

SECTION **LAN**
LAN SYSTEM

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LAN

PRECAUTIONS

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

EKS003A9

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

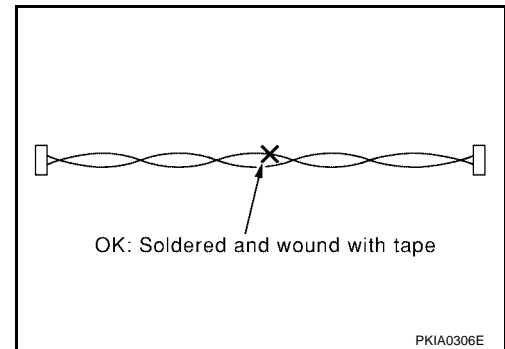
EKS003AA

- 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.

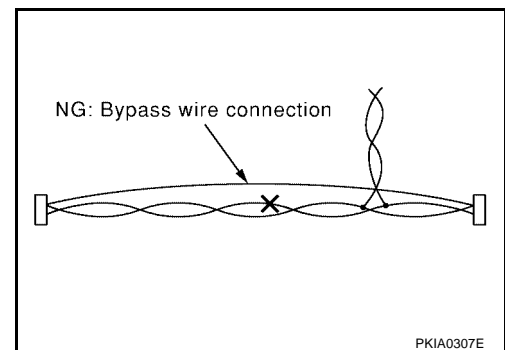
Precautions For Harness Repair CAN SYSTEM

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.)



CAN COMMUNICATION

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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

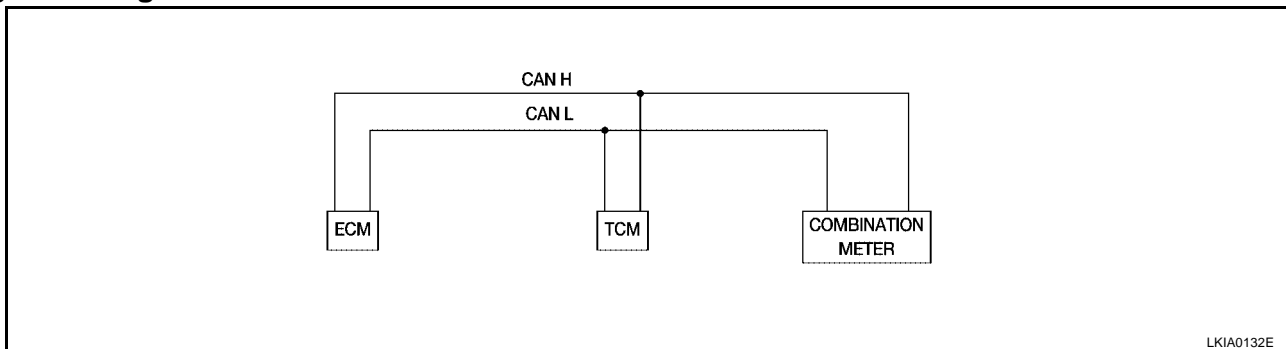
Go to CAN system, when selecting your CAN system type from the following table.

Body type	Sedan		
Axle	2WD		
Engine	QG18DE		QR25DE
Transmission	A/T	M/T	A/T
CAN system type	1	2	3
CAN system trouble diagnosis	LAN-6, "CAN SYSTEM (TYPE 1)"	LAN-16, "CAN SYSTEM (TYPE 2)"	LAN-23, "CAN SYSTEM (TYPE 3)"

×: Applicable

TYPE 1

System diagram



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
Vehicle speed signal	R		T
Fuel level sensor signal	R		T
Malfunction indicator lamp signal	T		R

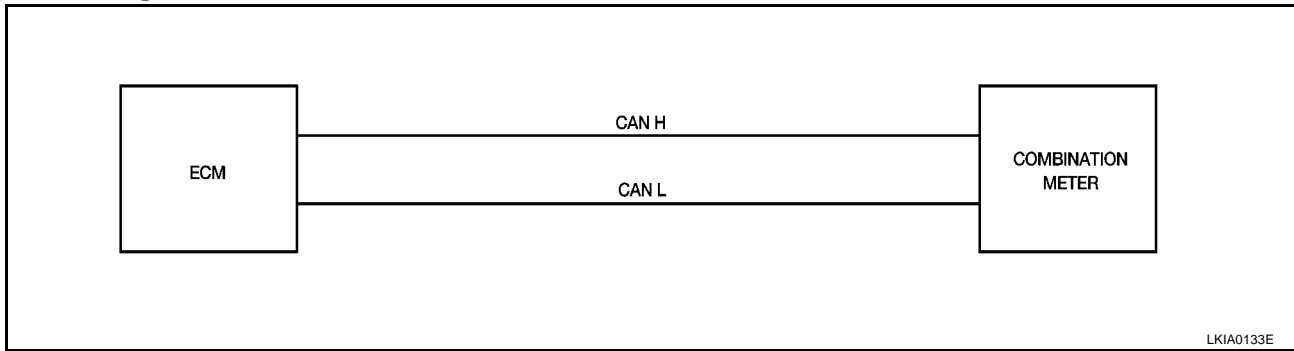
CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	Combination Meter
ASCD SET lamp signal	T		R
ASCD CRUISE lamp signal	T		R

