

SECTION LAN

LAN SYSTEM

CONTENTS

CAN	
PRECAUTIONS	7
Precautions for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	7
Precautions For Trouble Diagnosis	7
CAN SYSTEM	7
Precautions For Harness Repair	7
CAN SYSTEM	7
CAN COMMUNICATION	8
System Description	8
CAN Communication Unit For LHD Models with Tyre Pressure Monitoring System	8
TYPE 1	9
TYPE 2	10
TYPE 3	11
TYPE 4	12
TYPE 5	13
TYPE 6	14
CAN Communication Unit For LHD Models without Tyre Pressure Monitoring System	15
TYPE 7	16
TYPE 8	17
TYPE 9	18
TYPE 10	19
TYPE 11	20
TYPE 12	21
CAN Communication Unit For RHD Models with Tyre Pressure Monitoring System	22
TYPE 13	23
TYPE 14	24
TYPE 15	25
TYPE 16	26
TYPE 17	27
TYPE 18	28
CAN Communication Unit For RHD Models without Tyre Pressure Monitoring System	29
TYPE 19	30
TYPE 20	31
TYPE 21	32
TYPE 22	33
TYPE 23	34
TYPE 24	35
CAN SYSTEM (TYPE 1)	36
System Description	36
Component Parts and Harness Connector Location	36
Wiring Diagram — CAN —	37
Work Flow	40
CHECK SHEET	41
CHECK SHEET RESULTS (EXAMPLE)	42
INSPECTION	48
Circuit Check Between TCM and Data Link Connector	49
Circuit Check Between Data Link Connector and Smart Entrance Control Unit	50
Circuit Check Between Smart Entrance Control Unit and Tyre Pressure Monitoring Control Unit	51
Circuit Check Between Tyre Pressure Monitoring Control Unit and ICC Unit	51
Circuit Check Between ICC Unit and ICC Sensor	52
ECM Circuit Check	53
TCM Circuit Check	53
ESP/TCS/ABS Control Unit Circuit Check	54
Steering Angle Sensor Circuit Check	54
Smart Entrance Control Unit Circuit Check	55
Tyre Pressure Monitoring Control Unit Circuit Check	55
ICC Unit Circuit Check	56
ICC Sensor Circuit Check	56
Combination Meter Circuit Check	57
CAN Communication Circuit Check	58
Component Inspection	62
ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION	62
CAN SYSTEM (TYPE 2)	63
System Description	63
Component Parts and Harness Connector Location	63

Wiring Diagram — CAN —	64	Smart Entrance Control Unit	113
Work Flow	66	Circuit Check Between Smart Entrance Control Unit and Tyre Pressure Monitoring Control Unit	113
CHECK SHEET	67	ECM Circuit Check	114
CHECK SHEET RESULTS (EXAMPLE)	68	TCM Circuit Check	115
INSPECTION	73	ABS Actuator and Electric Unit (control unit) Circuit Check	115
Circuit Check Between TCM and Data Link Connector	73	Smart Entrance Control Unit Circuit Check	116
Circuit Check Between Data Link Connector and Smart Entrance Control Unit	74	Tyre Pressure Monitoring Control Unit Circuit Check	116
Circuit Check Between Smart Entrance Control Unit and Tyre Pressure Monitoring Control Unit	75	Combination Meter Circuit Check	117
ECM Circuit Check	75	CAN Communication Circuit Check	117
TCM Circuit Check	76	Component Inspection	120
ESP/TCS/ABS Control Unit Circuit Check	76	ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION	120
Steering Angle Sensor Circuit Check	77	CAN SYSTEM (TYPE 5)	121
Smart Entrance Control Unit Circuit Check	77	System Description	121
Tyre Pressure Monitoring Control Unit Circuit Check	78	Component Parts and Harness Connector Location	121
Combination Meter Circuit Check	78	Wiring Diagram — CAN —	122
CAN Communication Circuit Check	79	Work Flow	124
Component Inspection	82	CHECK SHEET	125
ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION	82	CHECK SHEET RESULTS (EXAMPLE)	126
CAN SYSTEM (TYPE 3)	83	INSPECTION	129
System Description	83	Circuit Check Between Data Link Connector and Smart Entrance Control Unit	130
Component Parts and Harness Connector Location	83	Circuit Check Between Smart Entrance Control Unit and Tyre Pressure Monitoring Control Unit	130
Wiring Diagram — CAN —	84	ECM Circuit Check	131
Work Flow	86	ESP/TCS/ABS Control Unit Circuit Check	132
CHECK SHEET	87	Steering Angle Sensor Circuit Check	132
CHECK SHEET RESULTS (EXAMPLE)	88	Smart Entrance Control Unit Circuit Check	133
INSPECTION	92	Tyre Pressure Monitoring Control Unit Circuit Check	133
Circuit Check Between TCM and Data Link Connector	93	Combination Meter Circuit Check	134
Circuit Check Between Data Link Connector and Smart Entrance Control Unit	94	CAN Communication Circuit Check	134
Circuit Check Between Smart Entrance Control Unit and Tyre Pressure Monitoring Control Unit	94	Component Inspection	137
ECM Circuit Check	95	ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION	137
TCM Circuit Check	96	CAN SYSTEM (TYPE 6)	138
ABS Actuator and Electric Unit (control unit) Circuit Check	96	System Description	138
Smart Entrance Control Unit Circuit Check	97	Component Parts and Harness Connector Location	138
Tyre Pressure Monitoring Control Unit Circuit Check	97	Wiring Diagram — CAN —	139
Combination Meter Circuit Check	98	Work Flow	141
CAN Communication Circuit Check	98	CHECK SHEET	142
Component Inspection	101	CHECK SHEET RESULTS (EXAMPLE)	143
ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION	101	INSPECTION	145
CAN SYSTEM (TYPE 4)	102	Circuit Check Between Data Link Connector and Smart Entrance Control Unit	145
System Description	102	Circuit Check Between Smart Entrance Control Unit and Tyre Pressure Monitoring Control Unit	146
Component Parts and Harness Connector Location	102	ECM Circuit Check	147
Wiring Diagram — CAN —	103	ABS Actuator and Electric Unit (control unit) Circuit Check	148
Work Flow	105	Smart Entrance Control Unit Circuit Check	148
CHECK SHEET	106	Tyre Pressure Monitoring Control Unit Circuit Check	149
CHECK SHEET RESULTS (EXAMPLE)	107	Combination Meter Circuit Check	149
INSPECTION	111	CAN Communication Circuit Check	150
Circuit Check Between TCM and Data Link Connector	112	Component Inspection	155
Circuit Check Between Data Link Connector and		ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION	155

CAN SYSTEM (TYPE 7)	156	nector	202
System Description	156	Circuit Check Between Data Link Connector and Smart Entrance Control Unit	203
Component Parts and Harness Connector Location	156	ECM Circuit Check	204
Wiring Diagram — CAN —	157	TCM Circuit Check	204
Work Flow	160	ABS Actuator and Electric Unit (control unit) Circuit Check	205
CHECK SHEET	161	Smart Entrance Control Unit Circuit Check	205
CHECK SHEET RESULTS (EXAMPLE)	162	Combination Meter Circuit Check	206
INSPECTION	167	CAN Communication Circuit Check	206
Circuit Check Between TCM and Data Link Connector	168	Component Inspection	209
Circuit Check Between Data Link Connector and Smart Entrance Control Unit	169	ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION	209
Circuit Check Between Smart Entrance Control Unit and ICC Unit	169	CAN SYSTEM (TYPE 10)	210
Circuit Check Between ICC Unit and ICC Sensor	170	System Description	210
ECM Circuit Check	171	Component Parts and Harness Connector Location	210
TCM Circuit Check	171	Wiring Diagram — CAN —	211
ESP/TCS/ABS Control Unit Circuit Check	172	Work Flow	213
Steering Angle Sensor Circuit Check	172	CHECK SHEET	214
Smart Entrance Control Unit Circuit Check	173	CHECK SHEET RESULTS (EXAMPLE)	215
ICC Unit Circuit Check	173	INSPECTION	217
ICC Sensor Circuit Check	174	Circuit Check Between TCM and Data Link Connector	217
Combination Meter Circuit Check	174	Circuit Check Between Data Link Connector and Smart Entrance Control Unit	218
CAN Communication Circuit Check	175	ECM Circuit Check	219
Component Inspection	178	TCM Circuit Check	219
ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION	178	ABS Actuator and Electric Unit (control unit) Circuit Check	220
CAN SYSTEM (TYPE 8)	179	Smart Entrance Control Unit Circuit Check	220
System Description	179	Combination Meter Circuit Check	221
Component Parts and Harness Connector Location	179	CAN Communication Circuit Check	221
Wiring Diagram — CAN —	180	Component Inspection	224
Work Flow	182	ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION	224
CHECK SHEET	183	CAN SYSTEM (TYPE 11)	225
CHECK SHEET RESULTS (EXAMPLE)	184	System Description	225
INSPECTION	186	Component Parts and Harness Connector Location	225
Circuit Check Between TCM and Data Link Connector	186	Wiring Diagram — CAN —	226
Circuit Check Between Data Link Connector and Smart Entrance Control Unit	187	Work Flow	228
ECM Circuit Check	188	CHECK SHEET	229
TCM Circuit Check	189	CHECK SHEET RESULTS (EXAMPLE)	230
ESP/TCS/ABS Control Unit Circuit Check	189	INSPECTION	231
Steering Angle Sensor Circuit Check	190	Circuit Check Between Data Link Connector and Smart Entrance Control Unit	231
Smart Entrance Control Unit Circuit Check	190	ECM Circuit Check	232
Combination Meter Circuit Check	191	ESP/TCS/ABS Control Unit Circuit Check	233
CAN Communication Circuit Check	191	Steering Angle Sensor Circuit Check	233
Component Inspection	194	Smart Entrance Control Unit Circuit Check	234
ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION	194	Combination Meter Circuit Check	234
CAN SYSTEM (TYPE 9)	195	CAN Communication Circuit Check	235
System Description	195	Component Inspection	237
Component Parts and Harness Connector Location	195	ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION	237
Wiring Diagram — CAN —	196	CAN SYSTEM (TYPE 12)	238
Work Flow	198	System Description	238
CHECK SHEET	199	Component Parts and Harness Connector Location	238
CHECK SHEET RESULTS (EXAMPLE)	200	Wiring Diagram — CAN —	239
INSPECTION	202		
Circuit Check Between TCM and Data Link Con-			

A
B
C
D
E
F
G
H
I
J
LAN
L
M

Work Flow	241	and Tyre Pressure Monitoring Control Unit	294
CHECK SHEET	242	Circuit Check Between Tyre Pressure Monitoring	
CHECK SHEET RESULTS (EXAMPLE)	243	Control Unit and Steering Angle Sensor	295
INSPECTION	244	Circuit Check Between Steering Angle Sensor and	
Circuit Check Between Data Link Connector and		Smart Entrance Control Unit	296
Smart Entrance Control Unit	244	ECM Circuit Check	296
ECM Circuit Check	245	TCM Circuit Check	297
ABS Actuator and Electric Unit (control unit) Circuit		ESP/TCS/ABS Control Unit Circuit Check	297
Check	246	Tyre Pressure Monitoring Control Unit Circuit Check	298
Smart Entrance Control Unit Circuit Check	247	Steering Angle Sensor Circuit Check	298
Combination Meter Circuit Check	247	Smart Entrance Control Unit Circuit Check	299
CAN Communication Circuit Check	248	Combination Meter Circuit Check	299
Component Inspection	253	CAN Communication Circuit Check	300
ECM / COMBINATION METER INTERNAL CIR-		Component Inspection	303
CUIT INSPECTION	253	ECM / COMBINATION METER INTERNAL CIR-	
CAN SYSTEM (TYPE 13)	254	CUIT INSPECTION	303
System Description	254	CAN SYSTEM (TYPE 15)	304
Component Parts and Harness Connector Location	254	System Description	304
Wiring Diagram — CAN —	255	Component Parts and Harness Connector Location	304
Work Flow	258	Wiring Diagram — CAN —	305
CHECK SHEET	259	Work Flow	307
CHECK SHEET RESULTS (EXAMPLE)	260	CHECK SHEET	308
INSPECTION	267	CHECK SHEET RESULTS (EXAMPLE)	309
Circuit Check Between TCM and ICC Sensor	267	INSPECTION	314
Circuit Check Between ICC Sensor and ESP/TCS/		Circuit Check Between TCM and ABS Actuator and	
ABS Control Unit	268	Electric Unit (control unit)	314
Circuit Check Between ESP/TCS/ABS Control Unit		Circuit Check Between ABS Actuator and Electric	
and Tyre Pressure Monitoring Control Unit	269	Unit (control unit) and Tyre Pressure Monitoring	
Circuit Check Between Tyre Pressure Monitoring		Control Unit	315
Control Unit and Steering Angle Sensor	270	Circuit Check Between Tyre pressure monitoring	
Circuit Check Between Steering Angle Sensor and		control unit and Smart Entrance Control Unit	316
ICC Unit	271	ECM Circuit Check	317
Circuit Check Between ICC Unit and Smart		TCM Circuit Check	318
Entrance Control Unit	272	ABS Actuator and Electric Unit (control unit) Circuit	
ECM Circuit Check	272	Check	318
TCM Circuit Check	273	Tyre Pressure Monitoring Control Unit Circuit Check	319
ICC Sensor Circuit Check	273	Smart Entrance Control Unit Circuit Check	319
ESP/TCS/ABS Control Unit Circuit Check	274	Combination Meter Circuit Check	320
Tyre Pressure Monitoring Control Unit Circuit Check	274	CAN Communication Circuit Check	320
Steering Angle Sensor Circuit Check	275	Component Inspection	323
ICC Unit Circuit Check	275	ECM / COMBINATION METER INTERNAL CIR-	
Smart Entrance Control Unit Circuit Check	276	CUIT INSPECTION	323
Combination Meter Circuit Check	276	CAN SYSTEM (TYPE 16)	324
CAN Communication Circuit Check	277	System Description	324
Component Inspection	281	Component Parts and Harness Connector Location	324
ECM / COMBINATION METER INTERNAL CIR-		Wiring Diagram — CAN —	325
CUIT INSPECTION	281	Work Flow	327
CAN SYSTEM (TYPE 14)	282	CHECK SHEET	328
System Description	282	CHECK SHEET RESULTS (EXAMPLE)	329
Component Parts and Harness Connector Location	282	INSPECTION	334
Wiring Diagram — CAN —	283	Circuit Check Between TCM and ABS Actuator and	
Work Flow	285	Electric Unit (control unit)	334
CHECK SHEET	286	Circuit Check Between ABS Actuator and Electric	
CHECK SHEET RESULTS (EXAMPLE)	287	Unit (control unit) and Tyre Pressure Monitoring	
INSPECTION	292	Control Unit	335
Circuit Check Between TCM and ESP/TCS/ABS		Circuit Check Between Tyre pressure monitoring	
Control Unit	293	control unit and Smart Entrance Control Unit	336
Circuit Check Between ESP/TCS/ABS Control Unit		ECM Circuit Check	337

TCM Circuit Check	338	CAN SYSTEM (TYPE 19)	379
ABS Actuator and Electric Unit (control unit) Circuit Check	338	System Description	379
Tyre Pressure Monitoring Control Unit Circuit Check	339	Component Parts and Harness Connector Location	379
Smart Entrance Control Unit Circuit Check	339	Wiring Diagram — CAN —	380
Combination Meter Circuit Check	340	Work Flow	383
CAN Communication Circuit Check	340	CHECK SHEET	384
Component Inspection	343	CHECK SHEET RESULTS (EXAMPLE)	385
ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION	343	INSPECTION	391
CAN SYSTEM (TYPE 17)	344	Circuit Check Between TCM and ICC Sensor	391
System Description	344	Circuit Check Between ICC Sensor and ESP/TCS/ABS Control Unit	392
Component Parts and Harness Connector Location	344	Circuit Check Between ESP/TCS/ABS Control Unit and Steering Angle Sensor	393
Wiring Diagram — CAN —	345	Circuit Check Between Steering Angle Sensor and ICC Unit	394
Work Flow	347	Circuit Check Between ICC Unit and Smart Entrance Control Unit	395
CHECK SHEET	348	ECM Circuit Check	395
CHECK SHEET RESULTS (EXAMPLE)	349	TCM Circuit Check	396
INSPECTION	352	ICC Sensor Circuit Check	396
Circuit Check Between ESP/TCS/ABS Control Unit and Tyre Pressure Monitoring Control Unit	352	ESP/TCS/ABS Control Unit Circuit Check	397
Circuit Check Between Tyre Pressure Monitoring Control Unit and Steering Angle Sensor	353	Steering Angle Sensor Circuit Check	397
Circuit Check Between Steering Angle Sensor and Smart Entrance Control Unit	354	ICC Unit Circuit Check	398
ECM Circuit Check	355	Smart Entrance Control Unit Circuit Check	398
ESP/TCS/ABS Control Unit Circuit Check	355	Combination Meter Circuit Check	399
Tyre Pressure Monitoring Control Unit Circuit Check	356	CAN Communication Circuit Check	400
Steering Angle Sensor Circuit Check	356	Component Inspection	403
Smart Entrance Control Unit Circuit Check	357	ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION	403
Combination Meter Circuit Check	357	CAN SYSTEM (TYPE 20)	404
CAN Communication Circuit Check	358	System Description	404
Component Inspection	361	Component Parts and Harness Connector Location	404
ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION	361	Wiring Diagram — CAN —	405
CAN SYSTEM (TYPE 18)	362	Work Flow	407
System Description	362	CHECK SHEET	408
Component Parts and Harness Connector Location	362	CHECK SHEET RESULTS (EXAMPLE)	409
Wiring Diagram — CAN —	363	INSPECTION	411
Work Flow	365	Circuit Check Between TCM and ESP/TCS/ABS Control Unit	411
CHECK SHEET	366	Circuit Check Between ESP/TCS/ABS Control Unit and Steering Angle Sensor	413
CHECK SHEET RESULTS (EXAMPLE)	367	Circuit Check Between Steering Angle Sensor and Smart Entrance Control Unit	414
INSPECTION	369	ECM Circuit Check	414
Circuit Check Between ABS Actuator and Electric Unit (control unit) and Tyre Pressure Monitoring Control Unit	369	TCM Circuit Check	415
Circuit Check Between Tyre pressure monitoring control unit and Smart Entrance Control Unit	370	ESP/TCS/ABS Control Unit Circuit Check	415
ECM Circuit Check	371	Steering Angle Sensor Circuit Check	416
ABS Actuator and Electric Unit (control unit) Circuit Check	372	Smart Entrance Control Unit Circuit Check	416
Tyre Pressure Monitoring Control Unit Circuit Check	373	Combination Meter Circuit Check	417
Smart Entrance Control Unit Circuit Check	373	CAN Communication Circuit Check	418
Combination Meter Circuit Check	374	Component Inspection	421
CAN Communication Circuit Check	374	ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION	421
Component Inspection	378	CAN SYSTEM (TYPE 21)	422
ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION	378	System Description	422
		Component Parts and Harness Connector Location	422
		Wiring Diagram — CAN —	423
		Work Flow	425

A
B
C
D
E
F
G
H
I
J
L
M

LAN

CHECK SHEET	426	CAN SYSTEM (TYPE 23)	454
CHECK SHEET RESULTS (EXAMPLE)	427	System Description	454
INSPECTION	429	Component Parts and Harness Connector Location	454
Circuit Check Between TCM and ABS Actuator and Electric Unit (control unit)	429	Wiring Diagram — CAN —	455
Circuit Check Between ABS Actuator and Electric Unit (control unit) and Smart Entrance Control Unit	430	Work Flow	457
ECM Circuit Check	431	CHECK SHEET	458
TCM Circuit Check	432	CHECK SHEET RESULTS (EXAMPLE)	459
ABS Actuator and Electric Unit (control unit) Circuit Check	432	INSPECTION	460
Smart Entrance Control Unit Circuit Check	433	Circuit Check Between ESP/TCS/ABS Control Unit and Steering Angle Sensor	461
Combination Meter Circuit Check	433	Circuit Check Between Steering Angle Sensor and Smart Entrance Control Unit	462
CAN Communication Circuit Check	434	ECM Circuit Check	462
Component Inspection	437	ESP/TCS/ABS Control Unit Circuit Check	463
ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION	437	Steering Angle Sensor Circuit Check	463
CAN SYSTEM (TYPE 22)	438	Smart Entrance Control Unit Circuit Check	464
System Description	438	Combination Meter Circuit Check	464
Component Parts and Harness Connector Location	438	CAN Communication Circuit Check	465
Wiring Diagram — CAN —	439	Component Inspection	468
Work Flow	441	ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION	468
CHECK SHEET	442	CAN SYSTEM (TYPE 24)	469
CHECK SHEET RESULTS (EXAMPLE)	443	System Description	469
INSPECTION	445	Component Parts and Harness Connector Location	469
Circuit Check Between TCM and ABS Actuator and Electric Unit (control unit)	445	Wiring Diagram — CAN —	470
Circuit Check Between ABS Actuator and Electric Unit (control unit) and Smart Entrance Control Unit	446	Work Flow	472
ECM Circuit Check	447	CHECK SHEET	473
TCM Circuit Check	448	CHECK SHEET RESULTS (EXAMPLE)	474
ABS Actuator and Electric Unit (control unit) Circuit Check	448	INSPECTION	475
Smart Entrance Control Unit Circuit Check	449	Circuit Check Between ABS Actuator and Electric Unit (control unit) and Smart Entrance Control Unit	475
Combination Meter Circuit Check	449	ECM Circuit Check	477
CAN Communication Circuit Check	450	ABS Actuator and Electric Unit (control unit) Circuit Check	477
Component Inspection	453	Smart Entrance Control Unit Circuit Check	478
ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION	453	Combination Meter Circuit Check	478
		CAN Communication Circuit Check	479
		Component Inspection	483
		ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION	483

PRECAUTIONS

PF0:00001

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

EKS004SR

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 harness connectors.

Precautions For Trouble Diagnosis CAN SYSTEM

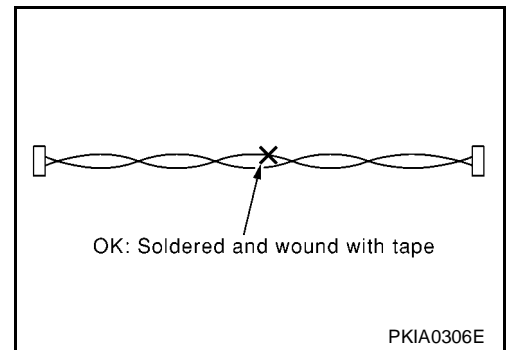
EKS00409

- 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.
- Be sure to turn ignition switch off and disconnect negative battery terminal before checking the circuit.

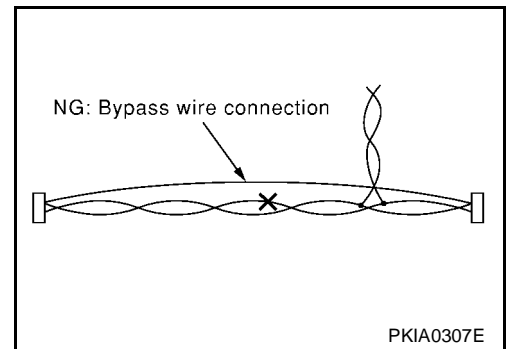
Precautions For Harness Repair CAN SYSTEM

EKS0040A

- 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.)



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CAN COMMUNICATION

System Description

EKS0040B

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 For LHD Models with Tyre Pressure Monitoring System

EKS004JD

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

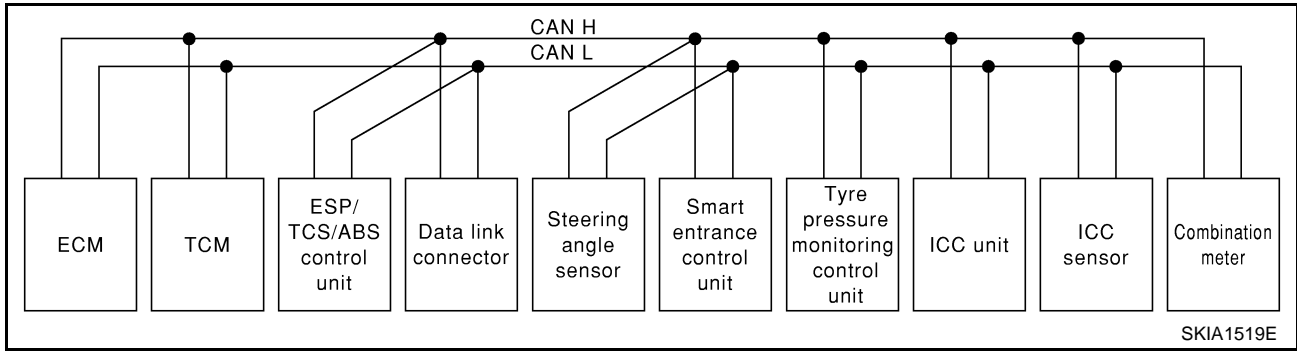
Body type	Sedan/Wagon								
Axle	2WD								
Engine	QR20DE		QG18DE	QR20DE	QG16DE	QG18DE	QR20DE	YD22DD Ti	
Transmission	CVT		A/T	6M/T	5M/T		6M/T		
Brake control	ESP		ABS		ESP	ABS			
ICC system	Applicable	Not applicable							
CAN communication unit									
ECM	×	×	×	×	×	×	×	×	×
TCM	×	×	×	×					
ESP/TCS/ABS control unit	×	×			×				
ABS actuator and electric unit (control unit)			×	×		×	×	×	×
Data link connector	×	×	×	×	×	×	×	×	×
Steering angle sensor	×	×			×				
Smart entrance control unit	×	×	×	×	×	×	×	×	×
Tyre pressure monitoring control unit	×	×	×	×	×	×	×	×	×
ICC unit	×								
ICC sensor	×								
Combination meter	×	×	×	×	×	×	×	×	×
CAN communication type	LAN-9, "TYPE 1"	LAN-10, "TYPE 2"	LAN-11, "TYPE 3"	LAN-12, "TYPE 4"	LAN-13, "TYPE 5"	LAN-14, "TYPE 6"			
Can system Trouble diagnosis	LAN-36, "CAN SYS-TEM (TYPE 1)"	LAN-63, "CAN SYS-TEM (TYPE 2)"	LAN-83, "CAN SYS-TEM (TYPE 3)"	LAN-102, "CAN SYS-TEM (TYPE 4)"	LAN-121, "CAN SYS-TEM (TYPE 5)"	LAN-138, "CAN SYSTEM (TYPE 6)"			

CAN COMMUNICATION

[CAN]

TYPE 1

System diagram



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ESP/ TCS/ ABS control unit	Steer- ing angle sensor	Smart entranc e control unit	Tyre pres- sure monitoring control unit	ICC unit	ICC sensor	Combi- nation meter
Engine speed signal	T	R	R				R		R
Accelerator pedal position signal	T	R	R				R		
Closed throttle position signal	T						R		
ICC steering switch signal	T						R		
Shift pattern signal		T					R		
Parking brake switch signal			T				R		
ICC system display signal							T		R
ICC sensor signal							R	T	
ESP operation signal	R		T				R		
TCS operation signal	R		T				R		
ABS operation signal	R	R	T				R		
Stop lamp switch signal		R	T						
Steering wheel angle sensor signal			R	T					
Wheel speed sensor signal			T				R		
Rear window defogger signal	R				T				
Heater fan switch signal	R								T
Air conditioner switch signal	R								T
Primary pulley revolution signal	R	T					R		
Secondary pulley revolution signal	R	T					R		
ICC operation signal	R						T		
Brake switch signal	R						T		
MI signal	T								R
Current gear position signal		T							R
Engine coolant temperature signal	T						R		R
Fuel consumption signal	T								R
Vehicle speed signal			T						R
	R								T
Seat belt reminder signal					R				T

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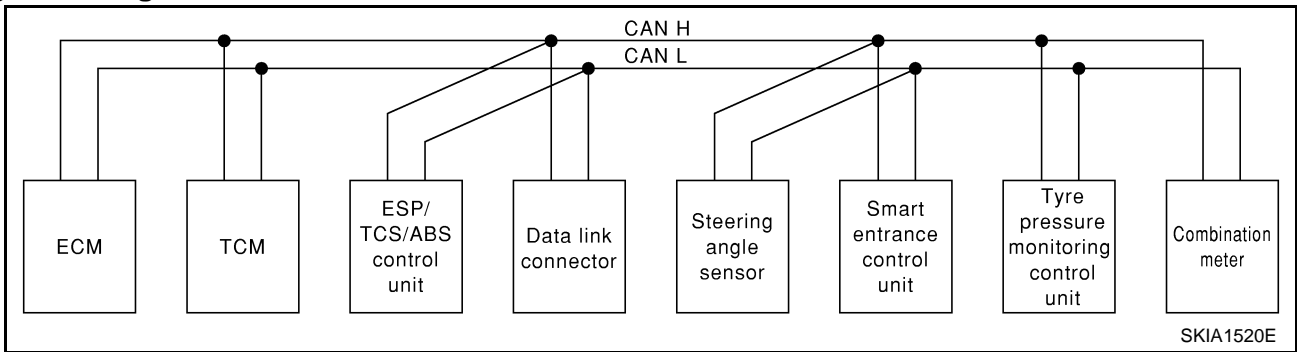
CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	ESP/ TCS/ ABS control unit	Steer- ing angle sensor	Smart entranc e control unit	Tyre pres- sure moni- toring control unit	ICC unit	ICC sensor	Combi- nation meter
Headlamp switch signal					T				R
Flashing indicator signal					T				R
Engine cooling fan speed signal	T				R				
Child lock indicator signal					T				R
Door switches state signal					T				R
Key ID signal	R				T				
	T				R				
A/C compressor signal	T				R				
Tire pressure signal						T			R

TYPE 2

System diagram



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ESP/TCS/ ABS control unit	Steering angle sen- sor	Smart entrance control unit	Tyre pres- sure moni- toring control unit	Combi- nation meter
Engine speed signal	T	R	R				R
Accelerator pedal position signal	T	R	R				
ESP operation signal	R		T				
TCS operation signal	R		T				
ABS operation signal	R	R	T				
Stop lamp switch signal		R	T				
Steering wheel angle sensor signal			R	T			
Rear window defogger signal	R				T		
Heater fan switch signal	R						T
Air conditioner switch signal	R						T
Primary pulley revolution signal	R	T					
Secondary pulley revolution signal	R	T					
MI signal	T						R
Current gear position signal		T					R
Engine coolant temperature signal	T						R

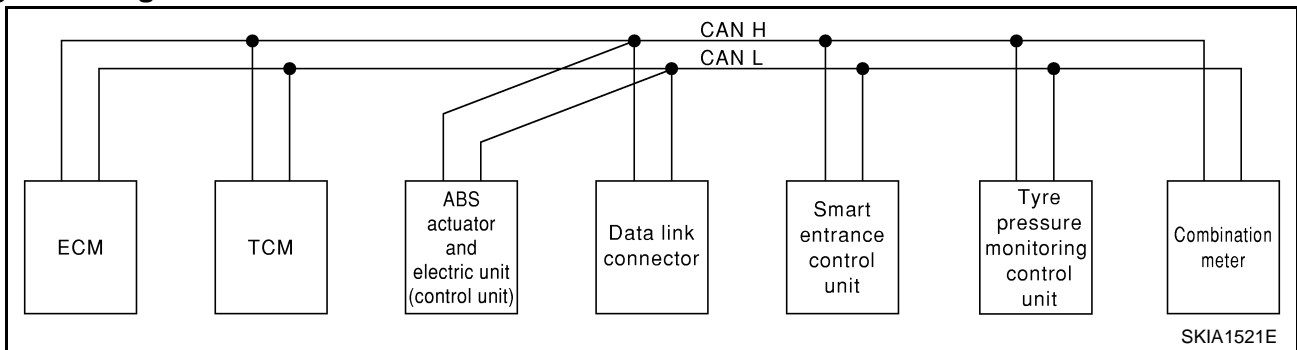
CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	ESP/TCS / ABS control unit	Steering angle sensor	Smart entrance control unit	Tyre pressure monitoring control unit	Combination meter
Fuel consumption signal	T						R
Vehicle speed signal			T				R
	R						T
Seat belt reminder signal					R		T
Headlamp switch signal					T		R
Flashing indicator signal					T		R
Engine cooling fan speed signal	T				R		
Child lock indicator signal					T		R
Door switches state signal					T		R
Key ID signal	R				T		
	T				R		
A/C compressor signal	T				R		
Tire pressure signal						T	R

TYPE 3

System diagram



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Smart entrance control unit	Tyre pressure monitoring control unit	Combination meter
Engine speed signal	T	R				R
Stop lamp switch signal		R	T			
Rear window defogger signal	R			T		
Heater fan switch signal	R					T
Air conditioner switch signal	R					T
Primary pulley revolution signal	R	T				
Secondary pulley revolution signal	R	T				
MI signal	T					R
Current gear position signal		T				R
Engine coolant temperature signal	T					R
Fuel consumption signal	T					R
Vehicle speed signal			T			R
	R					T

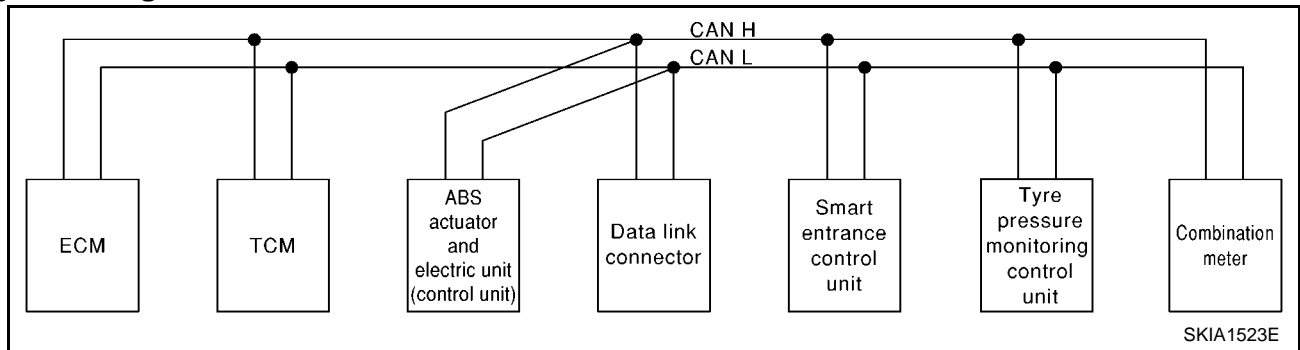
CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Smart entrance control unit	Tyre pressure monitoring control unit	Combination meter
Seat belt reminder signal				R		T
Headlamp switch signal				T		R
Flashing indicator signal				T		R
Engine cooling fan speed signal	T			R		
Child lock indicator signal				T		R
Door switches state signal				T		R
Key ID signal	R			T		
	T			R		
A/C compressor signal	T			R		
Tire pressure signal					T	R

TYPE 4

System diagram



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Smart entrance control unit	Tyre pressure monitoring control unit	Combination meter
Engine speed signal	T	R				R
Stop lamp switch signal		R	T			
Rear window defogger signal	R			T		
Heater fan switch signal	R					T
Air conditioner switch signal	R					T
MI signal	T					R
Current gear position signal		T				R
Engine coolant temperature signal	T					R
Fuel consumption signal	T					R
Vehicle speed signal			T			R
	R					T
Seat belt reminder signal				R		T
Headlamp switch signal				T		R
Flashing indicator signal				T		R
Engine cooling fan speed signal	T			R		
Child lock indicator signal				T		R

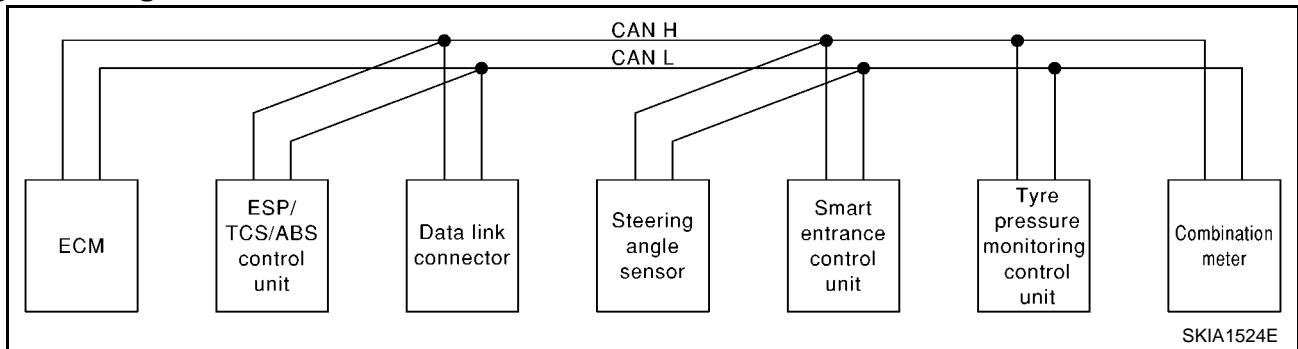
CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Smart entrance control unit	Tyre pressure monitoring control unit	Combination meter
Door switches state signal				T		R
Key ID signal	R			T		
	T			R		
A/C compressor signal	T			R		
Tyre pressure signal					T	R

TYPE 5

System diagram



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	ESP/ TCS / ABS control unit	Steering angle sensor	Smart entrance control unit	Tyre pressure monitoring control unit	Combination meter
Engine speed signal	T	R				R
Accelerator pedal position signal	T	R				
ESP operation signal	R	T				
TCS operation signal	R	T				
ABS operation signal	R	T				
Steering wheel angle sensor signal		R	T			
Rear window defogger signal	R			T		
Heater fan switch signal	R					T
Air conditioner switch signal	R					T
MI signal	T					R
Engine coolant temperature signal	T					R
Fuel consumption signal	T					R
Vehicle speed signal		T				R
	R					T
Seat belt reminder signal				R		T
Headlamp switch signal				T		R
Flashing indicator signal				T		R
Engine cooling fan speed signal	T			R		
Child lock indicator signal				T		R
Door switches state signal				T		R

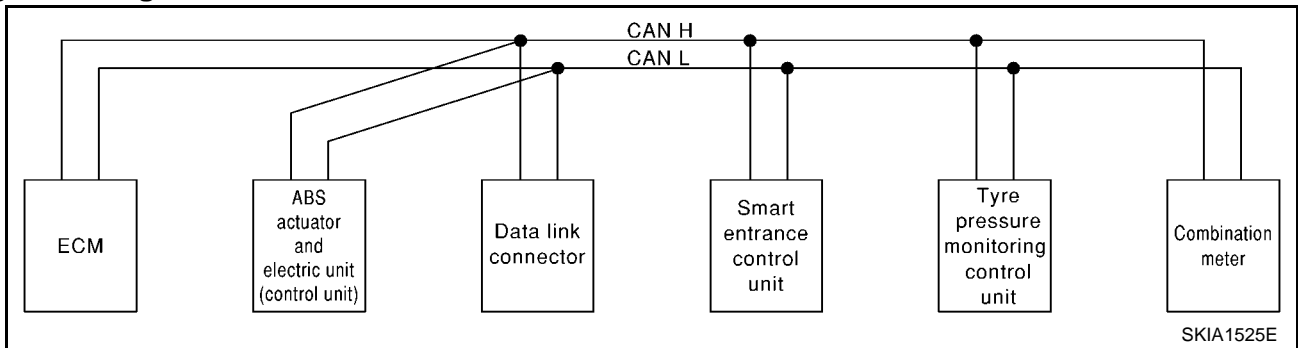
CAN COMMUNICATION

[CAN]

Signals	ECM	ESP/ TCS / ABS control unit	Steering angle sen- sor	Smart entrance control unit	Tyre pres- sure moni- toring control unit	Combina- tion meter
Key ID signal	R			T		
	T			R		
A/C compressor signal	T			R		
Tire pressure signal					T	R

TYPE 6

System diagram



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	ABS actuator and electric unit (control unit)	Smart entrance con- trol unit	Tyre pres- sure moni- toring con- trol unit	Combination meter
Engine speed signal	T				R
Rear window defogger signal	R*1		T		
Heater fan switch signal	R*1				T
Air conditioner switch signal	R				T
MI signal	T				R
Glow lamp signal*2	T				R
Engine coolant temperature signal	T				R
Fuel consumption signal	T				R
Vehicle speed signal		T			R
	R				T
Seat belt reminder signal			R		T
Headlamp switch signal			T		R
Flashing indicator signal			T		R
Engine cooling fan speed signal	T		R		
Child lock indicator signal			T		R
Door switches state signal			T		R
Key ID signal	R		T		
	T		R		
A/C compressor signal	T		R		
Tire pressure signal				T	R

*1: Except YD22DDTi engine model

*2: YD22DDTi engine model only

CAN COMMUNICATION

[CAN]

