

SECTION **LAN**
LAN SYSTEM

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PRECAUTIONS

Precautions for Supplemental Restraint System (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER”

EKS0069T

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. 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 For Trouble Diagnosis CAN SYSTEM

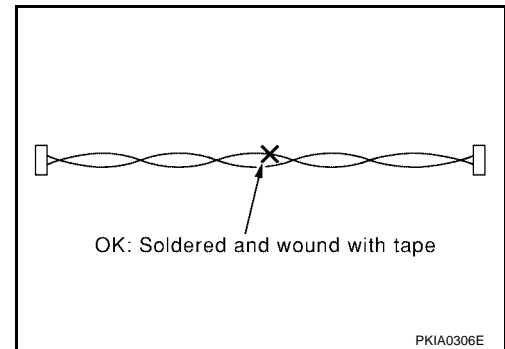
EKS003AA

- Do not apply voltage of 7.0V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0V or less.

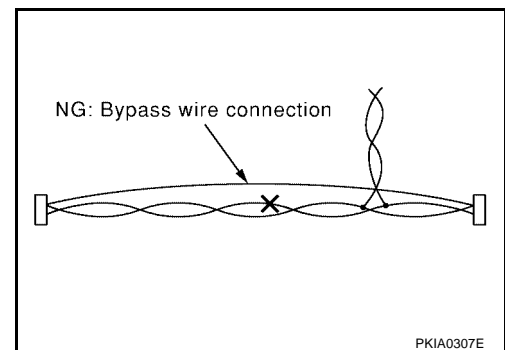
Precautions For Harness Repair CAN SYSTEM

EKS003AB

- Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in).]



- Do not perform bypass wire connections for the repair parts. (The spliced wire will become separated and the characteristics of twisted line will be lost.)



Wiring Diagrams and Trouble Diagnosis

When you read wiring diagrams, refer to the following:

- [GI-13, "How to Read Wiring Diagrams"](#)
- [PG-3, "POWER SUPPLY ROUTING"](#) for power distribution circuit

When you perform trouble diagnosis, refer to the following:

- [GI-10, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES"](#)
- [GI-26, "How to Perform Efficient Diagnosis for an Electrical Incident"](#)

Check for any Service bulletins before servicing the vehicle.

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CAN COMMUNICATION

System Description

EKS003K5

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 Communication Unit

EKS003K6

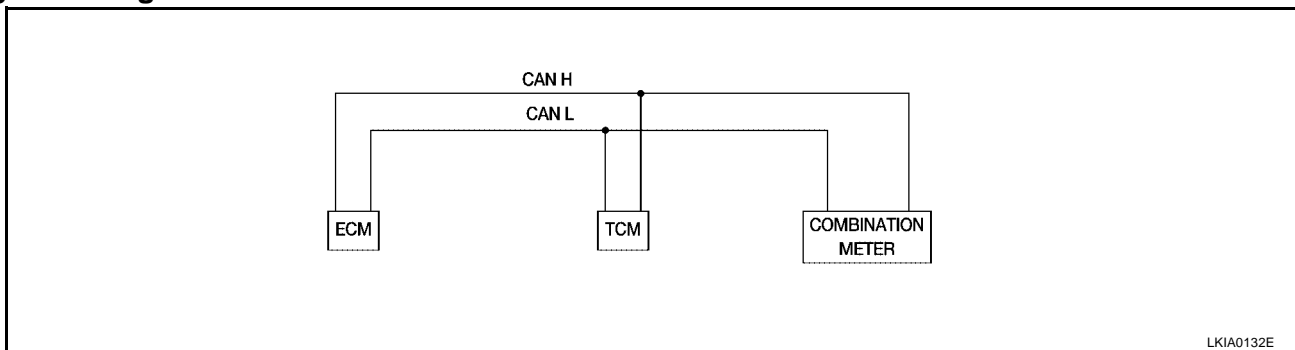
Go to CAN system, when selecting your CAN system type from the following table.

Body type	Sedan	
Axle	2WD	
Engine	QG18DE/QR25DE	
Transmission	A/T	M/T
CAN system type	1	2
CAN system trouble diagnosis	LAN-7, "CAN SYSTEM (TYPE 1)"	LAN-17, "CAN SYSTEM (TYPE 2)"

x: Applicable

TYPE 1

System diagram



LKIA0132E

Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	Combination Meter
Accelerator pedal position signal	T	R	
Output shaft revolution signal	R	T	
A/T self-diagnosis signal	R	T	
Closed throttle position signal	T	R	
Wide open throttle position signal	T	R	
Stop lamp switch signal		R	T
Overdrive control switch signal		R	T
O/D OFF indicator signal		T	R
Engine speed signal	T		R
Engine coolant temperature signal	T		R
Fuel consumption monitor signal*	T		R
Vehicle speed signal	R		T
Fuel level sensor signal	R		T
Malfunction indicator lamp signal	T		R

CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	Combination Meter
ASCD SET lamp signal	T		R
ASCD CRUISE lamp signal	T		R
Engine and A/T integrated control signal	T	R	
	R	T	