TYPE 2

System diagram



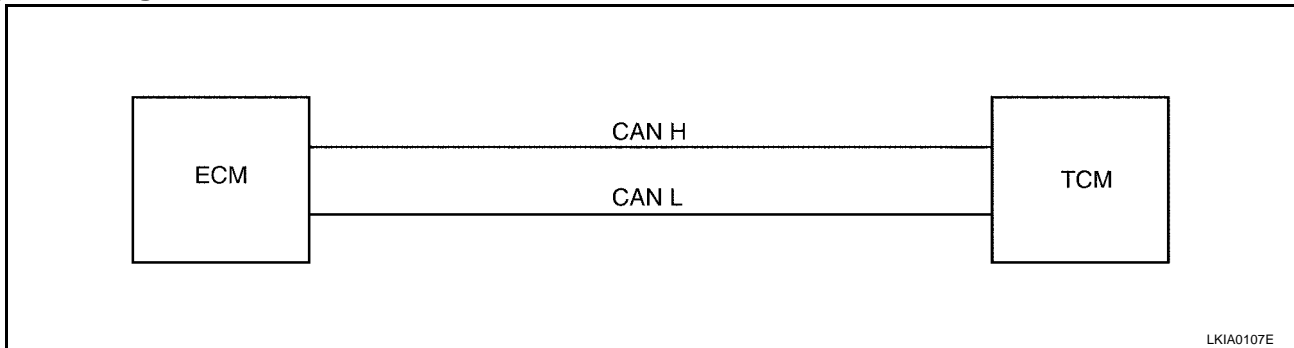
Input/output signal chart

T: Transmit R: Receive

Signals	ECM	Combination Meter
Engine speed signal	T	R
Engine coolant temperature signal	T	R
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

TYPE 3

System diagram



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM
Accelerator pedal position signal	T	R
Output shaft revolution signal	R	T
A/T self-diagnosis signal	R	T
Wide open throttle position signal	T	R
Overdrive cancel signal	T	R

CAN SYSTEM (TYPE 1)

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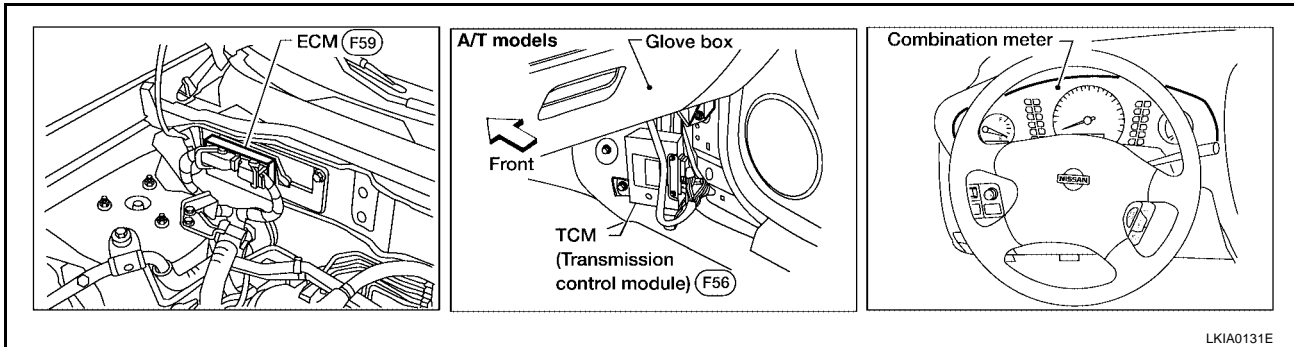
System Description

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

EKS003K8



CAN SYSTEM (TYPE 1)

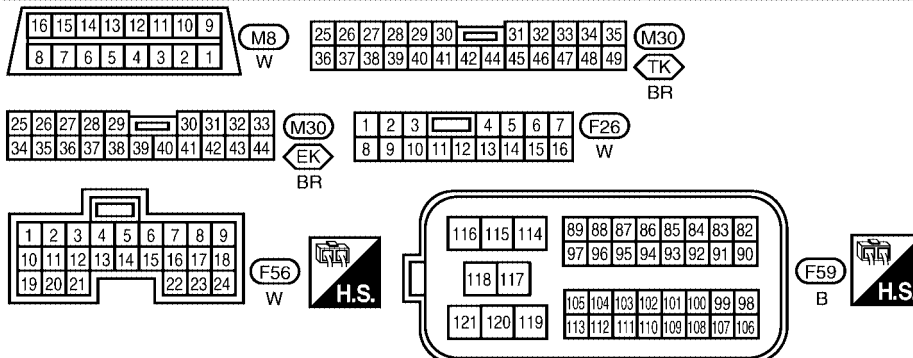
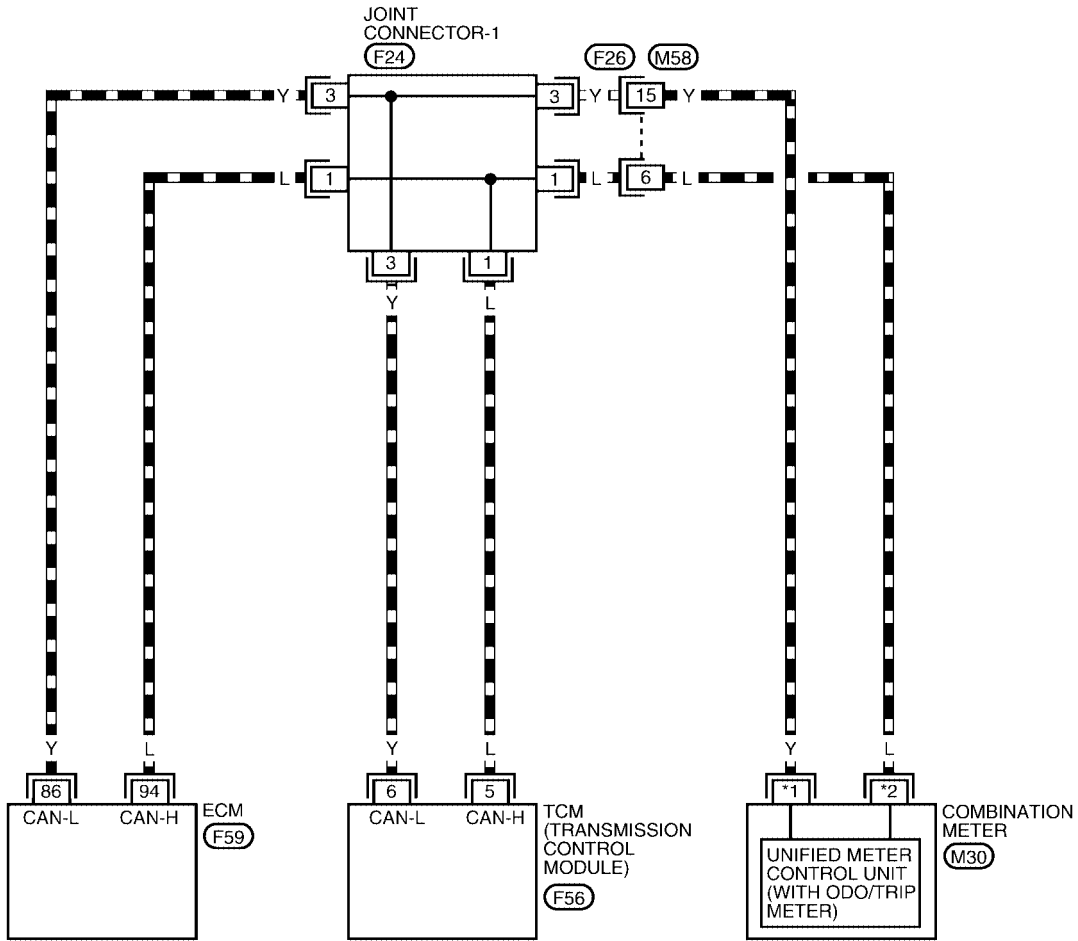
[CAN]