CAN Communication Unit For LHD Models without Tyre Pressure Monitoring System

EKS004JE

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

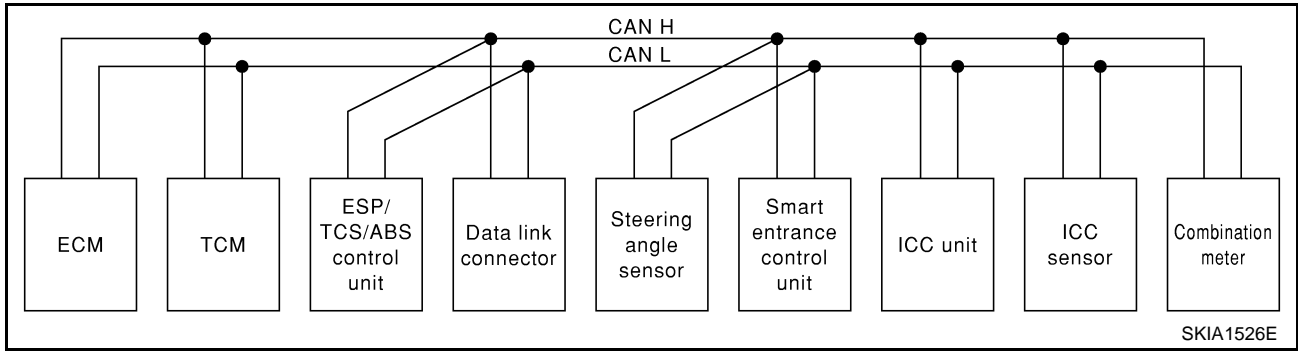
Body type	Sedan/Wagon									
Axle	2WD									
Engine	QR20DE			QG18DE	QR20DE	QG16DE	QG18DE	QR20DE	YD22DD Ti	
Transmission	CVT			A/T	6M/T	5M/T		6M/T		
Brake control	ESP			ABS		ESP	ABS			
ICC system	Applica- ble	Not applicable								
CAN communication unit										
ECM	×	×	×	×	×	×	×	×	×	×
TCM	×	×	×	×						
ESP/TCS/ABS control unit	×	×			×					
ABS actuator and electric unit (control unit)			×	×		×	×	×	×	×
Data link connector	×	×	×	×	×	×	×	×	×	×
Steering angle sensor	×	×			×					
Smart entrance control unit	×	×	×	×	×	×	×	×	×	×
ICC unit	×									
ICC sensor	×									
Combination meter	×	×	×	×	×	×	×	×	×	×
Can communication type	<u>LAN-16,</u> <u>"TYPE 7"</u>	<u>LAN-17,</u> <u>"TYPE 8"</u>	<u>LAN-18,</u> <u>"TYPE 9"</u>	<u>LAN-19,</u> <u>"TYPE 10"</u>	<u>LAN-20,</u> <u>"TYPE 11"</u>	<u>LAN-21, "TYPE 12"</u>				
Can system Trouble diagnosis	<u>LAN-156,</u> <u>"CAN SYS-TEM (TYPE 7)"</u>	<u>LAN-179,</u> <u>"CAN SYS-TEM (TYPE 8)"</u>	<u>LAN-195,</u> <u>"CAN SYS-TEM (TYPE 9)"</u>	<u>LAN-210,</u> <u>"CAN SYS-TEM (TYPE 10)"</u>	<u>LAN-225,</u> <u>"CAN SYS-TEM (TYPE 11)"</u>	<u>LAN-238, "CAN SYSTEM (TYPE 12)"</u>				

CAN COMMUNICATION

[CAN]

TYPE 7

System diagram



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ESP/ TCS / ABS con- trol unit	Steering angle sensor	Smart entrance control unit	ICC unit	ICC sen- sor	Combina- tion meter
Engine speed signal	T	R	R			R		R
Accelerator pedal position signal	T	R	R			R		
Closed throttle position signal	T					R		
ICC steering switch signal	T					R		
Shift pattern signal		T				R		
Parking brake switch signal			T			R		
ICC system display signal						T		R
ICC sensor signal						R	T	
ESP operation signal	R		T			R		
TCS operation signal	R		T			R		
ABS operation signal	R	R	T			R		
Stop lamp switch signal		R	T					
Steering wheel angle sensor signal			R	T				
Wheel speed sensor signal			T			R		
Rear window defogger signal	R				T			
Heater fan switch signal	R							T
Air conditioner switch signal	R							T
Primary pulley revolution signal	R	T				R		
Secondary pulley revolution signal	R	T				R		
ICC operation signal	R					T		
Brake switch signal	R					T		
MI signal	T							R
Current gear position signal		T						R
Engine coolant temperature signal	T					R		R
Fuel consumption signal	T							R
Vehicle speed signal			T					R
	R							T
Seat belt reminder signal					R			T
Headlamp switch signal					T			R
Flashing indicator signal					T			R

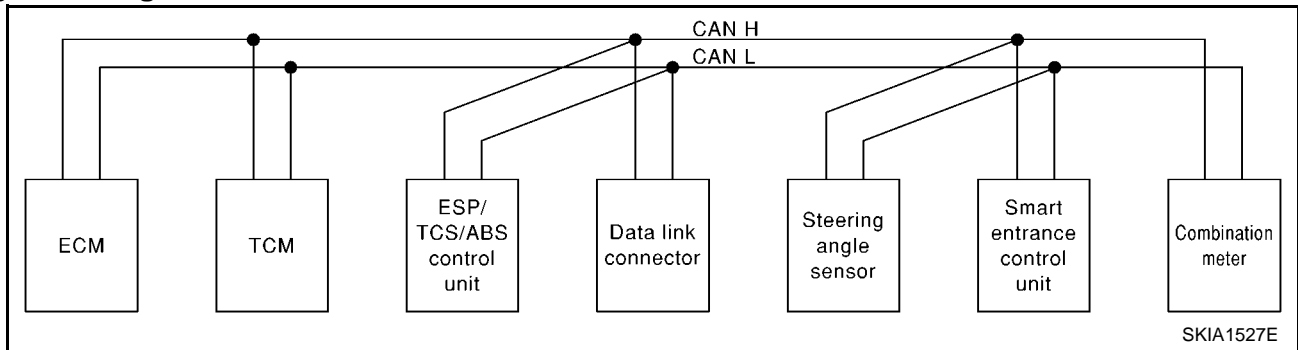
CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	ESP/ TCS / ABS con- trol unit	Steering angle sensor	Smart entrance control unit	ICC unit	ICC sen- sor	Combina- tion meter
Engine cooling fan speed signal	T				R			
Child lock indicator signal					T			R
Door switches state signal					T			R
Key ID signal	R				T			
	T				R			
A/C compressor signal	T				R			

TYPE 8

System diagram



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ESP/ TCS / ABS control unit	Steering angle sensor	Smart entrance control unit	Combina- tion meter
Engine speed signal	T	R	R			R
Accelerator pedal position signal	T	R	R			
ESP operation signal	R		T			
TCS operation signal	R		T			
ABS operation signal	R	R	T			
Stop lamp switch signal		R	T			
Steering wheel angle sensor signal			R	T		
Rear window defogger signal	R				T	
Heater fan switch signal	R					T
Air conditioner switch signal	R					T
Primary pulley revolution signal	R	T				
Secondary pulley revolution signal	R	T				
MI signal	T					R
Current gear position signal		T				R
Engine coolant temperature signal	T					R
Fuel consumption signal	T					R
Vehicle speed signal			T			R
	R					T
Seat belt reminder signal					R	T
Headlamp switch signal					T	R
Flashing indicator signal					T	R

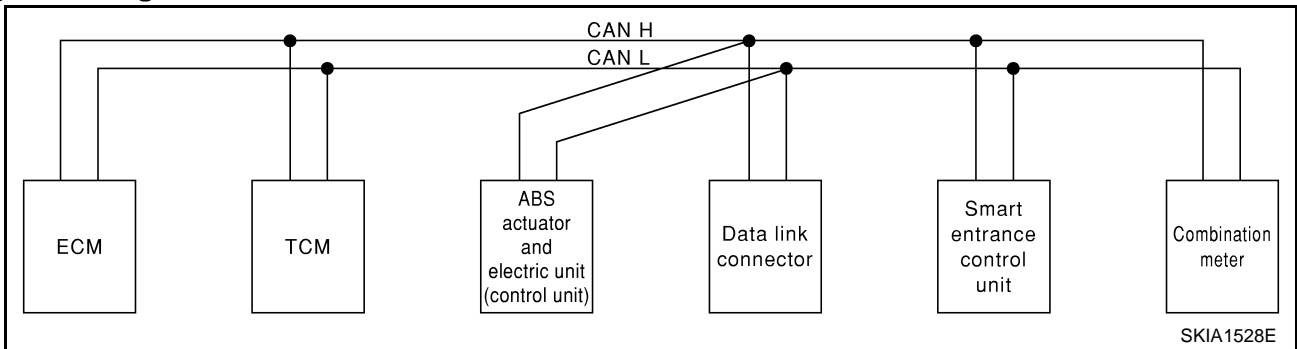
CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	ESP/ TCS / ABS control unit	Steering angle sensor	Smart entrance control unit	Combina- tion meter
Engine cooling fan speed signal	T				R	
Child lock indicator signal					T	R
Door switches state signal					T	R
Key ID signal	R				T	
	T				R	
A/C compressor signal	T				R	

TYPE 9

System diagram



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Smart entrance con- trol unit	Combination meter
Engine speed signal	T	R			R
Stop lamp switch signal		R	T		
Rear window defogger signal	R			T	
Heater fan switch signal	R				T
Air conditioner switch signal	R				T
Primary pulley revolution signal	R	T			
Secondary pulley revolution signal	R	T			
MI signal	T				R
Current gear position signal		T			R
Engine coolant temperature signal	T				R
Fuel consumption signal	T				R
Vehicle speed signal			T		R
	R				T
Seat belt reminder signal				R	T
Headlamp switch signal				T	R
Flashing indicator signal				T	R
Engine cooling fan speed signal	T			R	
Child lock indicator signal				T	R
Door switches state signal				T	R

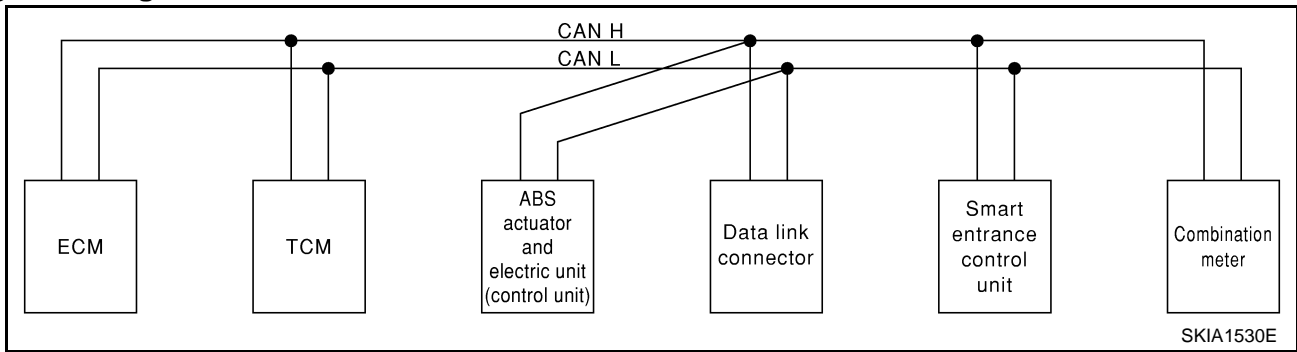
CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Smart entrance control unit	Combination meter
Key ID signal	R			T	
	T			R	
A/C compressor signal	T			R	

TYPE 10

System diagram



Input/output signal chart

T: Transmit R: Receive

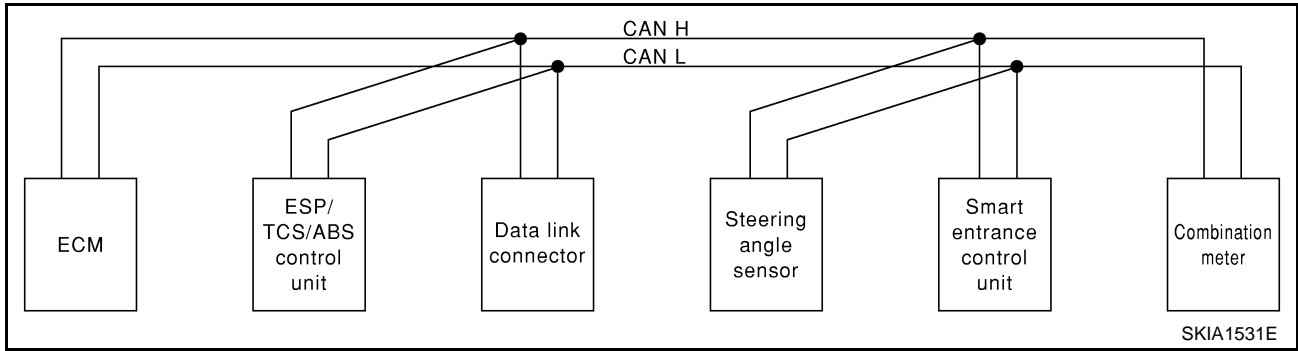
Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Smart entrance control unit	Combination meter
Engine speed signal	T	R			R
Stop lamp switch signal		R	T		
Rear window defogger signal	R			T	
Heater fan switch signal	R				T
Air conditioner switch signal	R				T
MI signal	T				R
Current gear position signal		T			R
Engine coolant temperature signal	T				R
Fuel consumption signal	T				R
Vehicle speed signal			T		R
	R				T
Seat belt reminder signal				R	T
Headlamp switch signal				T	R
Flashing indicator signal				T	R
Engine cooling fan speed signal	T			R	
Child lock indicator signal				T	R
Door switches state signal				T	R
Key ID signal	R			T	
	T			R	
A/C compressor signal	T			R	

CAN COMMUNICATION

[CAN]

TYPE 11

System diagram



Input/output signal chart

T: Transmit R: Receive

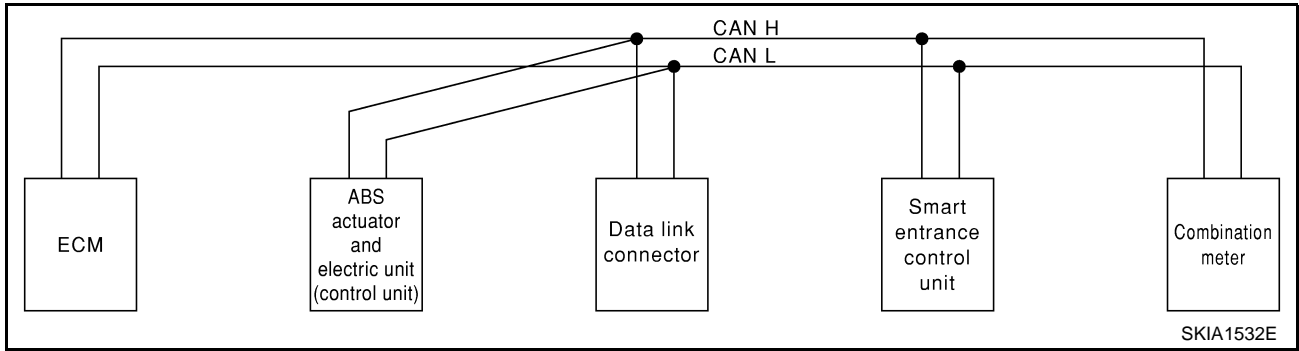
Signals	ECM	ESP/ TCS / ABS control unit	Steering angle sensor	Smart entrance control unit	Combination meter
Engine speed signal	T	R			R
Accelerator pedal position signal	T	R			
ESP operation signal	R	T			
TCS operation signal	R	T			
ABS operation signal	R	T			
Steering wheel angle sensor signal		R	T		
Rear window defogger signal	R			T	
Heater fan switch signal	R				T
Air conditioner switch signal	R				T
MI signal	T				R
Engine coolant temperature signal	T				R
Fuel consumption signal	T				R
Vehicle speed signal		T			R
	R				T
Seat belt reminder signal				R	T
Headlamp switch signal				T	R
Flashing indicator signal				T	R
Engine cooling fan speed signal	T			R	
Child lock indicator signal				T	R
Door switches state signal				T	R
Key ID signal	R			T	
	T			R	
A/C compressor signal	T			R	

CAN COMMUNICATION

[CAN]

TYPE 12

System diagram



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	ABS actuator and electric unit (control unit)	Smart entrance control unit	Combination meter
Engine speed signal	T			R
Rear window defogger signal	R ^{*1}		T	
Heater fan switch signal	R ^{*1}			T
Air conditioner switch signal	R			T
MI signal	T			R
Glow lamp signal ^{*2}	T			R
Engine coolant temperature signal	T			R
Fuel consumption signal	T			R
Vehicle speed signal		T		R
	R			T
Seat belt reminder signal			R	T
Headlamp switch signal			T	R
Flashing indicator signal			T	R
Engine cooling fan speed signal	T		R	
Child lock indicator signal			T	R
Door switches state signal			T	R
Key ID signal	R		T	
	T		R	
A/C compressor signal	T		R	

*1: Except YD22DDTi engine model

*2: YD22DDTi engine model only

CAN COMMUNICATION

[CAN]

CAN Communication Unit For RHD Models with Tyre Pressure Monitoring System

EKS004JF

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

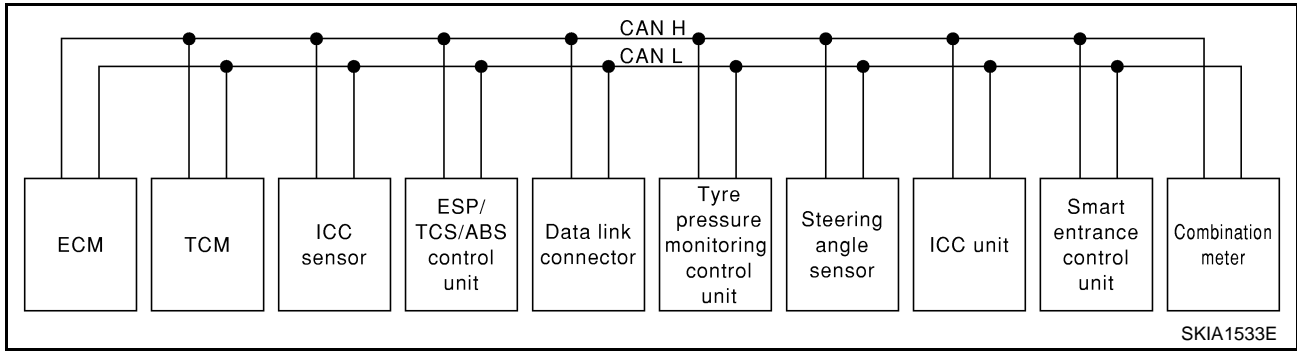
Body type	Sedan/Wagon									
Axle	2WD									
Engine	QR20DE			QG18DE	QR20DE	QG16DE	QG18DE	QR20DE	YD22DD Ti	
Transmission	CVT			A/T	6M/T	5M/T		6M/T		
Brake control	ESP			ABS		ESP	ABS			
ICC system	Applica- ble	Not applicable								
CAN communication unit										
ECM	×	×	×	×	×	×	×	×	×	×
TCM	×	×	×	×						
ICC sensor	×									
ESP/TCS/ABS control unit	×	×			×					
ABS actuator and electric unit (control unit)			×	×		×	×	×	×	×
Data link connector	×	×	×	×	×	×	×	×	×	×
Tyre pressure monitoring control unit	×	×	×	×	×	×	×	×	×	×
Steering angle sensor	×	×			×					
ICC unit	×									
Smart entrance control unit	×	×	×	×	×	×	×	×	×	×
Combination meter	×	×	×	×	×	×	×	×	×	×
CAN communication type	LAN-23, "TYPE 13"	LAN-24, "TYPE 14"	LAN-25, "TYPE 15"	LAN-26, "TYPE 16"	LAN-27, "TYPE 17"	LAN-28, "TYPE 18"				
Can system Trouble diagnosis	LAN-254, "CAN SYS-TEM (TYPE 13)"	LAN-282, "CAN SYS-TEM (TYPE 14)"	LAN-304, "CAN SYS-TEM (TYPE 15)"	LAN-324, "CAN SYS-TEM (TYPE 16)"	LAN-344, "CAN SYS-TEM (TYPE 17)"	LAN-362, "CAN SYSTEM (TYPE 18)"				

CAN COMMUNICATION

[CAN]

TYPE 13

System diagram



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ICC sensor	ESP/TCS/ABS control unit	Tyre pressure monitoring control unit	Steering angle sensor	ICC unit	Smart entrance control unit	Combination meter
Engine speed signal	T	R		R			R		R
Accelerator pedal position signal	T	R		R			R		
Closed throttle position signal	T						R		
ICC steering switch signal	T						R		
Shift pattern signal		T					R		
Parking brake switch signal				T			R		
ICC system display signal							T		
ICC sensor signal			T				R		
ESP operation signal	R			T			R		
TCS operation signal	R			T			R		
ABS operation signal	R	R		T			R		
Stop lamp switch signal		R		T					
Steering wheel angle sensor signal				R		T			
Wheel speed sensor signal				T			R		
Rear window defogger signal	R							T	
Heater fan switch signal	R								T
Air conditioner switch signal	R								T
Primary pulley revolution signal	R	T					R		
Secondary pulley revolution signal	R	T					R		
ICC operation signal	R						T		
Brake switch signal	R						T		
MI signal	T								R
Current gear position signal		T							R
Engine coolant temperature signal	T						R		R
Fuel consumption signal	T								R
Vehicle speed signal				T					R
	R								T
Seat belt reminder signal								R	T

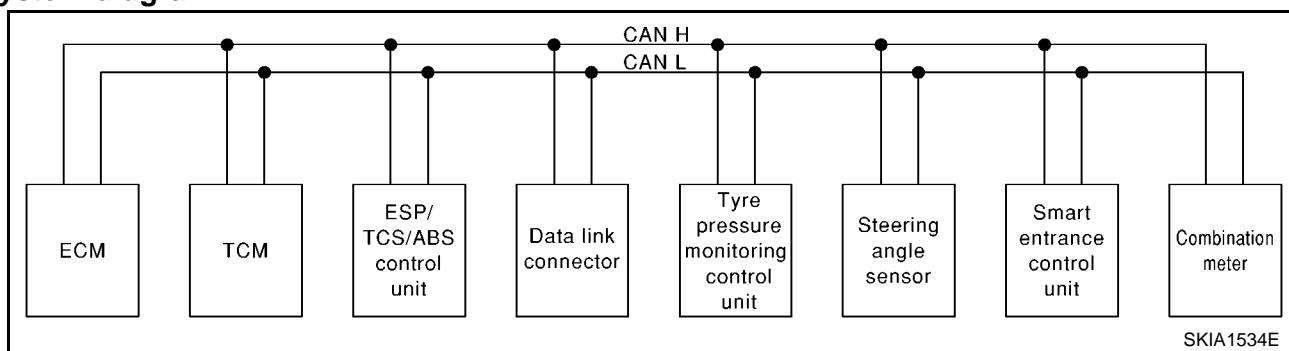
CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	ICC sensor	ESP/TCS/ABS control unit	Tyre pressure monitoring control unit	Steering angle sensor	ICC unit	Smart entrance control unit	Combination meter
Headlamp switch signal								T	R
Flashing indicator signal								T	R
Engine cooling fan speed signal	T							R	
Child lock indicator signal								T	R
Door switches state signal								T	R
Key ID signal	R							T	
	T							R	
A/C compressor signal	T							R	
Tire pressure signal					T				R

TYPE 14

System diagram



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ESP/TCS/ABS control unit	Tyre pressure monitoring control unit	Steering angle sensor	Smart entrance control unit	Combination meter
Engine speed signal	T	R	R				R
Accelerator pedal position signal	T	R	R				
ESP operation signal	R		T				
TCS operation signal	R		T				
ABS operation signal	R	R	T				
Stop lamp switch signal		R	T				
Steering wheel angle sensor signal			R		T		
Rear window defogger signal	R					T	
Heater fan switch signal	R						T
Air conditioner switch signal	R						T
Primary pulley revolution signal	R	T					
Secondary pulley revolution signal	R	T					
MI signal	T						R
Current gear position signal		T					R
Engine coolant temperature	T						R

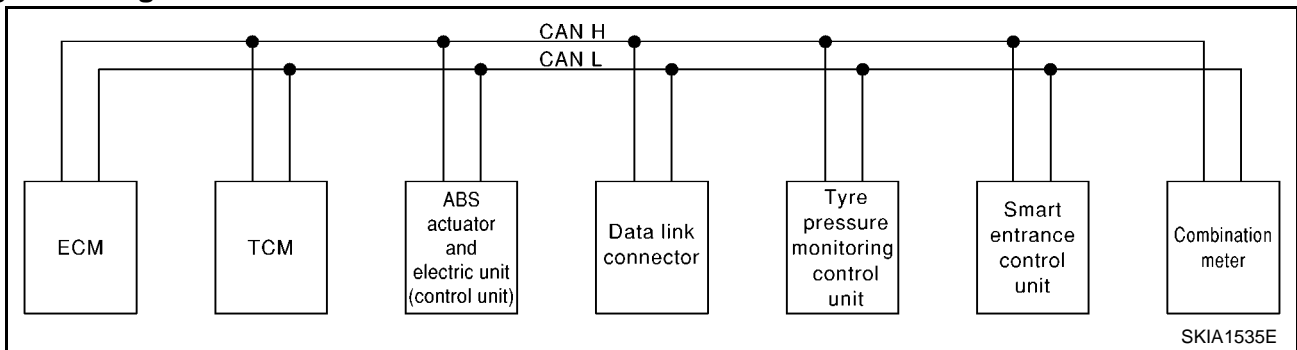
CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	ESP/ TCS / ABS control unit	Tyre pressure monitor- ing control unit	Steering angle sensor	Smart entrance control unit	Combi- nation meter
Fuel consumption signal	T						R
Vehicle speed signal			T				R
	R						T
Seat belt reminder signal						R	T
Headlamp switch signal						T	R
Flashing indicator signal						T	R
Engine cooling fan speed signal	T					R	
Child lock indicator signal						T	R
Door switches state signal						T	R
Key ID signal	R					T	
	T					R	
A/C compressor signal	T					R	
Tire pressure signal				T			R

TYPE 15

System diagram



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Tyre pressure monitoring control unit	Smart entrance control unit	Combination meter
Engine speed signal	T	R				R
Stop lamp switch signal		R	T			
Rear window defogger signal	R				T	
Heater fan switch signal	R					T
Air conditioner switch signal	R					T
Primary pulley revolution signal	R	T				
Secondary pulley revolution signal	R	T				
MI signal	T					R
Current gear position signal		T				R
Engine coolant temperature signal	T					R
Fuel consumption signal	T					R

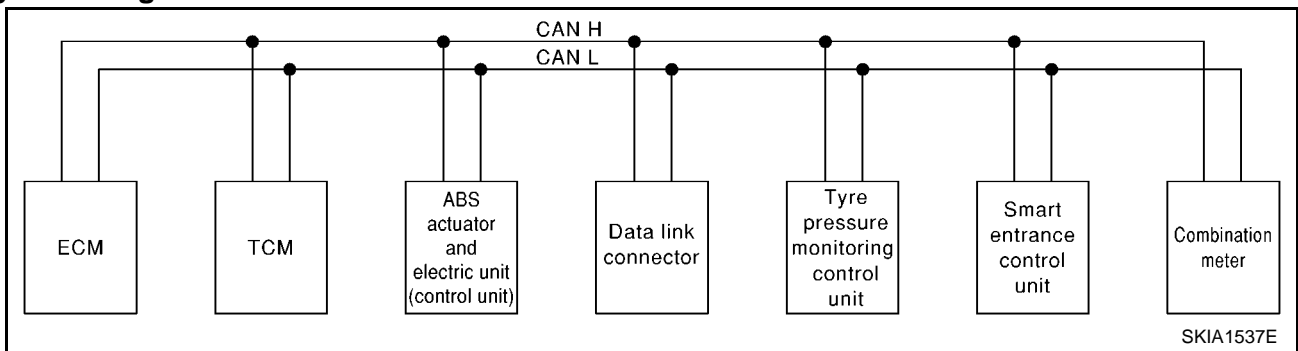
CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Tyre pressure monitoring control unit	Smart entrance control unit	Combination meter
Vehicle speed signal			T			R
	R					T
Seat belt reminder signal					R	T
Headlamp switch signal					T	R
Flashing indicator signal					T	R
Engine cooling fan speed signal	T				R	
Child lock indicator signal					T	R
Door switches state signal					T	R
Key ID signal	R				T	
	T				R	
A/C compressor signal	T				R	
Tire pressure signal				T		R

TYPE 16

System diagram



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Tyre pressure monitoring control unit	Smart entrance control unit	Combination meter
Engine speed signal	T	R				R
Stop lamp switch signal		R	T			
Rear window defogger signal	R				T	
Heater fan switch signal	R					T
Air conditioner switch signal	R					T
MI signal	T					R
Current gear position signal		T				R
Engine coolant temperature signal	T					R
Fuel consumption signal	T					R
Vehicle speed signal			T			R
	R					T
Seat belt reminder signal					R	T
Headlamp switch signal					T	R

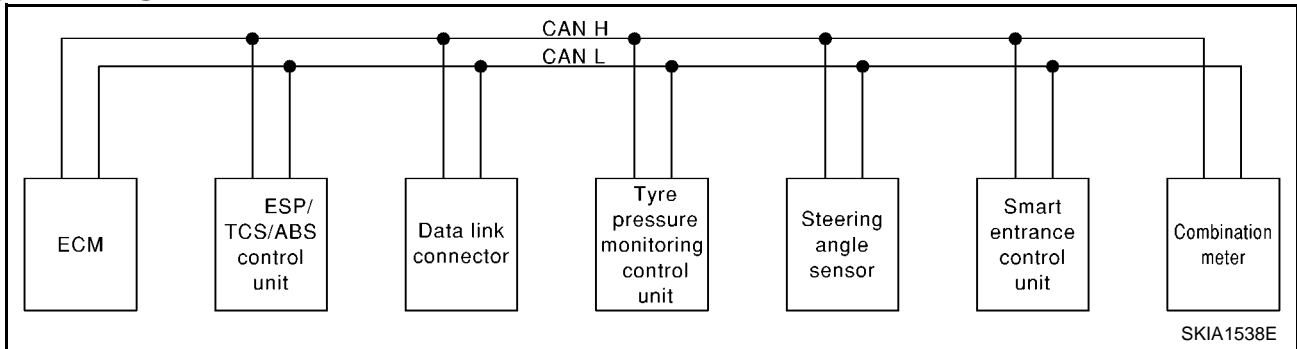
CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Tyre pressure monitoring control unit	Smart entrance control unit	Combination meter
Flashing indicator signal					T	R
Engine cooling fan speed signal	T				R	
Child lock indicator signal					T	R
Door switches state signal					T	R
Key ID signal	R				T	
	T				R	
A/C compressor signal	T				R	
Tire pressure signal				T		R

TYPE 17

System diagram



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	ESP/ TCS / ABS control unit	Tyre pressure monitoring control unit	Steering angle sensor	Smart entrance control unit	Combination meter
Engine speed signal	T	R				R
Accelerator pedal position signal	T	R				
ESP operation signal	R	T				
TCS operation signal	R	T				
ABS operation signal	R	T				
Steering wheel angle sensor signal		R		T		
Rear window defogger signal	R				T	
Heater fan switch signal	R					T
Air conditioner switch signal	R					T
MI signal	T					R
Engine coolant temperature signal	T					R
Fuel consumption signal	T					R
Vehicle speed signal		T				R
	R					T
Seat belt reminder signal					R	T
Headlamp switch signal					T	R
Flashing indicator signal					T	R
Engine cooling fan speed signal	T				R	

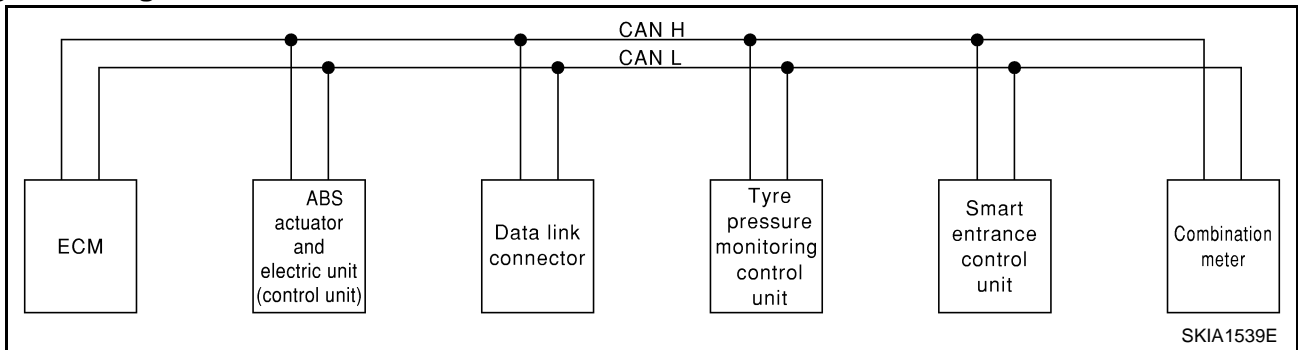
CAN COMMUNICATION

[CAN]

Signals	ECM	ESP/TCS / ABS control unit	Tyre pressure monitoring control unit	Steering angle sensor	Smart entrance control unit	Combination meter
Child lock indicator signal					T	R
Door switches state signal					T	R
Key ID signal	R				T	
	T				R	
A/C compressor signal	T				R	
Tire pressure signal			T			R

TYPE 18

System diagram



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	ABS actuator and electric unit (control unit)	Tyre pressure monitoring control unit	Smart entrance control unit	Combination meter
Engine speed signal	T				R
Rear window defogger signal	R ^{*1}			T	
Heater fan switch signal	R ^{*1}				T
Air conditioner switch signal	R				T
MI signal	T				R
Glow lamp signal ^{*2}	T				R
Engine coolant temperature signal	T				R
Fuel consumption signal	T				R
Vehicle speed signal		T			R
	R				T
Seat belt reminder signal				R	T
Headlamp switch signal				T	R
Flashing indicator signal				T	R
Engine cooling fan speed signal	T			R	
Child lock indicator signal				T	R
Door switches state signal				T	R
Key ID signal	R			T	
	T			R	

CAN COMMUNICATION

[CAN]

Signals	ECM	ABS actuator and electric unit (control unit)	Tyre pressure monitoring control unit	Smart entrance control unit	Combination meter
A/C compressor signal	T			R	
Tire pressure signal			T		R

*1: Except YD22DDTi engine model

*2: YD22DDTi engine model only

CAN Communication Unit For RHD Models without Tyre Pressure Monitoring System

EKS004JG

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

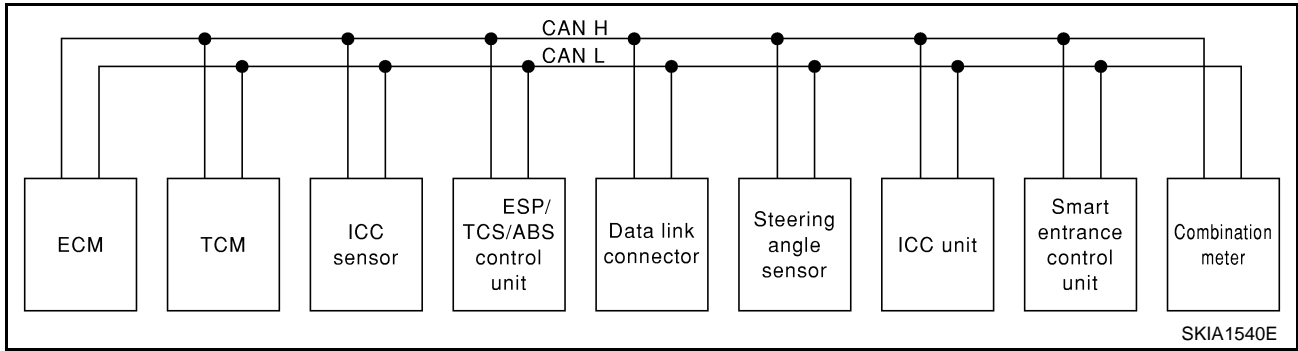
Body type	Sedan/Wagon								
Axle	2WD								
Engine	QR20DE		QG18DE	QR20DE	QG16DE	QG18DE	QR20DE	YD22DD Ti	
Transmission	CVT		A/T	6M/T	5M/T		6M/T		
Brake control	ESP		ABS		ESP	ABS			
ICC system	Applicable	Not applicable							
CAN communication unit									
ECM	×	×	×	×	×	×	×	×	×
TCM	×	×	×	×					
ICC sensor	×								
ESP/TCS/ABS control unit	×	×			×				
ABS actuator and electric unit (control unit)			×	×		×	×	×	×
Data link connector	×	×	×	×	×	×	×	×	×
Steering angle sensor	×	×			×				
ICC unit	×								
Smart entrance control unit	×	×	×	×	×	×	×	×	×
Combination meter	×	×	×	×	×	×	×	×	×
Can communication type	LAN-30, "TYPE 19"	LAN-31, "TYPE 20"	LAN-32, "TYPE 21"	LAN-33, "TYPE 22"	LAN-34, "TYPE 23"	LAN-35, "TYPE 24"			
Can system Trouble Diagnosis	LAN-379, "CAN SYS-TEM (TYPE 19)"	LAN-404, "CAN SYS-TEM (TYPE 20)"	LAN-422, "CAN SYS-TEM (TYPE 21)"	LAN-438, "CAN SYS-TEM (TYPE 22)"	LAN-454, "CAN SYS-TEM (TYPE 23)"	LAN-469, "CAN SYSTEM (TYPE 24)"			

CAN COMMUNICATION

[CAN]

TYPE 19

System diagram



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ICC sensor	ESP/TCS/ABS control unit	Steering angle sensor	ICC unit	Smart entrance control unit	Combination meter
Engine speed signal	T	R		R		R		R
Accelerator pedal position signal	T	R		R		R		
Closed throttle position signal	T					R		
ICC steering switch signal	T					R		
Shift pattern signal		T				R		
Parking brake switch signal				T		R		
ICC system display signal						T		R
ICC sensor signal			T			R		
ESP operation signal	R			T		R		
TCS operation signal	R			T		R		
ABS operation signal	R	R		T		R		
Stop lamp switch signal		R		T				
Steering wheel angle sensor signal				R	T			
Wheel speed sensor signal				T		R		
Rear window defogger signal	R						T	
Heater fan switch signal	R							T
Air conditioner switch signal	R							T
Primary pulley revolution signal	R	T				R		
Secondary pulley revolution signal	R	T				R		
ICC operation signal	R					T		
Brake switch signal	R					T		
MI signal	T							R
Current gear position signal		T						R
Engine coolant temperature signal	T					R		R
Fuel consumption signal	T							R
Vehicle speed signal				T				R
	R							T
Seat belt reminder signal							R	T
Headlamp switch signal							T	R

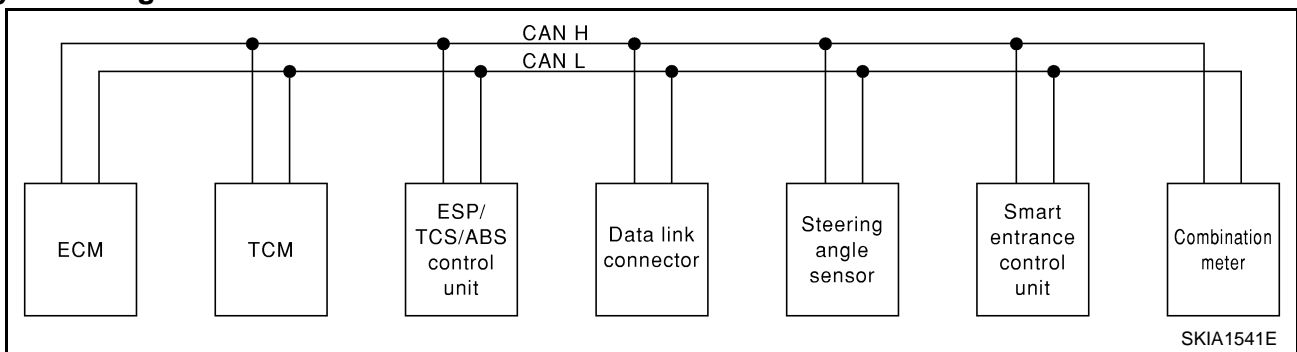
CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	ICC sensor	ESP/TCS/ABS control unit	Steering angle sensor	ICC unit	Smart entrance control unit	Combination meter
Flashing indicator signal							T	R
Engine cooling fan speed signal	T						R	
Child lock indicator signal							T	R
Door switches state signal							T	R
Key ID signal	R						T	
	T						R	
A/C compressor signal	T						R	

TYPE 20

System diagram



Input/output signal chart

Signals	T: Transmit R: Receive						
	ECM	TCM	ESP/TCS/ABS control unit	Steering angle sensor	Smart entrance control unit	Combination meter	
Engine speed signal	T	R	R			R	
Accelerator pedal position signal	T	R	R				
ESP operation signal	R		T				
TCS operation signal	R		T				
ABS operation signal	R	R	T				
Stop lamp switch signal		R	T				
Steering wheel angle sensor signal			R	T			
Rear window defogger signal	R				T		
Heater fan switch signal	R					T	
Air conditioner switch signal	R					T	
Primary pulley revolution signal	R	T					
Secondary pulley revolution signal	R	T					
MI signal	T					R	
Current gear position signal		T				R	
Engine coolant temperature signal	T					R	
Fuel consumption signal	T					R	
Vehicle speed signal			T			R	
	R					T	
Seat belt reminder signal					R	T	

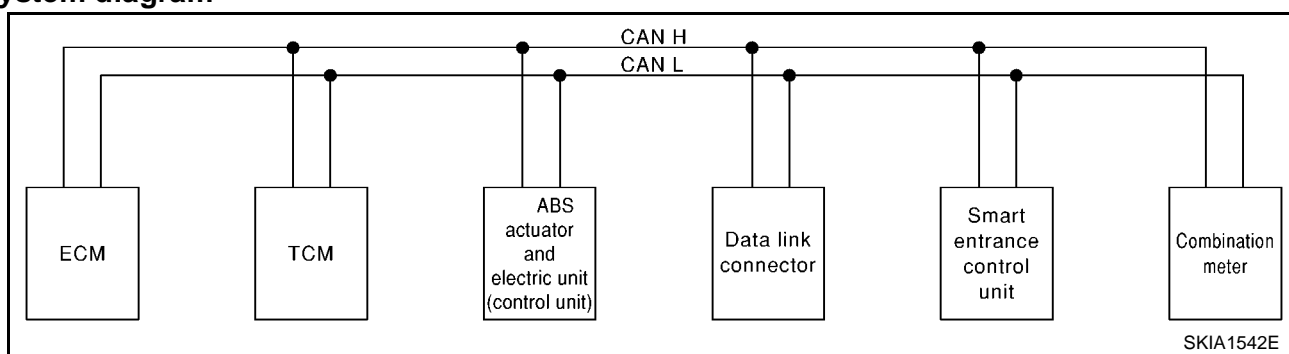
CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	ESP/TCS / ABS control unit	Steering angle sensor	Smart entrance control unit	Combination meter
Headlamp switch signal					T	R
Flashing indicator signal					T	R
Engine cooling fan speed signal	T				R	
Child lock indicator signal					T	R
Door switches state signal					T	R
Key ID signal	R				T	
	T				R	
A/C compressor signal	T				R	

