wake up signal					Т	R	R			
Door switch signal			R	R	Т	R	R		R	
Turn indicator signal					Т	R				
Cornering lamp request signal					Т				R	
Key fob ID signal					Т		R			
Key fob door unlock signal					Т		R			
Oil pressure switch signal					R T	R			Т	
Buzzer output signal					Т	R				
Fuel level sensor signal	R					Т				
ASCD SET indicator signal	Т					R				
ASCD CRUISE indicator signal	Т					R				
Malfunction indicator lamp signal	Т					R				

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T: Transmit R: Receive

Signals	ECM	ТСМ	Dis- play con- trol unit	Dis- play unit	BCM	Uni- fied meter and A/ C amp.	Driver seat con- trol unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R
Front wiper request signal					Т				R
Front wiper stop position signal					R				Т
Rear window defogger switch signal					Т				R
Rear window defogger control signal	R		R	R					Т
Hood switch signal					R				Т
Theft warning horn request signal					Т				R
Horn chirp signal					Т				R
ABS warning lamp signal						R		Т	
Brake warning lamp signal						R		Т	
System setting signal			Т	Т	R		R		
			R	R	Т		Т		
Distance to empty signal			R	R		Т			
Seat belt buckle switch signal					R	Т			
Parking brake switch signal					R	Т			
ASCD operation signal	т	R							
ASCD OD cancel request	Т	R							
A/T CHECK indicator lamp signal		Т				R			
A/T position indicator lamp signal		Т				R			
Manual mode indicator signal		Т				R			
A/T self-diagnosis signal	R	Т							
Electric throttle control signal	Т	R							
Engine and A/T integrated control signal	т	R							
	R	Т							
Accelerator pedal position signal	Т							R	
P range signal		Т					R	R	
R range signal		Т					R		
Stop lamp switch signal		R				Т			
Input shaft revolution signal	R	Т							
Output shaft revolution signal	R	Т							

## **TYPE 15/TYPE 16**

								-			
Signals	ECM	тсм	Dis- play con- trol unit	Dis- play unit	BCM	Uni- fied meter and A/ C amp.	Steer- ing angle sensor	Driver seat con- trol unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R	B
Engine speed signal	Т	R	R			R			R		D
Engine status signal	Т				R						D
Engine coolant temperature signal	Т	R				R					
Key switch signal					Т			R			Е
Ignition switch signal					Т			R		R	
ABS operation signal		R							Т		Г
	Т					R					F
Fuel consumption monitor signal			R	R		Т					
A/C switch signal	R				Т						G
A/C compressor request signal	Т									R	
Blower fan motor switch signal	R				Т						
			т	т		R					H
A/C control signal			R	R		Т					
Cooling fan speed request signal	Т									R	I
Cooling fan speed signal	R									Т	
Position light request signal					Т	R				R	
Low beam request signal					Т					R	J
Low beam status signal	R									Т	
High beam request signal					Т	R				R	LAN
High beam status signal	R									т	
Front fog light request signal					Т					R	
Day time running light request signal					Т	R					L
						R			Т		
venicie speed signal	R	R	R		R	Т		R			M
Sleep wake up signal					Т	R		R		R	1 V I
Door switch signal			R	R	Т	R		R		R	
Turn indicator signal					Т	R					
Cornering lamp request signal					Т					R	
Key fob ID signal					Т			R			
Key fob door unlock signal					Т			R			
Oil pressure switch signal					R T	R				Т	
Buzzer output signal					Т	R					
Fuel level sensor signal	R					Т					
ASCD SET indicator signal	Т					R					
ASCD CRUISE indicator signal	Т					R					
Malfunction indicator lamp signal	Т					R					

А

T: Transmit R: Receive

Signals	ECM	ТСМ	Dis- play con- trol unit	Dis- play unit	BCM	Uni- fied meter and A/ C amp.	Steer- ing angle sensor	Driver seat con- trol unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R
Front wiper request signal					Т					R
Front wiper stop position signal					R					Т
Rear window defogger switch signal					Т					R
Rear window defogger control signal	R		R	R						Т
Hood switch signal					R					Т
Theft warning horn request signal					Т					R
Horn chirp signal					Т					R
ABS warning lamp signal						R			Т	
Brake warning lamp signal						R			Т	
			Т	Т	R			R		
System setting signal			R	R	Т			Т		
Distance to empty signal			R	R		Т				
Seat belt buckle switch signal					R	Т				
Parking brake switch signal					R	Т				
A/T self-diagnosis signal	R	Т								
Electric throttle control signal	Т	R								
	Т	R								
Engine and A/ I Integrated control signal	R	Т								
Accelerator pedal position signal	Т								R	
P range signal		Т						R	R	
R range signal		Т						R		
Stop lamp switch signal		R				Т				
TCS operation signal	R	R							Т	
VDC operation signal	R	R							Т	
Input shaft revolution signal	R	Т								
Output shaft revolution signal	R	Т								
ASCD operation signal	Т	R								
ASCD OD cancel request	Т	R								
Steering angle sensor signal							Т		R	
VDC OFF indicator lamp signal						R			Т	
SLIP indicator lamp signal						R			Т	
A/T CHECK indicator lamp signal		Т				R				
A/T position indicator lamp signal		Т				R				
A/T shift schedule change demand sig- nal		R							Т	
Manual mode indicator signal		т				R				

## **TYPE 17/TYPE 18/TYPE 19**

Signals	ECM	ТСМ	Dis- play con- trol unit	Dis- play unit	BCM	Uni- fied meter and A/ C amp.	Driver seat con- trol unit	ABS actua- tor and elec- tric unit (con- trol unit)	IPDM E/R	B
Engine speed signal	Т	R	R			R		R		Г
Engine status signal	Т				R					
Engine coolant temperature signal	Т	R				R				
Key switch signal					Т		R			E
Ignition switch signal					Т		R		R	
ABS operation signal	R	R						Т		Г
Fuel consumption monitor signal	Т					R				Γ
Fuel consumption monitor signal			R	R		Т				
A/C switch signal	R				Т					G
A/C compressor request signal	Т								R	
Blower fan motor switch signal	R				Т					
			Т	Т		R				F
A/C control signal			R	R		т				
Cooling fan speed request signal	Т								R	
Cooling fan speed signal	R								Т	
Position light request signal					Т	R			R	
Low beam request signal					Т				R	J
Low beam status signal	R								Т	_
High beam request signal					т	R			R	ΙA
High beam status signal	R								Т	
Front fog light request signal					Т				R	
Day time running light request signal					т	R				L
						R		Т		
Venicle speed signal	R	R	R		R	т	R			R.
Sleep wake up signal					Т	R	R		R	IV
Door switch signal			R	R	Т	R	R		R	
Turn indicator signal					Т	R				
Cornering lamp request signal					Т				R	
Key fob ID signal					Т		R			
Key fob door unlock signal					Т		R			
					R				Т	
Oil pressure switch signal					Т	R				
Buzzer output signal					Т	R				
Fuel level sensor signal	R					Т				
ASCD SET indicator signal	Т					R				
ASCD CRUISE indicator signal	Т					R				
Malfunction indicator lamp signal	Т					R				

А

T: Transmit R: Receive

ABS actua-Uni-Dis-Driver tor and fied play Disseat elec-IPDM meter ECM TCM BCM Signals play contric conand A/ E/R trol unit trol unit С unit unit (conamp. trol unit) Т Front wiper request signal R R т Front wiper stop position signal т Rear window defogger switch signal R Rear window defogger control signal R R R Т Hood switch signal R Т Theft warning horn request signal Т R Horn chirp signal Т R Т ABS warning lamp signal R R т Brake warning lamp signal Т Т R R System setting signal Т т R R Distance to empty signal R R Т Seat belt buckle switch signal R Т R т Parking brake switch signal Т A/T self-diagnosis signal R Т R Electric throttle control signal Т R Engine and A/T integrated control signal R Т Т Accelerator pedal position signal R P range signal Т R R R range signal Т R Stop lamp switch signal R Т R Т TCS operation signal R т R Input shaft revolution signal т Output shaft revolution signal R R ASCD operation signal Т ASCD OD cancel request Т R SLIP indicator lamp signal R Т A/T CHECK indicator lamp signal Т R т R A/T position indicator lamp signal т A/T shift schedule change demand signal R Т R Manual mode indicator signal

# **System Description**

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

## **Component Parts and Harness Connector Location**



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# Schematic

[CAN]



WKWA0453E



### LAN-CAN-02



Revision: June 2004



#### **Work Flow**

EKS0050C

[CAN]

1. When there are no indications of "METER A/C AMP", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)	NISSAN	SELECT SYSTEM	
		ENGINE	
	CONSULT- II	A/T	
		ABS	
		AIR BAG	
	ENGINE	всм	
	START (NISSAN BASED VHCL)	METER A/C AMP	
	START (RENAULT BASED VHCL)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "BCM", "METER A/C AMP", "IPDM E/R" and "ABS" displayed on CONSULT-II.

(Example)	SELECT DIAG MODE	SELF-DIAG RESULTS	
(	WORK SUPPORT	DTC RESULTS TIME	
	SELF-DIAG RESULTS		
	DATA MONITOR		
	DATA MONITOR (SPEC)		
	CAN DIAG SUPPORT MNTR		
	ACTIVE TEST		
	· · · · · · · · · · · · · · · · · · ·	F.F.DATA	
	Scroll Down	ERASE PRINT	
	BACK LIGHT COPY	MODE BACK LIGHT COPY	PKIA826

 Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "BCM", "METER A/C AMP", "IPDM E/R" and "ABS" displayed on CONSULT-II.



4. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks onto the items with "No display, "NG", or "UNKWN" in the check sheet table.

CELECT OVC:		Landa I	T3	T	CAN DIAG	SUPPORT MNTR Receive	diagnosis		
SELECTORS	I EWI Screen	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN			UNKWN	UNKWN		UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN /
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN		-	UNKWN
ABS		NG	UNKWN	UNKWN				· · · · ·	
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

#### NOTE:

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• If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

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	• The "CAN DIAG SUPPORT MNTR" items which are not in check sheet table are not related to diagnos- tic procedure on service manual. Therefore, it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.	A
5.	Mark the "NG" or "UNKWN" item of the check sheet table from the result of CAN DIAG SUPPORT MONI- TOR check sheet.	В
	<b>NOTE:</b> If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.	С
6.	According to the Check Sheet Results, start inspection.	
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## CHECK SHEET

#### Check sheet table

					CAN DIAG S	SUPPORT MNTR						
SELECT SVST	EMecroop	Initial	Transmit	Receive diagnosis								
		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R			
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN			
Display unit	•	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	+	CAN 7			
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN			
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-		UNKWN			
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-			
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-			

Symptoms:



Attach copy of display unit CAN DIAG MONITOR check sheet

BKIA0074E

[CAN]



BKIA0082E

#### CHECK SHEET RESULTS Case 1

Replace ECM.

				CAN DIAG SUPPORT MNTR								
CELECT DVD	CT 14	1-141-1	Tenneral	Receive diagnosis								
accect anatemischen		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R			
ENGINE		<b>V</b>	UNKWN			UNKWN	UNKWN		UNKWN			
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7			
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN			
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN			
ABS		NG	UNKWN	UNKWN	-	-						
IPDM E/R	No indication		UNKWN	UNKWN	1 .	- I	UNKWN					

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				CAN DIAG SUPPORT MNTR								
SELECT SYST	EMecroon	Initial	Transmit	Receive diagnosis								
OLLLOI OIOI			diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R			
ENGINE	-	NG	UNKWN	-	-	UNIKWN	UNION	-	UNIWN			
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7			
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN			
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN			
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-			
IPDM E/R	No indication		UNKWN	UNKWN		-	UNKWN	-	-			

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#### Case 2

Replace display unit.

					CAN DIAG S	UPPORT MNTR			
SELECT SYST	SELECT SYSTEM screen		Tranemit			Receive (	diagnosis		
022201 0101	Lindidon	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display unit	-		CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN	-	-

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					CAN DIAG S	UPPORT MNTR	1		
SELECT SYST	SELECT SYSTEM screen		Transmit			Receive	diagnosis		
SELECT STS	LMSCIEGI	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display unit	-	CAN COMM	CAN 1	₩3	-	••15	<b>₩</b> 12	-	<b>1</b> 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-
IPDM E/R	No indication		UNKWN	UNKWN			UNKWN		

## [CAN]

## Case 3

Replace BCM.

					CAN DIAG S	SUPPORT MNTR			
CELECT OVER	EM coroop	Initial	Transmit			Receive	diagnosis		
SELECT STST	EW Screen	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-		UNKWN	UNKWN	-	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNION		UNIONN	-		UNIWN
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-
IPDM E/R	No indication		UNKWN	UNKWN	-		UNKWN	-	-

CAN DIAG SUPPORT MNTR

DISPLAY

UNKWN

METER/ M&A

UNKWN

CAN 5

UNKWN

agnosis

BCM/SEC

UNKWN

CAN 2

UNKWN

UNKWN

VDC/TCS/ ABS

UNKWN

IPDM E/R

UNKWN

CAN 7

UNKWN

UNKWN

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Case 4

			CAN DIAG SUPPORT MNTR										
CELECT OVE	EMagroop	Initial	Transmit			Receive	diagnosis						
SELECT STS	OEEEOT OT OT EN BUILDI		diagnosis diagnosis		DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/F				
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN				
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7				
METER A/C AMP	No indication	-	UNKWN	UNIWN	UNIAWN	-	UNIONN	UNIKWN	UNIWN				
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN				
ABS		NG	UNKWN	UNKWN	-	-	-	-	-				
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-				

#### Case 5

Replace ABS actuator and electric unit (control unit).

SELECT SYSTEM screen

No indication

No indication

No indication

ENGINE

BCM

ABS

unified meter and A/C amp.

IPDM E/R

Display unit

METER A/C AMP

Initial diagnosis

NG

CAN COMM

V

NG

Transmit diagnosis

UNKWN

CAN 1

UNKWN

UNKWN

UNKWN

UNKWN

ECM

CAN 3

UNKWN

UNKWN

UNKWN

UNKWN

					CAN DIAG 5	SUPPORT MNTH	4100000		
SELECT SYS	TEM screen	Initial diagnosis	Transmit diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	-		UNKWN	UNKWN		UNKWN
Display unit		CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKAN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
ABS		<b>V</b>	UNKWN	UNKWN	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-



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#### Case 6

Replace IPDM E/R.

					CAN DIAG S	SUPPORT MNTR Receive	diagnosis		
SELECT SYS	IEM screen	Initial diagnosis	l ransmit diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKWN	UNKWN	-		-	-	-
IPDM E/R	No indication	-	UNKWN	UNIWN	-	-	UNIT	-	-
IPDM E/R	No indication	-	UNKWN	UNIT	-	-	UNEWN	-	-

#### Case 7

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to LAN-37

					CAN DIAG S	SUPPORT MNTR			
SELECT SVS	EM screen	Initial	Tranemit			Receive	diagnosis		
GELEOTOTO	Emacroon	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNIM
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	•
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNIXAN	UNION
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNIT
ABS		NG	UNKWN	UNIWN	-	-	-	-	-
IPDM E/R	Notocication	-	UNKWN	UNKWN		-	UNKWN	-	-

#### Case 8

Check ECM circuit. Refer to LAN-37 .

					CAN DIAG S	SUPPORT MNTR			
SELECT SYSTE	M screen	Initial diagnosis	Transmit diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG			-	UNIONN			
Display unit	-	CAN COMM	CAN 1	<b>€</b> ∕3	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNIWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNIT	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKWN	UNIWN	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNION	-	-	UNKWN	-	-

#### Case 9

Check display unit circuit. Refer to LAN-38.

					CAN DIAG 5	SUPPORT MNTR	2		
SELECT SYS	TEM screen	Initial diagnosis	Transmit diagnosis	ECM	DISPLAY	Receive METER/ M&A	diagnosis BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN			UNKWN	UNKWN		UNKWN
Display unit	-	CAN COMM	<b>V</b> 1	<b>\$</b> 3	-	<b>\$</b> \$	<b>V</b> 12	-	₩7
METER A/C AMP	No indication		UNKWN	UNKWN	UNEWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
ABS		NG	UNKWN	UNKWN	-	-	-		-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN		-

## [CAN]

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WKIA2129E

#### Case 10

Check data link connector circuit. Refer to LAN-38 .

					CAN DIAG 3	SUPPORT MNTR			
CELECT OVE	EMagroop	Initial	Transmit			Receive	diagnosis		
SELECT STS	EW SCIEGH	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	Notorication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
всм	Notorication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-
IPDM E/R	Notorication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

#### Case 11

Check BCM circuit. Refer to LAN-39 .

					CAN DIAG S	SUPPORT MNTR			
CELECT OVER	TEM coroon	Initial	Transmit			Receive	diagnosis		
SELECT STS	I EW SCIECT	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN		-	UNKWN	UNKWN		UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	Noncation	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

#### Case 12

Check unified meter and A/C amp. circuit. Refer to LAN-39 .

					CAN DIAG S	SUPPORT MNTR			
CELECT OVE	TEM coroon	Initial	Transmit			Receive	diagnosis		
SELECT STS	I EW SCIECT	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/F
ENGINE	-	NG	UNKWN	-		UNIVIN	UNKWN	-	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	<b>€</b> 15	CAN 2	-	CAN 7
METER A/C AMP	Notorcation	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN		UNION	-	-	UNKWN
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

#### Case 13

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-40.

051 507 01/0		1.12.1	<b>.</b>		0/11/0/10/0	Receive	diagnosis		
SELECT SYS	I EM screen	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-		UNKWN	UNKWN		UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNION	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKWN	UNIWN	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

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#### Case 14

Check IPDM E/R circuit. Refer to LAN-40.

					CAN DIAG 3	SUPPORT MNTR			
CELECT OVE	TEM coroon	Initial	Transmit			Receive	diagnosis		
SELECT STS	I EW SCIECT	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-		UNKWN	UNKWN		UNIWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	¥7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNION
BCM	No indication	NG	UNKWN	UNKWN		UNKWN			UNION
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-
IPDM E/R	Notorication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

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#### Case 15

Check CAN communication circuit. Refer to LAN-41 .

					CAN DIAG S	SUPPORT MNTR			
CELECT OVET	EMaaraan	Initial	Transmit			Receive	diagnosis		
JELECT STST	EWSCIECI	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNION	-		UNIONN		-	
Display unit	-	CAN COMM	<b>€</b> √1	₩3	-	¢415	<b>V</b> 12	-	<b>V</b> 17
METER A/C AMP	Notication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	Notorication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
ABS		NG	UNKWN	UNION		-	-	-	-
IPDM E/R	Notorication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

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#### Case 16

Check IPDM E/R.

					CAN DIAG S	SUPPORT MNTR			
SELECT SYS	TEM screen	Initial	Transmit			Receive	diagnosis	UD O TOO!	
		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	ABS	IPDM E/R
ENGINE	-	NG	UNKWN		-	UNKWN	UNKWN		UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKWN	UNION	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

#### Case 17

Check IPDM E/R Ignition relay circuit. Refer to  $\underline{\text{LAN-42}}$  .

SELECT SYSTEM screen		1.12.1	<b>-</b>	Receive diagnosis					
		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	-		UNKWN	UNKWN	-	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNION	UNKWN
всм	No indication	NG	UNKWN	UNKWN		UNKWN	-		UNKWN
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-
						1			1


- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.
- OK or NG
- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

Check resistance between ECM connector M82 terminal 94 (L) and terminal 86 (Y).

#### 94 (L) - 86 (Y)

: Approx. 108 - 132 $\Omega$ 

#### OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ECM connector M82 and data link connector M22.



# **Display Unit Circuit Check**

### **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect display unit connector M93.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between display unit connector M93 terminal 25 (L) and terminal 26 (Y).

14 (L) - 16 (Y)

: **Approx. 54 - 66**Ω

#### OK or NG

- OK >> Replace display unit.
- NG >> Repair harness between display unit connector M93 and data link connector M22.



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### Data Link Connector Circuit Check 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check data link connector M22 terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

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Check resistance between data link connector M22 terminal 6 (L) and terminal 14 (Y).

: Approx. 54 - 66Ω

OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-28.
- NG >> Repair harness between data link connector M22 and BCM connector M18.



# **BCM Circuit Check**

### **1. CONNECTOR INSPECTION**

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect BCM connector M18.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between BCM connector M18 terminal 39 (L) and terminal 40 (Y).

39 (L) - 40 (Y)

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Replace BCM.
- NG >> Repair harness between BCM connector M18 and data link connector M22.



## Unified Meter and A/C Amp. Circuit Check

# 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect unified meter and A/C amp. connector M49.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

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Check resistance between unified meter and A/C amp. connector M49 terminal 1 (L) and terminal 11 (Y).

#### 1 (L) - 11 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace unified meter and A/C amp.
- NG >> Repair harness between unified meter and A/C amp. connector M49 and data link connector M22.



### ABS Actuator and Electric Unit (Control Unit) Circuit Check 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ABS actuator and electric unit (control unit) connector E125.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ABS actuator and electric unit (control unit) connector E125 terminal 20 (L) and terminal 23 (Y).

20 (L) - 23 (Y) : Approx

: **Approx. 54 - 66**Ω

#### OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) connector E125 and IPDM E/R connector E121.



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## **IPDM E/R Circuit Check**

### **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect IPDM E/R connector E121.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

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Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (Y).

#### 48 (L) - 49 (Y)

: Approx. 108 - 132Ω

OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R connector E121 and ABS actuator and electric unit (control unit) connector E125.



# **CAN Communication Circuit Check**

### **1.** CONNECTOR INSPECTION



# With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (L) and 14 (Y). **6 (L) - 14 (Y)** : Continuity should not exist. OK or NG OK >> GO TO 3. NG >> Repair the harness.

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# 3. CHECK HARNESS FOR SHORT TO GROUND

Check continuity between data link connector M22 terminals 6 (L), 14 (Y) and ground.

- 6 (L) Ground 14 (Y) - Ground
- : Continuity should not exist. : Continuity should not exist.

OK or NG

- OK >> Check ECM and IPDM E/R. Refer to <u>LAN-42, "Compo-</u> nent Inspection".
- NG >> Repair the harness.

# **IPDM E/R Ignition Relay Circuit Check**

Check the following. If no problem is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-24, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to <u>PG-11</u>, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/ <u>OR START</u>".

### Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.

**94 - 86** : Approx. 108 - 132Ω

• Check resistance between IPDM E/R terminals 48 and 49.

48 - 49

: Approx. 108 - 132Ω





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# **System Description**

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

### Component Parts and Harness Connector Location



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# Schematic

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### [CAN]







BKWA0361E

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 22
 20
 18
 16
 14
 12
 10
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 6
 4
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 M93

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 17
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 13
 11
 9
 7
 5
 3
 1
 W

### [CAN]



### **Work Flow**

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1. When there are no indications of "METER A/C AMP", "BCM", "IPDM E/R" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)	NISSAN	SELECT SYSTEM	
		ENGINE	
	CONSULT- II	A/T	
		ABS	
		AIR BAG	
	ENGINE	ВСМ	
	START (NISSAN BASED VHCL)	METER A/C AMP	
	START (RENAULT BASED VHCL)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

2. Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II.

(Example)	SELECT D	IAG MOI	DE	SELF-DIAG RESULTS	
	WORK S	UPPORT	r	DTC RESULTS TIME	
	SELF-DIAC	G RESUL	.TS		
	DATA M	ONITOR			
	DATA MONI	TOR (SF	PEC)		
	CAN DIAG SU	PPORT	MNTR		
	ACTIV	E TEST			
				F.F.DATA	
		Scroll	Down	ERASE PRINT	
	BACK	LIGHT	COPY	MODE BACK LIGHT COPY	PKIA8260

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II.



4. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks onto the items with "No indication", "NG", or "UNKWN" in the check sheet table.

					CAN DIAG S	SUPPORT MNTE	۰			
SELECT SYS	I -M scroon	Initial	Iranemit	Receive diagnosis						
0	n macrou	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R	
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7	
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN	
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-	
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN	-	-	

#### NOTE:

• If "NG" is displayed on "INITIAL DIAG (Initial diagnosis) CAN COMM" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

	• The "CAN DIAG SUPPORT MNTR" items which are not in check sheet table are not related to diagnos- tic procedure on service manual. Therefore, it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.	A
5.	Mark the "NG" or "UNKWN" item of the check sheet table from the result of CAN DIAG SUPPORT MONI- TOR check sheet.	В
	<b>NOTE:</b> If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.	С
6.	According to the Check Sheet Results, start inspection.	
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### CHECK SHEET

#### Check sheet table

					CAN DIAG S	SUPPORT MNTR			
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis		
	2.11 0010011	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS	+	NG	UNKWN	UNKWN	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

Symptoms:



Attach copy of display unit CAN DIAG MONITOR check sheet

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BKIA0083E

WKIA2167E

WKIA2168E

### CHECK SHEET RESULTS Case 1

Replace ECM.

					CAN DIAG 8	CAN DIAG SUPPORT MNTR						
CELECT OVET	EM aeroon	Initial	Trapamit	Receive diagnosis								
JELEGI JIJI	LIVISCIERI	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R			
ENGINE	-	$\checkmark$	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN			
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7			
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN			
BCM	No indication	NG	UNKWN	UNKWN		UNKWN	-		UNKWN			
AUTO DRIVE POS.	No indication	NG	UNKWN		-	UNKWN	UNKWN		-			
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-			
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN		-			

					CAN DIAG 8	SUPPORT MNTE					
en Loi ever		1	3	Receive diagnosis							
acteurarai	FIM SCIOUI	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/F		
ENGINE	-	NG	UNKWN	-	-	UNIN	UNITAVN	-	UNITON		
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	GAN 2	-	CAN 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN		
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-		
ABS		NG	UNKWN	UNKWN		· ·					
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN				

### Case 2

Replace display unit.

			CAN DIAG SUPPORT MNTR								
SELECT SYST	CLSYS1EM screen		Transmit	Receive diagnosis							
		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN		
Display unit	-	S.MM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN		
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-		
ABS		NG	UNKWN	UNKWN				]			
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN		-		

					CAN DIAG	SUPPORT MNTP			
SELECT SYSTEM screen		Initial diagnosis	Transmit diagnosis	ЕСМ	DISPLAY	METER/ M&A	diagnosis BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display unit	-	CAN COMM	CAN 1	₩3	-	<b>\$</b>	₩2	-	V
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		

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# Case 3

Replace BCM.

					CAN DIAG 8	SUPPORT MNTR						
CLECT OVET	-M aaraan	Initial	Ironomit	Receive diagnosis								
actediarai	FW SCIOCH	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R			
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN			
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7			
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN			
всм	No indication	NG	UNKWN	UNITAVN	-	UNKOWN	-	-	UNIT			
AUTO DRIVE POS.	No indication	NG	UNKWN		-	UNKWN	UNKWN	-	-			
ABS		NG	UNKWN	UNKWN								
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN		-			

Initial diagnosis

NG

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V

NG

NG

SELECT SYSTEM screen

No indication

No indication

No indication

No indication

ENGINE

BCM

ABS

unified meter and A/C amp.

IPDM E/R

Display unit

METER A/C AMP

AUTO DRIVE POS.

Transmit diagnosis

UNKWN

CAN 1

UNKWN

UNKWN

UNKWN

UNKWN

UNKWN

ECM

CAN 3

UNKWN

UNKWN

UNKWN

UNKWN

CAN DIAG SUPPORT MNTH

DISPLAY

UNKWN

METER/ M&A

UNKWN

CAN 5

UNKWN

UNKWN

agnosis

BCM/SEC

UNKWN

CAN 2

UNKWN

UNKWN

UNKWN

VDC/TCS/ ABS

UNKWN

IPDM E/R

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Case	4
Repla	ce

					CAN DIAG S	SUPPORT MNTR			
CELECT OVET	-M sereen	Initial	Ironomit			Receive	diagnosis		
accestarat	FW SCICCI	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNITAN	UNIONN		UNKOVN	UNIKOVN	LINKAVN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		

#### Case 5

Replace driver seat control unit.

					CAN DIAG	SUPPORT MNTE	<u> </u>				
SELECT SYS	I-M scroop	Initial	Iranemit	Receive diagnosis							
acteurara	rewiscited)	diagnosis	diagnosis	nosis ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN		
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	GAN 2	-	CAN 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN		
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN		
AUTO DRIVE POS.	No indication	V	UNKWN	-	-	UNKWN	UNKWN	-	-		
ABS		NG	UNKWN	UNKWN							
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN				

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					CAN DIAG S	SUPPORT MNTE			
CELECT OVET	-Maaraan	Initial	Ironomit			Receive	diagnosis		
accestatat	FW SCIOCH	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNIWN	UNIWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN		-

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### Case 6

Replace ABS actuator and electric unit (control unit).

					CAN DIAG S	SUPPORT MNTR			
SELECT SYS1	⊢M screen	Initial diagnosis	Transmit diagnosis	ECM	DISPLAY	METER/ M&A	diagnosis BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNIVAN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		V	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN		-	UNKWN		-

### Case 7

Replace IPDM E/R.

	-				CAN DIAG 8	SUPPORT MNTE	. · · ·		
SELECT SYST	i EM screen	Initial	Transmit	nit Receive diagnosis					
		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	GAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN		-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNIAWN	-	-	UNIWN		-

#### Case 8

#### Check harness between data link connector and driver seat control unit. Refer to LAN-58.

					CAN DIAG 8	SUPPORT MNTR				
SELECT SYS	TEM screen	Initial	Transmit		Receive diagnosis					
		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	ABS	IPDM E/R	
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNDOWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	V17	
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNIT	UNION	
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN				
AUTO DRIVE POS.	Notorication	NG	UNKWN	-	-	UNKWN	UNKWN		-	
ABS	-	NG	UNKWN	UNKAVN	-	-	-	-	-	
IPDM E/R	No no cation	-	UNKWN	UNKWN	-	-	UNKWN		-	

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#### Case 9

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>A</u>LAN-58.



#### Case 10

Check ECM circuit. Refer to LAN-59 .

					CAN DIAG S	SUPPORT MNTR			
CLECT OVET	-M aaraan	Initial	Ironomit			Receive	diagnosis		
actediarai	FW SCIOCH	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/F
ENGINE	-	NG	UNKWN	-	-	UNIDAVN	UNKAVN	-	UNIOWN
Display unit	-	CAN COMM	CAN 1	<b>1</b> 3	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKOWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNIT	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKIN					
IPDM E/R	No indication	-	UNKWN	UNIKWN			UNKWN		

#### Case 11

Check display unit circuit. Refer to LAN-60.

					CAN DIAG	SUPPORT MNTR			
er'i tot evet	1.84	In Start	) and and the			Receive	diagnosis		
acteurarai	FIM SCIERT	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/F
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display unit	-	CAN COMM	<b>V</b> 1	<b>€</b> ∕/3		€ <b>№</b> 5	₩2	-	V
METER A/C AMP	No indication		UNKWN	UNKWN	UNKAVN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN		-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		-

#### Case 12

Check data link connector circuit. Refer to LAN-60.

					CAN DIAG S	SUPPORT MNTR	l i		
SELECT SYST	HM ecroop	Initial	Iranemit			Receive	diagnosis		
		diagnosis	diagnosis	ЕСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	GAN 2	-	CAN 7
METER A/C AMP	Notication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	Notorication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	Notication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	Notication	-	UNKWN	UNKWN	-	-	UNKWN		-

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#### Case 13

Check BCM circuit. Refer to LAN-61 .

		L		CAN DIAG SUPPORT MNTR						
SELECT SYST	I HM screen	Initial diagnosis	Transmit diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ AHS	IPDM E/R	
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNION	-	UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	<b>V</b> 2	-	CAN 7	
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNIWN	UNKWN	UNKWN	
всм	No hacation	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNION	-	-	
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNIWN		-	

### Case 14

Check unified meter and A/C amp. circuit. Refer to LAN-61.

					CAN DIAG S	SUPPORT MNTR	dinanacia				
SELECT SYST	HM screen	Initial diagnosis	Initial Transmit — diagnosis diagnosis		Iransmit diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNDOWN	UNKWN	-	UNKWN		
Display unit	-	CAN COMM	CAN 1	CAN 3	-	<b>\$\$</b>	CAN 2	-	CAN 7		
METER A/C AMP	No procetion		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN		
всм	No indication	NG	UNKWN	UNKWN	-	UNIWN	-	-	UNKWN		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNIWN	UNKWN		-		
ABS		NG	UNKWN	UNKWN	· ·			1			
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN				

#### Case 15

Check driver seat control unit circuit. Refer to LAN-62.

					CAN DIAG SUPPORT MNTR						
SELECI SYSTEM screen		Initial diagnosis	Transmit diagnosis	ЕСМ	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN		
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN		
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN		
AUTO DRIVE POS.	Nonocation	NG	UNKWN	-	-	UNKWN	UNKWN	-	-		
ABS		NG	UNKWN	UNKWN		· ·		1			
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-		

#### Case 16

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-62.

					CAN DIAG S	UPPORT MNTR				
SELECT SYS	EM screen	Initial	Transmit		Receive diagnosis					
		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	ABS	IPDM E/R	
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	GAN 5	CAN 2	-	CAN 7	
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNUWN	UNKWN	
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-	
ABS		NG	UNIKAN	UNITAN						
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		-	

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### Case 17

Check IPDM E/R circuit. Refer to LAN-63 .

				CAN DIAG SUPPORT MNTR									
SELECT SYST	-Miscroon	Initial	Tranemit			Receive diagnosis							
0	T M acroan	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ AHS	IPDM E/R				
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNITON				
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	V				
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNITAVN				
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNIT				
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-				
ABS		NG	UNKWN	UNKWN	· ·								
IPDM E/R	Notorication	-	UNKWN	UNKWN			UNKWN						

#### Case 18

Check CAN communication circuit. Refer to LAN-63.

					CAN DIAG 8	SUPPORT MNTE					
CLEAT OVET	-M sereen	Initial	3	Receive diagnosis							
actediara	FW SCICCH	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R		
ENGINE	-	NG	UNIOWN	-	-	UNIWN	UNITION	-	UNITON		
Display unit	-	CAN COMM	<b>W</b> 1	₩3	-	<b>1</b> 5	₩2	-	N.		
METER A/C AMP	Notication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN		
всм	Noncation	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN		
AUTO DRIVE POS.	Notication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-		
ABS		NG	LINIKAVN	UNIDAVN							
IPDM E/R	Notation	-	UNKWN	UNKWN			UNKWN		-		

#### Case 19

Check IPDM E/R.

					CAN DIAG	SUPPORT MNTE					
ent of ever		In the I	A second se	Receive diagnosis							
accestarat	FW SCIOUT	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/		
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN		
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN		
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-		
ABS		NG	UNKWN	IN WN		· ·					
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		-		

#### Case 20

Check IPDM E/R Ignition relay circuit. Refer to LAN-64 .

				Receive diagnosis										
SELECT SYST	HM screen	lnitial diagnosis	Transmit diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R					
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN					
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7					
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNIWN	UNKWN					
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN					
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-					
ABS		NG	UNKWN	UNKWN										
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN	-	-					

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#### **Circuit Check Between Driver Seat Control Unit and Data Link Connector** EKS004ZU 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Disconnect driver seat control unit connector P2 and ECM connector M82. 3.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

14 (Y).

OK or NG

OK

NG

OK >> GO TO 2.

3 (BR) - 6 (L)

19 (Y/G) - 14 (Y)

LAN-48.

>> Repair harness.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT



#### Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit) EKS004ZV

### **1.** CONNECTOR INSPECTION

- Turn ignition switch OFF. 1.
- 2. Disconnect the negative battery terminal.
- Disconnect driver seat control unit connector P2, ABS actuator and electric unit (control unit) connector 3. E125 and ECM connector M82.
- Check the terminals for deformation, disconnection, looseness or damage. 4.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

#### 2. CHECK HARNESS FOR OPEN CIRCUIT А Check continuity between driver seat control unit connector P2 terminals 3 (BR), 19 (Y/G) and ABS actuator and electric unit (control unit) connector E125 terminals 20 (L), 23 (Y). В 2 BAT 3 (BR) - 20 (L) : Continuity should exist. Driver seat control unit connector 19 (Y/G) - 23 (Y) : Continuity should exist. OK or NG OK >> Connect all connectors and diagnose again. Refer to 3, 19 LAN-48. D NG >> Repair harness. Ε ABS actuator and electric unit (control unit) connector 23 20 F 20, 23 Ω WKIA0435E Н ECM Circuit Check EKS004ZW **1.** CONNECTOR INSPECTION 1. Turn ignition switch OFF. 2. Disconnect the negative battery terminal. J 3. Disconnect ECM connector M82. 4. Check the terminals for deformation, disconnection, looseness or damage. OK or NG LAN OK >> GO TO 2. NG >> Repair or replace as necessary. 2. CHECK HARNESS FOR OPEN CIRCUIT L Check resistance between ECM connector M82 terminal 94 (L) and terminal 86 (Y). Μ 94 (L) - 86 (Y) : Approx. 108 - 132 $\Omega$ ECM connector OK or NG CONNECTOR OK ECM >> Replace ECM. NG >> Repair harness between ECM connector M82 and data 86 a/ link connector M22.

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# **Display Unit Circuit Check**

### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect display unit connector M93.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between display unit connector M93 terminal 25 (L) and terminal 26 (Y).

14 (L) - 16 (Y)

: Approx. 54 - 66 $\Omega$ 

#### OK or NG

- OK >> Replace display unit.
- NG >> Repair harness between display unit connector M93 and data link connector M22.



# **Data Link Connector Circuit Check**

- **1.** CONNECTOR INSPECTION
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check data link connector M22 terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminal 6 (L) and terminal 14 (Y).

#### 6 (L) - 14 (Y)

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-48.
- NG >> Repair harness between data link connector M22 and BCM connector M18.



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# **BCM Circuit Check**

### **1. CONNECTOR INSPECTION**

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect BCM connector M18.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

OK

NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR OPEN CIRCUIT



- 2. Disconnect the negative battery terminal.
- 3. Disconnect unified meter and A/C amp. connector M49.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between unified meter and A/C amp. connector M49 terminal 1 (L) and terminal 11 (Y).

#### 1 (L) - 11 (Y)

: Approx. 54 - 66 $\Omega$ 

#### OK or NG

- OK >> Replace unified meter and A/C amp.
- NG >> Repair harness between unified meter and A/C amp. connector M49 and data link connector M22.



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# Driver Seat Control Unit Circuit Check

### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect driver seat control unit connector P2.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between driver seat control unit connector P2 terminal 3 (BR) and terminal 19 (Y/G).

3 (BR) - 19 (Y/G)

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Replace driver seat control unit.
- NG >> Repair harness between driver seat control unit connector P2 and data link connector M22.



### ABS Actuator and Electric Unit (Control Unit) Circuit Check

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1. Turn ignition switch OFF.

1. CONNECTOR INSPECTION

- 2. Disconnect the negative battery terminal.
- 3. Disconnect ABS actuator and electric unit (control unit) connector E125.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ABS actuator and electric unit (control unit) connector E125 terminal 20 (L) and terminal 23 (Y).

#### 20 (L) - 23 (Y)

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) connector E125 and IPDM E/R connector E121.



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# IPDM E/R Circuit Check

### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect IPDM E/R connector E121.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (Y).

48 (L) - 49 (Y)

: Approx. 108 - 132Ω

#### OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R connector E121 and ABS actuator and electric unit (control unit) connector E125.



# **CAN Communication Circuit Check**

- 1. CONNECTOR INSPECTION
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
- ECM
- Display unit
- BCM (Body control module)
- Unified meter and A/C amp.
- Driver seat control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R (Intelligent power distribution module engine room)

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR SHORTED CIRCUITS

With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (L) and 14 (Y).

#### 6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

- OK >> GO TO 3.
- NG >> Repair the harness.



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# 3. CHECK HARNESS FOR SHORT TO GROUND

Check continuity between data link connector M22 terminals 6 (L), 14 (Y) and ground.

- 6 (L) Ground 14 (Y) - Ground
- : Continuity should not exist. : Continuity should not exist.

OK or NG

- OK >> Check ECM and IPDM E/R. Refer to <u>LAN-64</u>, "Component Inspection".
- NG >> Repair the harness.

# **IPDM E/R Ignition Relay Circuit Check**

Check the following. If no problem is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-24, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to <u>PG-11, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/</u> <u>OR START"</u>.

### Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.

**94 - 86** : Approx. 108 - 132Ω

• Check resistance between IPDM E/R terminals 48 and 49.

48 - 49

: **Approx. 108 - 132**Ω



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# **System Description**

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

### **Component Parts and Harness Connector Location**



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# Schematic

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) 49 48 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) 53 20 DRIVER SEAT CONTROL UNIT 19 e UNIFIED METER AND A/C AMP. ÷ BCM (BODY CONTROL MODULE) 4 39 DATA LINK CONNECTOR 44 9 26 DISPLAY CONTROL UNIT 25

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86

94

ECM

### [CAN]



### LAN-CAN-08



Revision: June 2004

### [CAN]



Revision: June 2004

### **Work Flow**

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1. When there are no indications of "METER A/C AMP", "BCM", "IPDM E/R" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)	NISSAN	SELECT SYSTEM	
	CONSULT-II	ENGINE	
	CONSULT- II	A/T	
		ABS	
		AIR BAG	
	ENGINE	всм	
	START (NISSAN BASED VHCL)	METER A/C AMP	
	START (RENAULT BASED VHCL)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

2. Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II.

(Example)	SELECT D	IAG MOI	DE	SELF-DIAG RES	ULTS
	WORK S	UPPORT	г	DTC RESULTS	TIME
	SELF-DIAC	G RESUL	TS	CAN COMM CIRCUIT	то
	DATA M	ONITOR			
	DATA MONI	TOR (SP	EC)		
	CAN DIAG SU	PPORT I	MNTR		
	ACTIV	E TEST		L	
					F.F.DATA
		Scroll	Down	ERASE F	PRINT
	BACK	LIGHT	COPY	MODE BACK LIGH	IT COP

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II.



4. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks onto the items with "No indication", "NG", or "UNKWN" in the check sheet table.

					CAN DIAG S	SUPPORT MNTR			
SELECT SYS	EM screen	Initial	Transmit			Receive diagnosis			
		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN			•		
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	

#### NOTE:

• If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

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	• The "CAN DIAG SUPPORT MNTR" items which are not in check sheet table are not related to diagnos- tic procedure on service manual. Therefore, it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.	А
5.	Check CAN communication line of the navigation system.	В
6.	Mark the "NG" or "UNKWN" item of the check sheet table from the result of CAN DIAG SUPPORT MONI- TOR check sheet.	
	<b>NOTE:</b> If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.	С
7.	According to the Check Sheet Results, start inspection.	D
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### CHECK SHEET

#### Check sheet table

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR							
		Initial diagnosis	Transmit diagnosis	Receive diagnosis					
				ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM É/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display control unit	+	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

Symptoms:

Attach copy of SELECT SYSTEM	
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Attach copy of display unit CAN DIAG MONITOR check sheet

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# CHECK SHEET RESULTS Case 1

Replace ECM.

					CAN DIAG 8	SUPPORT MNTR			
SELECT SYST	EMiscreen	Initial	Trapemit			Receive	diagnosis		
OLLEOT OTOT	LIM SCIENT	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	$\checkmark$	UNKWN	-		UNKWN	UNKWN	-	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		

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					CAN DIAG S	SUPPORT MNTR			
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis		
0		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNION	UNINAN	-	UNION
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

### Case 2

Replace display control unit.

					CAN DIAG S	SUPPORT MNTR					
eci Lo Level	LM coreon	Initial	Ironomit		Receive diagnosis						
acceutarat	PW SCION1	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN		
Display control unit	-	S.MM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN		
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN		
AUTO DRIVE POS.	No indication	NG	UNKWN		-	UNKWN	UNKWN	-	-		
ABS		NG	UNKWN	UNKWN							
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN		-		

CAN DIAG SUPPORT MNTR Receive d DISPLAY M&A ignosis SELECT SYSTEM screen Initial diagnosis Transmit diagnosis VDC/1CS/ ABS IPDM E/R ECM DISPLAY BCM/SEC ENGINE NG UNKWN UNKWN UNKWN UNKWN CAN COMM CAN ORC 3 CAN ORC 5 CAN IRC I CAN CIRC 1 CAN ORC 2 Display control unit METER A/C AMP No indication UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN BCM NG UNKWN UNKWN UNKWN UNKWN No indication AUTO DRIVE POS. No indication NG UNKWN UNKWN UNKWN ABS UNKWN NG UNKWN IPDM E/R No indication UNKWN UNKWN UNKWN WKIA2251E

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# Case 3

Replace BCM.

					CAN DIAG S	SUPPORT MNTR			
CLECT OVET	-Maaroon	Initial	Ironomit			Receive	diagnosis		
actediarai	FW SCIOCI	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNITON	-	UNITOWN	-	-	UNIWN
AUTO DRIVE POS.	No indication	NG	UNKWN		-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		-

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					CAN DIAG S	SUPPORT MNTR			
eci Lot ever	-Maaraan	Initial	Transmit			Receive	diagnosis		
accestara	PWISCOOL	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	$\checkmark$	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN		-	UNKWN		-

### Case 4

Replace unified meter and A/C amp.

					CAN DIAG	SUPPORT MNTR			
CELECT OVET	-Maaraan	Initial	Ironomit			Receive (	diagnosis		
actediarai	FW SCICCI	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC
METER A/C AMP	No indication		UNKWN	UNITAN	UNKOWN	•	UNUWN	UNIT	UNIWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	· ·				
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN		

### Case 5

Replace driver seat control unit.

					CAN DIAG S	SUPPORT MNTR			
SELECT SYS	i-M ecroon	Initial	Iranemit			Receive	diagnosis		
0	i wasiour	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	V	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		-

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					CAN DIAG	SUPPORT MNTR			
CLEDI OVOT	-M aereen	Initial	Ironomit			Receive	diagnosis		
actorara	PWISCICCI	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC /
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNIWN	UNIWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		

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### Case 6

Replace ABS actuator and electric unit (control unit).

					CAN DIAG S	SUPPORT MNTR			
SELECT SYST	HM screen	Initial	Transmit	5011	0.001.01	Receive ME1ER/	diagnosis	VDC/1CS/	10011510
		diagnosis	diagnosis	LCM	DISPLAY	M&A	BCM/SEC	ABS	IPDM DR
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNIWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		V	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		

### Case 7

Replace IPDM E/R.

					CAN DIAG	SUPPORT MNTE						
SELECT SYS	i EM screen	Initial	Transmit	smit Receive diagnosis								
		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R			
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN			
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7			
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN			
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN			
AUTO DRIVE POS.	No indication	NG	UNKWN	· · ·	-	UNKWN	UNKWN	-	-			
ABS		NG	UNKWN	UNKWN		· ·						
IPDM E/R	No indication	-	UNKWN	UNITAN	-		UNIAN	-	-			

### Case 8

### Check harness between data link connector and driver seat control unit. Refer to LAN-80.

					CAN DIAG	SUPPORT MNTR			
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis		
00000	Linderden	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNIT
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN IRC 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNIWN	UNIWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNIWN
AUTO DRIVE POS.	No potention	NG	UNKWN		-	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNIFWN	-	-	-	-	-
IPDM E/R	Notoccation	-	UNKWN	UNKWN	-		UNKWN	-	-

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#### Case 9

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>A</u><u>LAN-80</u>.



### Case 10

Check ECM circuit. Refer to LAN-81 .