Wiring Diagram — CAN —

EKS003K9

LAN-CAN-01

- : DATA LINE
- ⬡EK⬡ : WITHOUT TACHOMETER
- ⬡TK⬡ : WITH TACHOMETER
- *1 ⬡EK⬡ : 35
- ⬡TK⬡ : 39
- *2 ⬡EK⬡ : 34
- ⬡TK⬡ : 38



REFER TO THE FOLLOWING.
 (F24) - JOINT CONNECTOR

WKWA0149E

Work Flow

- 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

PKIA8260E

- 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			
		PRSNT	
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-9, "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-9, "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-10, "CHECK SHEET RESULTS \(EXAMPLE\)"](#).

CAN SYSTEM (TYPE 1)

[CAN]

CHECK SHEET

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
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CAN SYSTEM (TYPE 1)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

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

LKIA0515E

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

WKIA2938E

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 ✓

WKIA2939E

Case 3

Check ECM Circuit. Refer to [LAN-12, "ECM Circuit Check"](#) .

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

WKIA2940E

Case 4

Check TCM Circuit. Refer to [LAN-12, "TCM Circuit Check"](#) .

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

WKIA2941E

Case 5

Check combination meter Circuit. Refer to [LAN-13, "Combination Meter Circuit Check"](#)

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

WKIA2942E

Case 6

Check CAN communication Circuit. Refer to [LAN-13, "CAN Communication Circuit Check"](#) .

SELECT SYSTEM screen	Initial diagnosis	Transmit diagnosis	CAN DIAG SUPPORT MNTR		
			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.

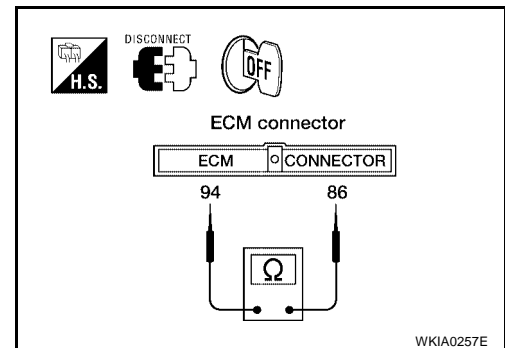
2. CHECK HARNESS FOR OPEN CIRCUIT

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.

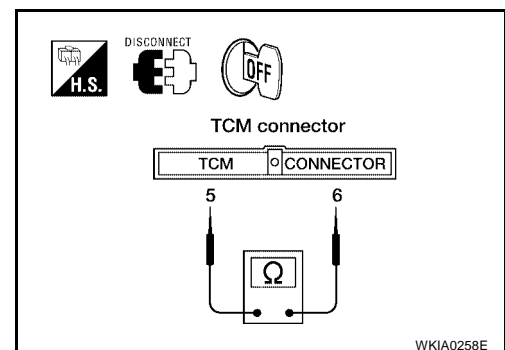
2. CHECK HARNESS FOR OPEN CIRCUIT

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).

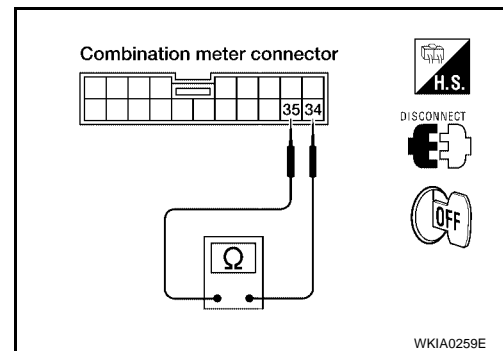
OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

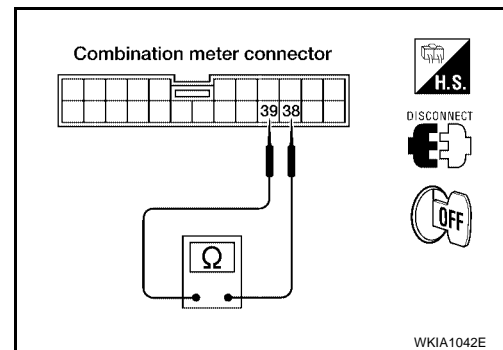
1. Disconnect combination meter connector.
2. Check the following.
 - Without tachometer:
Resistance between combination meter harness connector M30 terminals 34 (L) and 35 (Y).

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



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

38 (L) – 39 (Y)
(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.