TYPE 21

System diagram



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Smart entrance control unit	Combination meter
Engine speed signal	T	R			R
Stop lamp switch signal		R	T		
Rear window defogger signal	R			T	
Heater fan switch signal	R				T
Air conditioner switch signal	R				T
Primary pulley revolution signal	R	T			
Secondary pulley revolution signal	R	T			
MI signal	T				R
Current gear position signal		T			R
Engine coolant temperature signal	T				R
Fuel consumption signal	T				R
Vehicle speed signal			T		R
	R				T
Seat belt reminder signal				R	T
Headlamp switch signal				T	R
Flashing indicator signal				T	R
Engine cooling fan speed signal	T			R	
Child lock indicator signal				T	R

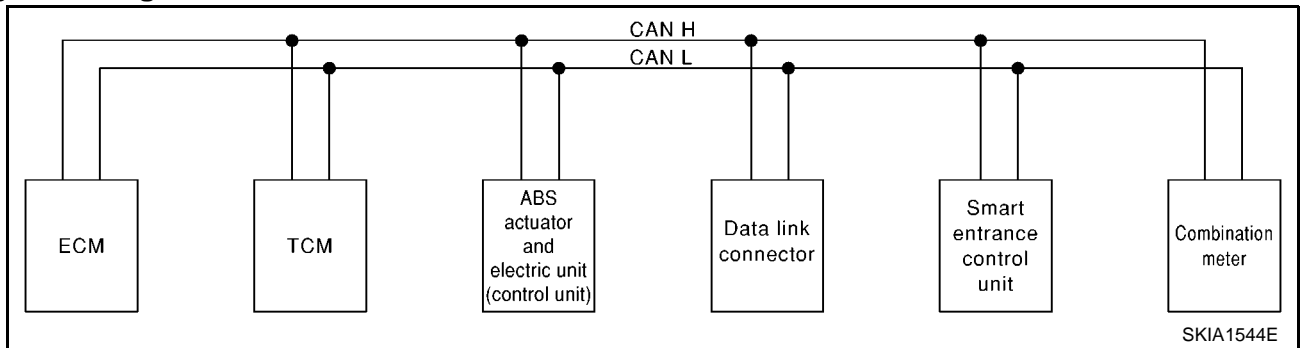
CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Smart entrance control unit	Combination meter
Door switches state signal				T	R
Key ID signal	R			T	
	T			R	
A/C compressor signal	T			R	

TYPE 22

System diagram



Input/output signal chart

T: Transmit R: Receive

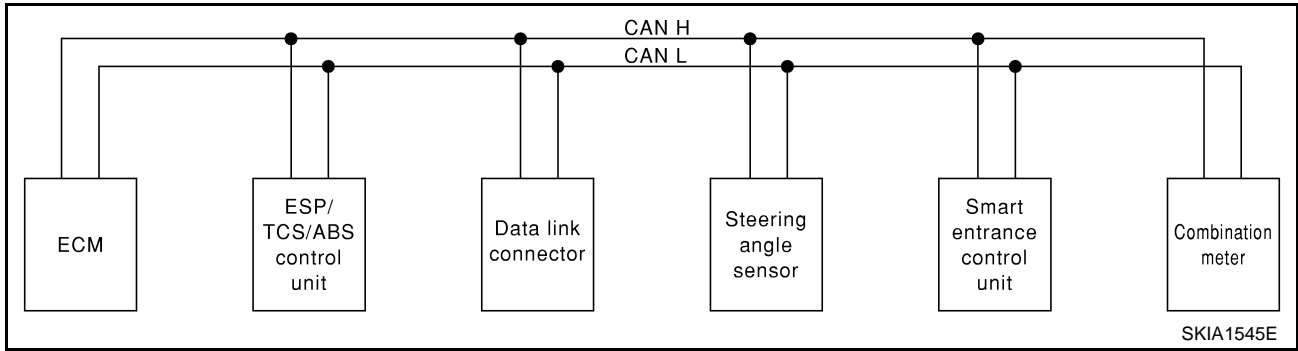
Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Smart entrance control unit	Combination meter
Engine speed signal	T	R			R
Stop lamp switch signal		R	T		
Rear window defogger signal	R			T	
Heater fan switch signal	R				T
Air conditioner switch signal	R				T
MI signal	T				R
Current gear position signal		T			R
Engine coolant temperature signal	T				R
Fuel consumption signal	T				R
Vehicle speed signal			T		R
	R				T
Seat belt reminder signal				R	T
Headlamp switch signal				T	R
Flashing indicator signal				T	R
Engine cooling fan speed signal	T			R	
Child lock indicator signal				T	R
Door switches state signal				T	R
Key ID signal	R			T	
	T			R	
A/C compressor signal	T			R	

CAN COMMUNICATION

[CAN]

TYPE 23

System diagram



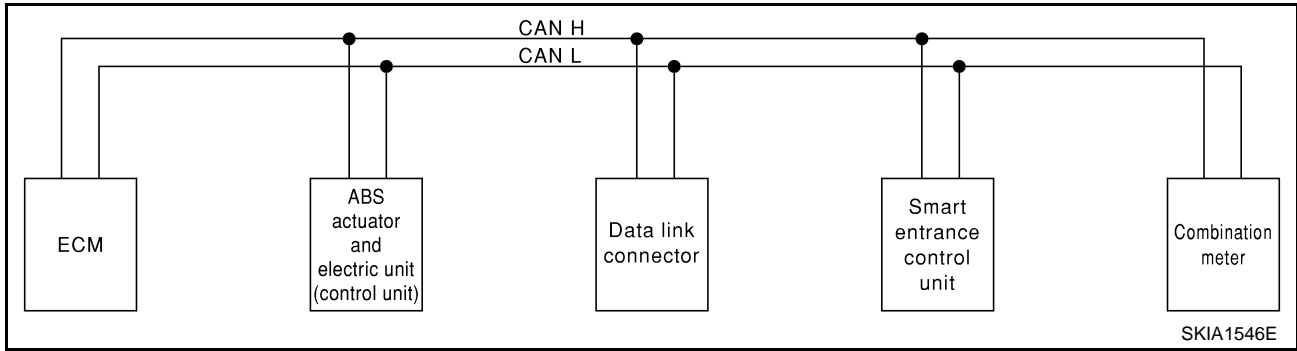
Input/output signal chart

T: Transmit R: Receive

Signals	ECM	ESP/ TCS / ABS control unit	Steering angle sensor	Smart entrance control unit	Combina- tion meter
Engine speed signal	T	R			R
Accelerator pedal position signal	T	R			
ESP operation signal	R	T			
TCS operation signal	R	T			
ABS operation signal	R	T			
Steering wheel angle sensor signal		R	T		
Rear window defogger signal	R			T	
Heater fan switch signal	R				T
Air conditioner switch signal	R				T
MI signal	T				R
Engine coolant temperature signal	T				R
Fuel consumption signal	T				R
Vehicle speed signal		T			R
	R				T
Seat belt reminder signal				R	T
Headlamp switch signal				T	R
Flashing indicator signal				T	R
Engine cooling fan speed signal	T			R	
Child lock indicator signal				T	R
Door switches state signal				T	R
Key ID signal	R			T	
	T			R	
A/C compressor signal	T			R	

TYPE 24

System diagram



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	ABS actuator and electric unit (control unit)	Smart entrance control unit	Combination meter
Engine speed signal	T			R
Rear window defogger signal	R ^{*1}		T	
Heater fan switch signal	R ^{*1}			T
Air conditioner switch signal	R			T
MI signal	T			R
Glow lamp signal ^{*2}	T			R
Engine coolant temperature signal	T			R
Fuel consumption signal	T			R
Vehicle speed signal		T		R
	R			T
Seat belt reminder signal			R	T
Headlamp switch signal			T	R
Flashing indicator signal			T	R
Engine cooling fan speed signal	T		R	
Child lock indicator signal			T	R
Door switches state signal			T	R
Key ID signal	R		T	
	T		R	
A/C compressor signal	T		R	

*1: Except YD22DDTi engine model

*2: YD22DDTi engine model only

CAN SYSTEM (TYPE 1)

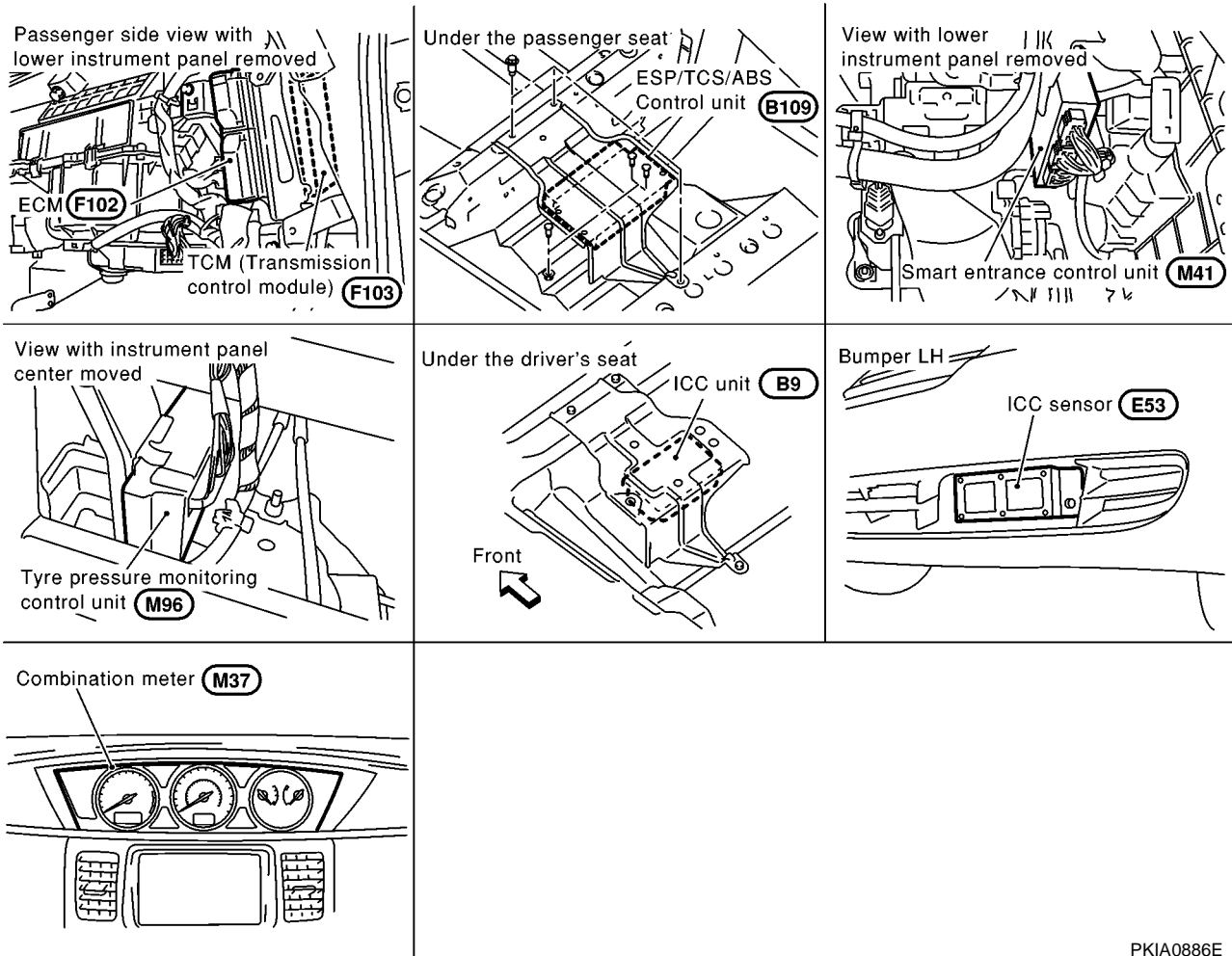
System Description

EKS004Y1

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

EKS004YJ



PKIA0886E

CAN SYSTEM (TYPE 1)

[CAN]

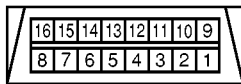
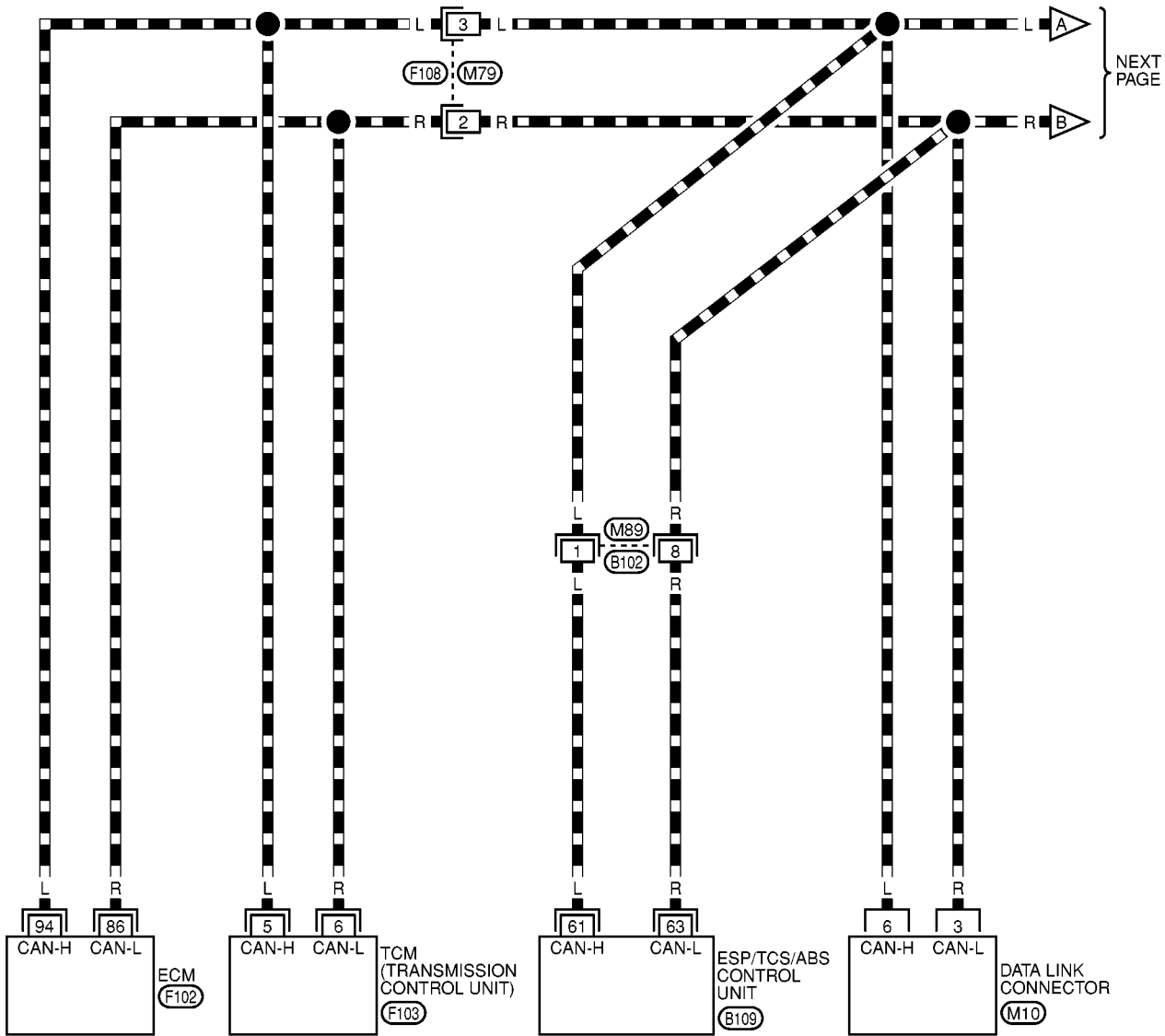
Wiring Diagram — CAN —

EKS004YK

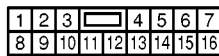
LAN-CAN-01

▬ : DATA LINE

A
B
C
D
E
F
G
H
I
J
LAN
L
M



(M10)
W



(M89), (F108)
W W

REFER TO THE FOLLOWING.

(F102), (F103), (B109)

-ELECTRICAL UNITS

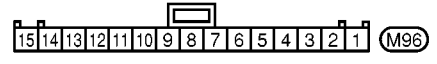
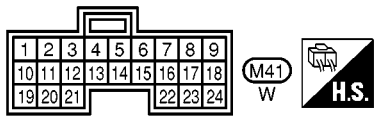
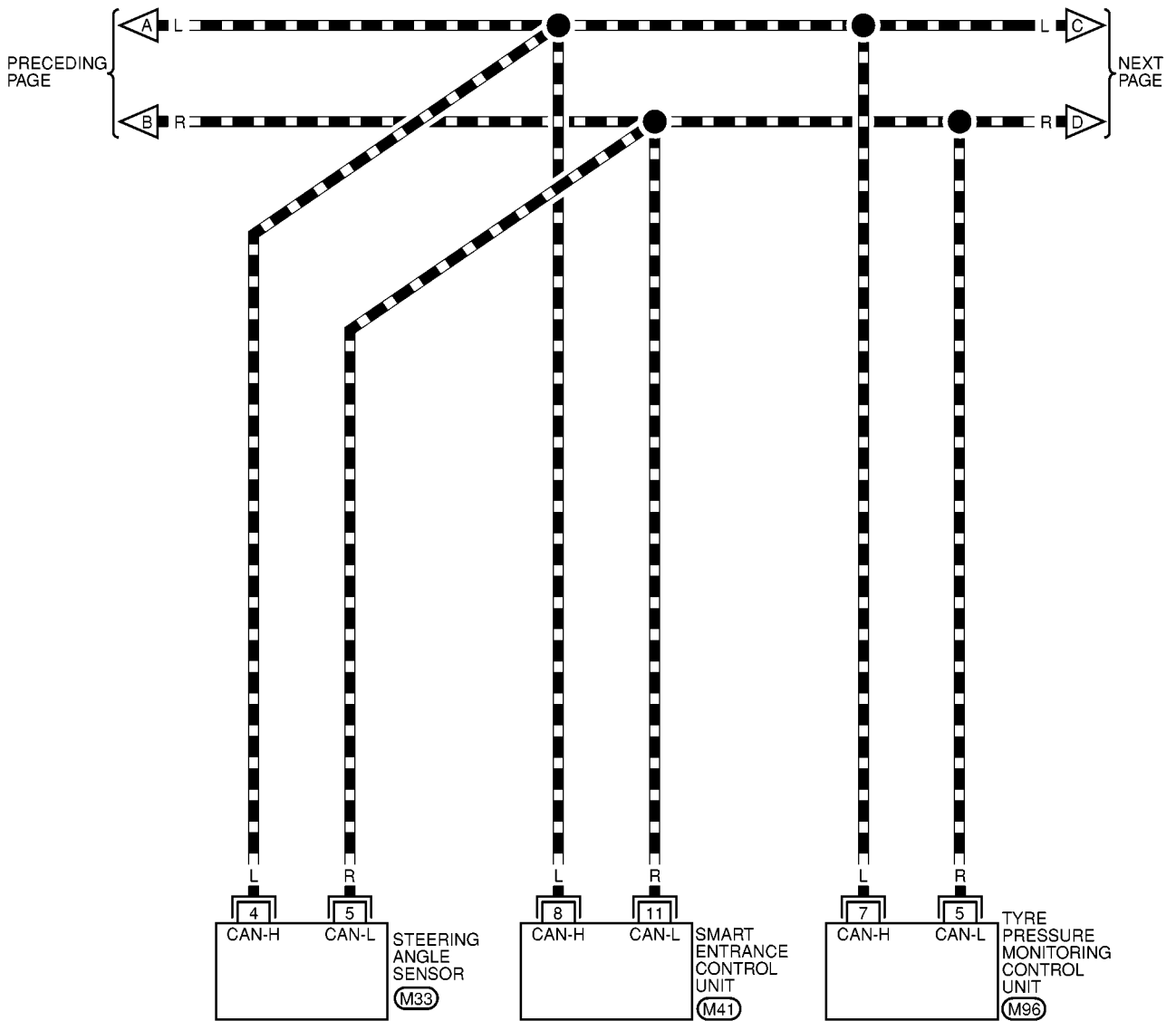
MKWA0219E

CAN SYSTEM (TYPE 1)

[CAN]

LAN-CAN-02

— — — — : DATA LINE

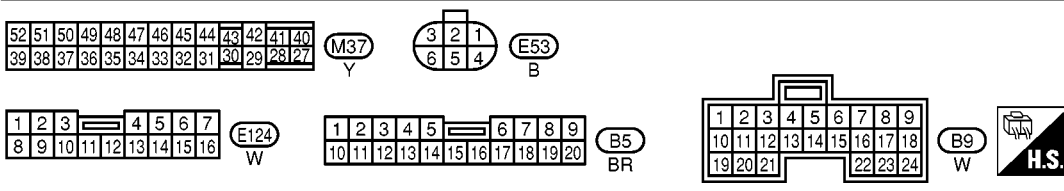
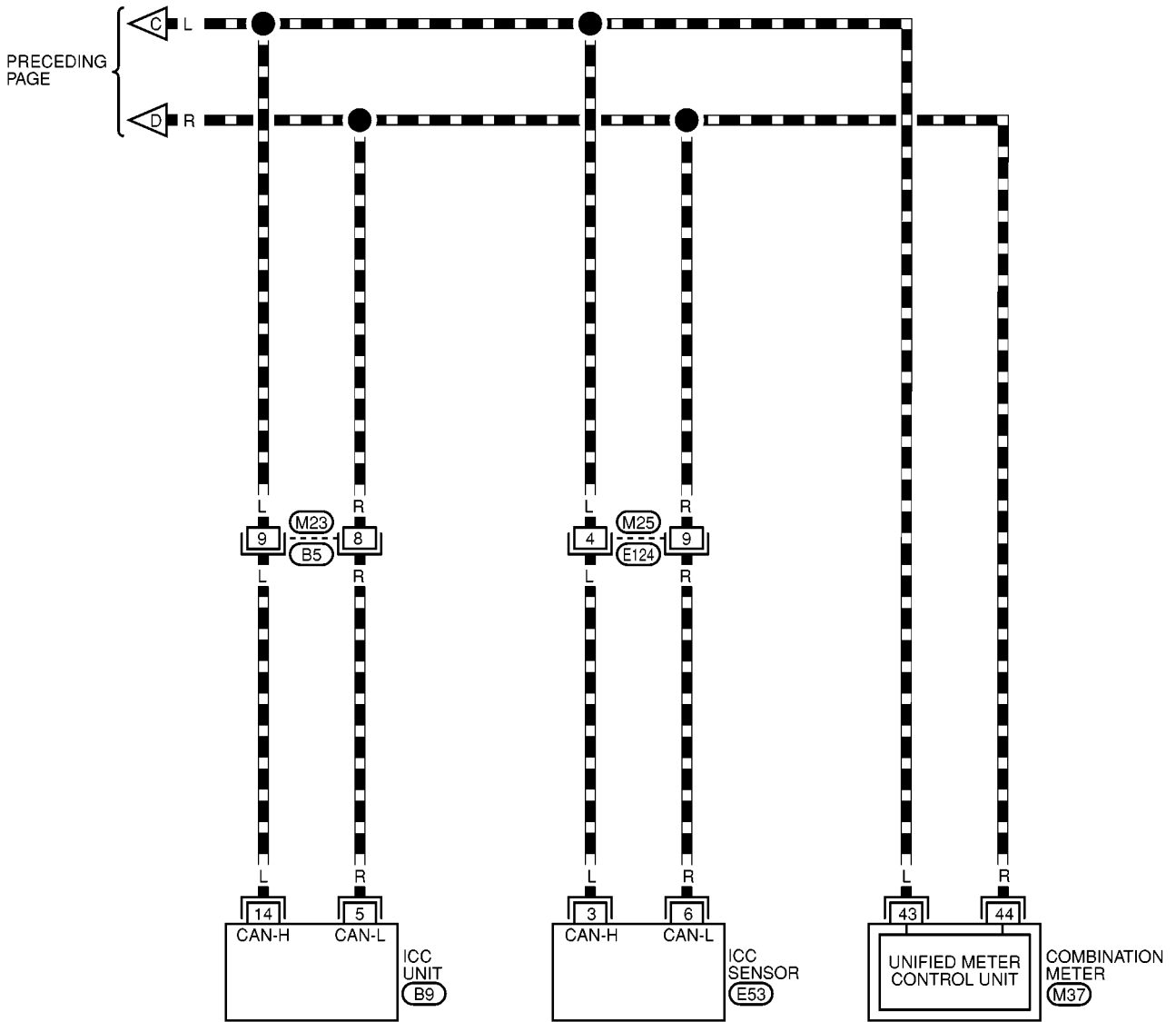


CAN SYSTEM (TYPE 1)

[CAN]

LAN-CAN-03

▬ : DATA LINE



MKWA0221E

Work Flow

EKS004YL

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", "AIR PRESSURE MONITOR", and "ICC" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC".
2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-41, "CHECK SHEET"](#)
3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-41, "CHECK SHEET"](#)

NOTE:

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

4. According to the check sheet results (example), start inspection. Refer to [LAN-42, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

CAN SYSTEM (TYPE 1)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

Symptoms:

Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of CVT SELF-DIAG RESULTS	Attach copy of ABS SELF-DIAG RESULTS
Attach copy of SMART ENTRANCE SELF-DIAG RESULTS	Attach copy of AIR PRESSURE MONITOR SELF-DIAG RESULTS	Attach copy of ICC SELF-DIAG RESULTS
Attach copy of ENGINE DATA MONITOR	Attach copy of CVT DATA MONITOR	Attach copy of ABS DATA MONITOR
Attach copy of SMART ENTRANCE DATA MONITOR	Attach copy of AIR PRESSURE MONITOR DATA MONITOR	Attach copy of ICC DATA MONITOR

PKIA0696E

A
B
C
D
E
F
G
H
I
J
L
M

LAN

CAN SYSTEM (TYPE 1)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

Case 2: Replace TCM

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

PKIA0697E

CAN SYSTEM (TYPE 1)

[CAN]

Case 3: Replace ESP/TCS/ABS control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

Case 4: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

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LAN

CAN SYSTEM (TYPE 1)

[CAN]

Case 5: Replace Tyre pressure monitoring control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

Case 6: Replace ICC unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

PKIA0699E

CAN SYSTEM (TYPE 1)

[CAN]

Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

Case 9

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

Case 10

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

Case 11

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

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LAN

CAN SYSTEM (TYPE 1)

[CAN]

Case 12

ENGINE	CAN COMM	CAN CIRC 1 ✓	—	CAN CIRC 2 ✓	CAN CIRC 3 ✓	—	CAN CIRC 6 ✓	—	CAN CIRC 5 ✓	—	CAN CIRC 4 ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

Case 13

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2 ✓	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1 ✓	CAN CIRC 2 ✓	—	CAN CIRC 3 ✓	—	—	—	—	—	CAN CIRC 4 ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3 ✓	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4 ✓	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

Case 14

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3 ✓	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3 ✓	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1 ✓	CAN CIRC 2 ✓	CAN CIRC 3 ✓	—	CAN CIRC 5 ✓	—	—	CAN CIRC 6 ✓	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3 ✓	—	—	—	—	CAN CIRC 8	—

Case 15

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5 ✓	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

PKIA0701E

CAN SYSTEM (TYPE 1)

[CAN]

Case 16

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

Case 17

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

Case 18

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

Case 19

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

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LAN

CAN SYSTEM (TYPE 1)

[CAN]

Case 20

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	—	CAN CIRC 8	—

Case 21

ENGINE	CAN COMM	✓ CAN CIRC 1	—	✓ CAN CIRC 2	✓ CAN CIRC 3	—	✓ CAN CIRC 6	—	✓ CAN CIRC 5	—	✓ CAN CIRC 4
CVT	CAN COMM	✓ CAN CIRC 1	✓ CAN CIRC 2	—	✓ CAN CIRC 3	—	—	—	—	—	✓ CAN CIRC 4
ABS	CAN COMM	✓ CAN CIRC 1	✓ CAN CIRC 2	✓ CAN CIRC 3	—	✓ CAN CIRC 5	—	—	✓ CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	✓ CAN CIRC 1	✓ CAN CIRC 2	—	—	—	—	—	—	—	✓ CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	✓ CAN CIRC 1	—	—	—	—	—	—	—	—	✓ CAN CIRC 2
ICC	CAN COMM	✓ CAN CIRC 1	✓ CAN CIRC 2	✓ CAN CIRC 4	✓ CAN CIRC 3	—	—	—	—	✓ CAN CIRC 8	—

PKIA0703E

NOTE:

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

INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace TCM.

Case 3: Replace ESP/TCS/ABS control unit.

Case 4: Replace Smart entrance control unit.

Case 5: Replace Tyre pressure monitoring control unit.

Case 6: Replace ICC unit.

Case 7: Check Harness between TCM and Data link connector. Refer to [LAN-49, "Circuit Check Between TCM and Data Link Connector"](#)

Case 8: Check Harness between Data link connector and Smart entrance control unit. Refer to [LAN-50, "Circuit Check Between Data Link Connector and Smart Entrance Control Unit"](#)

Case 9: Check Harness between Smart entrance control unit and Tyre pressure monitoring control unit. Refer to [LAN-51, "Circuit Check Between Smart Entrance Control Unit and Tyre Pressure Monitoring Control Unit"](#)

Case 10: Check Harness between Tyre pressure monitoring control unit and ICC unit. Refer to [LAN-51, "Circuit Check Between Tyre Pressure Monitoring Control Unit and ICC Unit"](#)

Case 11: Check Harness between ICC unit and ICC sensor. Refer to [LAN-52, "Circuit Check Between ICC Unit and ICC Sensor"](#)

Case 12: Check ECM Circuit. Refer to [LAN-53, "ECM Circuit Check"](#)

Case 13: Check TCM Circuit. Refer to [LAN-53, "TCM Circuit Check"](#)

Case 14: Check ESP/TCS/ABS control unit Circuit. Refer to [LAN-54, "ESP/TCS/ABS Control Unit Circuit Check"](#)

Case 15: Check Steering angle sensor Circuit. Refer to [LAN-54, "Steering Angle Sensor Circuit Check"](#)

Case 16: Check Smart entrance control unit Circuit. Refer to [LAN-55, "Smart Entrance Control Unit Circuit Check"](#)

Case 17: Check Tyre pressure monitoring control unit Circuit. Refer to [LAN-55, "Tyre Pressure Monitoring Control Unit Circuit Check"](#)

Case 18: Check ICC unit Circuit. Refer to [LAN-56, "ICC Unit Circuit Check"](#)

Case 19: Check ICC sensor Circuit. Refer to [LAN-56, "ICC Sensor Circuit Check"](#)

Case 20: Check Combination meter Circuit. Refer to [LAN-57, "Combination Meter Circuit Check"](#)

Case 21: Check CAN communication Circuit. Refer to [LAN-58, "CAN Communication Circuit Check"](#)

Circuit Check Between TCM and Data Link Connector

EKS004YM

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side, control unit-side and harness-side)
 - TCM.
 - ESP/TCS/ABS control unit.
 - Between TCM and ESP/TCS/ABS control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector and harness connector F108.
2. Check continuity between TCM harness connector F103 terminals 5 (L), 6 (R) and harness connector F108 terminals 3 (L), 2 (R).

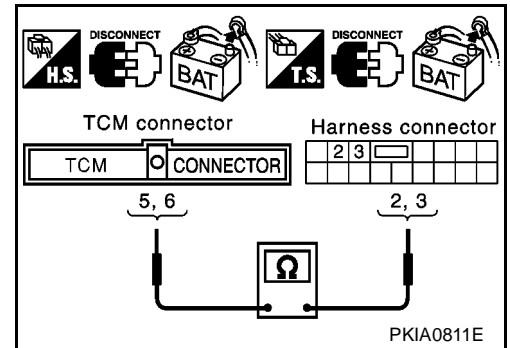
5(L) – 3(L) : Continuity should exist.

6(R) – 2(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

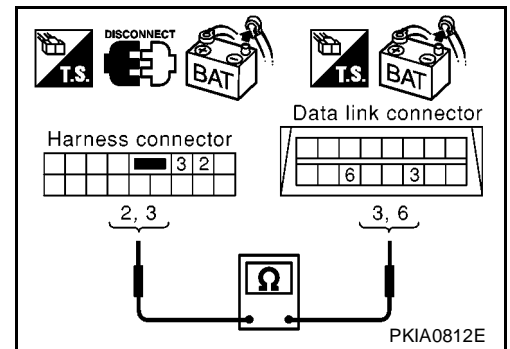
Check continuity between harness connector M79 terminals 3 (L), 2 (R) and Data link connector M10 terminals 6 (L), 3 (R).

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

2(R) – 3(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", "AIR PRESSURE MONITOR", and "ICC" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBd) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBd) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBd) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4:](#)



[CAN Communication Line](#) for "AIR PRESSURE MONITOR". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC".

NG >> Repair harness.

Circuit Check Between Data Link Connector and Smart Entrance Control Unit

EKS004YN

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side, sensor-side and harness-side)
 - Smart entrance control unit.
 - Steering angle sensor.
 - ESP/TCS/ABS control unit.
 - Between smart entrance control unit and ESP/TCS/ABS control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and Data link connector M10 terminals 6 (L), 3 (R).

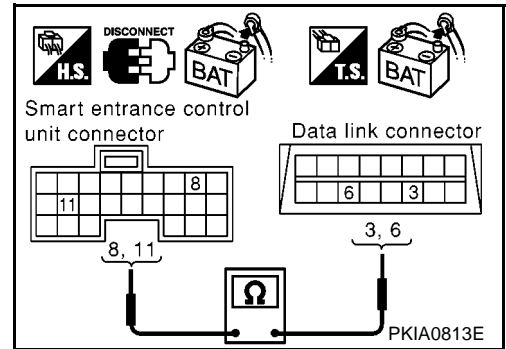
8(L) – 6(L) : Continuity should exist.

11(R) – 3(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", "AIR PRESSURE MONITOR", and "ICC" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC".

NG >> Repair harness.



Circuit Check Between Smart Entrance Control Unit and Tyre Pressure Monitoring Control Unit

EKS004YO

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side, sensor-side and harness-side)
 - Smart entrance control unit.
 - Tyre pressure monitoring control unit.
 - Steering angle sensor.

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector and tyre pressure monitoring control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and tyre pressure monitoring control unit harness connector M96 terminals 7 (L), 5 (R).

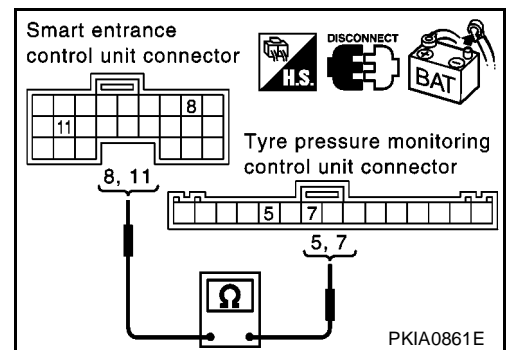
8(L) – 7(L) : Continuity should exist.

11(R) – 5(R) : Continuity should exist.

OK or NG

- OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", "AIR PRESSURE MONITOR", and "ICC" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC".

- NG >> Repair harness.



Circuit Check Between Tyre Pressure Monitoring Control Unit and ICC Unit

EKS004YP

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - Tyre pressure monitoring control unit.
 - ICC unit.
 - Between tyre pressure monitoring control unit and ICC unit.

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect tyre pressure monitoring control unit connector and ICC unit connector.
2. Check continuity between tyre pressure monitoring control unit harness connector M96 terminals 7 (L), 5 (R) and ICC unit harness connector B9 terminals 14 (L), 5 (R).

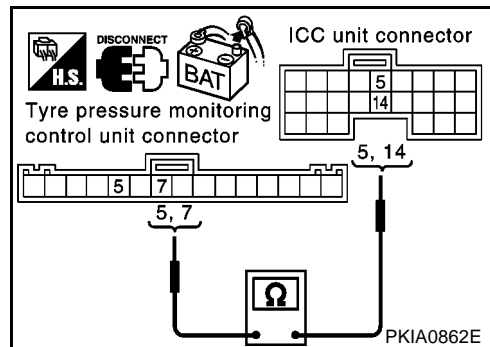
7(L) – 14(L) : Continuity should exist.

5(R) – 5(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", "AIR PRESSURE MONITOR", and "ICC" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC".

NG >> Repair harness.



Circuit Check Between ICC Unit and ICC Sensor

EKS004YQ

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (sensor-side, control unit-side and harness-side)
 - ICC sensor.
 - ICC unit.
 - Between ICC sensor and ICC unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

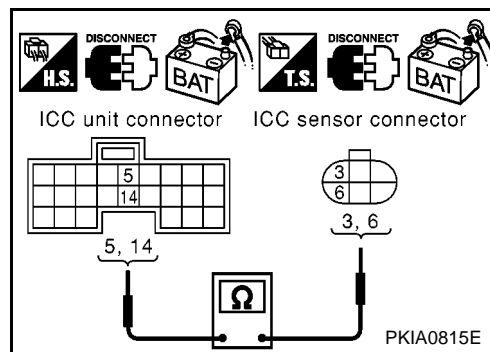
1. Disconnect ICC unit connector and ICC sensor connector.
2. Check continuity between ICC unit harness connector B9 terminals 14 (L), 5 (R) and ICC sensor harness connector E53 terminals 3 (L), 6 (R).

14(L) – 3(L) : Continuity should exist.

5(R) – 6(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", "AIR PRESSURE MONITOR", and "ICC" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control](#)



Unit and Steering Angle Sensor" for "ABS". Refer to BCS-40, "CAN Communication Line Check" for "SMART ENTRANCE". Refer to WT-35, "Inspection 4: CAN Communication Line" for "AIR PRESSURE MONITOR". Refer to ACS-46, "DTC 20 CAN COMM CIRCUIT" for "ICC".

NG >> Repair harness.

ECM Circuit Check

EKS004YR

1. CHECK CONNECTOR

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

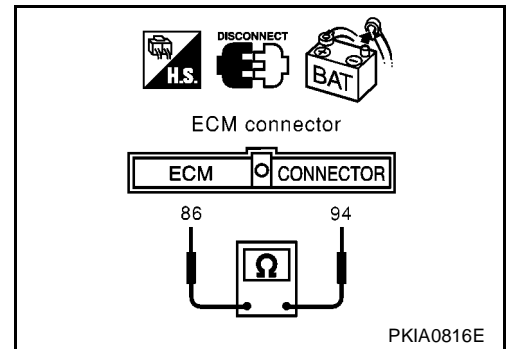
1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F102 terminals 94(L) and 86(R).

94(L) – 86(R) : Approx. 108 – 132Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between TCM and ECM.



EKS004YS

TCM Circuit Check

1. CHECK CONNECTOR

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

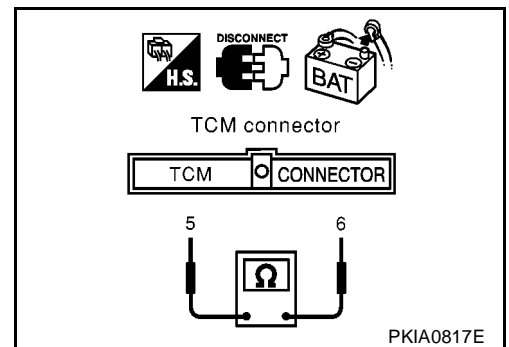
1. Disconnect TCM connector.
2. Check resistance between TCM harness connector F103 terminals 5(L) and 6(R).

5(L) – 6(R) : Approx. 54 – 66Ω

OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and ECM.



PKIA0817E

ESP/TCS/ABS Control Unit Circuit Check

EKS004YT

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - ESP/TCS/ABS control unit.
 - Harness connector B102.
 - Harness connector M89.

OK or NG

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

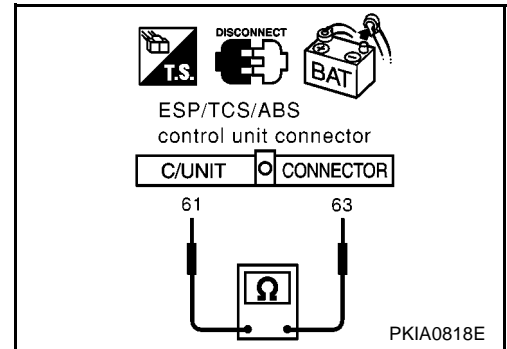
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector.
2. Check resistance between ESP/TCS/ABS control unit harness connector B109 terminals 61(L) and 63(R).

61(L) – 63(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ESP/TCS/ABS control unit.
 NG >> Repair harness between Data link connector and ESP/TCS/ABS control unit.



Steering Angle Sensor Circuit Check

EKS004YU

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of steering angle sensor for damage, bend and loose connection. (sensor-side and harness-side)

OK or NG

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

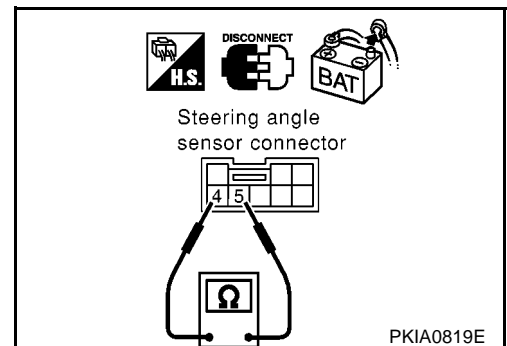
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect steering angle sensor connector.
2. Check resistance between steering angle sensor harness connector M33 terminals 4(L) and 5(R).

4(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace steering angle sensor.
 NG >> Repair harness between steering angle sensor and smart entrance control unit.