*: For QR25DE models only

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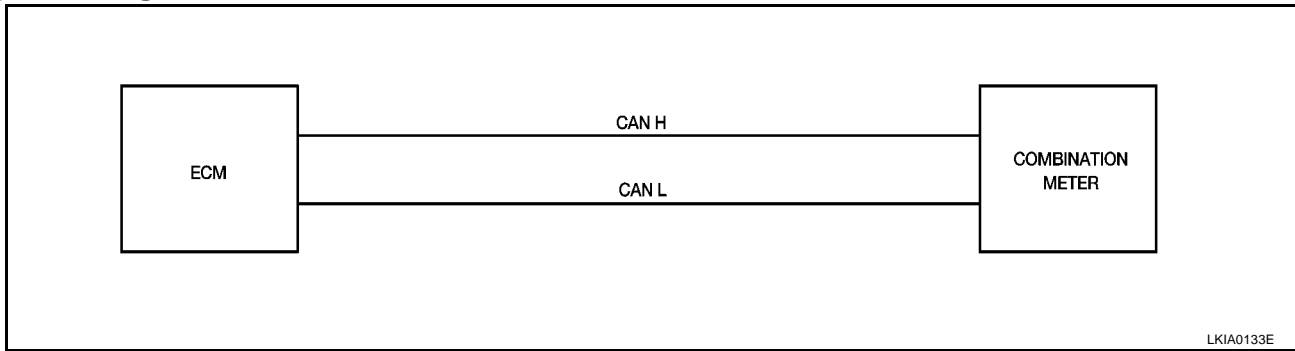
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TYPE 2

System diagram



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	Combination Meter
Engine speed signal	T	R
Engine coolant temperature signal	T	R
Fuel consumption monitor signal*	T	R
Vehicle speed signal	R	T
Fuel level sensor signal	R	T
Malfunction indicator lamp signal	T	R
ASCD SET lamp signal	T	R
ASCD CRUISE lamp signal	T	R

*: For QR25DE models

CAN SYSTEM (TYPE 1)

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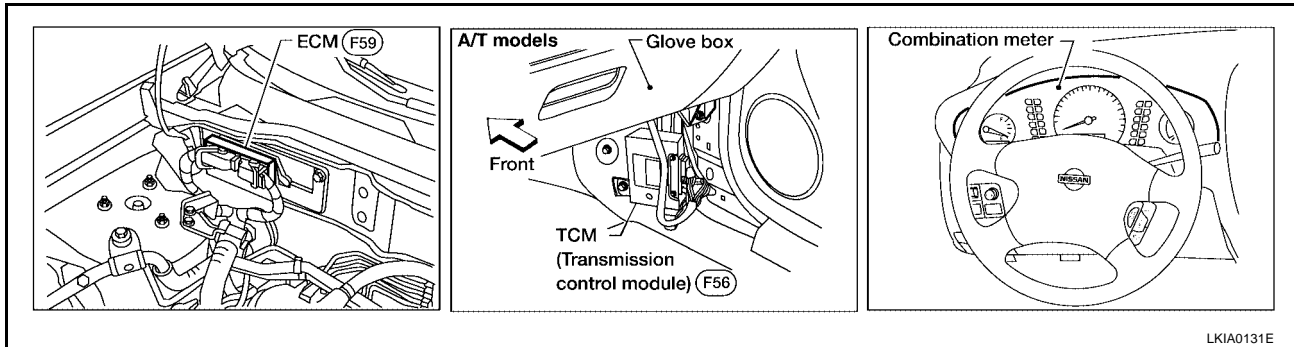
System Description

EKS003K7

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 SYSTEM (TYPE 1)

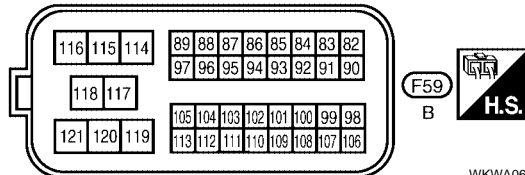
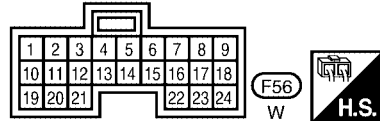
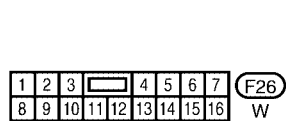
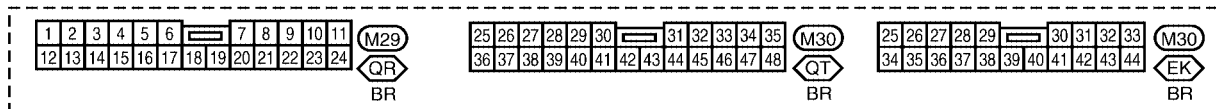
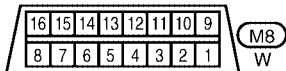
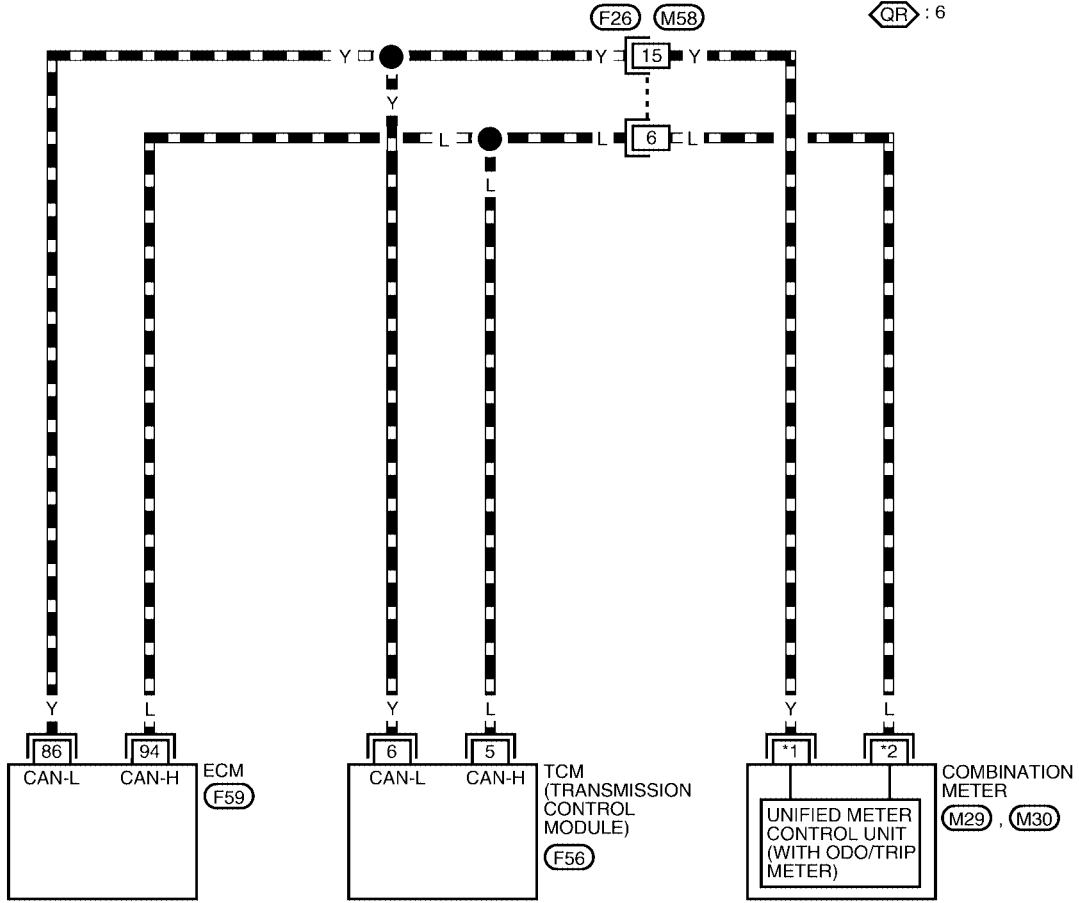
[CAN]