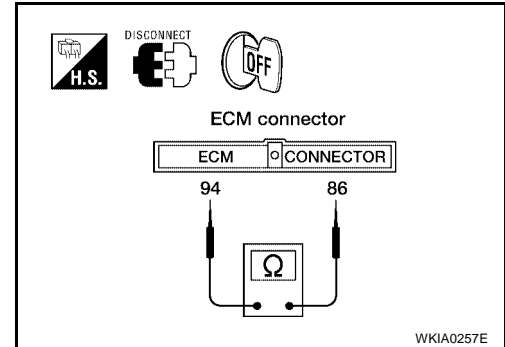
2. CHECK HARNESS FOR SHORT CIRCUIT

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

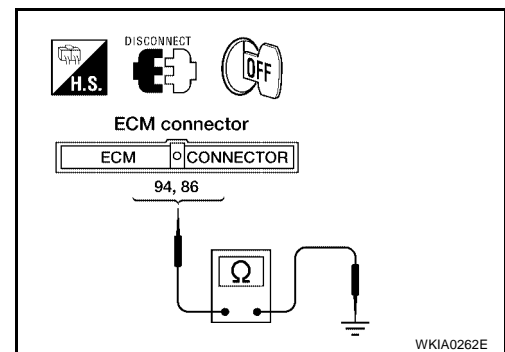
Check continuity between ECM harness connector F59 terminals 94 (L), 86 (Y) and ground.

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.



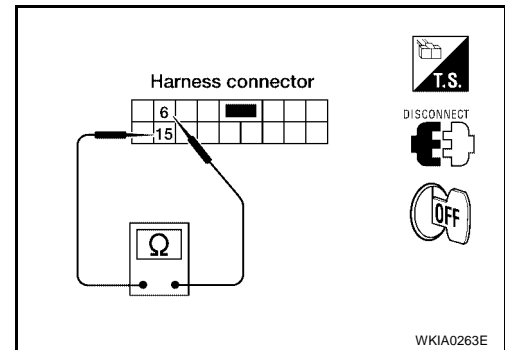
4. CHECK HARNESS FOR SHORT CIRCUIT

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

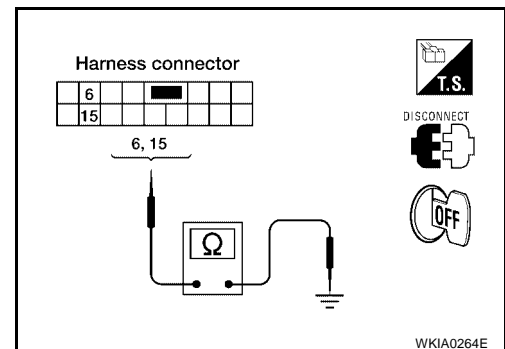
Check continuity between harness connector M58 terminals 6 (L), 15 (Y) and ground.

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-15, "ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#) .

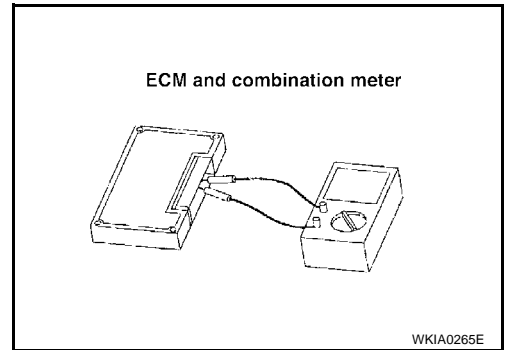
OK or NG

- OK >> Connect all the connectors and diagnose again. Refer to [LAN-8, "Work Flow"](#) .
- NG >> Replace ECM and/or combination meter.

Component Inspection
ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION

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- 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 (With tachometer).



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

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CAN SYSTEM (TYPE 2)

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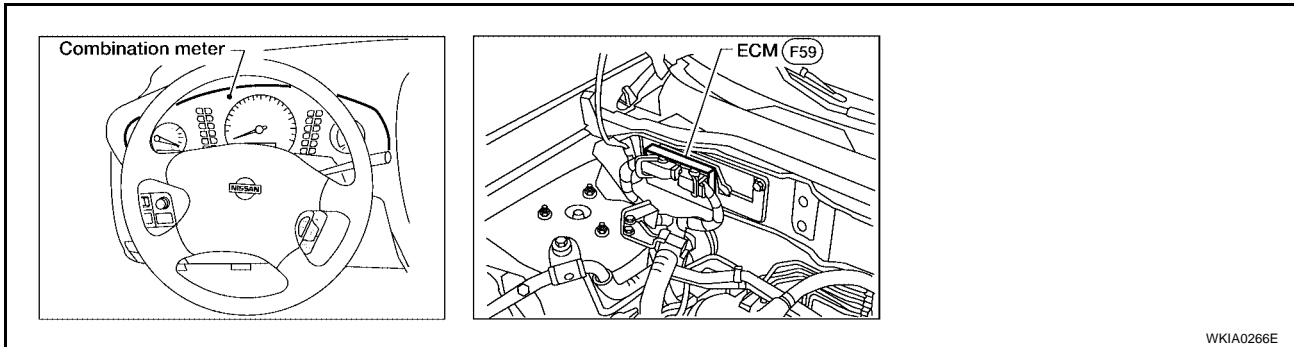
System Description