Smart Entrance Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

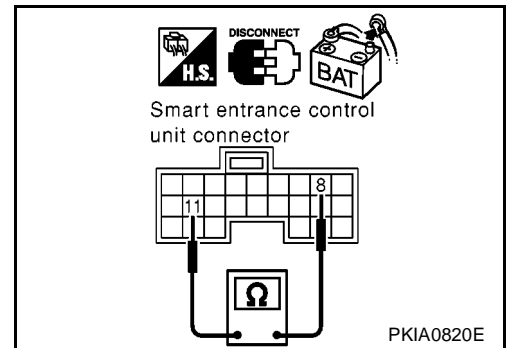
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
NG >> Repair harness between steering angle sensor and smart entrance control unit.



Tyre Pressure Monitoring Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of tyre pressure monitoring control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

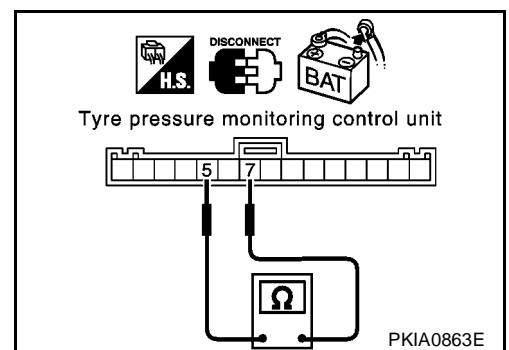
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect tyre pressure monitoring control unit connector.
2. Check resistance between tyre pressure monitoring control unit harness connector M96 terminals 7(L) and 5(R).

7(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace tyre pressure monitoring control unit.
NG >> Repair harness between smart entrance control unit and tyre pressure monitoring control unit.



ICC Unit Circuit Check**1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - ICC unit.
 - Harness connector B5.
 - Harness connector M23.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

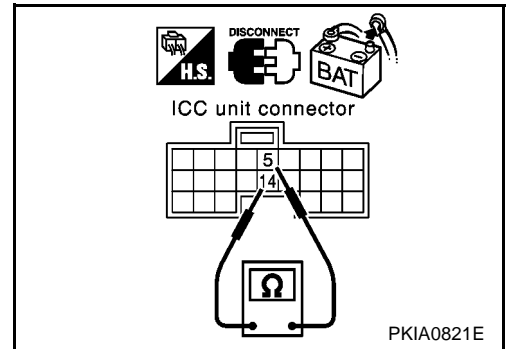
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ICC unit connector.
2. Check resistance between ICC unit harness connector B9 terminals 14(L) and 5(R).

14(L) – 5(R)**: Approx. 54 – 66Ω****OK or NG**

OK >> Replace ICC unit.

NG >> Repair harness between ICC unit and tyre pressure monitoring control unit.



PKIA0821E

ICC Sensor Circuit Check**1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (sensor-side and harness-side)
 - ICC sensor.
 - Harness connector E124.
 - Harness connector M25.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

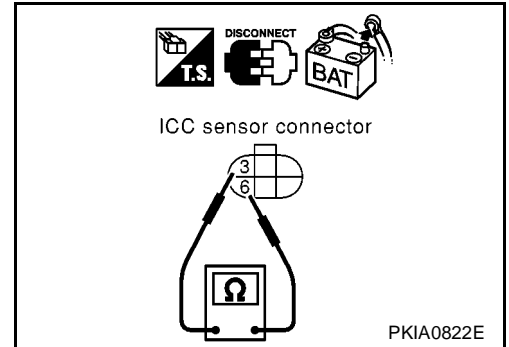
1. Disconnect ICC sensor connector.
2. Check resistance between ICC sensor harness connector E53 terminals 3(L) and 6(R).

3(L) – 6(R)

: Approx. 54 – 66Ω

OK or NG

- OK >> Replace ICC sensor.
 NG >> Repair harness between ICC unit and ICC sensor.



EKS004YZ

Combination Meter Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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

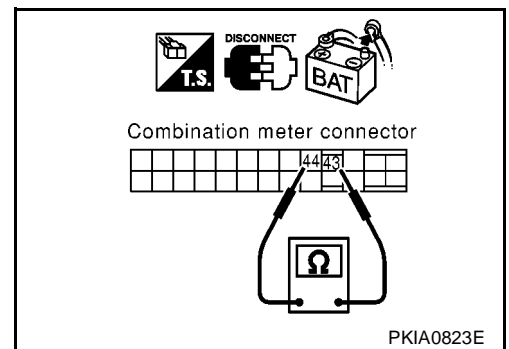
1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 43(L) and 44(R).

43(L) – 44(R)

: Approx. 108 – 132Ω

OK or NG

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



PKIA0823E

CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, sensor-side, control unit-side, control module-side and harness-side)
 - Combination meter.
 - ICC sensor.
 - ICC unit.
 - Tyre pressure monitoring control unit.
 - Smart entrance control unit.
 - Steering angle sensor.
 - ESP/TCS/ABS control unit.
 - TCM.
 - ECM.
 - Between ICC sensor and ICC unit.
 - Between ESP/TCS/ABS control unit and ECM.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

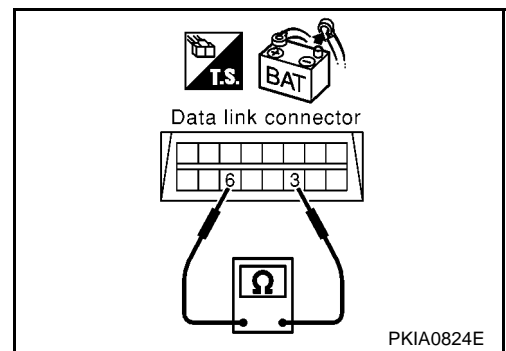
1. Disconnect the following connectors.
 - Combination meter connector.
 - Tyre pressure monitoring control unit connector.
 - Smart entrance control unit connector.
 - Steering angle sensor connector.
 - Harness connector M25.
 - Harness connector M23.
 - Harness connector M89.
 - Harness connector M79.
2. Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

- NG >>
- Repair harness between harness connector M25 and combination meter.
 - Repair harness between harness connector M25 and harness connector M23.
 - Repair harness between harness connector M23 and tyre pressure monitoring control unit.
 - Repair harness between tyre pressure monitoring control unit and smart entrance control unit.
 - Repair harness between smart entrance control unit and steering angle sensor.
 - Repair harness between Data link connector and steering angle sensor.
 - Repair harness between harness connector M89 and harness connector M79.



3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

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

3(R) – ground : Continuity should not exist.

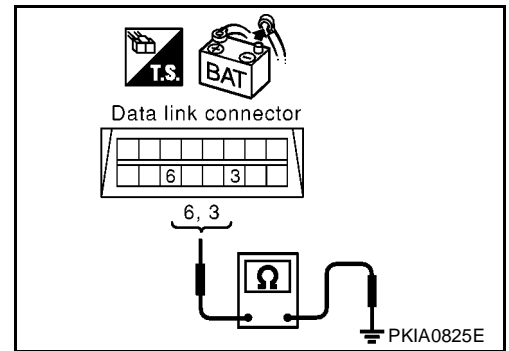
OK or NG

OK >> GO TO 4.

NG >> ● Repair harness between harness connector M25 and combination meter.

- Repair harness between harness connector M25 and harness connector M23.

- Repair harness between harness connector M23 and tyre pressure monitoring control unit.
- Repair harness between tyre pressure monitoring control unit and smart entrance control unit.
- Repair harness between smart entrance control unit and steering angle sensor.
- Repair harness between Data link connector and steering angle sensor.
- Repair harness between harness connector M89 and harness connector M79.



4. CHECK HARNESS FOR SHORT CIRCUIT

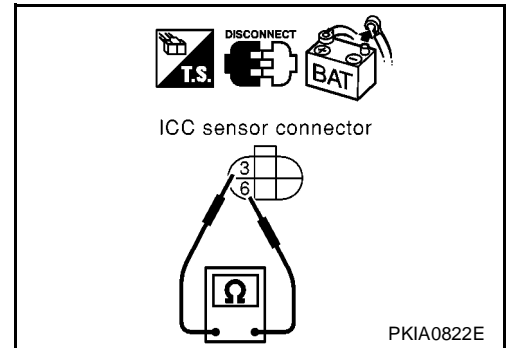
1. Disconnect ICC sensor connector.
2. Check continuity between ICC sensor harness connector E53 terminals 3 (L) and 6(R).

3(L) – 6(R) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between ICC sensor and harness connector E124.



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ICC sensor harness connector E53 terminals 3 (L), 6 (R) and ground.

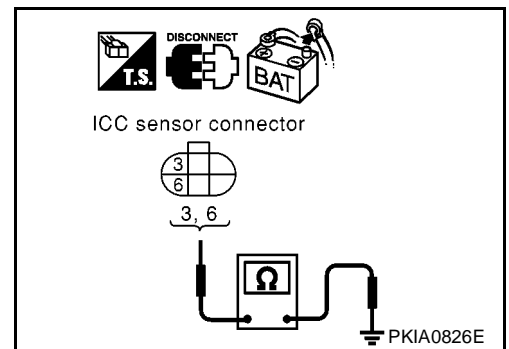
3(L) – ground : Continuity should not exist.

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

OK or NG

OK >> GO TO 6.

NG >> Repair harness between ICC sensor and harness connector E124.



6. CHECK HARNESS FOR SHORT CIRCUIT

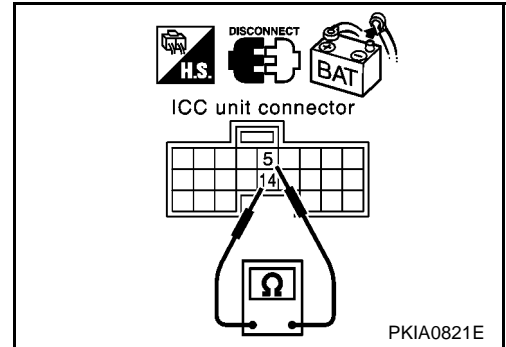
1. Disconnect ICC unit connector.
2. Check continuity between ICC unit harness connector B9 terminals 14 (L) and 5(R).

14(L) – 5(R) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> Repair harness between ICC unit and harness connector B5.



7. CHECK HARNESS FOR SHORT CIRCUIT

- Check continuity between ICC unit harness connector B9 terminals 14 (L), 5 (R) and ground.

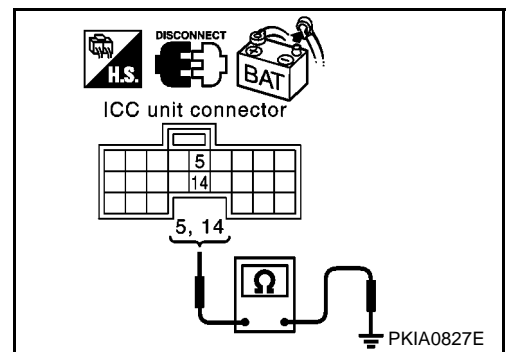
14(L) – ground : Continuity should not exist.

5(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG >> Repair harness between ICC unit and harness connector B5.



8. CHECK HARNESS FOR SHORT CIRCUIT

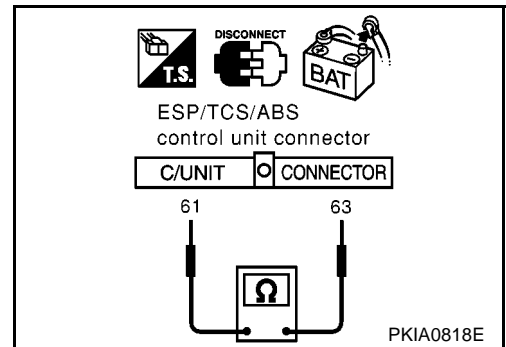
1. Disconnect ESP/TCS/ABS control unit connector.
2. Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L) and 63(R).

61(L) – 63(R) : Continuity should not exist.

OK or NG

OK >> GO TO 9.

NG >> Repair harness between ESP/TCS/ABS control unit and harness connector B102.



9. CHECK HARNESS FOR SHORT CIRCUIT

- Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L), 63 (R) and ground.

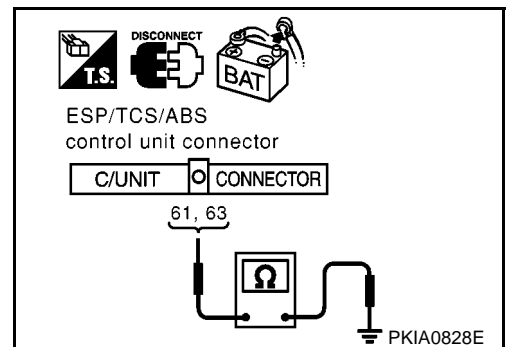
61(L) – ground : Continuity should not exist.

63(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 10.

NG >> Repair harness between ESP/TCS/ABS control unit and harness connector B102.



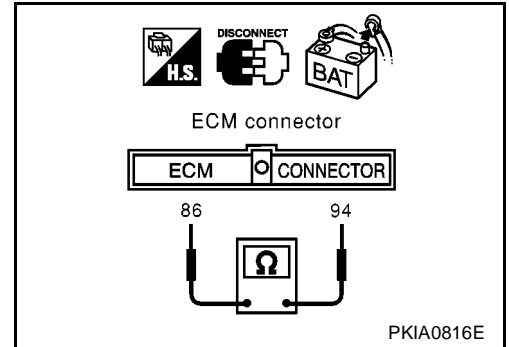
10. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ECM connector and TCM connector.
2. Check continuity between ECM harness connector F102 terminals 94 (L) and 86(R).

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

OK or NG

- OK >> GO TO 11.
- NG >> ● Repair harness between ECM and harness connector F108.
- Repair harness between TCM and harness connector F108.



11. CHECK HARNESS FOR SHORT CIRCUIT

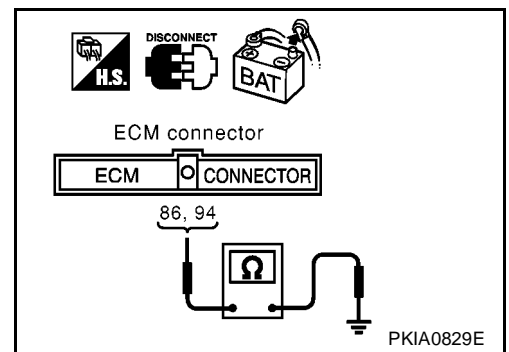
Check continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.

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

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

OK or NG

- OK >> GO TO 12.
- NG >> ● Repair harness between ECM and harness connector F108.
- Repair harness between TCM and harness connector F108.



12. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-62, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

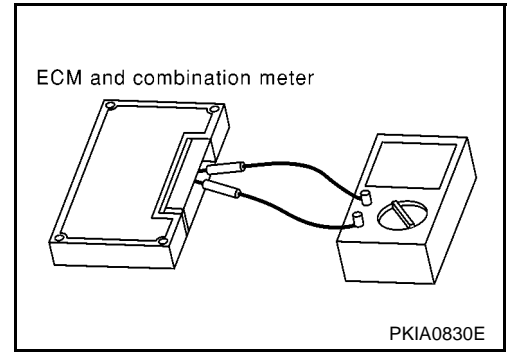
- OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", "AIR PRESSURE MONITOR", and "ICC" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC".
- 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 43 and 44.

Unit	Terminal	Resistance value (Ω)
ECM	94 – 86	Approx. 108 - 132
Combination meter	43 – 44	



CAN SYSTEM (TYPE 2)

PF2:23710

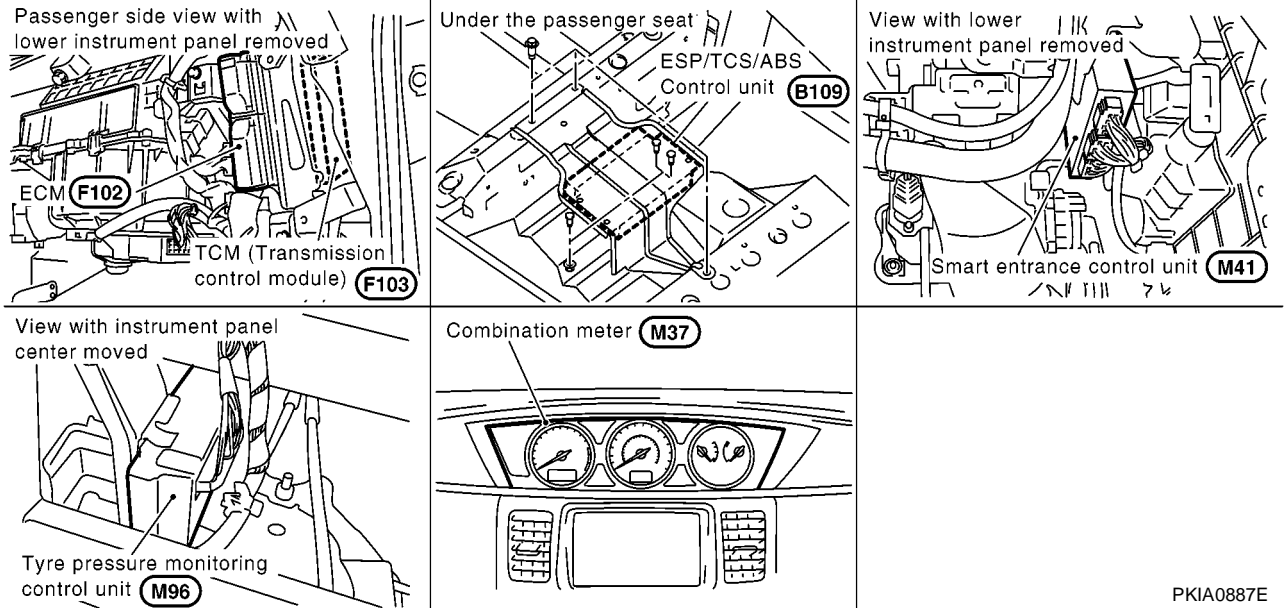
System Description

EKS004Y2

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

EKS004Y3



PKIA0887E

A
B
C
D
E
F
G
H
I
J
L
M

LAN

CAN SYSTEM (TYPE 2)

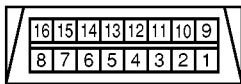
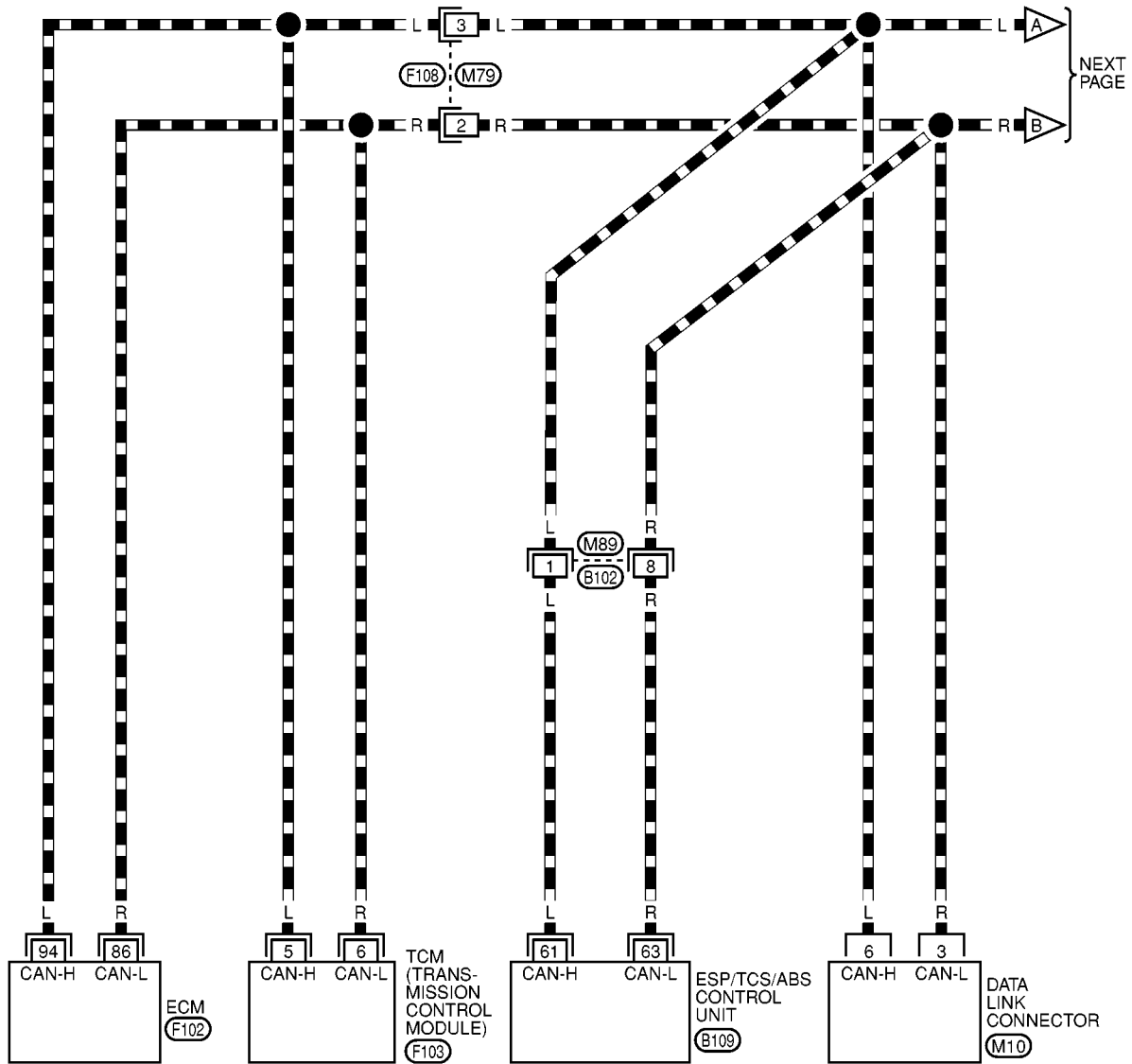
[CAN]

Wiring Diagram — CAN —

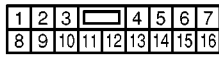
EKS004Y4

LAN-CAN-04

▬ : DATA LINE



(M10)
W

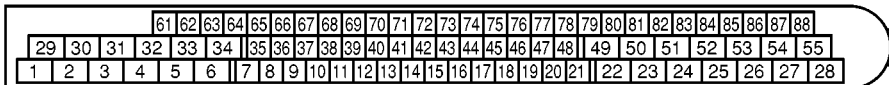


(M89)
W

(F108)
W

REFER TO THE FOLLOWING.

(F102), (F103) - ELECTRICAL UNITS



(B109)
B

MKWA0222E

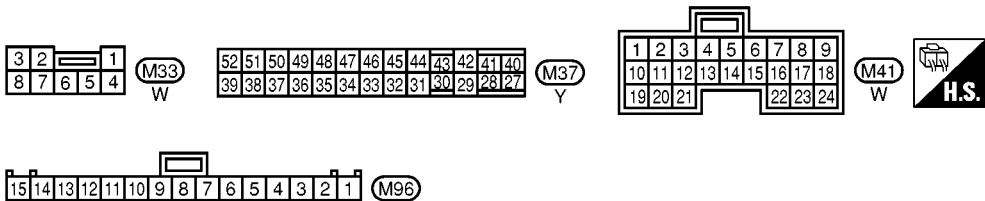
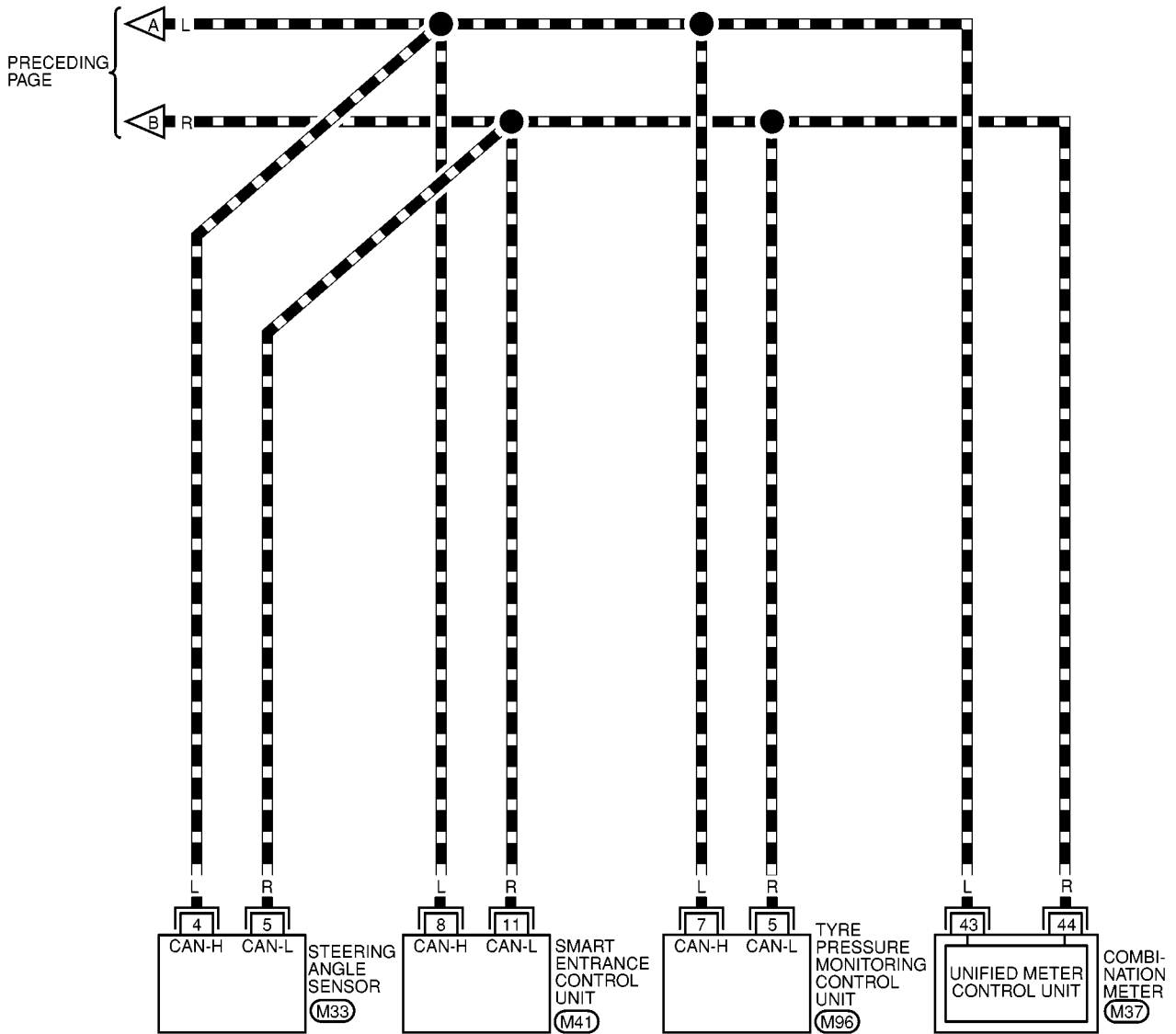
CAN SYSTEM (TYPE 2)

[CAN]

LAN-CAN-05

▬ : DATA LINE

A
B
C
D
E
F
G
H
I
J
LAN
L
M



MKWA0223E

Work Flow

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", and "AIR PRESSURE MONITOR" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR".
2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-67, "CHECK SHEET"](#)
3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-67, "CHECK SHEET"](#)

NOTE:

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

4. According to the check sheet results (example), start inspection. Refer to [LAN-68, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

CAN SYSTEM (TYPE 2)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
CVT
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
AIR PRESSURE MONITOR
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
CVT
DATA MONITOR

Attach copy of
ABS
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

Attach copy of
AIR PRESSURE MONITOR
DATA MONITOR

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CAN SYSTEM (TYPE 2)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN COMM ✓	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2 ✓	CAN CIRC 3 ✓	—	CAN CIRC 6 ✓	—	CAN CIRC 4 ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2

Case 2: Replace TCM

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2 ✓	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 4
CVT	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3 ✓	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	CAN CIRC 3 ✓	—	—	—	CAN CIRC 4 ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2

PKIA0705E

CAN SYSTEM (TYPE 2)

[CAN]

Case 3: Replace ESP/TCS/ABS control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3 ✓	—	CAN CIRC 6	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3 ✓	—	—	—	CAN CIRC 4
ABS	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	CAN CIRC 3 ✓	—	CAN CIRC 5 ✓	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2

Case 4: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	—	—	—	CAN CIRC 3 ✓
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2

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CAN SYSTEM (TYPE 2)

[CAN]

Case 5: Replace Tyre pressure monitoring control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2

Case 6

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3 ✓	—	CAN CIRC 6 ✓	—	CAN CIRC 4 ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3 ✓	—	—	—	CAN CIRC 4 ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	CAN CIRC 3 ✓	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6 ✓	—	CAN CIRC 4 ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4 ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5 ✓	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2

Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 4 ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4 ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3 ✓
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2

PKIA0707E

CAN SYSTEM (TYPE 2)

[CAN]

Case 9

ENGINE	CAN COMM	CAN CIRC ✓	-	CAN CIRC ✓	CAN CIRC ✓	-	CAN CIRC ✓	-	CAN CIRC ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC ✓	-	CAN CIRC 3	-	-	-	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC ✓	CAN CIRC 3	-	CAN CIRC 5	-	-	-
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC ✓	-	-	-	-	-	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	-	-	-	-	-	-	CAN CIRC 2

Case 10

ENGINE	CAN COMM	CAN CIRC 1	-	CAN CIRC ✓	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 4
CVT	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	-	CAN CIRC ✓	-	-	-	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC ✓	-	CAN CIRC 5	-	-	-
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	-	-	-	-	-	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	-	-	-	-	-	-	CAN CIRC 2

Case 11

ENGINE	CAN COMM	CAN CIRC 1	-	CAN CIRC 2	CAN CIRC ✓	-	CAN CIRC 6	-	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	-	CAN CIRC ✓	-	-	-	CAN CIRC 4
ABS	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	CAN CIRC ✓	-	CAN CIRC ✓	-	-	-
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	-	-	-	-	-	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	-	-	-	-	-	-	CAN CIRC 2

Case 12

ENGINE	CAN COMM	CAN CIRC 1	-	CAN CIRC 2	CAN CIRC 3	-	CAN CIRC 6	-	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	-	CAN CIRC 3	-	-	-	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	-	CAN CIRC ✓	-	-	-
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	-	-	-	-	-	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	-	-	-	-	-	-	CAN CIRC 2

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CAN SYSTEM (TYPE 2)

[CAN]

Case 13

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC ✓	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	—	—	—	—	CAN CIRC ✓
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2

Case 14

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC ✓	—	—	—	—	—	—	CAN CIRC ✓

Case 15

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC ✓
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC ✓

Case 16

ENGINE	CAN COMM	CAN CIRC ✓	—	CAN CIRC ✓	CAN CIRC ✓	—	CAN CIRC ✓	—	CAN CIRC ✓
CVT	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	CAN CIRC ✓	—	—	—	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	CAN CIRC ✓	—	CAN CIRC ✓	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	—	—	—	—	CAN CIRC ✓
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC ✓	—	—	—	—	—	—	CAN CIRC ✓

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NOTE:

If “NG” is displayed on “CAN COMM” for the diagnosed control unit, replace the control unit.

INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace TCM.

Case 3: Replace ESP/TCS/ABS control unit.

Case 4: Replace Smart entrance control unit.

Case 5: Replace Tyre pressure monitoring control unit.

Case 6: Check Harness between TCM and Data link connector. Refer to [LAN-73, "Circuit Check Between TCM and Data Link Connector"](#)

Case 7: Check Harness between Data link connector and Smart entrance control unit. Refer to [LAN-74, "Circuit Check Between Data Link Connector and Smart Entrance Control Unit"](#)

Case 8: Check Harness between Smart entrance control unit and Tyre pressure monitoring control unit. Refer to [LAN-75, "Circuit Check Between Smart Entrance Control Unit and Tyre Pressure Monitoring Control Unit"](#)

Case 9: Check ECM Circuit. Refer to [LAN-75, "ECM Circuit Check"](#)

Case 10: Check TCM Circuit. Refer to [LAN-76, "TCM Circuit Check"](#)

Case 11: Check ESP/TCS/ABS control unit Circuit. Refer to [LAN-76, "ESP/TCS/ABS Control Unit Circuit Check"](#)

Case 12: Check Steering angle sensor Circuit. Refer to [LAN-77, "Steering Angle Sensor Circuit Check"](#)

Case 13: Check Smart entrance control unit Circuit. Refer to [LAN-77, "Smart Entrance Control Unit Circuit Check"](#)

Case 14: Check Tyre pressure monitoring control unit Circuit. Refer to [LAN-78, "Tyre Pressure Monitoring Control Unit Circuit Check"](#)

Case 15: Check Combination meter Circuit. Refer to [LAN-78, "Combination Meter Circuit Check"](#)

Case 16: Check CAN communication Circuit. Refer to [LAN-79, "CAN Communication Circuit Check"](#)

Circuit Check Between TCM and Data Link Connector

EKS004Y6

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side, control unit-side and harness-side)

- TCM.
- ESP/TCS/ABS control unit.
- Between TCM and ESP/TCS/ABS control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector and harness connector F108.
2. Check continuity between TCM harness connector F103 terminals 5 (L), 6 (R) and harness connector F108 terminals 3 (L), 2 (R).

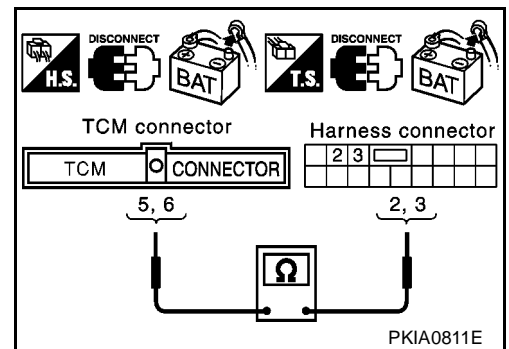
5(L) – 3(L) : Continuity should exist.

6(R) – 2(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between harness connector M79 terminals 3 (L), 2 (R) and Data link connector M10 terminals 6 (L), 3 (R).

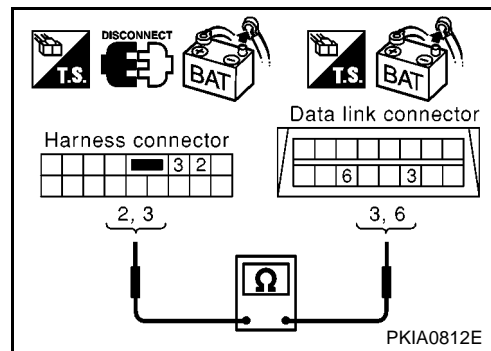
3(L) – 6(L) : Continuity should exist.

2(R) – 3(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", and "AIR PRESSURE MONITOR" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR".

NG >> Repair harness.



Circuit Check Between Data Link Connector and Smart Entrance Control Unit

EKS004Y7

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side, sensor-side and harness-side)
 - Smart entrance control unit.
 - Steering angle sensor.
 - ESP/TCS/ABS control unit.
 - Between smart entrance control unit and ESP/TCS/ABS control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

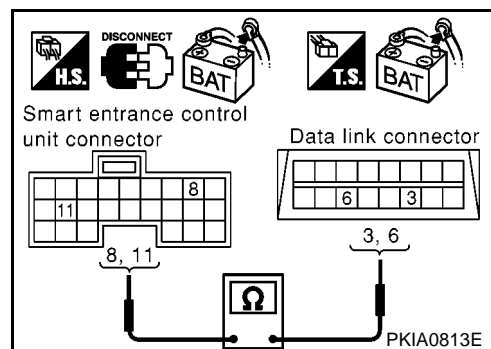
1. Disconnect smart entrance control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and Data link connector M10 terminals 6 (L), 3 (R).

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

11(R) – 3(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", and "AIR PRESSURE MONITOR" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR".



ing Angle Sensor" for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR".

NG >> Repair harness.

Circuit Check Between Smart Entrance Control Unit and Tyre Pressure Monitoring Control Unit

EKS004Y8

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side, sensor-side and harness-side)
 - Smart entrance control unit.
 - Tyre pressure monitoring control unit.
 - Steering angle sensor.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector and tyre pressure monitoring control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and tyre pressure monitoring control unit harness connector M96 terminals 7 (L), 5 (R).

8(L) – 7(L) : Continuity should exist.

11(R) – 5(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", and "AIR PRESSURE MONITOR" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR".

NG >> Repair harness.

ECM Circuit Check

EKS004Y9

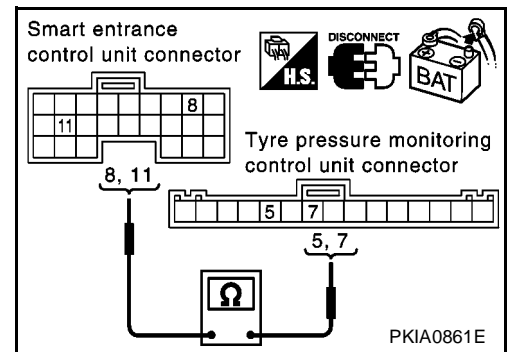
1. CHECK CONNECTOR

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



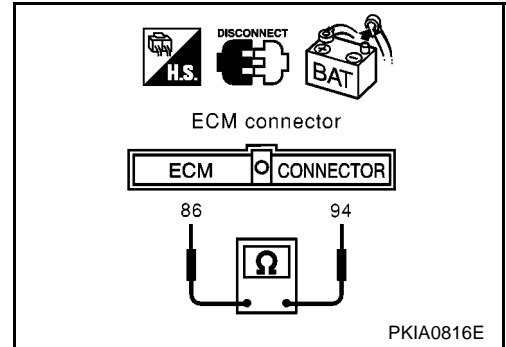
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F102 terminals 94(L) and 86(R).

94(L) – 86(R) : Approx. 108 – 132Ω

OK or NG

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



EKS004YA

TCM Circuit Check

1. CHECK CONNECTOR

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

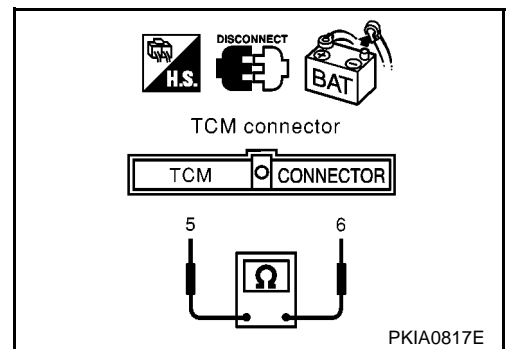
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector.
2. Check resistance between TCM harness connector F103 terminals 5(L) and 6(R).

5(L) – 6(R) : Approx. 54 – 66Ω

OK or NG

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



EKS004YB

ESP/TCS/ABS Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - ESP/TCS/ABS control unit.
 - Harness connector B102.
 - Harness connector M89.

OK or NG

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

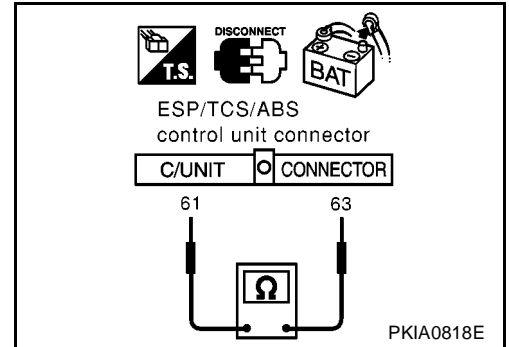
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector.
2. Check resistance between ESP/TCS/ABS control unit harness connector B109 terminals 61(L) and 63(R).

61(L) – 63(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ESP/TCS/ABS control unit.
 NG >> Repair harness between Data link connector and ESP/TCS/ABS control unit.



Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of steering angle sensor for damage, bend and loose connection. (sensor-side and harness-side)

OK or NG

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

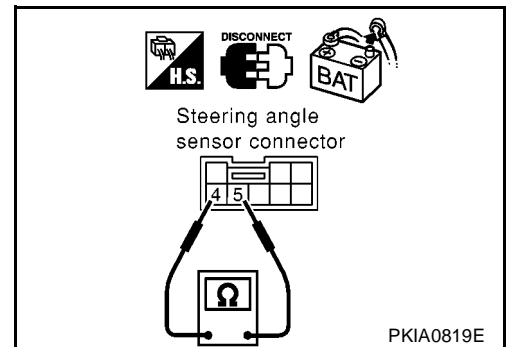
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect steering angle sensor connector.
2. Check resistance between steering angle sensor harness connector M33 terminals 4(L) and 5(R).

4(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace steering angle sensor.
 NG >> Repair harness between steering angle sensor and smart entrance control unit.



Smart Entrance Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection. (control unit-side and harness-side)

OK or NG

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

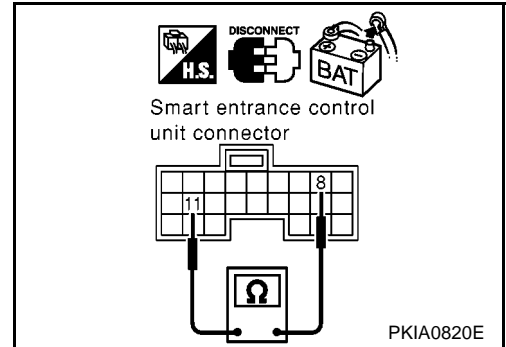
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
 NG >> Repair harness between steering angle sensor and smart entrance control unit.



Tyre Pressure Monitoring Control Unit Circuit Check

EKS004YE

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of tyre pressure monitoring control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

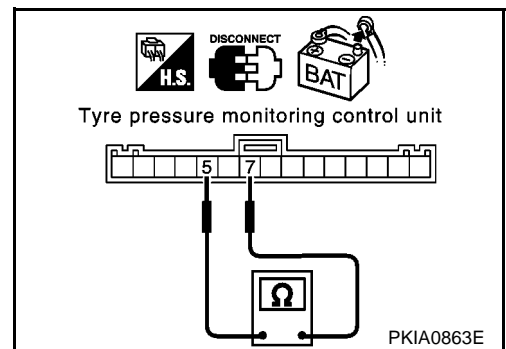
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect tyre pressure monitoring control unit connector.
2. Check resistance between tyre pressure monitoring control unit harness connector M96 terminals 7(L) and 5(R).