					CAN DIAG	SUPPORT MNTR			
CELECT OVET	-M sereen	Initial	Ironomit			Receive	diagnosis		
actediarai	FW SCICCI	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNITAN	-	-	UNION	UNION	-	UNION
Display control unit	-	CAN COMM	CAN CIRC 1	CAN VIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC /
METER A/C AMP	No indication		UNKWN	UNITAN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNITAN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNIFWN					
IPDM E/R	No indication	-	UNKWN	UNION			UNKWN		

#### Case 11

Check display control unit circuit. Refer to LAN-82.

					CAN DIAG	SUPPORT MNTR			
SELECT SYST	HM scroon	Initial	Iranemit			Receive	diagnosis		
0		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display control unit	-	CAN COMM	CAN ORC 1	CAN VIRC 3	-	CAN ORC 5	CAN ARC 2	-	CAN
METER A/C AMP	No indication		UNKWN	UNKWN	UNIOWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		

#### Case 12

Check data link connector circuit. Refer to LAN-82.

					CAN DIAG	SUPPORT MNTR			
SELECT SYST	HM screen	Initial	Transmit			Receive	diagnosis		1
		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	Noncation		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	Notorication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	Notection	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	Notacication	-	UNKWN	UNKWN	-	-	UNKWN	-	

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#### Case 13

Check BCM circuit. Refer to LAN-83 .

					CAN DIAG 8	SUPPORT MNTR			
SELECT SYS	I HM screen	Initial diagnosis	Transmit diagnosis	ЕСМ	DISPLAY	Receive METER/ M&A	diagnosis BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNIT	-	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN ARC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNHWN	UNKWN	UNKWN
всм	Notorication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNITON	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNIWN	-	

### Case 14

Check unified meter and A/C amp. circuit. Refer to LAN-83.

					CAN DIAG	SUPPORT MNTR			
SELECT SYST	HM screen	Initial	Transmit			Receive	diagnosis	M001091	
		diagnosis	diagnosis	ECM	DISPLAY	METER	BCM/SEC	ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNIN	UNKWN	-	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN ORC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	Nonacation		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	UNIT	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKAVN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN	-	-

### Case 15

Check driver seat control unit circuit. Refer to LAN-84.

				1	CAN DIAG 8	SUPPORT MNTR			
SELECT SYST	HM screen	Initial diagnosis	Transmit diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	Notocication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN				1	
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

### Case 16

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-84 .

					CAN DIAG	SUPPORT MNTR			
SELECT SYST	HM screen	Initial diagnosis	1 ransmit diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNIT	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNIKWN	UNITAN					
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		-

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### Case 17

Check IPDM E/R circuit. Refer to LAN-85 .

					CAN DIAG S	SUPPORT MNTE			
eci Lei evet	-Maaraan	Initial	Ironomit			Receive	diagnosis		
accestarat	PWISCICCI	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNION
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN IRC /
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNIWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNIT
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN		· ·			
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		-

### Case 18

Check CAN communication circuit. Refer to LAN-85.

					CAN DIAG S	SUPPORT MNTR			
CLEAT EVET	-Maaraan	Initial	Ironomit			Receive (	diagnosis		
acceuraran	FW SCICCI	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNIOWN	-	-	UNIKWN	UNITAN	-	UNKWN
Display control unit	-	CAN COMM	CAR ORC 1	CAN ORC 3	-	CAN ORC 5	CAN TRC 2	-	CAN CIRC 7
METER A/C AMP	No procession		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No matcation	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No outcation	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKAN	UNKAVN					
IPDM E/R	No ne cation	-	UNKWN	UNKWN			UNKWN		

### Case 19

Check IPDM E/R.

					CAN DIAG	SUPPORT MNTR			
CELECT OVET	-M aaraan	Initial	Ironomit			Receive	diagnosis		
actediara	FW SCIOCI	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC /
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNK₩N	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNITWN					
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		

#### Case 20

Check IPDM E/R Ignition relay circuit. Refer to LAN-86.

						Receive	diagnosis		
SELECTISTST	HM screen	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNIWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN		-

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#### Circuit Check Between Driver Seat Control Unit and Data Link Connector EKS004ZA 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Disconnect driver seat control unit connector P2 and ECM connector M82. 3.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

14 (Y).

OK or NG

OK

NG

OK >> GO TO 2.

3 (BR) - 6 (L)

19 (Y/G) - 14 (Y)

LAN-70.

>> Repair harness.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT



#### Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit) EKS004ZB

### **1.** CONNECTOR INSPECTION

- Turn ignition switch OFF. 1.
- 2. Disconnect the negative battery terminal.
- Disconnect driver seat control unit connector P2, ABS actuator and electric unit (control unit) connector 3. E125 and ECM connector M82.
- Check the terminals for deformation, disconnection, looseness or damage. 4.

### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.



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# **Display Control Unit Circuit Check**

### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect display control unit connector M95.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between display control unit connector M95 terminal 25 (L) and terminal 26 (Y).

25 (L) - 26 (Y)

: Approx. 54 - 66 $\Omega$ 

### OK or NG

- OK >> Replace display control unit.
- NG >> Repair harness between display control unit connector M95 and data link connector M22.



# **Data Link Connector Circuit Check**

- **1.** CONNECTOR INSPECTION
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check data link connector M22 terminals for deformation, disconnection, looseness or damage.

### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminal 6 (L) and terminal 14 (Y).

#### 6 (L) - 14 (Y)

: Approx. 54 - 66 $\Omega$ 

### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-70.
- NG >> Repair harness between data link connector M22 and BCM connector M18.



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# **BCM Circuit Check**

# **1. CONNECTOR INSPECTION**

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect BCM connector M18.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

OK

NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR OPEN CIRCUIT



### 1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Disconnect unified meter and A/C amp. connector M49.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between unified meter and A/C amp. connector M49 terminal 1 (L) and terminal 11 (Y).

#### 1 (L) - 11 (Y)

: Approx. 54 - 66 $\Omega$ 

#### OK or NG

- OK >> Replace unified meter and A/C amp.
- NG >> Repair harness between unified meter and A/C amp. connector M49 and data link connector M22.



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# **Driver Seat Control Unit Circuit Check**

### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect driver seat control unit connector P2.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between driver seat control unit connector P2 terminal 3 (BR) and terminal 19 (Y/G).

3 (BR) - 19 (Y/G)

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Replace driver seat control unit.
- NG >> Repair harness between driver seat control unit connector P2 and data link connector M22.



### ABS Actuator and Electric Unit (Control Unit) Circuit Check

EKS004ZJ

1. Turn ignition switch OFF.

1. CONNECTOR INSPECTION

- 2. Disconnect the negative battery terminal.
- 3. Disconnect ABS actuator and electric unit (control unit) connector E125.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ABS actuator and electric unit (control unit) connector E125 terminal 20 (L) and terminal 23 (Y).

#### 20 (L) - 23 (Y)

: Approx. 54 - 66 $\Omega$ 

#### OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) connector E125 and IPDM E/R connector E121.



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# IPDM E/R Circuit Check

# **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect IPDM E/R connector E121.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (Y).

48 (L) - 49 (Y)

: Approx. 108 - 132Ω

### OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R connector E121 and ABS actuator and electric unit (control unit) connector E125.



# **CAN Communication Circuit Check**

- 1. CONNECTOR INSPECTION
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
- ECM
- Display control unit
- BCM (Body control module)
- Unified meter and A/C amp.
- Driver seat control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R (Intelligent power distribution module engine room)

### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR SHORTED CIRCUITS

With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (L) and 14 (Y).

### 6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG >> Repair the harness.



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# 3. CHECK HARNESS FOR SHORT TO GROUND

Check continuity between data link connector M22 terminals 6 (L), 14 (Y) and ground.

- 6 (L) Ground 14 (Y) - Ground
- : Continuity should not exist.

nd : Continuity should not exist.

OK or NG

- OK >> Check ECM and IPDM E/R. Refer to <u>LAN-65, "Compo-</u> nent Parts and Harness Connector Location"LAN-65.
- NG >> Repair the harness.

# **IPDM E/R Ignition Relay Circuit Check**

Check the following. If no problem is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-24, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-11, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/</u> <u>OR START"</u>.

### Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.

**94 - 86** : Approx. 108 - 132Ω

• Check resistance between IPDM E/R terminals 48 and 49.

48 - 49

: **Approx. 108 - 132**Ω





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EKS004ZN

# **System Description**

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

### Component Parts and Harness Connector Location



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# Schematic

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### [CAN]



### LAN-CAN-11



BKWA0208E

### [CAN]



### **Work Flow**

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1. When there are no indications of "METER A/C AMP", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)	NISSAN	SELECT SYSTEM	
		ENGINE	
	CONSULT- II	A/T	
		ABS	
		AIR BAG	
	ENGINE	BCM	
	START (NISSAN BASED VHCL)	METER A/C AMP	
	START (RENAULT BASED VHCL)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

2. Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "BCM", "METER A/C AMP", "IPDM E/R" and "ABS" displayed on CONSULT-II.

(Example)	SELECT DIA	AG MOD	DE	SE	ELF	F-DIAC	RESUL	TS	
、 · · /	WORK SU	IPPORT		DTC	С F	RESUL	TS	TIME	
	SELF-DIAG	RESUL	rs	CAN C		MM CI	RCUIT	0	
	data mo	NITOR							
	DATA MONIT	OR (SPI	EC)						
	CAN DIAG SUP	PORT	INTR						
	ACTIVE	TEST							
							E	.F.DATA	
		Scroll	Down	ER/	AS	SE.	PR	INT	
	BACK I	LIGHT	COPY	MODE	E	BACK	LIGHT	COPY	PKIA8260E

 Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "BCM", "METER A/C AMP", "IPDM E/R" and "ABS" displayed on CONSULT-II.



4. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks onto the items with "No display, "NG", or "UNKWN" in the check sheet table.

CELECT OVC:		Landa I		T	CAN DIAG	SUPPORT MNTR Receive	diagnosis		
SELECTORS	I EWI Screen	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN			UNKWN	UNKWN	UNKWN	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN /
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN		-	UNKWN
ABS		NG	UNKWN	UNKWN				· · · ·	
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN	-	-

#### NOTE:

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• If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

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	• The "CAN DIAG SUPPORT MNTR" items which are not in check sheet table are not related to diagnos- tic procedure on service manual. Therefore, it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.	A
5.	Mark the "NG" or "UNKWN" item of the check sheet table from the result of CAN DIAG SUPPORT MONI- TOR check sheet.	В
	<b>NOTE:</b> If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.	С
6.	According to the Check Sheet Results, start inspection.	
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### **CHECK SHEET**

#### Check sheet table

					CAN DIAG S	SUPPORT MNTR			
	EM scroop	Initial	Tranemit			Receive	diagnosis		
JELEOT 313		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-		UNKWN
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

Symptoms:



Attach copy of display unit CAN DIAG MONITOR check sheet

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# CHECK SHEET RESULTS Case 1

Replace ECM.

					CAN DIAG 5	SUPPORT MNTR			
SELECT SYST	EM ecreen	Initial	Transmit			Receive	diagnosis		
OLLEON BID	EW SCICCIT	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		<b>√</b>	UNKWN		-	UNKWN	UNKWN	UNKWN	UNKWN
Display unit		CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-		UNKWN
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

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					CAN DIAG 5	SUPPORT MNTR					
SELECT SYST	EMiscreen	Initial	Transmit	Receive diagnosis							
GLLEOTOTO	Emboroon	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R		
ENGINE		NG	UNKWN			UNIDAVN	UNION	UNKIN	UNIT		
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN /		
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN		
BCM	No indication	NG	UNKWN	UNKWN		UNKWN		-	UNKWN		
ABS		NG	UNKWN	UNKWN			· ·				
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-		

Case 2

Replace display unit.

			CAN DIAG SUPPORT MNTR								
SELECT SYST	EM screen	Initial	Transmit		r · · · · · · · · · · · · · · · · · · ·	Receive /	diagnosis	VDertesi			
		diagnosis	diagnosis	ECM	DISPLAY	M&A	BCM/SEC	ABS	IPDM E/R		
ENGINE	1.0	NG	UNKWN			UNKWN	UNKWN	UNKWN	UNKWN		
Display unit	-	CAX MM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN /		
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN		
BCM	No indication	NG	UNKWN	UNKWN		UNKWN		-	UNKWN		
ABS		NG	UNKWN	UNKWN							
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN	-	-		

CAN DIAG SUPPORT MNTR Receive d DISPLAY M&A agnosis SELECT SYSTEM screen Initial diagnosis Transmit diagnosis VDC/TCS/ ABS ECM BCM/SEC IPDM E/R ENGINE NG UNKWN UNKWN UNKWN UNKWN UNKWN CAN COMM **V**3 ₩5 **V**2 **V** Display unit CAN 1 METER A/C AMP UNKWN UNKWN UNKWN UNKWN UNKWN No indication UNKWN BCM NG UNKWN UNKWN UNKWN UNKWN No indication ABS NG UNKWN UNKWN IPDM E/R No indication UNKWN UNKWN UNKWN WKIA3053E

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### Case 3

Replace BCM.

				т	CAN DIAG S	SUPPORT MNTR Receive	diagnosis		
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN			UNKWN	UNKWN	UNKWN	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN /
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN			UNITION		-	UNEWN
ABS	· ·	NG	UNKWN	UNKWN				· ·	
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN	-	-

	CAN DIAG S	UPPORT MNTR			
ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
		UNKWN	UNKWN	UNKWN	UNKWN
CAN 3	-	CAN 5	CAN 2	-	CAN /
UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN

UNKWN

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#### Case 4

Replace unified meter and A/C amp.

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SELECT SYST	EM screen	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/F
ENGINE		NG	UNKWN			UNKWN	UNKWN	UNKWN	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN /
METER A/C AMP	No indication	-	UNKWN	UNIWN	UNION	-	UNKOVN	UNKOVN	UNKIWN
BCM	No indication	NG	UNKWN	UNKWN		UNKWN	-	-	UNKWN
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN	-	-

### Case 5

Replace ABS actuator and electric unit (control unit).

SELECT SYSTEM screen

No indication

No indication

No indication

ENGINE

BCM

ABS

IPDM E/R

Display unit

METER A/C AMP

Initial diagnosis

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Transmit diagnosis

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SELECT SYS	EM screen	linitial diagnosis	l ransmit diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN			UNKWN	UNKWN	UNKWN	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN /
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKOVN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN		UNKWN		-	UNKWN
ABS	· ·	<b>V</b>	UNKWN	UNKWN				· · ·	
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN	-	-

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#### Case 6

Replace IPDM E/R.

				·····	CAN DIAG	SUPPORT MNTR	·····		
SELECT SYS	TEM screen	Initial diagnosis	Transmit diagnosis	ECM	DISPLAY	METER/ M&A	diagnosis BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN			UNKWN	UNKWN	UNKWN	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN /
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN		UNKWN		-	UNKWN
ABS		NG	UNKWN	UNKWN				· · · · ·	
IPDM E/R	No indication	-	UNKWN	UNIWN			UNIWN	-	-

### Case 7

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-101</u>.

		·····			CAN DIAG	SUPPORT MNTH	dinancoic		
SELECT SYS	STEM screen	Initial diagnosis	Transmit diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN			UNKWN	UNKWN	UNIWN	UNIKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2		VI.
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNIWN	UNITON
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNION
ABS		NG	UNKWN	UNIWN					
IPDM E/R	Notestion	-	UNKWN	UNKWN			UNKWN	-	-

### Case 8

Check ECM circuit. Refer to LAN-101.

		·····		r	CAN DIAG 5	SUPPORT MNTR Receive	diagnosis		
SELECT SYS	TEM screen	Initial diagnosis	Transmit diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNIWN			UNK		UNIWN	UNIWN
Display unit	-	CAN COMM	CAN 1	₩3	-	CAN 5	CAN 2	-	CAN /
METER A/C AMP	No indication	-	UNKWN	UNKAVN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKAVN	-	UNKWN	-	-	UNKWN
ABS	· ·	NG	UNKWN	UNIWN					
IPDM E/R	No indication	-	UNKWN	UNKAVN	-	-	UNKWN	-	-

### Case 9

Check display unit circuit. Refer to  $\underline{\text{LAN-102}}$  .

SELECT SYS	TEM screen	Initial diagnosis	Transmit diagnosis	ECM	DISPLAY	Receive METER/	diagnosis BCM/SEC	VDC/TCS/	IPDM E/R
FNGINE		NG	UNKWN			UNKWN	UNKWN	UNKWN	UNKWN
Display unit	-	CAN COMM	₩1	₩3	-	<b>V</b> 15	₩2	-	<b>\$</b> 11
METER A/C AMP	No indication		UNKWN	UNKWN	UNKAVN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN		UNKWN		-	UNKWN
ABS	· · ·	NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN	-	-

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### Case 10

Check data link connector circuit. Refer to LAN-102.



### Case 11

Check BCM circuit. Refer to LAN-103.

					CAN DIAG S	SUPPORT MNTR			
SELECT SYST	EMiscreen	Initial	Transmit			Receive	diagnosis		
OLLEOTOTO	Emboroom	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN			UNKWN	UNITON	UNKWN	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	₩2	-	CAN /
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN		UNHWN	UNKWN	UNKWN
BCM	Notrication	NG	UNKWN	UNKWN		UNKWN		-	UNKWN
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNITAVN	-	-

#### Case 12

Check unified meter and A/C amp. circuit. Refer to LAN-103 .

				r	CAN DIAG 5	SUPPORT MNTR	tiaanoeie		
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN			UNITAVIN	UNKWN	UNKWN	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	₩15	CAN 2	-	CAN /
METER A/C AMP	Noting cation	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN		UNION	-	-	UNKWN
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN	-	-

#### Case 13

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-104.

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SLLEGTSYS	I EM screen	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN			UNKWN	UNKWN	UNKAVN	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2		CAN /
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNIWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN		UNKWN		-	UNKWN
ABS	· · ·	NG	UNKIN	UNION			· ·	· · ·	
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

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#### Case 14

Check IPDM E/R circuit. Refer to LAN-104 .

SELECT SYS	TEM screen	Initial	Transmit	T	CAN DIAG S	Receive	diagnosis		
GELEOTOTO	TEN SCIENT	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN			UNKWN	UNKWN	UNKWN	UNIWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	V.
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNIDAVN
BCM	No indication	NG	UNKWN	UNKWN		UNKWN		-	UNITAN
ABS	· · · ·	NG	UNKWN	UNKWN			· ·	· ·	
IPDM E/R	Notication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

### Case 15

Check CAN communication circuit. Refer to LAN-105 .



### Case 16

Check IPDM E/R.

CELECT OVC	<b>E</b> M	La Deut	T	τ	CAN DIAG :	Receive	diagnosis		
SELECTISTS	EW screen	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN			UNKWN	UNKWN	UNKWN	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN /
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
ABS		NG	UNKWN	UNIWN	[				
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

### Case 17

Check IPDM E/R Ignition relay circuit. Refer to LAN-106 .

CELECT OVET	EMageneo	laitial	Tennumit	[	CAN DIAG	Receive	diagnosis		
SELECTOR	LIVISCIBEI	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN			UNKWN	UNKWN	UNIAWN	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN /
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNIWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN		UNKWN		-	UNKWN
ABS		NG	UNKWN	UNKWN			· ·		
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

Circuit Check Between Dat (Control Unit) 1. CONNECTOR INSPECTION	ta Link Connector and Al	BS Actuator and Electric Unit
<ol> <li>Turn ignition switch OFF.</li> <li>Disconnect the negative battery</li> <li>Disconnect memory seat modu E125 and M82.</li> <li>Check the terminals for deformation</li> </ol>	terminal. Ile connector P2, ABS actuator a	nd electric unit (control unit) connector
OK or NG       OK     >> GO TO 2.       NG     >> Repair or replace as ne	cessary.	adhago.
2. CHECK HARNESS FOR OPEN	CIRCUIT	
Check continuity between data link 14 (Y) and ABS actuator and elect E125 terminals 20 (L), 23 (Y). 6 (L) - 20 (L)	connector M22 terminals 6 (L), tric unit (control unit) connector : Continuity should exist.	T.S. BAT
14 (Y) - 23 (Y) OK or NG	: Continuity should exist.	Data link connector
OK OFNG OK >> Connect all connectors <u>LAN-92</u> . NG >> Repair harness.	and diagnose again. Refer to	
		ABS actuator and electric unit (control unit) connector
ECM Circuit Check 1. CONNECTOR INSPECTION		WKIA0437E EKS00A6Q

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.
- OK or NG
- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

Check resistance between ECM connector M82 terminal 94 (L) and terminal 86 (Y).

#### 94 (L) - 86 (Y)

: **Approx. 108 - 132**Ω

#### OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ECM connector M82 and data link connector M22.



# **Display Unit Circuit Check**

### **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect display unit connector M93.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between display unit connector M93 terminal 25 (L) and terminal 26 (Y).

14 (L) - 16 (Y)

: Approx. 54 - 66 $\Omega$ 

### OK or NG

- OK >> Replace display unit.
- NG >> Repair harness between display unit connector M93 and data link connector M22.



EKS00A6S

1. Turn ignition switch OFF.

1. CONNECTOR INSPECTION

2. Disconnect the negative battery terminal.

Data Link Connector Circuit Check

3. Check data link connector M22 terminals for deformation, disconnection, looseness or damage.

### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

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Check resistance between data link connector M22 terminal 6 (L) and terminal 14 (Y).

: Approx. 54 - 66Ω

OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-92.
- NG >> Repair harness between data link connector M22 and BCM connector M18.



# **BCM Circuit Check**

### **1. CONNECTOR INSPECTION**

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect BCM connector M18.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between BCM connector M18 terminal 39 (L) and terminal 40 (Y).

39 (L) - 40 (Y)

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Replace BCM.
- NG >> Repair harness between BCM connector M18 and data link connector M22.



# Unified Meter and A/C Amp. Circuit Check

# 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect unified meter and A/C amp. connector M49.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

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Check resistance between unified meter and A/C amp. connector M49 terminal 1 (L) and terminal 11 (Y).

#### 1 (L) - 11 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace unified meter and A/C amp.
- NG >> Repair harness between unified meter and A/C amp. connector M49 and data link connector M22.



### ABS Actuator and Electric Unit (Control Unit) Circuit Check 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ABS actuator and electric unit (control unit) connector E125.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ABS actuator and electric unit (control unit) connector E125 terminal 20 (L) and terminal 23 (Y).

20 (L) - 23 (Y) : Appro

: **Approx. 54 - 66**Ω

#### OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) connector E125 and IPDM E/R connector E121.



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# **IPDM E/R Circuit Check**

### **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect IPDM E/R connector E121.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

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Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (Y).

#### 48 (L) - 49 (Y)

: Approx. 108 - 132Ω

OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R connector E121 and ABS actuator and electric unit (control unit) connector E125.



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# **CAN Communication Circuit Check**

### **1.** CONNECTOR INSPECTION



### With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (L) and 14 (Y). **6 (L) - 14 (Y)** : Continuity should not exist. OK or NG OK >> GO TO 3. NG >> Repair the harness.

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Data link connector

14 6

6, 14

# $\mathbf{3}$ . Check harness for short to ground

Check continuity between data link connector M22 terminals 6 (L), 14 (Y) and ground.

- 6 (L) Ground 14 (Y) - Ground

OK or NG

- OK >> Check ECM and IPDM E/R. Refer to LAN-106, "Component Inspection".
- NG >> Repair the harness.

# **IPDM E/R Ignition Relay Circuit Check**

Check the following. If no problem is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-24, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to PG-11, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/ OR START" .

### **Component Inspection** ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.

94 - 86 : Approx. 108 - 132 $\Omega$ 

Check resistance between IPDM E/R terminals 48 and 49.

48 - 49

: Approx. 108 - 132Ω



# : Continuity should not exist.

: Continuity should not exist.

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# **System Description**

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

### **Component Parts and Harness Connector Location**



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EKS00A63

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# Schematic

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WKWA0449E
## [CAN]



## LAN-CAN-14



BKWA0211E

# [CAN]



## **Work Flow**

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1. When there are no indications of "METER A/C AMP", "BCM", "IPDM E/R" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)	NISSAN	SELECT SYSTEM	
		ENGINE	
	CONSULT- II	A/T	
		ABS	
		AIR BAG	
	ENGINE	всм	
	START (NISSAN BASED VHCL)	METER A/C AMP	
	START (RENAULT BASED VHCL)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II.

(Example)	SELECT D	IAG MOI	DE	SELF-DIAG RES	ULTS
	WORK S	UPPORT	г	DTC RESULTS	TIME
	SELF-DIAC	G RESUL	TS	CAN COMM CIRCUIT	то
	DATA M	ONITOR			
	DATA MONI	TOR (SP	EC)		
	CAN DIAG SU	PPORT I	MNTR		
	ACTIV	E TEST		L	
					F.F.DATA
		Scroll	Down	ERASE F	PRINT
	BACK	LIGHT	COPY	MODE BACK LIGH	IT COP

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II.



4. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks onto the items with "No indication", "NG", or "UNKWN" in the check sheet table.

		CAN DIAG SUPPORT MNTR								
SELLCI SVS1LM server		Initial	Ironemit	Receive diagnosis						
0	in waardan	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R	
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7	
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN	
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-	
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN		-	

#### NOTE:

• If "NG" is displayed on "INITIAL DIAG (Initial diagnosis) CAN COMM" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

	• The "CAN DIAG SUPPORT MNTR" items which are not in check sheet table are not related to diagnos- tic procedure on service manual. Therefore, it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.	A
5.	Mark the "NG" or "UNKWN" item of the check sheet table from the result of CAN DIAG SUPPORT MONI- TOR check sheet.	В
	<b>NOTE:</b> If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.	С
6.	According to the Check Sheet Results, start inspection.	
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# **CHECK SHEET**

### Check sheet table

					CAN DIAG S	SUPPORT MNTR			
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis		
	2.11 0010011	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS	+	NG	UNKWN	UNKWN	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

Symptoms:



Attach copy of display unit CAN DIAG MONITOR check sheet

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[CAN]



BKIA0083E

WKIA3071E

WKIA3072E

## CHECK SHEET RESULTS Case 1

Replace ECM.

				CAN DIAG SUPPORT MNTR									
SELECT SYST	EMiscreen	Initial	Tranemit	Receive diagnosis									
OLLEVISION	EW SCIENT	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R				
ENGINE	-	V	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN				
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7				
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN				
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN				
AUTO DRIVE POS.	No indication	NG	UNKWN		-	UNKWN	UNKWN	-	-				
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-				
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		-				

			CAN DIAG SUPPORT MNTR									
SELECT SYSTEM screen		Initial	Iranemit	Receive diagnosis								
0	T M across	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R			
ENGINE	-	NG	UNKWN	-	-	UNIONN	UNIKAN	UNKWN	UNKAWN			
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	GAN 2	-	CAN 7			
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN			
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN			
AUTO DRIVE POS.	No indication	NG	UNKWN		-	UNKWN	UNKWN	-	-			
ABS		NG	UNKWN	UNKWN								
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN					

### Case 2

Replace display unit.

		CAN DIAG SUPPORT MNTR									
SELECT SYST	HM screen	Initial	Transmit	Receive diagnosis							
			diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN		
Display unit	-	C/M MMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN		
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-		
ABS		NG	UNKWN	UNKWN				]			
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN		-		

-		CAN DIAG SUPPORT MNTR								
SELECT SYST	SELECT SYSTEM screen		Transmit diagnosis	ЕСМ	DISPLAY	Receive ME1ER/ M&A	diagnosis BCM/SEC	VDC/1CS/ ABS	IPDM E/R	
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN	
Display unit	-	CAN COMM	CAN 1	€ <b>4</b> √3	-	€\$\$	₩2	-	V	
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN	
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-	
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication	-	UNKWN	UNKWN		-	UNKWN			

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# Case 3

Replace BCM.

				CAN DIAG SUPPORT MNTR									
SELECT SYST	-M ecroon	Initial	Iranemit	Roceive diagnosis									
		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R				
ENGINE		NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN				
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7				
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN				
всм	No indication	NG	UNKWN	UNIBOVIN	-	UNKOW	-	-	UNIWN				
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-				
ABS		NG	UNKWN	UNKWN									
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN						

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					CAN DIAG 8	SUPPORT MNTR			
SELECT SYS	1EM screen	Initial	Transmit			Receive	diagnosis		
		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	V	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN	-	-

### Case 4

Replace unified meter and A/C amp.

					CAN DIAG S	SUPPORT MNTR			
eci Lei evet	-Maaraan	Initial	Ironomit			Receive	diagnosis		
accestarat	FW SCIOCH	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNIKAVN	UNKIVN		UNIKAVN	UNIKAN	UNIKAVN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		

# Case 5

Replace driver seat control unit.

					CAN DIAG 8	SUPPORT MNTR	L		
SELECT SYS	HM screen	Initial	Transmit			Receive	diagnosis		
		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	$\checkmark$	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	•				
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN		-

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					CAN DIAG S	SUPPORT MNTE			
ecited ever	-Maaraan	Initial	Ironomit			Receive	diagnosis		
actorara	FW SCICCI	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNITAVN	UNIKAN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN		-

#### Case 6

Replace ABS actuator and electric unit (control unit).



### Case 7

Replace IPDM E/R.

			CAN DIAG SUPPORT MNTR							
SELECT SYST	IEM screen	Initial	Transmit			Receive	diagnosis			
		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	ABS	IPDM E/R	
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	GAN 2	-	CAN 7	
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN	
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	· ·	-	UNKWN	UNKWN	-	-	
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication	-	UNKWN	UNION	-	-	UNITION		-	

### Case 8

### Check harness between data link connector and driver seat control unit. Refer to LAN-122 .

		L			CAN DIAG 8	SUPPORT MNTR			
SELECT SYST	FM screen	Initial	Transmit			Receive	diagnosis		,
		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKAN	UNITAN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	<b>€</b> /7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKAN	UNDOWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNITON
AUTO DRIVE POS.	Notication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNIONN	-	-	-	-	-
IPDM E/R	Notication	-	UNKWN	UNKWN	-		UNKWN		-

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#### Case 9

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to A LAN-122.



### Case 10

Check ECM circuit. Refer to LAN-123 .

					CAN DIAG	SUPPORT MNTF	1		
CELCT OVET	-M sereen	Initial	Transmit			Receive	diagnosis		
actediarai	FW SCICCI	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNIKWN	-	-	UNION	UNION	UNKAVN	UNION
Display unit	-	CAN COMM	CAN 1	<b>€</b> ∳ <b>1</b> 3	-	CAN 5	GAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNIKAVN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNIDAVN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKAN					
IPDM E/R	No indication	-	UNKWN	UNIEWN	-		UNKWN		-

#### Case 11

Check display unit circuit. Refer to LAN-124.

					CAN DIAG S	SUPPORT MNTR			
PELLOL EVEL	1.84	In Start	) en anna it			Receive :	diagnosis		
acteurarai	FIM SCIERT	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/F
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN
Display unit	-	CAN COMM	<b>N</b> 1	<b>€</b> ∳ <b>1</b> 3	-	<b>V</b> 15	<b>V</b> 12	-	<b>√</b> ∕≀
METER A/C AMP	No indication		UNKWN	UNKWN	UNKAN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-		UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN		-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		-

#### Case 12

Check data link connector circuit. Refer to LAN-124 .

					CAN DIAG 8	SUPPORT MNTE	1		
SELECT SYS	i EM screen	Initial	Transmit			Receive	diagnosis		
		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	Noing cation		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	Notication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	Normalization	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	Notorication	-	UNKWN	UNKWN	-		UNKWN		-

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#### Case 13

Check BCM circuit. Refer to LAN-125 .

					CAN DIAG 8	SUPPORT MNTR	1		
SELECT SYST	FM screen	Initial diagnosis	Transmit diagnosis	ECM	DISPLAY	METER/ M&A	diagnosis BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNION	UNKWN	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	<b>V</b> 12	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNIWN	UNKWN	UNKWN
всм	Notication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN		-	-
ABS		NG	UNKWN	UNKWN				1	
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNIWN		-

### Case 14

Check unified meter and A/C amp. circuit. Refer to LAN-125.

					CAN DIAG 8	SUPPORT MNTR			
SELECT SYS	I EM screen	Initial	Transmit			Receive	diagnosis	1000000	
		diagnosis	diagnosis	ECM	DISPLAY	METER	BCM/SEC	ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNIN	UNKWN	UNKWN	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	₩s.	CAN 2	-	CAN 7
METER A/C AMP	NotingCation		UNKWN	UNKWN	UNKWN	· ·	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNIT	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNIT	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN		-

### Case 15

Check driver seat control unit circuit. Refer to LAN-126.

					CAN DIAG	SUPPORT MNTE	1		
SELECT SYST	IHM screen	Initial	Transmit			Receive	diagnosis		
		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	·	UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	Notication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN		· ·			
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN	-	-

### Case 16

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-126 .

					CAN DIAG 8	SUPPORT MNTE	1		
SELECT SYS	i HM screen	Initial	Transmit			Receive	diagnosis		
		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKAVN	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	GAN 2	-	GAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKIN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKAN	UNKIN					
IPDM E/R	No indication	-	UNKWN	UNKWN		-	UNKWN		-

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### Case 17

Check IPDM E/R circuit. Refer to LAN-127 .

					CAN DIAG	SUPPORT MNTE	2		
eciliere ever	-M sereen	Initial	Ironomit			Receive	diagnosis		
actediarai	FW SCICCH	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	M/SEC VDC/1CS/ AHS	
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNION
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	CAN 2	-	- Va
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNIN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNION
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	Notioncation	-	UNKWN	UNKWN			UNKWN		

### Case 18

Check CAN communication circuit. Refer to LAN-127.

					CAN DIAG S	SUPPORT MNTR					
CELCT OVER	-M aereen	Initial	Ironomit	Receive diagnosis							
accestara	PWISCICCI	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ AHS	IPDM E/R		
ENGINE	-	NG	UNIKWN	-	-	UNKAWN	UNIKAN	UNIOWN	UNION		
Display unit	-	CAN COMM	<b>€√1</b> 1	<b>√</b> 3	-	<b>₩</b> 5	₩2	-	- VI		
METER A/C AMP	NotingCation		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN		
BCM	Notinetation	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN		
AUTO DRIVE POS.	Notinucation	NG	UNKWN	-	-	UNKWN	UNKWN	-	-		
ABS		NG	UNKIN	UNINAVN							
IPDM E/R	Notion	-	UNKWN	UNKWN	-	-	UNKWN	-	-		

### Case 19

Check IPDM E/R.

			CAN DIAG SUPPORT MNTR										
en Lo Level		La Mart	A second se			Receive	diagnosis						
acteurarai	FIM SCIOUI	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/F				
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN				
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	GAN 2	-	CAN 7				
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN				
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN				
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-				
ABS		NG	UNKWN	UNIONN	· ·								
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		-				

#### Case 20

Check IPDM E/R Ignition relay circuit. Refer to LAN-128 .

					CAN DIAG S	Dessive	deservais		
SELECT SYST	HM screen	Initial diagnosis	Transmit diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNIMAN	UNKWN
Display unit	-	CAN COMM	CAN 1	CAN 3	-	CAN 5	GAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNIT	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

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#### **Circuit Check Between Driver Seat Control Unit and Data Link Connector** EKS00A67 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Disconnect driver seat control unit connector P2 and ECM connector M82. 3.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

14 (Y).

OK or NG

OK

NG

OK >> GO TO 2.

3 (BR) - 6 (L)

19 (Y/G) - 14 (Y)

NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT



#### Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit) EKS00A68

# **1.** CONNECTOR INSPECTION

LAN-112.

>> Repair harness.

- Turn ignition switch OFF. 1.
- 2. Disconnect the negative battery terminal.
- Disconnect driver seat control unit connector P2, ABS actuator and electric unit (control unit) connector 3. E125 and ECM connector M82.
- Check the terminals for deformation, disconnection, looseness or damage. 4.

### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

#### 2. CHECK HARNESS FOR OPEN CIRCUIT А Check continuity between driver seat control unit connector P2 terminals 3 (BR), 19 (Y/G) and ABS actuator and electric unit (control unit) connector E125 terminals 20 (L), 23 (Y). В 2 BAT 3 (BR) - 20 (L) : Continuity should exist. Driver seat control unit connector 19 (Y/G) - 23 (Y) : Continuity should exist. OK or NG OK >> Connect all connectors and diagnose again. Refer to 3, 19 LAN-112. D NG >> Repair harness. Ε ABS actuator and electric unit (control unit) connector 23 20 F 20, 23 Ω WKIA0435E Н ECM Circuit Check EKS00A69 **1.** CONNECTOR INSPECTION 1. Turn ignition switch OFF. 2. Disconnect the negative battery terminal. J 3. Disconnect ECM connector M82. 4. Check the terminals for deformation, disconnection, looseness or damage. OK or NG LAN OK >> GO TO 2. NG >> Repair or replace as necessary. 2. CHECK HARNESS FOR OPEN CIRCUIT L Check resistance between ECM connector M82 terminal 94 (L) and terminal 86 (Y). Μ 94 (L) - 86 (Y) : Approx. 108 - 132 $\Omega$ ECM connector OK or NG CONNECTOR OK ECM >> Replace ECM. NG >> Repair harness between ECM connector M82 and data 86 a/ link connector M22.

PKIA0816E

# **Display Unit Circuit Check**

# 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect display unit connector M93.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between display unit connector M93 terminal 25 (L) and terminal 26 (Y).

14 (L) - 16 (Y)

: Approx. 54 - 66 $\Omega$ 

#### OK or NG

- OK >> Replace display unit.
- NG >> Repair harness between display unit connector M93 and data link connector M22.



# **Data Link Connector Circuit Check**

- **1.** CONNECTOR INSPECTION
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check data link connector M22 terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminal 6 (L) and terminal 14 (Y).

#### 6 (L) - 14 (Y)

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-112.
- NG >> Repair harness between data link connector M22 and BCM connector M18.



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EKS00A6B

[CAN]

# **BCM Circuit Check**

# **1. CONNECTOR INSPECTION**

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect BCM connector M18.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

OK

NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR OPEN CIRCUIT



- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect unified meter and A/C amp. connector M49.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between unified meter and A/C amp. connector M49 terminal 1 (L) and terminal 11 (Y).

#### 1 (L) - 11 (Y)

: Approx. 54 - 66 $\Omega$ 

#### OK or NG

- OK >> Replace unified meter and A/C amp.
- NG >> Repair harness between unified meter and A/C amp. connector M49 and data link connector M22.



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# **Driver Seat Control Unit Circuit Check**

# 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect driver seat control unit connector P2.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between driver seat control unit connector P2 terminal 3 (BR) and terminal 19 (Y/G).

3 (BR) - 19 (Y/G)

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Replace driver seat control unit.
- NG >> Repair harness between driver seat control unit connector P2 and data link connector M22.



# ABS Actuator and Electric Unit (Control Unit) Circuit Check

- **1. CONNECTOR INSPECTION**
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ABS actuator and electric unit (control unit) connector E125.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

#### OK >> GO TO 2.

NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ABS actuator and electric unit (control unit) connector E125 terminal 20 (L) and terminal 23 (Y).

#### 20 (L) - 23 (Y)

: Approx. 54 - 66 $\Omega$ 

#### OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) connector E125 and IPDM E/R connector E121.



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[CAN]

# IPDM E/R Circuit Check

# 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect IPDM E/R connector E121.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

## OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (Y).

48 (L) - 49 (Y)

: Approx. 108 - 132 $\Omega$ 

### OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R connector E121 and ABS actuator and electric unit (control unit) connector E125.



# **CAN Communication Circuit Check**

- 1. CONNECTOR INSPECTION
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
- ECM
- Display unit
- BCM (Body control module)
- Unified meter and A/C amp.
- Driver seat control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R (Intelligent power distribution module engine room)

### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR SHORTED CIRCUITS

With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (L) and 14 (Y).

### 6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG >> Repair the harness.



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# 3. CHECK HARNESS FOR SHORT TO GROUND

Check continuity between data link connector M22 terminals 6 (L), 14 (Y) and ground.

- 6 (L) Ground 14 (Y) - Ground
- : Continuity should not exist. : Continuity should not exist.

OK or NG

- OK >> Check ECM and IPDM E/R. Refer to <u>LAN-128, "Component Inspection"</u>.
- NG >> Repair the harness.

# **IPDM E/R Ignition Relay Circuit Check**

Check the following. If no problem is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-24, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to <u>PG-11</u>, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/ <u>OR START</u>".

# Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.

**94 - 86** : Approx. 108 - 132Ω

• Check resistance between IPDM E/R terminals 48 and 49.

48 - 49

: **Approx. 108 - 132**Ω





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EKS00A6J

# **System Description**

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

# **Component Parts and Harness Connector Location**



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[CAN]

PFP:23710

2004 Maxima

# Schematic

EKS00A5M

[CAN]



WKWA0445E

# [CAN]



# LAN-CAN-17



BKWA0214E

# [CAN]



## **Work Flow**

EKS00A50

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1. When there are no indications of "METER A/C AMP", "BCM", "IPDM E/R" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)	NISSAN	SELECT SYSTEM	
		ENGINE	
	CONSULT- II	A/T	
		ABS	
		AIR BAG	
	ENGINE	всм	
	START (NISSAN BASED VHCL)	METER A/C AMP	
	START (RENAULT BASED VHCL)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II.

(Example)	SELECT DIAG MODE	SELF-DIAG RESULTS
	WORK SUPPORT	DTC RESULTS TIME
	SELF-DIAG RESULTS	
	DATA MONITOR	
	DATA MONITOR (SPEC)	
	CAN DIAG SUPPORT MNTR	
	ACTIVE TEST	
		F.F.DATA
	Scroll Down	ERASE PRINT
	BACK LIGHT COPY	MODE BACK LIGHT COPY

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II.



4. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks onto the items with "No indication", "NG", or "UNKWN" in the check sheet table.

					CAN DIAG	SUPPORT MNTR			
SELECT SYS	i EM screen	Initial	Transmit			Receive	diagnosis		
		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN	-	-

#### NOTE:

• If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

[CAN]	
[ ]	

	<ul> <li>The "CAN DIAG SUPPORT MNTR" items which are not in check sheet table are not related to diagnos- tic procedure on service manual.</li> <li>Therefore, it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.</li> </ul>	A
5.	Check CAN communication line of the navigation system.	В
6.	Mark the "NG" or "UNKWN" item of the check sheet table from the result of CAN DIAG SUPPORT MONI- TOR check sheet.	_
		С
	If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.	
7.	According to the Check Sheet Results, start inspection.	D
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# **CHECK SHEET**

### Check sheet table

					CAN DIAG S	SUPPORT MNTR			
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis		
GEECOTOTOT	LWBORGH	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM É/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	-	UNKWN
Display control unit	+	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

Symptoms:





Attach copy of display unit CAN DIAG MONITOR check sheet

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[CAN]



BKIA0083E

WKIA3096E

WKIA3097E

## CHECK SHEET RESULTS Case 1

Replace ECM.

					CAN DIAG 8	SUPPORT MNTR			
SELECT SYST	EMiscreen	Initial	Trapemit			Receive	diagnosis		
SELECTOR	LIVISCIE	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	V	UNKWN	-		UNKWN	UNKWN	UNKWN	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN		-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		

					CAN DIAG	SUPPORT MNTR			
SELECT SYST	HM scroon	Initial	Iranemit			Receive	diagnosis		
0	i magroon	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKAWN	UNION	UNKOVN	KNWWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		-

### Case 2

Replace display control unit.

		CAN DIAG SUPPORT MNTR									
SELECT SYST	HM scroop	Initial	Iranemit	Receive diagnosis							
0	i wasiour	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN		
Display control unit	-	CA CMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN		
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-		
ABS		NG	UNKWN	UNKWN							
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		-		

			CAN DIAG SUPPORT MNTR							
SELECT SYST	HM screen	Initial diagnosis	Transmit diagnosis	ЕСМ	DISPLAY	Receive ME1ER/ M&A	diagnosis BCM/SEC	VDC/1CS/ ABS	IPDM E/R	
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN ORC 3	-	CAN ORC 5	CAN ORC 2	-	CAN PIRC 7	
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN	
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-		UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-	
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN			

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# Case 3

Replace BCM.

					CAN DIAG 8	SUPPORT MNTR			
SELECT SYST	-Miecroon	Initial	Iranemit			Receive	diagnosis		
accestatat	-wiscitten	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNITAVN	-	UNKOWN	-	-	UNIWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN		-

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SELECT SYSTEM screen         Initial diagnosis         Initial diagnosis         Initial diagnosis         Initial ECM         Initial DISPLAY         Initial METHRO MEA         VIX/ICSU ABS         VIX/ICSU ABS         IPD           ENGINE         NG         UNKWN         UNKWN         UNKWN         UNKWN         UNKWN         UN           Display         CAN         CAN CIRC 1         CAN CIRC 3         CAN CIRC 5         CAN CIRC 2         -         CAN	VDC/TCS/ ABS	BCM/SEC	METER/			Transmit			
ENGINE         NG         UNKWN          UNKWN         UNKW			M&A	DISPLAY	ECM	diagnosis	diagnosis	I-M screen	SELECT SYS1
Display control unit - CAN CAN CIRC 1 CAN CIRC 3 - CAN CIRC 5 CAN CIRC 2 - CAN	UNKWN U	UNKWN	UNKWN	-	-	UNKWN	NG	-	ENGINE
	- CA'	CAN CIRC 2	CAN CIRC 5	-	CAN CIRC 3	CAN CIRC 1	CAN COMM	-	Display control unit
METER A/C AMP No indication UNKWN UNKWN UNKWN · UNKWN UNKWN UN	UNKWN U	UNKWN		UNKWN	UNKWN	UNKWN		No indication	METER A/C AMP
BCM No indication VV UNKWN UNKWN - UNKWN UN	- U	-	UNKWN	-	UNKWN	UNKWN	V	No indication	всм
AUTO DRIVE POS. No indication NG UNKWN - UNKWN UNKWN -	-	UNKWN	UNKWN	-	-	UNKWN	NG	No indication	AUTO DRIVE POS.
ABS NG UNKWN UNKWN					UNKWN	UNKWN	NG		ABS
IPDM E/R No indication - UNKWN UNKWN - UNKWN - UNKWN -	-	UNKWN	-		UNKWN	UNKWN	-	No indication	IPDM E/R

### Case 4

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Replace unified meter and A/C amp.

					CAN DIAG	SUPPORT MNTR			
eci Lei evet	-M sereen	Initial	Ironomit			Receive	diagnosis		
actediarai	FW SCICCI	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNIKAN	UNKAVN		UNIFWN	UNIT	UNIWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		

# Case 5

Replace driver seat control unit.

					CAN DIAG 8	SUPPORT MNTR			
SELECT SYST	EM screen	Initial	Iransmit			Receive of	diagnosis		
		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	V	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN	-	-

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					CAN DIAG	SUPPORT MNTR			
ecited ever	-Maaraan	Initial	Ironomit			Receive :	diagnosis		
actorara	FW SCICCI	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNITAN	UNIT	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		-

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### Case 6

Replace ABS actuator and electric unit (control unit).

					CAN DIAG S	SUPPORT MNTR			
SELECT SYST	HM screen	Initial diagnosis	Transmit diagnosis	ECM	DISPLAY	ME1ER/ M&A	diagnosis BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	- 1	-	UNKWN	UNKWN	UNKIVN	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNIT	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		V	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-		UNKWN	-	

### Case 7

Replace IPDM E/R.