Wiring Diagram — CAN —

EKS003K9

LAN-CAN-01

- : DATA LINE
- ⬡ : WITHOUT TACHOMETER
- ⬢ : WITH QR25DE
- ⬣ : WITH QG18DE AND TACHOMETER
- *1 ⬡ : 35
- ⬢ : 39
- ⬣ : 5
- *2 ⬡ : 34
- ⬢ : 38
- ⬣ : 6




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Work Flow

1. Print all the data of "SELF-DIAG RESULTS" for "ENGINE" and "A/T" displayed on CONSULT-II.

(Example)

SELECT DIAG MODE			
WORK SUPPORT			
SELF-DIAG RESULTS			
DATA MONITOR			
DATA MONITOR (SPEC)			
CAN DIAG SUPPORT MNTR			
ACTIVE TEST			
			Scroll Down
BACK	LIGHT	COPY	




SELF-DIAG RESULTS			
DTC RESULTS		TIME	
CAN COMM CIRCUIT (U1000)	0		
			F.F.DATA
ERASE		PRINT	
MODE	BACK	LIGHT	COPY

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2. Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE" and "A/T" displayed on CONSULT-II.

(Example)

SELECT DIAG MODE			
WORK SUPPORT			
SELF-DIAG RESULTS			
DATA MONITOR			
DATA MONITOR (SPEC)			
CAN DIAG SUPPORT MNTR			
ACTIVE TEST			
			Scroll Down
BACK	LIGHT	COPY	



CAN DIAG SUPPORT MNTR			
ENGINE			
		PRNT	
INITIAL DIAG	OK		
TRANSMIT DIAG	OK		
TCM	OK		
VDC/TCS/ABS	OK		
METER/M&A	OK		
ICC	UNKWN		
BCM/SEC	OK		
IPDM E/R	OK		
AWD/4WD/e4WD	UNKWN		
PRINT		Scroll Down	
MODE	BACK	LIGHT	COPY

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3. Attach the printed sheet of "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-10, "CHECK SHEET"](#) .
4. Based on the "CAN DIAG SUPPORT MNTR" results, put check marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-10, "CHECK SHEET"](#) .

NOTE:

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

5. According to the check sheet results (example), start inspection. Refer to [LAN-11, "CHECK SHEET RESULTS \(EXAMPLE\)"](#) .

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CAN SYSTEM (TYPE 1)

[CAN]

CHECK SHEET

NOTE:

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

Check sheet table

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR				
	Initial diagnosis	Transmit diagnosis	Receive diagnosis		
			ECM	TCM	METER/M&A
ENGINE	NG	UNKWN	-	UNKWN	UNKWN
A/T	NG	UNKWN	UNKWN	-	UNKWN

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
A/T
SELF-DIAG RESULTS

Attach copy of
ENGINE
CAN DIAG SUPPORT
MNTR

Attach copy of
A/T
CAN DIAG SUPPORT
MNTR

CAN SYSTEM (TYPE 1)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

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

Case 1

Replace ECM.

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR				
	Initial diagnosis	Transmit diagnosis	Receive diagnosis		
			ECM	TCM	METER/M&A
ENGINE	NG	UNKWN	-	UNKWN	UNKWN
A/T	NG	UNKWN	UNKWN	-	UNKWN

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR				
	Initial diagnosis	Transmit diagnosis	Receive diagnosis		
			ECM	TCM	METER/M&A
ENGINE	NG	UNKWN	-	UNKWN	UNKWN
A/T	NG	UNKWN	UNKWN	-	UNKWN

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Case 2

Replace TCM.