7(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace tyre pressure monitoring control unit.
 NG >> Repair harness between smart entrance control unit and tyre pressure monitoring control unit.



Combination Meter Circuit Check

EKS004YF

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

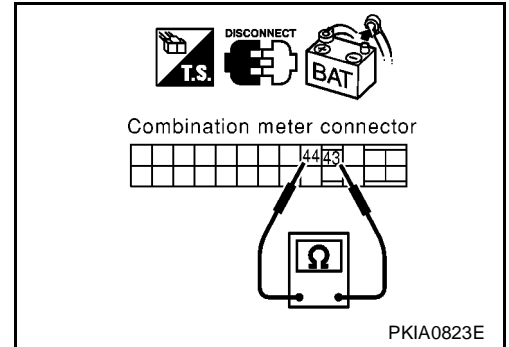
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 43(L) and 44(R).

43(L) – 44(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
 NG >> Repair harness between tyre pressure monitoring control unit and combination meter.



EKS004YG

CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, control unit-side, sensor-side, control module-side and harness-side)
 - Combination meter.
 - Tyre pressure monitoring control unit.
 - Smart entrance control unit.
 - Steering angle sensor.
 - ESP/TCS/ABS control unit.
 - TCM.
 - ECM.
 - Between ESP/TCS/ABS control unit and ECM.

OK or NG

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

LAN

2. CHECK HARNESS FOR SHORT CIRCUIT

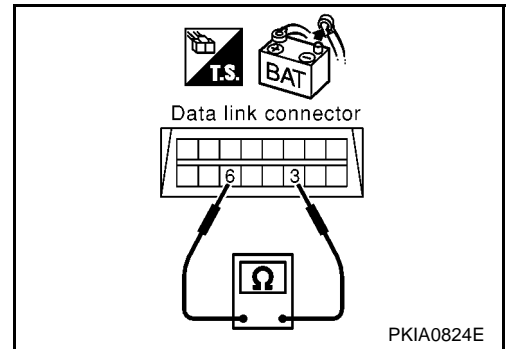
1. Disconnect the following connectors.
 - Combination meter connector.
 - Tyre pressure monitoring control unit connector.
 - Smart entrance control unit connector.
 - Steering angle sensor connector.
 - Harness connector M89.
 - Harness connector M79.
2. Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

- NG >>
- Repair harness between tyre pressure monitoring control unit and combination meter.
 - Repair harness between smart entrance control unit and tyre pressure monitoring control unit.
 - Repair harness between smart entrance control unit and steering angle sensor.
 - Repair harness between Data link connector and steering angle sensor.
 - Repair harness between harness connector M89 and harness connector M79.



3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

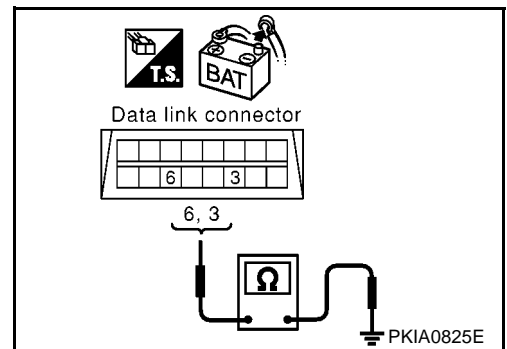
6(L) – ground : Continuity should not exist.

3(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

- NG >>
- Repair harness between tyre pressure monitoring control unit and combination meter.
 - Repair harness between smart entrance control unit and tyre pressure monitoring control unit.
 - Repair harness between smart entrance control unit and steering angle sensor.
 - Repair harness between Data link connector and steering angle sensor.
 - Repair harness between harness connector M89 and harness connector M79.



4. CHECK HARNESS FOR SHORT CIRCUIT

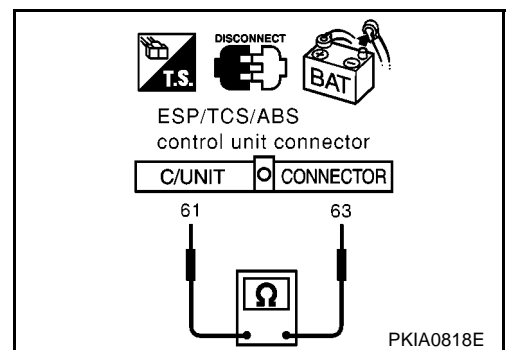
1. Disconnect ESP/TCS/ABS control unit connector.
2. Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L) and 63(R).

61(L) – 63(R) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

- NG >> Repair harness between ESP/TCS/ABS control unit and harness connector B102.



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L), 63 (R) and ground.

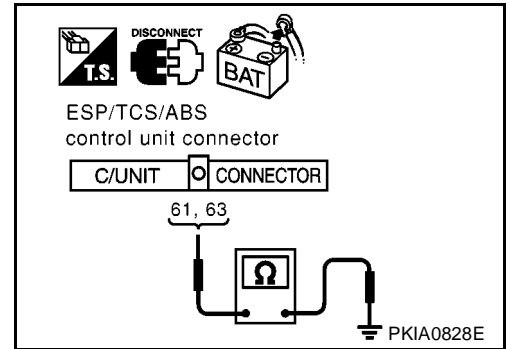
61(L) – ground : Continuity should not exist.

63(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between ESP/TCS/ABS control unit and harness connector B102.



6. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ECM connector and TCM connector.
2. Check continuity between ECM harness connector F102 terminals 94 (L) and 86(R).

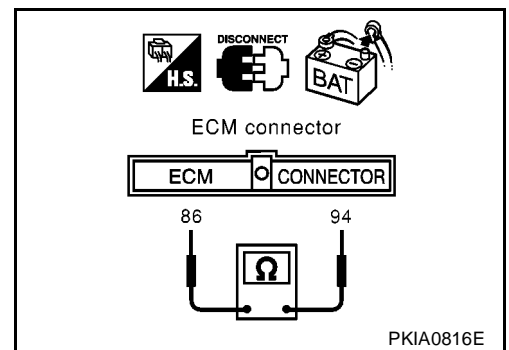
94(L) – 86(R) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> ● Repair harness between ECM and harness connector F108.

- Repair harness between TCM and harness connector F108.



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.

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

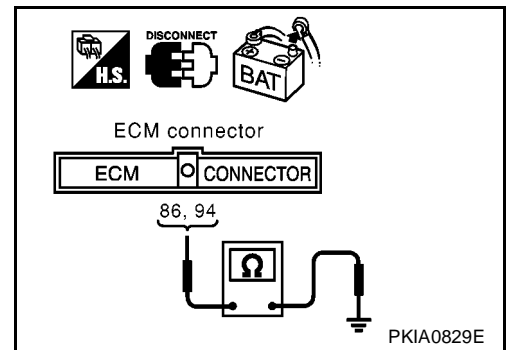
86(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG >> ● Repair harness between ECM and harness connector F108.

- Repair harness between TCM and harness connector F108.



8. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-82, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

OK >> Reconnect all connectors to perform SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", and "AIR PRESSURE MONITOR" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR".

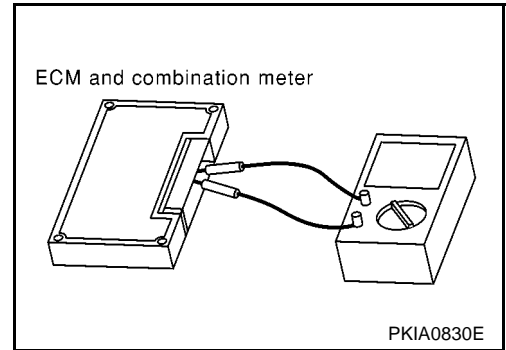
NG >> Replace ECM and/or Combination meter.

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 43 and 44.

Unit	Terminal	Resistance value (Ω)
ECM	94 – 86	Approx. 108 - 132
Combination meter	43 – 44	



CAN SYSTEM (TYPE 3)

PFP:23710

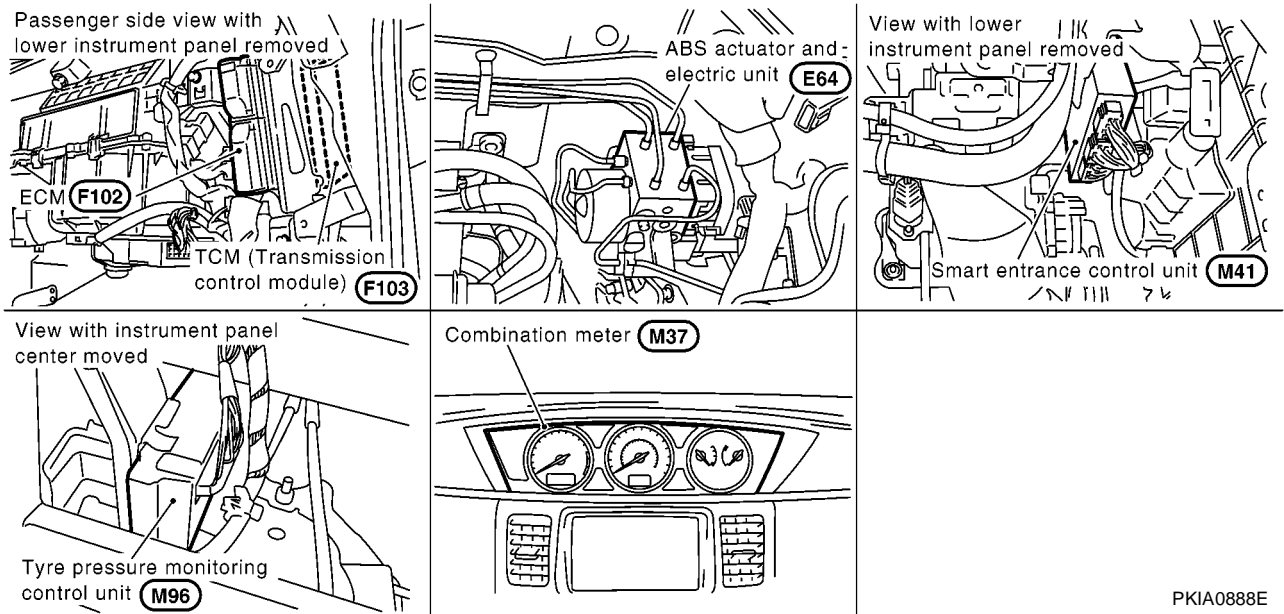
System Description

EKS004XN

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

EKS004XO



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LAN

CAN SYSTEM (TYPE 3)

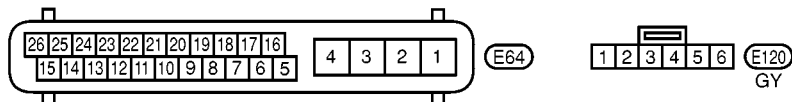
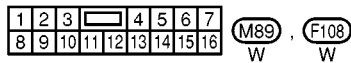
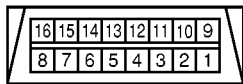
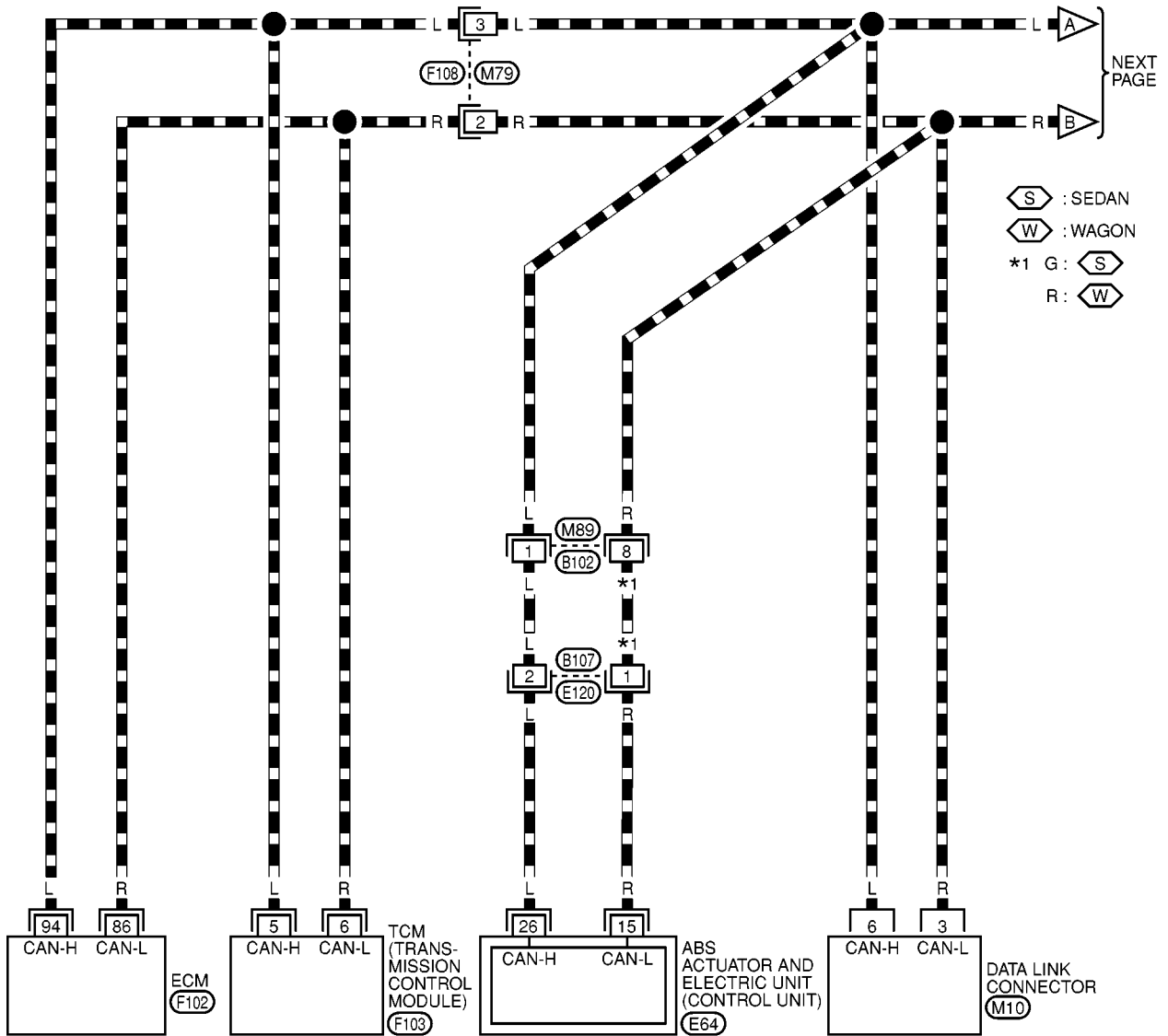
[CAN]

Wiring Diagram — CAN —

EKS004XP

LAN-CAN-06

▬ : DATA LINE



REFER TO THE FOLLOWING.
F102, F103 - ELECTRICAL UNITS

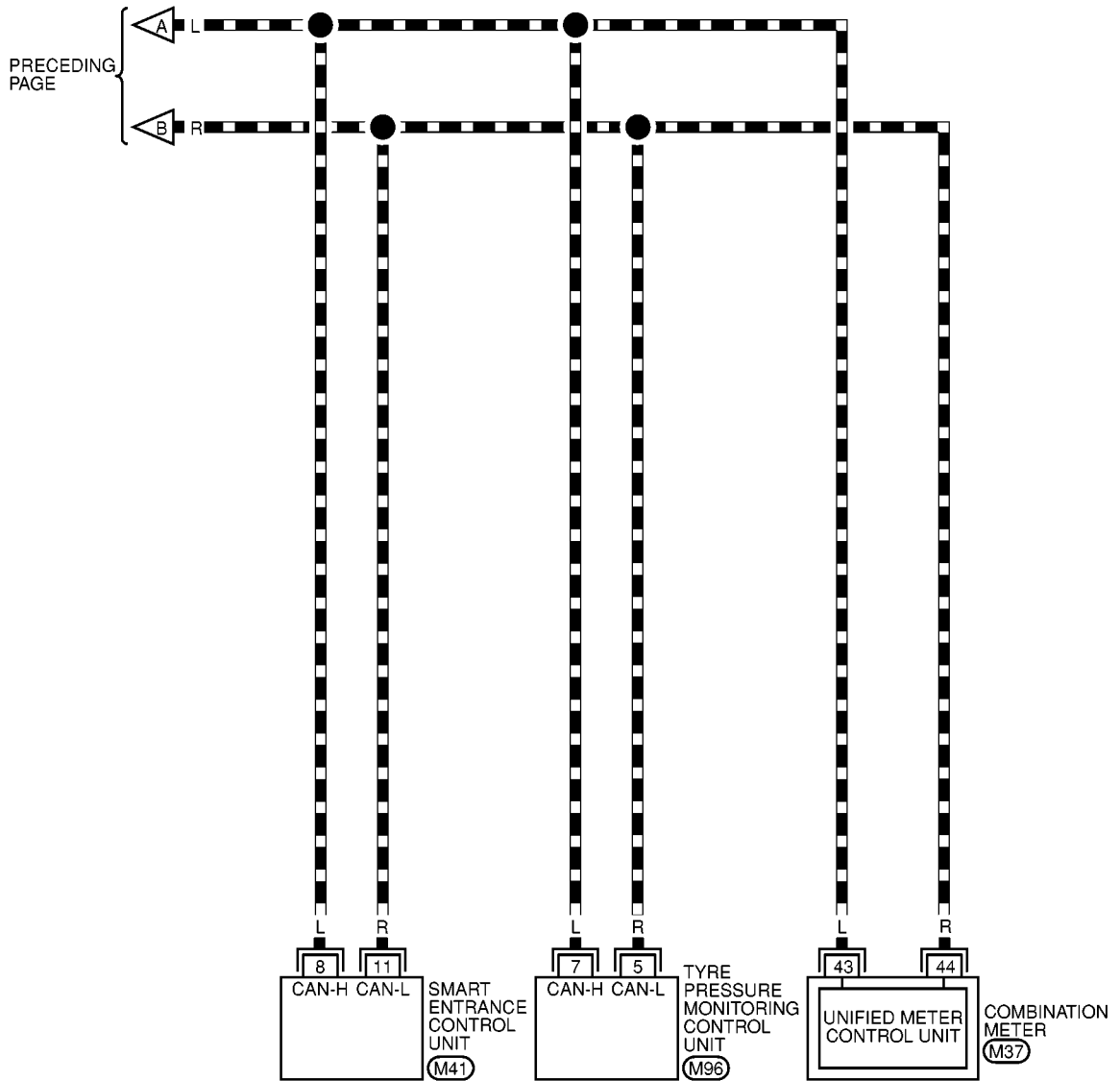
MKWA0224E

CAN SYSTEM (TYPE 3)

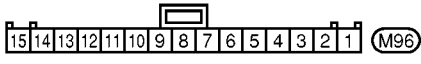
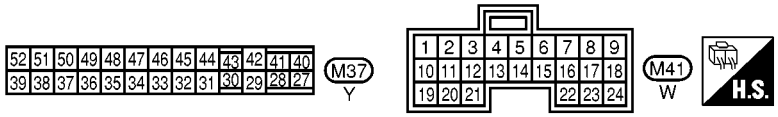
[CAN]

LAN-CAN-07

— : DATA LINE



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MKWA0225E

Work Flow

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", and "AIR PRESSURE MONITOR" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR".
2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-87, "CHECK SHEET"](#)
3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-87, "CHECK SHEET"](#)

NOTE:

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

4. According to the check sheet results (example), start inspection. Refer to [LAN-88, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

CAN SYSTEM (TYPE 3)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
CVT
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
AIR PRESSURE MONITOR
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
CVT
DATA MONITOR

Attach copy of
ABS
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

Attach copy of
AIR PRESSURE MONITOR
DATA MONITOR

PKIA0710E

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LAN

CAN SYSTEM (TYPE 3)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2 ✓	—	CAN CIRC 6 ✓	—	CAN CIRC 4 ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 2: Replace TCM

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2 ✓	—	CAN CIRC 6	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	CAN CIRC 3 ✓	—	—	CAN CIRC 4 ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

PKIA0711E

CAN SYSTEM (TYPE 3)

[CAN]

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Case 3: Replace ABS actuator and electric unit (control unit)

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3 ✓	—	—	CAN CIRC 4
ABS	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 4: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	—	—	CAN CIRC 3 ✓
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

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PKIA0712E

CAN SYSTEM (TYPE 3)

[CAN]

Case 5: Replace Tyre pressure monitoring control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM ✓	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 6

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC ✓	—	CAN CIRC ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC ✓	—	—	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC ✓	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC ✓	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC ✓	—	CAN CIRC ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC ✓	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC ✓
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

PKIA0713E

CAN SYSTEM (TYPE 3)

[CAN]

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Case 9

ENGINE	CAN COMM	CAN CIRC ✓	—	CAN CIRC ✓	—	CAN CIRC ✓	—	CAN CIRC ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC ✓	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC ✓	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC ✓	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 10

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC ✓	—	CAN CIRC 6	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	CAN CIRC ✓	—	—	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 11

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC ✓	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 12

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC ✓	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	—	—	—	CAN CIRC ✓
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

PKIA0714E

LAN

CAN SYSTEM (TYPE 3)

[CAN]

Case 13

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC ✓	—	—	—	—	—	CAN CIRC ✓

Case 14

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC ✓
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC ✓

Case 15

ENGINE	CAN COMM	CAN CIRC ✓	—	CAN CIRC ✓	—	CAN CIRC ✓	—	CAN CIRC ✓
CVT	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	CAN CIRC ✓	—	—	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	—	—	—	CAN CIRC ✓
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC ✓	—	—	—	—	—	CAN CIRC ✓

PKIA0715E

NOTE:

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

INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace TCM.

Case 3: Replace ABS actuator and electric unit (control unit).

Case 4: Replace Smart entrance control unit.

Case 5: Replace Tyre pressure monitoring control unit.

Case 6: Check Harness between TCM and Data link connector. Refer to [LAN-93, "Circuit Check Between TCM and Data Link Connector"](#)

Case 7: Check Harness between Data link connector and Smart entrance control unit. Refer to [LAN-94, "Circuit Check Between Data Link Connector and Smart Entrance Control Unit"](#)

Case 8: Check Harness between Smart entrance control unit and Tyre pressure monitoring control unit. Refer to [LAN-94, "Circuit Check Between Smart Entrance Control Unit and Tyre Pressure Monitoring Control Unit"](#)

Case 9: Check ECM Circuit. Refer to [LAN-95, "ECM Circuit Check"](#)

Case 10: Check TCM Circuit. Refer to [LAN-96, "TCM Circuit Check"](#)

Case 11: Check ABS actuator and electric unit (control unit) Circuit. Refer to [LAN-96, "ABS Actuator and Electric Unit \(control unit\) Circuit Check"](#)

Case 12: Check Smart entrance control unit Circuit. Refer to [LAN-97, "Smart Entrance Control Unit Circuit Check"](#)

Case 13: Check Tyre pressure monitoring control unit Circuit. Refer to [LAN-97, "Tyre Pressure Monitoring Control Unit Circuit Check"](#)

Case 14: Check Combination meter Circuit. Refer to [LAN-98, "Combination Meter Circuit Check"](#)

Case 15: Check CAN communication Circuit. Refer to [LAN-98, "CAN Communication Circuit Check"](#)

Circuit Check Between TCM and Data Link Connector

EKS004XR

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side, control unit-side and harness-side)
 - TCM.
 - ABS actuator and electric unit (control unit).
 - Between TCM and ABS actuator and electric unit (control unit).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector and harness connector F108.
2. Check continuity between TCM harness connector F103 terminals 5 (L), 6 (R) and harness connector F108 terminals 3 (L), 2 (R).

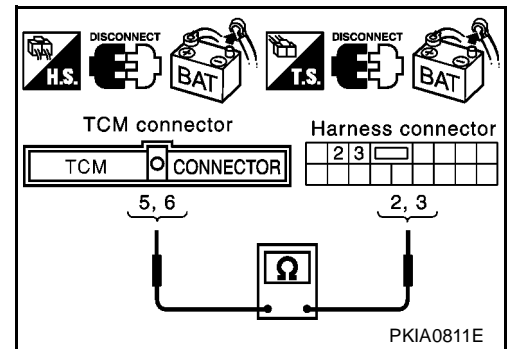
5(L) – 3(L) : Continuity should exist.

6(R) – 2(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

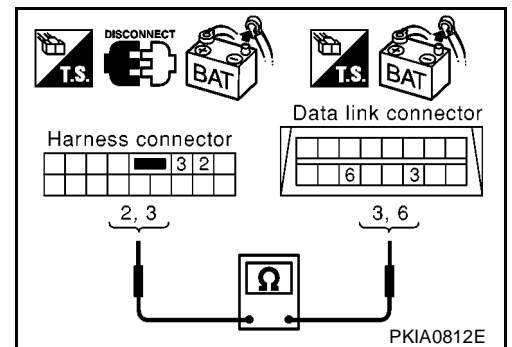
Check continuity between harness connector M79 terminals 3 (L), 2 (R) and Data link connector M10 terminals 6 (L), 3 (R).

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

2(R) – 3(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", and "AIR PRESSURE MONITOR" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBDD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBDD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBDD) or [CVT-201, "CAN COMMUNI-](#)



CATION LINE" (ALL) for "CVT". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR".

NG >> Repair harness.

Circuit Check Between Data Link Connector and Smart Entrance Control Unit

EKS004XS

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - Smart entrance control unit.
 - ABS actuator and electric unit (control unit).
 - Between smart entrance control unit and ABS actuator and electric unit (control unit).

OK or NG

OK >> GO TO 2.

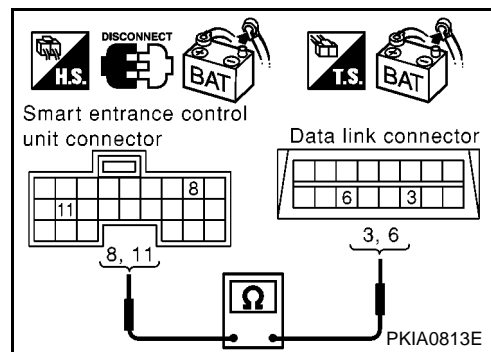
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and Data link connector M10 terminals 6 (L), 3 (R).

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

11(R) – 3(R) : Continuity should exist.



OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", and "AIR PRESSURE MONITOR" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR".

NG >> Repair harness.

Circuit Check Between Smart Entrance Control Unit and Tyre Pressure Monitoring Control Unit

EKS004XT

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - Smart entrance control unit.
 - Tyre pressure monitoring control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector and tyre pressure monitoring control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and tyre pressure monitoring control unit harness connector M96 terminals 7 (L), 5 (R).

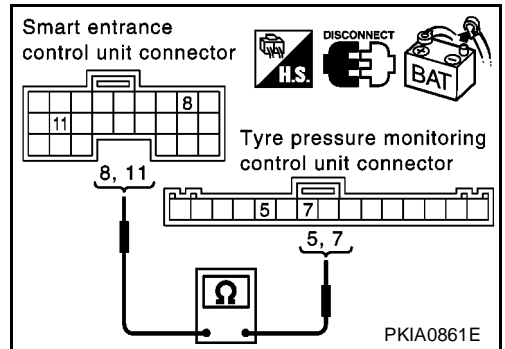
8(L) – 7(L) : Continuity should exist.

11(R) – 5(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", and "AIR PRESSURE MONITOR" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR".

NG >> Repair harness.



ECM Circuit Check

EKS004XU

1. CHECK CONNECTOR

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

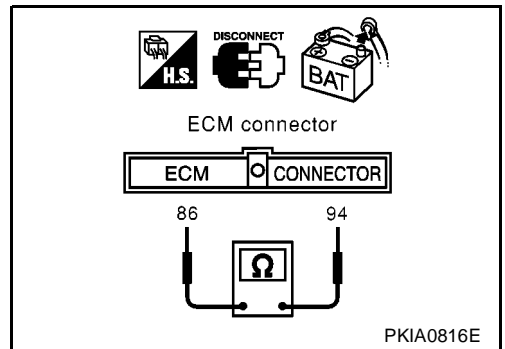
1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F102 terminals 94(L) and 86(R).

94(L) – 86(R) : Approx. 108 – 132Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between TCM and ECM.



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TCM Circuit Check

1. CHECK CONNECTOR

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

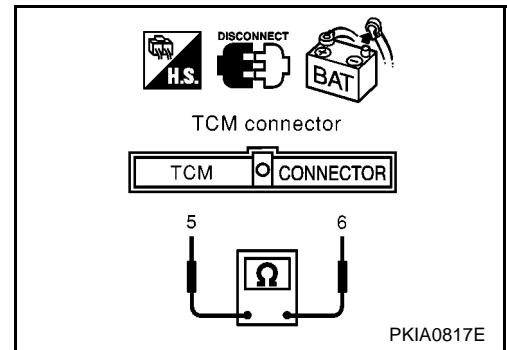
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector.
2. Check resistance between TCM harness connector F103 terminals 5(L) and 6(R).

5(L) – 6(R) : Approx. 54 – 66Ω

OK or NG

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



ABS Actuator and Electric Unit (control unit) Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - ABS actuator and electric unit (control unit).
 - Harness connector E120.
 - Harness connector B107.
 - Harness connector B102.
 - Harness connector M89.

OK or NG

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

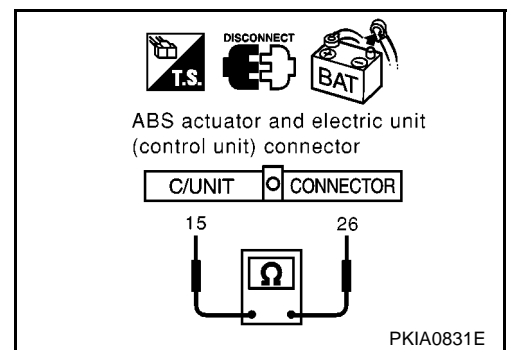
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E64 terminals 26(L) and 15(R).

26(L) – 15(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
 NG >> Repair harness between Data link connector and ABS actuator and electric unit (control unit).



Smart Entrance Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

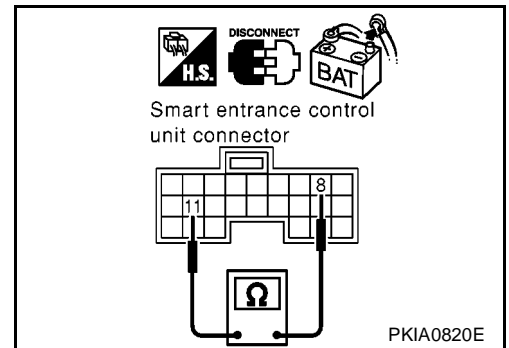
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
NG >> Repair harness between Data link connector and smart entrance control unit.



Tyre Pressure Monitoring Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of tyre pressure monitoring control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

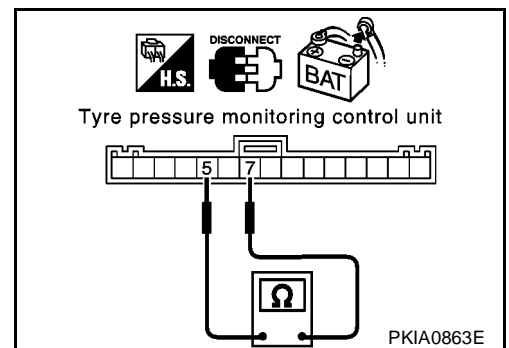
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect tyre pressure monitoring control unit connector.
2. Check resistance between tyre pressure monitoring control unit harness connector M96 terminals 7(L) and 5(R).

7(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace tyre pressure monitoring control unit.
NG >> Repair harness between smart entrance control unit and tyre pressure monitoring control unit.



Combination Meter Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

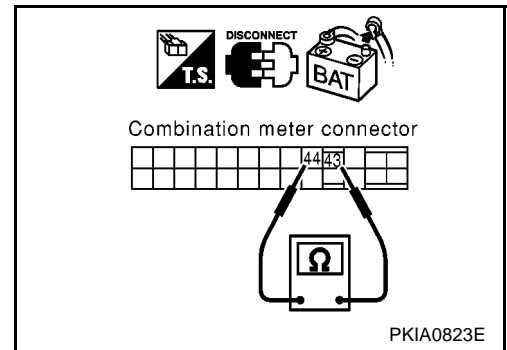
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 43(L) and 44(R).

43(L) – 44(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
 NG >> Repair harness between tyre pressure monitoring control unit and combination meter.



CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, control unit-side, control module-side and harness-side)
 - Combination meter.
 - Tyre pressure monitoring control unit.
 - Smart entrance control unit.
 - ABS actuator and electric unit (control unit).
 - TCM.
 - ECM.
 - Between ABS actuator and electric unit (control unit) and ECM.

OK or NG

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

2. CHECK HARNESS FOR SHORT CIRCUIT

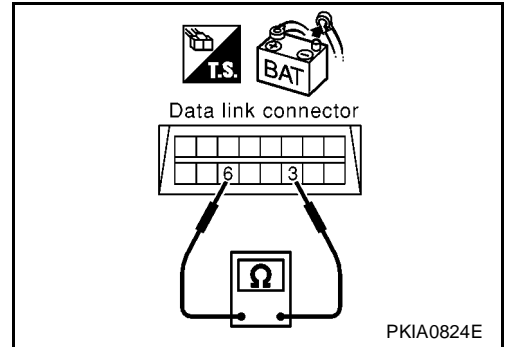
1. Disconnect the following connectors.
 - Combination meter connector.
 - Tyre pressure monitoring control unit connector.
 - Smart entrance control unit connector.
 - Harness connector M89.
 - Harness connector M79.
2. Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

- NG >>
- Repair harness between tyre pressure monitoring control unit and combination meter.
 - Repair harness between smart entrance control unit and tyre pressure monitoring control unit.
 - Repair harness between Data link connector and smart entrance control unit.
 - Repair harness between harness connector M89 and harness connector M79.



3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

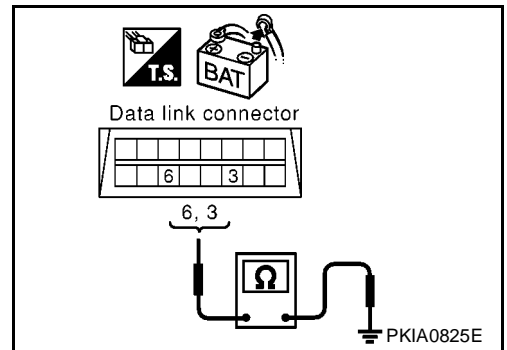
6(L) – ground : Continuity should not exist.

3(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

- NG >>
- Repair harness between tyre pressure monitoring control unit and combination meter.
 - Repair harness between smart entrance control unit and tyre pressure monitoring control unit.
 - Repair harness between Data link connector and smart entrance control unit.
 - Repair harness between harness connector M89 and harness connector M79.



4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect harness connector B107.
2. Check the following.
 - Continuity between harness connector B102 terminals 1 (L) and 8(G).(Sedan models)
 - Continuity between harness connector B102 terminals 1 (L) and 8(R).(Wagon models)

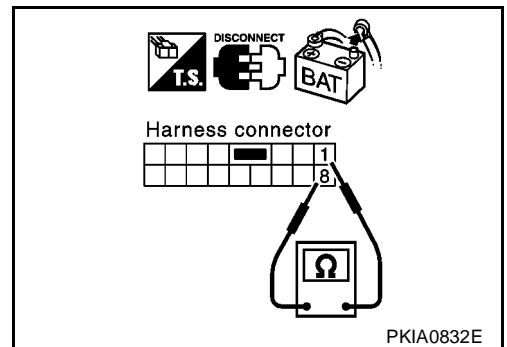
1(L) – 8(G) (Sedan models) : Continuity should not exist.

1(L) – 8(R) (Wagon models) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

- NG >> Repair harness between harness connector B102 and harness connector B107.



5. CHECK HARNESS FOR SHORT CIRCUIT

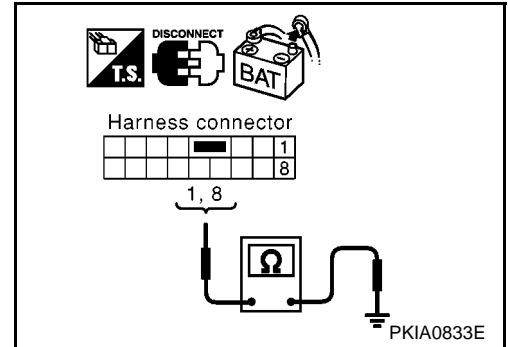
1. Check the following.
 - Continuity between harness connector B102 terminals 1 (L), 8(G) and ground.(Sedan models)
 - Continuity between harness connector B102 terminals 1 (L), 8(R) and ground.(Wagon models)

1(L) – ground (Sedan models) : Continuity should not exist.

8(G) – ground (Sedan models) : Continuity should not exist.

1(L) – ground (Wagon models) : Continuity should not exist.

8(R) – ground (Wagon models) : Continuity should not exist.



OK or NG

OK >> GO TO 6.

NG >> Repair harness between harness connector B102 and harness connector B107.

6. CHECK HARNESS FOR SHORT CIRCUIT

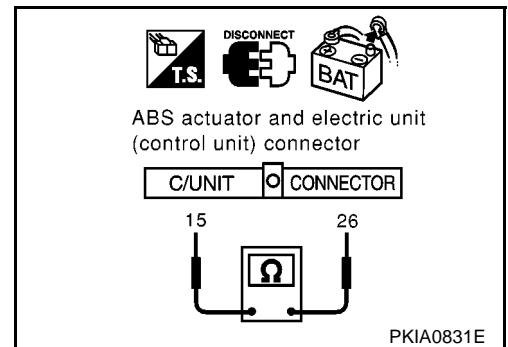
1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L) and 15(R).

26(L) – 15(R) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L), 15 (R) and ground.

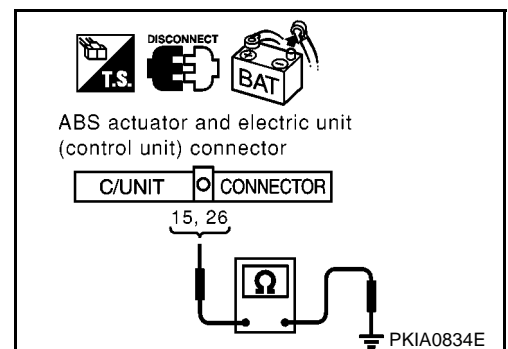
26(L) – ground : Continuity should not exist.

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

OK or NG

OK >> GO TO 8.

NG >> Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.



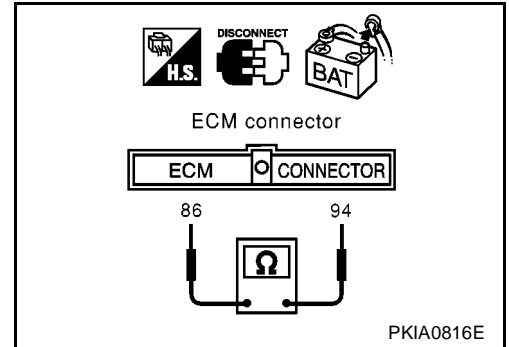
8. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ECM connector and TCM connector.
2. Check continuity between ECM harness connector F102 terminals 94 (L) and 86(R).

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

OK or NG

- OK >> GO TO 9.
- NG >>
 - Repair harness between ECM and harness connector F108.
 - Repair harness between TCM and harness connector F108.



9. CHECK HARNESS FOR SHORT CIRCUIT

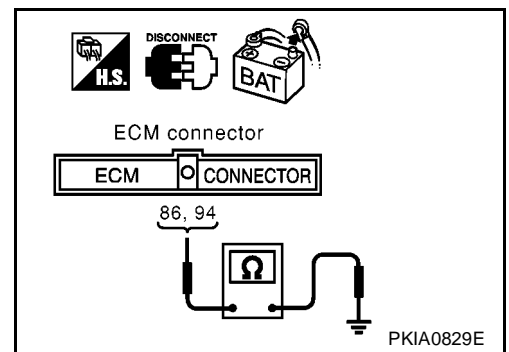
Check continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.

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

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

OK or NG

- OK >> GO TO 10.
- NG >>
 - Repair harness between ECM and harness connector F108.
 - Repair harness between TCM and harness connector F108.



10. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-101, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

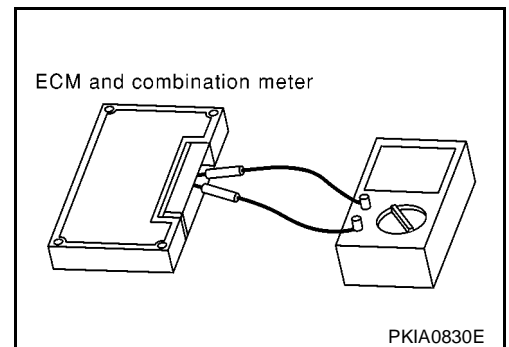
- OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", and "AIR PRESSURE MONITOR" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRES-SURE MONITOR".
- NG >> Replace ECM and/or Combination meter.

Component Inspection ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

EKS004Y1

- Remove ECM and Combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between Combination meter terminals 43 and 44.