					CAN DIAG	SUPPORT MNTE	l		
SELECT SYS	i EM screen	Initial	Iransmit			Receive	diagnosis		
		diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	•	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	· · · ·	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN		· ·			
IPDM E/R	No indication	-	UNKWN	UNION	-		UNIT		-

### Case 8

### Check harness between data link connector and driver seat control unit. Refer to LAN-144 .

					CAN DIAG S	SUPPORT MNTR			
SELECT SYST	FEM screen	Initial	Transmit			Receive	diagnosis		
022201010	- Lin oor oon	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKAN	UNIDOWN
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN ORC 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	-	UNKWN	UNITAVN	UNIONN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN		-	UNIKAVN
AUTO DRIVE POS.	Notorication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNIKAVN	-	-	-	-	-
IPDM E/R	Notorication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

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#### Case 9

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>A</u>LAN-144.



### Case 10

Check ECM circuit. Refer to LAN-145 .

					CAN DIAG	SUPPORT MNTR			
CELLOI OVOT	-M sereen	Initial	Ironomit			Receive	diagnosis		
actediarai	FW SCICCH	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE		NG	UNIKAN	-	-	UNIAVN	UNITAN	UNKOVN	UNIDAN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN ORC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC
METER A/C AMP	No indication		UNKWN	UNKOVN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNIT	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNIKAVN					
IPDM E/R	No indication	-	UNKWN	UNIENN			UNKWN		

#### Case 11

Check display control unit circuit. Refer to LAN-146.

					CAN DIAG	SUPPORT MNTR			
edited ever	-M sereen	Initial	Iranemit			Receive	diagnosis		
30,0013131	, wiscielari	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN
Display control unit	-	CAN COMM	CAN ORC 1	CAN ORC 3	-	CAN ARC 5	CAN ORC 2	-	CANORC
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN		

#### Case 12

Check data link connector circuit. Refer to LAN-146.

					CAN DIAG	SUPPORT MNTE			
SELECT SYS	I-M scroon	Initial	Iranemit			Receive	diagnosis		
0.0001010	in macroan	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	Nonorcation		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	Noncetion	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	Notocation	-	UNKWN	UNKWN	-		UNKWN		

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#### Case 13

Check BCM circuit. Refer to LAN-147 .

					CAN DIAG 8	SUPPORT MNTR			
SELECT SYS	IEM screen	Initial	Transmit	FON	DICDLAY	ME1ER/	DOMEEC	VDC/1CS/	
		diagnosis	diagnosis	LCM	DISPLAT	M&A	BCIM/SEC	ABS	IPDM D/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNITON	UNKWN	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN ARC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNIKAVN	UNKWN	UNKWN
BCM	No no cation	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNIT	-	-
ABS		NG	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNIX	-	-

### Case 14

Check unified meter and A/C amp. circuit. Refer to LAN-147.

SELECT SYSTEM screen         Initial Transmit diagnosis         Receive diagnosis         VDZ/1           BIGNE         -         NG         UNKVN         -         -         UNKVN         UNKVN	CS/ IDDM E/D
diagnosis         ECM         DISPLAY         MILLEN         BCM/SEC         VIX/1           ENGINE         NG         UNKWN         -         -         UNKWN         UNKWN<	CS/ IDDM E/D
ENGINE - NG UNKWN UNKWN UNKWN UNKW	S IPUMUR
	/N UNKWN
Display control unit - CAN CAN CIRC 1 CAN CIRC 3 - CAN CIRC 5 CAN CIRC 2 -	CAN CIRC 7
METER A/C AMP Notoscation UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN	VN UNKWN
BCM No indication NG UNKWN UNKWN - UNIXWN	UNKWN
AUTO DRIVE POS. No indication NG UNKWN UNIXWN UNKWN -	-
ABS NG UNKWN UNKWN · · ·	
IPDM E/R         No indication         -         UNKWN         UNKWN         -         UNKWN         -	-

### Case 15

Check driver seat control unit circuit. Refer to LAN-148 .

			1	1	CAN DIAG S	SUPPORT MNTR	at		
SELECT SYST	I HM screen	Initial diagnosis	Transmit diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNK₩N	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	Notorication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN				1	
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN	-	-

### Case 16

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-148.

					CAN DIAG	SUPPORT MNTR			
SELECT SYS	I HM screen	Initial	Transmit			Receive	diagnosis	MOCICEL	
		diagnosis	diagnosis	ECM	DISPLAY	M&A	BCM/SEC	ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKON	UNKWN
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNIKAVN	UNKWN
всм	No indication	NG	UNKWN	UNK₩N	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-
ABS		NG	LINIKAVN	UNBOWN		· ·			
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN		-

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### Case 17

Check IPDM E/R circuit. Refer to LAN-149.

					CAN DIAG S	SUPPORT MNTF							
CELECT OVET	-M sereen	Initial	Ironomit		Receive diagnosis								
actediarai	FW SCICCI	diagnosis	diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R				
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNIN				
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CANORC				
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNIKAVN				
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNISAN				
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-				
ABS		NG	UNKWN	UNKWN		· ·							
IPDM E/R	Notice cation	-	UNKWN	UNKWN	-		UNKWN						

#### Case 18





### Case 19

Check IPDM E/R.

		CAN DIAG SUPPORT MNTR								
en Loi ever	SELECT SYSTEM screen		Transmit diagnosis	Receive diagnosis						
SELECT STSTEM SCIOUL		diagnosis		ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R	
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKWN	UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC	
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN	
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-	
ABS		NG	UNKWN	UNBOWN						
IPDM E/R	No indication	-	UNKWN	UNKWN			UNKWN			

#### Case 20

Check IPDM E/R Ignition relay circuit. Refer to LAN-150.

		CAN DIAG SUPPORT MITR									
SELECT SYSTEM screen		Initial diagnosis	1 ransmit diagnosis	ECM	DISPLAY	METER/ M&A	BCM/SEC	VDC/1CS/ ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	-	-	UNKWN	UNKWN	UNKON	UNKWN		
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN		
всм	No indication	NG	UNKWN	UNKWN	-	UNKWN	-	-	UNKWN		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	-	UNKWN	UNKWN	-	-		
ABS		NG	UNKWN	UNK₩N							
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	UNKWN		-		

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#### **Circuit Check Between Driver Seat Control Unit and Data Link Connector** EKS00A5P 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Disconnect driver seat control unit connector P2 and ECM connector M82. 3.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

14 (Y).

OK or NG

OK

NG

OK >> GO TO 2.

3 (BR) - 6 (L)

19 (Y/G) - 14 (Y)

NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT



#### Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric Unit (Control Unit) EKS00A50

# **1.** CONNECTOR INSPECTION

LAN-134.

>> Repair harness.

- Turn ignition switch OFF. 1.
- 2. Disconnect the negative battery terminal.
- Disconnect driver seat control unit connector P2, ABS actuator and electric unit (control unit) connector 3. E125 and ECM connector M82.
- Check the terminals for deformation, disconnection, looseness or damage. 4.

### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.


## **Display Control Unit Circuit Check**

### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect display control unit connector M95.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between display control unit connector M95 terminal 25 (L) and terminal 26 (Y).

25 (L) - 26 (Y)

: Approx. 54 - 66 $\Omega$ 

#### OK or NG

- OK >> Replace display control unit.
- NG >> Repair harness between display control unit connector M95 and data link connector M22.



## **Data Link Connector Circuit Check**

- **1.** CONNECTOR INSPECTION
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check data link connector M22 terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminal 6 (L) and terminal 14 (Y).

#### 6 (L) - 14 (Y)

: Approx. 54 - 66 $\Omega$ 

#### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-134.
- NG >> Repair harness between data link connector M22 and BCM connector M18.



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## **BCM Circuit Check**

## **1. CONNECTOR INSPECTION**

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect BCM connector M18.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT



- 2. Disconnect the negative battery terminal.
- 3. Disconnect unified meter and A/C amp. connector M49.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between unified meter and A/C amp. connector M49 terminal 1 (L) and terminal 11 (Y).

#### 1 (L) - 11 (Y)

: Approx. 54 - 66 $\Omega$ 

#### OK or NG

- OK >> Replace unified meter and A/C amp.
- NG >> Repair harness between unified meter and A/C amp. connector M49 and data link connector M22.



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## **Driver Seat Control Unit Circuit Check**

### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect driver seat control unit connector P2.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between driver seat control unit connector P2 terminal 3 (BR) and terminal 19 (Y/G).

3 (BR) - 19 (Y/G)

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Replace driver seat control unit.
- NG >> Repair harness between driver seat control unit connector P2 and data link connector M22.



## ABS Actuator and Electric Unit (Control Unit) Circuit Check

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1. Turn ignition switch OFF.

1. CONNECTOR INSPECTION

- 2. Disconnect the negative battery terminal.
- 3. Disconnect ABS actuator and electric unit (control unit) connector E125.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

#### OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ABS actuator and electric unit (control unit) connector E125 terminal 20 (L) and terminal 23 (Y).

#### 20 (L) - 23 (Y)

: Approx. 54 - 66 $\Omega$ 

#### OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) connector E125 and IPDM E/R connector E121.



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## IPDM E/R Circuit Check

## **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect IPDM E/R connector E121.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (Y).

#### 48 (L) - 49 (Y)

: Approx. 108 - 132 $\Omega$ 

#### OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R connector E121 and ABS actuator and electric unit (control unit) connector E125.



## **CAN Communication Circuit Check**

- 1. CONNECTOR INSPECTION
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
- ECM
- Display control unit
- BCM (Body control module)
- Unified meter and A/C amp.
- Driver seat control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R (Intelligent power distribution module engine room)

### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR SHORTED CIRCUITS

With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (L) and 14 (Y).

### 6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG >> Repair the harness.



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## $\mathbf{3}$ . Check harness for short to ground

Check continuity between data link connector M22 terminals 6 (L), 14 (Y) and ground.

6 (L) - Ground

: Continuity should not exist.

14 (Y) - Ground

: Continuity should not exist.

OK or NG

- OK >> Check ECM and IPDM E/R. Refer to LAN-129, "Component Parts and Harness Connector Location"LAN-129
- NG >> Repair the harness.

## **IPDM E/R Ignition Relay Circuit Check**

Check the following. If no problem is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-24, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to PG-11, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/ OR START" .

### **Component Inspection** ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.

94 - 86 : Approx. 108 - 132 $\Omega$ 

Check resistance between IPDM E/R terminals 48 and 49.

48 - 49

: Approx. 108 - 132 $\Omega$ 





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[CAN]

### **System Description**

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

### **Component Parts and Harness Connector Location**



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## Schematic

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### [CAN]



### LAN-CAN-20



### [CAN]



### **Work Flow**

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1. When there are no indications of "TRANSMISSION", "METER A/C AMP", "BCM" or "IPDM E/R" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)	NISSAN	SELECT SYSTEM	
		ENGINE	
	CONSULT- II	A/T	
		ABS	
		AIR BAG	
	ENGINE	всм	
	START (NISSAN BASED VHCL)	METER A/C AMP	
	START (RENAULT BASED VHCL)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

2. Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP" and "ABS" displayed on CONSULT-II.

(Example)	SELECT D	IAG MO	DE	SELF-DIAG RESULTS	
(	WORK S	UPPOR	г	DTC RESULTS TIME	
	SELF-DIA	G RESUL	.TS	CAN COMM CIRCUIT	
	DATA M	ONITOR			
	DATA MON	ITOR (SF	PEC)		
	CAN DIAG SU	IPPORT	MNTR		
	ACTIV	ETEST			
				F.F.DATA	
		Scroll	l Down	ERASE PRINT	
	BACK	LIGHT	COPY	MODE BACK LIGHT COPY	PKIA8260E

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/ C AMP", "IPDM E/R" and "ABS" displayed on CONSULT-II.



4. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks onto the items with "No indication", "NG", or "UNKWN" in the check sheet table.

				CAN DIAG SUPPORT MINTK							
SELECT SYSTEM screen		Initial diagnosis	Transmit diagnosis	E-CM	1CM	DISPLAY	ME1ER/ M&A	8CM/SEC	VDC/TCS/ ABS	IPDM E/R	
ENGINE	-	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	UNKWN	
TRANSMISSION	-	NG	UNKWN	UNKWN		-	UNKWN	-	-	-	
Display unit		CAN COMM	CAN 1	CAN 3	· ·		CAN 5	CAN 2		CAN 7	
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN	
всм	No indication	NG	UNKWN	UNKWN	· ·	· ·	UNKWN			UNKWN	
ABS		NG	UNKWN	UNKWN	· ·	· ·	· · ·				
IPDM E/R	No indication	-	UNKWN	UNKWN		-	-	UNKWN	-	-	

#### NOTE:

• If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

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	• The "CAN DIAG SUPPORT MNTR" items which are not in check sheet table are not related to diagnos- tic procedure on service manual. Therefore, it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.	A
5.	Mark the "NG" or "UNKWN" item of the check sheet table from the result of CAN DIAG SUPPORT MONI- TOR check sheet.	В
	<b>NOTE:</b> If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.	С
6.	According to the Check Sheet Results, start inspection.	
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### CHECK SHEET

#### Check sheet table

					CAN	N DIAG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive diagnosi	5		
GEECHURG	LWBOICCIT	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	+	UNKWN	-	UNKWN	UNKWN	÷	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	*	*	UNKWN
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	+	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	+	-

#### Symptoms:

	-	
Attach copy of SELECT SYSTEM		Attach copy of SELECT SYSTEM

Attach copy of display unit CAN DIAG MONITOR check sheet

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### CHECK SHEET RESULTS Case 1

Replace ECM.

OF FOT OVOT			<b>T</b> 11	Receive diagnosis							
SELECT SYST	EM screen	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R	
ENGINE	-	V	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN	
TRANSMISSION		NG	UNKWN	UNKWN	-	-	UNKWN		-	-	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7	
METER A/C AMP	AMP No indication		UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN	
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN	
ABS		NG	UNKWN	UNKWN	-				-	-	
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN	-	-	

				CAN DIAG SUPPORT MNTR											
SELECT SVST	EM scroop	Initial	Transmit	Receive diagnosis											
SELECT STOL	LWacreen	diagnosis	diagnosis	ECM TCM		DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R					
ENGINE	-	NG	UNKWN	-	UNKIN	-	UNION	UNIWN	-	UNION					
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-					
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7					
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN					
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN					
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-	-					
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN							

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### Case 2

Replace TCM.

					CAI	N DIAG SUPPOR	T MNTR			
SELECT SYST	SELECT SYSTEM screen		Transmit				Receive diagnosi	s		
SELECT OTO	Lindordon	diagnosis diagnosis		ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN		UNKAN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	-	V	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNIWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

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				CAN DIAG SUPPORT MNTR							
SELECT SYSTEM screen		Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R	
ENGINE		NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN	
TRANSMISSION	-	NG	UNKWN	UNION	-	-	UNIWN	-	-	-	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7	
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN	
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN	
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-	-	
IPDM E/R	No indication	-	UNKWN	UNKWN	-			UNKWN		-	

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#### Case 3

Replace display unit.

			CAN DIAG SUPPORT MNTR											
SUICCI SVS	LEM coroon	Initial	Tranemit	Receive diagnosis										
511, 61 51 5	ne wrachodri	diagnosis	diagnosis	ECM	1CM	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E				
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWI				
TRANSMISSION	-	NG	UNKWN	UNKWN		-	UNKWN	-	-	-				
Display unit			CAN 1	CAN 3			CAN 5	CAN 2		CAN 7				
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWI				
BCM	No indication	NG	UNKWN	UNKWN	· ·	· ·	UNKWN			UNKWI				
ABS		NG	UNKWN	UNKWN	· ·	· ·								
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-				

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					CAN	I DIAG SUPPOR	T MNTR			
SELECT SVST	EMecroon	Initial	Tranemit				Receive diagnosi:	6		
SELECT STOT	EWISCIGON	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit	-	CAN COMM	CAN 1	<b>€</b> ∳/3	-	-	<b>√</b> 15	<b>№</b> 12	-	<b>1</b> 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-		-	UNKWN	-	-

#### Case 4

Replace BCM. Refer to.

					CAN	I DIAG SUPPOR	T MNTR			
SELECT SVST	EMecroon	Initial	Tranemit				Receive diagnosis	\$		
SEEECT STOL	LWacreen	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/F
ENGINE	-	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNIOWN	-	-	UNIOWN	-	-	UNIT
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-		UNKWN	-	-

					CA	N DIAG SUPPOR	T MNTR			
SELECT SYS	TEM screen	Initial	Transmit				Receive diagnosi	s		
GELEOTOTO	Emboroon	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	<b>V</b>	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
ABS		NG	UNKWN	UNKWN		-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN		-	-	UNKWN	-	-

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#### Case 5

Replace unified meter and A/C amp.

					CAN	DIAG SUPPOR	TMNTR			
SELECT SYS	TEM screen	Initial	Transmit				Receive diagnosi	S.	VDC/TCS/	
		diagnosis	diagnosis	ECM	TCM	DISPLAY	M&A	BCM/SEC	ABS	IPDM E/R
ENGINE	-	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNION	UNION	UNION	-	UNION	UNION	UNION
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

#### Case 6

Replace ABS actuator and electric unit (control unit).

					CAN	I DIAG SUPPOR	T MNTR			
SELECT SYST	'EM screen	Initial	Transmit				Receive diagnosi:	S		
SELECT STOT	LWSCIEEN	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNION	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
ABS	-	V	UNKWN	UNKWN	-	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN			-	UNKWN		-

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					CAN	N DIAG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit			1	Receive diagnosi	s I	VDC/TCS/	
	_	diagnosis	diagnosis	ECM	TCM	DISPLAY	M&A	BCM/SEC	ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKWN	UNION	-	-		-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-			UNKWN	-	-

### Case 7

Replace IPDM E/R.

					CAN	DIAG SUPPOR	T MNTR			
SELECT SYS	TEM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive diagnosi METER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN		UNKWN	-	UNKWN	UNKWN		UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNION	-			UNION		-

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#### Case 8

Check harness between TCM and data link connector. Refer to LAN-167 .

					CAI	I DIAG SUPPOR	T MNTR			
SELECT SYS	TEM screen	Initial	Transmit				Receive diagnosi:	S		
OLLEOTOTO	Elitibologi	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN				-	UNION
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNIWN	-	-	-
Display unit	-	CAN COMM	CAN 1	€ 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNHWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNIONN	-	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKWN	UNIOWN	-	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNION	-	-	-	UNKWN	-	-

#### Case 9

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-167</u>.

					CAN	N DIAG SUPPOR	T MNTR					
PELECT OVER	EM agreen	Initial	Transmit	Receive diagnosis								
SELECT STST	EWSCIE	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNIONN		
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-		
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	<b>V</b> 17		
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNION	UNIOWN		
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNIOWN		
ABS	-	NG	UNKWN	UNION	-	-	-	-	-	-		
IPDM E/R	Notication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-		

#### Case 10

Check ECM circuit. Refer to LAN-168 .

					CA	N DIAG SUPPOR	IMNIR			
SELECT SYST	FEM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive diagnosi METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/
ENGINE	· ·	NG	UNIAN	-	UNKAN	-	LINUWN	UNIMN	-	UNHWN
TRANSMISSION	-	NG	UNKWN	UNIFAN	-	-	UNKWN	-	-	-
Display unit	-	CAN COMM	CAN 1	<b>€</b> ∳ <b>1</b> 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNITION	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNIT	-	-	UNKWN		-	UNKWN
ABS		NG	UNKWN	UNIT	-		-		-	-
IPDM E/R	No indication		UNKWN	UNION				UNKWN		

#### Case 11

Check TCM circuit. Refer to LAN-169.

		In Mark	Terrar				Receive diagnosi	s		
SELECT STST	EM screen	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN		UNIONN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	-	NG	UNION	UNIONN	-	-	UNI WN	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

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WKIA2400E

Revision: June 2004

#### Case 12

Check display unit circuit. Refer to LAN-169 .

					CAI	N DIAG SUPPOR	T MNTR Receive diagnosi:	e		
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit	-	CAN COMM	SA 1	<b>€</b> ∳/3	-	-	<b>€</b> ∕15	¥12	-	<b>V</b> 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNIWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-		UNKWN	-	-

#### Case 13

Check data link connector circuit. Refer to LAN-170.

					CAN	I DIAG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive diagnosi:	S		
OLLEOT OTO	Lindordon	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	Notication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	Notication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-	-
IPDM E/R	NotingCation	-	UNKWN	UNKWN				UNKWN		

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#### Case 14

Check BCM circuit. Refer to LAN-170.

					CAI	N DIAG SUPPOR	TMNTR			
SELECT SYS	FEM screen	Initial	Transmit				Receive diagnosi	s		
		diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNIT	-	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	<b>€</b> 12	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNIT	UNKWN	UNKWN
BCM	NotingCation	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNIT	-	-

#### Case 15

Check unified meter and A/C amp. circuit. Refer to LAN-171 .

					CAP	N DIAG SUPPOR	T MNTR Receive diagnosi	s		
SELECT SYS	FEM screen	Initial diagnosis	Transmit diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN	-	UNION	UNKWN	-	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNIWN	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	¥15	CAN 2	-	CAN 7
METER A/C AMP	NotingCation	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNION	-	-	UNKWN
ABS		NG	UNKWN	UNKWN	-	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-			UNKWN		-

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#### Case 16

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-171 .

					CAN	N DIAG SUPPOR	T MNTR			
SELECT SVS	FEM scroop	Initial	Tranemit				Receive diagnosi:	S		
SELECT STS	LMacreen	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNION	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKINN	UNIONN	-	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

#### Case 17

Check IPDM E/R circuit. Refer to LAN-172.

					CAI	N DIAG SUPPOR	T MNTR						
SELECT SVST	EMecroon	Initial	Tranemit	Receive diagnosis									
SELECT STOP	LWSCIEET	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R			
ENGINE	-	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	UNION			
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-			
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	<b>1</b> 7			
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNIWN			
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNION			
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-	-			
IPDM E/R	Noting cation	-	UNKWN	UNKWN			-	UNKWN					

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#### Case 18

Check CAN communication circuit. Refer to LAN-172 .

			CAN DIAG SUPPORT MNTR										
SELECT SVST	EMecroon	Initial	Tranemit	Receive diagnosis									
SELECT STOL	LWaciden	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/			
ENGINE	-	NG	UNION	-	UNION	-	UNION	UNIWN	-				
TRANSMISSION	-	NG	UNKWN	UNIT	-	-	UNIWN	-	-	-			
Display unit	-	CAN COMM	€ <b>4</b> /1	₩3	-	-	<b>\$</b> 15	<b>2</b>	-	<b>1</b> 7			
METER A/C AMP	Notication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN			
BCM	Notication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN			
ABS	-	NG	UNION	UNIWN	-		-	-	-	-			
IPDM E/R	Noting cation	-	UNKWN	UNKWN			-	UNKWN	-	-			

#### Case 19

Check IPDM E/R Ignition relay circuit. Refer to LAN-173.

					CA	N DIAG SUPPOR	T MINTR Receive diagnosi	s		
SELECT SYS	FEM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	-	NG	UNKWN	UNIVIN	-	-		-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
ABS		NG	UNKWN	UNIWN	-		-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-			UNKWN	-	-

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			CAN DIAG SUPPORT MNTR							
SELECT SYS	FEM screen	Initial diagnosis	Transmit diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNIOWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNION	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKWN	UNKWN	-				-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

			[CAN]
Circui 1. co	t Check Betwee	en TCM and Data Link Connec	eksooa57
1. Tur 2. Dis 3. Dis 4. Che <u>OK or N</u> OK NG <b>2. CH</b>	n ignition switch OFF. connect the negative connect TCM connec eck the terminals for c IG >> GO TO 2. >> Repair or replace	battery terminal. tor F56 and ECM connector M82. deformation, disconnection, looseness of e as necessary.	r damage.
Check of and data	continuity between TC a link connector M22	CM connector F56 terminals 5 (L), 6 (Y) terminals 6 (L), 14 (Y).	
<u>OK or N</u> OK NG	5 (L) - 6 (L) 6 (Y) - 14 (Y) I <u>G</u> >> Connect all conr <u>LAN-156, "Work</u> >> Repair harness.	: Continuity should exist. : Continuity should exist. nectors and diagnose again. Refer to Flow".	H.S. C. BAT TCM connector 6, 14 5, 6 T.S.
			WKIA0434E

## Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)

## 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ABS actuator and electric unit (control unit) connector E125 and ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

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Check continuity between data link connector M22 terminals 6 (L), 14 (Y) and ABS actuator and electric unit (control unit) connector E125 terminals 20 (L), 23 (Y).

- 6 (L) 20 (L)
- 14 (Y) 23 (Y)

: Continuity should exist. : Continuity should exist.

### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to  $\underline{\text{LAN-156}}$ .
- NG >> Repair harness.



## ECM Circuit Check

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### **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ECM connector M82 terminal 94 (L) and terminal 86 (Y).

#### 94 (L) - 86 (Y)

: Approx. 108 - 132 $\Omega$ 

#### OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ECM connector M82 and TCM connector F56.





#### OK or NG

OK	>> GO TO 2
----	------------

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between display unit connector M93 terminal 25 (L) and terminal 26 (Y).

#### 14 (L) - 16 (Y)

#### : Approx. 54 - 66Ω

#### OK or NG

OK >> Replace display unit.

NG >> Repair harness between display unit connector M93 and data link connector M22.



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# Data Link Connector Circuit Check

## 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check data link connector M22 terminals for deformation, disconnection, looseness or damage.

: Approx. 54 - 66Ω

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminal 6 (L) and terminal 14 (Y).

### 6 (L) - 14 (Y)

- OK or NG OK >> Connect all connectors and diagnose again. Refer to LAN-156.
- NG >> Repair harness between data link connector M22 and BCM connector M18.



# BCM Circuit Check

### **1. CONNECTOR INSPECTION**

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect BCM connector M18.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between BCM connector M18 terminal 39 (L) and terminal 40 (Y).

#### 39 (L) - 40 (Y)

: **Approx. 54 - 66**Ω

#### OK or NG

- OK >> Replace BCM.
- NG >> Repair harness between BCM connector M18 and data link connector M22.



[CAN]

EKS00A5D

Unified Meter and A/C Amp. Circuit Check 1. CONNECTOR INSPECTION	EKS00A5E
<ol> <li>Turn ignition switch OFF.</li> <li>Disconnect the negative battery terminal.</li> <li>Disconnect unified meter and A/C amp. connector M49.</li> <li>Check the terminals for deformation, disconnection, looseness or OK or NG</li> <li>OK &gt;&gt; GO TO 2. NG &gt;&gt; Repair or replace as necessary.</li> <li>CHECK HARNESS FOR OPEN CIRCUIT</li> </ol>	damage.
Check resistance between unified meter and A/C amp. connector         M49 terminal 1 (L) and terminal 11 (Y).         1 (L) - 11 (Y)         : Approx. 54 - 66Ω         OK or NG         OK       >> Replace unified meter and A/C amp.         NG       >> Repair harness between unified meter and A/C amp.         connector M49 and data link connector M22.	DISCONNECT WINIFIED WINIFIED Unified meter and A/C amp.connector
ABS Actuator and Electric Unit (Control Unit) Circu 1. CONNECTOR INSPECTION	
<ol> <li>Turn ignition switch OFF.</li> <li>Disconnect the negative battery terminal.</li> <li>Disconnect ABS actuator and electric unit (control unit) connector</li> <li>Check the terminals for deformation, disconnection, looseness or OK or NG</li> </ol>	r E125. <sup>.</sup> damage.

## OK >> GO TO 2.

NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ABS actuator and electric unit (control unit) connector E125 terminal 20 (L) and terminal 23 (Y).

#### 20 (L) - 23 (Y)

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) connector E125 and IPDM E/R connector E121.



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## IPDM E/R Circuit Check

## **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect IPDM E/R connector E121.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (Y).

48 (L) - 49 (Y)

: Approx. 108 - 132 $\Omega$ 

#### OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R connector E121 and ABS actuator and electric unit (control unit) connector E125.



## **CAN Communication Circuit Check**

- 1. CONNECTOR INSPECTION
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
- ECM
- TCM (Transmission control module)
- Display unit
- BCM (Body control module)
- Unified meter and A/C amp.
- ABS actuator and electric unit (control unit)
- IPDM E/R (Intelligent power distribution module engine room)

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR SHORTED CIRCUITS

With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (L) and 14 (Y).

#### 6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

- OK >> GO TO 3.
- NG >> Repair the harness.



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EKS00A5H

# 3. CHECK HARNESS FOR SHORT TO GROUND

Check continuity between data link connector M22 terminals 6 (L), 14 (Y) and ground.

6 (L) - Ground 14 (Y) - Ground : Continuity should not exist. : Continuity should not exist.

OK or NG

- OK >> Check ECM and IPDM E/R. Refer to <u>LAN-173, "Component Inspection"</u>.
- NG >> Repair the harness.

## **IPDM E/R Ignition Relay Circuit Check**

Check the following. If no problem is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-24, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to <u>PG-11</u>, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/ <u>OR START</u>".

### Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.

**94 - 86** : Approx. 108 - 132Ω

• Check resistance between IPDM E/R terminals 48 and 49.

48 - 49

: **Approx. 108 - 132**Ω



Data link connector

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## **System Description**

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

### **Component Parts and Harness Connector Location**



[CAN]

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EKS00A4J



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EKS00A4L

LAN-CAN-22

DATA LINE



1 2 3 4 5 6 **E** 7 8 9 10 11 (F59) 12 13 14 15 16 17 18 19 20 21 22 23 24 W REFER TO THE FOLLOWING. (M82), (F56) - ELECTRICAL UNITS

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BKWA0220E

### [CAN]



1. When there are no indications of "TRANSMISSION", "METER A/C AMP", "BCM", "IPDM E/R" or "AUTO

**Work Flow** 

### [CAN]

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DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM". NISSAN SELECT SYSTEM (Example) ENGINE CONSULT- II A/T ABS AIR BAG ENGINE BCM START (NISSAN BASED VHCL) METER A/C AMP START (RENAULT BASED VHCL SUB MODE LIGHT COPY BACK LIGHT COPY PKIA2093E Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C 2. AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II. SELF-DIAG RESULTS SELECT DIAG MODE (Example) DTC RESULTS TIME WORK SUPPORT CAN COMM CIRCUIT SELF-DIAG RESULTS 0 (U1000) DATA MONITOR DATA MONITOR (SPEC) CAN DIAG SUPPORT MNTR ACTIVE TEST Н F.F.DATA ERASE PRINT Scroll Down BACK LIGHT COPY MODE BACK LIGHT COPY PKIA8260F Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/ 3. C AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II. CAN DIAG SUPPORT MNTR SELECT DIAG MODE (Example) ENGINE WORK SUPPORT PRSNT INITIAL DIAG OK SELF-DIAG RESULTS TRANSMIT DIAG ОK DATA MONITOR тсм ОК LAN VDC/TCS/ABS οк DATA MONITOR (SPEC) METER/M&A ОK UNKWN CAN DIAG SUPPORT MNTR ICC BCM/SEC OK ACTIVE TEST IPDM E/R OK AWD/4WD/e4WD UNKWN Scroll Down Scroll Down PRINT BACK LIGHT COPY MODE BACK LIGHT COPY PKIA8343E Μ Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put 4. marks onto the items with "No indication", "NG", or "UNKWN" in the check sheet table. AN DIAG SUPPORT MN FR SELECT SYSTEM screen Initial Transmi diagnosi: ME1EF M&A VDC/TCS ECM BCM/SEC IPDM E/R TCM DISPLAY ABS ENGINE NG UNKWN UNKWN UNKWN UNKWN UNKWN TRANSMISSION NG UNKWN UNKWN UNKWN CAN CAN 2 CAN 7 Display unit CAN 1 CAN 3 CAN 5 COMM METER A/C AMP No indication UNKWN UNKWN UNKWN UNKWN UNKWN UNKŴN UNKWN UNKWN BCM No indication NG UNKWN UNKWN UNKWN AUTO DRIVE POS NG UNKWN UNKWN UNKWN UNKWN No indication ABS NG UNKWN UNKWN IPDM E/R No indication UNKWN UNKWN UNKWN BKIA0058E NOTE: If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit. LAN-179 Revision: June 2004 2004 Maxima

- The "CAN DIAG SUPPORT MNTR" items which are not in check sheet table are not related to diagnostic procedure on service manual.
   Therefore, it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.
- 5. Mark the "NG" or "UNKWN" item of the check sheet table from the result of CAN DIAG SUPPORT MONI-TOR check sheet.

#### NOTE:

If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

6. According to the Check Sheet Results, start inspection.
# CHECK SHEET

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#### Check sheet table

					CAN	I DIAG SUPPOR	TMNTR			
SELECT SVST	EM ecroop	Initial	Transmit				Receive diagnosi	S		
3ELECT 3131	EWSCIE	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	+	-
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	+	-

#### Symptoms:

Attach copy of SELECT SYSTEM	Attach copy of SELECT SYSTEM	

Attach copy of display unit CAN DIAG MONITOR check sheet

BKIA0078E

[CAN]



BKIA0085E

# CHECK SHEET RESULTS Case 1

Replace ECM.

					CAN	N DIAG SUPPOR	TMNTR			
SELECT SVST	EM coroon	Initial	Transmit				Receive diagnosi:	5		
SELECT STST	EMISCIERI	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	<b>V</b>	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-		UNKWN	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-		-	UNKWN		

					CAI	N DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive diagnosi ME1ER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/
ENGINE		NG	UNKWN		UNKAN			UNIT		UNION
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			
Display unif		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNK₩N	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

# Case 2

Replace TCM.

					CAN	I DIAG SUPPOR	EMNER			
SELECT SYST	FM screen	Initial	Trabsmit			F	Receivo diagnosi:	ş		
GELEOTOT	Limboroun	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
(RANSMISSION		$\checkmark$	UNKWN	UNKWN			UNKWN			
Display unit		CAN COMM	CAN 1	CAN 3	•		CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
всм	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKAN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

					CAI	N DIAG SUPPOR	REMNER			
SELECT SYST	EM screen	Initial	Transmit			,	Roceivo diagnosi	ş		
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION		NG	UNKWN	UNION			UNIWN			
Display unif		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

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### Case 3

Replace display unit.

					CA	N DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	Keceive diagnosi METER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	· · ·	UNKWN		UNKWN	UNKWN		UNKWN
<b>FRANSMISSION</b>		NG	UNKWN	UNKWN	· ·	· ·	UNKWN	1		
Display unif		S.MM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN	· · · ·	· · · ·		UNKWN		

				1	CAN	I DIAG SUPPOR	T MNTR Receive diseneri	~		
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
(RANSMISSION		NG	UNKWN	UNKWN			UNKWN			
Display unit		CAN COMM	CAN 1	<b>₩</b> 3	·		<b>€</b> ∕15	<b>\$</b> 2		<b>V</b> 17
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

### Case 4

Replace BCM.

					CAI	N DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial	Transmit		·····	······	Receive diagnosi	s 1	MACHOO	r · · · · · · · · · · · · · · · · · · ·
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METERO M&A	BCM/SEC	ABS	IPDM E/R
ENGINE		NG	UNKWN	· ·	UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			
Display unit		CAN COMM	CAN 1	CAN 3	·	·	CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNION			UNIWN			
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

					CAI	I DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial	Transmit		r	<sup>1</sup>	Roceivo diagnosi	s 1	1	r
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	$\checkmark$	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

### Case 5

Replace unified meter and A/C amp.

				1	CA	N DIAG SUPPOR	T MNTR Cessive disense			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION		NG	UNKWN	UNKWN	· ·	· ·	UNKWN			
Display unif		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNION	UNKAN	UNIWN		UNION	UNIWN	UNIT
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN	· ·	· ·		UNKWN		

#### Case 6

Replace driver seat control unit.

			CAN DIAG SUPPORT MNTR											
SELECT SYST	FM screen	Initial	Trabsmit				Receivo diagnosi	s						
GELLOTOTOT	LIN JOIGGI	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R				
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN				
TRANSMISSION		NG	UNKWN	UNKWN	· ·	· ·	UNKWN							
Display unif		CAN COMM	CAN 1	CAN 3	·		CAN 5	CAN 2		CAN 7				
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN				
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN				
AUTO DRIVE POS.	No indication	<b>V</b>	UNKWN		UNKWN		UNKWN	UNKWN	-	-				
ABS		NG	UNKWN	UNKWN		1.00								
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN						

					CAN	I DIAG SUPPOR	TMNER			
SELECT SYST	EMiscreen	Initial	Trabsmil				Roceivo diagnosi:	s		
GELEOTOTO	211 3010011	diagnosis	diagnosis	ECM	TCM	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKAN	-	UNKWN	UNION	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

# Case 7

Replace ABS actuator and electric unit (control unit).

					CA	N DIAG SUPPOR	AT MNTR			
SELECT SYST	FM screen	Initial	Trapsmit				Receivo diagnosi	s		
GELLOTOTOT	LW SOLGON	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
<b>FRANSMISSION</b>		NG	UNKWN	UNKWN	· ·		UNKWN			
Display unit		CAN COMM	CAN 1	CAN 3	·	·	CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNIWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	-
ABS		$\checkmark$	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

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SELECT SYST	FM screen	Initial	Transmit			,	Receivo diagnosi	ș.		
00000000		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
<b>FRANSMISSION</b>		NG	UNKWN	UNKWN			UNKWN			
Display unit		CAN COMM	CAN 1	CAN 3	·		CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNBWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN	[	

#### Case 8

Replace IPDM E/R.

					CAI	N DIAG SUPPOR	T MN FR			
SELECT SYS	EM screen	Initial	Transmit			, <sup> </sup>	Receivo diagnosi	s		
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNITAN				UNION		

### Case 9

Check harness between TCM and data link connector. Refer to LAN-191 .

					CAN	I DIAG SUPPOR	T MN FR			
SELECT SYST	EM screen	Initial	Transmil				Receivo diagnosi:	s		
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	· ·	UNKWN		UNIWN	UNION		UNI WN
TRANSMISSION		NG	UNKWN	UNKWN			UNIWN			
Display unif		CAN COMM	CAN 1	<b>₩</b> 3	·		CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNION	UNIKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNION			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNIKAN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNIWN						
IPDM E/R	No indication		UNKWN	UNIWN	· ·			UNKWN		

### Case 10

#### Check harness between data link connector and driver seat control unit. Refer to LAN-191 .

					CAN	I DIAG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive diagnosis	3	VEOLTON	
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNION
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	<b>\$</b> 17
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNIWN	UNION
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNICON
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNION	-	-	-	-	-	-
IPDM E/R	Notaction	-	UNKWN	UNKWN	-		-	UNKWN		-

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#### Case 11

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to A <u>LAN-192</u>.

					CAP	I DIAG SUPPOR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNUWN
ÍŘANSMIŠSION		NG	UNKWN	UNKWN	· ·		UNKWN			
Display unit		CAN COMM	CAN 1	CAN 3	•		CAN 5	CAN 2		<b>V</b> 17
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	LINE WN	LINKWN
всм	No indication	NG	UNKWN	UNKWN			UNKWN			
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKAVN						
IPDM E/R	Noncation		UNKWN	UNKWN				UNKWN		

#### Case 12

Check ECM circuit. Refer to  $\underline{\text{LAN-192}}$  .

					CAI	N DIAG SUPPOR	TIMNIR			
SELECT SYST	FM screen	Initial	Transmit			,	Receivo diagnosi:	s		
GELLOTOTOT	LINISOIGGI	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/
ENGINE		NG	UNKAVN	· ·	UNITON		UNIWN	UNIVAN		LENI WIN
TRANSMISSION		NG	UNKWN	UNIWN			UNKWN			
Display unif		CAN COMM	CAN 1	<b>€</b> 4/3	· .		CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNION	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNDAVN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNION						
IPDM E/R	No indication		UNKWN	UNIT				UNKWN		

#### Case 13

Check TCM circuit. Refer to LAN-193 .

					CAL	I DIAG SUPPOR	TMNTR			
SELECT SYST	FM screen	Initial	Trabsmit				Roceivo diagnosi:	s		
GLEEGTETET	LIN SOIDEN	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/
ENGINE		NG	UNKWN		UNITAVIN		UNKWN	UNKWN		UNKWN
TRANSMISSION		NG	UNISAN	UNITAN			UNIWN			
Display unif		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNIOWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNIOWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

#### Case 14

Check display unit circuit. Refer to LAN-193.

				1	0Ai	VIDING SUFFOR	Receivo diagnosi	s		
SELECT SYS	EM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	•	UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			
Display unif		CAN COMM	<b>€</b> √1	<b>6</b> 43			<b>\$</b> 15	√2		V17
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNIOWN		UNKWN	UNKŴN	UNKWN
всм	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		[

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#### Case 15

Check data link connector circuit. Refer to LAN-194 .

OF FOT OVOT					CAN	I DIAG SUPPOR	T MNTR Receivo diagnosi	s		
SELECT SYST	LM screen	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
(RANSMISSION		NG	UNKWN	UNKWN			UNKWN			
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	Noticeation		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	Notication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	Notication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	Noncation		UNKWN	UNKWN				UNKWN		

#### Case 16

Check BCM circuit. Refer to LAN-194.

				1	CA	N DIAG SUPPOR	T MNTR Receive diagnosi	e		
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	· ·	UNKWN		UNKWN	UNIWN		UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			
Display unif		CAN COMM	CAN 1	CAN 3			CAN 5	VA2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNIWN	UNKŴN	UNKWN
BCM	Noticetion	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	UNIWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN	· ·	· ·		UNIWN		

#### Case 17

Check unified meter and A/C amp. circuit. Refer to LAN-195 .

				1	CA	N DIAG SUPPOR	LIMNTR Receivo diagnosi	e .		
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	· ·	UNKWN		UNIWN	UNKWN		UNKWN
<b>FRANSMISSION</b>		NG	UNKWN	UNKWN			UNIWN			
Display unif		CAN COMM	CAN 1	CAN 3	·		<b>₩</b> 15	CAN 2		CAN 7
METER A/C AMP	Noticeation		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNION			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNIWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN	· ·	· ·		UNKWN		[

#### Case 18

Check driver seat control unit circuit. Refer to LAN-195 .

					CAI	V DIAG SUPPOR	RT MN FR					
SELECT SYST	EM screen	Initial	Trapsmit	Receivo diagnosis								
OLLEOT OTO	LW JOIGGI	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R		
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN		
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN					
Display unif		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN		
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN		
AUTO DRIVE POS.	Notorication	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	-		
ABS		NG	UNKWN	UNKWN								
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN				

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#### Case 19

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-196.

					CAN	I DIAG SUPPOR	T MN (R			
SELECT SYST	FM screen	Initial	Transmil				Receivo diagnosi	<u>s</u>		
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
<b>FRANSMISSION</b>		NG	UNKWN	UNKWN			UNKWN			
Display unif		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	LIN WN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNITAN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

#### Case 20

Check IPDM E/R circuit. Refer to LAN-196.

					CAN	I DIAG SUPPOR	T MN FR			
SELECT SYST	FM screen	Initial	Trapsmit				Receivo diagnosi	s		
GELEOTOTOT	Linisoidun	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNI WN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		<b>V</b> 17
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNIT
всм	No indication	NG	UNKWN	UNKWN			UNKWN			
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No porcation		UNKWN	UNKWN				UNKWN		

#### Case 21

Check CAN communication circuit. Refer to LAN-197 .

					CAL	I DIAG SUPPOR	ET MINTR			
SELECT SYST	FM screen	Initial	Transmit				Receivo diagnosi	ș.		
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKAN	· ·			UNIOWN	UNITAN		UNIWN
<b>FRANSMISSION</b>		NG	UNISWN	UNKWN			UNIWN			
Display unif		CAN COMM	<b>64</b> /1	•√3			<b>€</b> ∕15	<b>V</b> 2		V17
METER A/C AMP	Notacidation		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
всм	Noncation	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKAN	UNKAVN						
IPDM E/R	Noncation		UNKWN	UNKWN				UNKWN		

#### Case 22

Check IPDM E/R Ignition relay circuit. Refer to LAN-198 .

					CAI	N DIAG SUPPOR	ET MN FR						
SELECT SYS	EM screen	Initial	Transmit	ansmit Receivo diagnosis									
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R			
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN			
TRANSMISSION		NG	UNKWN	UNISWN		· ·	UNIWN						
Display unit		CAN COMM	CAN 1	CAN 3		· ·	CAN 5	CAN 2		CAN 7			
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN			
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN			
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-			
ABS		NG	UNKWN	UNKOVN									
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN					

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WKIA2437E

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					CAI	I DIAG SUPPOR	T MN FR			
SELECT SYST	EM screen	Initial	Transmit		,		Receivo diagnosi:			
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNIKAVN		UNKWN	UNKWN		UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			
Display unif		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNION	UNKWN		UNKWN	LINHWIN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNION	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

CAN STSTEM (TTPE 8	) [CAN]
Circuit Check Between TCM and Data Link Connec 1. CONNECTOR INSPECTION	tor EKSODA4N
<ol> <li>Turn ignition switch OFF.</li> <li>Disconnect the negative battery terminal.</li> <li>Disconnect TCM connector F56 and ECM connector M82.</li> <li>Check the terminals for deformation, disconnection, looseness or OK or NG</li> <li>OK &gt;&gt; GO TO 2. NG &gt;&gt; Repair or replace as necessary.</li> </ol>	damage.
Check continuity between TCM connector F56 terminals 5 (L), 6 (Y) and data link connector M22 terminals 6 (L), 14 (Y).	
6 (Y) - 14 (Y)       : Continuity should exist.         OK or NG       OK         OK       >> Connect all connectors and diagnose again. Refer to	TCM connector 6, 14 5, 6 5, 6 5, 6
NG >> Repair harness.	Ω wkiA0434E
Circuit Check Between Driver Seat Control Unit and 1. CONNECTOR INSPECTION	d Data Link Connector EKSODA40
<ol> <li>Turn ignition switch OFF.</li> <li>Disconnect the negative battery terminal.</li> <li>Disconnect driver seat control unit connector P2 and ECM connect</li> <li>Check the terminals for deformation, disconnection, looseness or</li> </ol>	ctor M82. damage.
<u>OK or NG</u> OK >> GO TO 2. NG >> Repair or replace as necessary.	-
2. CHECK HARNESS FOR OPEN CIRCUIT	
Check continuity between driver seat control unit connector P2 ter- minals 3 (BR), 19 (Y/G) and data link connector M22 terminals 6 (L),	Driver seat control unit connector

minals 3 (BR), 19 (Y/G) and data link connector M22 terminals 6 (L), 14 (Y).

3 (BR) - 6 (L)

19 (Y/G) - 14 (Y)

: Continuity should exist. : Continuity should exist.

### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-179.
- NG >> Repair harness.



#### **Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric** Unit (Control Unit) EKS00A4P

# 1. CONNECTOR INSPECTION

[CAN]

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Disconnect driver seat control unit connector P2, ABS actuator and electric unit (control unit) connector 3. E125 and ECM connector M82.
- Check the terminals for deformation, disconnection, looseness or damage. 4.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between driver seat control unit connector P2 terminals 3 (BR), 19 (Y/G) and ABS actuator and electric unit (control unit) connector E125 terminals 20 (L), 23 (Y).

> 3 (BR) - 20 (L) 19 (Y/G) - 23 (Y)

: Continuity should exist. : Continuity should exist.

#### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-179.
- NG >> Repair harness.



# **ECM Circuit Check**

### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

EKS00A4Q

### [CAN]



4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

Check resistance between display unit connector M93 terminal 25 (L) and terminal 26 (Y).

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Replace display unit.
- NG >> Repair harness between display unit connector M93 and data link connector M22.



[CAN]

EKS00A4T

# Data Link Connector Circuit Check

# 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check data link connector M22 terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminal 6 (L) and terminal 14 (Y).

#### 6 (L) - 14 (Y)

: **Approx. 54 - 66**Ω

#### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-179.
- NG >> Repair harness between data link connector M22 and BCM connector M18.