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR				
	Initial diagnosis	Transmit diagnosis	Receive diagnosis		
			ECM	TCM	METER/M&A
ENGINE	NG	UNKWN	-	UNKWN	UNKWN
A/T	NG	UNKWN	UNKWN	-	UNKWN

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR				
	Initial diagnosis	Transmit diagnosis	Receive diagnosis		
			ECM	TCM	METER/M&A
ENGINE	NG	UNKWN	-	UNKWN	UNKWN
A/T	NG	UNKWN	UNKWN	-	UNKWN

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Case 3

Check ECM circuit. Refer to [LAN-13, "ECM Circuit Check"](#) .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR				
	Initial diagnosis	Transmit diagnosis	Receive diagnosis		
			ECM	TCM	METER/ M&A
ENGINE	NG	UNKWN	-	UNKWN	UNKWN
A/T	NG	UNKWN	UNKWN	-	UNKWN

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Case 4

Check TCM circuit. Refer to [LAN-13, "TCM Circuit Check"](#) .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR				
	Initial diagnosis	Transmit diagnosis	Receive diagnosis		
			ECM	TCM	METER/ M&A
ENGINE	NG	UNKWN	-	UNKWN	UNKWN
A/T	NG	UNKWN	UNKWN	-	UNKWN

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Case 5

Check combination meter circuit. Refer to [LAN-14, "Combination Meter Circuit Check"](#) .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR				
	Initial diagnosis	Transmit diagnosis	Receive diagnosis		
			ECM	TCM	METER/ M&A
ENGINE	NG	UNKWN	-	UNKWN	UNKWN
A/T	NG	UNKWN	UNKWN	-	UNKWN

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Case 6

Check CAN communication circuit. Refer to [LAN-15, "CAN Communication Circuit Check"](#) .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR				
	Initial diagnosis	Transmit diagnosis	Receive diagnosis		
			ECM	TCM	METER/ M&A
ENGINE	NG	UNKWN	-	UNKWN	UNKWN
A/T	NG	UNKWN	UNKWN	-	UNKWN

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ECM Circuit Check**1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Check the terminals and connector of ECM for damage, bend and loose connection (control module-side and harness-side).

OK or NG

- OK >> GO TO 2.
 NG >> Repair terminal or connector.

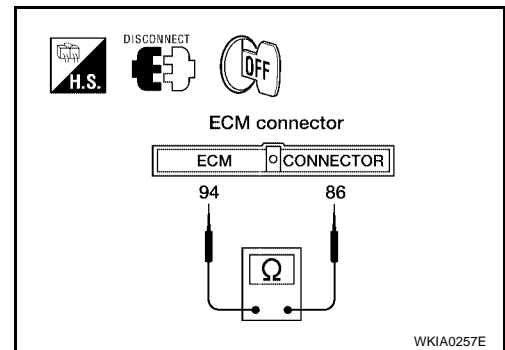
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F59 terminals 94 (L) and 86 (Y).

94 (L) – 86 (Y) : Approx. 108 – 132Ω

OK or NG

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

**TCM Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Check the terminals and connector of TCM for damage, bend and loose connection (control module-side and harness-side).

OK or NG

- OK >> GO TO 2.
 NG >> Repair terminal or connector.

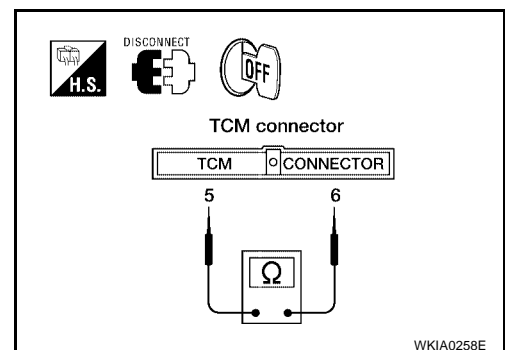
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector.
2. Check resistance between TCM harness connector F56 terminals 5 (L) and 6 (Y).

5 (L) – 6 (Y) : Approx. 54 – 66Ω

OK or NG

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



Combination Meter Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Check terminals and connector of combination meter for damage, bend and loose connection (meter-side and harness-side).

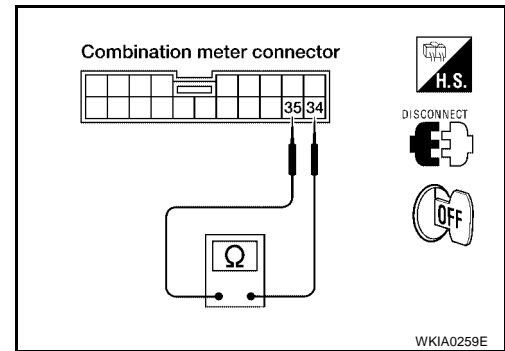
OK or NG

- OK >> GO TO 2.
 NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

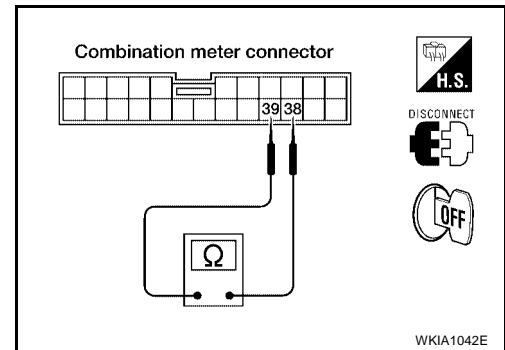
1. Disconnect combination meter connector.
 2. Check the following.
- Without tachometer:
Resistance between combination meter harness connector M30 terminals 34 (L) and 35 (Y).

34 (L) – 35 (Y)
(Without tachometer) : Approx. 108 – 132Ω



- With tachometer (QG18DE):
Resistance between combination meter harness connector M30 terminals 38 (L) and 39 (Y).

38 (L) – 39 (Y)
(QG18DE with tachometer) : Approx. 108 – 132Ω

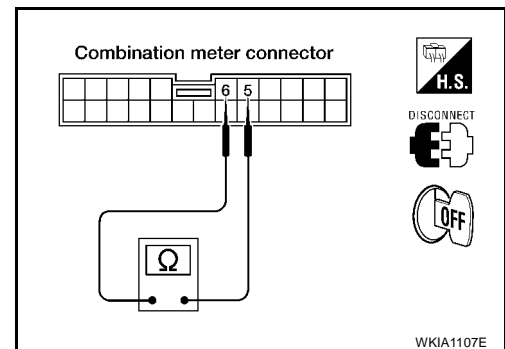


- With tachometer (QR25DE):
Resistance between combination meter harness connector M29 terminals 6 (L) and 5 (Y).