Unit	Terminal	Resistance value (Ω)
ECM	94 – 86	Approx. 108 - 132
Combination meter	43 – 44	



CAN SYSTEM (TYPE 4)

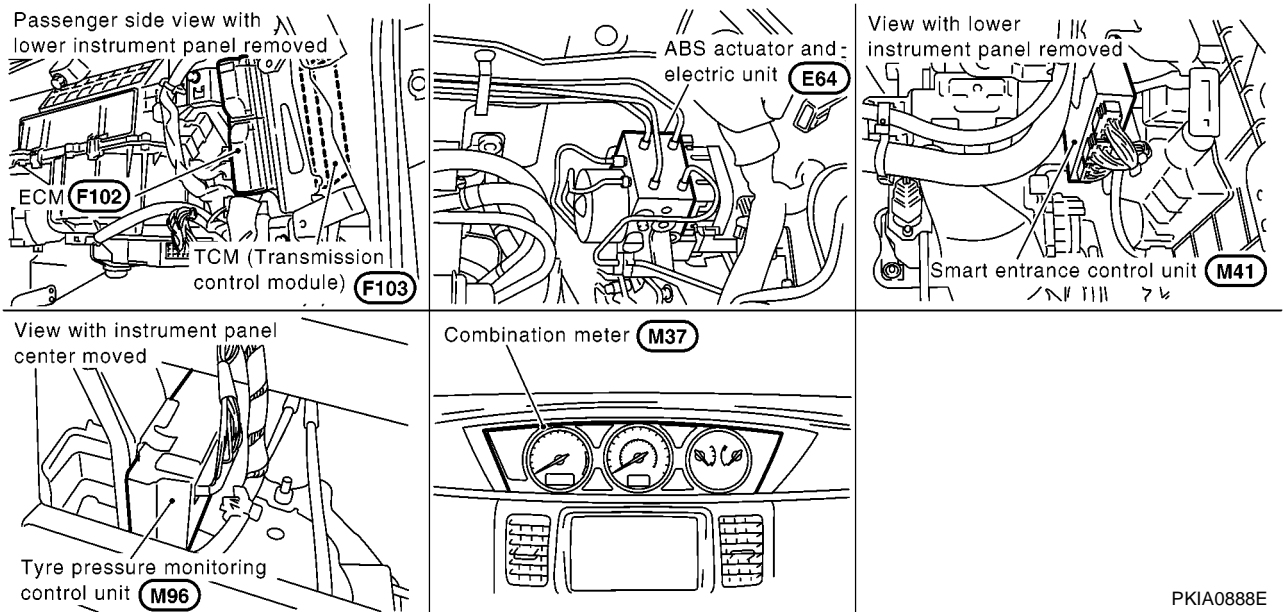
System Description

EKS004X8

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

EKS004X9



PKIA0888E

CAN SYSTEM (TYPE 4)

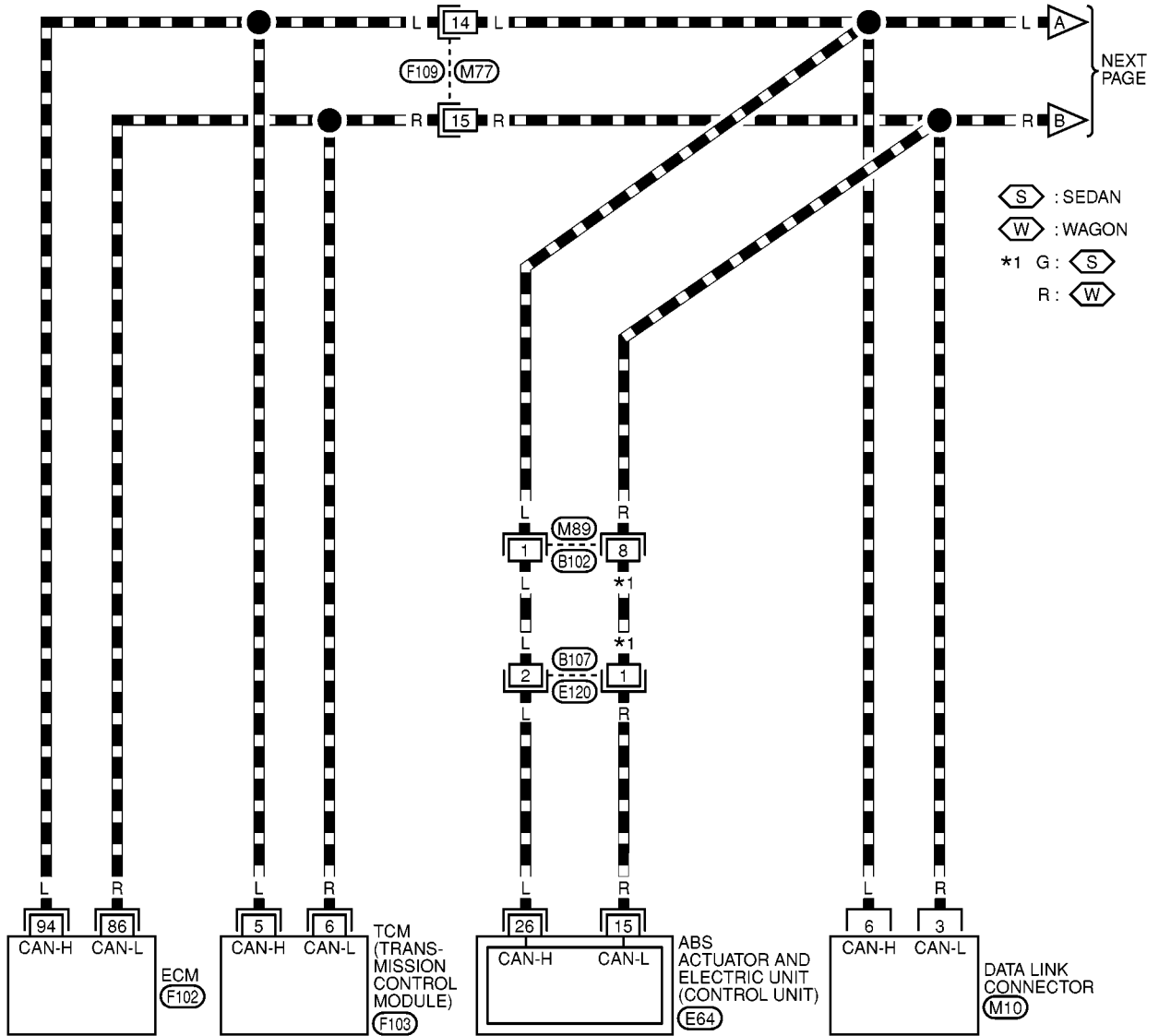
[CAN]

Wiring Diagram — CAN —

EKS004XA

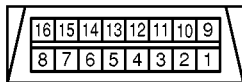
LAN-CAN-08

▬ : DATA LINE

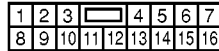


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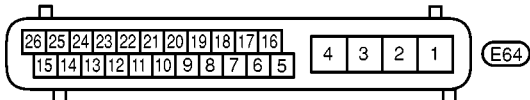
LAN



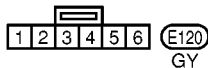
M10
W



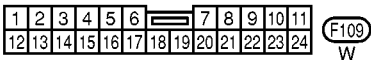
M89
W



E64



E120
GY



F109
W

REFER TO THE FOLLOWING.
F102, F103 - ELECTRICAL UNITS

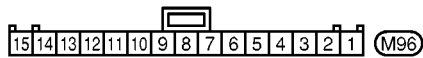
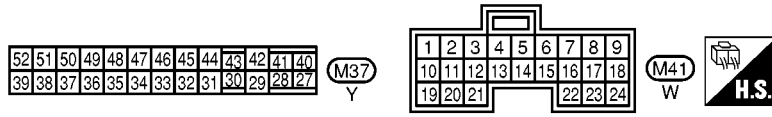
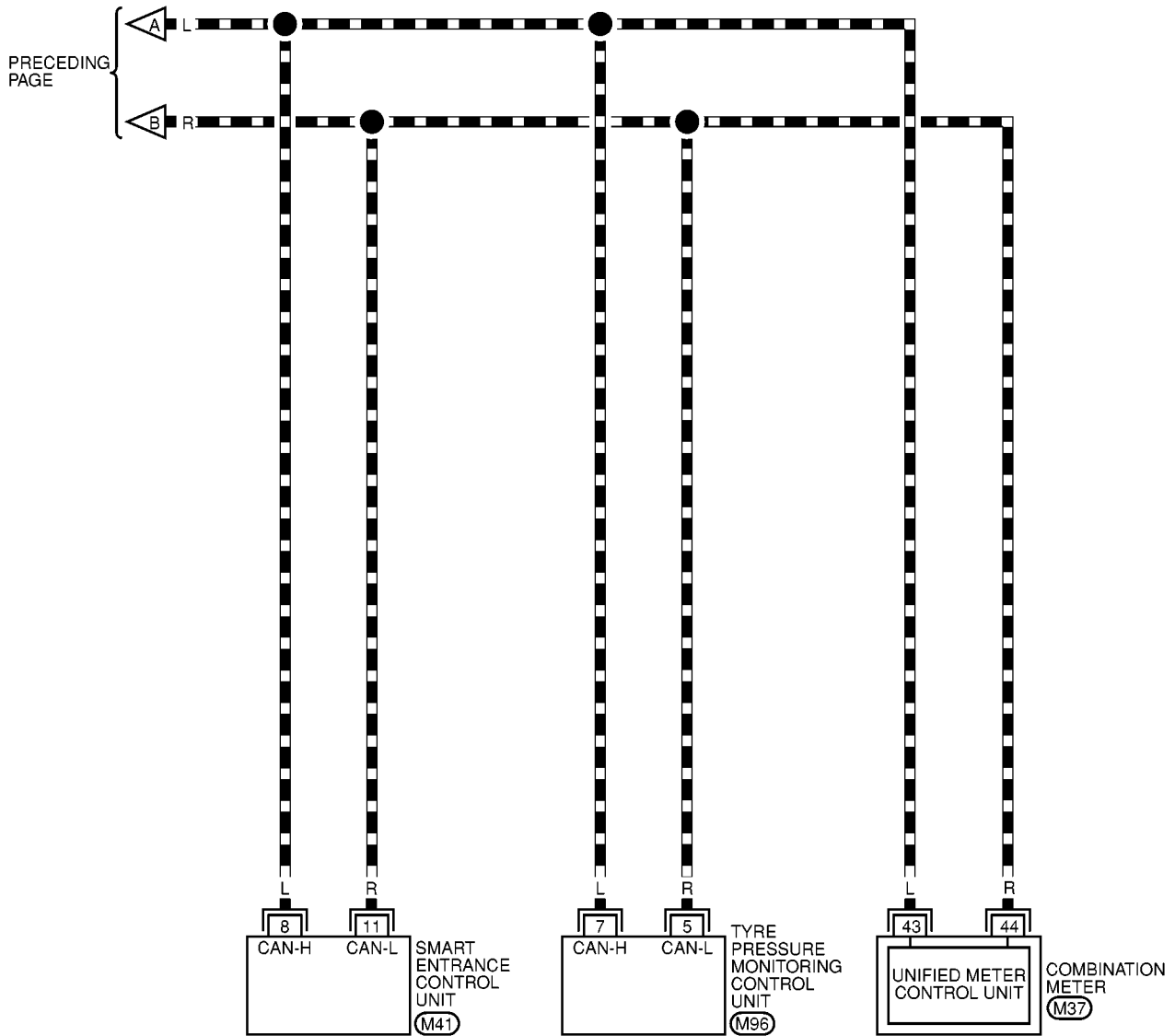
MKWA0228E

CAN SYSTEM (TYPE 4)

[CAN]

LAN-CAN-09

▬ : DATA LINE



MKWA0229E

Work Flow

EKS004XB

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "A/T", "ABS", "SMART ENTRANCE", and "AIR PRESSURE MONITOR" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [AT-190, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [AT-393, "CAN COMMUNICATION LINE"](#) (ALL) for "A/T". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR".
2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-106, "CHECK SHEET"](#)
3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-106, "CHECK SHEET"](#)

NOTE:

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

4. According to the check sheet results (example), start inspection. Refer to [LAN-107, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

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CAN SYSTEM (TYPE 4)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
A/T
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
AIR PRESSURE MONITOR
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
A/T
DATA MONITOR

Attach copy of
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Attach copy of
SMART ENTRANCE
DATA MONITOR

Attach copy of
AIR PRESSURE MONITOR
DATA MONITOR

PKIA0716E

CAN SYSTEM (TYPE 4)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN COMM ✓	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC ✓	—	CAN CIRC ✓	—	CAN CIRC ✓
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 2: Replace TCM

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC ✓	—	CAN CIRC 6	—	CAN CIRC 4
A/T	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC ✓	—	—	—	—	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

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CAN SYSTEM (TYPE 4)

[CAN]

Case 3: Replace ABS actuator and electric unit (control unit)

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	✓ CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	✓ CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 4: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	✓ CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	✓ CAN CIRC 2	—	—	—	—	✓ CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

PKIA0718E

CAN SYSTEM (TYPE 4)

[CAN]

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Case 5: Replace Tyre pressure monitoring control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 6

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC	—	CAN CIRC
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC
ABS	CAN COMM	CAN CIRC 1	CAN CIRC	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC	—	CAN CIRC
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

PKIA0719E

LAN

CAN SYSTEM (TYPE 4)

[CAN]

Case 9

ENGINE	CAN COMM	CAN CIRC ✓	—	CAN CIRC ✓	—	CAN CIRC ✓	—	CAN CIRC ✓
A/T	CAN COMM	CAN CIRC 1	CAN CIRC ✓	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC ✓	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC ✓	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 10

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC ✓	—	CAN CIRC 6	—	CAN CIRC 4
A/T	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	—	—	—	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 11

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 12

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC ✓	—	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	—	—	—	CAN CIRC ✓
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

PKIA0720E

CAN SYSTEM (TYPE 4)

[CAN]

Case 13

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC ✓	—	—	—	—	—	CAN CIRC ✓

Case 14

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	—	CAN CIRC ✓
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC ✓
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC ✓

Case 15

ENGINE	CAN COMM	CAN CIRC ✓	—	CAN CIRC ✓	—	CAN CIRC ✓	—	CAN CIRC ✓
A/T	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	—	—	—	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	—	—	—	CAN CIRC ✓
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC ✓	—	—	—	—	—	CAN CIRC ✓

PKIA0721E

NOTE:

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

INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace TCM.

Case 3: Replace ABS actuator and electric unit (control unit).

Case 4: Replace Smart entrance control unit.

Case 5: Replace Tyre pressure monitoring control unit.

Case 6: Check Harness between TCM and Data link connector. Refer to [LAN-112, "Circuit Check Between TCM and Data Link Connector"](#)

Case 7: Check Harness between Data link connector and Smart entrance control unit. Refer to [LAN-113, "Circuit Check Between Data Link Connector and Smart Entrance Control Unit"](#)

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Case 8: Check Harness between Smart entrance control unit and Tyre pressure monitoring control unit. Refer to [LAN-113, "Circuit Check Between Smart Entrance Control Unit and Tyre Pressure Monitoring Control Unit"](#)

Case 9: Check ECM Circuit. Refer to [LAN-114, "ECM Circuit Check"](#)

Case 10: Check TCM Circuit. Refer to [LAN-115, "TCM Circuit Check"](#)

Case 11: Check ABS actuator and electric unit (control unit) Circuit. Refer to [LAN-115, "ABS Actuator and Electric Unit \(control unit\) Circuit Check"](#)

Case 12: Check Smart entrance control unit Circuit. Refer to [LAN-116, "Smart Entrance Control Unit Circuit Check"](#)

Case 13: Check Tyre pressure monitoring control unit Circuit. Refer to [LAN-116, "Tyre Pressure Monitoring Control Unit Circuit Check"](#)

Case 14: Check Combination meter Circuit. Refer to [LAN-117, "Combination Meter Circuit Check"](#)

Case 15: Check CAN communication Circuit. Refer to [LAN-117, "CAN Communication Circuit Check"](#)

Circuit Check Between TCM and Data Link Connector

EKS004XC

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side, control unit-side and harness-side)
 - TCM.
 - ABS actuator and electric unit (control unit).
 - Between TCM and ABS actuator and electric unit (control unit).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector and harness connector F109.
2. Check continuity between TCM harness connector F103 terminals 5 (L), 6 (R) and harness connector F109 terminals 14 (L), 15 (R).

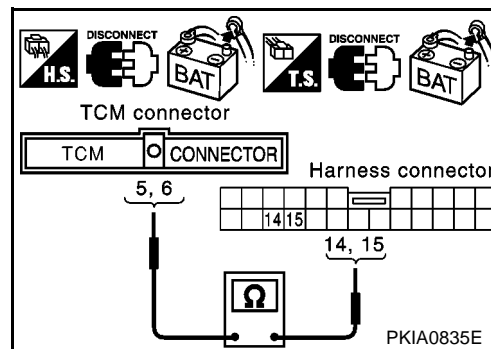
5(L) – 14(L) : Continuity should exist.

6(R) – 15(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

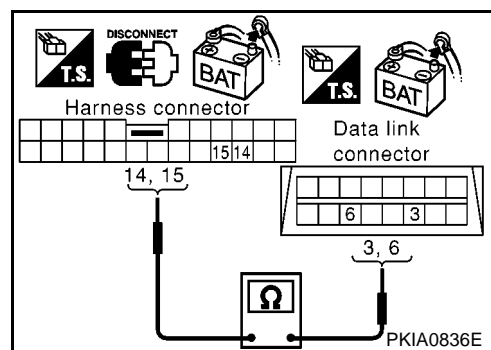
Check continuity between harness connector M77 terminals 14 (L), 15 (R) and Data link connector M10 terminals 6 (L), 3 (R).

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

15(R) – 3(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "A/T", "ABS", "SMART ENTRANCE", and "AIR PRESSURE MONITOR" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE" \(WITH EURO-OBD\)](#) or [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE" \(WITHOUT EURO-OBD\)](#) for "ENGINE" and Refer to [AT-190, "DTC U1000 CAN COMMUNICATION LINE" \(EURO-OBD\)](#) or [AT-393, "CAN COMMUNICATION](#)



LINE (ALL) for "A/T". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR".

NG >> Repair harness.

Circuit Check Between Data Link Connector and Smart Entrance Control Unit

EKS004XD

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - Smart entrance control unit.
 - ABS actuator and electric unit (control unit).
 - Between smart entrance control unit and ABS actuator and electric unit (control unit).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and Data link connector M10 terminals 6 (L), 3 (R).

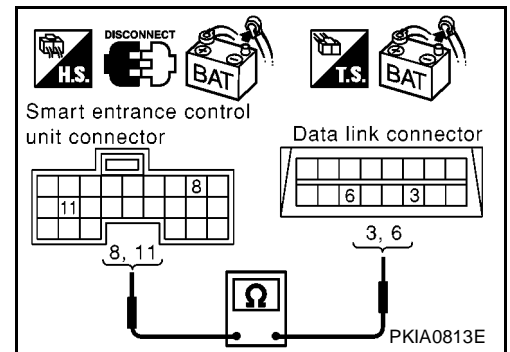
8(L) – 6(L) : Continuity should exist.

11(R) – 3(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "A/T", "ABS", "SMART ENTRANCE", and "AIR PRESSURE MONITOR" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [AT-190, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [AT-393, "CAN COMMUNICATION LINE"](#) (ALL) for "A/T". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR".

NG >> Repair harness.



Circuit Check Between Smart Entrance Control Unit and Tyre Pressure Monitoring Control Unit

EKS004XE

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - Smart entrance control unit.
 - Tyre pressure monitoring control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector and tyre pressure monitoring control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and tyre pressure monitoring control unit harness connector M96 terminals 7 (L), 5 (R).

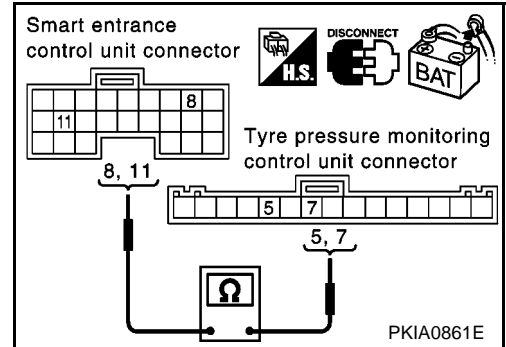
8(L) – 7(L) : Continuity should exist.

11(R) – 5(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "A/T", "ABS", "SMART ENTRANCE", and "AIR PRESSURE MONITOR" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [AT-190, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [AT-393, "CAN COMMUNICATION LINE"](#) (ALL) for "A/T". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR".

NG >> Repair harness.



ECM Circuit Check

EKS004XF

1. CHECK CONNECTOR

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

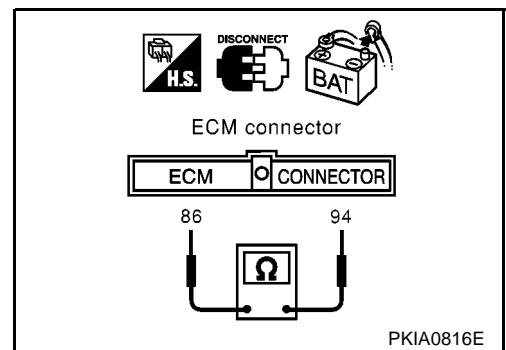
1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F102 terminals 94(L) and 86(R).

94(L) – 86(R) : Approx. 108 – 132Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between TCM and ECM.



TCM Circuit Check**1. CHECK CONNECTOR**

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

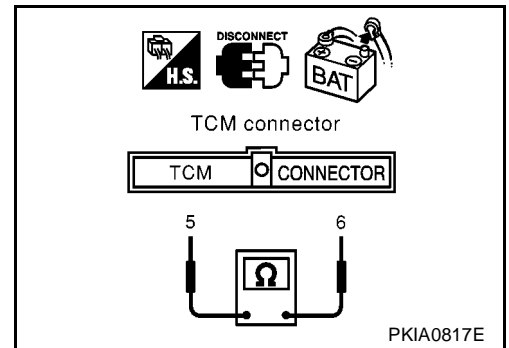
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector.
2. Check resistance between TCM harness connector F103 terminals 5(L) and 6(R).

5(L) – 6(R) : Approx. 54 – 66Ω

OK or NG

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

**ABS Actuator and Electric Unit (control unit) Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - ABS actuator and electric unit (control unit).
 - Harness connector E120.
 - Harness connector B107.
 - Harness connector B102.
 - Harness connector M89.

OK or NG

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

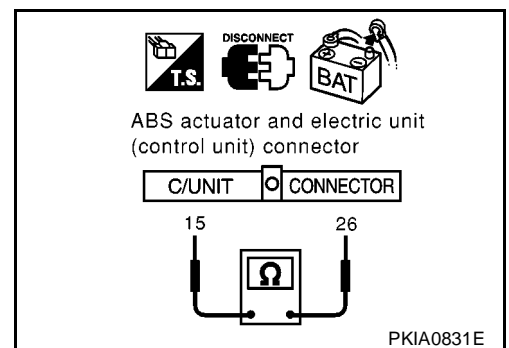
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E64 terminals 26(L) and 15(R).

26(L) – 15(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
 NG >> Repair harness between Data link connector and ABS actuator and electric unit (control unit).



Smart Entrance Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

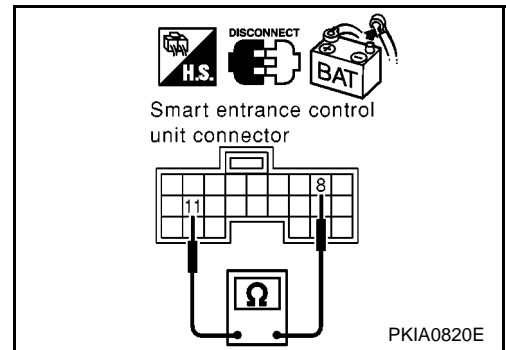
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
NG >> Repair harness between Data link connector and smart entrance control unit.



Tyre Pressure Monitoring Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of tyre pressure monitoring control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

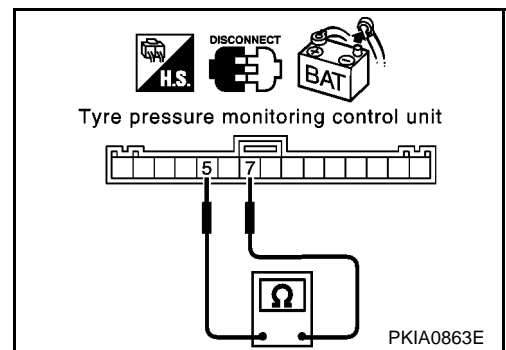
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect tyre pressure monitoring control unit connector.
2. Check resistance between tyre pressure monitoring control unit harness connector M96 terminals 7(L) and 5(R).

7(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace tyre pressure monitoring control unit.
NG >> Repair harness between smart entrance control unit and tyre pressure monitoring control unit.



Combination Meter Circuit Check**1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

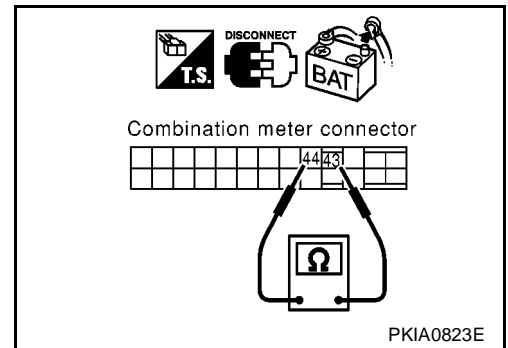
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 43(L) and 44(R).

43(L) – 44(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
 NG >> Repair harness between tyre pressure monitoring control unit and combination meter.

**CAN Communication Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, control unit-side, control module-side and harness-side)
 - Combination meter.
 - Tyre pressure monitoring control unit.
 - Smart entrance control unit.
 - ABS actuator and electric unit (control unit).
 - TCM.
 - ECM.
 - Between ABS actuator and electric unit (control unit) and ECM.

OK or NG

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

2. CHECK HARNESS FOR SHORT CIRCUIT

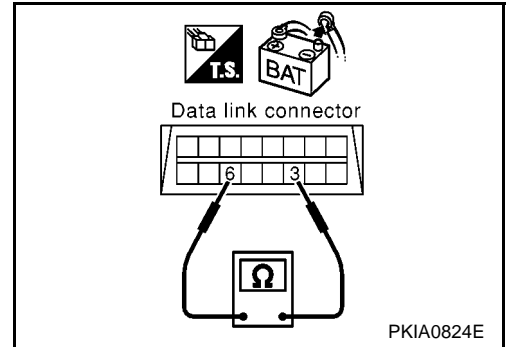
1. Disconnect the following connectors.
 - Combination meter connector.
 - Tyre pressure monitoring control unit connector.
 - Smart entrance control unit connector.
 - Harness connector M89.
 - Harness connector M77.
2. Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

- NG >>
- Repair harness between tyre pressure monitoring control unit and combination meter.
 - Repair harness between smart entrance control unit and tyre pressure monitoring control unit.
 - Repair harness between Data link connector and smart entrance control unit.
 - Repair harness between harness connector M89 and harness connector M77.



3. CHECK HARNESS FOR SHORT CIRCUIT

- Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

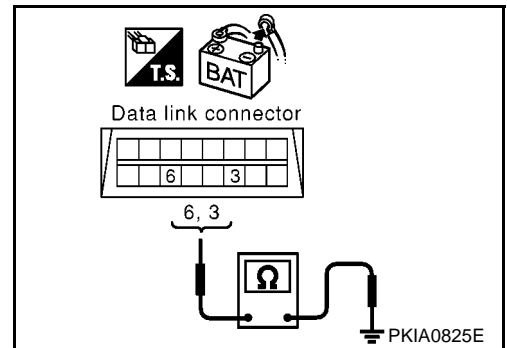
6(L) – ground : Continuity should not exist.

3(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

- NG >>
- Repair harness between tyre pressure monitoring control unit and combination meter.
 - Repair harness between smart entrance control unit and tyre pressure monitoring control unit.
 - Repair harness between Data link connector and smart entrance control unit.
 - Repair harness between harness connector M89 and harness connector M77.



4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect harness connector B107.
2. Check the following.
 - Continuity between harness connector B102 terminals 1 (L) and 8(G).(Sedan models)
 - Continuity between harness connector B102 terminals 1 (L) and 8(R).(Wagon models)

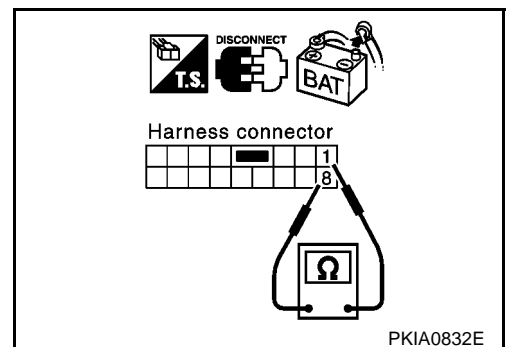
1(L) – 8(G) (Sedan models) : Continuity should not exist.

1(L) – 8(R) (Wagon models) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

- NG >> Repair harness between harness connector B102 and harness connector B107.



5. CHECK HARNESS FOR SHORT CIRCUIT

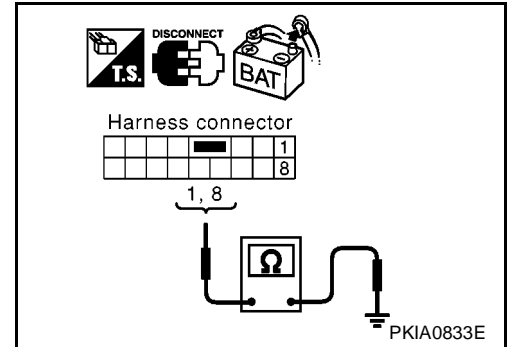
- Check the following.
 - Continuity between harness connector B102 terminals 1 (L), 8(G) and ground.(Sedan models)
 - Continuity between harness connector B102 terminals 1 (L), 8(R) and ground.(Wagon models)

1(L) – ground (Sedan models) : Continuity should not exist.

8(G) – ground (Sedan models) : Continuity should not exist.

1(L) – ground (Wagon models) : Continuity should not exist.

8(R) – ground (Wagon models) : Continuity should not exist.



OK or NG

OK >> GO TO 6.

NG >> Repair harness between harness connector B102 and harness connector B107.

6. CHECK HARNESS FOR SHORT CIRCUIT

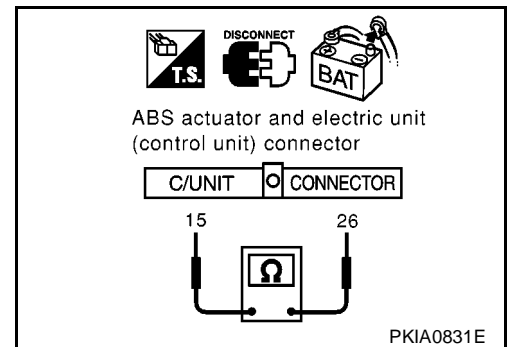
- Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L) and 15(R).

26(L) – 15(R) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L), 15 (R) and ground.

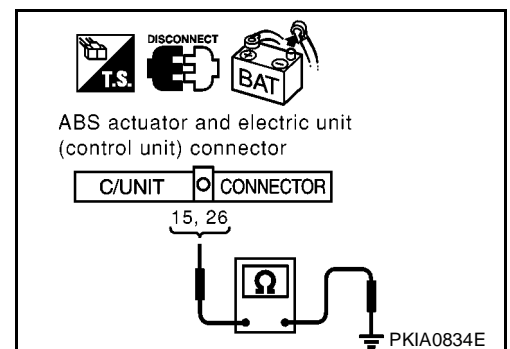
26(L) – ground : Continuity should not exist.

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

OK or NG

OK >> GO TO 8.

NG >> Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.



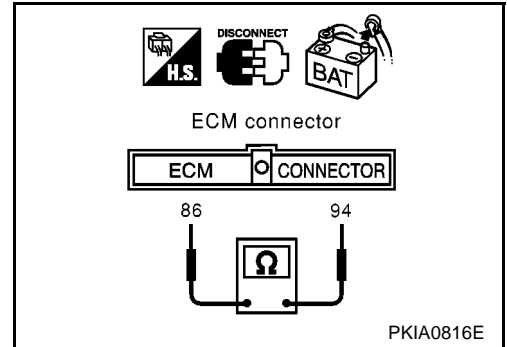
8. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ECM connector and TCM connector.
2. Check continuity between ECM harness connector F102 terminals 94 (L) and 86(R).

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

OK or NG

- OK >> GO TO 9.
- NG >> ● Repair harness between ECM and harness connector F109.
- Repair harness between TCM and harness connector F109.



9. CHECK HARNESS FOR SHORT CIRCUIT

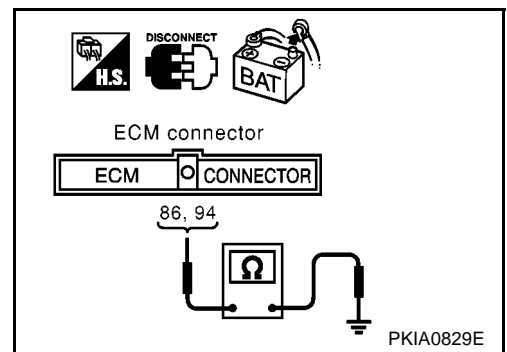
Check continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.

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

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

OK or NG

- OK >> GO TO 10.
- NG >> ● Repair harness between ECM and harness connector F109.
- Repair harness between TCM and harness connector F109.



10. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-120, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

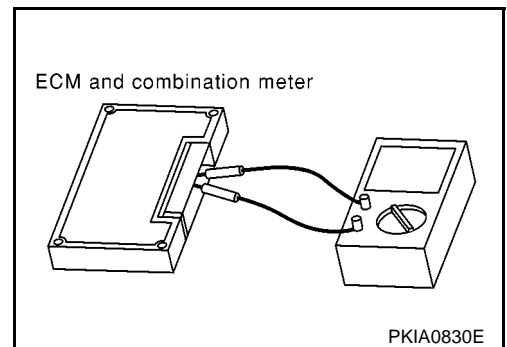
- OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "A/T", "ABS", "SMART ENTRANCE", and "AIR PRESSURE MONITOR" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [AT-190, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [AT-393, "CAN COMMUNICATION LINE"](#) (ALL) for "A/T". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR".
- NG >> Replace ECM and/or Combination meter.

Component Inspection ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

EKS004XM

- Remove ECM and Combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between Combination meter terminals 43 and 44.

Unit	Terminal	Resistance value (Ω)
ECM	94 – 86	Approx. 108 - 132
Combination meter	43 – 44	



CAN SYSTEM (TYPE 5)

PF2:23710

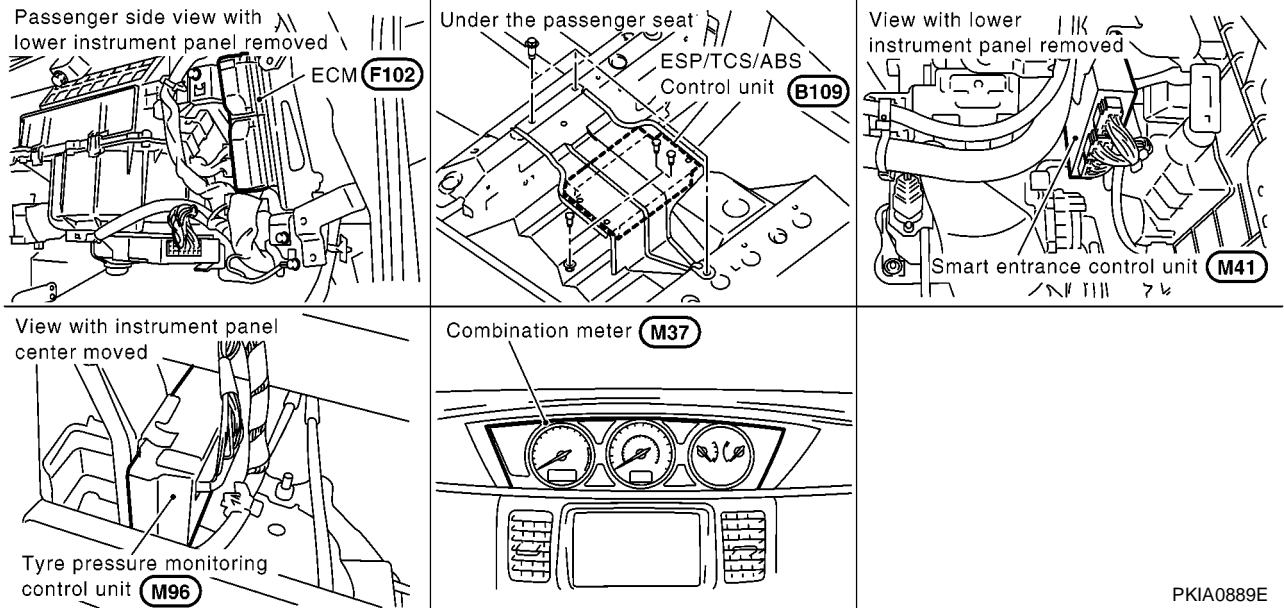
System Description

EKS004WU

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

EKS004WU



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LAN

CAN SYSTEM (TYPE 5)

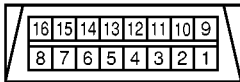
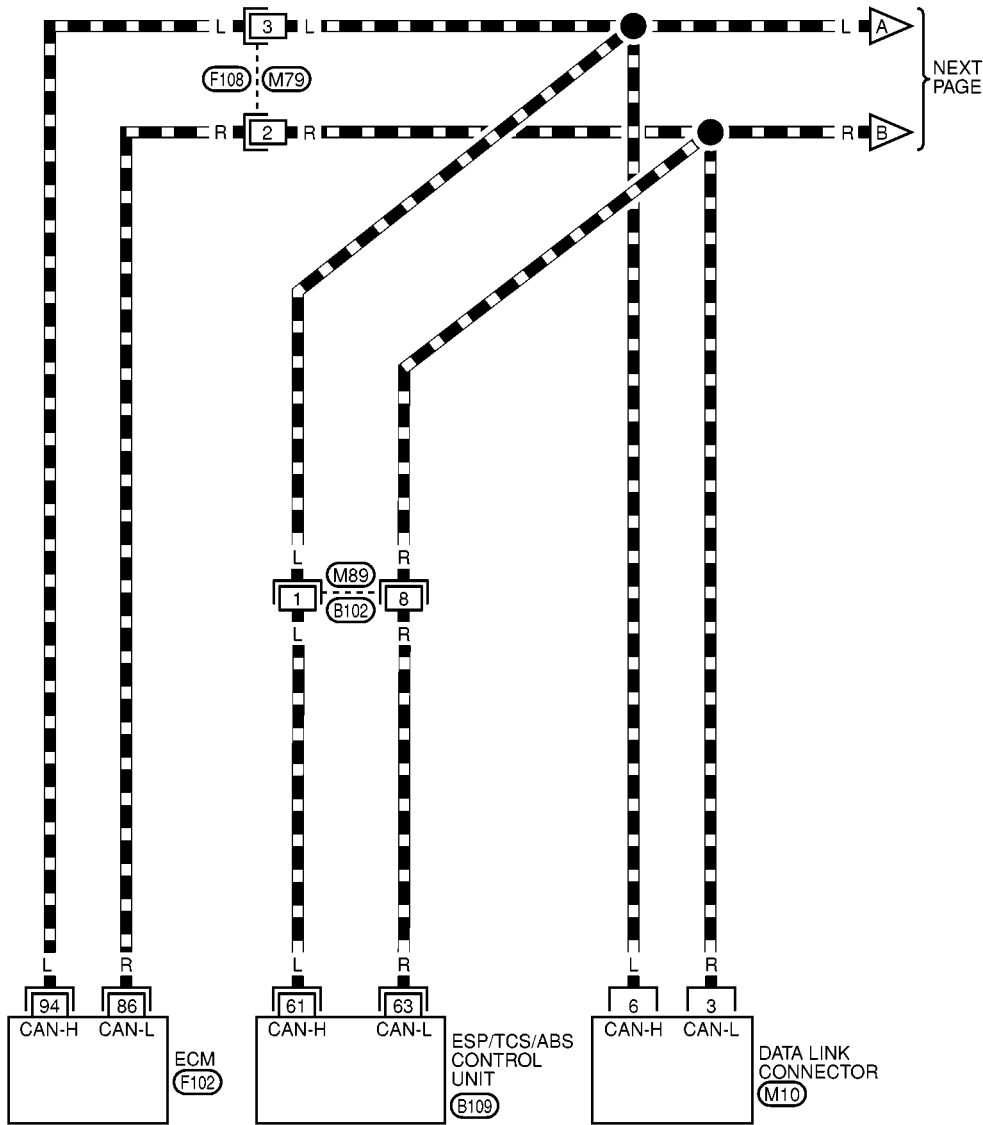
[CAN]

EKS004WW

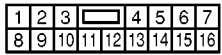
Wiring Diagram — CAN —

LAN-CAN-10

▬ : DATA LINE

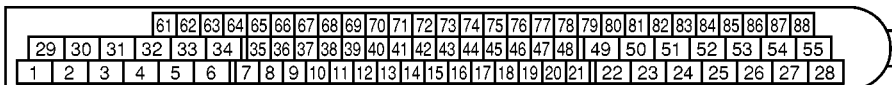


(M10)
W



(M89) (F108)
W W

REFER TO THE FOLLOWING.
(F102) -ELECTRICAL UNITS



(B109)
B

MKWA0233E

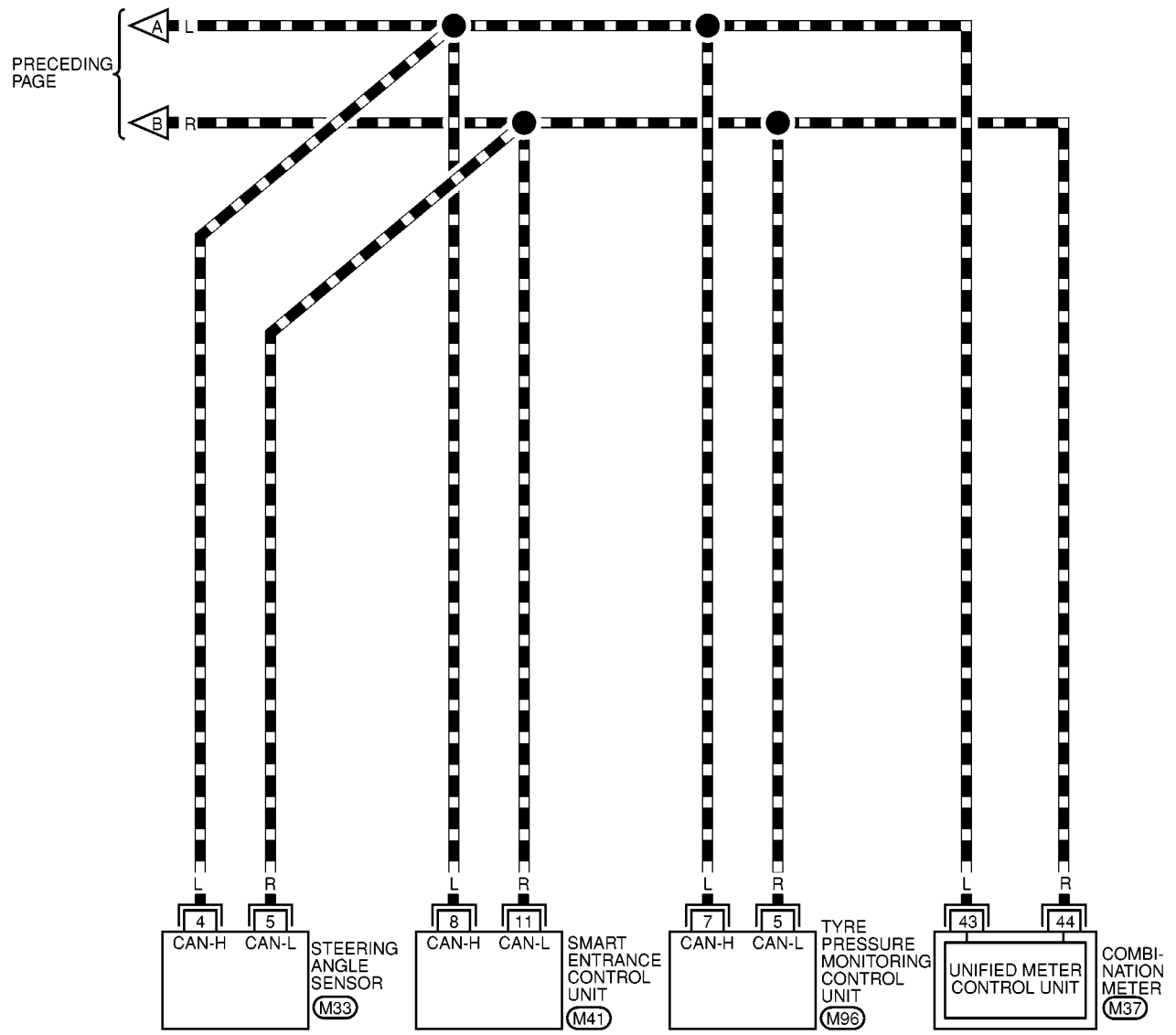
CAN SYSTEM (TYPE 5)

[CAN]

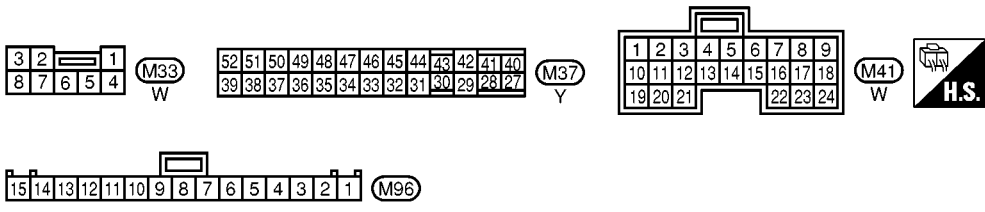
LAN-CAN-11

▬ : DATA LINE

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MKWA0234E

Work Flow

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", "SMART ENTRANCE", and "AIR PRESSURE MONITOR" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR".
2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-125, "CHECK SHEET"](#)
3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-125, "CHECK SHEET"](#)

NOTE:

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

4. According to the check sheet results (example), start inspection. Refer to [LAN-126, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

CAN SYSTEM (TYPE 5)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
AIR PRESSURE
MONITOR
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
ABS
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

Attach copy of
AIR PRESSURE
MONITOR
DATA MONITOR

PKIA0722E

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CAN SYSTEM (TYPE 5)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 2: Replace ESP/TCS/ABS control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

PKIA0723E

CAN SYSTEM (TYPE 5)

[CAN]

Case 3: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	<input checked="" type="checkbox"/> CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	<input checked="" type="checkbox"/> CAN CIRC 2	—	—	—	—	<input checked="" type="checkbox"/> CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 4: Replace Tyre pressure monitoring control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	<input checked="" type="checkbox"/> CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 5

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	<input checked="" type="checkbox"/> CAN CIRC 6	—	<input checked="" type="checkbox"/> CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	<input checked="" type="checkbox"/> CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	<input checked="" type="checkbox"/> CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 6

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	—	<input checked="" type="checkbox"/> CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	<input checked="" type="checkbox"/> CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

PKIA0724E

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CAN SYSTEM (TYPE 5)

[CAN]

Case 7

ENGINE	CAN COMM	CAN CIRC ✓	—	CAN CIRC ✓	—	CAN CIRC ✓	—	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC ✓	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC ✓	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC ✓	—	CAN CIRC 6	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	CAN CIRC ✓	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 9

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC ✓	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 10

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC ✓	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	—	—	—	CAN CIRC ✓
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2

Case 11

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC ✓	—	—	—	—	—	CAN CIRC ✓

PKIA0725E

CAN SYSTEM (TYPE 5)

[CAN]

Case 12

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	—	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC ✓
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC ✓

Case 13

ENGINE	CAN COMM	CAN CIRC ✓	—	CAN CIRC ✓	—	CAN CIRC ✓	—	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	CAN CIRC ✓	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	—	—	—	CAN CIRC ✓
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC ✓	—	—	—	—	—	CAN CIRC ✓

PKIA0726E

NOTE:

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

INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace ESP/TCS/ABS control unit.