# **BCM Circuit Check**

### **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect BCM connector M18.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

EKS00A4U

# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between BCM connector M18 terminal 39 (L) and terminal 40 (Y).

#### 39 (L) - 40 (Y)

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Replace BCM.
- NG >> Repair harness between BCM connector M18 and data link connector M22.



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# Unified Meter and A/C Amp. Circuit Check

### **1.** CONNECTOR INSPECTION

 1. Turn ignition switch OFF.
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 2. Disconnect the negative battery terminal.
 F

 3. Disconnect unified meter and A/C amp. connector M49.
 F

 4. Check the terminals for deformation, disconnection, looseness or damage.
 G

 OK or NG
 OK

 OK
 >> GO TO 2.

 NG
 >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between unified meter and A/C amp. connector M49 terminal 1 (L) and terminal 11 (Y).

**1 (L) - 11 (Y)** : Approx. 54 - 66Ω

#### OK or NG

OK >> Replace unified meter and A/C amp.

NG >> Repair harness between unified meter and A/C amp. connector M49 and data link connector M22.



# **Driver Seat Control Unit Circuit Check**

### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect driver seat control unit connector P2.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between driver seat control unit connector P2 terminal 3 (BR) and terminal 19 (Y/G).

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace driver seat control unit.
- NG >> Repair harness between driver seat control unit connector P2 and data link connector M22.



# ABS Actuator and Electric Unit (Control Unit) Circuit Check 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ABS actuator and electric unit (control unit) connector E125.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ABS actuator and electric unit (control unit) connector E125 terminal 20 (L) and terminal 23 (Y).

**20 (L) - 23 (Y)** : Approx. 54 - 66Ω

OK or NG

OK >> Replace ABS actuator and electric unit (control unit).

NG >> Repair harness between ABS actuator and electric unit (control unit) connector E125 and IPDM E/R connector E121.



EKS00A4Y

# **IPDM E/R Circuit Check**

### **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect IPDM E/R connector E121.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

[CAN]

EKS00A4X

# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (Y).

#### 48 (L) - 49 (Y)

: Approx. 108 - 132Ω

OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R connector E121 and ABS actuator and electric unit (control unit) connector E125.



# **CAN Communication Circuit Check**

# 1. CONNECTOR INSPECTION

1.	Turn ignition switch OFF.	_
2.	Disconnect the negative battery terminal.	
3.	Disconnect the following module and control unit connectors and check terminals for deformation, discon- nection, looseness or damage.	G
-	ECM	G
-	TCM (Transmission control module)	
-	Display unit	Н
-	BCM (Body control module)	
-	Unified meter and A/C amp.	
-	Driver seat control unit	
-	ABS actuator and electric unit (control unit)	
-	IPDM E/R (Intelligent power distribution module engine room)	
OK	Cor NG	J
0	K >> GO TO 2.	
N	G >> Repair or replace as necessary.	ΙA

# 2. CHECK HARNESS FOR SHORTED CIRCUITS

With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (L) and 14 (Y).

#### 6 (L) - 14 (Y)

: Continuity should not exist.

#### OK or NG

- OK >> GO TO 3.
- NG >> Repair the harness.



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# 3. CHECK HARNESS FOR SHORT TO GROUND

Check continuity between data link connector M22 terminals 6 (L), 14 (Y) and ground.

- 6 (L) Ground 14 (Y) - Ground
- : Continuity should not exist. : Continuity should not exist.

OK or NG

- OK >> Check ECM and IPDM E/R. Refer to <u>LAN-198</u>, "Component Inspection".
- NG >> Repair the harness.

# **IPDM E/R Ignition Relay Circuit Check**

Check the following. If no problem is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-24, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to <u>PG-11</u>, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/ <u>OR START</u>".

### Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.

**94 - 86** : Approx. 108 - 132Ω

• Check resistance between IPDM E/R terminals 48 and 49.

48 - 49

: **Approx. 108 - 132**Ω





EKS00A50

EKS00A51

# **System Description**

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

# Component Parts and Harness Connector Location



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# Schematic

EKS00A40

[CAN]



WKWA0433E

### [CAN]



### LAN-CAN-26



BKWA0223E

# [CAN]



### **Work Flow**

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[CAN]

1. When there are no indications of "TRANSMISSION", "METER A/C AMP", "BCM", "IPDM E/R" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)	NISSAN	SELECT SYSTEM	
		ENGINE	
	CONSULT- II	A/T	
		ABS	
		AIR BAG	
	ENGINE	BCM	
	START (NISSAN BASED VHCL)	METER A/C AMP	
	START (RENAULT BASED VHCL)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II.

(Example)	SELECT DIAG MODE	SELF-DIAG RESUL	TS	
	WORK SUPPORT	DTC RESULTS	TIME	
	SELF-DIAG RESULTS	CAN COMM CIRCUIT	0	
	DATA MONITOR			
	DATA MONITOR (SPEC)			
	CAN DIAG SUPPORT MNTR			
	ACTIVE TEST			
		F	.F.DATA	
	Scroll Down	ERASE PR	INT	
	BACK LIGHT COPY	MODE BACK LIGHT	COPY	PKIA8260E

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/ C AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II.



4. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks onto the items with "No indication", "NG", or "UNKWN" in the check sheet table.

					CAI	N DIAG SUPPOR	ET MN FR				
SELECT SYST	EM screen	Initial	Transmit	Receivo diagnosis							
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R	
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN	
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN				
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3	·	·	CAN CIRC 5	CAN CIRC 2		CAN CIRC 7	
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN	
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-	
ABS		NG	UNKWN	UNKWN							
IPDM E/R	No indication		UNKWN	UNKWN		· ·		UNKWN		[	

#### NOTE:

• If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

[CAN]	
[ ]	

• The "CAN DIAG SUPPORT MNTR" items which are not in check sheet table are not related to diagnos- tic procedure on service manual. Therefore, it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.	A
Check CAN communication line of the navigation system.	В
Mark the "NG" or "UNKWN" item of the check sheet table from the result of CAN DIAG SUPPORT MONI- TOR check sheet.	
<b>NOTE:</b> If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.	С
According to the Check Sheet Results, start inspection.	D
	E
	F
	G
	Н
	<ul> <li>The "CAN DIAG SUPPORT MNTR" items which are not in check sheet table are not related to diagnostic procedure on service manual. Therefore, it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.</li> <li>Check CAN communication line of the navigation system.</li> <li>Mark the "NG" or "UNKWN" item of the check sheet table from the result of CAN DIAG SUPPORT MONITOR check sheet.</li> <li><b>NOTE:</b> If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.</li> <li>According to the Check Sheet Results, start inspection.</li> </ul>

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#### Check sheet table

					CAI	N DIAG SUPPOR	TMNTR			
SELECT SYST	EMiscreen	Initial	Transmit				Receive diagnosi	s		
SELECTOTOT	LWBGCCH	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN			
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	CAN CIRC 2	•	CAN CIRC 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
ВСМ	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

#### Symptoms:

Attach copy of SELECT SYSTEM	
SELECT SYSTEM	



Attach copy of display unit CAN DIAG MONITOR check sheet

BKIA0079E

# [CAN]

				A
Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of TRANSMISSION SELF-DIAG RESULTS	Attach copy of BCM SELF-DIAG RESULTS	Attach copy of METER A/C AMP SELF-DIAG RESULTS	B
				E
Attach copy of ABS SELF-DIAG RESULTS	Attach copy of AUTO DRIVE POS. SELF-DIAG RESULTS	Attach copy of IPDM E/R SELF-DIAG RESULTS		F
				Η
				I
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	Attach copy of BCM CAN DIAG SUPPORT MNTR	Attach copy of METER A/C AMP CAN DIAG SUPPORT MNTR	J
				L
Attach copy of ABS CAN DIAG SUPPORT MNTR	Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR	Attach copy of IPDM E/R CAN DIAG SUPPORT MNTR		

BKIA0085E

### CHECK SHEET RESULTS Case 1

Replace ECM.

					CAI	N DIAG SUPPOR	T MINTR Receive diagnosi-	2		
SELECT SYS1	EM screen	Initial diagnosis	Transmit diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		V	UNKWN	-	UNKWN	-	UNKWN	UNKWN		UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

		CAN DIAG SUPPORT MNTR									
SELECT SYS	TEM screen	Initial	Transmit			,	Receivo diagnosi	ş			
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R	
ENGINE		NG	UNKWN		UNIKIVN		UNIOWN	UNIT		UNUWN	
TRANSMISSION		NG	UNKWN	UNKWN		· ·	UNKWN				
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3	·	·	CAN CIRC 5	CAN CIRC 2		CAN CIRC 7	
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN	
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-	
ABS		NG	UNKWN	UNKWN							
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN			

### Case 2

Replace TCM.

				CAN DIAG SUPPORT MNTR								
SELECT SYST	EM screen	Initial	Transmit		r · · · · · · · · · · · · · · · · ·		Receive diagnosi	s 1				
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	ABS	IPDM E/R		
ENGINE		NG	UNKWN		UNION		UNKWN	UNKWN		UNKWN		
TRANSMISSION		V	UNKWN	UNKWN			UNKWN					
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3	·		CAN CIRC 5	CAN CIRC 2		CAN CIRC 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNIWN	UNKWN		UNKWN	UNKŴN	UNKWN		
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNIAN		UNKWN	UNKWN	-	-		
ABS		NG	UNKWN	UNKWN								
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN				

					CAN	I DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial	Transmil				Roceivo diagnosi:	s		
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION		NG	UNKWN	UNIONN			UNITAVN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

#### Case 3

Replace display control unit.

					CAI	N DIAG SUPPOR	T MN FR			
SELECT SYST	FM screen	Initial	Transmil			,	Receivo diagnosi:	s		
000000000		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			
Display control unit		CA MMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

					CAI	N DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial	Trabsmit				Receivo diagnosi	s		
GELECTOR	Linisoidan	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CALLERC 3	·		CAN ARC 5	CAN ARC 2		CALL RC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

### Case 4

Replace BCM.

					CAI	V DIAG SUPPOR	ET MN FR							
SELECT SYST	FM screen	Initial	Trapamit	Receivo diagnosis										
GELEOTOTOT	LIN JOIGGI	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R				
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN				
<b>FRANSMISSION</b>		NG	UNKWN	UNKWN			UNKWN							
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3	· .		CAN CIRC 5	CAN CIRC 2		CAN CIRC				
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN				
BCM	No indication	NG	UNKWN	<b>KNOWN</b>						UNION				
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-				
ABS		NG	UNKWN	UNKWN										
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN						

					CA	N DIAG SUPPOF	REMNER			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	⊺СМ	DISPLAY	Roceivo diagnosi ME1ER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNK₩N	UNKWN
всм	No indication	V	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

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#### Case 5

Replace unified meter and A/C amp.



#### Case 6

Replace driver seat control unit.

					CA	N DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	Receive diagnosi: MF1FR/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION		NG	UNKWN	UNKWN	· ·		UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3	· · · · ·		CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	V	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN		· ·		UNKWN		[

					CAN	I DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	Receivo diagnosi: METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNIT		UNION	UNIOWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

### Case 7

Replace ABS actuator and electric unit (control unit).



					CAN	I DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive diagnosi: METER/		Vincities/	r
		diagnosis	diagnosis	ECM	TCM	DISPLAY	M&A	BCM/SEC	ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	LINE WN						
IPDM E/R	No indication	[	UNKWN	UNKWN				UNKWN		

#### Case 8

Replace IPDM E/R.

			I	I	CA	N DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	Roceivo diagnosi: MF1FR/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNIOWN				LAUWN		

### Case 9

Check harness between TCM and data link connector. Refer to LAN-216 .

					CA	N DIAG SUPPOR	ET MN FR			
SELECT SYST	FM screen	Initial	Transmit				Receivo diagnosi	s		
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNIOWN	UNI WN		UNITON
<b>FRANSMISSION</b>		NG	UNKWN	UNKWN		· ·	UNIWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN VIRC 3	·	· .	CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNIWN	UNION	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNIWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNION		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNIWN						
IPDM E/R	No indication		UNKWN	UNIWN		· ·		UNKWN		

### Case 10

#### Check harness between data link connector and driver seat control unit. Refer to LAN-216 .

					CAI	N DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive diagnosi:	3		
GELEOT BID	EW SOLDEN	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNUWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	CAN CIRC 2	-	CAN LIRC 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKIN	UNIT
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNITAN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNIWN	-	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-		-	UNKWN	-	-

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#### Case 11

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-217</u>.

					CAI	N DIAG SUPPOR	T MN FR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ЕСМ	тсм	DISPLAY	Roceivo diagnosi: MF 1FR/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNI WN
TRANSMISSION	[	NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CALLIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKIN	
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			LINKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN							
IPDM E/R	No no cation		UNKWN	UNKWN				UNKWN		

### Case 12

Check ECM circuit. Refer to LAN-217.

					CA	N DIAG SUPPOR	T MN FR			
SELECT SYST	EM screen	Initial	Transmit				Receivo diagnosi:	s.		·····
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	ABS	IPDM E/R
ENGINE		NG	UNKOVN	· .	UNIKAN		UNIOWN	LUN WN		KNU WN
TRANSMISSION		NG	UNKWN	UNITAN		· ·	UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN VIRC 3		· .	CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNIWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN				UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNITAN			1.00			
IPDM E/R	No indication		UNKWN			· ·		UNKWN		

#### Case 13

Check TCM circuit. Refer to LAN-218 .

					CA	N DIAG SUPPOR	ET MNTR Receive disenesi			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNIKAVN		UNKWN	UNKWN		UNKWN
TRANSMISSION		NG	UNITAN	UNITAN		· ·	UNITON			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNIKAVN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN		· ·		UNKWN		[

#### Case 14

Check display control unit circuit. Refer to LAN-218 .

					CAI	V DIAG SUPPOR	ET MN FR			
SELECT SYST	EM screen	Initial	Transmit			,	Receivo diagnosi	s		
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN VIRC 1	CAN VIRC 3			CAN URC 5	CAN ARC 2		CALLIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UN WN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN		· ·		UNKWN		[

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#### Case 15

Check data link connector circuit. Refer to LAN-219.

					CAI	N DIAG SUPPOR	ET MN FR			
SELECT SYST	FM screen	Initial	Trabsmit				Receive diagnosi:	5		
GELEOTOTOT	LW JOIGGI	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No no cation		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
всм	No no cation	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	Notocation	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No procetion		UNKWN	UNKWN				UNKWN		

#### Case 16

Check BCM circuit. Refer to LAN-219.

					CAI	I DIAG SUPPOR	TMNTR			
SELECT SYSTEM screen		Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Roceivo diagnosi: ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNI WN		UNKWN
<b>FRANSMISSION</b>		NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN AIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKŴN	UNKWN
BCM	Noncation	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNIWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNION		

### Case 17

Check unified meter and A/C amp. circuit. Refer to LAN-220 .

					CAL	I DIAG SUPPOR	T MN IR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	Receive diagnosi: MF1FR/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNITAN	UNKWN		UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNIWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN PIRC 5	CAN CIRC 2		CAN CIRC
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNION			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNIWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

Case 18

Check driver seat control unit circuit. Refer to LAN-220 .

					CAN	I DIAG SUPPOR	T MN FR			
SELECT SYST	FM screen	Initial	Transmit				Receivo diagnosi:	S		
OLLEOTOTO	LW JOIGGI	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

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#### Case 19

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-221 .

SELECT SYSTEM screen		Indiat	Tennerit		Receivo diagnosis								
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R			
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN			
TRANSMISSION		NG	UNKWN	UNKWN		· ·	UNKWN						
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7			
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNIWN	UNKWN			
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN			
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	-			
ABS		NG	UNITAN	UNIWN									
IPDM E/R	No indication		UNKWN	UNKWN		· ·		UNKWN					

#### Case 20

Check IPDM E/R circuit. Refer to LAN-221.

			CAN DIAG SUPPORT MITR										
SELECT SYST	FEM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R			
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNUCUN			
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN						
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CALLIRC 7			
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNIT			
ВСМ	No indication	NG	UNKWN	UNKWN			UNKWN			INNWN			
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	-			
ABS		NG	UNKWN	UNKWN									
IPDM E/R	Nonacation		UNKWN	UNKWN				UNKWN					

#### Case 21

Check CAN communication circuit. Refer to LAN-222 .



#### Case 22

Check IPDM E/R Ignition relay circuit. Refer to LAN-223 .

		CAN DIAG SUPPORT MNTR										
SELECT SYSTEM	SELECT SYSTEM screen		Transmit diagnosis	ECM	тсм	DISPLAY	Receive diagnosi: METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R		
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN		
TRANSMISSION		NG	UNKWN	UNKINN			UNIOWN					
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN		
BCM N	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-		
ABS		NG	UNKWN	UNITAN								
IPDM E/R N	No indication		UNKWN	UNKWN				UNKWN				

			CAN DIAG SUPPORT MNTR									
SELECT SYSTEM screen		Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Roceivo diagnosi ME1ER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R		
ENGINE		NG	UNKWN		UNIT		UNKWN	UNKWN		UNKWN		
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN					
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNIWN	UNKWN		UNKWN	UNIWN	UNKWN		
всм	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN		
AUTO DRIVE POS.	No indication	NG	UNKWN		UNIWN	-	UNKWN	UNKWN	-	-		
ABS		NG	UNKWN	UNKWN								
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN				

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# **Circuit Check Between TCM and Data Link Connector**

# 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect TCM connector F56 and ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between TCM connector F56 terminals 5 (L), 6 (Y) and data link connector M22 terminals 6 (L), 14 (Y).

5 (L) - 6 (L) 6 (Y) - 14 (Y) : Continuity should exist. : Continuity should exist.

#### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-204, "Work Flow".
- NG >> Repair harness.



### Circuit Check Between Driver Seat Control Unit and Data Link Connector **EKSIONANA** 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect driver seat control unit connector P2 and ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between driver seat control unit connector P2 terminals 3 (BR), 19 (Y/G) and data link connector M22 terminals 6 (L), 14 (Y).

3 (BR) - 6 (L)

19 (Y/G) - 14 (Y)

: Continuity should exist. : Continuity should exist.

#### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-204.
- NG >> Repair harness.



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### **1. CONNECTOR INSPECTION**

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.
- OK or NG
- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

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Check resistance between ECM connector M82 terminal 94 (L) and terminal 86 (Y).

#### 94 (L) - 86 (Y)

: Approx. 108 - 132 $\Omega$ 

#### OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ECM connector M82 and TCM connector F56.



### TCM Circuit Check

### 1. CONNECTOR INSPECTION

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect TCM connector F56.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between TCM connector F56 terminal 5 (L) and terminal 6 (Y).

5 (L) - 6 (Y)

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Replace TCM.
- NG >> Repair harness between TCM connector F56 and ECM connector M82.



EKS00A48

- 1. CONNECTOR INSPECTION 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.

**Display Control Unit Circuit Check** 

- 3. Disconnect display control unit connector M95.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

Check resistance between display control unit connector M95 terminal 25 (L) and terminal 26 (Y).

: **Approx. 54 - 66**Ω

OK or NG

- OK >> Replace display control unit.
- NG >> Repair harness between display control unit connector M95 and data link connector M22.



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### **Data Link Connector Circuit Check**

### **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check data link connector M22 terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT



#### 6 (L) - 14 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-204.
- NG >> Repair harness between data link connector M22 and BCM connector M18.



### **BCM Circuit Check**

### **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect BCM connector M18.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

Check resistance between BCM connector M18 terminal 39 (L) and terminal 40 (Y).

#### 39 (L) - 40 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace BCM.
- NG >> Repair harness between BCM connector M18 and data link connector M22.



# Unified Meter and A/C Amp. Circuit Check 1. CONNECTOR INSPECTION

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[CAN]

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect unified meter and A/C amp. connector M49.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

: Approx. 54 - 66 $\Omega$ 

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

#### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between unified meter and A/C amp. connector M49 terminal 1 (L) and terminal 11 (Y).

1 (L) - 11 (Y)

OK or NG

- OK >> Replace unified meter and A/C amp.
- NG >> Repair harness between unified meter and A/C amp. connector M49 and data link connector M22.



EKS00A4C

- 1. CONNECTOR INSPECTION 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect driver seat control unit connector P2.

**Driver Seat Control Unit Circuit Check** 

4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.



Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (Y).

#### 48 (L) - 49 (Y)

: **Approx. 108 - 132**Ω

#### OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R connector E121 and ABS actuator and electric unit (control unit) connector E125.



### **CAN Communication Circuit Check**

### **1. CONNECTOR INSPECTION**

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
- ECM
- TCM (Transmission control module)
- Display control unit
- BCM (Body control module)
- Unified meter and A/C amp.
- Driver seat control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R (Intelligent power distribution module engine room)

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR SHORTED CIRCUITS

With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (L) and 14 (Y).

#### 6 (L) - 14 (Y)

: Continuity should not exist.

#### OK or NG

- OK >> GO TO 3.
- NG >> Repair the harness.



### 3. CHECK HARNESS FOR SHORT TO GROUND

Check continuity between data link connector M22 terminals 6 (L), 14 (Y) and ground.

6 (L) - Ground 14 (Y) - Ground : Continuity should not exist. : Continuity should not exist.

OK or NG

- OK >> Check ECM and IPDM E/R. Refer to <u>LAN-223, "Component Inspection"</u>.
- NG >> Repair the harness.

### **IPDM E/R Ignition Relay Circuit Check**

Check the following. If no problem is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-24, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to <u>PG-11</u>, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/ <u>OR START</u>".

### Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.

**94 - 86** : Approx. 108 - 132Ω

• Check resistance between IPDM E/R terminals 48 and 49.

48 - 49

: **Approx. 108 - 132**Ω



Data link connector

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### **System Description**

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

### **Component Parts and Harness Connector Location**



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EKS00A3E



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EKS00A3G

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: DATA LINE



1 2 3 4 5 6 **(5)** 7 8 9 10 11 **(5)** 12 13 14 15 16 17 18 19 20 21 22 23 24 W REFER TO THE FOLLOWING. (M82), (F56) - ELECTRICAL UNITS

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#### [CAN]



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- The "CAN DIAG SUPPORT MNTR" items which are not in check sheet table are not related to diagnostic procedure on service manual.
   Therefore, it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.
- 5. Mark the "NG" or "UNKWN" item of the check sheet table from the result of CAN DIAG SUPPORT MONI-TOR check sheet.

#### NOTE:

If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

6. According to the Check Sheet Results, start inspection.

### CHECK SHEET

#### Check sheet table

						CAN DIAG S	SUPPORT MNTR				
SELECT SVST	EMecroop	Initial	Trapemit				Receive	diagnosis			
36661 3131	LWSCIEEN	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN	-
Display unit	-	CAN COMM	CAN 1	CAN 3		-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	~	-	UNKWN	-	-	~	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	-	UNKWN	-	÷

Symp	otoms:
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Attach copy of SELECT SYSTEM	Attach copy of SELECT SYSTEM

Attach copy of display unit CAN DIAG MONITOR check sheet

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### CHECK SHEET RESULTS Case 1

Replace ECM.

						CAN DIAG S	SUPPORT MNTR				
SELECT SVST	EM corpon	Initial	Transmit				Receive	diagnosis			
GEECITOTOT	LIW SCIEGH	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/
ENGINE		V	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-		UNKWN		-	UNKWN	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	UNKWI
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-	UNKW
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-	-	-
IPDM E/R	No indication		UNKWN	UNKWN	-			-	UNKWN		-

						CAN DIAG S	SUPPORT MNTE				
SELECT SYST	EMucroon	Initial	Tracemit				Receive	diagnosis			
OLLEOT 0101	LIVISCIOUN	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/
ENGINE		$\checkmark$	UNKWN		UNKWN		UNION		UNION	UNITON	UNIT
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		1

### Case 2

Replace TCM.

						CAN DIAG \$	SUPPORT MNTR				
SELECT SVST	EMuaroon	Initial	Transmit				Receive	diagnosis			
SELECTOR	LW SCIEGH	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/
ENGINE		NG	UNKWN		UNKOVN		UNKWN		UNKWN	UNKWN	UNKWI
TRANSMISSION		$\checkmark$	UNKWN	UNK₩N			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN )
METER A/C AMP	No indication		UNKWN	UNKWN	UNIONN	UNKWN			UNKWN	UNKWN	UNKW
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKW
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN		UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNIXAN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN		· · · · ·			UNKWN	[	[

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive ME1ER/	diagnosis STRG	BCM/SEC	VDC/1CS/	IPDM E/R
FNGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION	•	NG	UNKWN	UNIONN		•					
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

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### Case 3

Replace display unit.

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive METER/ M&A	diagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNK₩N
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display unit	-	CA MM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNK₩N	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKŴN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN		· · ·			UNKWN	[	[

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CELECT OVOT		1.76.1	<b>T</b>	1		GAN DIAG	Receive	diagnosis			
SELECTISTS	EM screen	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	<b>\$</b> 13	-	-	<b>\$</b> 15	-	<b>V</b> 12	-	₩Y.
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN		1. A.	UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

### Case 4

Replace BCM.

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	FM screen	Initial	Transmil				Receive	diagnosis			
GELEOTOTO	Linibolidan	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNIWN			UNION				UNIWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive METER/ M&A	diagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION		NG	UNKWN	UNKŴN			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	V.	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN	1.1		UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

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#### Case 5

Replace unified meter and A/C amp.

				1		CAN DIAG S	SUPPORT MNTR Beceive	diagnosis			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNITON	UNKOVN	UNIWN			UNION	UNIOWN	LINIAWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

#### Case 6

Replace driver seat control unit.

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EMuaroon	Initial	Transmit				Receive	diagnosis			
SELECTOR	LW SCIEGH	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/F
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	GAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	<b>V</b>	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

						CAN DIAG S	UPPORT MNTR				
SELECT SYST	EM screen	Initial	Transmit			r	Receive METER/	diagnosis	r	VDC/1CS/	
		diagnosis	diagnosis	ECM	тсм	DISPLAY	M&A	STRG	BCM/SEC	ABS	IPDM C/F
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKNYN	-	UNIT	-	UNIWN	-	-
ABS	1.00	NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

### Case 7

Replace ABS actuator and electric unit (control unit).

		L				CAN DIAG 5	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/	diagnosis STRG	BCM/SEC	VDC/1CS/	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNIWN	UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN				
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	LINIAVIN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		$\checkmark$	UNKWN	UNKWN	UNKŴN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

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				1		CAN DIAG 9	SUPPORT MNTR				
SELECT SYST	FEM screen	Initial	Transmit		r · · · · · · · · · · · · · · · · · · ·	r · · · · · · · · · · · · · · · · · · ·	Receive -	diagnosis	r	1	1
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	M8A	STRG	BCM/SEC	ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKŴN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN		UNKWN	-	-
ABS	1.1	NG	UNKWN	LINE WIN	UNION			UNIOWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

#### Case 8

Replace IPDM E/R.

				1		CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	Receive METER/ M&A	diagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION	·	NG	UNKWN	UNKWN			UNKWN	· ·		UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN		· · ·	UNKWN	· ·			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNIWN		· · ·		· ·	UNIVIN		

### Case 9

Check harness between TCM and data link connector. Refer to  $\underline{\text{LAN-241}}$  .

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis	· . · · · · · · · · · · · · · · · · · ·		
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN	· · ·	UNIT		UNIT	UNION	UNIWN
TRANSMISSION		NG	UNKWN	UNKWN			UNIWN			UNION	[
Display unit	-	CAN COMM	CAN 1	<b>€</b> √3		-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNIDOVN	UNKOWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNION			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKAVN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNIONN	UNKOWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNION		· · ·			UNKWN		

### Case 10

#### Check harness between data link connector and driver seat control unit. Refer to LAN-241 .

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Receive	diagnosis			
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	UNIWN	UNIWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-		UNKWN		-	UNION	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5		CAN 2	-	<b>V</b> 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNITAN	UNIT
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-	UNION
AUTO DRIVE POS.	Noincation	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS	-	NG	UNKWN	UNEWN	UNION	-	-	UNKAVN	-	-	-
IPDM E/R	Notorication		UNKWN	UNKWN	-	-	-	-	UNKWN	-	-

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#### Case 11

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>A</u><u>LAN-242</u>.



#### Case 12

Check ECM circuit. Refer to LAN-242 .

						CAN DIAG S	SUPPORT MN16	2			
SELECT SVST	EMuaroon	Initial	Transmit				Receive	diagnosis			
GLEEDISISI	LW SCIEGH	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/1CS/ ABS	IPDM E/F
ENGINE		NG	UNIKAVN		UNIKAVN		UNIOWN		UNION	UNIT	UNIWN
TRANSMISSION		NG	UNKWN	UNEAVN			UNKWN			UNKWN	[
Display unit	-	CAN COMM	CAN 1	₩3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNION	UNKŴN	UNKWN		•	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNIT		· ·	UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNHWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNIWN					UNKWN		1

#### Case 13

Check TCM circuit. Refer to LAN-243.

						CAN DIAG 5	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive METER/ M&A	diagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNIKAVN		UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION		NG	UNIKAVN	UNIEWN			UNHWN			UNIWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNIXWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNBWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNISAN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN	••••••				UNKWN		

#### Case 14

Check display unit circuit. Refer to LAN-243.

SELECT OVO		Initial	Terreneit	1			Receive	diagnosis			
SELECTIONS	LWI screen	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display unit	-	CAN COMM	<b>V</b> 1	₩3	-	-	<b>\$</b> 5	-	<b>V</b> 2	-	V.
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNIWN		•	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN		UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

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#### Case 15

Check data link connector circuit. Refer to LAN-244 .

PELECT OVET		Indiat	Turneral	1		GAN DIAGS	Receive	diagnosis			
SELECTORS	EM screen	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	Notorication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	Notestation	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	Notication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN		1. A.	UNKWN			
IPDM E/R	Notorication		UNKWN	UNKWN					UNKWN		

#### Case 16

Check BCM circuit. Refer to LAN-244 .

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial	Transmit		r	r	Receive METER/	diagnosis	r	VDC/1CS/	r
		diagnosis	diagnosis	ECM	тсм	DISPLAY	M&A	STRG	BCM/SEC	ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNIWN	UNKWN	UNKWN
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	<b>V</b> 12	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNITAN	UNKWN	UNKWN
BCM	Notorcation	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNION	-	-
ABS		NG	UNKWN	UNKWN	UNKWN		1. A.	UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNIWN		

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#### Case 17

Check unified meter and A/C amp. circuit. Refer to LAN-245 .

		L		1		CAN DIAG 9	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	diagnosis	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNIT		UNKWN	UNKWN	UNKŴN
TRANSMISSION		NG	UNKWN	UNKWN			UNIWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	<b>1</b> 5	-	GAN 2	-	CAN 7
METER A/C AMP	Notoreation		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNION				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNIT	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

#### Case 18

Check steering angle sensor circuit. Refer to LAN-245 .

						CAN DIAG 5	SUPPORT MNTR				
SELECT SYS	FFM screen	Initial	Transmit				Receive	diagnosis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION	· ·	NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	GAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKAN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

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#### Case 19

Check driver seat control unit circuit. Refer to LAN-246.

						CAN DIAG S	SUPPORT MNTE	2			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive METER/ M&A	diagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKŴN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	Notication	NG	UNKWN	-	UNKWN		UNKWN		UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

#### Case 20

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-246.

						CAN DIAG §	SUPPORT MNTR				
SELECT SYST	FM screen	Initial									
OLLEOTOTOT	LIN JOIGGI	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN	· · · · ·	UNKWN		UNKWN	UNKOVN	UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			UNIT	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	GAN 2	-	CAN /
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNION	UNKŴN
BCM	No indication	NG	UNKWN	UNKWN		· ·	UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNIDAVN	UNITARN	UNION	1.1		UNIWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

#### Case 21

Check IPDM E/R circuit. Refer to LAN-247 .

						CAN DIAG S	SUPPORT MNTR								
SELECT SYST	FM screen	Initial	Transmil	Receive diagnosis											
GELEOTOTOT	LIN JOIGGI	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/F				
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKOVN				
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN					
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	<b>V</b>				
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	LINIAVIN				
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNIT				
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN		UNKWN	-	-				
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN							
IPDM E/R	Notorication		UNKWN	UNKWN					UNKWN						

#### Case 22

Check CAN communication circuit. Refer to LAN-248.

						CAN DIAG S	SUPPORT MNTR	diagnosis			
SELECT SYST	FEM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKIN		UNIOWN		UNIWN		UNIONN	UNIWN	UNIWN
TRANSMISSION		NG	UNKWN	UNIDAN			UNI WN			UNITAN	
Display unit	-	CAN COMM	<b>\$</b> 1	₩3	-	-	<b>6</b> /15	-	<b>V</b> 2	-	<b>V</b> I
METER A/C AMP	Notorication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	Nonstation	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	Noing cation	NG	UNKWN		UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKAVN	UNION	UNION			UNKWN			
IPDM E/R	Nonscation		UNKWN	UNKWN			· ·	·	UNKWN	[	[

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### Case 23

Check IPDM E/R Ignition relay circuit. Refer to  $\underline{\text{LAN-248}}$  .

						CAN DIAG S	SUPPORT MNTR	domenie			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNK₩N
TRANSMISSION		NG	UNKWN	UNKWN			UNIWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	<b>UNIT</b> WN	UNKWN			UNKAN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		[

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						CAN DIAG 5	SUPPORT MNTR Beceive	diagnosis			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNIFWN		UNKWN		UNKWN	UNIWN	UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNIWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN		1. A.	UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

CAN SYSTEM (TYPE 10)	[CAN]
<b>Circuit Check Between TCM and Data Link Connecto</b> 1. CONNECTOR INSPECTION	r <sub>eksooasi</sub> A
<ol> <li>Turn ignition switch OFF.</li> <li>Disconnect the negative battery terminal.</li> <li>Disconnect TCM connector F56 and ECM connector M82.</li> <li>Check the terminals for deformation, disconnection, looseness or da OK or NG OK &gt;&gt; GO TO 2. NG &gt;&gt; Repair or replace as necessary.</li> <li>CHECK HARNESS FOR OPEN CIRCUIT</li> </ol>	mage. D
Check continuity between TCM connector F56 terminals 5 (L), 6 (Y) and data link connector M22 terminals 6 (L), 14 (Y). 5 (L) - 6 (L) : Continuity should exist. 6 (Y) - 14 (Y) : Continuity should exist. OK or NG OK >> Connect all connectors and diagnose again. Refer to LAN-229, "Work Flow". NG >> Repair harness.	$\begin{array}{c} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$
Circuit Check Between Driver Seat Control Unit and 1 1. CONNECTOR INSPECTION	
<ol> <li>Turn ignition switch OFF.</li> <li>Disconnect the negative battery terminal.</li> <li>Disconnect driver seat control unit connector P2 and ECM connecto</li> <li>Check the terminals for deformation, disconnection, looseness or data OK or NG</li> <li>OK &gt;&gt; GO TO 2.</li> <li>NG &gt;&gt; Repair or replace as necessary.</li> </ol>	r M82. mage. LA
2. CHECK HARNESS FOR OPEN CIRCUIT	
Check continuity between driver seat control unit connector P2 ter- minals 3 (BR), 19 (Y/G) and data link connector M22 terminals 6 (L), 14 (Y). <b>3 (BR) - 6 (L)</b> : Continuity should exist. 19 (Y/G) - 14 (Y) : Continuity should exist. OK or NG OK >> Connect all connectors and diagnose again. Refer to <u>LAN-229</u> . NG >> Repair harness.	Driver seat control unit connector

#### **Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric** Unit (Control Unit) EKS00A3K

### 1. CONNECTOR INSPECTION

[CAN]

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Disconnect driver seat control unit connector P2, ABS actuator and electric unit (control unit) connector 3. E125 and ECM connector M82.
- Check the terminals for deformation, disconnection, looseness or damage. 4.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between driver seat control unit connector P2 terminals 3 (BR), 19 (Y/G) and ABS actuator and electric unit (control unit) connector E125 terminals 7 (L), 9 (Y).

> 3 (BR) - 7 (L) 19 (Y/G) - 9 (Y)

: Continuity should exist. : Continuity should exist.

#### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-229.
- NG >> Repair harness.



### **ECM Circuit Check**

### **1. CONNECTOR INSPECTION**

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

EKS00A3L



4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

EKS00A30

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between display unit connector M93 terminal 14 (L) and terminal 16 (Y).

: **Approx. 54 - 66**Ω

#### OK or NG

- OK >> Replace display unit.
- NG >> Repair harness between display unit connector M93 and data link connector M22.



## Data Link Connector Circuit Check

### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check data link connector M22 terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminal 6 (L) and terminal 14 (Y).

#### 6 (L) - 14 (Y)

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-229.
- NG >> Repair harness between data link connector M22 and BCM connector M18.



### **BCM Circuit Check**

### **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect BCM connector M18.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

EKS00A3P

Check resistance between BCM connector M18 terminal 39 (L) and terminal 40 (Y).

#### 39 (L) - 40 (Y)

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Replace BCM.
- NG >> Repair harness between BCM connector M18 and data link connector M22.



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### Unified Meter and A/C Amp. Circuit Check

### **1.** CONNECTOR INSPECTION

Turn ignition switch OFF.
 Disconnect the negative battery terminal.
 Disconnect unified meter and A/C amp. connector M49.
 Check the terminals for deformation, disconnection, looseness or damage.
 OK or NG
 OK >> GO TO 2.
 NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between unified meter and A/C amp. connector M49 terminal 1 (L) and terminal 11 (Y).

**1 (L) - 11 (Y)** : Approx. 54 - 66Ω

#### OK or NG

OK >> Replace unified meter and A/C amp.

**Steering Angle Sensor Circuit Check** 

NG >> Repair harness between unified meter and A/C amp. connector M49 and data link connector M22.



EKS00A3R

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1. Turn ignition switch OFF.

**1. CONNECTOR INSPECTION** 

- 2. Disconnect the negative battery terminal.
- 3. Disconnect steering angle sensor connector M47.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

Check resistance between steering angle sensor connector M47 terminal 4 (L) and terminal 5 (Y).

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Replace steering angle sensor.
- NG >> Repair harness between steering angle sensor connector M47 and data link connector M22.



### **Driver Seat Control Unit Circuit Check**

### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect driver seat control unit connector P2.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between driver seat control unit connector P2 terminal 3 (BR) and terminal 19 (Y/G).

3 (BR) - 19 (Y/G)

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Replace driver seat control unit.
- NG >> Repair harness between driver seat control unit connector P2 and data link connector M22.



### ABS Actuator and Electric Unit (Control Unit) Circuit Check 1. CONNECTOR INSPECTION

EKS00A3T

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ABS actuator and electric unit (control unit) connector E125.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

EKS00A3S

Check resistance between ABS actuator and electric unit (control unit) connector E125 terminal 7 (L) and terminal 9 (Y).

#### 7 (L) - 9 (Y)

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) connector E125 and IPDM E/R connector E121.



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### **IPDM E/R Circuit Check**

### **1. CONNECTOR INSPECTION**

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect IPDM E/R connector E121.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (Y).

48 (L) - 49 (Y)

: Approx. 108 - 132 $\Omega$ 

#### OK or NG

OK >> Replace IPDM E/R.

NG >> Repair harness between IPDM E/R connector E121 and ABS actuator and electric unit (control unit) connector E125.





### **CAN Communication Circuit Check**

### **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
- ECM
- TCM (Transmission control module)
- Display unit
- BCM (Body control module)
- Unified meter and A/C amp.
- Steering angle sensor
- Driver seat control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R (Intelligent power distribution module engine room)

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR SHORTED CIRCUITS

With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Continuity should not exist.

#### OK or NG

OK >> GO TO 3.

NG >> Repair the harness.



### 3. CHECK HARNESS FOR SHORT TO GROUND

Check continuity between data link connector M22 terminals 6 (L), 14 (Y) and ground.

- 6 (L) Ground
- : Continuity should not exist. : Continuity should not exist.
- 14 (Y) Ground :

OK or NG

- OK >> Check ECM and IPDM E/R. Refer to <u>LAN-249</u>, "Component Inspection".
- NG >> Repair the harness.



### **IPDM E/R Ignition Relay Circuit Check**

Check the following. If no problem is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to <u>PG-24</u>, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-11</u>, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/ <u>OR START</u>".

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#### **Component Inspection** ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle. .
- Check resistance between ECM terminals 94 and 86.

94 - 86

: Approx. 108 - 132 $\Omega$ 

Check resistance between IPDM E/R terminals 48 and 49. .

48 - 49

: Approx. 108 - 132 $\Omega$ 



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### **System Description**

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

### **Component Parts and Harness Connector Location**



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EKS00A20



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LAN-CAN-31

: DATA LINE



1 2 3 4 5 6 7 8 9 10 11 F59 12 13 14 15 16 17 18 19 20 21 22 23 24 W REFER TO THE FOLLOWING. (M82), (F56) - ELECTRICAL UNITS

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### **Work Flow**

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1. When there are no indications of "TRANSMISSION", "METER A/C AMP", "BCM", "IPDM E/R" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)	NISSAN	SELECT SYSTEM	
		ENGINE	
	CONSULT- II	A/T	
		ABS	
		AIR BAG	
	ENGINE	всм	
	START (NISSAN BASED VHCL)	METER A/C AMP	
	START (RENAULT BASED VHCL)	mererovo / mi	
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C 2. AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II.

(Example)	SELECT DIAG MODE	SELF-DIAG RESULTS
(	WORK SUPPORT	DTC RESULTS TIME
	SELF-DIAG RESULTS	
	DATA MONITOR	
	DATA MONITOR (SPEC)	
	CAN DIAG SUPPORT MNTR	
	ACTIVE TEST	
		F.F.DATA
	Scroll Down	ERASE PRINT
	BACK LIGHT COPY	MODE BACK LIGHT COPY

Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/ 3. C AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II.



Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put 4. marks onto the items with "No indication", "NG", or "UNKWN" in the check sheet table.

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis	· · · · · · · · · · · · · · · · · · ·		·····
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN		UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN		· ·			UNKWN		

#### NOTE:

 If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

## LAN-255

- The "CAN DIAG SUPPORT MNTR" items which are not in check sheet table are not related to diagnostic procedure on service manual. Therefore, it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.
- 5. Check CAN communication line of the navigation system.
- 6. Mark the "NG" or "UNKWN" item of the check sheet table from the result of CAN DIAG SUPPORT MONI-TOR check sheet.

NOTE:

If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

7. According to the Check Sheet Results, start inspection.

## CHECK SHEET

#### Check sheet table

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM ecroen	Initial	Transmit				Receive	diagnosis			
5666010101	LIVI BUILLEIT	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	*	*	UNKWN		~	UNKWN	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-

#### Symptoms:

Attach copy of	Attach copy of
SELECT SYSTEM	SELECT SYSTEM

Attach copy of display unit CAN DIAG MONITOR check sheet [CAN]

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# CHECK SHEET RESULTS Case 1

Replace ECM.

						CAN DIAG S	SUPPORT MNTR				
SELECT SVOT	EM coroon	Initial	Transmit				Receive	diagnosis			
SELECTOR	LW SCIEGH	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		V	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-		UNKWN		-	UNKWN	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-		UNKWN		-

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Receive	diagnosis			
GELEOTOTOT	LW JOIGUN	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABŞ	IPDM E/R
ENGINE		NG	UNKWN		UNITAVN		UNKWN		UNIT WIN	UNIWN	UNIOWN
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN		UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication	1	UNKWN	UNKWN					UNKWN		

## Case 2

Replace TCM.

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EMuaroon	Initial	Transmit				Receive	diagnosis			
SELECTOR	LW SCIEGH	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNIKAVN		UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION		$\checkmark$	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC
METER A/C AMP	No indication		UNKWN	UNKWN	UNKOVN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN		UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNIOWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive METER/ M&A	diagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION		NG	UNKWN	UNIKWN			UNITAN	· · · · ·		UNIT	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

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## Case 3

Replace display control unit.

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive METER/ M&A	diagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	CAA MM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN		· ·	UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKŴN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN		· ·	· ·		UNKWN	[	[

						CAN UIAG S	Beceive -	diagnosis			
SELECT SYST	EM screen	lnitial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN IRC 3	-	-	C/N IRC 5	-	CAN AIRC 2	-	CAN LIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKŴN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		[

## Case 4

Replace BCM.

						CAN DIAG \$	SUPPORT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Receive of	fiagnosis	· · · · · · · · · · · · · · · · · · ·		·····
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNIT			UNIWN				LINKWIN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKŴN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

				r		CAN DIAG S	SUPPORT MNTR	for some softe			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNK₩N	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	V	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN		UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN		1. A.	UNKWN	1.0		
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

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#### Case 5

Replace unified meter and A/C amp.

						CAN DIAG	SUPPORT MNTR	dia an esie			
SELECT SYST	FEM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKOVN	UNIOWN	UNION			UNITAN	<b>UNIV</b> N	LINKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS	1.1	NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

#### Case 6

Replace driver seat control unit.

						CAN DIAG S	SUPPORT MNTR				
SELECT OVET	<b>CM</b>	Indiat	Terrandi				Receive -	diagnosis			
GELEOT STOT	LW SCIEGH	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN		· ·	UNKWN				UNKWN
AUTO DRIVE POS.	No indication	V	UNKWN	-	UNKWN	-	UNKWN		UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		1

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	FM screen	Initial	Tracemil				Receive	diagnosis			
GELEOTOTOT	LIM JOIGUN	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKOVN	-	UNKAN	-	UNKAN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		[

## Case 7

Replace ABS actuator and electric unit (control unit).

						CAN DIAG S	SUPPORT MNTR	temosic			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKAN	UNKWN
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKVN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNK₩N	UNKWN			UNKWN	UNKON	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN		UNKWN	-	-
ABS		<b>V</b>	UNKWN	UNKWN	UNKWN		1. A. A.	UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

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				1		CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial	Transmit			r · · · · · · · · · · · · · · · · · · ·	Receive c	liagnosis	r		· · · · · · · · · · · · · · · · · · ·
		diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNK₩N
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC /
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKŴN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKAN	UNKON			UNKIN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

### Case 8

Replace IPDM E/R.

						CAN DIAG 5	SUPPORT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	•	NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION		NG	UNKWN	UNKWN		· ·	UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN	· ·	· ·	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN		· · · ·	UNKWN	· ·			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKAN					UNKAN		

### Case 9

Check harness between TCM and data link connector. Refer to  $\underline{\mathsf{LAN-267}}$  .

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Receive c	diagnosis			
GELLOTOTOT	LIN SOLGEN	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE	•	NG	UNKWN		UNKWN		UNKOWN	· ·	UNKAN	UNKYN	UNKVN
TRANSMISSION	•	NG	UNKWN	UNKŴN	I		UNKVIN	•		UNKOW	
Display control unit	-	CAN COMM	CAN CIRC 1	CANCRE 3	I	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKAN	UNKYN	UNKWN		· ·	UNKWN	UNKWN	UNKŴN
BCM	No indication	NG	UNKWN	UNKAN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKON		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKAN	UNKON			UNKWN			
IPDM E/R	No indication		UNKWN	UNKAN				· ·	UNKWN		

### Case 10

#### Check harness between data link connector and driver seat control unit. Refer to LAN-267 .

						CAN DIAG 3	Receive	fiagnosis			
SELECT SYS	EM screen	lnitial diagnosis	Transmit diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	UNKAN	UNKAN
TRANSMISSION	-	NG	UNKWN	UNKWN	-		UNKWN	-	-	UNKAN	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-		CAN CIRC 5	-	CAN CIRC 2	-	CANORC 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKOVN	UNKAN
BCM	No indication	NG	UNKWN	UNKWN	-		UNKWN	-	-	-	UNKIVIN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKAN	UNKOWN	-	-	UNKOWN	-	-	-
IPDM E/R	No inclusion		UNKWN	UNKWN	-			-	UNKWN	-	-

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#### Case 11

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>A</u><u>LAN-268</u>.