6 (L) – 5 (Y)
(QR25DE with tachometer) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
 NG >> Repair harness between combination meter and TCM.



CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Check following terminals and connector for damage, bend and loose connection (meter-side, control module-side and harness-side).
 - Combination meter
 - TCM
 - ECM
 - Between combination meter and ECM

OK or NG

- OK >> GO TO 2.
 NG >> Repair terminal or connector.

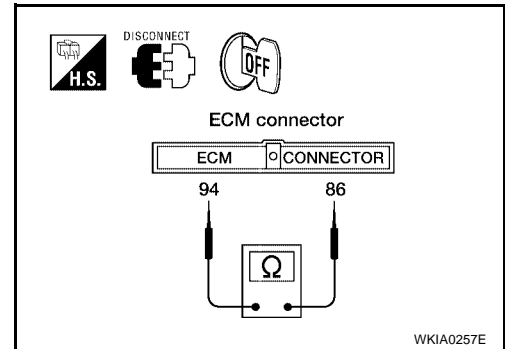
2. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ECM connector, TCM connector and harness connector F26.
2. Check continuity between ECM harness connector F59 terminals 94 (L) and 86 (Y).

94 (L) – 86 (Y) : Continuity should not exist.

OK or NG

- OK >> GO TO 3.
 NG >> ● Repair harness between ECM and harness connector F26.
 ● Repair harness between ECM and TCM.



3. CHECK HARNESS FOR SHORT CIRCUIT

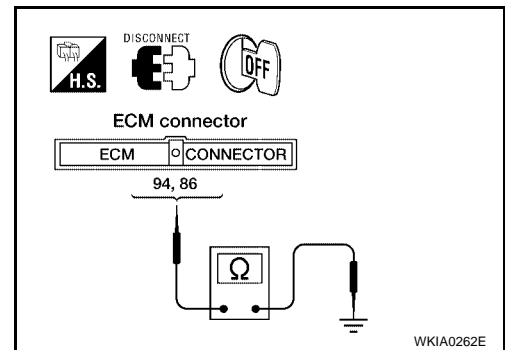
Check continuity between ECM harness connector F59 terminals 94 (L), 86 (Y) and ground.

94 (L) – ground : Continuity should not exist.

86 (Y) – ground : Continuity should not exist.

OK or NG

- OK >> GO TO 4.
 NG >> ● Repair harness between ECM and harness connector F26.
 ● Repair harness between ECM and TCM.



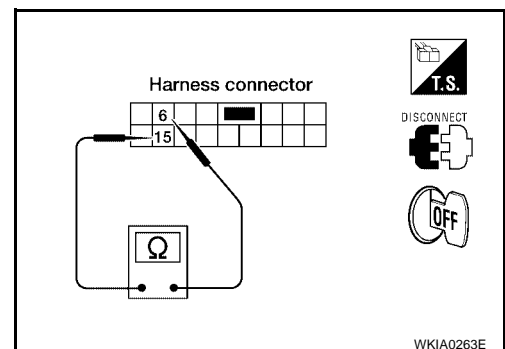
4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect combination meter connector.
2. Check continuity between harness connector M58 terminals 6 (L) and 15 (Y).

6 (L) – 15 (Y) : Continuity should not exist.

OK or NG

- OK >> GO TO 5.
 NG >> Repair harness between harness connector M58 and combination meter.



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector M58 terminals 6 (L), 15 (Y) and ground.

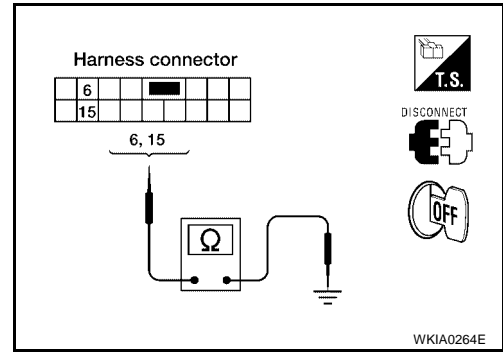
6 (L) – ground : Continuity should not exist.

15 (Y) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between harness connector M58 and combination meter.



6. ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-16, "ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#).

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to [LAN-9, "Work Flow"](#).

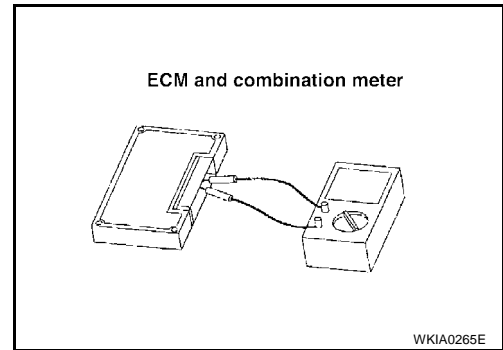
NG >> Replace ECM and/or combination meter.

Component Inspection

ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION

EKS003KF

- Remove ECM and combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between combination meter terminals 34 and 35 (Without tachometer).
- Check resistance between combination meter terminals 38 and 39 (QG18DE with tachometer).
- Check resistance between combination meter terminals 5 and 6 (QR25DE with tachometer).



Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 – 86	108 - 136
Combination meter (Without tachometer)	34 – 35	
Combination meter (QG18DE with tachometer)	38 – 39	
Combination meter (QR25DE with tachometer)	5 – 6	

CAN SYSTEM (TYPE 2)

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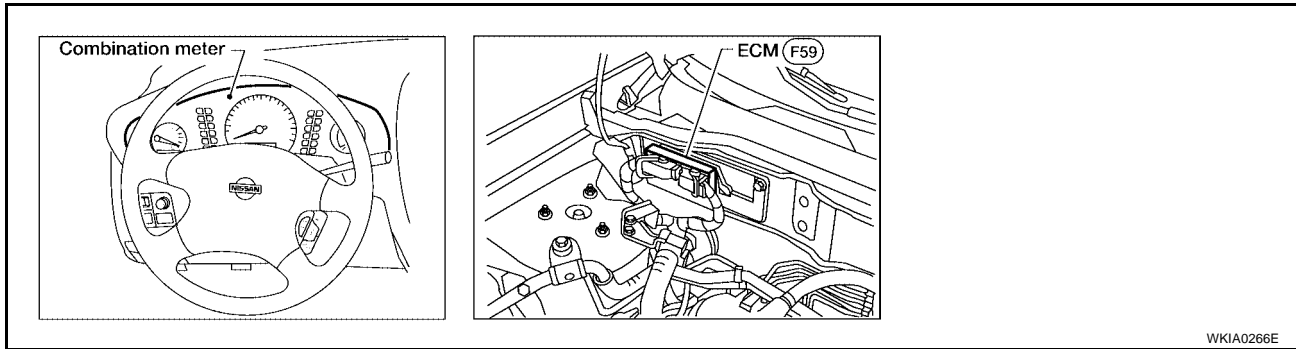
System Description

EKS003KG

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 SYSTEM (TYPE 2)

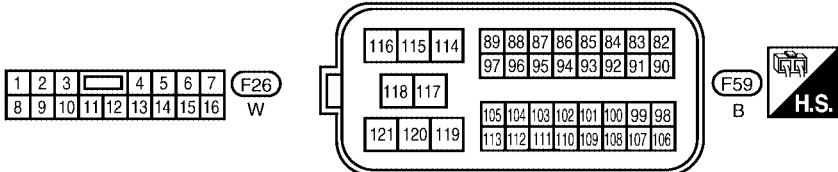
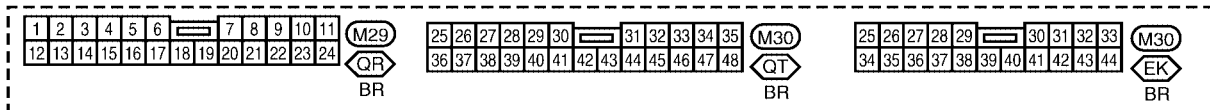
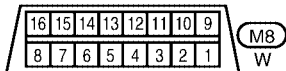
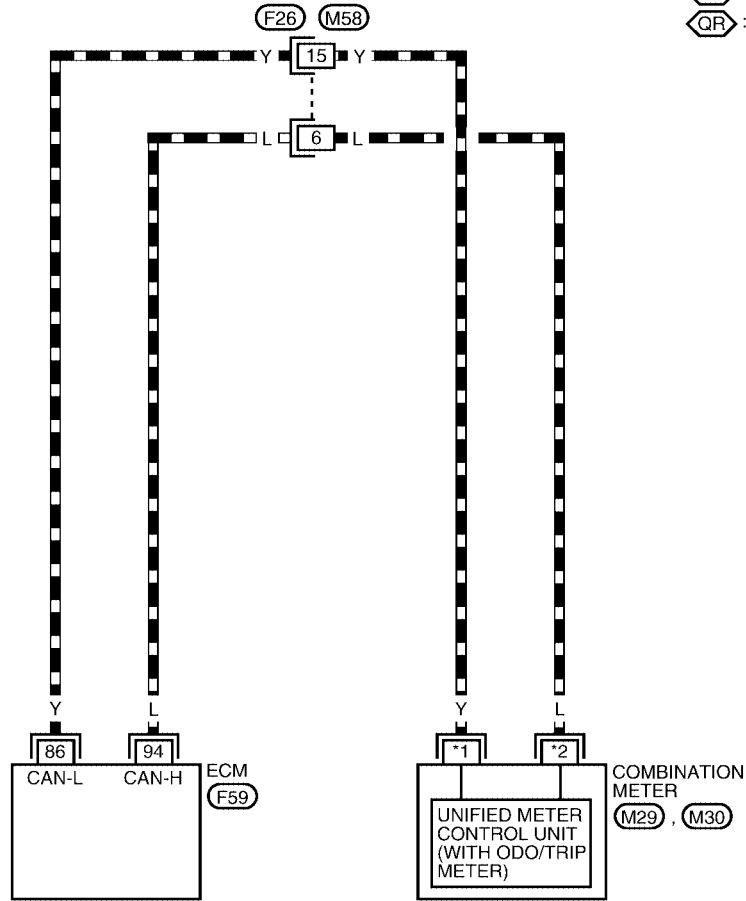
[CAN]

Wiring Diagram — CAN —

EKS003K1

LAN-CAN-02

- : DATA LINE
- ⬡ (EK) : WITHOUT TACHOMETER
- ⬡ (QR) : WITH QR25DE
- ⬡ (QT) : WITH QG18DE AND TACHOMETER
- *1 ⬡ (EK) : 35
- ⬡ (QT) : 39
- ⬡ (QR) : 5
- *2 ⬡ (EK) : 34
- ⬡ (QT) : 38
- ⬡ (QR) : 6



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Work Flow

- Print all the data of "SELF-DIAG RESULTS" for "ENGINE" displayed on CONSULT-II.

(Example)

SELECT DIAG MODE			
WORK SUPPORT			
SELF-DIAG RESULTS			
DATA MONITOR			
DATA MONITOR (SPEC)			
CAN DIAG SUPPORT MNTR			
ACTIVE TEST			
			Scroll Down
BACK	LIGHT	COPY	

➔

SELF-DIAG RESULTS			
DTC RESULTS		TIME	
CAN COMM CIRCUIT (U1000)	0		
			F.F.DATA
ERASE		PRINT	
MODE	BACK	LIGHT	COPY

PKIA8260E

- Print all the data of "CAN DIAG SUPPORT MNTR" for "ENGINE" displayed on CONSULT-II.