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

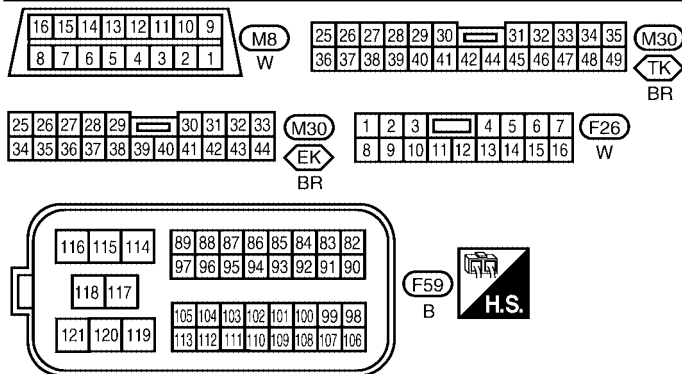
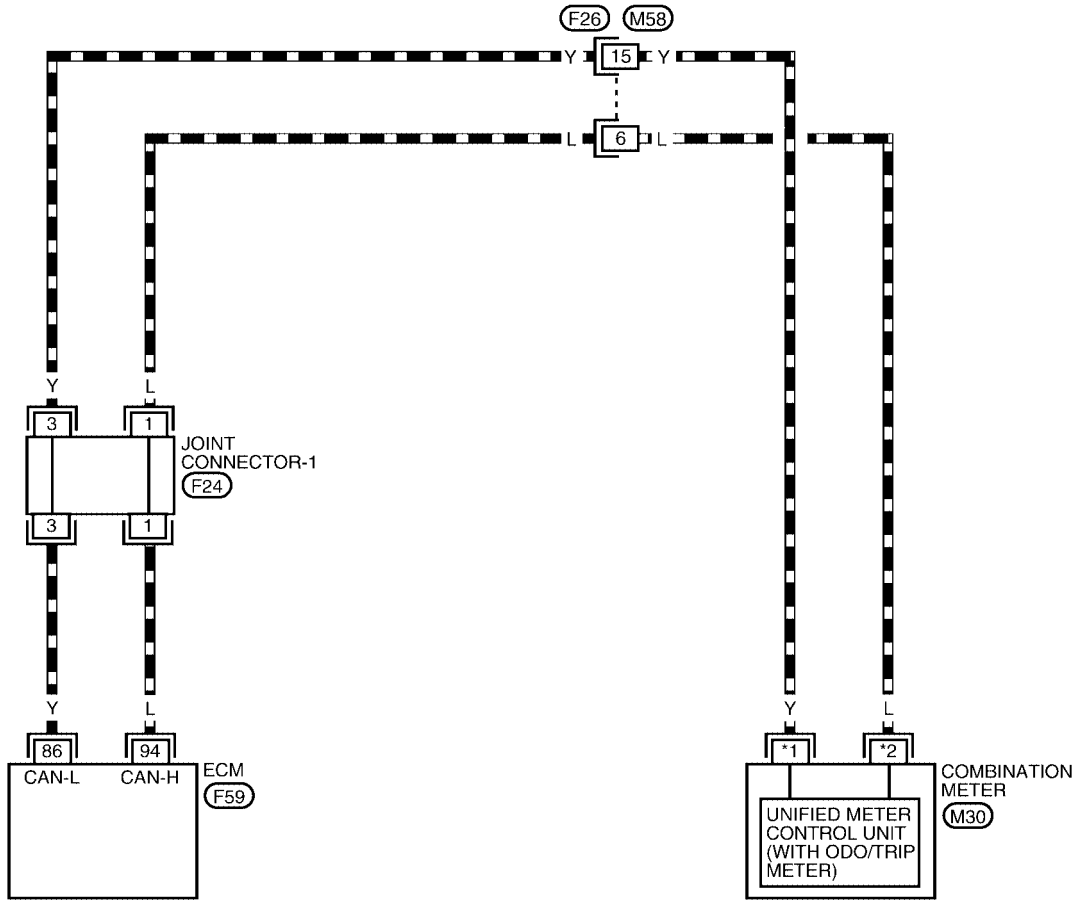
EKS003KH



Wiring Diagram — CAN —

LAN-CAN-02

- : DATA LINE
- ⬡EK : WITHOUT TACHOMETER
- ⬡TK : WITH TACHOMETER
- *1 ⬡EK : 35
- ⬡TK : 39
- *2 ⬡EK : 34
- ⬡TK : 38



REFER TO THE FOLLOWING.
 ⬡F24 - JOINT CONNECTOR

CAN SYSTEM (TYPE 2)

[CAN]

CHECK SHEET

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

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CHECK SHEET RESULTS (EXAMPLE)

Case 1

Replace ECM.

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

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LAN

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

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Case 2

Check CAN communication Circuit. Refer to [LAN-20, "CAN Communication Circuit Check"](#).

SELECT SYSTEM screen	CAN DIAG SUPPORT MNTR			
	Initial diagnosis	Transmit diagnosis	Receive diagnosis	
			ECM	METER/M&A
ENGINE	NG	UNKN ✓	..	UNKN ✓

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CAN Communication Circuit Check

EKS003KK

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 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.

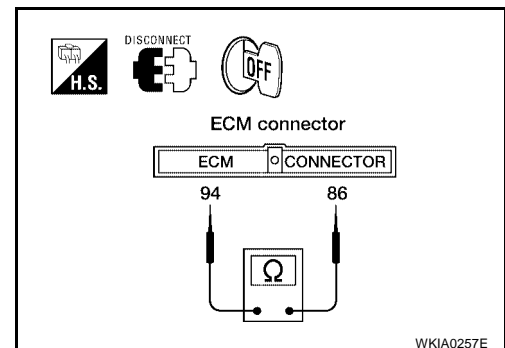
2. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect ECM connector and harness connector F26.
- 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.

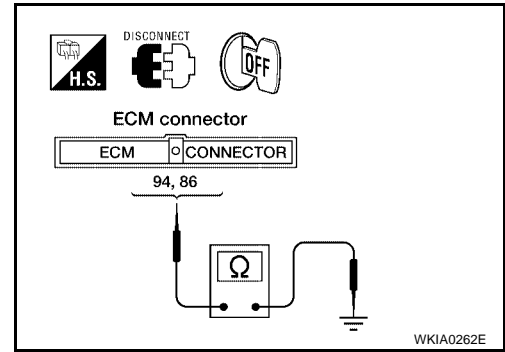
94 (L) – ground : Continuity should not exist.

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).

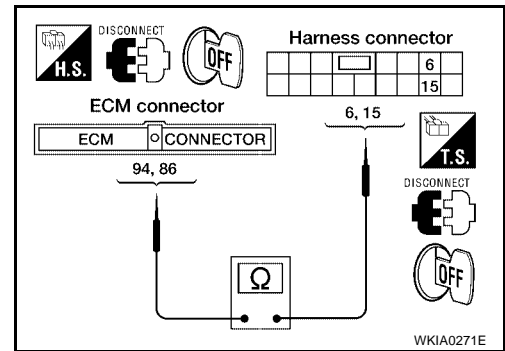
94 (L) – 6 (L) : Continuity should exist.

86 (Y) – 15 (Y) : Continuity should exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness.