### Case 12

Check ECM circuit. Refer to LAN-268 .

						CAN DIAG 3	SUPPORT MNTR				
SELECT SYST	EM person	Initial	Transmit				Receive	diagnosis			
SELECT STOL	EW Screen	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE		NG	UNKOWN		UNKIN	· ·	UNKON		UNKIN	UNKOWN	UNKAYN
TRANSMISSION		NG	UNKWN	UNKAN			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CANCERC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC
METER A/C AMP	No indication		UNKWN	UNKAN	UNK₩N	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKAN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKAN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKIN					UNKWN		

#### Case 13

Check TCM circuit. Refer to LAN-269 .

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	Receive METER/ M&A	diagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKOWN		UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION		NG	UNKAN	UNKOWN		· ·	UNKVN			UNKVN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC
METER A/C AMP	No indication		UNKWN	UNKWN	UNKYIN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKAN	-	UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKAN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

#### Case 14

Check display control unit circuit. Refer to LAN-269 .

			-			CAN UIAG	SUPPORT MNTR Receive 4	diagnosis			
SELECT SYS	EM screen	lnitial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN	· · ·	UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CANCERC 1	CANCRE 3	-	-	CANORC 5	-	CANORC 2	-	CANORC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN		UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

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#### Case 15

Check data link connector circuit. Refer to LAN-270 .

SELECT OVO		Initial	Terreneit			GAN DIAOS	Receive	diagnosis			
SELECT STS	LWISCIEGH	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN	· · ·	UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION		NG	UNKWN	UNK₩N		· ·	UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN		UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN		1. A.	UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

#### Case 16

Check BCM circuit. Refer to LAN-270.

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive METER/ M&A	tiagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKAN	UNKWN	UNKŴN
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN ORC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKAN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKOVN	-	-
ABS		NG	UNKWN	UNKWN	UNKŴN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKAN		

### Case 17

Check unified meter and A/C amp. circuit. Refer to LAN-271 .

			CAN UIAG SUPPORT MINTR										
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R		
ENGINE		NG	UNKWN		UNKWN		UNKOWN		UNKWN	UNKWN	UNKŴN		
TRANSMISSION		NG	UNKWN	UNK₩N			UNKAN			UNKWN			
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CANCRO 5	-	CAN CIRC 2	-	CAN CIRC 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN	· .		UNKWN	UNKWN	UNKWN		
BCM	No indication	NG	UNKWN	UNKWN			UNKAN				UNKWN		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKAN	-	UNKWN	-	-		
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN				

### Case 18

Check steering angle sensor circuit. Refer to LAN-271 .

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	diagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN		UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKIN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

Revision: June 2004

## [CAN]

#### Case 19

Check driver seat control unit circuit. Refer to LAN-272 .

						CAN DIAG	SUPPORT MNTR				
SELECT SYST	FEM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	diagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	· ·	NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN		1. A.	UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

### Case 20

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-272 .

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Receive	diagnosis			
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKVN	UNKWN
TRANSMISSION		NG	UNKWN	UNKWN			UNKWN			UNKOW	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNK₩N	UNKWN			UNKWN	UNKIN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN		UNKWN	-	-
ABS		NG	UNKAN	UNKAN	UNKOWN			UNKON			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

#### WKIA2524E

WKIA2525E

#### Case 21

Check IPDM E/R circuit. Refer to LAN-273 .

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive	diagnosis STRG	BCM/SEC	VDC/TCS/	IPDM E/R
FNGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKAN
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN	•••••
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CANORC
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKIN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKUN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS	1.0	NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		1

### Case 22

Check CAN communication circuit. Refer to LAN-274 .

		L	,	,		CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	diagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKON		UNK		UNKOWN		UNKAN	UNKWN	UNKAN
TRANSMISSION		NG	UNKYN	UNKAN		· ·	UNKAN			UNKAN	
Display control unit	-	CAN COMM	CANCRE 1	CANCRE 3	-	-	CANCRO 5	-	CAN ORC 2	-	CAN ORC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKAN	UNKAN	UNKON			UNK			
IPDM E/R	No indication		UNKWN	UNKWN			· ·		UNKWN		

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## Case 23

Check IPDM E/R Ignition relay circuit. Refer to  $\underline{\text{LAN-274}}$  .

						CAN DIAG S	SUPPORT MNTR	diagnosis			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION		NG	UNKWN	UNKAN			UNKOVN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN		UNKWN	-	-
ABS		NG	UNKWN	UNKAN	UNKWN			UNKON			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		[

			CAN DIAG SUPPORT MNTR										
SELECT SYST	EM screen	Initial	Transmit				Receive (	diagnosis	· . · · · · · · · · · · · · · · · · · ·		·····		
		diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R		
ENGINE		NG	UNKWN		UNKAN		UNKWN		UNKWN	UNKWN	UNK₩N		
TRANSMISSION		NG	UNKWN	UNK₩N			UNKWN			UNKWN			
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3		-	CAN CIRC 5	-	CAN CIRC 2		CAN CIRC /		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKON	UNKWN	· ·		UNKWN	UNKIN	UNKŴN		
BCM	No indication	NG	UNKWN	UNKWN		· ·	UNKWN				UNK₩N		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKAN		UNKWN	-	UNKWN	-	-		
ABS		NG	UNKWN	UNKWN	UNKŴN			UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN		· ·	·		UNKWN	[	[		

		CAN SYSTEM (TYPE 11	) [CAN]
Circu 1. co	it Check Between T	CM and Data Link Connec	tor eksooa2s
1. Tu 2. Dis 3. Dis	rn ignition switch OFF. sconnect the negative batt sconnect TCM connector F	ery terminal. 56 and ECM connector M82.	damage
OK or OK NG	NG >> GO TO 2. >> Repair or replace as	necessary.	danage.
2. сн	IECK HARNESS FOR OP	EN CIRCUIT	
Check and da	continuity between TCM c ta link connector M22 term	connector F56 terminals 5 (L), 6 (Y) hinals 6 (L), 14 (Y).	
OK or	5 (L) - 6 (L) 6 (Y) - 14 (Y) N <u>G</u>	: Continuity should exist. : Continuity should exist.	TCM connector
OK NG	<ul> <li>&gt;&gt; Connect all connect <u>LAN-255, "Work Flow</u></li> <li>&gt;&gt; Repair harness.</li> </ul>	ors and diagnose again. Refer to <u>v"</u> .	
Circu 1. co	it Check Between I	Driver Seat Control Unit and	d Data Link Connector eksooA2T
<ol> <li>Tu</li> <li>Dis</li> <li>Dis</li> <li>Dis</li> <li>Ch</li> </ol>	rn ignition switch OFF. sconnect the negative bath sconnect driver seat contro neck the terminals for defor	ery terminal. I unit connector P2 and ECM connec mation, disconnection, looseness or	ctor M82. damage.
<u>OK or</u> OK NG	<u>NG</u> >> GO TO 2. >> Repair or replace as	necessary.	L
2. сн	IECK HARNESS FOR OP	EN CIRCUIT	
Check minals 14 (Y).	continuity between driver 3 (BR), 19 (Y/G) and data	seat control unit connector P2 ter- link connector M22 terminals 6 (L),	Driver seat control unit connector
	19 (Y/G) - 14 (Y)	: Continuity should exist.	$\begin{array}{c c} 3, 19 \\ \hline \\ 1 \\ \hline \\ 1 \\ \hline \\ 1 \\ \hline \\ 14 \\ 14$
<u>OK or</u> OK NG	NG >> Connect all connect <u>LAN-255</u> . >> Repair harness.	ors and diagnose again. Refer to	

WKIA0428E

#### **Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric** Unit (Control Unit) EKS00A2U

## 1. CONNECTOR INSPECTION

[CAN]

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Disconnect driver seat control unit connector P2, ABS actuator and electric unit (control unit) connector 3. E125 and ECM connector M82.
- Check the terminals for deformation, disconnection, looseness or damage. 4.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between driver seat control unit connector P2 terminals 3 (BR), 19 (Y/G) and ABS actuator and electric unit (control unit) connector E125 terminals 7 (L), 9 (Y).

> 3 (BR) - 7 (L) 19 (Y/G) - 9 (Y)

: Continuity should exist. : Continuity should exist.

#### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-255.
- NG >> Repair harness.



## **ECM Circuit Check**

## **1. CONNECTOR INSPECTION**

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

EKS00A2V



- 3. Disconnect display control unit connector M95.
- 4. Check the terminals for deformation, disconnection, looseness or damage.
- OK or NG
- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

Check resistance between display control unit connector M95 terminal 25 (L) and terminal 26 (Y).

: **Approx. 54 - 66**Ω

OK or NG

- OK >> Replace display control unit.
- NG >> Repair harness between display control unit connector M95 and data link connector M22.



## Data Link Connector Circuit Check

## **1.** CONNECTOR INSPECTION

EKS00A2Y

[CAN]

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check data link connector M22 terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminal 6 (L) and terminal 14 (Y).

#### 6 (L) - 14 (Y)

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-255.
- NG >> Repair harness between data link connector M22 and BCM connector M18.



## **BCM Circuit Check**

### **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect BCM connector M18.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

EKS00A2Z

Check resistance between BCM connector M18 terminal 39 (L) and terminal 40 (Y).

#### 39 (L) - 40 (Y)

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Replace BCM.
- NG >> Repair harness between BCM connector M18 and data link connector M22.



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## Unified Meter and A/C Amp. Circuit Check

## **1.** CONNECTOR INSPECTION

 1. Turn ignition switch OFF.
 F

 2. Disconnect the negative battery terminal.
 F

 3. Disconnect unified meter and A/C amp. connector M49.
 F

 4. Check the terminals for deformation, disconnection, looseness or damage.
 G

 OK or NG
 OK

 OK
 >> GO TO 2.

 NG
 >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between unified meter and A/C amp. connector M49 terminal 1 (L) and terminal 11 (Y).

**1 (L) - 11 (Y)** : Approx. 54 - 66Ω

#### OK or NG

OK >> Replace unified meter and A/C amp.

NG >> Repair harness between unified meter and A/C amp. connector M49 and data link connector M22.



## Steering Angle Sensor Circuit Check

### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect steering angle sensor connector M47.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

Check resistance between steering angle sensor connector M47 terminal 4 (L) and terminal 5 (Y).

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Replace steering angle sensor.
- NG >> Repair harness between steering angle sensor connector M47 and data link connector M22.



## **Driver Seat Control Unit Circuit Check**

### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect driver seat control unit connector P2.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between driver seat control unit connector P2 terminal 3 (BR) and terminal 19 (Y/G).

3 (BR) - 19 (Y/G)

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Replace driver seat control unit.
- NG >> Repair harness between driver seat control unit connector P2 and data link connector M22.



## ABS Actuator and Electric Unit (Control Unit) Circuit Check 1. CONNECTOR INSPECTION

EKS00A33

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ABS actuator and electric unit (control unit) connector E125.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

EKS00A32

Check resistance between ABS actuator and electric unit (control unit) connector E125 terminal 7 (L) and terminal 9 (Y).

#### 7 (L) - 9 (Y)

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) connector E125 and IPDM E/R connector E121.



[CAN]

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## **IPDM E/R Circuit Check**

### **1. CONNECTOR INSPECTION**

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect IPDM E/R connector E121.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (Y).

48 (L) - 49 (Y)

: Approx. 108 - 132 $\Omega$ 

#### OK or NG

OK >> Replace IPDM E/R.

NG >> Repair harness between IPDM E/R connector E121 and ABS actuator and electric unit (control unit) connector E125.





## **CAN Communication Circuit Check**

## **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
- ECM
- TCM (Transmission control module)
- Display control unit
- BCM (Body control module)
- Unified meter and A/C amp.
- Steering angle sensor
- Driver seat control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R (Intelligent power distribution module engine room)

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR SHORTED CIRCUITS

With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (L) and 14 (Y).

6 (L) - 14 (Y)

: Continuity should not exist.

#### OK or NG

OK >> GO TO 3.

NG >> Repair the harness.



## 3. check harness for short to ground

Check continuity between data link connector M22 terminals 6 (L), 14 (Y) and ground.

- 6 (L) Ground
- 14 (Y) Ground

: Continuity should not exist. : Continuity should not exist.

```
OK or NG
```

- OK >> Check ECM and IPDM E/R. Refer to <u>LAN-275, "Component Inspection"</u>.
- NG >> Repair the harness.



## **IPDM E/R Ignition Relay Circuit Check**

Check the following. If no problem is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to <u>PG-24</u>, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-11</u>, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/ <u>OR START</u>".

EKS00A36

## Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.

**94 - 86** : Approx. 108 - 132Ω

• Check resistance between IPDM E/R terminals 48 and 49.

48 - 49

 : Approx. 108 - 132Ω
 ECM and IPDM E/R

 // E/R terminals 48 and 49.
 Image: Comparison of the second seco

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## **System Description**

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

## **Component Parts and Harness Connector Location**



EKS00A25

EKS00A26



WKWA0468E

Schematic

EKS00A28

LAN-CAN-34

: DATA LINE



1 2 3 4 5 6 7 8 9 10 11 F59 12 13 14 15 16 17 18 19 20 21 22 23 24 W REFER TO THE FOLLOWING. (M82), (F56) - ELECTRICAL UNITS

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REFER TO THE FOLLOWING. (M18) - ELECTRICAL UNITS

BKWA0232E

16 15 14 13 12 11 10 9

8 7 6 5 4 3 2 1

 1
 2
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 4
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 6
 7
 8
 9
 10

 11
 12
 13
 14
 15
 16
 17
 18
 19
 20

7 8 9 10

M22

W

M49 GR

3 2 1 M47 8 7 6 5 4 W

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### **Work Flow**

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1. When there are no indications of "TRANSMISSION", "BCM", "IPDM E/R" or "METER A/C AMP" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)	NISSAN	SELECT SYSTEM	
		ENGINE	
	CONSULT- II	A/T	
		ABS	
		AIR BAG	
	ENGINE	BCM	
	START (NISSAN BASED VHCL)	METER A/C AMP	
	START (RENAULT BASED VHCL)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

2. Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "IPDM E/R" and "ABS" displayed on CONSULT-II.

(Example)	SELECT DIAG MODE		SELF-DIAG	RESUL	TS	
()	WORK SUPPORT		DTC RESUL	TS	TIME	
	SELF-DIAG RESULTS	C.	AN COMM CI	RCUIT	0	
	DATA MONITOR		(01000)			
	DATA MONITOR (SPEC)					
	CAN DIAG SUPPORT MNTR					
	ACTIVE TEST					
				F.	F.DATA	
	Scroll Down		ERASE	PR	NT	
	BACK LIGHT COPY	МС	ODE BACK	LIGHT	COPY	PKIA8260F

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/ C AMP", "IPDM E/R" and "ABS" displayed on CONSULT-II.



4. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks onto the items with "No indication", "NG", or "UNKWN" in the check sheet table.

					CAL	V DIAG SUPPOR	TMNTR			
SHLECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	FCM	1CM	DISPLAY	ME1ER/ M&A	S BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit		CAN COMM	CAN 1	CAN 3	· ·		CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

#### NOTE:

• If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

## LAN-281

- The "CAN DIAG SUPPORT MNTR" items which are not in check sheet table are not related to diagnostic procedure on service manual.
   Therefore, it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.
- 5. Mark the "NG" or "UNKWN" item of the check sheet table from the result of CAN DIAG SUPPORT MONI-TOR check sheet.

### NOTE:

If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

6. According to the Check Sheet Results, start inspection.

## **CHECK SHEET**

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#### Check sheet table

Symptoms:

					CA	N DIAG SUPPOR	T MNTR			
SELECT SVST	TEM ecroop	Initial	Transmit				Receive diagnosi	s		
OLLUT STOL	I LIW SCIECT	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	+	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	*		UNKWN
ABS	-	NG	UNKWN	UNKWN	-	-	-	+	+	-
IPDM E/R	No indication	+	UNKWN	UNKWN	-	-	-	UNKWN	+	-

Attach copy of SELECT SYSTEM	Attach copy of SELECT SYSTEM

Attach copy of display unit CAN DIAG MONITOR check sheet

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### CHECK SHEET RESULTS Case 1

Replace ECM.

					CAN	I DIAG SUPPOR	T MNTR			
CELECT EVE	EM aaroon	Initial	Troppedit				Receive diagnosi	8		
SELECT STS	ENISCIGEN	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/
ENGINE	-	V	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-		UNKWN	-	-	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWI
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWI
ABS	-	NG	UNKWN	UNKWN		-	-	-		
IPDM E/R	No indication		UNKWN	UNKWN	-	-	-	UNKWN		-

					CAN	I DIAG SUPPOR	TMNTR			
SULCO SVSI	LM coroon	Initial	Tranemit			1	Receive diagnosis	\$		
361,661 3131	remiscreen	diagnosis	diagnosis	ECM	1CM	DISP! AY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNK₩N	-	UNITAN	-	UNIT	UNIWN	-	UNIWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

## Case 2

Replace TCM.

					CAL	I DIAG SUPPOR	T MNTR			
SULCO SVS	LEM coroon	Initial	Tranemit				Receive diagnosi	s		
51, 51 51 51 51 51 51	n wisciddi	diagnosis	diagnosis	FCM	1CM	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKW
TRANSMISSION	No indication	NG	UNKWN	UNKWN		-	UNI WN	-	-	-
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKW
BCM	No indication	NG	UNKWN	UNKWN		· ·	UNKWN			UNKW
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

Receive diagnose         Receive diagnose           Initial diagnose         Transmit diagnose         Transmit diagnose         Receive diagnose         Receiv				CAN DIAG SUPPORT MNTR								
Bit Ref Direct	SELECTIONS	I FM ecroon	Initial	Tranemit				Receive diagnosis				
ENGINE         ···<	012,01010	n waardan	diagnosis	diagnosis	ECM	TCM	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R	
TRANSMISSION         No indication         Vert         UNKWN         UNKWN         I         UNKWN         I         I           Display.unith         C.CAM         CAN	ENGINE	-	NG	UNKWN	-	UNITAVN	-	UNKWN	UNKWN	-	UNKWN	
Dsplay unity         CAN CAN No indication         CAN CAN CAN         CAN CAN CAN         CAN CAN CAN CAN         CAN CAN CAN CAN CAN CAN CAN CAN CAN CAN	TRANSMISSION	No indication	V	UNKWN	UNKWN	-	-	UNKWN	-	-	-	
MF FE R AC AMP         No. indication         UN         UNKWN         UNKWN </td <td>Display unit</td> <td></td> <td>CAN COMM</td> <td>CAN 1</td> <td>CAN 3</td> <td></td> <td></td> <td>CAN 5</td> <td>CAN 2</td> <td></td> <td>CAN 7</td>	Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7	
RCM         No. indication         NC         UNKWN         UNKWN         I.         UNKWN         I.         UNKWN           ABS         I.         M.         UNKWN         I.	METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN	
ABS         .         NC         UNKWN         UNKWN         . <t< td=""><td>BCM</td><td>No indication</td><td>NG</td><td>UNKWN</td><td>UNKWN</td><td>· · · · ·</td><td></td><td>UNKWN</td><td></td><td></td><td>UNKWN</td></t<>	BCM	No indication	NG	UNKWN	UNKWN	· · · · ·		UNKWN			UNKWN	
IPDM E/R         No indication         -         UNKWN         -         -         UNKWN         -	ABS		NG	UNKWN	UNKWN							
	IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-	

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### Case 3

Replace display unit.

					CAL	I DIAG SUPPOR	T MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive diagnosi	s		
		diagnosis	diagnosis	÷см	1CM	DISPLAY	METER/ M&A	8CM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit		CAX MM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

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					CAL	N DIAG SUPPOR	REMINER .			
SELECT SYS	IEM screen	Initial diagnosis	⊺ransmit diagnosis	FCM	1CM	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit		CAN COMM	CAN 1	<b>\$4</b> <sup>3</sup>			CA 5	<b>\$</b> 412		<b>1</b> 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN		· ·	UNKWN			UNKWN
ABS	· ·	NG	UNKWN	UNKWN		· ·	· · ·			
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

## Case 4

Replace BCM.

				CAN DIAG SUPPORT MNTR								
SELECT SYS	IEM screen	Initial	Transmit		Receive diagnosis							
		diagnosis	diagnosis	ECM	1CM	DISPLAY	METER/ M&A	BCM/SEC	ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-		
Display unit		CAN COMM	CAN 1	CAN 3	· ·		CAN 5	CAN 2		CAN 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN		
BCM	No indication	NG	UNKWN	UNI WN		· ·	UNITAN			HNI WN		
ABS		NG	UNKWN	UNKWN		· ·						
IPDM E/R	No indication	-	UNKWN	UNKWN		-	-	UNKWN	-	-		

				1	CAN DIAG SUPPORT MNTR Receive diseposis								
SELECT SYS	IEM screen	Initial diagnosis	⊺ransmit diagnosis	FCM	1CM	DISP  AY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R			
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN		-	UNKWN	-	-	-			
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7			
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN			
BCM	No indication	V	UNKWN	UNKWN		· ·	UNKWN			UNKWN			
ABS		NG	UNKWN	UNKWN									
IPDM E/R	No indication	-	UNKWN	UNKWN		-	-	UNKWN	-	-			

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#### Case 5

Replace unified meter and A/C amp.



### Case 6

Replace ABS actuator and electric unit (control unit).

			CAN DIAG SUPPORT MNTR												
PLUCCLEVE	( Mannan	Initial	Transmit	Receive diagnosis											
56,561 5151	ewsciedi	diagnosis	diagnosis	ECM	1CM	DISP  AY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R					
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN					
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-					
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7					
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNITON	UNKWN					
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN					
ABS		V	UNKWN	UNKWN											
IPDM E/R	No indication	-	UNKWN	UNKWN		-	-	UNKWN	-	-					

					CAN	N DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	1CM	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
ABS		NG	UNKWN	UNISAN			· ·			
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

### Case 7

Replace IPDM E/R.

					CAL	I DIAG SUPPOR	T MNTR						
SELECT SYST	EM screen	Initial	Transmit		Receive diagnosis								
		diagnosis	diagnosis	ECM	1CM	DISP  AY	METER/ M&A	8CM/SEC	VDC/TCS/ ABS	IPDM E/R			
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-			
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7			
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN			
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN			
ABS		NG	UNKWN	UNKWN									
IPDM E/R	No indication	-	UNKWN	UNHWN	-	-	-	UNION	-	-			

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#### Case 8

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Check harness between TCM and data link connector. Refer to LAN-292 .

SFLECT SYSTEM screen         Initial diagnosity         Transmit diagnosity         FCM         ICM         DISPLAY         Mit I-FV MAX         BCMMSEC         VUD/CSS/ ABS         UPI/MEP           ENGINE         -         NG         UNKWN         -         UNKWN         -         UMW         -         Ref.WN         -						CA	N DIAG SUPPOR	E MINTR Receive diagnosi	s		
ENGINE         -         NG         UNKWN         -         UNKWN         -         UMWN         NM         -         Steven           TRANSMISSION         No         MG         UNKWN         UNKWN         -         -         UNKWN         - <td< th=""><th>SELECT SYS</th><th>IEM screen</th><th>Initial diagnosis</th><th>Transmit diagnosis</th><th>ECM</th><th>1CM</th><th>DISP  AY</th><th>METER/ M&amp;A</th><th>BCM/SEC</th><th>VDC/TCS/ ABS</th><th>IPDM E/R</th></td<>	SELECT SYS	IEM screen	Initial diagnosis	Transmit diagnosis	ECM	1CM	DISP  AY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
TRANSMISSION         Notified         NG         UNKVN         UNKVN         -         -         UNKVN         -         <	ENGINE		NG	UNKWN	-	UNKWN	-	UNIOWN	<b>WWWN</b>	-	www.
Display unit         CAN COMM         CAN 1         V3 3         CAN 5         CAN 2         CAN 7           MF-TER AC AMP         No indication         UNKVIN	TRANSMISSION	Notorication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
ME-FER-A/CAMP         No-indication         UNKWN         UNKWN<	Display unit		CAN COMM	CAN 1	<b>\$</b> 413			CAN 5	CAN 2		CAN 7
BCM         No indication         NC         UNKWN         UNKWN         UNKWN         UNKWN         UNKWN           ABS         NC         UNKWN	METER A/C AMP	No indication		UNKWN	UNI WN	UNKWN	UNK₩N		UNKWN	UNKWN	UNKWN
ABS NG UNKWN UNWWN · · · ·	BCM	No indication	NG	UNKWN	UNIWN			UNKWN			UNKWN
	ABS		NG	UNKWN	UNIWN						
IPDM E/R         No indication         -         UNKWN         -         -         -         UNKWN         -	IPDM E/R	No indication	-	UNKWN	UNION	-	-	-	UNKWN	-	-

### Case 9

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-292</u>.

				1	CAI	I DIAG SUPPOR	T MNTR			
SELECT SYS	IEM screen	Initial diagnosis	Transmit diagnosis	(-CM	1CM	DISP  AY	ME1ER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNI WN
TRANSMISSION	No indication	NG	UNKWN	UNKWN		-	UNKWN	-	-	-
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		V17
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNION	UNIT
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNITON
ABS		NG	UNKWN							
IPDM E/R	Notwication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

### Case 10

Check ECM circuit. Refer to LAN-293 .

					CAP	I DIAG SUPPOR	EMNTR Possive disense			
SFILECT SYSTEM screen		Initial diagnosis	Transmit diagnosis	ECM	1CM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNIWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNIWN	-	-	UNKWN	-	-	-
Display unit		CAN COMM	CAN 1	<b>₩</b> 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKŴN	UNIWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNION			UNKWN			UNKWN
ABS		NG	UNKWN	UNION						
IPDM E/R	No indication	-	UNKWN	UNION	-	-	-	UNKWN	-	-

#### Case 11

Check TCM circuit. Refer to LAN-294 .

our at two		1-14-1	X		Roceive diagnosis									
SELECTOR	EM screen	diagnosis	diagnosis	ECM	1CM	DISPI AY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R				
ENGINE	-	NG	UNKWN	-	UNION		UNKWN	UNKWN		UNKWN				
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-				
Display unit		CAN COMM	CAN 1	CAN 3		· · ·	CAN 5	CAN 2		CAN 7				
METER A/C AMP	No indication		UNKWN	UNKWN	UNITION	UNKWN	· · · · ·	UNKWN	UNKWN	UNKWN				
BCM	No indication	NG	UNKWN	UNKWN		· · · · · · · · · · · · · · · · · · ·	UNKWN		1	UNKWN				
ABS		NG	UNKWN	UNKWN		· · · · · · · · · · · · · · · · · · ·			1					
IPDM E/R	No indication	- 1	UNKWN	UNKWN		-	- '	UNKWN	-	-				

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#### Case 12

Check display unit circuit. Refer to LAN-294 .

			GAN DIAG SUPPORT MAILE								
SFILEC1 SYSTEM screen		Initial diagnosis	⊺ransmit diagnosis	FCM	1CM	DISP  AY	METER/ M&A	S BCM/SEC	VDC/TCS/ ABS	IPDM E/R	
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-	
Display unit		CAN COMM	<b>1</b>	<b>\$</b>			<b>\$</b> 4 <sup>5</sup>	<b>\$</b> 412		<b>\$</b> 17	
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNIOWN	· · ·	UNKWN	UNKWN	UNKWN	
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN	
ABS		NG	UNKWN	UNKWN			· · ·				
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-	

#### Case 13

Check data link connector circuit. Refer to LAN-295 .

					CAN	I DIAG SUPPOR	T MNTR			
SLICCIEVE	LEM coroon	Initial	Iraacmit				Receive diagnosi	s		
51,, 61 515	ne wrachodri	diagnosis	diagnosis	ECM	1CM	DISP  AY	METER/ M&A	8CM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	UNKWN
TRANSMISSION	Noticication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No no cation	NG	UNKWN	UNKWN			UNKWN			UNKWN
ABS		NG	UNKWN	UNKWN						
IPDM E/R	Noted	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

#### Case 14

Check BCM circuit. Refer to LAN-295 .

					CAL	N DIAG SUPPOR	RT MNTR			
SLICCIEVE	LEM coroon	Initial	Tranemit				Receive diagnos	s		
5FLEGT 515	rewisciedi	diagnosis	diagnosis	ECM	1CM	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/F
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNIOWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN		-	UNKWN	-	-	-
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	<b>V</b> 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNITOWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	· ·	· ·	UNKWN			UNKWN
ABS		NG	UNKWN	UNKWN	· ·	· ·	· ·			
IPDM E/R	No indication	-	UNKWN	UNKWN		-	-	UNIKWN	-	-

#### Case 15

Check unified meter and A/C amp. circuit. Refer to LAN-296 .

					CAL	N DIAG SUPPOR	T MNTR Receive disense	e		
SELECT SYS	EM screen	Initial diagnosis	Transmit diagnosis	ECM	1CM	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNIWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN		-	UNIWN	-	-	-
Display unit		CAN COMM	CAN 1	CAN 3			\$4 <sup>5</sup>	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNITON			UNKWN
ABS		NG	UNKWN	UNKWN	· ·	· ·				
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

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Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-296 .

					CAN	I DIAG SUPPOR	TMNTR			
SELECT SYS	IEM screen	Initial diagnosis	Transmit diagnosis	FCM	1CM	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN	· .	UNKWN	UNIOWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN		· ·	UNKWN			UNKWN
ABS		NG	UNKIN	UNIWN						
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-
	1					1	1			

#### Case 17

Check IPDM E/R circuit. Refer to LAN-297.

					CAN	I DIAG SUPPOR	T MNTR				
SELECTIONS	EMecroop	Initial	Tracemit	Receive diagnosis							
511, 61 5151	( wisciden	diagnosis	diagnosis	FCM	1CM	DISPLAY	METER/ M&A	8CM/SEC	VDC/TCS/ ABS	IPDM E/R	
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNIWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-	
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		<b>1</b> 7	
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNITAVN	
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNITAVN	
ABS		NG	UNKWN	UNKWN							
IPDM E/R	Notication	-	UNKWN	UNKWN		-	-	UNKWN	-	-	

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#### Case 18

Check CAN communication circuit. Refer to LAN-297 .



#### Case 19

Check IPDM E/R Ignition relay circuit. Refer to LAN-298 .

					CA	N DIAG SUPPOR	T MNTR Receive diagnosi	s		
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	1CM	DISP  AY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNIWN	-	-	UNITAN	-	-	-
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN		· ·	UNKWN			UNKWN
ABS		NG	UNKWN	UNITAR						
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

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					CAN	I DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive diagnosi	s	10000000	
		diagnosis	diagnosis	€CM	1CM	DISP! AY	METER/ M&A	BCM/SEC	ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKAVN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKOWN	UNKWN	· ·	UNKWN	UNIWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
ABS		NG	UNKWN	UNKWN			· ·			
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

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# Circuit Check Between TCM and Data Link Connector

### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect TCM connector F56 and ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between TCM connector F56 terminals 3 (L), 4 (Y) and data link connector M22 terminals 6 (L), 14 (Y).

3 (L) - 6 (L) 4 (Y) - 14 (Y) : Continuity should exist. : Continuity should exist.

#### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-281, "Work Flow".
- NG >> Repair harness.



### Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)

### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ABS actuator and electric unit (control unit) connector E125 and ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

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# TCM Circuit Check

### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect TCM connector F56.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between TCM connector F56 terminal 3 (L) and terminal 4 (Y).

#### 3 (L) - 4 (Y)

: **Approx. 54 - 66**Ω

#### OK or NG

- OK >> Replace TCM.
- NG >> Repair harness between TCM connector F56 and ECM connector M82.



### **Display Unit Circuit Check**

### **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect display unit connector M93.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between display unit connector M93 terminal 25 (L) and terminal 26 (Y).

#### 14 (L) - 16 (Y)

: Approx. 54 - 66 $\Omega$ 

#### OK or NG

OK >> Replace display unit.

NG >> Repair harness between display unit connector M93 and data link connector M22.



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	[CAN]
Data Link Connector Circuit Check 1. CONNECTOR INSPECTION	EKS00A2F
<ol> <li>Turn ignition switch OFF.</li> <li>Disconnect the negative battery terminal.</li> <li>Check data link connector M22 terminals for deformation, disconnection, looseness or damage.</li> <li>OK or NG</li> <li>OK &gt;&gt; GO TO 2.</li> <li>NG &gt;&gt; Repair or replace as necessary.</li> </ol>	
2. CHECK HARNESS FOR OPEN CIRCUIT	
Check resistance between data link connector M22 terminal 6 (L) and terminal 14 (Y). 6 (L) - 14 (Y) : Approx. 54 - 66Ω	
$\frac{OK \text{ or NG}}{OK} >> \text{ Connect all connectors and diagnose again. Refer to}$	
NG >> Repair harness between data link connector M22 and BCM connector M18.	
BCM Circuit Check 1. CONNECTOR INSPECTION	PKIA2077E EKS00A2G
1. Turn ignition switch OFF.	
<ol> <li>Disconnect the negative battery terminal.</li> <li>Disconnect BCM connector M18.</li> <li>Check the terminals for deformation, disconnection, looseness or damage.</li> <li>OK or NG</li> </ol>	
OK >> GO TO 2. NG >> Repair or replace as necessary.	
2. CHECK HARNESS FOR OPEN CIRCUIT	
Check resistance between BCM connector M18 terminal 39 (L) and terminal 40 (Y).	
$\begin{array}{c} 39 \text{ (L)} - 40 \text{ (Y)} & : \text{ Approx. 54 - 66} \Omega \\ \hline OK & \text{or NG} \\ OK & \text{or NG} \\ OK & \text{or NG} \\ NG & \text{or Nepair harness between BCM connector M18 and data} \\ \hline ink \text{ connector M22.} \end{array}$	DISCONNECT DISCONNECT H.S.

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### Unified Meter and A/C Amp. Circuit Check

### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect unified meter and A/C amp. connector M49.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between unified meter and A/C amp. connector M49 terminal 1 (L) and terminal 11 (Y).

1 (L) - 11 (Y)

: Approx. 54 - 66 $\Omega$ 

#### OK or NG

- OK >> Replace unified meter and A/C amp.
- NG >> Repair harness between unified meter and A/C amp. connector M49 and data link connector M22.



### ABS Actuator and Electric Unit (Control Unit) Circuit Check

- **1.** CONNECTOR INSPECTION
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ABS actuator and electric unit (control unit) connector E125.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

#### OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ABS actuator and electric unit (control unit) connector E125 terminal 20 (L) and terminal 23 (Y).

#### 20 (L) - 23 (Y)

: Approx. 54 - 66 $\Omega$ 

#### OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) connector E125 and IPDM E/R connector E121.



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EKS00A21

### **IPDM E/R Circuit Check**

### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect IPDM E/R connector E121.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (Y).

48 (L) - 49 (Y)

: Approx. 108 - 132Ω

#### OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R connector E121 and ABS actuator and electric unit (control unit) connector E125.



# **CAN Communication Circuit Check**

- 1. CONNECTOR INSPECTION
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
- ECM
- TCM (Transmission control module)
- Display unit
- BCM (Body control module)
- Unified meter and A/C amp.
- ABS actuator and electric unit (control unit)
- IPDM E/R (Intelligent power distribution module engine room)

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR SHORTED CIRCUITS

With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (L) and 14 (Y).

#### 6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG >> Repair the harness.



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Data link connector

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6, 14

### $\mathbf{3}$ . Check harness for short to ground

Check continuity between data link connector M22 terminals 6 (L), 14 (Y) and ground.

6 (L) - Ground 14 (Y) - Ground

OK or NG

- OK >> Check ECM and IPDM E/R. Refer to LAN-298, "Component Inspection".
- NG >> Repair the harness.

### **IPDM E/R Ignition Relay Circuit Check**

Check the following. If no problem is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-24, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to PG-11, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/ OR START" .

### **Component Inspection** ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.

94 - 86 : Approx. 108 - 132 $\Omega$ 

Check resistance between IPDM E/R terminals 48 and 49.

48 - 49

: Approx. 108 - 132 $\Omega$ 



### : Continuity should not exist. : Continuity should not exist.

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PKIA2079E

Revision: June 2004

### **System Description**

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

### **Component Parts and Harness Connector Location**



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2004 Maxima

LAN-299

### Schematic

EKS00A1N

[CAN]



WKWA0469E



### LAN-CAN-38





### **Work Flow**

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1. When there are no indications of "TRANSMISSION", "METER A/C AMP", "BCM", "IPDM E/R" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)	NISSAN	SELECT SYSTEM	
		ENGINE	
	CONSULT- II	A/T	
		ABS	
		AIR BAG	
	ENGINE	BCM	
	START (NISSAN BASED VHCL)	METER A/C AMP	
	START (RENAULT BASED VHCL)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II.

(Example)	SELECT DIAG MODE	SELF-DIAG RESUL	TS	
	WORK SUPPORT	DTC RESULTS	TIME	
	SELF-DIAG RESULTS	CAN COMM CIRCUIT	0	
	DATA MONITOR			
	DATA MONITOR (SPEC)			
	CAN DIAG SUPPORT MNTR			
	ACTIVE TEST			
		F	.F.DATA	
	Scroll Down	ERASE PR	INT	
	BACK LIGHT COPY	MODE BACK LIGHT	COPY	PKIA8260E

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/ C AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II.



4. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks onto the items with "No indication", "NG", or "UNKWN" in the check sheet table.

					CAI	V DIAG SUPPOR	RT MN FR			
SELECT SYS	EM screen	Initial	Transmit				Receive diagnosi METER/	s	VDC/TCS/	
		diagnosis	ulagriusis	LCM	ICM	DISPLAY	M&A	BCM/SEC	ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

#### NOTE:

• If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

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	<ul> <li>The "CAN DIAG SUPPORT MNTR" items which are not in check sheet table are not related to diagnos- tic procedure on service manual.</li> </ul>	A
	Therefore, it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.	
5.	Mark the "NG" or "UNKWN" item of the check sheet table from the result of CAN DIAG SUPPORT MONI- TOR check sheet.	В
	<b>NOTE:</b> If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.	С
6.	According to the Check Sheet Results, start inspection.	
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### CHECK SHEET

#### Check sheet table

					CA	N DIAG SUPPOR	TMNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive diagnosi	s		
	Lindoloon	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

#### Symptoms:

Attach copy of SELECT SYSTEM	



Attach copy of display unit CAN DIAG MONITOR check sheet

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# [CAN]

Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of TRANSMISSION SELF-DIAG RESULTS	Attach copy of BCM SELF-DIAG RESULTS	Attach copy of METER A/C AMP SELF-DIAG RESULTS	A B C D
Attach copy of ABS SELF-DIAG RESULTS	Attach copy of AUTO DRIVE POS. SELF-DIAG RESULTS	Attach copy of IPDM E/R SELF-DIAG RESULTS		F
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	Attach copy of BCM CAN DIAG SUPPORT MNTR	Attach copy of METER A/C AMP CAN DIAG SUPPORT MNTR	J LA L
Attach copy of ABS CAN DIAG SUPPORT MNTR	Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR	Attach copy of IPDM E/R CAN DIAG SUPPORT MNTR		

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### CHECK SHEET RESULTS Case 1

Replace ECM.

OF FOT OVO		1.26.1	<b>T</b> 4		0/4		Receive diagnosi:	5		
SELECT SYST	ENI SCIEBN	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	V	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-		-	UNKWN	-	

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SELECT SYSTEM screen INGINE RANSMISSION No indicato Display unit METER A/C AMP No indicato CCM No indicato CCM No indicato UTO DRIVE POS No indicato		Initial	Transmit			,	Receivo diagnosi	s		
0000101010		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	· ·	UNIKAVN		UNIONN	UNION		UNION
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN	]		
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN		· ·		UNKWN		[

### Case 2

Replace TCM.

			CAN DIAG SUPPORT MN I'R								
SELECT SYST	EM screen	Initial	Transmit		r · · · · · · · · · · · · · · · · ·	·····	Roceivo diagnosi	s.			
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER M&A	BCM/SEC	ABS	IPDM E/R	
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN	
<b>FRANSMISSION</b>	No indication	NG	UNKWN	UNIONN			UNIWN				
Display unit		CAN COMM	CAN 1	CAN 3	·	· .	CAN 5	CAN 2		CAN 7	
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN	
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-	
ABS		NG	UNKWN	UNKWN							
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN			

					CAI	N DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial	Transmit		· · · · · · · · · · · · · · · · · · ·	······	Roceivo diagnosi:	s 1		
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNITAR		UNKWN	UNKWN		UNKWN
TRANSMISSION	No indication	V.	UNKWN	UNKWN			UNKWN			
Display unif		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNIONN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

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### Case 3

Replace display unit.

					CAL	I DIAG SUPPOR	T MN I R			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ЕСМ	ТСМ	DISPLAY	Receivo diagnosi METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			
Display unif			CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

					CAI	I DIAG SUPPOR	TMNTR			
SELECT SYST	EMiscreen	Initial	Trabsmit				Receive diagnos	s		
SELECTORS	LIVISCIGEN	diagnosis	diagnosis	ECM	тсм	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			
Display unit		CAN COMM	CAN 1	€ <b>4</b> /3	·		<b>\$</b> 415	SA 2		<b>1</b> 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

### Case 4

Replace BCM.

					CA	N DIAG SUPPOR	ET MN FR			
SELECT SYST	EM screen	Initial	Transmil			,	Receivo diagnosi	ş		
SELECT SYSTEM screen IRANSMISSION No indicate Deplay unit METER A/C AMP No indicate BCM No indicate AUTO DRIVE POS No indicate		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	· ·		UNKWN			
Display unif		CAN COMM	CAN 1	CAN 3	· · · · ·		CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNION			UNION			LINIAN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

					CA	N DIAG SUPPOR	REMNER			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	ME1FR/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN	1		-
Display unit		CAN COMM	CAN 1	CAN 3	· · · · ·		CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN	·	UNKWN	UNKWN	UNKWN
всм	No indication	V	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

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Replace unified meter and A/C amp.



#### Case 6

Replace driver seat control unit.

				1	CA	N DIAG SUPPOR	T MNTR Receive diagnosi	e		
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	· ·	UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN		· ·	UNKWN			
Display unif		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	$\checkmark$	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN		· ·		UNKWN		

CAN DIAG SUPPORT MNTR SELECT SYSTEM screen Initial Transmit diagnosis ME1ER M&A VDC/TCS/ ABS diagnosi ECM TCM DISPLAY BCM/SEC IPDM E/R ENGINE NG UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN **FRANSMISSION** NG UNKWN No indication CAN COMM CAN 1 CAN 3 CAN 2 CAN 7 CAN 5 Display unif METER A/C AMP No indication UNKWN UNKWN UNKWN UNKWN UNKWN UNKŴN UNKWN BCM No indication NG UNKWN UNKWN UNKWN UNKWN AUTO DRIVE POS UNKAN No indication NG UNKWN ABS UNKWN UNKWN NG IPDM E/R UNKWN No indication UNKWN UNKWN WKIA2146E

#### Case 7

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Replace ABS actuator and electric unit (control unit).

					CAI	N DIAG SUPPOR	TMNTR			
SELECT SYS	EM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	· ·	UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			
Display unif		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNION	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		$\checkmark$	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

					CA	N DIAG SUPPOR	TMNER			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive diagnosi ME1ER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			
Display unif		CAN COMM	CAN 1	CAN 3	· · · · ·		CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
всм	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	KNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

#### Case 8

Replace IPDM E/R.

					CA	N DIAG SUPPOR	TIMNER			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	Roceivo diagnosi METER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			
Display unit		CAN COMM	CAN 1	CAN 3	·	·	CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	BNUWN				LINIWN		

### Case 9

Check harness between TCM and data link connector. Refer to LAN-316 .

					CAL	N DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial	Transmit			,	Receivo diagnosi	ş		
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNISWN	UNION		KNUKWN
TRANSMISSION	Noncation	NG	UNKWN	UNKWN			UNKWN			
Display unit		CAN COMM	CAN 1	<b>1</b> 3	·	·	CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNIWN	UNIWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	LINI WN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNIWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNIWN						
IPDM E/R	No indication		UNKWN	UNIWN				UNKWN		

#### Case 10

#### Check harness between data link connector and driver seat control unit. Refer to LAN-316 .

					CAI	V DIAG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive diagnosi:	\$		
GELEOT BID	LW SCIEST	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	<b>WWWN</b>
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	<b>V</b> 17
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNIWN	<b>KNUW</b> N
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	<b>KNIK</b> WN
AUTO DRIVE POS.	Notorication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNIWN	-	-	-	-	-	-
IPDM E/R	Notorication	-	UNKWN	UNKWN	-		-	UNKWN	-	

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Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-317</u>.

					CAN	I DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial	Transmit				Receivo diagnosi	s		
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		<b>KNUKWN</b>
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			
Display unif		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		V17
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNIONN	KNIKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			KNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNIWN						
IPDM E/R	Nonscation		UNKWN	UNKWN				UNKWN		[

#### Case 12

Check ECM circuit. Refer to LAN-317.

					CA	N DIAG SUPPOR	T MN FR			
SELECT SYST	EM screen	Initial	Transmil			,	Receivo diagnosi	s		
01110101010		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	· .	UNIT		UNIKAVN	LUN WN		<b>WWWWN</b>
TRANSMISSION	No indication	NG	UNKWN	UNIWN		· ·	UNKWN			
Display unif		CAN COMM	CAN 1	¥3	· · · ·		CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNIWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	LIN WN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNIWN		1.0				
IPDM E/R	No indication		UNKWN	UNIWN				UNKWN		

#### Case 13

Check TCM circuit. Refer to LAN-318.

					CA	N DIAG SUPPOR	TIMNTR Receivo diagnosi	s		
SELECT SYST	LM screen	Initial diagnosis	Trahsmit diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNIKAVN		UNKWN	UNKWN		UNKWN
TRANSMISSION	Noncation	NG	UNKWN	UNKWN			UNKWN	1		
Display unif		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNIONN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

#### Case 14

Check display unit circuit. Refer to LAN-318.

051505010			-		CA	N DIAG SUPPOR	Receive diagnosis	5			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R	
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN	
(RANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN				
Display unit		CAN COMM	ev/1	<b>₩</b> 3			CAL 5	<b>\$</b> 12		CA17	
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNION		UNKWN	UNKWN	UNKWN	
всм	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-	
ABS		NG	UNKWN	UNKWN							
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN			

Check data link connector circuit. Refer to LAN-319.

					CAI	N DIAG SUPPOR	T MN FR			
SELECT SYST	FM screen	Initial	Transmit			, <sup> </sup>	Receivo diagnosi	ş		,
olline to the		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	•	UNKWN		UNKWN	UNKWN		UNKWN
(RANSMISSION	Nonnecation	NG	UNKWN	UNKWN			UNKWN			
Display unit	•	CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	Notection		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	Noncation	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	Notorication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	Nonecation		UNKWN	UNKWN				UNKWN		

#### Case 16

Check BCM circuit. Refer to LAN-319.

					CAI	I DIAG SUPPOR	TMNTR			
SELECT SYST	SELECT SYSTEM screen		Transmit diagnosis	ECM	тсм	DISPLAY	Receive diagnosi METER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNIWN		UNKWN
(RANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	<b>V</b> 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
всм	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNIT	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				LINEAVN		

### Case 17

Check unified meter and A/C amp. circuit. Refer to LAN-320 .