(Example)

SELECT DIAG MODE			
WORK SUPPORT			
SELF-DIAG RESULTS			
DATA MONITOR			
DATA MONITOR (SPEC)			
CAN DIAG SUPPORT MNTR			
ACTIVE TEST			
			Scroll Down
BACK	LIGHT	COPY	

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CAN DIAG SUPPORT MNTR			
ENGINE			
		PRNT	
INITIAL DIAG	OK		
TRANSMIT DIAG	OK		
TCM	OK		
VDC/TCS/ABS	OK		
METER/M&A	OK		
ICC	UNKWN		
BCM/SEC	OK		
IPDM E/R	OK		
AWD/4WD/e4WD	UNKWN		
PRINT		Scroll Down	
MODE	BACK	LIGHT	COPY

PKIA8343E

- Attach the printed sheet of "SELF-DIAG RESULTS" and "CAN DIAG SUPPORT MNTR" onto the check sheet. Refer to [LAN-20, "CHECK SHEET"](#) .
- Based on the "CAN DIAG SUPPORT MNTR" results, put check marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-20, "CHECK SHEET"](#) .

NOTE:

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

- According to the check sheet results (example), start inspection. Refer to [LAN-21, "CHECK SHEET RESULTS \(EXAMPLE\)"](#) .

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CAN SYSTEM (TYPE 2)

[CAN]

CHECK SHEET

NOTE:

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

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR			
	Initial diagnosis	Transmit diagnosis	Receive diagnosis	
			ECM	METER/ M&A
ENGINE	NG	UNKWN	-	UNKWN

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
ENGINE
CAN DIAG SUPPORT
MNTR

CAN SYSTEM (TYPE 2)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

NOTE:

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

Case 1

Replace ECM.

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR			
	Initial diagnosis	Transmit diagnosis	Receive diagnosis	
			ECM	METER/M&A
ENGINE	NG	UNKWN	-	UNKWN

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR			
	Initial diagnosis	Transmit diagnosis	Receive diagnosis	
			ECM	METER/M&A
ENGINE	NG	UNKWN	-	UNKWN

WKIA2732E

Case 2

Check CAN communication circuit. Refer to [LAN-22, "CAN Communication Circuit Check"](#) .

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR			
	Initial diagnosis	Transmit diagnosis	Receive diagnosis	
			ECM	METER/M&A
ENGINE	NG	UNKWN	-	UNKWN

WKIA2733E

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CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Check following terminals and connector for damage, bend and loose connection (meter-side, control module-side and harness-side).
 - Combination meter
 - ECM
 - Between combination meter and ECM

OK or NG

- OK >> GO TO 2.
 NG >> Repair terminal or connector.

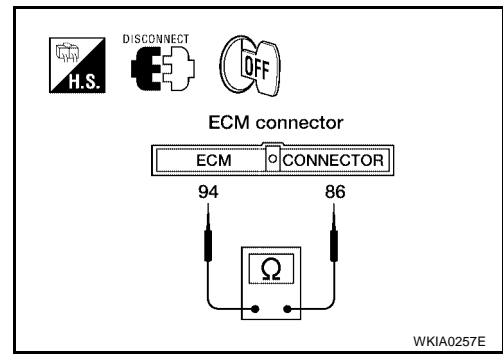
2. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ECM connector and harness connector F26.
2. Check continuity between ECM harness connector F59 terminals 94 (L) and 86 (Y).

94 (L) – 86 (Y) : Continuity should not exist.

OK or NG

- OK >> GO TO 3.
 NG >> Repair harness between ECM and harness connector F26.



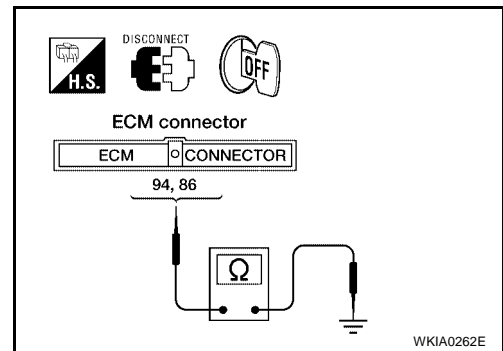
3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector F59 terminals 94 (L), 86 (Y) and ground.

94 (L) – ground : Continuity should not exist.
86 (Y) – ground : Continuity should not exist.

OK or NG

- OK >> GO TO 4.
 NG >> Repair harness between ECM and harness connector F26.



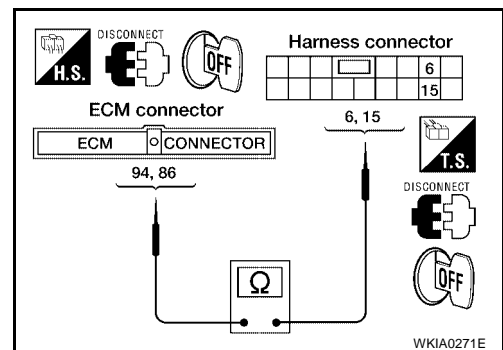
4. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between ECM harness connector F59 terminals 94 (L), 86 (Y) and harness connector F26 terminals 6 (L), 15 (Y).

94 (L) – 6 (L) : Continuity should exist.
86 (Y) – 15 (Y) : Continuity should exist.

OK or NG

- OK >> GO TO 5.
 NG >> Repair harness.



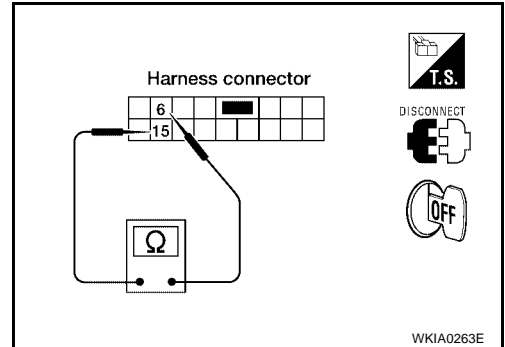
5. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect combination meter connector.
2. Check continuity between harness connector M58 terminals 6 (L) and 15 (Y).