5. CHECK HARNESS FOR SHORT CIRCUIT

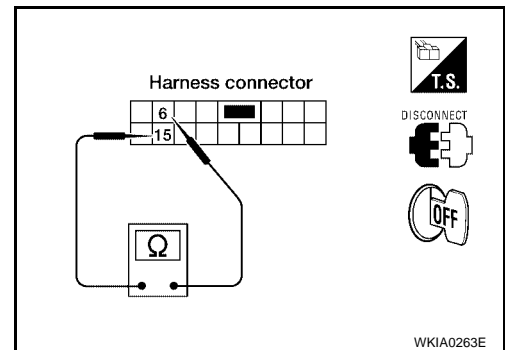
1. Disconnect combination meter connector.
2. Check continuity between harness connector M58 terminals 6 (L) and 15 (Y).

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.

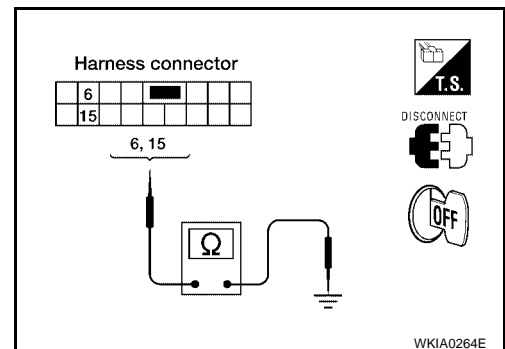
6 (L) – ground : Continuity should not exist.

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

OK or NG

OK >> GO TO 7.

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



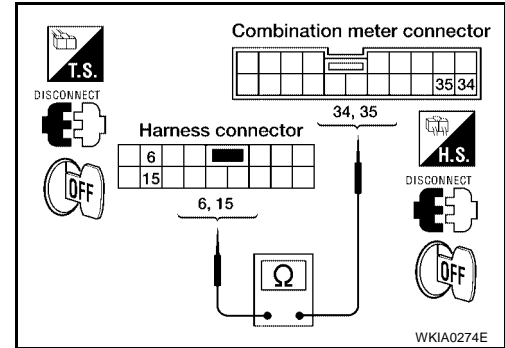
7. CHECK HARNESS FOR OPEN CIRCUIT

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) (Without tachometer) : Continuity should exist.

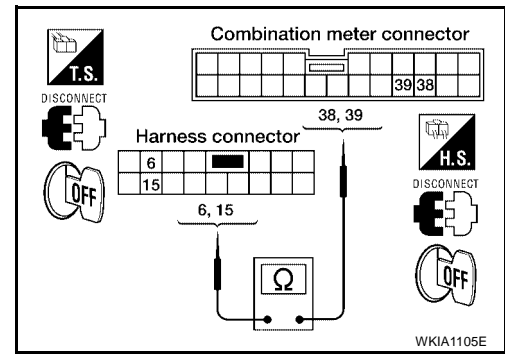
15 (Y) – 35 (Y) (Without tachometer) : Continuity should exist.



- With tachometer:
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) (With tachometer) : Continuity should exist.

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



OK or NG

OK >> GO TO 8.

NG >> Repair harness.

8. ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-22, "ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#).

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to [LAN-18, "Work Flow"](#).

NG >> Replace ECM and/or combination meter.

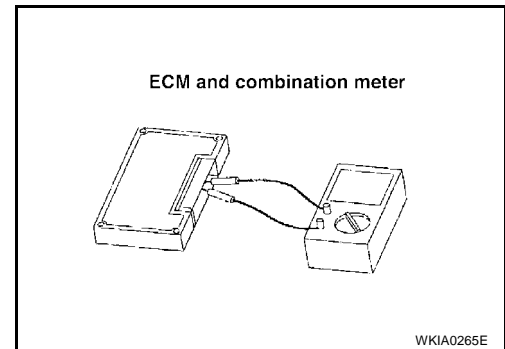
Component Inspection

ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION

EKS003KL

- 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 (With tachometer).

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



WKIA0265E

CAN SYSTEM (TYPE 3)

PFP:23710

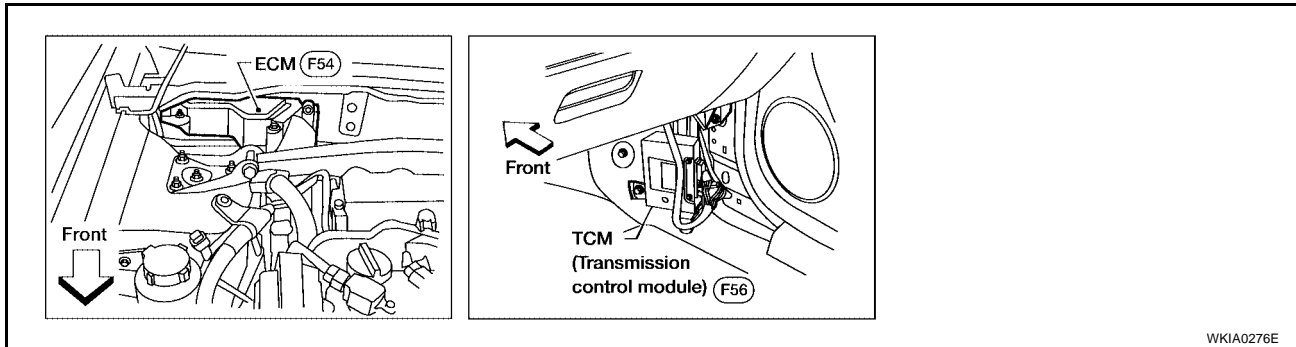
System Description

EKS003KM

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

EKS003KN



WKIA0276E

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LAN

CAN SYSTEM (TYPE 3)