					CAL	V DIAG SUPPOR	T MN FR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	Receive diagnosi METER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/F
ENGINE		NG	UNKWN		UNKWN		UNIWN	UNKWN		UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNION			
Display unit		CAN COMM	CAN 1	CAN 3	·		<b>1</b> 5	CAN 2		CAN 7
METER A/C AMP	Notocation		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNION			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKAVN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

#### Case 18

Check driver seat control unit circuit. Refer to LAN-320 .

			CAN DIAG SUPPORT MNTR										
SELECT SYST	EM screen	Initial	Transmit				Receivo diagnosi:	S					
0000101010101		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R			
ENGINE		NG	UNKWN	•	UNKWN		UNKWN	UNKWN		UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN						
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7			
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN			
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN			
AUTO DRIVE POS.	Notocation	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-			
ABS		NG	UNKWN	UNKWN									
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN					

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Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-321 .

SELECT SYSTEM screen		Initial	Testernit		Receivo diagnosis								
		diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R			
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN						
Display unit		CAN COMM	CAN 1	CAN 3	·		CAN 5	CAN 2		CAN 7			
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNION	UNKWN			
BCM	No indication	NG	UNKWN	UNKWN			UNKWN		-	UNKWN			
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-			
ABS		NG	UNKIN	UNDOWN									
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN					

#### Case 20

Check IPDM E/R circuit. Refer to LAN-321.

			CAN DIAG SUPPORT MN IR										
SELECT SYSTEM screen		Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R			
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN		UNITAN			
<b>FRANSMISSION</b>	No indication	NG	UNKWN	UNKWN			UNKWN						
Display unit		CAN COMM	CAN 1	CAN 3	·		CAN 5	CAN 2		<b>1</b> 7			
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNIT			
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNIT			
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-			
ABS		NG	UNKWN	UNKWN									
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN					

#### Case 21

Check CAN communication circuit. Refer to LAN-322 .



#### Case 22

Check IPDM E/R Ignition relay circuit. Refer to LAN-323 .

			CAN DIAG SUPPORT MN IR										
SELECT SYSTEM screen		Initial	Transmit	Receivo diagnosis									
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	ABS	IPDM E/R			
ENGINE		NG	UNKWN	•	UNKWN		UNKWN	UNKWN		UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNIWN			UNIWN						
Display unit		CAN COMM	CAN 1	CAN 3	·	·	CAN 5	CAN 2		CAN 7			
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN			
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN			
AUTO DRIVE POS.	No indication	NG	UNKWN	•	UNKWN		UNKWN	UNKWN	-	-			
ABS		NG	UNKWN	UNIWN									
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		<b>_</b>			

			CAN DIAG SUPPORT MN FR							
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNIVIN		UNKWN	UNKWN		UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	· · · · ·		UNKWN	1		
Display unif		CAN COMM	CAN 1	CAN 3	· · · ·		CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNIWN	UNKWN		UNKWN	UNION	UNKWN
всм	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNIWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

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# Circuit Check Between TCM and Data Link Connector

### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect TCM connector F56 and ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between TCM connector F56 terminals 3 (L), 4 (Y) and data link connector M22 terminals 6 (L), 14 (Y).

3 (L) - 6 (L) 4 (Y) - 14 (Y) : Continuity should exist. : Continuity should exist.

#### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-304, "Work Flow"
- NG >> Repair harness.



### Circuit Check Between Driver Seat Control Unit and Data Link Connector EKSIDIATR 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect driver seat control unit connector P2 and ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between driver seat control unit connector P2 terminals 3 (BR), 19 (Y/G) and data link connector M22 terminals 6 (L), 14 (Y).

3 (BR) - 6 (L)

19 (Y/G) - 14 (Y)

: Continuity should exist. : Continuity should exist.

#### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to  $\underline{\text{LAN-304}}$ .
- NG >> Repair harness.



EKS00A1Q



### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.
- OK or NG
- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

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### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ECM connector M82 terminal 94 (L) and terminal 86 (Y).

#### 94 (L) - 86 (Y)

: Approx. 108 - 132Ω

#### OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ECM connector M82 and TCM connector F56.



# TCM Circuit Check

### 1. CONNECTOR INSPECTION

EKS00A1U

[CAN]

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect TCM connector F56.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between TCM connector F56 terminal 3 (L) and terminal 4 (Y).

3 (L) - 4 (Y)

: **Approx. 54 - 66**Ω

#### OK or NG

- OK >> Replace TCM.
- NG >> Repair harness between TCM connector F56 and ECM connector M82.



EKS00A1V

# Display Unit Circuit Check

# 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect display unit connector M93.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.



### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between BCM connector M18 terminal 39 (L) and terminal 40 (Y).

#### 39 (L) - 40 (Y)

: Approx. 54 - 66 $\Omega$ 

#### OK or NG

- OK >> Replace BCM.
- NG >> Repair harness between BCM connector M18 and data link connector M22.



# Unified Meter and A/C Amp. Circuit Check 1. CONNECTOR INSPECTION

EKS00A1Y

#### 1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Disconnect unified meter and A/C amp. connector M49.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between unified meter and A/C amp. connector M49 terminal 1 (L) and terminal 11 (Y).

**1 (L) - 11 (Y)** : Approx. 54 - 66Ω

#### OK or NG

OK >> Replace unified meter and A/C amp.

NG >> Repair harness between unified meter and A/C amp. connector M49 and data link connector M22.



EKS00A1Z

### 1. Turn ignition switch OFF.

1. CONNECTOR INSPECTION

- 2. Disconnect the negative battery terminal.
- 3. Disconnect driver seat control unit connector P2.

**Driver Seat Control Unit Circuit Check** 

4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.



### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (Y).

#### 48 (L) - 49 (Y)

: **Approx. 108 - 132**Ω

#### OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R connector E121 and ABS actuator and electric unit (control unit) connector E125.



### **CAN Communication Circuit Check**

### **1. CONNECTOR INSPECTION**

EKS00A22

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
- ECM
- TCM (Transmission control module)
- Display unit
- BCM (Body control module)
- Unified meter and A/C amp.
- Driver seat control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R (Intelligent power distribution module engine room)

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR SHORTED CIRCUITS

With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (L) and 14 (Y).

#### 6 (L) - 14 (Y)

: Continuity should not exist.

#### OK or NG

- OK >> GO TO 3.
- NG >> Repair the harness.



# 3. CHECK HARNESS FOR SHORT TO GROUND

Check continuity between data link connector M22 terminals 6 (L), 14 (Y) and ground.

6 (L) - Ground 14 (Y) - Ground : Continuity should not exist. : Continuity should not exist.

OK or NG

- OK >> Check ECM and IPDM E/R. Refer to <u>LAN-323, "Component Inspection"</u>.
- NG >> Repair the harness.

### **IPDM E/R Ignition Relay Circuit Check**

Check the following. If no problem is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-24, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to <u>PG-11, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/</u> <u>OR START</u>".

### Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.

**94 - 86** : Approx. 108 - 132Ω

• Check resistance between IPDM E/R terminals 48 and 49.

48 - 49

: **Approx. 108 - 132**Ω



Data link connector

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### **System Description**

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

### **Component Parts and Harness Connector Location**



PFP:23710

EKS00A11

EKS00A12


WKWA0470E

EKS00A14

LAN-CAN-40

: DATA LINE



1 2 3 4 5 6 **—** 7 8 9 10 11 **(F59**) 12 13 14 15 16 17 18 19 20 21 22 23 24 W REFER TO THE FOLLOWING. (M82), (F56) - ELECTRICAL UNITS

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BKWA0238E

### [CAN]



## [CAN]



- The "CAN DIAG SUPPORT MNTR" items which are not in check sheet table are not related to diagnostic procedure on service manual. Therefore, it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.
- 5. Check CAN communication line of the navigation system.
- 6. Mark the "NG" or "UNKWN" item of the check sheet table from the result of CAN DIAG SUPPORT MONI-TOR check sheet.

NOTE:

If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

7. According to the Check Sheet Results, start inspection.

## CHECK SHEET

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### Check sheet table

		1			CA	N DIAG SUPPOR	AT MNTR			
SELECT SVST	EMscroop	Initial	Transmit				Receive diagnosi:	6		
366667 3131	LINISCIECT	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN			UNKWN			
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	+	-	CAN CIRC 5	CAN CIRC 2	+	CAN CIRC 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

#### Symptoms:

Attach copy of Attach copy of SELECT SYSTEM
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Attach copy of display unit CAN DIAG MONITOR check sheet

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[CAN]



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# CHECK SHEET RESULTS Case 1

Replace ECM.

					CAN	I DIAG SUPPOR	TMNTR			
SELECT SYST	EM coroon	Initial	Transmit				Receive diagnosis	5		
SELECTOR	LIN SCIEBIL	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	<b>V</b>	UNKWN	-	UNKWN	-	UNKWN	UNKWN		UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-		UNKWN	-	-	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN			-	UNKWN		-

					CAI	N DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive diagnosi: ME1ER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNITAN	-	UNION	UNION	-	UNION
IRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN	•	UNKWN	UNKŴN	UNKWN
ВСМ	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		1

## Case 2

Replace TCM.

					CAI	N DIAG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit	FON	TOU	DICDLAY	Roceivo diagnosi: METER/	1 DOMOSO	VDC/TCS/	
		diagnosis	alagnosis	LCM	TGM	DISPLAY	M&A	BCM/SEC	ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNIWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	$\checkmark$	UNKWN	UNKWN		· ·	UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3	•	·	CAN CIRC 5	CAN CIRC 2		CAN CIRC
METER A/C AMP	No indication		UNKWN	UNKWN	UNIKAN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNIT		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

					CAI	I DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial	Transmit				Roceivo diagnosi	ş		
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKOWN			UNIWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN			· ·	UNKWN		

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### Case 3

Replace display control unit.

					CA	N DIAG SUPPOR	ET MN FR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	$\checkmark$	UNKWN	UNKWN		· ·	UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3	·		CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
ВСМ	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN		· · · · ·		UNKWN		

					CAL	V DIAG SUPPOR	T MN FR			
SELECT SYST	EM screen	Initial	Transmit		,	,	Receivo diagnosi:	s.		
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN VIRC 3			CAN ORC 5	CAN VIRC 2		CALLING 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		[

## Case 4

Replace BCM.

					CAN	I DIAG SUPPOR	T MN FR			
SELECT SYS	TEM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	Receive diagnosi METER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3	· ·		CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	Noncetion	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

					CAI	I DIAG SUPPOR	TMNTR			
SELECT SYS	FEM screen	Initial	Transmit				Receivo diagnosi:	ş 		
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNION			UNISAN			LINIAVIN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

### Case 5

Replace unified meter and A/C amp.

					CAI	V DIAG SUPPOR	ET MN FR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	Roceivo diagnosi: METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
<b>FRANSMISSION</b>	No indication	NG	UNKWN	UNKWN			UNKWN			-
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNION	UNION	UNIWN		LINE WN	LINKWN	LINIAWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN			1.00			
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

### Case 6

Replace driver seat control unit.

					CAI	N DIAG SUPPOR	ET MN FR			
SELECT SYST	FM screen	Initial	Trabsmit				Receivo diagnosi:	5		
GELEOTOTOT	LW JOIGGI	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3	·	·	CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	V	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

					CAN	N DIAG SUPPOR	TMNER			
SELECT SYST	EMiscreen	Initial	Trabsmit				Roceivo diagnosi:	s		
GELEOTOTO	LWS0000	diagnosis	diagnosis	ECM	TCM	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
ВСМ	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNIX	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

## Case 7

Replace ABS actuator and electric unit (control unit).

					CAL	N DIAG SUPPOR	RT MN FR			
SELECT SYS	TEM screen	Initial	Trabamit				Receive diagnosi:	ş		
GELEOTOTO	- Lim Jordan	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNIONN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		V	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

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					CAI	N DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial	Transmit			, <sup> </sup>	Receivo diagnosi:	S		
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
<b>FRANSMISSION</b>	No indication	NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3	·	·	CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNBOWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

### Case 8

Replace IPDM E/R.

					CAI	N DIAG SUPPOR	TMNTR			
SELECT SYS	FEM screen	Initial	Transmit			,	Roceivo diagnosi:	S		
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNIWN				LINKAN		

### Case 9

### Check harness between TCM and data link connector. Refer to LAN-341

					CAN	I DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial	Transmit				Receivo diagnosi:	ş 		
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNIWN	UNIWN	-	UNITON
TRANSMISSION	Notocation	NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN URC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNIWN	UNKAVN	UNKWN		UNKWN	UNKŴN	UNKWN
ВСМ	No indication	NG	UNKWN	UNION			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKIN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNITAN						
IPDM E/R	No indication		UNKWN	UNIWN				UNKWN		[

### Case 10

### Check harness between data link connector and driver seat control unit. Refer to LAN-341 .

					CAL	DIAG SUPPOR	TMNTR			
OF FOT OVOT			<b>a</b> 11		0.1		Receive diagnosis	5		
SELECT SYST	EM screen	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN		UNIWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	CAN CIRC 2	-	CALL IRC 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNIHWN	UNIT
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNIWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNITION	-	-	-	-	-	-
IPDM E/R	Notorcation	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

### [CAN]

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WKIA2193E

WKIA2195E

### Case 11

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>A</u><u>LAN-342</u>.

					CAI	I DIAG SUPPOR	ET MN FR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive diagnosi METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNUWN
(RANSMISSION	No indication	NG	UNKWN	UNKWN	•		UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CALLIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNIOWN	UNIOWN
всм	No indication	NG	UNKWN	UNKWN			UNKWN		•	LINICOVIN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNHWN			1.00			
IPDM E/R	Notorcation		UNKWN	UNKWN				UNKWN		

### Case 12

Check ECM circuit. Refer to  $\underline{\text{LAN-342}}$  .

					CA	N DIAG SUPPOR	ET MN FR			
SELECT SYST	FM screen	Initial	Trabsmit				Receivo diagnosi	s		
GELLOTOTOT	LINISOIGGI	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNIOWN	-	UNIT	-	UNIWN	UNIWN	-	UNIWN
<b>FRANSMISSION</b>	No indication	NG	UNKWN	UNIN		· ·	UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN VIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC
METER A/C AMP	No indication		UNKWN	UNIWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNIT			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNHWN						
IPDM E/R	No indication		UNKWN	UNIWN				UNKWN		

### Case 13

Check TCM circuit. Refer to LAN-343 .

					CAI	V DIAG SUPPOR	T MN FR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ЕСМ	ТСМ	DISPLAY	Roceivo diagnosi: MFTER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNIT	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	Nonacation	NG	UNKWN	UNKWN			UNKWN			
Display control unit	••••••	CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC
METER A/C AMP	No indication		UNKWN	UNKWN	UNIKAN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNIKAN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

### Case 14

Check display control unit circuit. Refer to LAN-343 .

					CAI	V DIAG SUPPOR	T MN FR			
SELECT SYS	FFM screen	Initial	Trabsmit				Receivo diagnosi:	s		
OLLEOTOTO	Lin Jorden	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN VIRC 1	CAN VIRC 3			CAN LIRC 5	CAN AIRC 2		CAN VIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNIWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

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### Case 15

Check data link connector circuit. Refer to LAN-344 .

					CAL	N DIAG SUPPOR	AT MN FR			
SELECT SYS	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
(RANSMISSION	Notorication	NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	Notocation		UNKWN	UNKWN	UNKWN	UNKWN	· ·	UNKWN	UNKŴN	UNKWN
всм	Notoreation	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	Notorication	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	Notorication	1	UNKWN	UNKWN				UNKWN		

### Case 16

Check BCM circuit. Refer to LAN-344.

					CA	N DIAG SUPPOR	ELMINTR Receivo diagnosi:	4		
SELECT SYST	FEM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN VIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNIWN	UNKŴN	UNKWN
BCM	Notorication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	UNIAN	-	-
ABS		NG	UNKWN	UNKWN			1.00			
IPDM E/R	No indication		UNKWN	UNKWN		· ·		LNUWN		

### Case 17

Check unified meter and A/C amp. circuit. Refer to LAN-345 .

					CAI	N DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKAVN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN ARC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNIWN	UNKWN	UNKWN
BCM	Notorecation	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	UNIWN	-	-
ABS		NG	UNKWN	UNKWN			1.00			
IPDM E/R	No indication		UNKWN	UNKWN				UNIVAN		

### Case 18

Check driver seat control unit circuit. Refer to LAN-345 .

					CAI	V DIAG SUPPOR	RT MN FR						
SELECT SYST	FFM screen	Initial	Trapsmit	Receive diagnosis									
OLLEOT OTO	Lin Jordan	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R			
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN						
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7			
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN			
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN			
AUTO DRIVE POS.	Notorication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-			
ABS		NG	UNKWN	UNKWN									
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN					

## [CAN]

### Case 19

Check ABS actuator and electric unit (control unit) circuit. Refer to  $\underline{\text{LAN-346}}$  .

					CAI	N DIAG SUPPOR	ET MN FR			
SELECT SYST	FM screen	Initial	Transmit			,	Receive diagnosi	s		
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3	· .	•	CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNIOWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKAWN	UNKAN		1.1	1.00			
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

### Case 20

Check IPDM E/R circuit. Refer to LAN-346.

					CAN	I DIAG SUPPOR	TIMNER			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive diagnosi: METER/	BCM/SEC	VDC/TCS/	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	ABS -	
(RANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			<b>.</b>
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN SRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNIONN
всм	No indication	NG	UNKWN	UNKWN			UNKWN			UNIWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN						
IPDM E/R	No more ation		UNKWN	UNKWN				UNKWN		

### Case 21

Check CAN communication circuit. Refer to LAN-347 .

					CAL	I DIAG SUPPOR	ET MN FR			
SELECT SYST	EM screen	Initial	Transmit				Receivo diagnosi:	S		
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNITAN	-	UNIWN	-	UNIT	UNIWN	-	UNIWN
TRANSMISSION	Noncation	NG	UNKWN	UNKWN			UNKWN			
Display control unit		CAN COMM	CAN ORC 1	CAN FIRC 3			CAN CRC 5	CAN /IRC 2		CAN
METER A/C AMP	No too cation		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No pocation	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No no cation	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNIKAN	UNIWN			1.00			
IPDM E/R	Noncation	1	UNKWN	UNKWN				UNKWN		

### Case 22

Check IPDM E/R Ignition relay circuit. Refer to LAN-348 .

					CAI	V DIAG SUPPOR	ET MN FR			
SELECT SYST	EM screen	Initial	Transmit			,	Receivo diagnosi:	S		
GELLOT STO	LW JOIGGI	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNIT			UNIWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNIWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

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					CAN	I DIAG SUPPOR	T MN FR						
SELECT SYST	SELECT SYSTEM screen		Transmit	Receivo diagnosis									
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R			
ENGINE	-	NG	UNKWN	-	UNIOWN	-	UNKWN	UNKWN	-	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN						
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7			
METER A/C AMP	No indication		UNKWN	UNKWN	UNIWWN	UNKWN		UNKWN		UNKWN			
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN			
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKAN	-	UNKWN	UNKWN	-	-			
ABS		NG	UNKWN	UNKWN									
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN					

	CAN SYSTEM (TYPE 1	4) [CAN]
Circuit Check Between <sup>-</sup> 1. CONNECTOR INSPECTION	TCM and Data Link Connec	eksooa16
<ol> <li>Turn ignition switch OFF.</li> <li>Disconnect the negative batt</li> <li>Disconnect TCM connector I</li> <li>Check the terminals for defo</li> <li>OK or NG</li> <li>OK &gt;&gt; GO TO 2.</li> <li>NG &gt;&gt; Repair or replace as</li> </ol>	ery terminal. F56 and ECM connector M82. rmation, disconnection, looseness or necessary.	damage.
2. CHECK HARNESS FOR OF	PEN CIRCUIT	
Check continuity between TCM of and data link connector M22 term	connector F56 terminals 3 (L), 4 (Y) ninals 6 (L), 14 (Y).	
3 (L) - 6 (L) 4 (Y) - 14 (Y) <u>OK or NG</u>	: Continuity should exist. : Continuity should exist.	TCM connector 34 14 14 14 14 14 14 14 14 14 1
NG >> Connect all connect <u>LAN-329, "Work Flow</u> NG >> Repair harness.	fors and diagnose again. Refer to $\underline{N}^{"}$ .	
Circuit Check Between I 1. CONNECTOR INSPECTION	Driver Seat Control Unit an	d Data Link Connector EKS00A17
<ol> <li>Turn ignition switch OFF.</li> <li>Disconnect the negative batt</li> <li>Disconnect driver seat control</li> <li>Check the terminals for defo</li> </ol>	ery terminal. ol unit connector P2 and ECM conne rmation, disconnection, looseness or	ctor M82.
OK or NG OK >> GO TO 2. NG >> Repair or replace as	necessary.	L
2. CHECK HARNESS FOR OF	PEN CIRCUIT	
Check continuity between driver minals 3 (BR), 19 (Y/G) and data 14 (Y).	seat control unit connector P2 ter- link connector M22 terminals 6 (L),	Driver seat control unit connector
3 (BR) - 6 (L) 19 (Y/G) - 14 (Y)	: Continuity should exist. : Continuity should exist.	3, 19 Data link connector

### OK or NG

- >> Connect all connectors and diagnose again. Refer to OK LAN-329 . >> Repair harness.
- NG



#### **Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric** Unit (Control Unit) EKS00A18

## 1. CONNECTOR INSPECTION

[CAN]

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Disconnect driver seat control unit connector P2, ABS actuator and electric unit (control unit) connector 3. E125 and ECM connector M82.
- Check the terminals for deformation, disconnection, looseness or damage. 4.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between driver seat control unit connector P2 terminals 3 (BR), 19 (Y/G) and ABS actuator and electric unit (control unit) connector E125 terminals 20 (L), 23 (Y).

> 3 (BR) - 20 (L) 19 (Y/G) - 23 (Y)

: Continuity should exist. : Continuity should exist.

#### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-329.
- NG >> Repair harness.



## **ECM Circuit Check**

## 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

EKS00A19



NG >> Repair or replace as necessary.

Check resistance between display control unit connector M95 terminal 25 (L) and terminal 26 (Y).

: **Approx. 54 - 66**Ω

OK or NG

OK >> Replace display control unit.

NG >> Repair harness between display control unit connector M95 and data link connector M22.



## Data Link Connector Circuit Check

## **1. CONNECTOR INSPECTION**

EKS00A1C

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check data link connector M22 terminals for deformation, disconnection, looseness or damage.

### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminal 6 (L) and terminal 14 (Y).

#### 6 (L) - 14 (Y)

: Approx. 54 - 66Ω

### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-329.
- NG >> Repair harness between data link connector M22 and BCM connector M18.



## **BCM Circuit Check**

### **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect BCM connector M18.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

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Check resistance between BCM connector M18 terminal 39 (L) and terminal 40 (Y).

#### 39 (L) - 40 (Y)

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Replace BCM.
- NG >> Repair harness between BCM connector M18 and data link connector M22.



## Unified Meter and A/C Amp. Circuit Check

## **1.** CONNECTOR INSPECTION

Turn ignition switch OFF.
 Disconnect the negative battery terminal.
 Disconnect unified meter and A/C amp. connector M49.
 Check the terminals for deformation, disconnection, looseness or damage.
 OK or NG
 OK >> GO TO 2.
 NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between unified meter and A/C amp. connector M49 terminal 1 (L) and terminal 11 (Y).

1 (L) - 11 (Y) : Approx. 54 - 66Ω

### OK or NG

OK >> Replace unified meter and A/C amp.

NG >> Repair harness between unified meter and A/C amp. connector M49 and data link connector M22.



## **Driver Seat Control Unit Circuit Check**

### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect driver seat control unit connector P2.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

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Check resistance between driver seat control unit connector P2 terminal 3 (BR) and terminal 19 (Y/G).

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace driver seat control unit.
- NG >> Repair harness between driver seat control unit connector P2 and data link connector M22.



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EKS00A1G

## ABS Actuator and Electric Unit (Control Unit) Circuit Check 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ABS actuator and electric unit (control unit) connector E125.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ABS actuator and electric unit (control unit) connector E125 terminal 20 (L) and terminal 23 (Y).

20 (L) - 23 (Y) : Appro

20(L)-23(1)

: **Approx. 54 - 66**Ω

#### <u>OK or NG</u>

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) connector E125 and IPDM E/R connector E121.



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## **IPDM E/R Circuit Check**

## **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect IPDM E/R connector E121.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (Y).

#### 48 (L) - 49 (Y)

: **Approx. 108 - 132**Ω

#### OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R connector E121 and ABS actuator and electric unit (control unit) connector E125.



## **CAN Communication Circuit Check**

### **1. CONNECTOR INSPECTION**

1. Turn ignition switch OFF. F 2. Disconnect the negative battery terminal. Disconnect the following module and control unit connectors and check terminals for deformation, discon-3. nection, looseness or damage. ECM TCM (Transmission control module) Display control unit Н BCM (Body control module) Unified meter and A/C amp. Driver seat control unit ABS actuator and electric unit (control unit) IPDM E/R (Intelligent power distribution module engine room) J OK or NG OK >> GO TO 2. NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR SHORTED CIRCUITS

With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (L) and 14 (Y).

#### 6 (L) - 14 (Y)

: Continuity should not exist.

#### OK or NG

- OK >> GO TO 3.
- NG >> Repair the harness.



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## 3. CHECK HARNESS FOR SHORT TO GROUND

Check continuity between data link connector M22 terminals 6 (L), 14 (Y) and ground.

- 6 (L) Ground 14 (Y) - Ground
- : Continuity should not exist.

: Continuity should not exist.

OK or NG

- OK >> Check ECM and IPDM E/R. Refer to <u>LAN-348, "Component Inspection"</u>.
- NG >> Repair the harness.

## **IPDM E/R Ignition Relay Circuit Check**

Check the following. If no problem is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-24, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to <u>PG-11</u>, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/ <u>OR START</u>".

## Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.

**94 - 86** : Approx. 108 - 132Ω

• Check resistance between IPDM E/R terminals 48 and 49.

48 - 49

: **Approx. 108 - 132**Ω





Revision: June 2004

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## **System Description**

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

## Component Parts and Harness Connector Location



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[CAN]

PFP:23710

## Schematic



EKS00A0I



WKWA0421E

## [CAN]



### LAN-CAN-44



BKWA0241E

## [CAN]



Revision: June 2004

### **Work Flow**

EKS00A0K

[CAN]

1. When there are no indications of "TRANSMISSION", "METER A/C AMP", "BCM", "IPDM E/R" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)	NISSAN	SELECT SYSTEM	
		ENGINE	
	CONSULT- II	A/T	
		ABS	
		AIR BAG	
	ENGINE	ВСМ	
	START (NISSAN BASED VHCL)		
	START (RENAULT BASED VHCL)	METEROXOAM	
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

2. Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II.

(Example)	SELECT DIAG MODE	SELF-DIAG RESULTS
	WORK SUPPORT	DTC RESULTS TIM
	SELF-DIAG RESULTS	
	DATA MONITOR	
	DATA MONITOR (SPEC)	
	CAN DIAG SUPPORT MNTR	
	ACTIVE TEST	
		F.F.DA
	Scroll Down	ERASE PRINT
	BACK LIGHT COPY	MODE BACK LIGHT COF

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/ C AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II.



4. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks onto the items with "No indication", "NG", or "UNKWN" in the check sheet table.

					CAN DIAG SUPPORT MNTR										
SELECT SYST	EM screen	Initial	Transmit	/ransmit Receive diagnosis											
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R				
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKWN				
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN					
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	GAN 2	-	CAN 7				
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN	•	•	UNKWN	UNKWN	UNKWN				
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN				
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-				
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN							
IPDM E/R	No indication		UNKWN	UNKWN			· ·		UNKWN	[					

#### NOTE:

• If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

	<ul> <li>The "CAN DIAG SUPPORT MNTR" items which are not in check sheet table are not related to diagnos- tic procedure on service manual.</li> <li>Therefore, it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.</li> </ul>	А
5.	Mark the "NG" or "UNKWN" item of the check sheet table from the result of CAN DIAG SUPPORT MONI- TOR check sheet.	В
	<b>NOTE:</b> If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.	С
6.	According to the Check Sheet Results, start inspection.	
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## CHECK SHEET

### Check sheet table

						CAN DIAG S	SUPPORT MNTR				
SELECT SVST	EMecroop	Initial	Trapemit				Receive	diagnosis			
0222010101	Linacioci	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	-	NG	UNKŴN	UNKWN	-	-	UNKWN	-	-	UNKWN	-
Display unit	-	CAN COMM	CAN 1	CAN 3		-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	UNKWN
ВСМ	No indication	NG	UNKWN	UNKWN	<i>n</i>	-	UNKWN	-	-	~	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-

#### Symptoms:

Attach copy of SELECT SYSTEM	



Attach copy of display unit CAN DIAG MONITOR check sheet

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## [CAN]

				A
Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of TRANSMISSION SELF-DIAG RESULTS	Attach copy of BCM SELF-DIAG RESULTS	Attach copy of METER A/C AMP SELF-DIAG RESULTS	B
Attach copy of ABS SELF-DIAG RESULTS	Attach copy of AUTO DRIVE POS. SELF-DIAG RESULTS	Attach copy of IPDM E/R SELF-DIAG RESULTS		F G H
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	Attach copy of BCM CAN DIAG SUPPORT MNTR	Attach copy of METER A/C AMP CAN DIAG SUPPORT MNTR	J LA L
Attach copy of ABS CAN DIAG SUPPORT MNTR	Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR	Attach copy of IPDM E/R CAN DIAG SUPPORT MNTR		

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### CHECK SHEET RESULTS Case 1

Replace ECM.

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	ABS	IPDM E/R
ENGINE	-	$\checkmark$	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-		UNKWN	-	-	UNKWN	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-		UNKWN	-	-	-
IPDM E/R	No indication		UNKWN	UNKWN	-			-	UNKWN	-	

						CAN DIAG \$	SUPPORT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis	· · · · · · · · · · · · · · · · · · ·		·····
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKAN	· · · · ·	UNKON		UNKVN	UNKAYN	UNKAVN
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNK₩N
BCM	No indication	NG	UNKWN	UNKWN		· ·	UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

### Case 2

Replace TCM.

				1		CAN UIAG S	SUPPORT MNTR	diagnosis			
SELECT SYS	FEM screen	Initial diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKON	· · · · ·	UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION	No indication	<b>V</b>	UNKWN	UNKWN			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNK	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKOVN		UNKWN		UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKOVN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN		· · · · ·			UNKWN		

				1		CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN	· ·	UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKAN		· ·	UNKVN			UNKVN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN	· ·	· ·	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN		· · ·	UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN		· ·	· ·		UNKWN		

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## Case 3

Replace display unit.

						CAN DIAG \$	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive METER/ M&A	diagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNK₩N
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display unit	-		CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN		UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

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UNKWN

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Initial Jiagnosi

NG

NG

CAN COMM

NG

NG

NG

SELECT SYSTEM screen

No indication

No indication

No indication

No indication

No indication

ENGINE

TRANSMISSION

AUTO DRIVE POS.

Display unit

BCM

ABS

IPDM E/R

Transmit diagnosis

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## Case 4

Replace BCM.

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive METER/ M&A	diagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/f
FNGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	V	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS	1.1	NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN	1				UNKWN		

				1		CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive METER/ M&A	diagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKAN			UNKIN				UNK
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

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### Case 5

Replace unified meter and A/C amp.

SELECT SYSTEM screen			CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit	Receive diagnosis									
			diagnosis	ECM	ECM TCM	DISPLAY	M&A	STRG	BCM/SEC	ABS	IPDM E/R		
ENGINE		NG	UNKWN		UNKWN		UNKWN	· ·	UNKWN	UNKWN	UNKŴN		
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNKWN			
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7		
METER A/C AMP	No indication		UNKWN	UNKAN	UNKAN	UNKAN			UNKON	UNKAN	UNKVIN		
BCM	No indication	NG	UNKWN	UNKWN			UNKWN	· ·			UNKWN		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN		UNKWN	-	-		
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN				
						L	L	1	L	1	1		
IPDM E/R	No indication	I	UNKWN	UNKWN	l	l		l	UNKWN	l	I		

### Case 6

Replace driver seat control unit.

		CAN DIAG SUPPORT MNTR										
SELECT SYSTEM screen		Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive METER/ M&A	diagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R	
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN		
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	GAN 2	-	CAN 7	
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKŴN	
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN	
AUTO DRIVE POS.	No indication	V	UNKWN	-	UNKWN		UNKWN		UNKWN	-	-	
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN				
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN			

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SELECT SYSTEM screen			CAN DIAG SUPPORT MNTR								
		Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	diagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	•	UNKWN	UNKWN	UNK₩N
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKOVN	-	UNKOVN	-	UNKIVN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

## Case 7

Replace ABS actuator and electric unit (control unit).

SELECT SYSTEM screen			CAN DIAG SUPPORT MNTR										
		Initial diagnosis	Transmit diagnosis	Receive diagnosis									
				ECM	TCM	DISPLAY	M&A	STRG	BCM/SEC	ABS	IPDM E/R		
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKAN	UNKŴN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			UNKIN			
Display unit	-	CAN COMM	CAN 1	CAN 3	-		CAN 5		GAN 2	-	CAN 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKIN	UNKWN		
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-		
ABS		<b>V</b>	UNKWN	UNK₩N	UNKWN			UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN				
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						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive METER/ M&A	diagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKAN	UNKOWN			UNKAN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		I

#### Case 8

Replace IPDM E/R.

						CAN DIAG	SUPPORT MNTR Beceive	diagnosis			
SELECT SYS	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	· ·	UNKWN	UNKWN	UNKŴN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKAN					UNKIN		

### Case 9

Check harness between TCM and data link connector. Refer to LAN-366 .

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	FFM screen	Initial	Transmit				Receive	diagnosis			
0000000		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKOWN		UNKOWN	UNKAN	UNKAN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	∞√3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKAN	UNKYN	UNKWN	•		UNKWN	UNKWN	UNKŴN
BCM	No indication	NG	UNKWN	UNKAN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKAVN	-	UNKWN		UNKWN	-	-
ABS	1.1	NG	UNKWN	UNKAN	UNKON			UNKWN			
IPDM E/R	No indication		UNKWN	UNKAN		· ·			UNKWN		

### Case 10

#### Check harness between data link connector and driver seat control unit. Refer to LAN-366 .

		L				CAN DIAG S	SUPPORT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Receive	diagnosis			
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	UNKAVN	UNKAN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-		UNKWN		-	UNKAN	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2		•√7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKON	UNKAN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-	UNKAN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS	-	NG	UNKWN	UNKAVN	UNKOVN	-	-	UNKOVN	-	-	-
IPDM E/R	No indication		UNKWN	UNKWN	-	-	-	-	UNKWN	-	-

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#### Case 11

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-367</u>.



#### Case 12

Check ECM circuit. Refer to LAN-367 .

0515050107			-			CAN UIAG 3	Receive	diagnosis			
SELECT SYST	EM screen	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKOWN		UNKAN		UNKAN		UNKAN	UNKAN	UNIKEVN
TRANSMISSION	No indication	NG	UNKWN	UNKAN			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	<b>∞√</b> 3	-	-	CAN 5	-	GAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKAN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKAN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKAN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKIN					UNKWN		

#### Case 13

Check TCM circuit. Refer to LAN-368 .

						CAN DIAG S	SUPPORT MNTR	diagnosis			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKAN	· ·	UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION	No indication	NG	UNKWN	UNK₩N		· ·	UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKAN	UNKWN	· ·		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN		· · · ·	UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKAN	-	UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKAVN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

#### Case 14

Check display unit circuit. Refer to LAN-368.

PELECT OVET		Labour /	Terrentil	1			Receive	diagnosis			
SELECTORON	LMISCreen	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	· · ·	NG	UNKWN		UNKWN		UNKWN	•	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	[		UNKWN			UNKWN	
Display unit		CAN COMM	1	ow∕s			₩5	-	₹₩2	-	Ŵ
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKVN		· ·	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN		.	UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

#### Case 15

Check data link connector circuit. Refer to LAN-369 .

						CAN DIAG 5	SUPPORT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis	,		*
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKŴN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

#### Case 16

Check BCM circuit. Refer to LAN-369.

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Receive	diagnosis			
GLEEN OTOT	Lini Jordan	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKAN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	₩2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNK	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNK	-	-
ABS		NG	UNKWN	UNKWN	UNKWN		1. A.	UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKIN		I

#### Case 17

Check unified meter and A/C amp. circuit. Refer to LAN-370 .

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	FM screen	Initial	Transmil				Receive	diagnosis			
GELEOTOTO	LIN SOLGEN	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/F
ENGINE		NG	UNKWN		UNKWN		UNKAN		UNKWN	UNKWN	UNKŴN
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKVN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	ov√5	-	GAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKAN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKOVN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN	1				UNKWN		

#### Case 18

Check steering angle sensor circuit. Refer to LAN-370.

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Receive	diagnosis			
GELEOTOTO	Linisologn	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/1CS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNK			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

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#### Case 19

Check driver seat control unit circuit. Refer to LAN-371 .

051 507 0100			-			CAN UIAGS	Receive	diagnosis			
SELECT SYS	EM screen	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNK₩N	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKŴN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

#### Case 20

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-371 .

			CAN UIAG SUPPORT MNTR Provise diagnosis Provise diagnosis								
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM TCM DISPLAY METERY STRG BCM/SEC VIX/21CS/ IPDM L/F						IPDM E/R	
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	GAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN		· ·	UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKON	UNKAN	UNKON			UNK			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		[

Case 21

Check IPDM E/R circuit. Refer to LAN-372 .

						CAN DIAG §	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	TCM	DISPLAY	METER/ M&A	diagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKAN
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	GAN 2	-	Ŵ
METER A/C AMP	No indication		UNKWN	UNKWN	UNK₩N	UNKWN			UNKWN	UNKWN	UNKAN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKAN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

#### Case 22

Check CAN communication circuit. Refer to  $\underline{\text{LAN-373}}$  .

				1		CAN UIAG S	Beceive	diagnosis			
SELECT SYST	EM screen	Initial diagnosis	diagnosis	ECM	ECM TCM		METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKOWN		UNKOWN	· · · ·	UNKON		UNKAN	UNKAN	UNKAYN
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display unit	-	CAN COMM	av 1	<b>av√</b> 3	-	-	CAN 5	-	∞√2	-	w∕i
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKUN	UNKAN	UNKAN			UNKAN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

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### Case 23

Check IPDM E/R Ignition relay circuit. Refer to  $\underline{\text{LAN-373}}$  .

SELECT OVO		(adding)	Terraneit				Receive (	diagnosis			
SELECT STOL	LWISCIEGH	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN	· · · · ·	UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION	No indication	NG	UNKWN	UNKAN			UNKON			UNKWN	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNK₩N	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKAN	UNKWN			UNKIN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

051 50T 01/03			-		Receive diagnosis							
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R	
FNGINE		NG	UNKWN		UNKAN		UNKWN		UNKWN	UNKUN	UNKŴN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN		
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	-	CAN 2	-	CAN 7	
METER A/C AMP	No indication		UNKWN	UNKWN	UNKVN	UNKWN			UNKWN	UNKON	UNKWN	
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKOWN	-	UNKWN	-	UNKWN	-	-	
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN				
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN			

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# Circuit Check Between TCM and Data Link Connector

### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect TCM connector F56 and ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between TCM connector F56 terminals 3 (L), 4 (Y) and data link connector M22 terminals 6 (L), 14 (Y).

3 (L) - 6 (L) 4 (Y) - 14 (Y) : Continuity should exist. : Continuity should exist.

#### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-354, "Work Flow"
- NG >> Repair harness.



### Circuit Check Between Driver Seat Control Unit and Data Link Connector EKSODADIA 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect driver seat control unit connector P2 and ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between driver seat control unit connector P2 terminals 3 (BR), 19 (Y/G) and data link connector M22 terminals 6 (L), 14 (Y).

3 (BR) - 6 (L)

19 (Y/G) - 14 (Y)

: Continuity should exist. : Continuity should exist.

#### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to  $\underline{\text{LAN-354}}$ .
- NG >> Repair harness.



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### **ECM Circuit Check**

### **1. CONNECTOR INSPECTION**

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

1.

2.

3.

4.

OK or NG

OK or NG

OK

NG

OK

NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

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Check resistance between ECM connector M82 terminal 94 (L) and terminal 86 (Y).

#### 94 (L) - 86 (Y)

: Approx. 108 - 132Ω

#### OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ECM connector M82 and TCM connector F56.



# TCM Circuit Check

### 1. CONNECTOR INSPECTION

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect TCM connector F56.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between TCM connector F56 terminal 3 (L) and terminal 4 (Y).

3 (L) - 4 (Y)

: **Approx. 54 - 66**Ω

#### OK or NG

- OK >> Replace TCM.
- NG >> Repair harness between TCM connector F56 and ECM connector M82.



EKS00A0Q

### **Display Unit Circuit Check**

# 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect display unit connector M93.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.



#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

Check resistance between BCM connector M18 terminal 39 (L) and terminal 40 (Y).

#### 39 (L) - 40 (Y)

: Approx. 54 - 66 $\Omega$ 

#### OK or NG

- OK >> Replace BCM.
- NG >> Repair harness between BCM connector M18 and data link connector M22.



# Unified Meter and A/C Amp. Circuit Check 1. CONNECTOR INSPECTION

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect unified meter and A/C amp. connector M49.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

1 (L) - 11 (Y)

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between unified meter and A/C amp. connector M49 terminal 1 (L) and terminal 11 (Y).

: Approx. 54 - 66Ω

#### OK or NG

OK >> Replace unified meter and A/C amp.

**Steering Angle Sensor Circuit Check** 

NG >> Repair harness between unified meter and A/C amp. connector M49 and data link connector M22.



EKS00A0U

# 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect steering angle sensor connector M47.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

Check resistance between steering angle sensor connector M47 terminal 4 (L) and terminal 5 (Y).

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace steering angle sensor.
- NG >> Repair harness between steering angle sensor connector M47 and data link connector M22.



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# **Driver Seat Control Unit Circuit Check**

#### **1. CONNECTOR INSPECTION** Turn ignition switch OFF. 1. Disconnect the negative battery terminal. Disconnect driver seat control unit connector P2. 4. Check the terminals for deformation, disconnection, looseness or damage. OK or NG OK >> GO TO 2. NG >> Repair or replace as necessary. Н

# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between driver seat control unit connector P2 terminal 3 (BR) and terminal 19 (Y/G).

3 (BR) - 19 (Y/G)

: **Approx. 54 - 66**Ω

#### OK or NG

- OK >> Replace driver seat control unit.
- NG >> Repair harness between driver seat control unit connector P2 and data link connector M22.



### **ABS Actuator and Electric Unit (Control Unit) Circuit Check 1. CONNECTOR INSPECTION**

- Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- 3. Disconnect ABS actuator and electric unit (control unit) connector E125.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

Check resistance between ABS actuator and electric unit (control unit) connector E125 terminal 7 (L) and terminal 9 (Y).

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) connector E125 and IPDM E/R connector E121.



### **IPDM E/R Circuit Check**

### **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect IPDM E/R connector E121.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (Y).

48 (L) - 49 (Y)

: Approx. 108 - 132 $\Omega$ 

#### OK or NG

OK >> Replace IPDM E/R.

NG >> Repair harness between IPDM E/R connector E121 and ABS actuator and electric unit (control unit) connector E125.



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**CAN Communication Circuit Check** 

1. CONNECTOR INSPECTION

1.	Turn ignition switch OFF.	
2.	Disconnect the negative battery terminal.	B
3.	Disconnect the following module and control unit connectors and check terminals for deformation, discon-	
	nection, looseness or damage.	C
-		C
-	TCM (Transmission control module)	
-	Display unit	С
-	BCM (Body control module)	
-	Unified meter and A/C amp.	
-	Steering angle sensor	E
-	Driver seat control unit	
-	ABS actuator and electric unit (control unit)	
-	IPDM E/R (Intelligent power distribution module engine room)	F
OK	Cor NG	
0	K >> GO TO 2.	
N	G >> Repair or replace as necessary.	(
2.	CHECK HARNESS FOR SHORTED CIRCUITS	
		ŀ
Wit	th all module and control unit connectors disconnected, check	
COF (Y)	Intinuity between data link connector M22 terminals 6 (L) and 14	
(')	Data link connector	
	(L) - 14(f) : Continuity should not exist.	
OK		
O	K >> GO TO 3.	
IN	G >> Repair the harness.	
	PKIA2077E	LÆ
$\mathbf{c}$		
J.	CHECK HARNESS FOR SHORT TO GROUND	
Ch	eck continuity between data link connector M22 terminals 6 (L).	
14	(Y) and ground.	
	6 (L) - Ground : Continuity should not exist. Data link connector	Ν
	14 (Y) - Ground : Continuity should not exist.	
Ωk		
	K where the second seco	
0	n >> Check ECWI and IPDIVI E/R. Relet to LAIN-374, COM-	
N	G >> Repair the harness.	
	→ PKIA2079E	
IPI	DM E/R Ignition Relay Circuit Check EKSODADZ	
Ch	eck the following If no problem is found replace the IPDM F/R	
•	IPDM F/R power supply circuit Refer to PG-24 "IPDM F/R Power/Ground Circuit Inspection"	
-	-1 = $-1$ = -	

Ignition power supply circuit. Refer to PG-11, "IGNITION POWER SUPPLY - IGNITION SW. IN ON AND/ • <u>OR START"</u>.

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LAN-373

### Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
  - 94 86

: **Approx. 108 - 132**Ω

• Check resistance between IPDM E/R terminals 48 and 49.

48 - 49

: **Approx. 108 - 132**Ω



# **System Description**

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

### **Component Parts and Harness Connector Location**



#### LAN

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### Schematic

[CAN]



WKWA0425E

### [CAN]



### LAN-CAN-47



BKWA0244E

### [CAN]



Revision: June 2004

### **Work Flow**

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[CAN]

1. When there are no indications of "TRANSMISSION", "METER A/C AMP", "BCM", "IPDM E/R" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)	NISSAN	SELECT SYSTEM	
		ENGINE	
	CONSULT- II	A/T	
		ABS	
		AIR BAG	
	ENGINE	BCM	
	START (NISSAN BASED VHCL)	METEB A/C AMP	
	START (RENAULT BASED VHCL)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II.

(Example)	SELECT DIAG MODE	SELF-DIAG RESUL	TS	
	WORK SUPPORT	DTC RESULTS	TIME	
	SELF-DIAG RESULTS	CAN COMM CIRCUIT	0	
	DATA MONITOR			
	DATA MONITOR (SPEC)			
	CAN DIAG SUPPORT MNTR			
	ACTIVE TEST			
		F	.F.DATA	
	Scroll Down	ERASE PR	INT	
	BACK LIGHT COPY	MODE BACK LIGHT	COPY	PKIA8260E

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/ C AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II.



4. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks onto the items with "No indication", "NG", or "UNKWN" in the check sheet table.