6 (L) – 15 (Y) : Continuity should not exist.

OK or NG

- OK >> GO TO 6.
- NG >> Repair harness between harness connector M58 and combination meter.



6. CHECK HARNESS FOR SHORT CIRCUIT

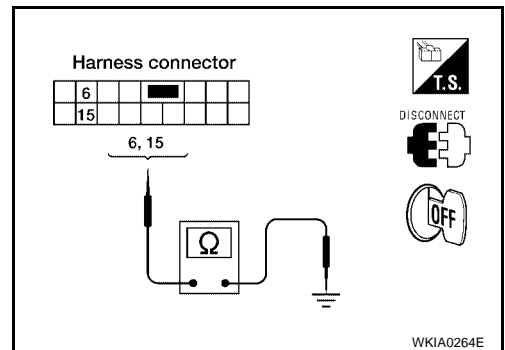
Check continuity between harness connector M58 terminals 6 (L), 15 (Y) and ground.

6 (L) – ground : Continuity should not exist.

15 (Y) – ground : Continuity should not exist.

OK or NG

- OK >> GO TO 7.
- NG >> Repair harness between harness connector M58 and combination meter.



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7. CHECK HARNESS FOR OPEN CIRCUIT

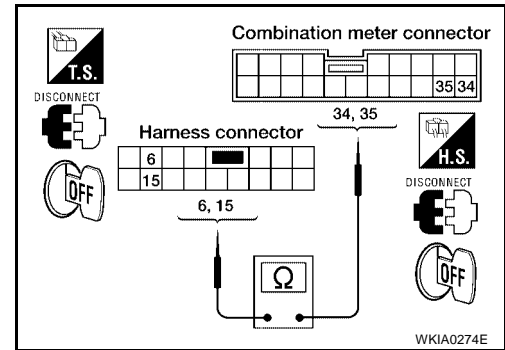
1. Check the following.

- Without tachometer:

Continuity between harness connector M58 terminals 6 (L), 15 (Y) and combination meter harness connector M30 terminals 34 (L), 35 (Y).

6 (L) – 34 (L) : Continuity should exist.
(Without tachometer)

15 (Y) – 35 (Y) : Continuity should exist.
(Without tachometer)

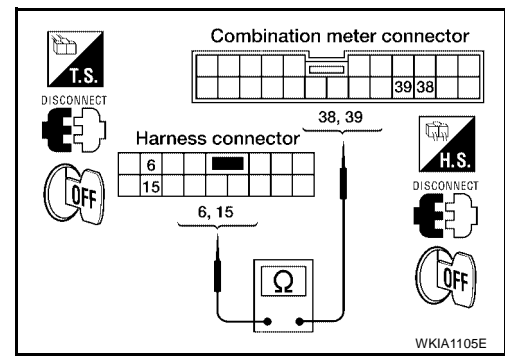


- With tachometer (QG18DE):

Continuity between harness connector M58 terminals 6 (L), 15 (Y) and combination meter harness connector M30 terminals 38 (L), 39 (Y).

6 (L) – 38 (L) : Continuity should exist.
(QG18DE with tachometer)

15 (Y) – 39 (Y) : Continuity should exist.
(QG18DE with tachometer)

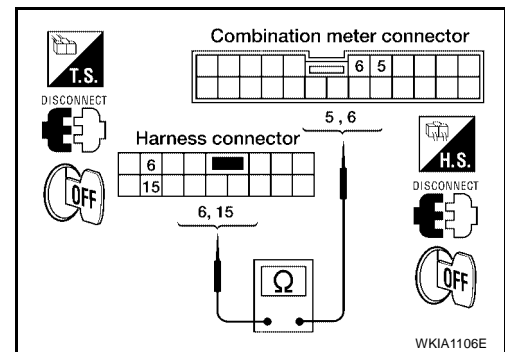


- With tachometer (QR25DE):

Continuity between harness connector M58 terminals 6 (L), 15 (Y) and combination meter harness connector M29 terminals 6 (L), 5 (Y).

6 (L) – 6 (L) : Continuity should exist.
(QR25DE with tachometer)

15 (Y) – 5 (Y) : Continuity should exist.
(QR25DE with tachometer)



OK or NG

OK >> GO TO 8.

NG >> Repair harness.

8. ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-25, "ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#).

OK or NG

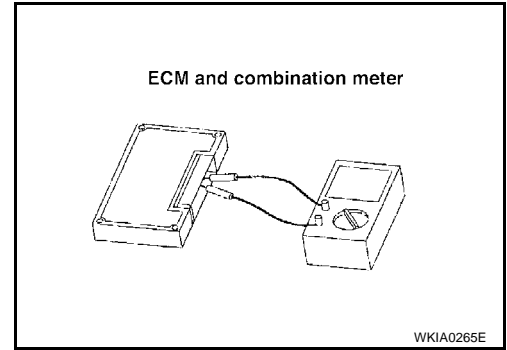
OK >> Connect all the connectors and diagnose again. Refer to [LAN-19, "Work Flow"](#).

NG >> Replace ECM and/or combination meter.

Component Inspection

ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION

- Remove ECM and combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between combination meter terminals 34 and 35 (Without tachometer).
- Check resistance between combination meter terminals 38 and 39 (QG18DE with tachometer).
- Check resistance between combination meter terminals 5 and 6 (QR25DE with tachometer).



Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 – 86	108 - 136
Combination meter (Without tachometer)	34 – 35	
Combination meter (QG18DE with tachometer)	38 – 39	
Combination meter (QR25DE with tachometer)	5 – 6	

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