Case 3: Replace Smart entrance control unit.

Case 4: Replace Tyre pressure monitoring control unit.

Case 5: Check Harness between Data link connector and Smart entrance control unit. Refer to [LAN-130, "Circuit Check Between Data Link Connector and Smart Entrance Control Unit"](#)

Case 6: Check Harness between Smart entrance control unit and Tyre pressure monitoring control unit. Refer to [LAN-130, "Circuit Check Between Smart Entrance Control Unit and Tyre Pressure Monitoring Control Unit"](#)

Case 7: Check ECM Circuit. Refer to [LAN-131, "ECM Circuit Check"](#)

Case 8: Check ESP/TCS/ABS control unit Circuit. Refer to [LAN-132, "ESP/TCS/ABS Control Unit Circuit Check"](#)

Case 9: Check Steering angle sensor Circuit. Refer to [LAN-132, "Steering Angle Sensor Circuit Check"](#)

Case 10: Check Smart entrance control unit Circuit. Refer to [LAN-133, "Smart Entrance Control Unit Circuit Check"](#)

Case 11: Check Tyre pressure monitoring control unit Circuit. Refer to [LAN-133, "Tyre Pressure Monitoring Control Unit Circuit Check"](#)

Case 12: Check Combination meter Circuit. Refer to [LAN-134, "Combination Meter Circuit Check"](#)

Case 13: Check CAN communication Circuit. Refer to [LAN-134, "CAN Communication Circuit Check"](#)

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Circuit Check Between Data Link Connector and Smart Entrance Control Unit

EKS004WY

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side, sensor-side and harness-side)
 - Smart entrance control unit.
 - Steering angle sensor.
 - ESP/TCS/ABS control unit.
 - Between smart entrance control unit and ESP/TCS/ABS control unit.

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and Data link connector M10 terminals 6 (L), 3 (R).

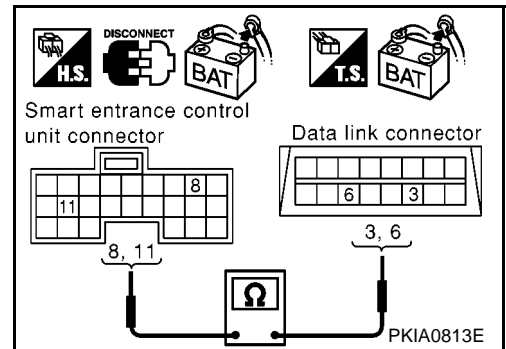
8(L) – 6(L) : Continuity should exist.

11(R) – 3(R) : Continuity should exist.

OK or NG

- OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", "SMART ENTRANCE", and "AIR PRESSURE MONITOR" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE" \(WITH EURO-OBD\)](#) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE" \(WITHOUT EURO-OBD\)](#) for "ENGINE" and Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR".

- NG >> Repair harness.



Circuit Check Between Smart Entrance Control Unit and Tyre Pressure Monitoring Control Unit

EKS004WZ

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side, sensor-side and harness-side)
 - Smart entrance control unit.
 - Tyre pressure monitoring control unit.
 - Steering angle sensor.

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector and tyre pressure monitoring control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and tyre pressure monitoring control unit harness connector M96 terminals 7 (L), 5 (R).

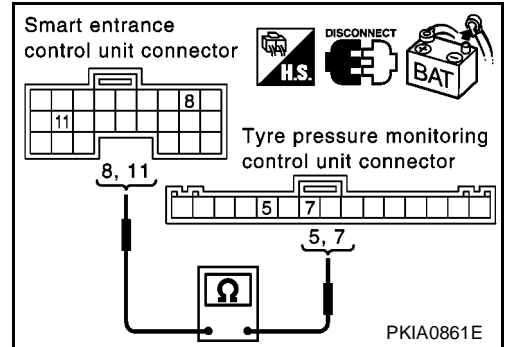
8(L) – 7(L) : Continuity should exist.

11(R) – 5(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", "SMART ENTRANCE", and "AIR PRESSURE MONITOR" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR".

NG >> Repair harness.



ECM Circuit Check

EKS004X0

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side and harness-side)
 - ECM.
 - Harness connector F108.
 - Harness connector M79.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

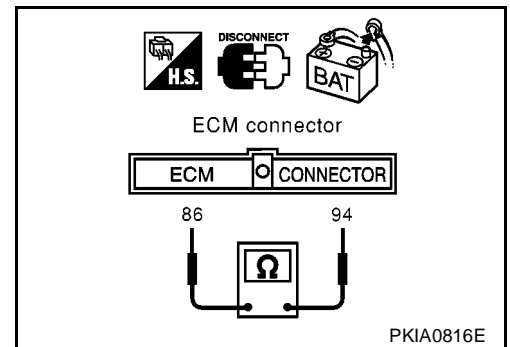
1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F102 terminals 94(L) and 86(R).

94(L) – 86(R) : Approx. 108 – 132Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between Data link connector and ECM.



ESP/TCS/ABS Control Unit Circuit Check

EKS004X1

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - ESP/TCS/ABS control unit.
 - Harness connector B102.
 - Harness connector M89.

OK or NG

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

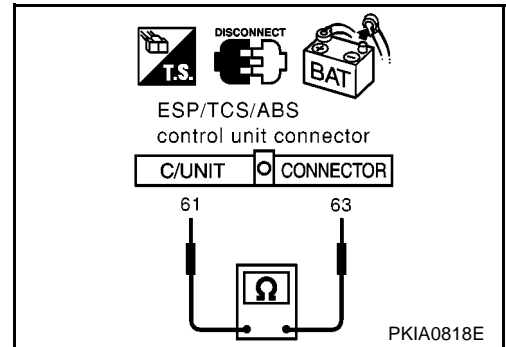
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector.
2. Check resistance between ESP/TCS/ABS control unit harness connector B109 terminals 61(L) and 63(R).

61(L) – 63(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ESP/TCS/ABS control unit.
 NG >> Repair harness between Data link connector and ESP/TCS/ABS control unit.

**Steering Angle Sensor Circuit Check**

EKS004X2

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of steering angle sensor for damage, bend and loose connection. (sensor-side and harness-side)

OK or NG

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

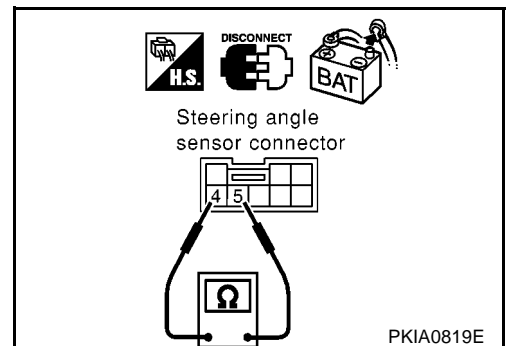
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect steering angle sensor connector.
2. Check resistance between steering angle sensor harness connector M33 terminals 4(L) and 5(R).

4(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace steering angle sensor.
 NG >> Repair harness between steering angle sensor and smart entrance control unit.



Smart Entrance Control Unit Circuit Check

EKS004X3

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

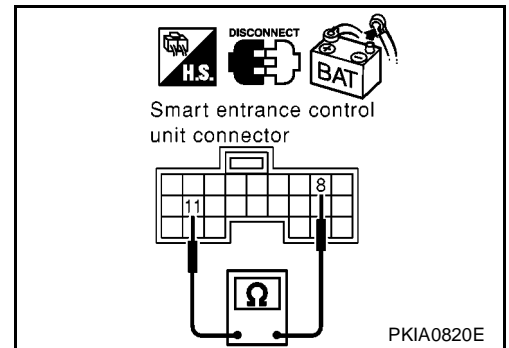
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
NG >> Repair harness between steering angle sensor and smart entrance control unit.



Tyre Pressure Monitoring Control Unit Circuit Check

EKS004X4

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of tyre pressure monitoring control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

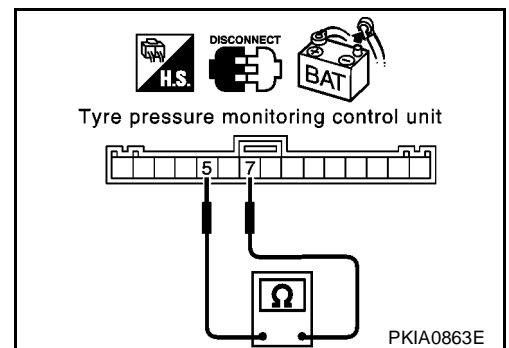
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect tyre pressure monitoring control unit connector.
2. Check resistance between tyre pressure monitoring control unit harness connector M96 terminals 7(L) and 5(R).

7(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace tyre pressure monitoring control unit.
NG >> Repair harness between smart entrance control unit and tyre pressure monitoring control unit.



Combination Meter Circuit Check

EKS004X5

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

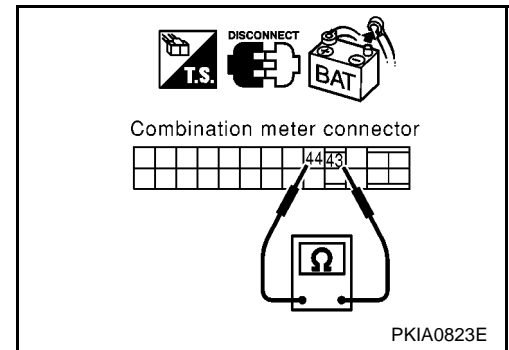
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 43(L) and 44(R).

43(L) – 44(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
 NG >> Repair harness between tyre pressure monitoring control unit and combination meter.

**CAN Communication Circuit Check**

EKS004X6

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, control unit-side, sensor-side, control module-side and harness-side)
 - Combination meter.
 - Tyre pressure monitoring control unit.
 - Smart entrance control unit.
 - Steering angle sensor.
 - ESP/TCS/ABS control unit.
 - ECM.
 - Between ESP/TCS/ABS control unit and ECM.

OK or NG

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

2. CHECK HARNESS FOR SHORT CIRCUIT

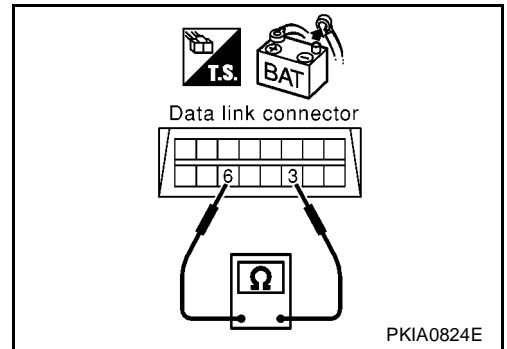
1. Disconnect the following connectors.
 - Combination meter connector.
 - Tyre pressure monitoring control unit connector.
 - Smart entrance control unit connector.
 - Steering angle sensor connector.
 - Harness connector M89.
 - Harness connector M79.
2. Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

- NG >>
- Repair harness between tyre pressure monitoring control unit and combination meter.
 - Repair harness between smart entrance control unit and tyre pressure monitoring control unit.
 - Repair harness between smart entrance control unit and steering angle sensor.
 - Repair harness between Data link connector and steering angle sensor.
 - Repair harness between harness connector M89 and harness connector M79.



3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

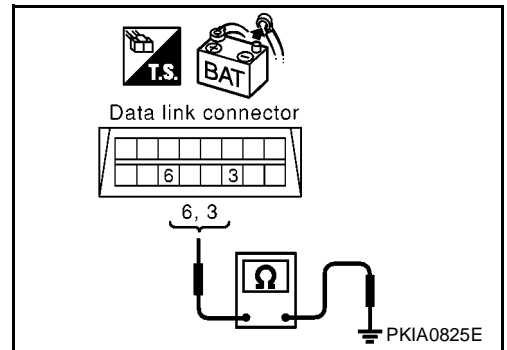
6(L) – ground : Continuity should not exist.

3(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

- NG >>
- Repair harness between tyre pressure monitoring control unit and combination meter.
 - Repair harness between smart entrance control unit and tyre pressure monitoring control unit.
 - Repair harness between smart entrance control unit and steering angle sensor.
 - Repair harness between Data link connector and steering angle sensor.
 - Repair harness between harness connector M89 and harness connector M79.



4. CHECK HARNESS FOR SHORT CIRCUIT

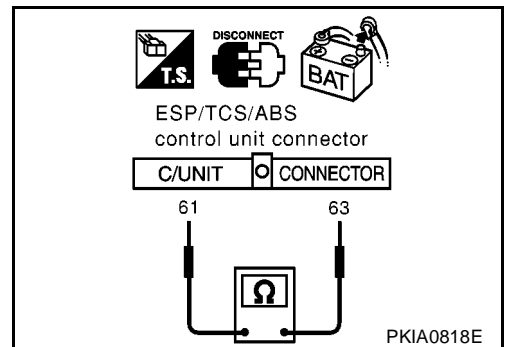
1. Disconnect ESP/TCS/ABS control unit connector.
2. Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L) and 63(R).

61(L) – 63(R) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

- NG >> Repair harness between ESP/TCS/ABS control unit and harness connector B102.



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L), 63 (R) and ground.

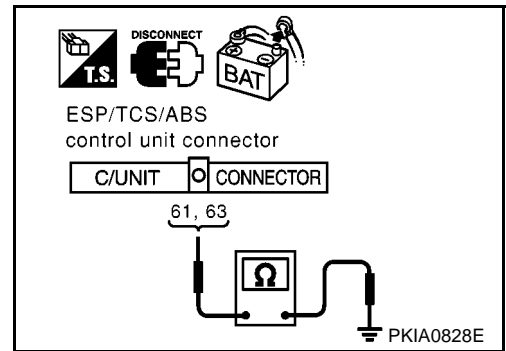
61(L) – ground : Continuity should not exist.

63(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between ESP/TCS/ABS control unit and harness connector B102.



6. CHECK HARNESS FOR SHORT CIRCUIT

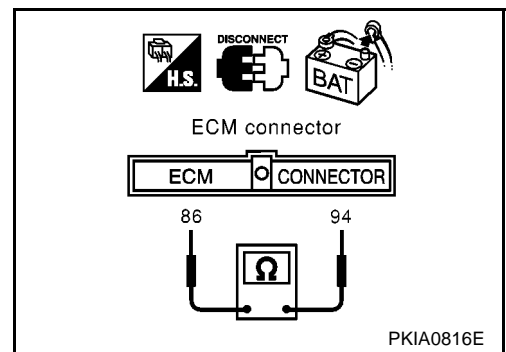
1. Disconnect ECM connector.
2. Check continuity between ECM harness connector F102 terminals 94 (L) and 86(R).

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

OK or NG

OK >> GO TO 7.

NG >> Repair harness between ECM and harness connector F108.



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.

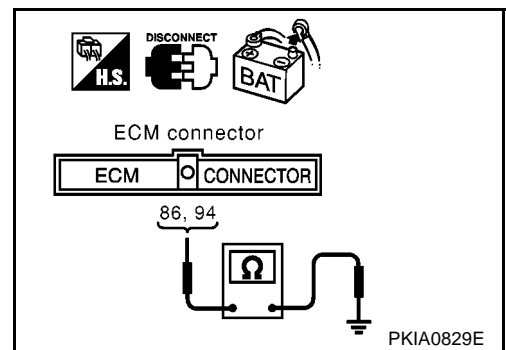
94(L) – ground : Continuity should not exist.

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

OK or NG

OK >> GO TO 8.

NG >> Repair harness between ECM and harness connector F108.



8. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-137, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", "SMART ENTRANCE", and "AIR PRESSURE MONITOR" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE" \(WITH EURO-OBD\)](#) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE" \(WITHOUT EURO-OBD\)](#) for "ENGINE" and Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR".

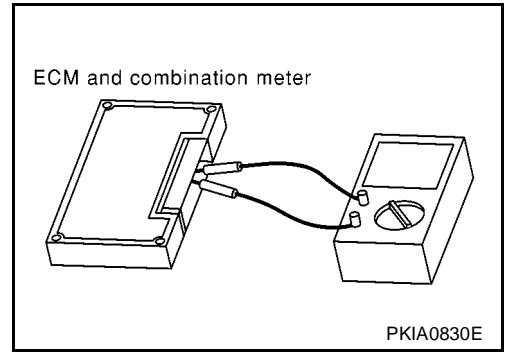
NG >> Replace ECM and/or Combination meter.

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 43 and 44.

Unit	Terminal	Resistance value (Ω)
ECM	94 - 86	Approx. 108 - 132
Combination meter	43 - 44	



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CAN SYSTEM (TYPE 6)

PFP:23710

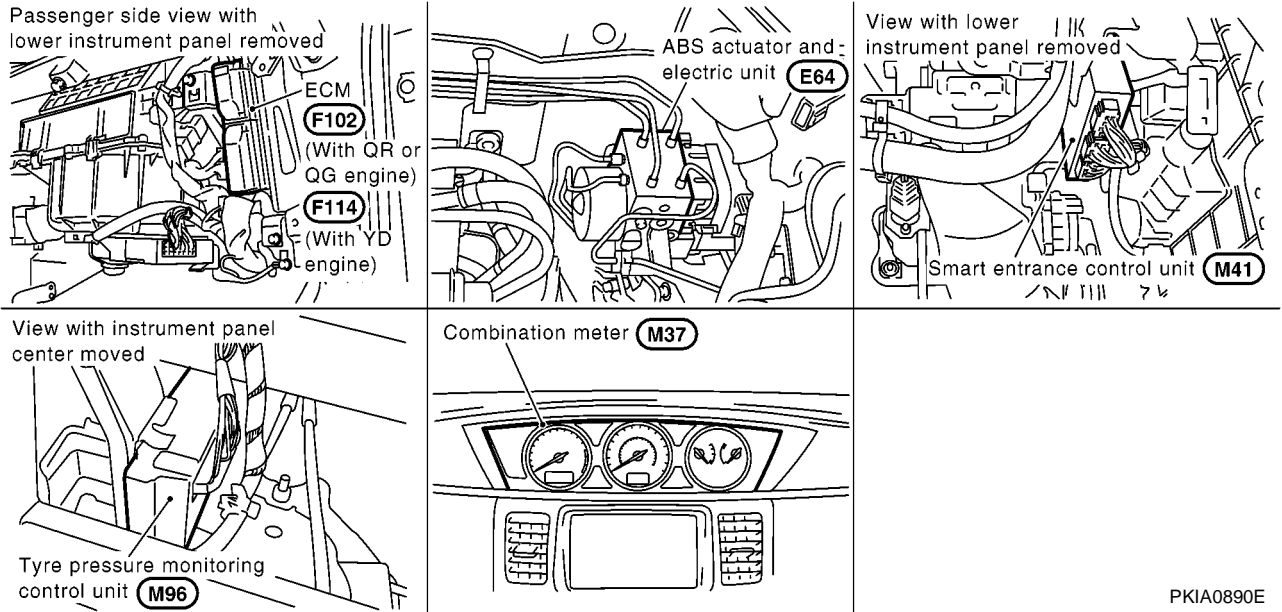
System Description

EKS004WH

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

EKS004WI



PKIA0890E

CAN SYSTEM (TYPE 6)

[CAN]

EKS004WJ

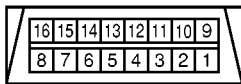
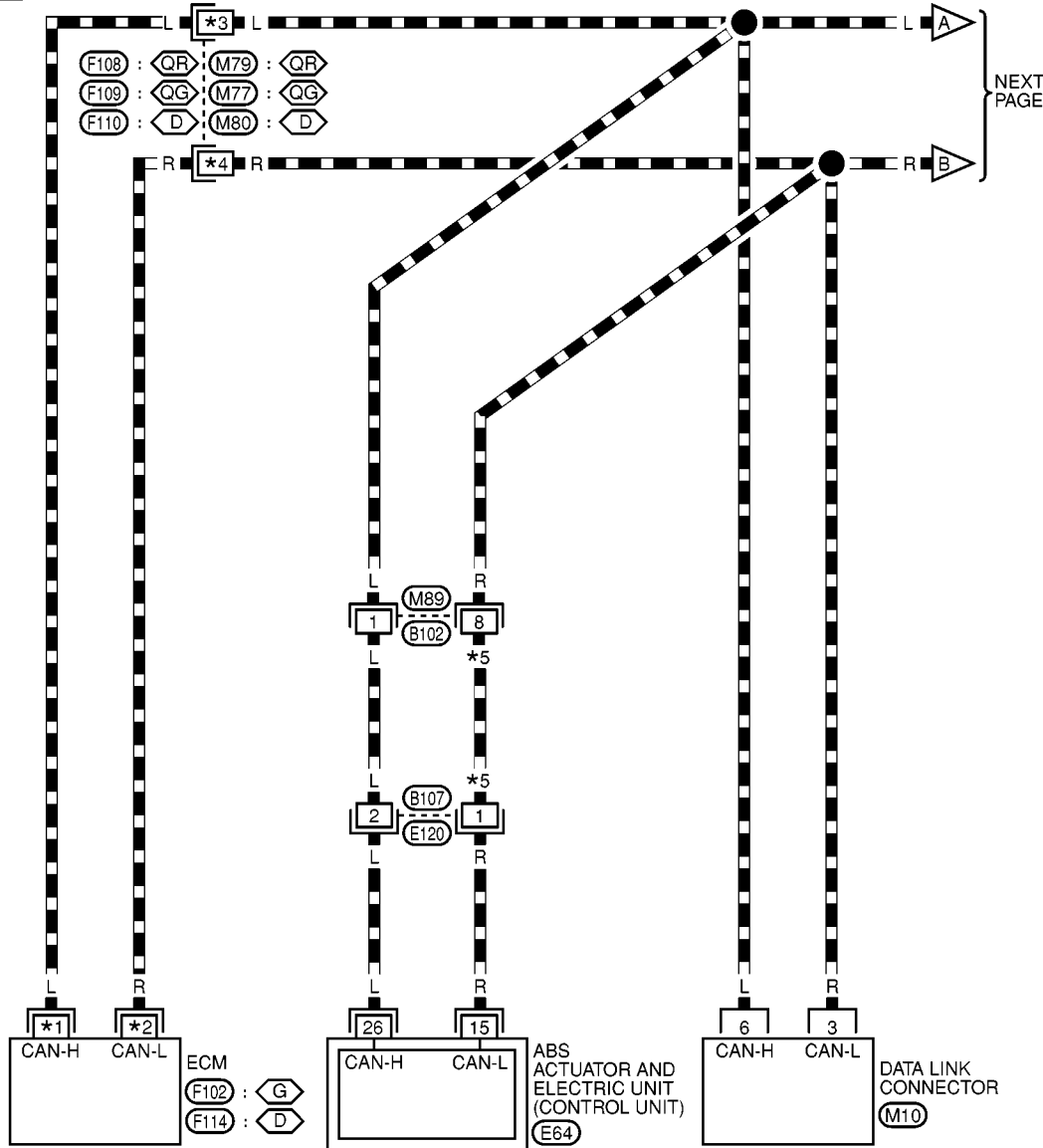
Wiring Diagram — CAN —

LAN-CAN-12

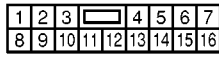
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- G : WITH GASOLINE ENGINE
- D : WITH DIESEL ENGINE
- QR : WITH QR ENGINE
- QG : WITH QG ENGINE
- S : SEDAN
- W : WAGON

- — — : DATA LINE
- *1 94 : G
 - E11 : D
 - *2 86 : G
 - E10 : D
 - *3 3 : QR
 - 14 : QG
 - 1 : D
 - *4 2 : QR
 - 15 : QG
 - 4 : D
 - *5 G : S
 - R : W



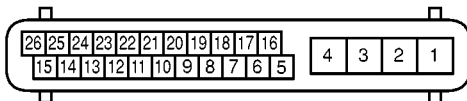
M10
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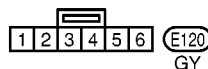
M89
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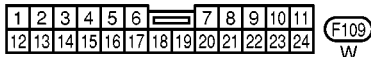
F108
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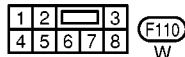
E64



E120
GY



F109
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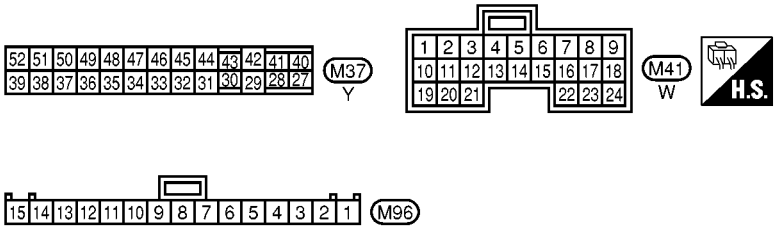
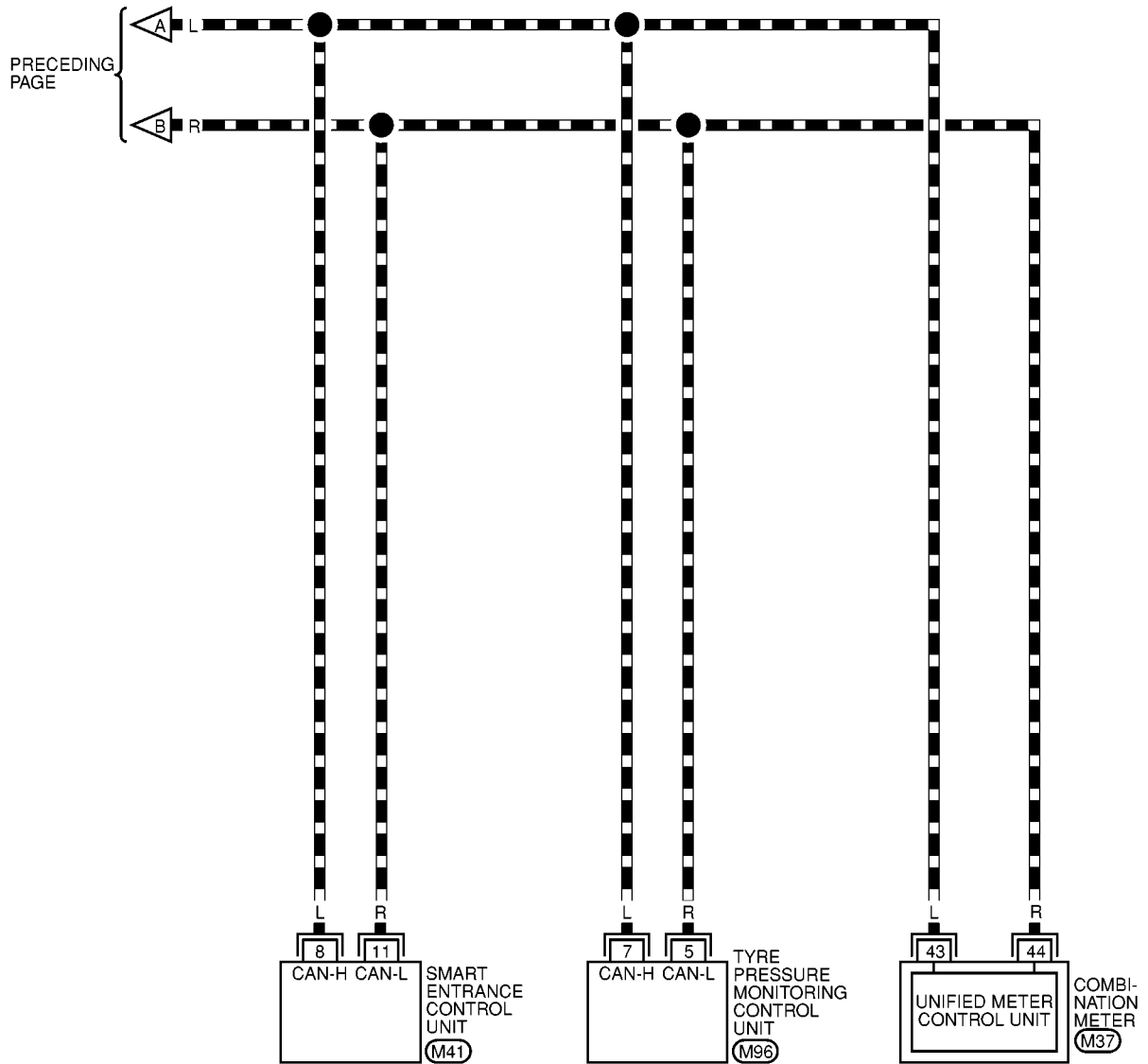
F110
W

REFER TO THE FOLLOWING.
F102 , F114 -ELECTRICAL UNITS

MKWA0235E

LAN-CAN-13

▬ : DATA LINE



Work Flow

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", "SMART ENTRANCE", and "AIR PRESSURE MONITOR" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITH EURO-OBD), [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITHOUT EURO-OBD), [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITH EURO-OBD), [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITHOUT EURO-OBD) or [EC-1790, "DTC U1000 CAN COMMUNICATION LINE"](#) (YD ENGINE MODELS) for "ENGINE" and Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR".
2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-142, "CHECK SHEET"](#)
3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-142, "CHECK SHEET"](#)

NOTE:

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

4. According to the check sheet results (example), start inspection. Refer to [LAN-143, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

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CAN SYSTEM (TYPE 6)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
AIR PRESSURE
MONITOR
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
ABS
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

Attach copy of
AIR PRESSURE
MONITOR
DATA MONITOR

PKIA0727E

CAN SYSTEM (TYPE 6)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN <input checked="" type="checkbox"/> CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2

Case 2: Replace ABS actuator and electric unit (control unit)

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2

Case 3: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	CAN <input checked="" type="checkbox"/> CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2

Case 4: Replace Tyre pressure monitoring control unit

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2

Case 5

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN <input checked="" type="checkbox"/> CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2

PKIA0728E

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LAN

CAN SYSTEM (TYPE 6)

[CAN]

Case 6

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2

Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2

Case 9

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2

Case 10

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2

Case 11

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2

Case 12

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2

PKIA0729E

NOTE:

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

INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace ABS actuator and electric unit (control unit).

Case 3: Replace Smart entrance control unit.

Case 4: Replace Tyre pressure monitoring control unit.

Case 5: Check Harness between Data link connector and Smart entrance control unit. Refer to [LAN-145, "Circuit Check Between Data Link Connector and Smart Entrance Control Unit"](#)

Case 6: Check Harness between Smart entrance control unit and Tyre pressure monitoring control unit. Refer to [LAN-146, "Circuit Check Between Smart Entrance Control Unit and Tyre Pressure Monitoring Control Unit"](#)

Case 7: Check ECM Circuit. Refer to [LAN-147, "ECM Circuit Check"](#)

Case 8: Check ABS actuator and electric unit (control unit) Circuit. Refer to [LAN-148, "ABS Actuator and Electric Unit \(control unit\) Circuit Check"](#)

Case 9: Check Smart entrance control unit Circuit. Refer to [LAN-148, "Smart Entrance Control Unit Circuit Check"](#)

Case 10: Check Tyre pressure monitoring control unit Circuit. Refer to [LAN-149, "Tyre Pressure Monitoring Control Unit Circuit Check"](#)

Case 11: Check Combination meter Circuit. Refer to [LAN-149, "Combination Meter Circuit Check"](#)

Case 12: Check CAN communication Circuit. Refer to [LAN-150, "CAN Communication Circuit Check"](#)

Circuit Check Between Data Link Connector and Smart Entrance Control Unit

EKS004WL

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - Smart entrance control unit.
 - ABS actuator and electric unit (control unit).
 - Between smart entrance control unit and ABS actuator and electric unit (control unit).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and Data link connector M10 terminals 6 (L), 3 (R).

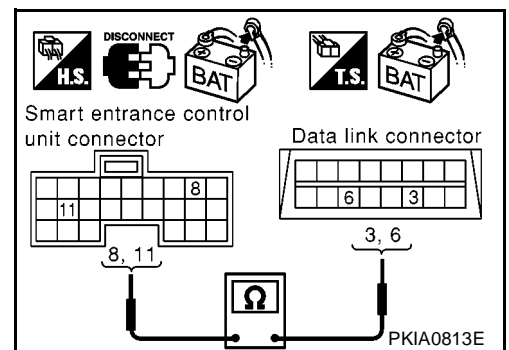
8(L) – 6(L) : Continuity should exist.

11(R) – 3(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", "SMART ENTRANCE", and "AIR PRESSURE MONITOR" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#)

(QG ENGINE MODELS WITH EURO-OBD), [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITHOUT EURO-OBD), [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITH EURO-OBD), [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITHOUT EURO-OBD) or [EC-1790, "DTC U1000 CAN COMMUNICATION LINE"](#) (YD ENGINE MODELS) for "ENGINE" and Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Commu-](#)



[nication Line Check](#)" for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR".

NG >> Repair harness.

Circuit Check Between Smart Entrance Control Unit and Tyre Pressure Monitoring Control Unit

EKS004WS

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - Smart entrance control unit.
 - Tyre pressure monitoring control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector and tyre pressure monitoring control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and tyre pressure monitoring control unit harness connector M96 terminals 7 (L), 5 (R).

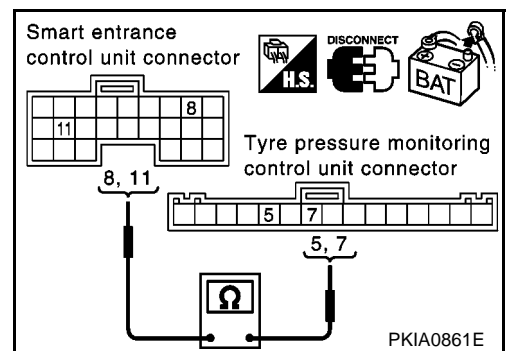
8(L) – 7(L) : Continuity should exist.

11(R) – 5(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", "SMART ENTRANCE", and "AIR PRESSURE MONITOR" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITH EURO-OBD), [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITHOUT EURO-OBD), [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITH EURO-OBD), [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITHOUT EURO-OBD) or [EC-1790, "DTC U1000 CAN COMMUNICATION LINE"](#) (YD ENGINE MODELS) for "ENGINE" and Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR".

NG >> Repair harness.



ECM Circuit Check**1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side and harness-side)
 - ECM.
 - Harness connector F108.(QR engine models)
 - Harness connector M79.(QR engine models)
 - Harness connector F109.(QG engine models)
 - Harness connector M77.(QG engine models)
 - Harness connector F110.(Diesel engine models)
 - Harness connector M80.(Diesel engine models)

OK or NG

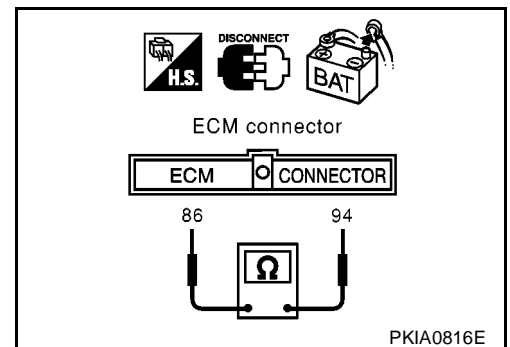
OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

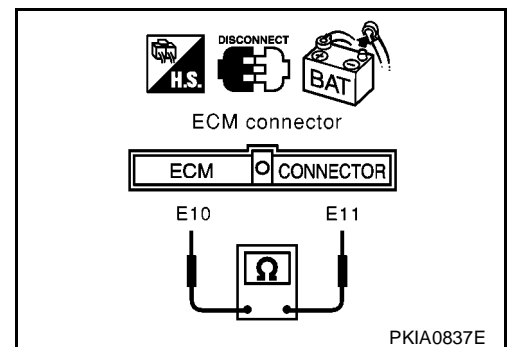
1. Disconnect ECM connector.
2. Check the following.
 - Resistance between ECM harness connector F102 terminals 94(L) and 86(R).(Gasoline engine models)

94(L) – 86(R) (Gasoline enging models) : Approx. 108 – 132Ω



- Resistance between ECM harness connector F114 terminals E11(L) and E10(R).(Diesel engine models)

E11(L) – E10(R) (Diesel enging models) : Approx. 108 – 132Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between Data link connector and ECM.

ABS Actuator and Electric Unit (control unit) Circuit Check

EKS004WN

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - ABS actuator and electric unit (control unit).
 - Harness connector E120.
 - Harness connector B107.
 - Harness connector B102.
 - Harness connector M89.

OK or NG

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

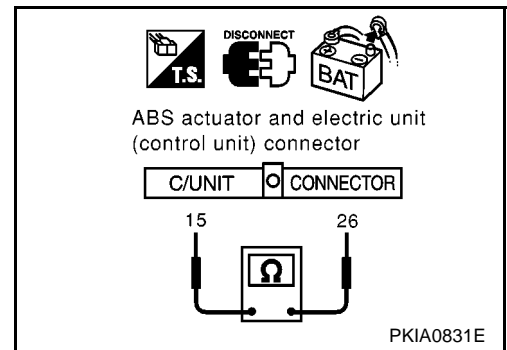
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E64 terminals 26(L) and 15(R).

26(L) – 15(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
 NG >> Repair harness between Data link connector and ABS actuator and electric unit (control unit).