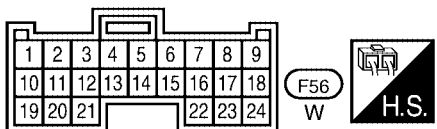
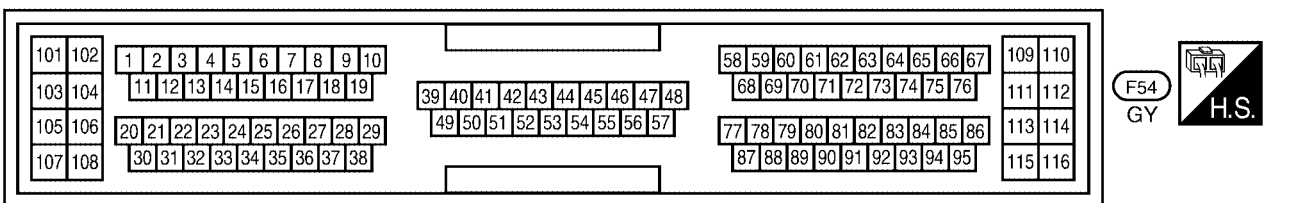
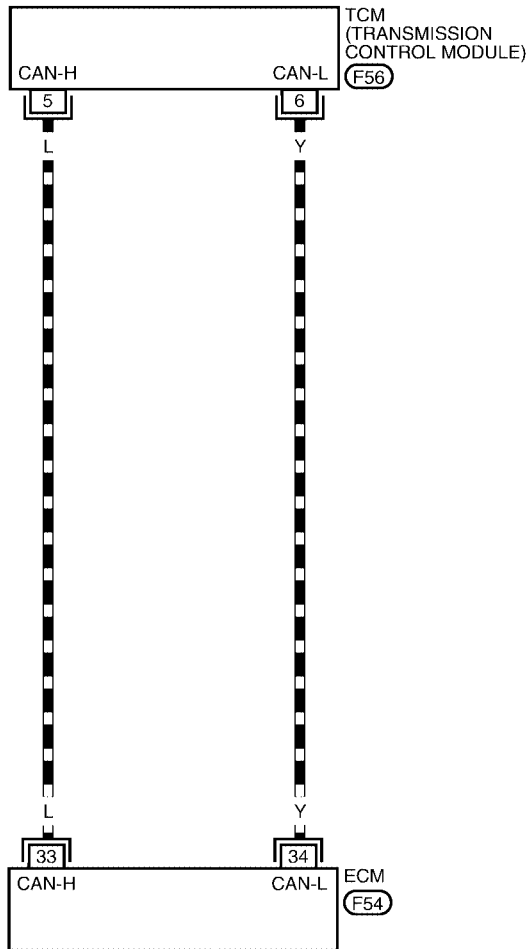
[CAN]

Wiring Diagram — CAN —

EKS003KO

LAN-CAN-03

— : DATA LINE



WKWA0151E

Work Flow

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

(Example)

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">SELECT DIAG MODE</td></tr> <tr><td style="text-align: center;">WORK SUPPORT</td></tr> <tr><td style="text-align: center;">SELF-DIAG RESULTS</td></tr> <tr><td style="text-align: center;">DATA MONITOR</td></tr> <tr><td style="text-align: center;">DATA MONITOR (SPEC)</td></tr> <tr><td style="text-align: center;">CAN DIAG SUPPORT MNTR</td></tr> <tr><td style="text-align: center;">ACTIVE TEST</td></tr> <tr><td style="text-align: center;"> </td></tr> <tr><td style="text-align: center;">Scroll Down</td></tr> <tr><td style="text-align: center;">BACK LIGHT COPY</td></tr> </table>	SELECT DIAG MODE	WORK SUPPORT	SELF-DIAG RESULTS	DATA MONITOR	DATA MONITOR (SPEC)	CAN DIAG SUPPORT MNTR	ACTIVE TEST		Scroll Down	BACK LIGHT COPY		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">SELF-DIAG RESULTS</td></tr> <tr><td style="text-align: center;">DTC RESULTS TIME</td></tr> <tr><td style="text-align: center;">CAN COMM CIRCUIT (U1000) 0</td></tr> <tr><td style="text-align: center;"> </td></tr> <tr><td style="text-align: center;"> </td></tr> <tr><td style="text-align: center;"> </td></tr> <tr><td style="text-align: center;"> </td></tr> <tr><td style="text-align: center;"> </td></tr> <tr><td style="text-align: center;">F.F.DATA</td></tr> <tr><td style="text-align: center;">ERASE PRINT</td></tr> <tr><td style="text-align: center;">MODE BACK LIGHT COPY</td></tr> </table>	SELF-DIAG RESULTS	DTC RESULTS TIME	CAN COMM CIRCUIT (U1000) 0						F.F.DATA	ERASE PRINT	MODE BACK LIGHT COPY
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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" and "A/T" displayed on CONSULT-II.

(Example)

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">SELECT DIAG MODE</td></tr> <tr><td style="text-align: center;">WORK SUPPORT</td></tr> <tr><td style="text-align: center;">SELF-DIAG RESULTS</td></tr> <tr><td style="text-align: center;">DATA MONITOR</td></tr> <tr><td style="text-align: center;">DATA MONITOR (SPEC)</td></tr> <tr><td style="text-align: center;">CAN DIAG SUPPORT MNTR</td></tr> <tr><td style="text-align: center;">ACTIVE TEST</td></tr> <tr><td style="text-align: center;"> </td></tr> <tr><td style="text-align: center;">Scroll Down</td></tr> <tr><td style="text-align: center;">BACK LIGHT COPY</td></tr> </table>	SELECT DIAG MODE	WORK SUPPORT	SELF-DIAG RESULTS	DATA MONITOR	DATA MONITOR (SPEC)	CAN DIAG SUPPORT MNTR	ACTIVE TEST		Scroll Down	BACK LIGHT COPY		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">CAN DIAG SUPPORT MNTR</td></tr> <tr><td style="text-align: center;">ENGINE</td></tr> <tr><td style="text-align: center;"> </td></tr> <tr><td style="text-align: center;">PRSN</td></tr> <tr><td style="text-align: center;">INITIAL DIAG OK</td></tr> <tr><td style="text-align: center;">TRANSMIT DIAG OK</td></tr> <tr><td style="text-align: center;">TCM OK</td></tr> <tr><td style="text-align: center;">VDC/TCS/ABS OK</td></tr> <tr><td style="text-align: center;">METER/M&A OK</td></tr> <tr><td style="text-align: center;">ICC UNKWN</td></tr> <tr><td style="text-align: center;">BCM/SEC OK</td></tr> <tr><td style="text-align: center;">IPDM E/R OK</td></tr> <tr><td style="text-align: center;">AWD/4WD/e4WD UNKWN</td></tr> <tr><td style="text-align: center;"> </td></tr> <tr><td style="text-align: center;">PRINT Scroll Down</td></tr> <tr><td style="text-align: center;">MODE BACK LIGHT COPY</td></tr> </table>	CAN DIAG SUPPORT MNTR	ENGINE		PRSN	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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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-26, "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-26, "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-27, "CHECK SHEET RESULTS \(EXAMPLE\)"](#) .