			CAN DIAG SUPPORT MNTR								
SELECT SYST	EM screen	Initial	Transmit			· · · · · · · · · · · · · · · · · · ·	Receive	diagnosis	r		·····
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION	No indication	NG	UNKWN	UNKŴN			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-		CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC /
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNK₩N	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

#### NOTE:

• If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

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	A		<u>.</u>

	• •	
	• The "CAN DIAG SUPPORT MNTR" items which are not in check sheet table are not related to diagnos- tic procedure on service manual. Therefore, it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.	А
5.	Check CAN communication line of the navigation system.	В
6.	Mark the "NG" or "UNKWN" item of the check sheet table from the result of CAN DIAG SUPPORT MONI- TOR check sheet.	
	NOTE:	С
	If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.	
7.	According to the Check Sheet Results, start inspection.	D
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### **CHECK SHEET**

#### Check sheet table

		[				CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis			
36667 3131	LIVISCIECT	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	*	UNKWN	*		UNKWN	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKŴN	-	-	UNKWN	UNKWN	UNKWN
ВСМ	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	-	UNKWN	-	-

#### Symptoms:

Attach copy of SELECT SYSTEM	



Attach copy of display unit CAN DIAG MONITOR check sheet

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				A
Attach copy of	Attach copy of	Attach copy of	Attach copy of	B
ENGINE	TRANSMISSION	BCM	METER A/C AMP	
SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS	
Attach copy of	Attach copy of	Attach copy of		F
ABS	AUTO DRIVE POS.	IPDM E/R		G
SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS		H
Attach copy of	Attach copy of	Attach copy of	Attach copy of	I
ENGINE	TRANSMISSION	BCM	METER A/C AMP	J
CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT	LA
MNTR	MNTR	MNTR	MNTR	L
Attach copy of ABS CAN DIAG SUPPORT MNTR	Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR	Attach copy of IPDM E/R CAN DIAG SUPPORT MNTR		

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### CHECK SHEET RESULTS Case 1

Replace ECM.

						CAN DIAG S	SUPPORT MNTR				
SELECT SVST	EM corpop	Initial	Transmit				Receive (	diagnosis			
SELECTORS	LINISCIDEN	diagnosis	diagnosis	S ECM TCM DISPLAY		METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R	
ENGINE		V	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-		UNKWN		-	UNKWN	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	UNKWN	-	-	-
IPDM E/R	No indication		UNKWN	UNKWN	-				UNKWN	-	-

						CAN DIAG	SUPPORT MNTR				
SELECT SYS	EM screen	Initial	Transmit				Receive	diagnosis	· · · · · · · · · · · · · · · · · · ·		·····
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	ABS	IPDM E/R
ENGINE	· ·	NG	UNKWN		UNIT	· · ·	NUNN		UNIWN	UNIOWN	UNIWN
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKŴN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN		UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNK₩N			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

### Case 2

Replace TCM.

						CAN DIAG S	SUPPORT MNTR				
SELECT SYS	FEM screen	Initial	Transmit				Receive	diagnosis	· · · · · · · · · · · · · · · · · · ·		·····
		diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	ABS	IPDM E/R
ENGINE		NG	UNKWN		UNITAN		UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	$\checkmark$	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNIWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

			1			CAN DIAG :	SUPPORT MNTR				
SELECT SYSTEM screen		Initial diagnosis	Transmit diagnosis	ECM	TCM	DISPLAY	METER/ M&A	diagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN	· ·	UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNIKWN			UNIT			<b>KNI/WN</b>	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN	· ·		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN		UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN	1.1		
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

#### Case 3

Case 4

Replace BCM.

Replace display control unit.

SELECT SYSTEM screen

SELECT SYSTEM screen

No indication

ENGINE

BCM

ABS

IPDM E/R

ENGINE

BCM

ABS

IPDM E/R

TRANSMISSION

Display control unit

METER A/C AMP

AUTO DRIVE POS.

TRANSMISSION

Display control unit

AUTO DRIVE POS

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive METER/ M&A	diagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	СМ	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC
METER A/C AMP	No indication		UNKWN	UNKWN	UNK₩N	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

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Transmit diagnosis

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Transmit diagnosis

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VDC/TCS/ ABS

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UNKWN

IPDM E/R

UNKWN

CAN VIRG 7

UNKWN

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IPDM E/R

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CAN CIRC

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BCM/SEC

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CAN ARC 2

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						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis	· · · · · · · · · · · · · · · · · · ·		·····
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN	· ·		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNION			UNIONN				UNIWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	-	UNKWN	-	-
ABS	1. A.	NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication	1	UNKWN	UNKWN					UNKWN		1

Revision: June 2004

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#### Case 5

Replace unified meter and A/C amp.

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive	diagnosis STRG	BCM/SEC	VDC/TCS/	IPDM E/R
FNGINE		NG	UNKWN		UNKWN	•	UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNION	UNION	UNIWN			BU WN	UNIWN	UNION
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS	1.0	NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN		· ·			UNKWN		
		1				L	L		L		1

#### Case 6

Replace driver seat control unit.

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	FM screen	Initial	Transmil				Receive	diagnosis	,		
		diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	V	UNKWN	-	UNKWN		UNKWN		UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN			· ·		UNKWN		[

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						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive ( METER/ M&A	tiagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC /
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNION	-	UNUWN	-	UNIWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN		1.0	UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

### Case 7

Replace ABS actuator and electric unit (control unit).

						CAN DIAG 9	SUPPORT MNTR				
SELECT SYST	EM screen	Initial	Transmit				Receive	diagnosis	· · · · · · · · · · · · · · · · · · ·		·····
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNION	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNION	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNIWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		V	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

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						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	FCM	тем	DISPLAY	Receive of METER/	liagnosis STRG	BCM/SEC	VDC/1CS/	
ENGINE		NG	UNKWN		UNKWN		M&A UNKWN		UNKWN	ABS UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	-	UNKWN	-	-
ABS	1. A.	NG	UNKWN	UNIWN	UNIOWN			UNI WN			
IPDM E/R	No indication	I	UNKWN	UNKWN					UNKWN		[

#### Case 8

Replace IPDM E/R.

			ilial Transmit diagnosis IG UNKWN IG UNKWN KM CAN CIRC 1 UNKWN IG UNKWN IG UNKWN			CAN DIAG :	SUPPORT MNTR	diagnosio			
SELECT SYST	FEM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN	· ·	UNKWN		UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN	·		UNKWN	[
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN						UNIT		

### Case 9

Check harness between TCM and data link connector. Refer to  $\underline{\text{LAN-392}}$  .

						CAN DIAG	SUPPORT MNTR				
SELECT SYST	FFM screen	Initial	Transmit				Receive	diagnosis			
GELLOTOTO	LW Jordan	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN	· · ·	UNIWN		UNIWN	UNIVAN	UNIWN
TRANSMISSION	Noticetion	NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN ARC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNDOWN	UNION	UNKWN			UNKWN	UNKWN	UNK₩N
BCM	No indication	NG	UNKWN	UNION			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNION		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNITON	UNION			UNKWN			
IPDM E/R	No indication		UNKWN	UNIWN					UNKWN		

### Case 10

#### Check harness between data link connector and driver seat control unit. Refer to LAN-392 .

				1		CAN DIAG S	SUPPORT MNTR	Lagnasia			
SELECT SYS	FEM screen	Initial diagnosis	Transmit diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	UNI WN	UNION
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-		UNKWN	-	-	UNIWN	-
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN LIRC 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN		-	UNKWN		UNIT
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-	UNIWN
AUTO DRIVE POS.	Noncation	NG	UNKWN	-	UNKWN	-	UNKWN	-	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	UNIOWN	-		UNION	-	-	-
IPDM E/R	Notorication		UNKWN	UNKWN	-				UNKWN		

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#### Case 11

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-393</u>.



#### Case 12

Check ECM circuit. Refer to LAN-393 .

						CAN DIAG S	SUPPORT MNTR	fognasia			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNIKAVN		UNIT		KNWWN		NUMAN N	UNIWN	UNIT
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN ORC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC /
METER A/C AMP	No indication		UNKWN	UNIT	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNION			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNITON	UNKŴN	1. A.		UNKWN			
IPDM E/R	No indication		UNKWN	UNIWN		· · ·			UNKWN		

#### Case 13

Check TCM circuit. Refer to LAN-394 .

CELECT OVOT	-	1.26.1	T			GAN DIAG	Receive	diagnosis			
SELECTION	E.M. Screen	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNION		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION	Notorication	NG	UNKWN	UNKWN			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNI WN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNION	-	UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNION			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

#### Case 14

Check display control unit circuit. Refer to LAN-394 .

CELECT OVOI		1.26.1	T	1		GAN DIAO S	Receive /	diagnosis			
SLEEDISYST	EM screen	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	( · · · ·	NG	UNKWN		UNKWN	· · · · ·	UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION	No indication	NG	UNKWN	UNKWN		· · · · ·	UNKWN			UNKWN	
Display control unit	[ - '	CAN COMM	CAN ORC 1	CAN ARC 3	-	-	CAN ARC 5	-	CAN ARC 2	-	CAN FIRC 7
METER A/C AMP	No indication	( · · · · )	UNKWN	UNKWN	UNKWN	UNIWN	.		UNKWN	UNKWN	UNKWN
RCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN		UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKŴN			UNKWN			
IPDM E/R	No indication	( · · · · · · · · · · · · · · · · · · ·	UNKWN	UNKWN			.		UNKWN		

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#### Case 15

Check data link connector circuit. Refer to LAN-395 .

						CAN DIAG :	SUPPORT MNTR				
SELECT SYST	FM screen	Initial	Transmil				Receive	liagnosis			
GELEOTOTO	LIN SOLGEN	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC J
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKŴN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN		UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN		1. A.	UNKWN			
IPDM E/R	No notation		UNKWN	UNKWN					UNKWN		

#### Case 16

Check BCM circuit. Refer to LAN-395 .

						CAN DIAG §	SUPPORT MNTR				
SELECT SYST	FM screen	Initial	Transmit				Receive	diagnosis			
GELEOTOTOT	LIN JOIGGI	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		IN NON	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN IRC 2	-	CAN CIRC /
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			LINE WYN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN		UNI WN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN					UNIVAN		1

#### Case 17

Check unified meter and A/C amp. circuit. Refer to LAN-396 .

						CAN DIAG S	SUPPORT MNTR				
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive of METER/ M&A	flagnosis STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNIWN		UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNION			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN ARC 5	-	CAN CIRC 2	-	CAN CIRC
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNIWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNIWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN			
IPDM E/R	No indication		UNKWN	UNKWN	1				UNKWN		I

#### Case 18

Check steering angle sensor circuit. Refer to LAN-396 .

						CAN DIAG S	SUPPORT MNTR				
SELECT SYS	TEM screen	Initial	Transmil				Receive	liagnosis		,	
OLLEOTOTO	July Solden	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNKWN	
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN			<b>WNKWN</b>			
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN		

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#### Case 19

Check driver seat control unit circuit. Refer to LAN-397 .

			CAN UIAG SUP?/ORT MNTR										
SELECT SYST	EM screen	lnitial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R		
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKŴN		
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNKWN			
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNKWN		
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN		
AUTO DRIVE POS.	Notorication	NG	UNKWN	-	UNKWN		UNKWN		UNKWN	-	-		
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN	1.0				
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN				

#### Case 20

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-397 .

			CAN DIAG SUPPORT MNTR CAN DIAG SUPPORT MNTR Bociyo diagnosis									
SELECT SYST	EM screen	lnitial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R	
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	<b>WNWWN</b>	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN			<b>WNWWN</b>		
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7	
METER A/C AMP	No indication		UNKWN	UNKWN	UNK₩N	UNKWN			UNKWN	<b>KNIKWN</b>	UNKŴN	
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN		UNKWN	-	-	
ABS		NG	UNKAVN	UNKOWN	UNKWN			UNIWN				
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN			

#### Case 21

Check IPDM E/R circuit. Refer to LAN-398 .

		L	CÂN DIAG SUPPORT MNTR										
SELECT SYSTEM screen		Initial	Transmit		Receive diagnosis								
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	STRG	BCM/SEC	ABS	IPDM E/R		
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNU WN		
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNKWN			
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN LIRC 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKŴN	UNKWN			UNKWN	UNKWN	UNIWN		
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNITAN		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-		
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN					
IPDM E/R	Notorication		UNKWN	UNKWN		· · · · ·			UNKWN				

#### Case 22

Check CAN communication circuit. Refer to  $\underline{\text{LAN-399}}$  .

			CAN UIAG SUPPORT MN IR										
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R		
ENGINE		NG	UNITAN		UNIT	· · · ·	UNIVIN		<b>WWWN</b>	UNIWN	UNITER N		
TRANSMISSION	Notication	NG	UNKWN	UNK₩N			UNKWN			UNKWN			
Display control unit	-	CAN COMM	CAN VIRC 1	CALL IRC 3	-	-	CAN DIRC 5	-	CAN IRC 2	-	CAN IRG 7		
METER A/C AMP	Noingeation		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN	UNKWN		
BCM	Notorication	NG	UNKWN	UNKWN			UNKWN				UNKWN		
AUTO DRIVE POS.	Noindication	NG	UNKWN	-	UNKWN		UNKWN		UNKWN	-	-		
ABS		NG	UNIVAN	IN WIN	UNIWN			UNIWN					
IPDM E/R	Notorication		UNKWN	UNKWN					UNKWN				

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### Case 23

Check IPDM E/R Ignition relay circuit. Refer to  $\underline{\text{LAN-399}}$  .

CELECT OVO			Initial Transmit										
SELECTION	LWI screen	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R		
ENGINE		NG	UNKWN		UNKWN		UNKWN		UNKWN	UNKWN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNITAN			UNITION			UNKWN			
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNK₩N	UNKWN			UNKWN	UNKWN	UNKWN		
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	-	UNKWN	-	-		
ABS		NG	UNKWN	INNEWN	UNKŴN			UNIWN					
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN				

CELECT OVER	C 4 4	Laddad	Tanaamit	Receive diagnosis									
SELECTORS	LWISCIEEN	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	STRG	BCM/SEC	VDC/TCS/ ABS	IPDM E/R		
FNGINE		NG	UNKWN		UNITAVN		UNKWN		UNKWN	UNIVN	UNKŴN		
TRANSMISSION	No indication	NG	UNKWN	UNK₩N			UNKWN			UNKWN			
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	-	CAN CIRC 2	-	CAN CIRC 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKIN	UNKWN			UNKWN	UNION	UNKWN		
BCM	No indication	NG	UNKWN	UNKWN			UNKWN				UNKWN		
AUTO DRIVE POS.	No indication	NG	UNKWN		UNIOWN	-	UNKWN	-	UNKWN	-	-		
ABS		NG	UNKWN	UNKWN	UNKWN			UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN					UNKWN				

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# Circuit Check Between TCM and Data Link Connector

### 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect TCM connector F56 and ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between TCM connector F56 terminals 3 (L), 4 (Y) and data link connector M22 terminals 6 (L), 14 (Y).

3 (L) - 6 (L) 4 (Y) - 14 (Y) : Continuity should exist. : Continuity should exist.

#### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-380, "Work Flow"
- NG >> Repair harness.



### Circuit Check Between Driver Seat Control Unit and Data Link Connector EKSODADT 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect driver seat control unit connector P2 and ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between driver seat control unit connector P2 terminals 3 (BR), 19 (Y/G) and data link connector M22 terminals 6 (L), 14 (Y).

3 (BR) - 6 (L)

19 (Y/G) - 14 (Y)

: Continuity should exist. : Continuity should exist.

#### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to  $\underline{\text{LAN-380}}$ .
- NG >> Repair harness.



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# 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.
- OK or NG
- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

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Check resistance between ECM connector M82 terminal 94 (L) and terminal 86 (Y).

#### 94 (L) - 86 (Y)

: Approx. 108 - 132Ω

#### OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ECM connector M82 and TCM connector F56.



# TCM Circuit Check

### 1. CONNECTOR INSPECTION

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect TCM connector F56.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between TCM connector F56 terminal 3 (L) and terminal 4 (Y).

3 (L) - 4 (Y)

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Replace TCM.
- NG >> Repair harness between TCM connector F56 and ECM connector M82.



EKS00A05

# Display Control Unit Circuit Check

# 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect display control unit connector M95.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

Check resistance between display control unit connector M95 terminal 25 (L) and terminal 26 (Y).

: **Approx. 54 - 66**Ω

OK or NG

- OK >> Replace display control unit.
- NG >> Repair harness between display control unit connector M95 and data link connector M22.



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### Data Link Connector Circuit Check

### **1. CONNECTOR INSPECTION**

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check data link connector M22 terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT



#### 6 (L) - 14 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-380.
- NG >> Repair harness between data link connector M22 and BCM connector M18.



# **BCM Circuit Check**

### **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect BCM connector M18.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

Check resistance between BCM connector M18 terminal 39 (L) and terminal 40 (Y).

#### 39 (L) - 40 (Y)

: Approx. 54 - 66 $\Omega$ 

#### OK or NG

- OK >> Replace BCM.
- NG >> Repair harness between BCM connector M18 and data link connector M22.



# Unified Meter and A/C Amp. Circuit Check 1. CONNECTOR INSPECTION

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect unified meter and A/C amp. connector M49.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

### 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between unified meter and A/C amp. connector M49 terminal 1 (L) and terminal 11 (Y).

**1 (L) - 11 (Y)** : Approx. 54 - 66Ω

#### OK or NG

OK >> Replace unified meter and A/C amp.

**Steering Angle Sensor Circuit Check** 

NG >> Repair harness between unified meter and A/C amp. connector M49 and data link connector M22.



EKS00A09

### 1. Turn ignition switch OFF.

1. CONNECTOR INSPECTION

- 2. Disconnect the negative battery terminal.
- 3. Disconnect steering angle sensor connector M47.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.
# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between steering angle sensor connector M47 terminal 4 (L) and terminal 5 (Y).

: **Approx. 54 - 66**Ω

OK or NG

- OK >> Replace steering angle sensor.
- NG >> Repair harness between steering angle sensor connector M47 and data link connector M22.



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# **Driver Seat Control Unit Circuit Check**

# CONNECTOR INSPECTION Turn ignition switch OFF. Disconnect the negative battery terminal. Disconnect driver seat control unit connector P2. Check the terminals for deformation, disconnection, looseness or damage. OK or NG OK or NG OK >> GO TO 2. NG >> Repair or replace as necessary. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between driver seat control unit connector P2 terminal 3 (BR) and terminal 19 (Y/G).

3 (BR) - 19 (Y/G)

: **Approx. 54 - 66**Ω

### OK or NG

OK >> Replace driver seat control unit.

NG >> Repair harness between driver seat control unit connector P2 and data link connector M22.



# ABS Actuator and Electric Unit (Control Unit) Circuit Check 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ABS actuator and electric unit (control unit) connector E125.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ABS actuator and electric unit (control unit) connector E125 terminal 7 (L) and terminal 9 (Y).

: Approx. 54 - 66Ω

### OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) connector E125 and IPDM E/R connector E121.



# **IPDM E/R Circuit Check**

### **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect IPDM E/R connector E121.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (Y).

48 (L) - 49 (Y)

: Approx. 108 - 132 $\Omega$ 

### OK or NG

OK >> Replace IPDM E/R.

NG >> Repair harness between IPDM E/R connector E121 and ABS actuator and electric unit (control unit) connector E125.



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1. CONNECTOR INSPECTION	ŀ
1. Turn ignition switch OFF.	
2. Disconnect the negative battery terminal.	E
3. Disconnect the following module and control unit connectors and check terminals for deformation, di nection, looseness or damage.	scon-
– ECM	(
<ul> <li>TCM (Transmission control module)</li> </ul>	
– Display control unit	-
<ul> <li>BCM (Body control module)</li> </ul>	l
<ul> <li>Unified meter and A/C amp.</li> </ul>	
- Steering angle sensor	1
<ul> <li>Driver seat control unit</li> </ul>	
<ul> <li>ABS actuator and electric unit (control unit)</li> </ul>	
<ul> <li>IPDM E/R (Intelligent power distribution module engine room)</li> </ul>	I
OK or NG	
OK >> GO TO 2.	
NG >> Repair or replace as necessary.	(
2. CHECK HARNESS FOR SHORTED CIRCUITS	
With all module and control unit connectors disconnected check	
continuity between data link connector M22 terminals 6 (L) and 14	
(Y).	
6 (L) - 14 (Y) : Continuity should not exist.	
OK >> GO TO 3.	
NG >> Repair the harness.	
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J. CHECK HARNESS FOR SHORT TO GROUND	
Check continuity between data link connector M22 terminals 6 (L), 14 (Y) and ground.	
6 (L) - Ground : Continuity should not exist. Data link connector	ſ
14 (Y) - Ground : Continuity should not exist.	
$OK \rightarrow Check ECM and IPDM E/R. Refer to I AN-400 "Com-$	
ponent Inspection".	
NG >> Repair the harness.	
	A2079E
IPDM E/R Ignition Relay Circuit Check	EKSODADE
Check the following. If no problem is found replace the IPDM E/P	LNOUAUE
Determine to the providence of	

- IPDM E/R power supply circuit. Refer to PG-24, "IPDM E/R Power/Ground Circuit Inspection" . .
- Ignition power supply circuit. Refer to PG-11, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/ • <u>OR START"</u>.

**LAN-399** 

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CAN Communication Circuit Check	

### Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
  - 94 86

: **Approx. 108 - 132**Ω

• Check resistance between IPDM E/R terminals 48 and 49.

48 - 49

: **Approx. 108 - 132**Ω



# **System Description**

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

# **Component Parts and Harness Connector Location**



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EKS009ZE

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# Schematic

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# LAN-CAN-50



# [CAN]



### **Work Flow**

[CAN]

1. When there are no indications of "TRANSMISSION", "BCM", "IPDM E/R" or "METER A/C AMP" on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)	NISSAN	SELECT SYSTEM	
		ENGINE	
	CONSULT- II	A/T	
		ABS	
		AIR BAG	
	ENGINE	ВСМ	
	START (NISSAN BASED VHCL)	METER A/C AMP	
	START (RENAULT BASED VHCL)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "IPDM E/R" and "ABS" displayed on CONSULT-II.

(Example)	SELECT DIAG MODE	SELF-DIAG RESULTS
, , ,	WORK SUPPORT	DTC RESULTS TIME
	SELF-DIAG RESULTS	
	DATA MONITOR	
	DATA MONITOR (SPEC)	
	CAN DIAG SUPPORT MNTR	
	ACTIVE TEST	
		F.F.DATA
	Scroll Down	ERASE PRINT
	BACK LIGHT COPY	MODE BACK LIGHT COPY

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/ C AMP", "IPDM E/R" and "ABS" displayed on CONSULT-II.



4. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks onto the items with "No indication", "NG", or "UNKWN" in the check sheet table.

SELECT SYSTEM screen		CAN DIAG SUPPORT MINTR								
		Initial diagnosis	Transmit diagnosis	FCM	1CM	DISP  AY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	-
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

### NOTE:

• If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

_		
	<ul> <li>The "CAN DIAG SUPPORT MNTR" items which are not in check sheet table are not related to diagnos- tic procedure on service manual. Therefore, it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.</li> </ul>	A
5.	Mark the "NG" or "UNKWN" item of the check sheet table from the result of CAN DIAG SUPPORT MONI- TOR check sheet.	В
	<b>NOTE:</b> If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.	С
6.	According to the Check Sheet Results, start inspection.	
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# CHECK SHEET

### Check sheet table

					CAI	N DIAG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit				Receive diagnosi	5		
GEECHUIGI	EW SCICCI	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	+	UNKWN	-	UNKWN	UNKWN	+	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	*	*	UNKWN
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	+	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	+	UNKWN	+	-

### Symptoms:

Attach copy of SELECT SYSTEM	Attach copy of SELECT SYSTEM

Attach copy of display unit CAN DIAG MONITOR check sheet

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[CAN]



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# CHECK SHEET RESULTS Case 1

Replace ECM.

					CA	N DIAG SUPPOR	T MNTR			
SELECT SYST	FM screen	Initial	Transmit				Receive diagnosi	s		
OLLLOT OTO	Emocro	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		<b>V</b>	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN	-	UNKWN	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	-		-
IPDM E/R	No indication	-	UNKWN	UNKWN		-	-	UNKWN		-

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	PLUCI PVPU Massaan		CAN DIAG SUPPORT MNTR								
SELLECT SVS			Iraacmit	Receive diagnosis							
of the of or of the wallout		diagnosis	diagnosis	ECM	1CM	DISP  AY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R	
ENGINE	-	NG	UNKWN	-	UNIKAWN	-	UNIOWN	UNIWN	UNIWN	UNITAN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	-	
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7	
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN	
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN	
ABS		NG	UNKWN	UNKWN	UNKWN						
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-	

# Case 2

Replace TCM.

		CAN DIAG SUPPORT MNTR								
SELECT SYS	IEM screen	Initial	Transmit				Receive diagnosi	s		
		diagnosis	diagnosis	ECM	1CM	DISPLAY	METER/ M&A	BCM/SEC	ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNIKAWN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	V	UNKWN	UNKWN		-	UNKWN	-	UNKWN	-
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNIPOVN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN		· ·	UNKWN			UNKWN
ABS		NG	UNKWN	UNKWN	UNKON	· ·				
IPDM E/R	No indication	-	UNKWN	UNKWN		-	-	UNKWN	-	-

					CAN	I DIAG SUPPOR	T MNTR Receive disense			
SELECT SYSTEM	Miscreen	Initial diagnosis	Transmit diagnosis	ECM	1CM	DISPLAY	METER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNIT	-	-	UNIWN	-	UNIT	-
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN		-	-	UNKWN	-	-

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### Case 3

Replace display unit.

SELECT SYSTEM screen

No indication

No indication

No indication

No indication

ENGINE

Display unit

BCM

ABS

IPDM E/R

TRANSMISSION

METER A/C AMP

Initial diagnosis

NG

NG

CAN COMM

NG

NG

Transmit diagnosis

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UNKWN

UNKWN

UNKWN

UNKWN

TCM

UNKWN

UNKWN

UNKWN

					CAL	N DIAG SUPPOR	T MNTR			
SUICCI SVS	I FM ccroon	Initial	Tragemit				Receive diagnosi	s		
511, 61 515	n, washoon	diagnosis	diagnosis	ECM	1CM	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN		-	UNKWN	-	UNKWN	-
Display unit			CAN 1	CAN 3	· ·		CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKW
BCM	No indication	NG	UNKWN	UNKWN		· ·	UNKWN			UNKWN
ABS	· ·	NG	UNKWN	UNKWN	UNKWN	· ·				
IPDM E/R	No indication	-	UNKWN	UNKWN		-	-	UNKWN	-	-

CAN DIAG SUPPORT MNTR

DISPLAY

UNKWN

ceive diagnos ME1ER/ M&A

UNKWN

UNKWN

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UNKWN

BCM/SEC

UNKWN

V12

UNKWN

UNKWN

VDC/TCS/ ABS

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UNKWN

UNKWN

IPDM E/R

UNKWN

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# Case 4

Replace BCM.

					CAN	I DIAG SUPPOR	T MNTR			
SULCOLEVEL	EMecroop	Initial	Tranemit				Receive diagnosi	s		
511, 61 51 51	( Wiscidan	diagnosis	diagnosis	ECM	1CM	DISP  AY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWI
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	-
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKW
BCM	No indication	V	UNKWN	UNKWN			UNKWN			UNKWN
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

					CA	N DIAG SUPPOR	T MNTR			
SELECT SYS	IEM screen	Initial	Transmit				Receive diagnosi	s		
011201010		diagnosis	diagnosis	ЕСМ	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	-
Display unit		CAN COMM	CAN 1	CAN 3	•		CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNIONN			UNITON			UNIWN
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

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### Case 5

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Replace unified meter and A/C amp.

SH-LCU St3-EW Broen         Initial diagnosis         FEAM         TCM         DISPLAY         Mil-1F-W         BCMSEC         VOC/TCS/ VOC/TCS/ HS         IPUM E           ENGINE         -         NG         UNKWN         -         UNKWN         -         UNKWN         -         UNKWN         UNKWN         UNKWN         -         UNKWN         -         UNKWN         -         -         UNKWN         -         -         UNKWN         -         -         -         UNKWN         -         -         -         UNKWN         -	ou cat own		1-14-1	X 14		0/1		Receive diagnosi	s		
ENGINE         -         NG         UNKWN         -         UNKWN         -         UNKWN	5FI, 5GI 513	rewisciedi	diagnosis	diagnosis	ECM	1CM	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
TRANSMISSION         No indication         NG         UNKWN         UNKWN         -         UNKWN         UNKWN <th>ENGINE</th> <th>-</th> <th>NG</th> <th>UNKWN</th> <th>-</th> <th>UNKWN</th> <th>-</th> <th>UNKWN</th> <th>UNKWN</th> <th>UNKWN</th> <th>UNKWN</th>	ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
Display unit         CAN COMM         CAN 1         CAN 3         CAN 5         CAN 2         CAN 1           MFTER ACCAMP         No indication         UNKVN         Legion         Legion         UNKVN         Legion         UNKVN         Legion         UNKVN         Legion         UNKVN         UNKVN         Legion         UNKVN	TRANSMISSION	No indication	NG	UNKWN	UNKWN		-	UNKWN	-	UNKWN	-
METER ALCAMP         No indication         UNKWN         UNKWN </td <td>Display unit</td> <td></td> <td>CAN COMM</td> <td>CAN 1</td> <td>CAN 3</td> <td></td> <td></td> <td>CAN 5</td> <td>CAN 2</td> <td></td> <td>CAN 7</td>	Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
BCM No indication NG UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN	METER A/C AMP	No indication		UNKWN	UNIWN	UNKOVN	UNION		UNKOVN	UNION	UNKWN
	всм	No indication	NG	UNKWN	UNKWN	· ·	· ·	UNKWN			UNKWN
ABS NG UNKWN UNKWN UNKWN	ABS	· ·	NG	UNKWN	UNKWN	UNKWN					
IPDM E/R         No indication         -         UNKWN         UNKWN         -         -         UNKWN         -         <	IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

### Case 6

Replace ABS actuator and electric unit (control unit).

					CAN	I DIAG SUPPOR	T MNTR			
SULCCIEVED	EMecroon	Initial	Tranemit				Receive diagnosi	s		
01,010101	( Wiscicul	diagnosis	diagnosis	÷см	1CM	DISP  AY	METER/ M&A	8CM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNION	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	UNION	-
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNIWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
ABS		$\checkmark$	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

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		L			CA	N DIAG SUPPOR	RT MNTR			
SELECT SYS	IEM screen	Initial	Transmit				Receive diagnosi	s		
		diagnosis	diagnosis	ECM	1CM	DISP  AY	METER/ M&A	8CM/SFC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	-
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN	· .	· ·	UNKWN			UNKWN
ABS	· ·	NG	UNKWN	UNIOWN	UNITAVN	· ·	· · ·			
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

# Case 7

Replace IPDM E/R.

					CAL	I DIAG SUPPOR	T MNTR			
SELECT SYS	IEM screen	Initial diagnosis	Transmit diagnosis	E-CM	1CM	DISP  AY	METER/ METER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	-
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNION	-	-	-		-	-

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### Case 8

Check harness between TCM and data link connector. Refer to LAN-417 .



### Case 9

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-</u> <u>417</u>.

					CA	I DIAG SUPPOR	T MNTR			
SELECT SYS	IEM screen	Initial	Transmit				Receive diagnosi	s		
		diagnosis	diagnosis	ECM	1CM	DISP  AY	METER/ M&A	BCM/SFC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNIWN	UNIWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN		-	UNKWN	-	UNITAN	-
Display unit		CAN COMM	CAN 1	CAN 3	· ·		CAN 5	CAN 2		¥7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNIT	UNIT
BCM	No indication	NG	UNKWN	UNKWN	· ·		UNKWN			UNITON
ABS		NG	UNKWN	UNKOWN	UNHOWN					
IPDM E/R	Noted	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

### Case 10

Check ECM circuit. Refer to LAN-418.

					CAL	I DIAG SUPPOR	T MNTR			
PLICOLEVE	EM aeroon	Initial	Transmit				Receive diagnosi	s		
361,501,313	rewisciedi	diagnosis	diagnosis	ECM	1CM	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/
ENGINE	-	NG	UNIKAVN	-	UNIKOVN	-	UNIWN	UNUWN	UNIWN	UNUW
TRANSMISSION	No indication	NG	UNKWN	UNIWN	-	-	UNKWN	-	UNKWN	-
Display unit		CAN COMM	CAN 1	<b>3</b>			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKŴN	UNEWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKW
BCM	No indication	NG	UNKŴN	UNHWN			UNKWN			UNKWI
ABS		NG	UNKWN	UNIKAVN	UNKWN					
IPDM E/R	No indication		UNKWN	UNEWN		-	-	UNKWN	-	-

### Case 11

Check TCM circuit. Refer to LAN-419.

					CAN	N DIAG SUPPOR	RT MNTR			
SELECT SYS	IEM screen	Initial diagnosis	Transmit diagnosis	⊢CM	1CM	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNIERVN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	Notection	NG	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	-
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKOVN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN		· ·	UNKWN			UNKWN
ABS		NG	UNKWN	UNKWN	UNIKOVN	· ·	· · ·			
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

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### Case 12

Check display unit circuit. Refer to LAN-419 .

				1	CAL	I DIAG SUPPOR	T MNTR Receive disensei	e		
SELECT SYS	IEM screen	Initial diagnosis	Transmit diagnosis	ECM	1CM	DISP  AY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	-
Display unit		CAN COMM	<b>V</b> 1	<b>\$</b>			SAA 5	<b>\$</b> 12		<b>\$</b> 17
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	LINE WN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

### Case 13

Check data link connector circuit. Refer to LAN-420.

					CAN	DIAG SUPPOR	TMNTR			
SELECT SVST	FM coroon	Initial	Tranemit				Receive diagnosi	s		
51, 51 51 51 51 51 51 51 51 51 51 51 51 51	it wisciddi	diagnosis	diagnosis	ECM	1CM	DISP  AY	ME1ER/ M&A	8CM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	Notication	NG	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	-
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	Notorication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	Notorication	NG	UNKWN	UNKWN			UNKWN			UNKWN
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	Notescation	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

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### Case 14

Check BCM circuit. Refer to LAN-420.

SHLECI SYJE         Initial diagnosis         Transmit diagnosis         Technologic diagnosis         Technologic diagnosis <thtechnologic diagnosis         Technologic d</thtechnologic 						CAN	I DIAG SUPPOR	T MNTR			
diagnosis         diagnosis         f-EM         TCM         DISPTAY         Min-Ti-Ry Min-Ti-Ry Min-Ti-Ry         DCM/SEC         VD/TC/S Min-Ti-Ry         Min-Ti-Ry Min-Ti-Ry         DCM/SEC         VD/TC/S Min-Ti-Ry         Min-Ti-Ry Min-Ti-Ry         DCM/SEC         VD/TC/S Min-Ti-Ry         Min-Ti-Ry         DCM/SEC         VD/TC/S         Min-Ti-Ry           ENGINE         -         NG         UNKWN         -         UNKWN         VD/TC/S         UNKWN         UNKWN         UNKWN         UNKWN         UNKWN         UNKWN         UNKWN         UNKWN         UNKWN	SELECT SYST	EM screen	Initial Transmit					Receive diagnosi	s		
ENGNE         -         NG         UNKWN         -         UNKWN         -         UNKWN         I			diagnosis	diagnosis	ECM	1CM	DISP  AY	METER/ M&A	8CM/SEC	VDC/TCS/ ABS	IPDM E/R
TRANSMISSION         No indication         NG         UNKWN         UNKWN          UNKWN          UNKWN          UNKWN          UNKWN          UNKWN          UNKWN          UNKWN          UNKWN          UNKWN          UNKWN          UNKWN          CAN 5         CAN 5         CAN 5         CAN 7           MF LFR AC AMP         No indication         -         UNKWN         UNK	ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	<b>WNWN</b>	UNKWN	UNKWN
Display unit         CAN COM METER AC AMP         CAN No indication         CAN 1         CAN 3         CAN 3         CAN 5         CA2 2         CAN 7           METER AC AMP         No indication         UNKWN	TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	-
METER A/C AMP         No indication         ···         UNKWN         UNKWN <td>Display unit</td> <td></td> <td>CAN COMM</td> <td>CAN 1</td> <td>CAN 3</td> <td></td> <td></td> <td>CAN 5</td> <td><b>\$</b>12</td> <td></td> <td>CAN 7</td>	Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	<b>\$</b> 12		CAN 7
BCM         Noceanin         NC         UNKWN         UNKWN         Image: Noceaning State         Image: Noceaninaninaning State         Image: Noceaninaninani	METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN			UNKWN	UNKWN
ABS         ·         NC         UNKWN         UNKWN         · </td <td>BCM</td> <td>Notorcation</td> <td>NG</td> <td>UNKWN</td> <td>UNKWN</td> <td></td> <td></td> <td>UNKWN</td> <td></td> <td></td> <td>UNKWN</td>	BCM	Notorcation	NG	UNKWN	UNKWN			UNKWN			UNKWN
IPDM E/R         No indication         -         UNKWN         - <td>ABS</td> <td></td> <td>NG</td> <td>UNKWN</td> <td>UNKWN</td> <td>UNKWN</td> <td></td> <td></td> <td></td> <td></td> <td></td>	ABS		NG	UNKWN	UNKWN	UNKWN					
	IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNION	-	-

### Case 15

Check unified meter and A/C amp. circuit. Refer to LAN-421 .

SH-LECT SYSTEM servorul diagnosis         Transmit diagnosis         Transmit ECM         Transmit LeC         Transmit Stress         Transmit LeC         Transmit Stress         Transmit BCM         Transmit Stress         Transmit BCM         Transmit Stress         Transmit BCM         Transmit Stress         Transmit BCM         Transmit Stress         Transmit BCM         Transmi BCM         Transmit BCM <th< th=""><th></th><th></th><th></th><th></th><th></th><th>CAN</th><th>I DIAG SUPPOR</th><th>T MNTR</th><th></th><th></th><th></th></th<>						CAN	I DIAG SUPPOR	T MNTR			
diagnosis         diagnosis         ECM         TCM         DISPLAY         MELERA MAA         BCMISEC         VD/TCS         VD/DTCS         VD/VN         UNKWN         <	SELECT SYS	IEM screen	Initial	Transmit				Receive diagnosi	s	. In here the standard	
ENGINE          NG         UNKWN          UNKWN          UNKWN </td <td></td> <td></td> <td>diagnosis</td> <td>diagnosis</td> <td>ECM</td> <td>1CM</td> <td>DISP  AY</td> <td>ME1ER/ M&amp;A</td> <td>8CM/SFC</td> <td>VDC/TCS/ ABS</td> <td>IPDM E/R</td>			diagnosis	diagnosis	ECM	1CM	DISP  AY	ME1ER/ M&A	8CM/SFC	VDC/TCS/ ABS	IPDM E/R
TRANSMISSION         No indication         NG         UNKWN         UNKWN	ENGINE	-	NG	UNKWN	-	UNKWN	-	UNIWN	UNKWN	UNKWN	UNKWN
Display unit         CAN COMM         CAN 1         CAN 3         CAN 2         CAN 5         CAN 2         CAN 5         CAN 2         CAN 5           ME FER ALC AMP         No spacing         UNKWN         UN	TRANSMISSION	No indication	NG	UNKWN	UNKWN		-		-	UNKWN	-
METER A/C AMP         No. Specialion         UNRWN	Display unit		CAN COMM	CAN 1	CAN 3			₩5	CAN 2		CAN 7
BGM         No indication         NG         UNKWN	METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
ABS         NC         UNKWN         UNKWN         . <t< td=""><td>BCM</td><td>No indication</td><td>NG</td><td>UNKWN</td><td>UNKWN</td><td></td><td></td><td>UNITON</td><td></td><td></td><td>UNKWN</td></t<>	BCM	No indication	NG	UNKWN	UNKWN			UNITON			UNKWN
IPDM E/R No indication - UNKWN UNKWN UNKWN	ABS		NG	UNKWN	UNKWN	UNKWN					
	IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

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### Case 16

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-421 .

				1	CA	N DIAG SUPPOR	CEMINER Receive disense	¢		
SELECT SYS	EM screen	Initial diagnosis	Transmit diagnosis	ECM	1CM	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNIWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN		-	UNKWN	-	UNIAN	-
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNION	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	· ·	· ·	UNKWN			UNKWN
ABS		NG	UNIXAN	UNIWN	UNKAVN	· ·	· · ·			
IPDM E/R	No indication	-	UNKWN	UNKWN		-	-	UNKWN	-	-

### Case 17

Check IPDM E/R circuit. Refer to LAN-422 .

					CAI	N DIAG SUPPOR	TMNTR			
SULCCE SVS	FM ccroop	Initial	Tranemit				Receive diagnosi	s		
51, 51 51 51 51 51 51	it wiscidan	diagnosis	diagnosis	ECM	1CM	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	BURN
TRANSMISSION	No indication	NG	UNKWN	UNKWN		-	UNKWN	-	UNKWN	-
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		\$17
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNDOWN
BCM	No indication	NG	UNKWN	UNKWN		· ·	UNKWN			UNITON
ABS		NG	UNKWN	UNKWN	UNKWN		· · · · · ·			
IPDM E/R	Noticetion	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

### Case 18

Check CAN communication circuit. Refer to LAN-422.



### Case 19

Check IPDM E/R Ignition relay circuit. Refer to LAN-423.

		Concentration of the second se										
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	FCM	1CM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNION	-	-	UNIWN	-	UNKWN	-		
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN		
всм	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN		
ABS		NG	UNKWN	UNIWN	UNKWN							
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-		

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# [CAN]

					CAN	I DIAG SUPPOR	T MNTR			
SELECT SYS	IEM screen	Initial	Transmit				Receive diagnosi	s		
		diagnosis	diagnosis	ECM	1CM	DISP  AY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNIKAVN	-	UNKWN	UNKWN	UNION	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	-
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNITION	UNKWN		UNKWN	UNIT	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

Circuit Check Between TCM and Data Link Connector 1. CONNECTOR INSPECTION	EKS009ZI
<ol> <li>Turn ignition switch OFF.</li> <li>Disconnect the negative battery terminal.</li> <li>Disconnect TCM connector F56 and ECM connector M82.</li> <li>Check the terminals for deformation, disconnection, looseness or damage.</li> </ol> OK or NG OK - >> GO TO 2	
NG >> Repair or replace as necessary. 2. CHECK HARNESS FOR OPEN CIRCUIT	
Check continuity between TCM connector F56 terminals 3 (L), 4 (Y) and data link connector M22 terminals 6 (L), 14 (Y).	P D
3 (L) - 6 (L)       : Continuity should exist.         4 (Y) - 14 (Y)       : Continuity should exist.	Data link connector
$\frac{OK \text{ or NG}}{OK} >> \text{ Connect all connectors and diagnose again. Refer to}$	<u>6, 14</u>
NG >> Repair harness.	Q WKIA0427E

# Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)

# 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ABS actuator and electric unit (control unit) connector E125 and ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

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# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between data link connector M22 terminals 6 (L), 14 (Y) and ABS actuator and electric unit (control unit) connector E125 terminals 20 (L), 23 (Y).

- 6 (L) 20 (L)
- 14 (Y) 23 (Y)

: Continuity should exist. : Continuity should exist.

### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to  $\underline{\text{LAN-406}}$ .
- NG >> Repair harness.



# **ECM Circuit Check**

EKS009ZK

# **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ECM connector M82 terminal 94 (L) and terminal 86 (Y).

### 94 (L) - 86 (Y)

: Approx. 108 - 132 $\Omega$ 

### OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ECM connector M82 and TCM connector F56.



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### 3 (L) - 4 (Y)

: Approx. 54 - 66 $\Omega$ 

### OK or NG

- OK >> Replace TCM.
- NG >> Repair harness between TCM connector F56 and ECM connector M82.



# **Display Unit Circuit Check**

- 1. CONNECTOR INSPECTION
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect display unit connector M93.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between display unit connector M93 terminal 25 (L) and terminal 26 (Y).

### 14 (L) - 16 (Y)

### : Approx. 54 - 66 $\Omega$

### <u>OK or NG</u>

OK >> Replace display unit.

NG >> Repair harness between display unit connector M93 and data link connector M22.



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# Data Link Connector Circuit Check

# 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check data link connector M22 terminals for deformation, disconnection, looseness or damage.

: Approx. 54 - 66Ω

### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminal 6 (L) and terminal 14 (Y).

### 6 (L) - 14 (Y)

OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-406.
- NG >> Repair harness between data link connector M22 and BCM connector M18.



# **BCM Circuit Check**

### **1. CONNECTOR INSPECTION**

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect BCM connector M18.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between BCM connector M18 terminal 39 (L) and terminal 40 (Y).

### 39 (L) - 40 (Y)

: **Approx. 54 - 66**Ω

### OK or NG

- OK >> Replace BCM.
- NG >> Repair harness between BCM connector M18 and data link connector M22.



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	[CAN]
Unified Meter and A/C Amp. Circuit Check 1. CONNECTOR INSPECTION	EKS009ZP
<ol> <li>Turn ignition switch OFF.</li> <li>Disconnect the negative battery terminal.</li> <li>Disconnect unified meter and A/C amp. connector M49.</li> <li>Check the terminals for deformation, disconnection, looseness of OK or NG</li> <li>OK &gt;&gt; GO TO 2.</li> <li>NG &gt;&gt; Repair or replace as necessary.</li> <li>CHECK HARNESS FOR OPEN CIRCUIT</li> </ol>	or damage.
Check resistance between unified meter and A/C amp. connector M49 terminal 1 (L) and terminal 11 (Y).	
1 (L) - 11 (Y)       : Approx. 54 - 66Ω         OK or NG       OK         OK       >> Replace unified meter and A/C amp.         NG       >> Repair harness between unified meter and A/C amp.         connector M49 and data link connector M22.	Unified meter and A/C amp.connector
ABS Actuator and Electric Unit (Control Unit) Circ 1. CONNECTOR INSPECTION	cuit Check
1. Turn ignition switch OFF.	

- 2. Disconnect the negative battery terminal.
- 3. Disconnect ABS actuator and electric unit (control unit) connector E125.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ABS actuator and electric unit (control unit) connector E125 terminal 20 (L) and terminal 23 (Y).

### 20 (L) - 23 (Y)

: **Approx. 54 - 66**Ω

### OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) connector E125 and IPDM E/R connector E121.



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# IPDM E/R Circuit Check

# **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect IPDM E/R connector E121.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (Y).

48 (L) - 49 (Y)

: Approx. 108 - 132 $\Omega$ 

### OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R connector E121 and ABS actuator and electric unit (control unit) connector E125.



# **CAN Communication Circuit Check**

- 1. CONNECTOR INSPECTION
- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
- ECM
- TCM (Transmission control module)
- Display unit
- BCM (Body control module)
- Unified meter and A/C amp.
- ABS actuator and electric unit (control unit)
- IPDM E/R (Intelligent power distribution module engine room)

### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR SHORTED CIRCUITS

With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (L) and 14 (Y).

### 6 (L) - 14 (Y)

: Continuity should not exist.

OK or NG

- OK >> GO TO 3.
- NG >> Repair the harness.



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# 3. CHECK HARNESS FOR SHORT TO GROUND

Check continuity between data link connector M22 terminals 6 (L), 14 (Y) and ground.

6 (L) - Ground 14 (Y) - Ground : Continuity should not exist. : Continuity should not exist.

OK or NG

- OK >> Check ECM and IPDM E/R. Refer to <u>LAN-423</u>, "Component Inspection".
- NG >> Repair the harness.

# **IPDM E/R Ignition Relay Circuit Check**

Check the following. If no problem is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-24, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-11</u>, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/ <u>OR START</u>".

# Component Inspection ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.

**94 - 86** : Approx. 108 - 132Ω

• Check resistance between IPDM E/R terminals 48 and 49.

48 - 49

: **Approx. 108 - 132**Ω



Data link connector

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# **System Description**

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

# **Component Parts and Harness Connector Location**



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EKS009YU



WKWA0469E

EKS009YW

LAN-CAN-52

DATA LINE



1 2 3 4 5 6 **—** 7 8 9 10 11 **(F**59) 12 13 14 15 16 17 18 19 20 21 22 23 24 W REFER TO THE FOLLOWING. (M82), (F56) - ELECTRICAL UNITS

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BKWA0250E

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Revision: June 2004

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1. When there are no indications of "TRANSMISSION", "METER A/C AMP", "BCM", "IPDM E/R" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)	NISSAN	SELECT SYSTEM	
		ENGINE	
	CONSULT- II	A/T	
		ABS	
		AIR BAG	
	ENGINE	всм	
	START (NISSAN BASED VHCL)	METER A/C AMP	
	START (RENAULT BASED VHCL)	mererovo /um	
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

2. Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II.

(Example)	SELECT DIAG MODE	SELF-DIAG RESUL	LTS	
(,	WORK SUPPORT	DTC RESULTS	TIME	
	SELF-DIAG RESULTS	CAN COMM CIRCUIT	0	
	DATA MONITOR			
	DATA MONITOR (SPEC)			
	CAN DIAG SUPPORT MNTR			
	ACTIVE TEST			
		F	F.F.DATA	
	Scroll Down	ERASE PR	RINT	
	BACK LIGHT COPY	MODE BACK LIGHT	COPY PKIA8260	E

 Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/ C AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II.



4. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks onto the items with "No indication", "NG", or "UNKWN" in the check sheet table.

			CAN DIAG SUPPORT MN IR							
SELECT SYS	EM screen	Initial	Transmit	Receivo diagnosis						
OLLEGT OT OTLIVISOIDEIT		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	· ·		UNKWN		UNKWN	
Display unit		CAN COMM	CAN 1	CAN 3	·		CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

### NOTE:

**Work Flow** 

• If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

- The "CAN DIAG SUPPORT MNTR" items which are not in check sheet table are not related to diagnostic procedure on service manual.
   Therefore, it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.
- 5. Mark the "NG" or "UNKWN" item of the check sheet table from the result of CAN DIAG SUPPORT MONI-TOR check sheet.

### NOTE:

If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

6. According to the Check Sheet Results, start inspection.

# CHECK SHEET

### Check sheet table

		CAN DIAG SUPPORT MNTR									
SELECT SYSTEM screen	Initial	Transmit diagnosis	Receive diagnosis								
500000	d		ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN	
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	-	
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7	
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN	
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	+	-	
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-	-	
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-	

### Symptoms:

Attach copy of SELECT SYSTEM	Attach copy of SELECT SYSTEM

Attach copy of display unit CAN DIAG MONITOR check sheet

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# CHECK SHEET RESULTS Case 1

Replace ECM.

					CAN	I DIAG SUPPOR	T MNTR			
SELECT SVST	EM coroon	Initial	Transmit				Receive diagnosis	5		
SELECT STST	EMISCIERI	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/F
ENGINE	-	<b>V</b>	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-		UNKWN	-	UNKWN	-
Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	CAN 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN			-	UNKWN		

					CAI	N DIAG SUPPOR	TMNER			
SELECT SYST	EMiscreen	Initial	Trabsmil				Receive diagnosi	s		
GLEOTOTOT	Lin Jorgon	diagnosis	diagnosis	ECM	TCM	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/F
ENGINE		NG	UNKWN		UNIONN		UNION	UNIVN	UNIWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display unif		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
ВСМ	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

## Case 2

Replace TCM.

					CAI	N DIAG SUPPOR	TIMNER			
SELECT SYST	EM versee	Initial	Tratemil				Receivo diagnosi	s		
SELECTOR		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/
ENGINE		NG	UNKWN	· ·	UNICOVN		UNKWN	UNKWN	UNKWN	UNKWN
<b>FRANSMISSION</b>	No indication	$\checkmark$	UNKWN	UNKWN			UNKWN		UNKWN	
Display unit		CAN COMM	CAN 1	CAN 3	· .		CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNIKAVN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKW
AUTO DRIVE POS.	No indication	NG	UNKWN		UNIKAN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNIDAVN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

					CA	N DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive diagnosi ME1ER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ÉNGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNIOWN			UNIWN		UNION	
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

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## Case 3

Replace display unit.

					CAL	N DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ЕСМ	ТСМ	DISPLAY	Receive diagnosi METER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display unit		CAN MM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

					CAI	V DIAG SUPPOR	T MN FR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	Receive diagnosi: METER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN	UNKWN	UNKWN
<b>FRANSMISSION</b>	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display unif		CAN COMM	CAN 1	<b>₩</b> 3	·		<b>€</b> ∕15	<b>V</b> 12		<b>V</b> 17
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN		· ·		UNKWN		[

## Case 4

Replace BCM.

					CAI	N DIAG SUPPOR	TMNTR			
SELECT SYS	TEM screen	Initial	Transmit		,	,	Receivo diagnosi	ş		
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN	1	UNKWN	
Display unif		CAN COMM	CAN 1	CAN 3	·	•	CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	$\checkmark$	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

					CAI	N DIAG SUPPOR	T MN FR			
SELECT SYS	FEM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	Receivo diagnosi MF 1FR/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN	UNKWN	UNKWN
<b>FRANSMISSION</b>	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display unit		CAN COMM	CAN 1	CAN 3	·		CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNION			UNIDAN			UNION
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

### Case 5

Replace unified meter and A/C amp.

					CAI	N DIAG SUPPOR	T MN FR			
SELECT SYST	EM screen	Initial	Transmit		r		Receive diagnosi	s 1	1	r
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display unif		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKOVN	UNKAN	UNKOVN		LINKWN	UNION	UNION
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

### Case 6

Replace driver seat control unit.

					CA	N DIAG SUPPOR	TIMNER			
SELECT SYST	CM uerope	Initial	Tratemit				Receivo diagnosi	s		
SELECT STOT	LW SCIEGH	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	· ·	UNKWN		UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	· ·	· ·	UNKWN		UNKWN	
Display unit		CAN COMM	CAN 1	CAN 3	·	·	CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	V	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN	1.00				
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

					CA	N DIAG SUPPOR	TMNER			
SELECT SYST	FM screen	Initial	Trabsmit				Receive diagnosi	s		
OLLEOTOTOT	LWSOCOT	diagnosis	diagnosis	ECM	тсм	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN	UNKWN	UNKWN
<b>FRANSMISSION</b>	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNK₩N	UNKWN
всм	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNIONN	-	UNIONN	UNIWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

## Case 7

Replace ABS actuator and electric unit (control unit).

					CA	N DIAG SUPPOR	ET MN FR			
SELECT SYS	TEM screen	Initial	Trapsmit				Receivo diagnosi	s		
GELEOTOTO	i Lim Jongan	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN	UNION	UNKWN
<b>TRANSMISSION</b>	No indication	NG	UNKWN	UNKWN			UNKWN		LINUWN	
Display unit		CAN COMM	CAN 1	CAN 3	·		CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	LINKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		V.	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN	· · ·			UNKWN	[	[

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					CAI	V DIAG SUPPOR	T MN FR			
SELECT SYST	EM screen	Initial	Trapsmit				Receivo diagnosi:	s		
GELEOTOTO		diagnosis	diagnosis	ЕСМ	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display unit		CAN COMM	CAN 1	CAN 3	·		CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNIWN	UNIDAVN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

## Case 8

Replace IPDM E/R.

					CAI	N DIAG SUPPOR	TMNTR			
SELECT SYS	EM screen	Initial	Transmit				Roceivo diagnosi	s	·····	
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNIWN				UNION		

## Case 9

Check harness between TCM and data link connector. Refer to  $\underline{\text{LAN-441}}$  .

					CAL	N DIAG SUPPOR	T MN FR			
SELECT SYST	EM screen	Initial	Transmil			,	Receivo diagnosi	s		
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNHOVN	UNIT	UNIWN	UNION
<b>FRANSMISSION</b>	No operation	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display unit		CAN COMM	CAN 1	<b>₩</b> 3		·	CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNBWN	UNIKAN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNITAN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNIOWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNION	UNIKAN					
IPDM E/R	No indication		UNKWN	UNIWN				UNKWN		

## Case 10

#### Check harness between data link connector and driver seat control unit. Refer to LAN-441 .

CAN DIAG SUPPORT INTER           SELECT SYSTEM Screen           Initial diagnosis         Transmit diagnosis         Transmit ECM         TCM         DISPLAY         METER/ MAGA         BCM/SEC         VDC/TCS/ ABS         IPDM E/R           ENGINE         -         NG         UNKWN         -         UNKWN         -         UNKWN											
Receive diagnosis         Receive diagnosis           Receive diagnosis           ELECT SYSTEM screen         Initial diagnosis         Transmit diagnosis         ECM         TCM         DISPLAY         METER/ MAS         BCM/SEC         VDC/TCS/ ABS         IPDM E/R           ENGINE         -         NG         UNKWN         -         UNKWN					1	CA	I DIAG SUPPOR	TMNTR			
ENGINE         -         NG         UNKWN         -         UNKWN         -         UNKWN         -         Display unit         -         CAN         CAN 1         CAN 3         -         -         CAN 5         CAN 2         -         CAN 7           METER A/C AMP         No indication         -         UNKWN         UN	SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
TRANSMISSION         No indication         NG         UNKWN         UNKWN         -         UNKWN	ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNIWN	UNIWN
Display unit         -         CAN COMM         CAN 1         CAN 3         -         CAN 5         CAN 2         -         String Top           METER A/C AMP         No indication         -         UNKWN	TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	UNION	-
METER A/C AMP         No indication         -         UNKWN         UNKWN         UNKWN         -         UNKWN         UUKWN         UUKWN         -         UUKWN         UUKWN         UUKWN         -         UUKWN         UUKWN         -         -         UUKWN         -         UUKWN         -         -         -         UUKWN         -	Display unit	-	CAN COMM	CAN 1	CAN 3	-	-	CAN 5	CAN 2	-	<b>SA</b> 7
BCM         No indication         NG         UNKWN         UNKWN         UNKWN         UNKWN         Image: Constraint of the second	METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNIWN	UNIWN
AUTO DRIVE POS.         Notification         NG         UNKWN         UNKWN         UNKWN         UNKWN         - <td>BCM</td> <td>No indication</td> <td>NG</td> <td>UNKWN</td> <td>UNKWN</td> <td>-</td> <td>-</td> <td>UNKWN</td> <td>-</td> <td>-</td> <td>UNIOWN</td>	BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNIOWN
ABS         -         NG         UNKWN         UNKWN         - </td <td>AUTO DRIVE POS.</td> <td>Notorication</td> <td>NG</td> <td>UNKWN</td> <td>-</td> <td>UNKWN</td> <td>-</td> <td>UNKWN</td> <td>UNKWN</td> <td>-</td> <td>-</td>	AUTO DRIVE POS.	Notorication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
	ABS	-	NG	UNKWN	UNIWN	UNIKAN	-	-	-		-
	IPDM E/R	Notorication	-	UNKWN	UNKWN	-		-	UNKWN	-	-

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### Case 11

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>A</u>LAN-442.

					CAL	N DIAG SUPPOR	T MNTR			
SELECT SYST	EM screen	Initial	Transmit		r · · · · · · · · · · · · · · · · · ·	······	Receivo diagnosi	s 1		
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	ABS	IPDM E/R
ENGINE	[	NG	UNKWN		UNKWN		UNKWN	UNKWN	UNIWN	UNIWN
(RANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNIT	
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		¥17
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNI WN	
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNIWN	UNKAN					
IPDM E/R	Notonication		UNKWN	UNKWN				UNKWN		

## Case 12

Check ECM circuit. Refer to  $\underline{\text{LAN-442}}$  .

					CA	N DIAG SUPPOR	T MN FR			
SELECT SYST	FM screen	Initial	Trapsmil				Receivo diagnos	s		
GLEETETET	LWSOUGH	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/F
ENGINE		NG	UNIKAN	· ·	UNIT		UNIVIN	UNION	UNIWN	UNION
<b>FRANSMISSION</b>	No indication	NG	UNKWN	UNITAN			UNKWN		UNKWN	
Display unif		CAN COMM	CAN 1	¥3	·		CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNION	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNIWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNIWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNIWN				UNKWN		

### Case 13

Check TCM circuit. Refer to LAN-443.

					CAI	N DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ЕСМ	ТСМ	DISPLAY	Receive diagnosi MFTER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/F
ENGINE		NG	UNKWN		LINUWN		UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	Notocication	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display unif	••••••	CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNISAN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNIT	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNHWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

### Case 14

Check display unit circuit. Refer to LAN-443.

					CA	N DIAG SUPPOR	T MN FR			
SELECT SYS	TEM screen	Initial	Transmit			,	Receivo diagnosi	ş		
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	•	•	UNKWN		UNKWN	
Display unit		CAN COMM	<b>₩</b> 1	<b>₩1</b> 3		· ·	64 <sup>15</sup>	<b>\$</b>		<b>1</b> 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNION		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

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### Case 15

Check data link connector circuit. Refer to LAN-444 .

					CA	N DIAG SUPPOR	T MN FR Receive disense	<i>م</i> ا		
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN	UNKWN	UNKWN
(RANSMISSION	Noncation	NG	UNKWN	UNKWN		· ·	UNKWN		UNKWN	
Display unif		CAN COMM	CAN 1	CAN 3	·		CAN 5	CAN 2		CAN 7
METER A/C AMP	No polication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
всм	Noncation	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	-
ABS	·	NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	Noncation		UNKWN	UNKWN				UNKWN		

## Case 16

Check BCM circuit. Refer to LAN-444 .

				1	CA	N DIAG SUPPOR	LIMNIR Roceive diseneri	ie.		
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	· ·	UNKWN		UNKWN	UNIT	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN		· ·	UNKWN	]	UNKWN	
Display unif		CAN COMM	CAN 1	CAN 3	·		CAN 5	₩2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKAVN	UNKŴN	UNKWN
BCM	Noncetion	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	<b>UNIV</b> N	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN		· ·		INNWN	[	[

### Case 17

Check unified meter and A/C amp. circuit. Refer to LAN-445 .

					CA	N DIAG SUPPOR	TMNTR			
SELECT SYS	TEM screen	Initial	Transmit		r	r	Receive diagnosi	s 1	L. Vocace	r · · · · · · · · · · · · · · · · · · ·
		diagnosis	diagnosis	ECM	TCM	DISPLAY	M&A	BCM/SEC	ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNIT	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	· ·	· ·	UNION	]	UNKWN	
Display unit		CAN COMM	CAN 1	CAN 3		· ·	<b>\$</b> \$	CAN 2		CAN 7
METER A/C AMP	No increation		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNION			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNION	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

## Case 18

Check driver seat control unit circuit. Refer to LAN-445 .

					CAI	V DIAG SUPPOR	ET MN FR			
SELECT SYS	FFM verseo	Initial	Trabsmit				Receive diagnosi:	s		
GELLOT OTO	- Lin Jorden	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display unit		CAN COMM	CAN 1	CAN 3	·		CAN 5	CAN 2		CAN 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	Noticitation	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN		· ·		UNKWN		[

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## Case 19

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-446.

			CAN DIAG SUPPORT MNTR										
SELECT SYST	FM screen	Initial	Transmit		Roceivo diagnosis								
GELEOTOTOT	LIM JOIGGI	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R			
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN	UNIWN	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN						
Display unif		CAN COMM	CAN 1	CAN 3	·		CAN 5	CAN 2		CAN 7			
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	LINE WIN	UNKWN			
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN			
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-			
ABS		NG	UNKAN	UNION	UNIOWN								
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN					

## Case 20

Check IPDM E/R circuit. Refer to LAN-446.

		CAN DIAG SUPPORT MN IR										
SELECT SYST	FM screen	Initial	Transmit diagnosis	Receivo diagnosis								
GELEOTOTOT	LIN JOIGGI	diagnosis		ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R		
ENGINE		NG	UNKWN		UNKWN		UNKWN	UNKWN	UNKWN	UNHOWN		
<b>FRANSMISSION</b>	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN			
Display unif		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		<b>1</b> 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNIWN		
всм	No indication	NG	UNKWN	UNKWN			UNKWN			LINIKWN		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	-		
ABS		NG	UNKWN	UNKWN	UNKWN							
IPDM E/R	Notor		UNKWN	UNKWN				UNKWN				

### Case 21

Check CAN communication circuit. Refer to LAN-447.

			CAN DIAG SUPPORT MN IR										
SELECT SYST	EM screen	Initial Transmit diagnosis diagnosis		ECM	ТСМ	DISPLAY	Receive diagnos METER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R			
ENGINE		NG	UNITAN		UNIOWN		UNITON	UNION	UNIWN	UNITON			
TRANSMISSION	Notonication	NG	UNKWN	UNKWN			UNKWN		UNKWN				
Display unif		CAN COMM	<b>V</b> 1	<b>*</b> A13			<b>\$</b> 15	<b>1</b> 2		¥17			
METER A/C AMP	NotingCation		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN			
BCM	NotingCation	NG	UNKWN	UNKWN			UNKWN			UNKWN			
AUTO DRIVE POS.	Noticeation	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	-			
ABS	·	NG	UNIKAN	UNKWN	UNKAN								
IPDM E/R	Notorication		UNKWN	UNKWN				UNKWN					

### Case 22

Check IPDM E/R Ignition relay circuit. Refer to LAN-448 .

				,	CAI	N DIAG SUPPOR	T MN IR						
SELECT SYS	FFM screen	Initial	Trapsmit		Receivo diagnosis								
OLLEOTOTO	Lin Jorden	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R			
ENGINE		NG	UNKWN	· ·	UNIOVN		LINUWN	UNKWN	UNKWN	UNKWN			
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN				
Display unit		CAN COMM	CAN 1	CAN 3			CAN 5	CAN 2		CAN 7			
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN			
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN			
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-			
ABS		NG	UNKWN	UNKWN	UNK								
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN					

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			CAN DIAG SUPPORT MNTR								
SELECT SYST	EM screen	Initial	Transmil				Receivo diagnosi	S			
SELECTOTOTOTEM SCIENT		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R	
ENGINE		NG	UNKWN		UNITARI		UNKWN	UNKWN	UNHWN	UNKWN	
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN		
Display unit		CAN COMM	CAN 1	CAN 3	·	·	CAN 5	CAN 2		CAN 7	
METER A/C AMP	No indication		UNKWN	UNKWN	UNIKAN	UNKWN		UNKWN	LINKAYN	UNKWN	
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN	
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNION	-	UNKWN	UNKWN	-	-	
ABS		NG	UNKWN	UNKWN	UNKWN						
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN			

	CAN SYSTEM (TYPE 1	8) [CAN]
Circuit Check Between 1. CONNECTOR INSPECTION	TCM and Data Link Connec	ctor EKS009YY
<ol> <li>Turn ignition switch OFF.</li> <li>Disconnect the negative bat</li> <li>Disconnect TCM connector</li> <li>Check the terminals for defo</li> <li>OK or NG</li> <li>OK &gt;&gt; GO TO 2.</li> <li>NG &gt;&gt; Repair or replace as</li> </ol>	tery terminal. F56 and ECM connector M82. ormation, disconnection, looseness of s necessary.	r damage.
2. CHECK HARNESS FOR O	PEN CIRCUIT	
Check continuity between TCM and data link connector M22 term 3 (L) - 6 (L)	connector F56 terminals 3 (L), 4 (Y) ninals 6 (L), 14 (Y). <b>: Continuity should exist.</b>	H.S. DISCONNECT BAT
4 (Y) - 14 (Y) OK or NG	: Continuity should exist.	TCM connector Data link connector
NG >> Repair harness.	w"	3, 4 Ω wkia0427E
Circuit Check Between 1. CONNECTOR INSPECTION	Driver Seat Control Unit an	d Data Link Connector
<ol> <li>Turn ignition switch OFF.</li> <li>Disconnect the negative bat</li> <li>Disconnect driver seat control</li> <li>Check the terminals for defo</li> <li>OK or NG</li> <li>OK &gt;&gt; GO TO 2.</li> <li>NG &gt;&gt; Repair or replace as</li> </ol>	tery terminal. ol unit connector P2 and ECM conne ormation, disconnection, looseness of s necessary.	ector M82. r damage. L
2. CHECK HARNESS FOR O	PEN CIRCUIT	
Check continuity between drive minals 3 (BR), 19 (Y/G) and data 14 (Y). 3 (BR) - 6 (L) 19 (Y/G) - 14 (Y)	r seat control unit connector P2 ter- a link connector M22 terminals 6 (L), : Continuity should exist. : Continuity should exist.	Driver seat control unit connector
		H.S. <b>C</b>

### OK or NG

- >> Connect all connectors and diagnose again. Refer to OK <u>LAN-429</u>. >> Repair harness.
- NG

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#### **Circuit Check Between Driver Seat Control Unit and ABS Actuator and Electric** Unit (Control Unit) EKS009Z0

## 1. CONNECTOR INSPECTION

[CAN]

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- Disconnect driver seat control unit connector P2, ABS actuator and electric unit (control unit) connector 3. E125 and ECM connector M82.
- Check the terminals for deformation, disconnection, looseness or damage. 4.

### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between driver seat control unit connector P2 terminals 3 (BR), 19 (Y/G) and ABS actuator and electric unit (control unit) connector E125 terminals 20 (L), 23 (Y).

> 3 (BR) - 20 (L) 19 (Y/G) - 23 (Y)

: Continuity should exist. : Continuity should exist.

#### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-429.
- NG >> Repair harness.



## **ECM Circuit Check**

## **1. CONNECTOR INSPECTION**

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

EKS009Z1



NG >> Repair or replace as necessary.

EKS009Z4

# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between display unit connector M93 terminal 25 (L) and terminal 26 (Y).

: Approx. 54 - 66 $\Omega$ 

## OK or NG

- OK >> Replace display unit.
- NG >> Repair harness between display unit connector M93 and data link connector M22.



# Data Link Connector Circuit Check

# 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check data link connector M22 terminals for deformation, disconnection, looseness or damage.

## OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminal 6 (L) and terminal 14 (Y).

### 6 (L) - 14 (Y)

: Approx. 54 - 66Ω

### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-429.
- NG >> Repair harness between data link connector M22 and BCM connector M18.



# **BCM Circuit Check**

## **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect BCM connector M18.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

EKS009Z5

Check resistance between BCM connector M18 terminal 39 (L) and terminal 40 (Y).

### 39 (L) - 40 (Y)

: Approx. 54 - 66Ω

### OK or NG

- OK >> Replace BCM.
- NG >> Repair harness between BCM connector M18 and data link connector M22.



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# Unified Meter and A/C Amp. Circuit Check

## **1. CONNECTOR INSPECTION**

Turn ignition switch OFF. Disconnect the negative battery terminal. 3. Disconnect unified meter and A/C amp. connector M49. 4. Check the terminals for deformation, disconnection, looseness or damage.

## OK or NG

1.

OK >> GO TO 2.

NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between unified meter and A/C amp. connector M49 terminal 1 (L) and terminal 11 (Y).

> : Approx. 54 - 66 $\Omega$ 1 (L) - 11 (Y)

### OK or NG

OK >> Replace unified meter and A/C amp.

NG >> Repair harness between unified meter and A/C amp. connector M49 and data link connector M22.



## Driver Seat Control Unit Circuit Check

## **1. CONNECTOR INSPECTION**

- Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- 3. Disconnect driver seat control unit connector P2.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

Check resistance between driver seat control unit connector P2 terminal 3 (BR) and terminal 19 (Y/G).

: Approx. 54 - 66Ω

OK or NG

- OK >> Replace driver seat control unit.
- NG >> Repair harness between driver seat control unit connector P2 and data link connector M22.



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## ABS Actuator and Electric Unit (Control Unit) Circuit Check 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ABS actuator and electric unit (control unit) connector E125.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between ABS actuator and electric unit (control unit) connector E125 terminal 20 (L) and terminal 23 (Y).

20 (L) - 23 (Y) : Appro

20(L)-23(1)

: **Approx. 54 - 66**Ω

#### <u>OK or NG</u>

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between ABS actuator and electric unit (control unit) connector E125 and IPDM E/R connector E121.



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## **IPDM E/R Circuit Check**

## **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect IPDM E/R connector E121.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (Y).

#### 48 (L) - 49 (Y)

: Approx. 108 - 132 $\Omega$ 

#### OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R connector E121 and ABS actuator and electric unit (control unit) connector E125.



# **CAN Communication Circuit Check**

## **1. CONNECTOR INSPECTION**

1.	Turn ignition switch OFF.	-
2.	Disconnect the negative battery terminal.	F
3.	Disconnect the following module and control unit connectors and check terminals for deformation, discon- nection, looseness or damage.	G
-	ECM	0
-	TCM (Transmission control module)	
-	Display unit	F
-	BCM (Body control module)	
-	Unified meter and A/C amp.	
-	Driver seat control unit	
-	ABS actuator and electric unit (control unit)	
-	IPDM E/R (Intelligent power distribution module engine room)	
<u>Ok</u>	<u>( or NG</u>	J
С	)K >> GO TO 2.	_
N	IG >> Repair or replace as necessary.	

# 2. CHECK HARNESS FOR SHORTED CIRCUITS

With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (L) and 14 (Y).

#### 6 (L) - 14 (Y)

: Continuity should not exist.

#### OK or NG

- OK >> GO TO 3.
- NG >> Repair the harness.



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# $\mathbf{3}$ . Check harness for short to ground

Check continuity between data link connector M22 terminals 6 (L), 14 (Y) and ground.

- 6 (L) Ground 14 (Y) - Ground

OK or NG

- OK >> Check ECM and IPDM E/R. Refer to LAN-448, "Component Inspection".
- NG >> Repair the harness.

# **IPDM E/R Ignition Relay Circuit Check**

Check the following. If no problem is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-24, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to PG-11, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/ OR START" .

## **Component Inspection** ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.

94 - 86 : Approx. 108 - 132 $\Omega$ 

Check resistance between IPDM E/R terminals 48 and 49.

48 - 49

: Approx. 108 - 132Ω



# : Continuity should not exist. : Continuity should not exist.



EKS009ZC

# **System Description**

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

## **Component Parts and Harness Connector Location**



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# Schematic

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## [CAN]



# LAN-CAN-56



BKWA0253E

## [CAN]



## **Work Flow**

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1. When there are no indications of "AT", "METER A/C AMP", "BCM", "IPDM E/R" or "AUTO DRIVE POS." on "SELECT SYSTEM" display of CONSULT-II, print the "SELECT SYSTEM".

(Example)	NISSAN	SELECT SYSTEM	
		ENGINE	
	CONSULT- II	A/T	
		ABS	
		AIR BAG	
	ENGINE	ВСМ	
	START (NISSAN BASED VHCL)	METER A/C AMP	
	START (RENAULT BASED VHCL)		
	SUB MODE		
	LIGHT COPY	BACK LIGHT COPY	PKIA2093E

 Print all the data of "SELF-DIAG RESULTS" for "ENGINE", "TRANSMISSION", "BCM", "METER A/C AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II.

(Example)	SELECT DIAG MODE	SELF-DIAG RESULTS
	WORK SUPPORT	DTC RESULTS TIM
	SELF-DIAG RESULTS	
	DATA MONITOR	
	DATA MONITOR (SPEC)	
	CAN DIAG SUPPORT MNTR	
	ACTIVE TEST	
		F.F.DA
	Scroll Down	ERASE PRINT
	BACK LIGHT COPY	MODE BACK LIGHT COF

3. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE", "TRANSMISSION", "BCM", "METER A/ C AMP", "AUTO DRIVE POS.", "IPDM E/R" and "ABS" displayed on CONSULT-II.



4. Based on the indications of "SELECT SYSTEM" and the results of "CAN DIAG SUPPORT MNTR", put marks onto the items with "No indication", "NG", or "UNKWN" in the check sheet table.

				CAN DIAG SUPPORT MNTR								
SELECT SYST	EM screen	Initial	Transmit		Receivo diagnosis							
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN		· ·	UNKWN		UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN		
ВСМ	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN		
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-		
ABS		NG	UNKWN	UNKWN	UNKWN							
IPDM E/R	No indication		UNKWN	UNKWN		· ·		UNKWN				

#### NOTE:

• If "NG" is displayed on "INITIAL DIAG (Initial diagnosis)" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.

	· · ·	
	• The "CAN DIAG SUPPORT MNTR" items which are not in check sheet table are not related to diagnos- tic procedure on service manual. Therefore, it is not necessary to check the status of the "CAN DIAG SUPPORT MNTR" items not in check sheet table.	А
5.	Check CAN communication line of the navigation system.	В
6.	Mark the "NG" or "UNKWN" item of the check sheet table from the result of CAN DIAG SUPPORT MONI- TOR check sheet.	
	<b>NOTE:</b> If "NG" is displayed on "CAN COMM" as "CAN DIAG SUPPORT MNTR" for the diagnosed control unit, replace the control unit.	С
7.	According to the Check Sheet Results, start inspection.	D
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## **CHECK SHEET**

### Check sheet table

					CAI	N DIAG SUPPOR	TMNTR			
SELECT SYST	EMscroon	Initial	Transmit				Receive diagnosi	s		
		diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	UNKWN
TRANSMISSION	-	NG	UNKWN	UNKWN	-	-	UNKWN			
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
ВСМ	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	-	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

#### Symptoms:

Attach copy of SELECT SYSTEM	



Attach copy of display unit CAN DIAG MONITOR check sheet

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# [CAN]

Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of TRANSMISSION SELF-DIAG RESULTS	Attach copy of BCM SELF-DIAG RESULTS	Attach copy of METER A/C AMP SELF-DIAG RESULTS	A B C D
Attach copy of ABS SELF-DIAG RESULTS	Attach copy of AUTO DRIVE POS. SELF-DIAG RESULTS	Attach copy of IPDM E/R SELF-DIAG RESULTS		F
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	Attach copy of BCM CAN DIAG SUPPORT MNTR	Attach copy of METER A/C AMP CAN DIAG SUPPORT MNTR	J LA L
Attach copy of ABS CAN DIAG SUPPORT MNTR	Attach copy of AUTO DRIVE POS. CAN DIAG SUPPORT MNTR	Attach copy of IPDM E/R CAN DIAG SUPPORT MNTR		

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## CHECK SHEET RESULTS Case 1

Replace ECM.

					CAN	I DIAG SUPPOR	TMNTR			
SELECT SVST	EM coroon	Initial	Transmit				Receive diagnosi:	3		
SELECTOR	LIN SCIEBIL	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKON	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	UNKWN	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	CAN CIRC 2	-	CAN CIRC 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNKWN	UNKWN	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-		-	UNKWN		-

					CAL	N DIAG SUPPOR	RT MN FR			
SELECT SYST	FFM screen	Initial	Trabsmit				Receive diagnosi:	s		
GELEOTOTO	Lin Jordan	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKAN	-	UNKAN	UNKAN	UNKAVN	UNKAN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

## Case 2

Replace TCM.

					CAN	I DIAG SUPPOR	T MN FR			
SELECT SYST	FEM screen	Initial	Transmit		,		Receivo diagnosi:	s.		
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKVIN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	V	UNKWN	UNKWN			UNKWN		UNKWN	
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKON	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN	•	+	UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKIN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKUN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

					CAN	I DIAG SUPPOR	T MN FR			
SELECT SYST	EM screen	Initial	Trabsmit				Roceivo diagnosi:	s		
GELEOTOTO	EM SOIGEN	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKAN			UNKAN		UNIKAVN	
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

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### Case 3

Replace display control unit.

					CAL	N DIAG SUPPOR	T MN FR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive diagnosi: MF1FR/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display control unit		CAN	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

					CAN	I DIAG SUPPOR	TMNTR			
SELECT SYST	EM waraaa	Initial	Texternil				Roceivo diagnosi:	4		
SELECTION	LMSCIEEN	diagnosis	diagnosis	ECM	тсм	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display control unit		CAN COMM	CAN CIRC 1	CANORC 3			CANCRC 5	CANORC 2		CAN ORC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

## Case 4

Replace BCM.

					CAI	V DIAG SUPPOR	ET MN FR			
SELECT SYST	FM screen	Initial	Trabsmit				Receivo diagnosi	s		
GELEOTOTOT	LIM JOICGI	diagnosis	diagnosis	ECM	ТСМ	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3	· .		CAN CIRC 5	CAN CIRC 2		CAN CIRC
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKAN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

					CAN	N DIAG SUPPOF	REMNER			
SELECT SYST	EM screen	Initial	Transmit			,	Roceivo diagnosi	s		
		diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
<b>FRANSMISSION</b>	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
всм	No indication	NG	UNKWN	UNKAN			UNK			UNKAN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

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### Case 5

Replace unified meter and A/C amp.

SELECT OVO		Indiat	Tenternit				Receivo diagnosi:	s		
SELECTORS	LMISCIEET	diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKOWN	UNK	UNKAN		UNKAN	UNKAN	UNKIN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

## Case 6

Replace driver seat control unit.

					CAI	V DIAG SUPPOR	TMNTR			
SELECT SYS	TEM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
всм	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	<b>V</b>	UNKWN	-	UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

CAN DIAG SUPPORT MNTR SELECT SYSTEM screen Initial diagnosis Transmit diagnosis eivo diag METER/ M&A VDC/TCS/ ABS ECM TCM DISPLAY BCM/SEC IPDM E/R ENGINE NG UNKWN UNKWN UNKWN UNKWN UNKWN UNKWN **FRANSMISSION** NG UNKWN UNKWN UNKWN No indication UNKWN CAN COMM Display control unit CAN CIRC 1 CAN CIRC 3 CAN CIRC 5 CAN CIRC 2 CAN CIRC 7 METER A/C AMP No indication UNKWN UNKWN UNKWN UNKWN UNKWN UNKŴN UNKWN BCM No indication NG UNKWN UNKWN UNKWN UNKWN UNKIN UNKON AUTO DRIVE POS. No indication NG UNKWN UNKON ABS NG UNKWN UNKWN UNKWN UNKWN IPDM E/R No indication UNKWN UNKWN WKIA2367E

## Case 7

Replace ABS actuator and electric unit (control unit).

					CAN	V DIAG SUPPOR	ET MN FR			
SELECT SYST	EM screen	Initial	Transmit			,	Receivo diagnosi:	ş 		
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKAVN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKOW	
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3		· .	CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKAN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKAVN	UNKOWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

					CAI	I DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial	Transmit				Receivo diagnosis			
		diagnosis	diagnosis	ECM	тсм	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKAN	UNKEYN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

## Case 8

Replace IPDM E/R.

					CA	N DIAG SUPPOF	T MNTR Receive disenerie	e .		
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKAN		· ·		UNKAN		

## Case 9

Check harness between TCM and data link connector. Refer to LAN-466 .

					CAI	I DIAG SUPPOR	TMNTR			
SELECT SYST	EM screen	Initial	Transmit		,		Receivo diagnosi	ş.		
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKON	UNKAN	UNKAN	UNKOWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN	•
Display control unit		CAN COMM	CAN CIRC 1	CANC/RC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKAN	UNKUN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKAN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKAN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNK	UNKAN					
IPDM E/R	No indication		UNKWN	UNKAN				UNKWN		

## Case 10

### Check harness between data link connector and driver seat control unit. Refer to LAN-466 .

					CAI	N DIAG SUPPOR	TMNTR			
SELECT SYST	FEM screen	Initial	Transmit				Receive diagnosi:	3		
GELEOT BID	i cin sereen	diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE		NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKVN	UNKAN
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	UNKAVN	-
Display control unit	-	CAN COMM	CAN CIRC 1	CAN CIRC 3	-	-	CAN CIRC 5	CAN CIRC 2	-	CANORC 7
METER A/C AMP	No indication	-	UNKWN	UNKWN	UNKWN	UNKWN	-	UNKWN	UNKOVN	UNKAVN
BCM	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	-	-	UNKAN
AUTO DRIVE POS.	No indivation	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-
ABS	-	NG	UNKWN	UNKOWN	UNKON	-	-	-	-	-
IPDM E/R	No indication	-	UNKWN	UNKWN	-	-	-	UNKWN	-	-

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### Case 11

Check harness between driver seat control unit and ABS actuator and electric unit (control unit). Refer to <u>LAN-467</u>.

					CAN	I DIAG SUPPOR	TMNTR			
SELECT SYS	TEM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive diagnosi: METER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKAN	UNKAN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKIN	
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN ORC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKAN	UNKIN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKIN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKVN	UNKON					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

## Case 12

Check ECM circuit. Refer to LAN-467.

					CA	N DIAG SUPPOR	ET MN FR			
SELECT SYST	EM screen	Initial	Transmit		,		Receivo diagnosi	s		
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKIN	-	UNKAN	-	UNKIVN	UNKWN	UNKIVN	UNKAVN
TRANSMISSION	No indication	NG	UNKWN	UNKIN		· ·	UNKWN		UNKWN	
Display control unit		CAN COMM	CAN CIRC 1	CANCRO 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKVN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKAN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKAIN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKAN		· ·	· · · · · · · · · · · · · · · · · · ·	UNKWN		[

### Case 13

Check TCM circuit. Refer to LAN-468 .

					CA	VDIAG SUPPOR	Receivo diagnosi:	4		
SELECT SYST	LM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	MF1FR/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKVIN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indivation	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKON	UNKWN		UNKWN	UNKWN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKON	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKON					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

### Case 14

Check display control unit circuit. Refer to LAN-468 .

					CA	N DIAG SUPPOR	EMNTR Roceivo diagnosi:	e		
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display control unit		CAN COMM	CANCRO 1	CANCRO 3			CANORC 5	CANORC 2		CANORC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKAN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN		UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

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### Case 15

Check data link connector circuit. Refer to LAN-469 .

					CAI	N DIAG SUPPOR	T MN FR			
SELECT SYST	EM screen	Initial	Transmit		,	,	Receivo diagnosi:	S		
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN		· ·	UNKWN		UNKWN	
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3	·	· .	CAN CIRC 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN	-	UNKWN	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication	1	UNKWN	UNKWN				UNKWN		

### Case 16

Check BCM circuit. Refer to LAN-469.

					CAI	N DIAG SUPPOR	T MN FR			
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	Receive diagnosi: METER/ M&A	s BCM/SEC	VDC/TCS/ ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKAN	UNKWN	UNKWN
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN	
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CANORC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKAN	UNKŴN	UNKWN
BCM	No inclusion	NG	UNKWN	UNKWN			UNKWN			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKAN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKIN		

## Case 17

Check unified meter and A/C amp. circuit. Refer to LAN-470 .

					CAI	N DIAG SUPPOR	T MN I R			
SELECT SYST	EM screen	Initial	Transmit		r · · · · · · · · · · · · · · · · ·		Receive diagnosi	s 1	1000000	
		diagnosis	diagnosis	ECM	TCM	DISPLAY	METERS M&A	BCM/SEC	ABS	IPDM E/R
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKYN	UNKWN	UNKWN	UNKWN
<b>FRANSMISSION</b>	No indication	NG	UNKWN	UNKWN			UNKYN		UNKWN	
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CANCRO 5	CAN CIRC 2		CAN CIRC 7
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN
BCM	No indication	NG	UNKWN	UNKWN			UNKON			UNKWN
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKON	UNKWN	-	-
ABS		NG	UNKWN	UNKWN	UNKWN					
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN		

Case 18

Check driver seat control unit circuit. Refer to LAN-470 .

			1	CAN DIAG SUFTOKTI VINITIA								
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	ТСМ	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN		
<b>FRANSMISSION</b>	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3	·	·	CAN CIRC 5	CAN CIRC 2		CAN CIRC 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKWN		
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN		
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-		
ABS		NG	UNKWN	UNKWN	UNKWN							
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN				

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### Case 19

Check ABS actuator and electric unit (control unit) circuit. Refer to LAN-471 .

SELECT SYSTEM screen		1.26.1	<b>T</b>	Receivo diagnosis								
		diagnosis	diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKAN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKAN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKAN	UNKWN		
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN		
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-		
ABS		NG	UNKORN	UNKON	UNKAN							
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN				

### Case 20

Check IPDM E/R circuit. Refer to LAN-471.

SELECT SYSTEM screen			CAN DIAG SUPPORT INN IR Receive diagnosis									
		Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKAVN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CANORC 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKWN	UNKOWN		
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKON		
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKWN		UNKWN	UNKWN	-	-		
ABS		NG	UNKWN	UNKWN	UNKWN							
IPDM E/R	No indication		UNKWN	UNKWN		· ·		UNKWN				

### Case 21

Check CAN communication circuit. Refer to LAN-472 .



### Case 22

Check IPDM E/R Ignition relay circuit. Refer to LAN-473 .

SELECT SYSTEM screen			CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	ECM	тсм	DISPLAY	METER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKIN			UNKAN		UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKWN	UNKWN		UNKWN	UNKŴN	UNKWN		
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN		
AUTO DRIVE POS.	No indication	NG	UNKWN	-	UNKWN	-	UNKWN	UNKWN	-	-		
ABS		NG	UNKWN	UNKAN	UNKWN							
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN				

			CAN DIAG SUPPORT MNTR									
SELECT SYST	TEM screen	Initial	Transmit	Roceivo diagnosis								
		diagnosis	diagnosis	ECM	ТСМ	DISPLAY	ME1ER/ M&A	BCM/SEC	VDC/TCS/ ABS	IPDM E/R		
ENGINE	-	NG	UNKWN	-	UNKAN	-	UNKWN	UNKWN	UNKOVN	UNKWN		
TRANSMISSION	No indication	NG	UNKWN	UNKWN			UNKWN		UNKWN			
Display control unit		CAN COMM	CAN CIRC 1	CAN CIRC 3			CAN CIRC 5	CAN CIRC 2		CAN CIRC 7		
METER A/C AMP	No indication		UNKWN	UNKWN	UNKAN	UNKWN		UNKWN	UNKAN	UNKWN		
BCM	No indication	NG	UNKWN	UNKWN			UNKWN			UNKWN		
AUTO DRIVE POS.	No indication	NG	UNKWN		UNKAN	-	UNKWN	UNKWN	-	-		
ABS		NG	UNKWN	UNKWN	UNKWN							
IPDM E/R	No indication		UNKWN	UNKWN				UNKWN				

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# Circuit Check Between TCM and Data Link Connector

## 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect TCM connector F56 and ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

## OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between TCM connector F56 terminals 3 (L), 4 (Y) and data link connector M22 terminals 6 (L), 14 (Y).

3 (L) - 6 (L) 4 (Y) - 14 (Y) : Continuity should exist. : Continuity should exist.

## OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-454, "Work Flow"
- NG >> Repair harness.



## Circuit Check Between Driver Seat Control Unit and Data Link Connector EKS009YF 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect driver seat control unit connector P2 and ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between driver seat control unit connector P2 terminals 3 (BR), 19 (Y/G) and data link connector M22 terminals 6 (L), 14 (Y).

3 (BR) - 6 (L)

19 (Y/G) - 14 (Y)

: Continuity should exist. : Continuity should exist.

### OK or NG

- OK >> Connect all connectors and diagnose again. Refer to  $\underline{\text{LAN-454}}$ .
- NG >> Repair harness.



EKS009YE

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## 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect ECM connector M82.
- 4. Check the terminals for deformation, disconnection, looseness or damage.
- OK or NG
- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

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Check resistance between ECM connector M82 terminal 94 (L) and terminal 86 (Y).

### 94 (L) - 86 (Y)

: Approx. 108 - 132Ω

### OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ECM connector M82 and TCM connector F56.



# TCM Circuit Check

## 1. CONNECTOR INSPECTION

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- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect TCM connector F56.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

## 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between TCM connector F56 terminal 3 (L) and terminal 4 (Y).

3 (L) - 4 (Y)

: Approx. 54 - 66Ω

### OK or NG

- OK >> Replace TCM.
- NG >> Repair harness between TCM connector F56 and ECM connector M82.



EKS009YJ

1. Turn ignition switch OFF.

1. CONNECTOR INSPECTION

2. Disconnect the negative battery terminal.

**Display Control Unit Circuit Check** 

- 3. Disconnect display control unit connector M95.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.
# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between display control unit connector M95 terminal 25 (L) and terminal 26 (Y).

: **Approx. 54 - 66**Ω

OK or NG

- OK >> Replace display control unit.
- NG >> Repair harness between display control unit connector M95 and data link connector M22.



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# Data Link Connector Circuit Check

# **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Check data link connector M22 terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR OPEN CIRCUIT



#### 6 (L) - 14 (Y)

: Approx. 54 - 66Ω

OK or NG

- OK >> Connect all connectors and diagnose again. Refer to LAN-454.
- NG >> Repair harness between data link connector M22 and BCM connector M18.



# **BCM Circuit Check**

### **1.** CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect BCM connector M18.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between BCM connector M18 terminal 39 (L) and terminal 40 (Y).

#### 39 (L) - 40 (Y)

: Approx. 54 - 66Ω

#### OK or NG

- OK >> Replace BCM.
- NG >> Repair harness between BCM connector M18 and data link connector M22.



# Unified Meter and A/C Amp. Circuit Check 1. CONNECTOR INSPECTION

EKS009YM

### 1. Turn ignition switch OFF.

- 2. Disconnect the negative battery terminal.
- 3. Disconnect unified meter and A/C amp. connector M49.
- 4. Check the terminals for deformation, disconnection, looseness or damage.

### OK or NG

OK >> GO TO 2.

NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between unified meter and A/C amp. connector M49 terminal 1 (L) and terminal 11 (Y).

**1 (L) - 11 (Y)** : Approx. 54 - 66Ω

#### OK or NG

OK >> Replace unified meter and A/C amp.

NG >> Repair harness between unified meter and A/C amp. connector M49 and data link connector M22.



EKS009YN

# 1. CONNECTOR INSPECTION

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect driver seat control unit connector P2.

**Driver Seat Control Unit Circuit Check** 

4. Check the terminals for deformation, disconnection, looseness or damage.

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.



# 2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between IPDM E/R connector E121 terminal 48 (L) and terminal 49 (Y).

#### 48 (L) - 49 (Y)

: **Approx. 108 - 132**Ω

#### OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness between IPDM E/R connector E121 and ABS actuator and electric unit (control unit) connector E125.



# **CAN Communication Circuit Check**

# **1.** CONNECTOR INSPECTION

EKS009YQ

- 1. Turn ignition switch OFF.
- 2. Disconnect the negative battery terminal.
- 3. Disconnect the following module and control unit connectors and check terminals for deformation, disconnection, looseness or damage.
- ECM
- TCM (Transmission control module)
- Display control unit
- BCM (Body control module)
- Unified meter and A/C amp.
- Driver seat control unit
- ABS actuator and electric unit (control unit)
- IPDM E/R (Intelligent power distribution module engine room)

#### OK or NG

- OK >> GO TO 2.
- NG >> Repair or replace as necessary.

# 2. CHECK HARNESS FOR SHORTED CIRCUITS

With all module and control unit connectors disconnected, check continuity between data link connector M22 terminals 6 (L) and 14 (Y).

#### 6 (L) - 14 (Y)

: Continuity should not exist.

#### OK or NG

- OK >> GO TO 3.
- NG >> Repair the harness.



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# 3. CHECK HARNESS FOR SHORT TO GROUND

Check continuity between data link connector M22 terminals 6 (L), 14 (Y) and ground.

6 (L) - Ground 14 (Y) - Ground : Continuity should not exist. : Continuity should not exist.

OK or NG

- OK >> Check ECM and IPDM E/R. Refer to LAN-473, "Component Inspection".
- NG >> Repair the harness.

# В Data link connector 14 6 6, 14 Ω D PKIA2079E

# **IPDM E/R Ignition Relay Circuit Check**

Check the following. If no problem is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-24, "IPDM E/R Power/Ground Circuit Inspection" .
- Ignition power supply circuit. Refer to PG-11, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/OR START" .

# **Component Inspection** ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.

94 - 86 : Approx. 108 - 132 $\Omega$ 

Check resistance between IPDM E/R terminals 48 and 49.

48 - 49

: Approx. 108 - 132Ω



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