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LAN

CAN SYSTEM (TYPE 3)

[CAN]

CHECK SHEET

SELECT SYSTEM screen	Initial diagnosis	Transmit diagnosis	CAN DIAG SUPPORT MNTR	
			Receive diagnosis	
			ECM	TCM
ENGINE	NG	UNKWN	.	UNKWN
A/T	NG	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

WKIA2948E

CHECK SHEET RESULTS (EXAMPLE)

Case 1

Replace ECM.

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

WKIA2949E

Case 2

Replace TCM.

SELECT SYSTEM screen	Initial diagnosis	Transmit diagnosis	CAN DIAG SUPPORT MNTR	
			Receive diagnosis	
			ECM	TCM
ENGINE	NG	UNKWN	..	UNKWN ✓
A/T	✓	UNKWN	UNKWN	.

WKIA2950E

Case 3

Check Can communication Circuit. Refer to [LAN-27, "CAN Communication Circuit Check"](#) .

SELECT SYSTEM screen	Initial diagnosis	Transmit diagnosis	CAN DIAG SUPPORT MNTR	
			Receive diagnosis	
			ECM	TCM
ENGINE	NG	UNKWN ✓	..	UNKWN ✓
A/T	NG	UNKWN ✓	UNKWN ✓	.

WKIA2951E

CAN Communication Circuit Check

EKS003KQ

1. CHECK CONNECTOR

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

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

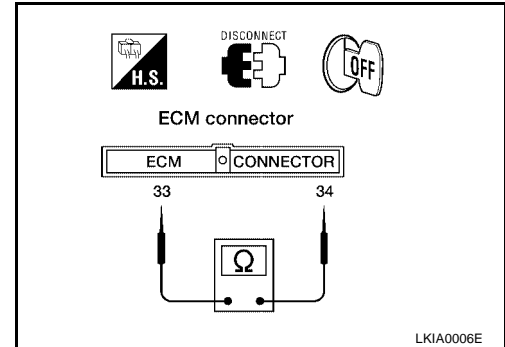
2. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ECM connector and TCM connector.
2. Check continuity between ECM harness connector F54 terminals 33 (L) and 34 (Y).

33 (L) – 34 (Y) : Continuity should not exist.

OK or NG

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



3. CHECK HARNESS FOR SHORT CIRCUIT

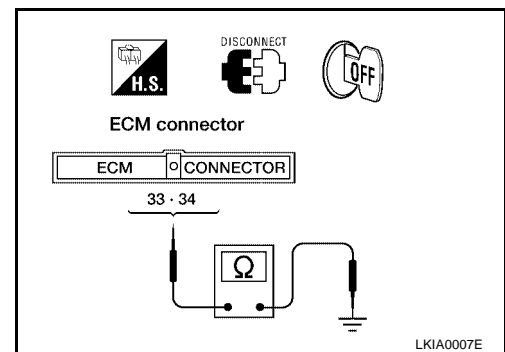
Check continuity between ECM harness connector F54 terminals 33 (L), 34 (Y) and ground.

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

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

OK or NG

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



4. CHECK HARNESS FOR OPEN CIRCUIT

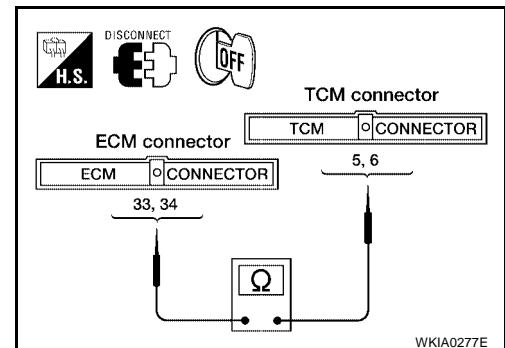
Check continuity between ECM harness connector F54 terminals 33 (L), 34 (Y) and TCM harness connector F56 terminals 5 (L), 6 (Y).

33 (L) – 5 (L) : Continuity should exist.

34 (Y) – 6 (Y) : Continuity should exist.

OK or NG

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



5. ECM/TCM INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-29, "ECM/TCM INTERNAL CIRCUIT INSPECTION"](#).

OK or NG

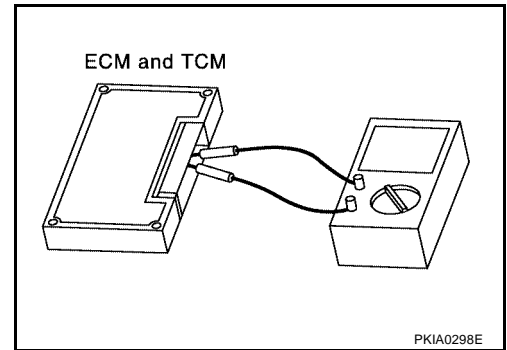
- OK >> Connect all the connectors and diagnose again. Refer to [LAN-25, "Work Flow"](#).
 NG >> Replace ECM and/or TCM.

EKS003KR

Component Inspection ECM/TCM INTERNAL CIRCUIT INSPECTION

- Remove ECM and TCM from vehicle.
- Check resistance between ECM terminals 33 and 34.
- Check resistance between TCM terminals 5 and 6.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	33 – 34	108 - 136
TCM	5 – 6	



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