Smart Entrance Control Unit Circuit Check

EKS004WO

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

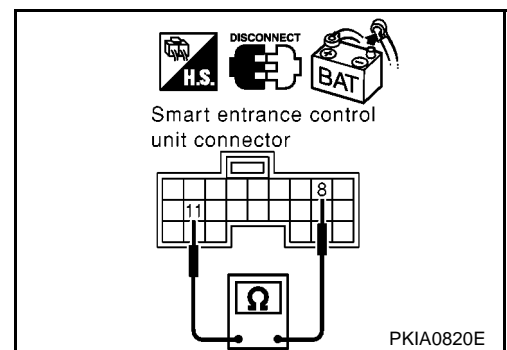
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
 NG >> Repair harness between Data link connector and smart entrance control unit.



Tyre Pressure Monitoring Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of tyre pressure monitoring control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

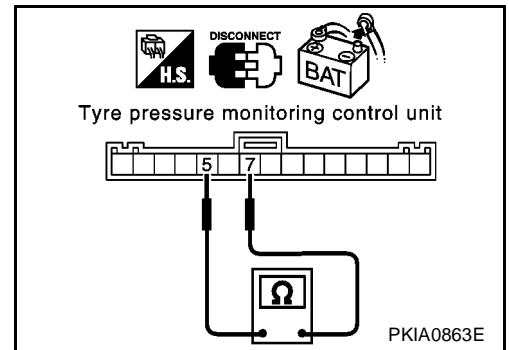
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect tyre pressure monitoring control unit connector.
2. Check resistance between tyre pressure monitoring control unit harness connector M96 terminals 7(L) and 5(R).

7(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace tyre pressure monitoring control unit.
 NG >> Repair harness between smart entrance control unit and tyre pressure monitoring control unit.



Combination Meter Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

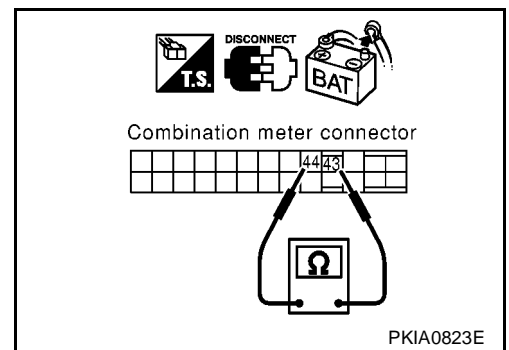
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 43(L) and 44(R).

43(L) – 44(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
 NG >> Repair harness between tyre pressure monitoring control unit and combination meter.



CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, control unit-side, control module-side and harness-side)
 - Combination meter.
 - Tyre pressure monitoring control unit.
 - Smart entrance control unit.
 - ABS actuator and electric unit (control unit).
 - ECM.
 - Between ABS actuator and electric unit (control unit) and ECM.

OK or NG

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

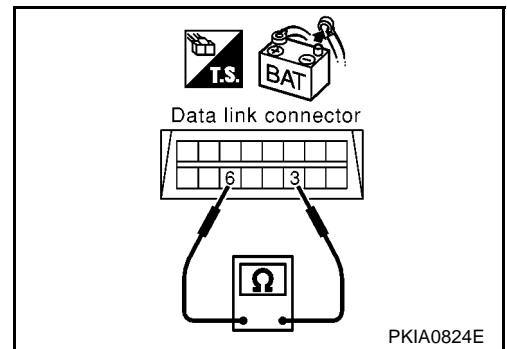
2. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect the following connectors.
 - Combination meter connector.
 - Tyre pressure monitoring control unit connector.
 - Smart entrance control unit connector.
 - Harness connector M89.
 - Harness connector M79.(QR engine models)
 - Harness connector M77.(QG engine models)
 - Harness connector M80.(Diesel engine models)
2. Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.

OK or NG

- OK >> GO TO 3.
 NG >>
 - Repair harness between tyre pressure monitoring control unit and combination meter.
 - Repair harness between smart entrance control unit and tyre pressure monitoring control unit.
 - Repair harness between Data link connector and smart entrance control unit.
 - Repair harness between harness connector M89 and harness connector M79.(QR engine models)
 - Repair harness between harness connector M89 and harness connector M77.(QG engine models)
 - Repair harness between harness connector M89 and harness connector M80.(Diesel engine models)



3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

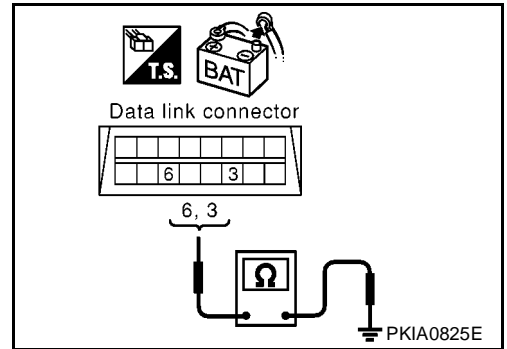
- 6(L) – ground : Continuity should not exist.**
- 3(R) – ground : Continuity should not exist.**

OK or NG

OK >> GO TO 4.

NG >> ● Repair harness between tyre pressure monitoring control unit and combination meter.

- Repair harness between smart entrance control unit and tyre pressure monitoring control unit.
- Repair harness between Data link connector and smart entrance control unit.
- Repair harness between harness connector M89 and harness connector M79.(QR engine models)
- Repair harness between harness connector M89 and harness connector M77.(QG engine models)
- Repair harness between harness connector M89 and harness connector M80.(Diesel engine models)



4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect harness connector B107.

2. Check the following.

- Continuity between harness connector B102 terminals 1 (L) and 8(G).(Sedan models)
- Continuity between harness connector B102 terminals 1 (L) and 8(R).(Wagon models)

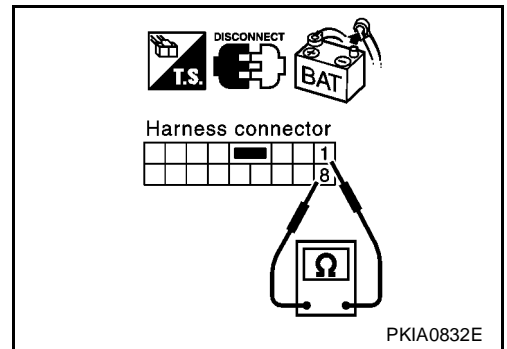
1(L) – 8(G) (Sedan models) : Continuity should not exist.

1(L) – 8(R) (Wagon models) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between harness connector B102 and harness connector B107.



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5. CHECK HARNESS FOR SHORT CIRCUIT

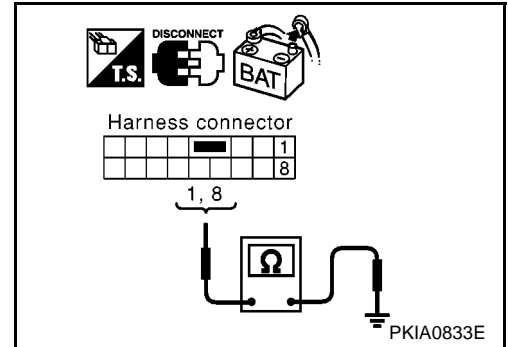
- Check the following.
 - Continuity between harness connector B102 terminals 1 (L), 8(G) and ground.(Sedan models)
 - Continuity between harness connector B102 terminals 1 (L), 8(R) and ground.(Wagon models)

1(L) – ground (Sedan models) : Continuity should not exist.

8(G) – ground (Sedan models) : Continuity should not exist.

1(L) – ground (Wagon models) : Continuity should not exist.

8(R) – ground (Wagon models) : Continuity should not exist.



OK or NG

OK >> GO TO 6.

NG >> Repair harness between harness connector B102 and harness connector B107.

6. CHECK HARNESS FOR SHORT CIRCUIT

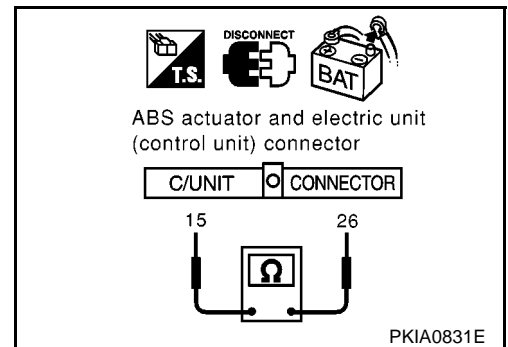
- Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L) and 15(R).

26(L) – 15(R) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L), 15 (R) and ground.

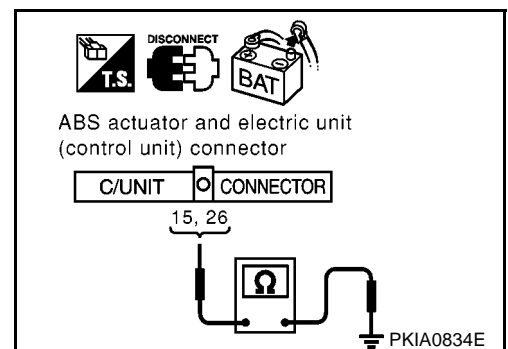
26(L) – ground : Continuity should not exist.

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

OK or NG

OK >> GO TO 8.

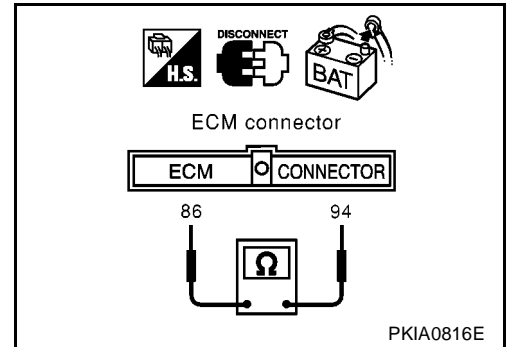
NG >> Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.



8. CHECK HARNESS FOR SHORT CIRCUIT

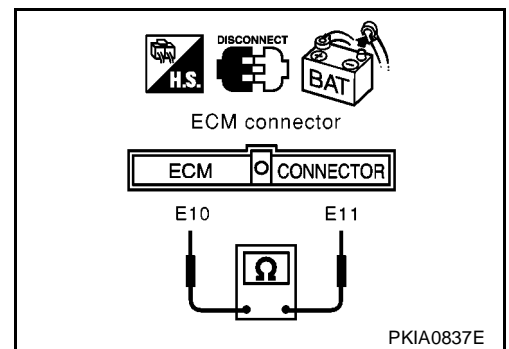
1. Disconnect ECM connector.
 2. Check the following.
- Continuity between ECM harness connector F102 terminals 94 (L) and 86(R).(Gasoline engine models)

94(L) – 86(R) (Gasoline engine models) : Continuity should not exist.



- Continuity between ECM harness connector F114 terminals E11 (L) and E10(R).(Diesel engine models)

E11(L) – E10(R) (Diesel engine models) : Continuity should not exist.



OK or NG

OK >> GO TO 9.

- NG >>
- Repair harness between ECM and harness connector F108.(QR engine models)
 - Repair harness between ECM and harness connector F109.(QG engine models)
 - Repair harness between ECM and harness connector F110.(Diesel engine models)

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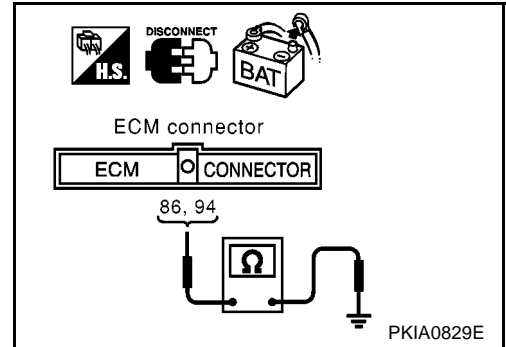
9. CHECK HARNESS FOR SHORT CIRCUIT

1. Check the following.

- Continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.(Gasoline engine models)

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

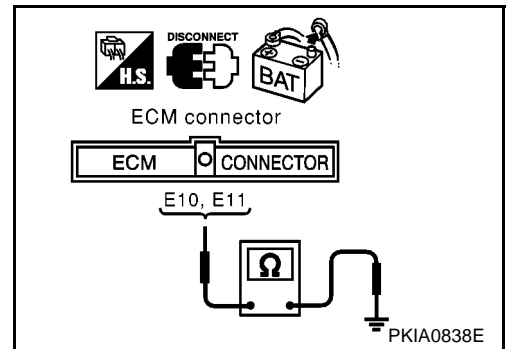
86(R) – ground (Gasoline engine models) : Continuity should not exist.



- Continuity between ECM harness connector F114 terminals E11 (L), E10 (R) and ground.(Diesel engine models)

E11(L) – ground (Diesel engine models) : Continuity should not exist.

E10(R) – ground (Diesel engine models) : Continuity should not exist.



OK or NG

OK >> GO TO 10.

- NG >> ● Repair harness between ECM and harness connector F108.(QR engine models)
- Repair harness between ECM and harness connector F109.(QG engine models)
 - Repair harness between ECM and harness connector F110.(Diesel engine models)

10. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-155, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

OK >> Reconnect all connectors to perform “SELF-DIAG RESULTS” and “DATA MONITOR” for “ENGINE”, “ABS”, “SMART ENTRANCE”, and “AIR PRESSURE MONITOR” displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITH EURO-OBD), [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITHOUT EURO-OBD), [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITH EURO-OBD), [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITHOUT EURO-OBD) or [EC-1790, "DTC U1000 CAN COMMUNICATION LINE"](#) (YD ENGINE MODELS) for “ENGINE” and Refer to [BRC-33, "CAN Communication Circuit"](#) for “ABS”. Refer to [BCS-40, "CAN Communication Line Check"](#) for “SMART ENTRANCE”. Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for “AIR PRESSURE MONITOR”.

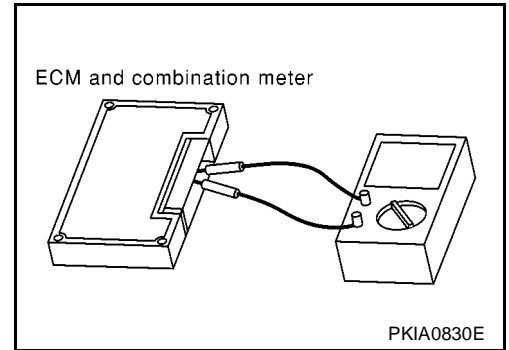
NG >> Replace ECM and/or Combination meter.

Component Inspection

ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

- Remove ECM and Combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.(Gasoline engine models)
- Check resistance between ECM terminals E11 and E10.(Diesel engine models)
- Check resistance between Combination meter terminals 43 and 44.

Unit	Terminal	Resistance value (Ω)
ECM (Gasoline engine models)	94 – 86	Approx. 108 - 132
ECM (Diesel engine models)	E11 – E10	
Combination meter	43 – 44	



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CAN SYSTEM (TYPE 7)

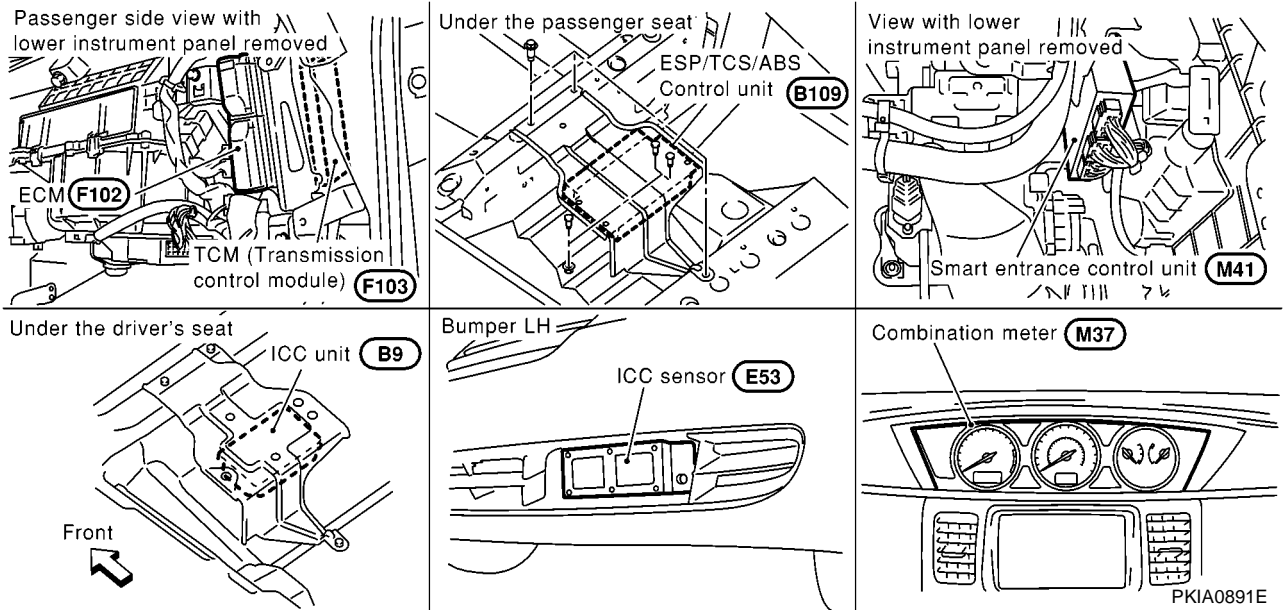
System Description

EKS004VW

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

EKS004VX



CAN SYSTEM (TYPE 7)

[CAN]

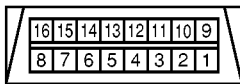
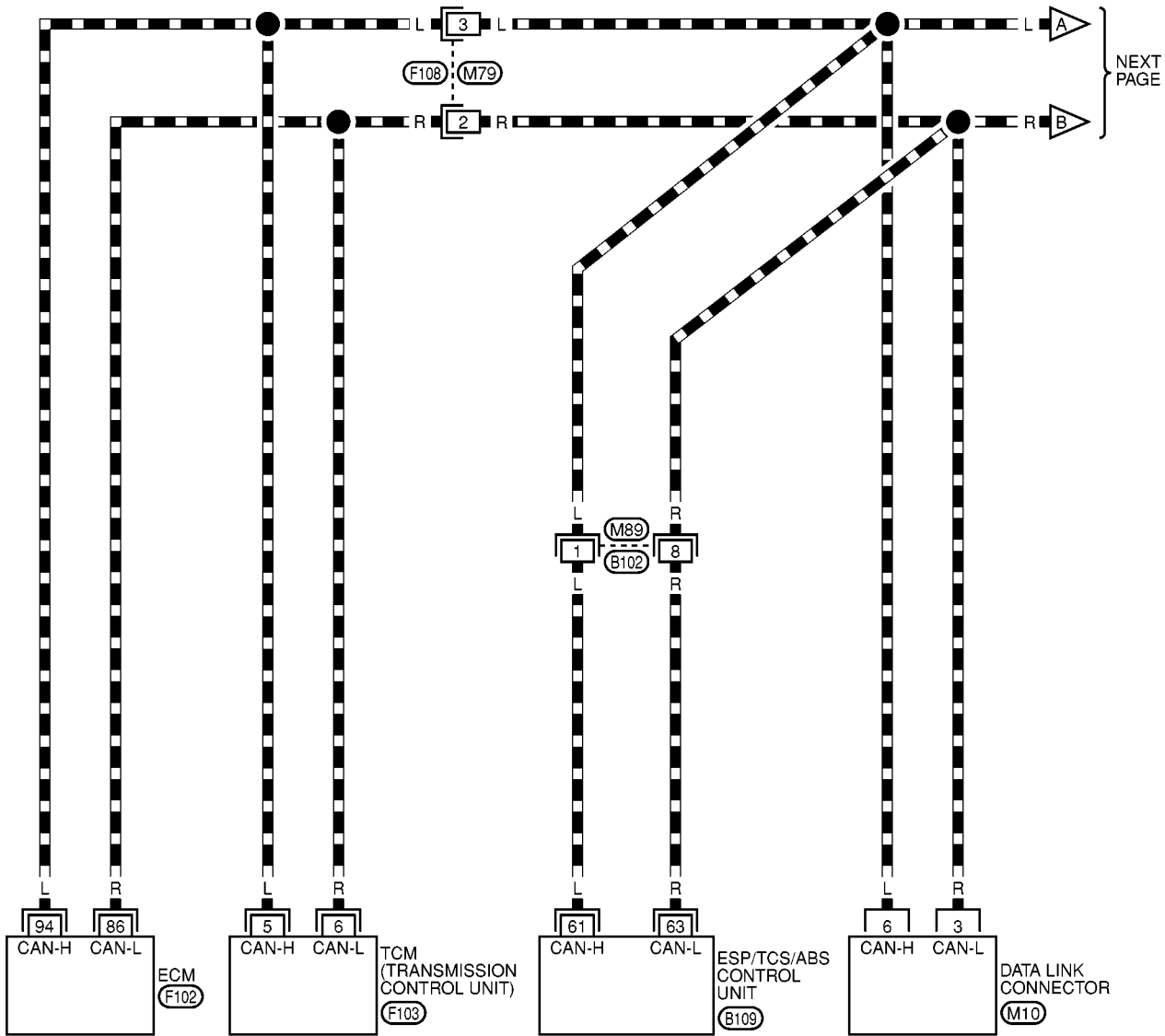
Wiring Diagram — CAN —

EKS004VY

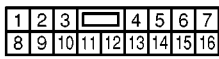
LAN-CAN-14

— : DATA LINE

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(M10)
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(M89), (F108)
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REFER TO THE FOLLOWING.

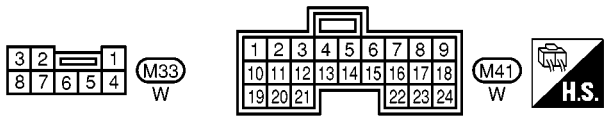
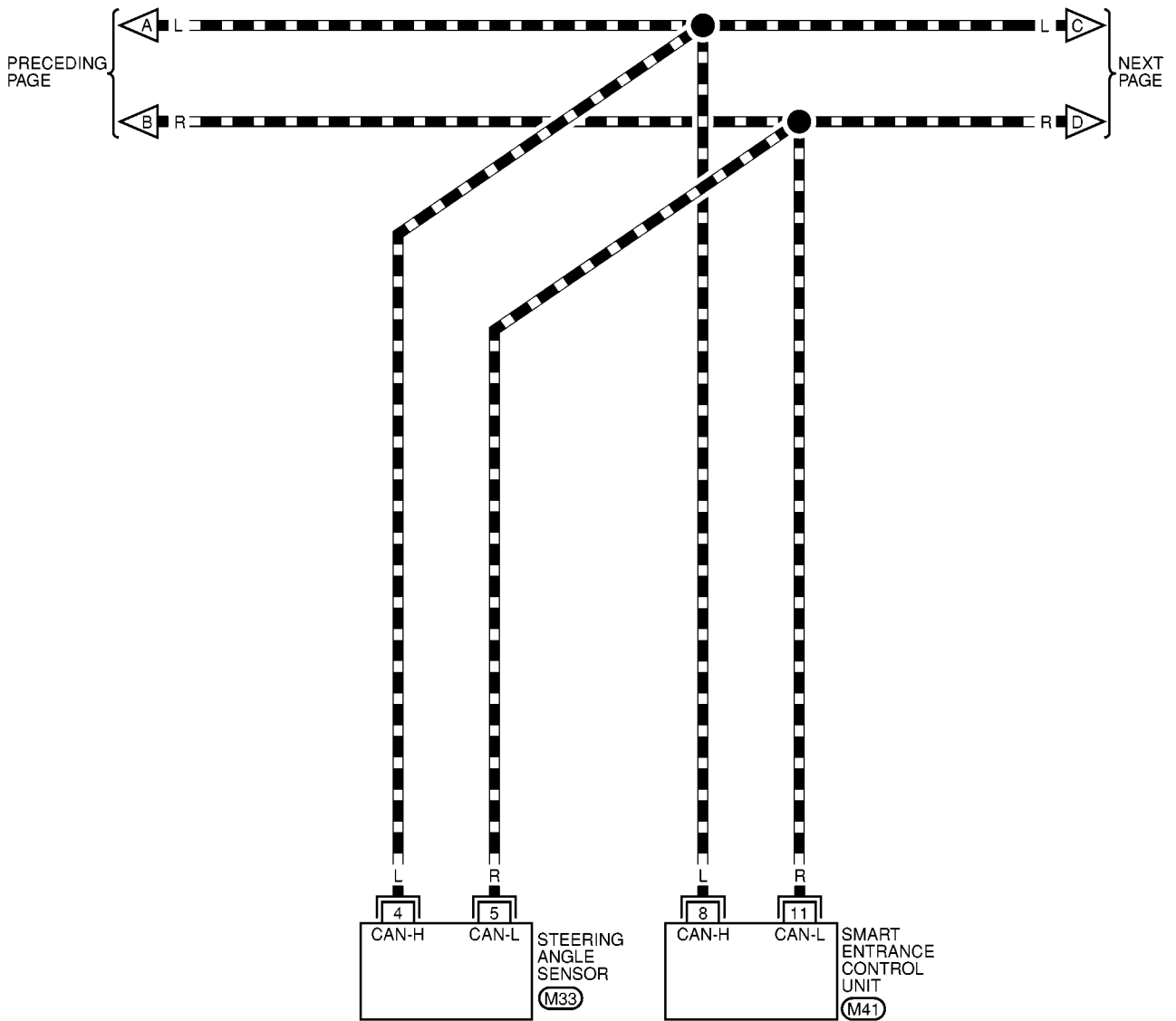
(F102), (F103), (B109)

-ELECTRICAL UNITS

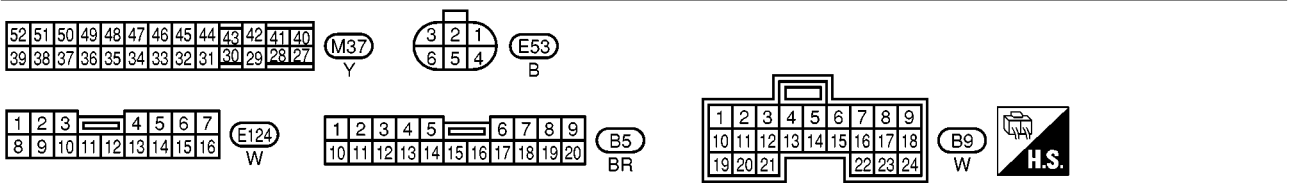
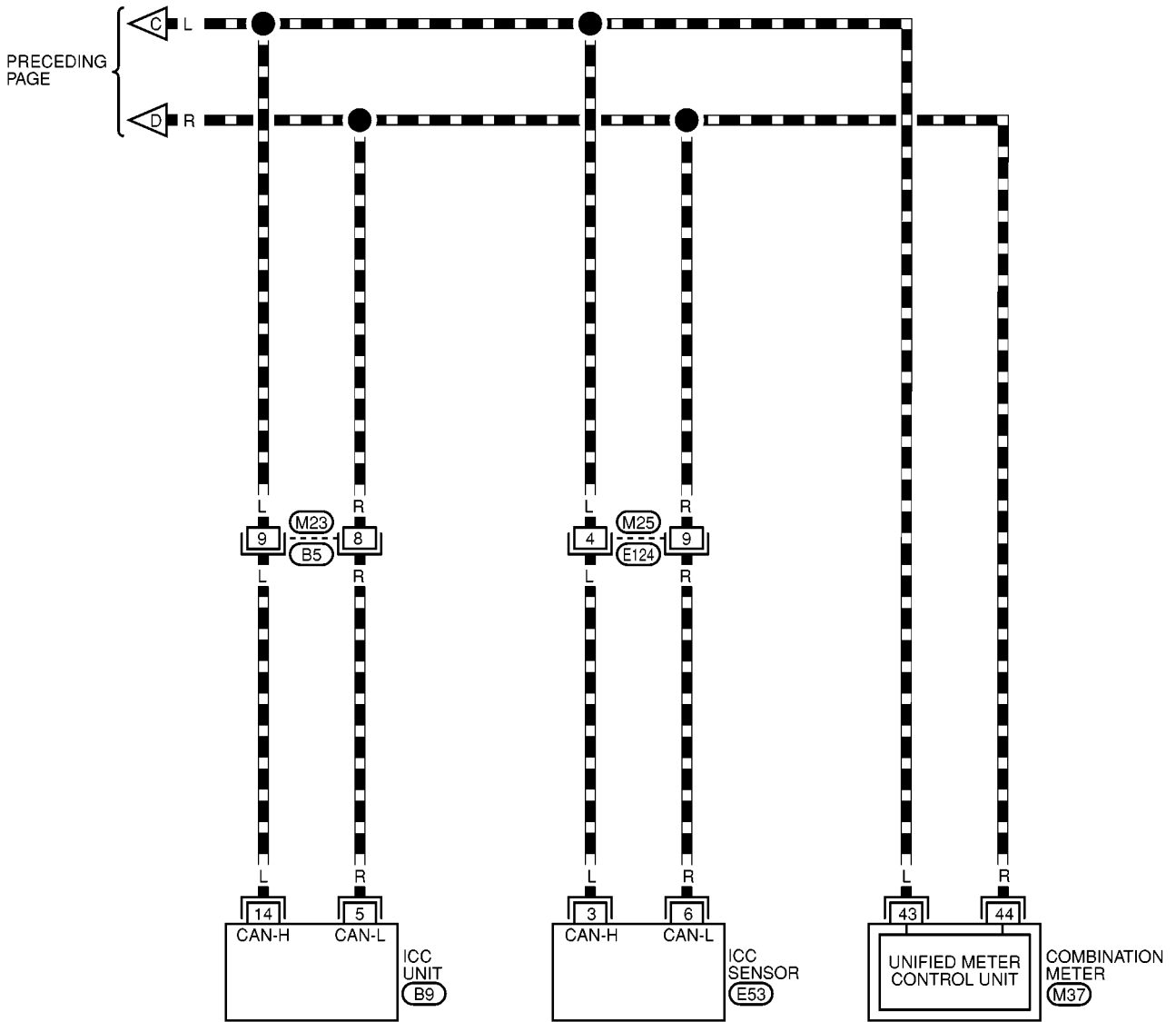
MKWA0364E

LAN-CAN-15

— : DATA LINE



▬ : DATA LINE



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Work Flow

EKS004VZ

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", and "ICC" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC".
2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-161, "CHECK SHEET"](#)
3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-161, "CHECK SHEET"](#)

NOTE:

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

4. According to the check sheet results (example), start inspection. Refer to [LAN-162, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

CAN SYSTEM (TYPE 7)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
CVT
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
ICC
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
CVT
DATA MONITOR

Attach copy of
ABS
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

Attach copy of
ICC
DATA MONITOR

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CAN SYSTEM (TYPE 7)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN COMM ✓	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2 ✓	CAN CIRC 3 ✓	—	CAN CIRC 6 ✓	CAN CIRC 5 ✓	—	CAN CIRC 4 ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

Case 2: Replace TCM

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2 ✓	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3 ✓	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4 ✓	CAN CIRC 3	—	—	—	CAN CIRC 8	—

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	CAN CIRC 3 ✓	—	—	—	—	CAN CIRC 4 ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

PKIA0731E

CAN SYSTEM (TYPE 7)

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Case 3: Replace ESP/TCS/ABS control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

Case 4: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

LAN

CAN SYSTEM (TYPE 7)

[CAN]

Case 5: Replace ICC unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

Case 6

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

PKIA0733E

CAN SYSTEM (TYPE 7)

[CAN]

Case 9

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

Case 10

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

Case 11

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

Case 12

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

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CAN SYSTEM (TYPE 7)

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Case 13

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

Case 14

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

Case 15

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

Case 16

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

PKIA0735E

CAN SYSTEM (TYPE 7)

[CAN]

Case 17

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

Case 18

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 5	—	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	CAN CIRC 6	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 3	—	—	—	CAN CIRC 8	—

PKIA0736E

NOTE:

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

INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace TCM.

Case 3: Replace ESP/TCS/ABS control unit.

Case 4: Replace Smart entrance control unit.

Case 5: Replace ICC unit.

Case 6: Check Harness between TCM and Data link connector. Refer to [LAN-168, "Circuit Check Between TCM and Data Link Connector"](#)

Case 7: Check Harness between Data link connector and Smart entrance control unit. Refer to [LAN-169, "Circuit Check Between Data Link Connector and Smart Entrance Control Unit"](#)

Case 8: Check Harness between Smart entrance control unit and ICC unit. Refer to [LAN-169, "Circuit Check Between Smart Entrance Control Unit and ICC Unit"](#)

Case 9: Check Harness between ICC unit and ICC sensor. Refer to [LAN-170, "Circuit Check Between ICC Unit and ICC Sensor"](#)

Case 10: Check ECM Circuit. Refer to [LAN-171, "ECM Circuit Check"](#)

Case 11: Check TCM Circuit. Refer to [LAN-171, "TCM Circuit Check"](#)

Case 12: Check ESP/TCS/ABS control unit Circuit. Refer to [LAN-172, "ESP/TCS/ABS Control Unit Circuit Check"](#)

Case 13: Check Steering angle sensor Circuit. Refer to [LAN-172, "Steering Angle Sensor Circuit Check"](#)

Case 14: Check Smart entrance control unit Circuit. Refer to [LAN-173, "Smart Entrance Control Unit Circuit Check"](#)

Case 15: Check ICC unit Circuit. Refer to [LAN-173, "ICC Unit Circuit Check"](#)

Case 16: Check ICC sensor Circuit. Refer to [LAN-174, "ICC Sensor Circuit Check"](#)

Case 17: Check Combination meter Circuit. Refer to [LAN-174, "Combination Meter Circuit Check"](#)

Case 18: Check CAN communication Circuit. Refer to [LAN-175, "CAN Communication Circuit Check"](#)

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Circuit Check Between TCM and Data Link Connector

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side, control unit-side and harness-side)
 - TCM.
 - ESP/TCS/ABS control unit.
 - Between TCM and ESP/TCS/ABS control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector and harness connector F108.
2. Check continuity between TCM harness connector F103 terminals 5 (L), 6 (R) and harness connector F108 terminals 3 (L), 2 (R).

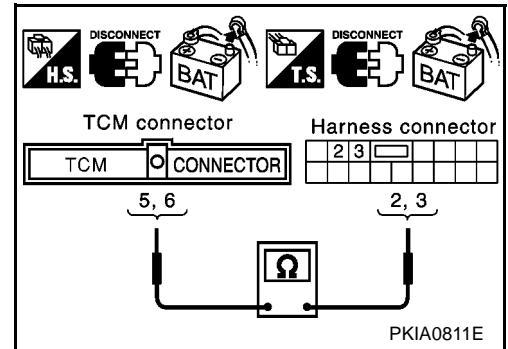
5(L) – 3(L) : Continuity should exist.

6(R) – 2(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between harness connector M79 terminals 3 (L), 2 (R) and Data link connector M10 terminals 6 (L), 3 (R).

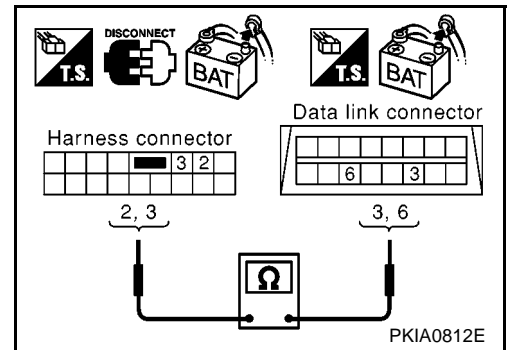
3(L) – 6(L) : Continuity should exist.

2(R) – 3(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", and "ICC" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC".

NG >> Repair harness.



Circuit Check Between Data Link Connector and Smart Entrance Control Unit

EKS004W1

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side, sensor-side and harness-side)
 - Smart entrance control unit.
 - Steering angle sensor.
 - ESP/TCS/ABS control unit.
 - Between smart entrance control unit and ESP/TCS/ABS control unit.

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and Data link connector M10 terminals 6 (L), 3 (R).

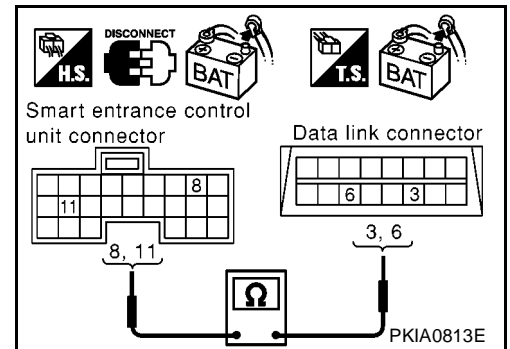
8(L) – 6(L) : Continuity should exist.

11(R) – 3(R) : Continuity should exist.

OK or NG

- OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", and "ICC" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE" \(WITH EURO-OBD\)](#) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE" \(WITHOUT EURO-OBD\)](#) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE" \(EURO-OBD\)](#) or [CVT-201, "CAN COMMUNICATION LINE" \(ALL\)](#) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC".

- NG >> Repair harness.

**Circuit Check Between Smart Entrance Control Unit and ICC Unit**

EKS004WD

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side, sensor-side and harness-side)
 - ICC unit.
 - Smart entrance control unit.
 - Steering angle sensor.
 - Between smart entrance control unit and ICC unit.

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector and ICC unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and ICC unit harness connector B9 terminals 14 (L), 5 (R).

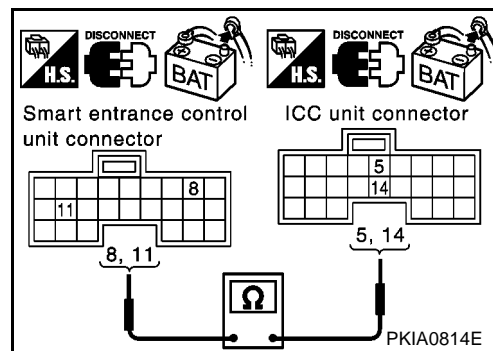
8(L) – 14(L) : Continuity should exist.

11(R) – 5(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", and "ICC" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE" \(WITH EURO-OBD\)](#) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE" \(WITHOUT EURO-OBD\)](#) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE" \(EURO-OBD\)](#) or [CVT-201, "CAN COMMUNICATION LINE" \(ALL\)](#) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC".

NG >> Repair harness.



Circuit Check Between ICC Unit and ICC Sensor

EKS004WE

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (sensor-side, control unit-side and harness-side)
 - ICC sensor.
 - ICC unit.
 - Between ICC sensor and ICC unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

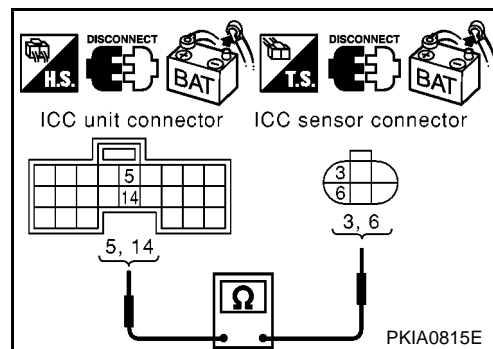
1. Disconnect ICC unit connector and ICC sensor connector.
2. Check continuity between ICC unit harness connector B9 terminals 14 (L), 5 (R) and ICC sensor harness connector E53 terminals 3 (L), 6 (R).

14(L) – 3(L) : Continuity should exist.

5(R) – 6(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", and "ICC" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE" \(WITH EURO-OBD\)](#) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE" \(WITHOUT EURO-OBD\)](#) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE" \(EURO-OBD\)](#) or [CVT-201, "CAN COMMUNICATION LINE" \(ALL\)](#) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sen-](#)



sor" for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC".

NG >> Repair harness.

ECM Circuit Check

EKS004W2

1. CHECK CONNECTOR

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

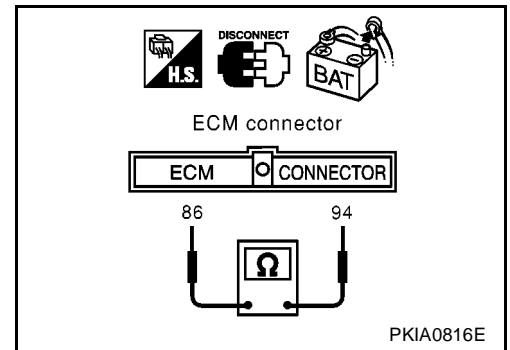
1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F102 terminals 94(L) and 86(R).

94(L) – 86(R) : Approx. 108 – 132Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between TCM and ECM.



EKS004W3

TCM Circuit Check

1. CHECK CONNECTOR

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

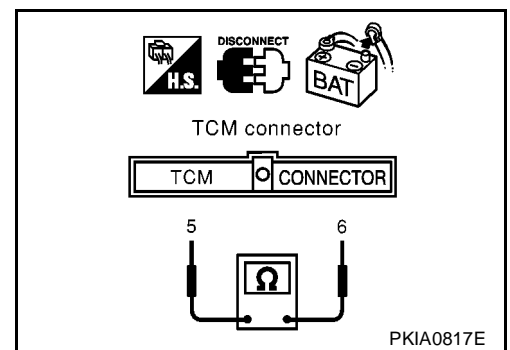
1. Disconnect TCM connector.
2. Check resistance between TCM harness connector F103 terminals 5(L) and 6(R).

5(L) – 6(R) : Approx. 54 – 66Ω

OK or NG

OK >> Replace TCM.

NG >> Repair harness between TCM and ECM.



EKS004W3

ESP/TCS/ABS Control Unit Circuit Check

EKS004W4

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - ESP/TCS/ABS control unit.
 - Harness connector B102.
 - Harness connector M89.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

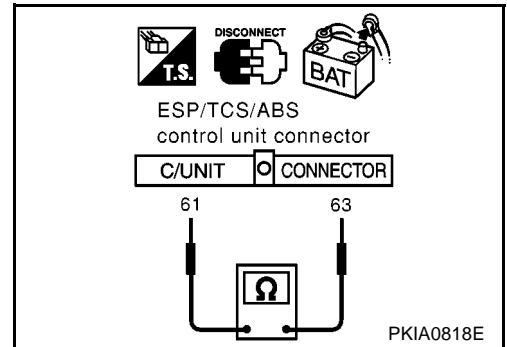
1. Disconnect ESP/TCS/ABS control unit connector.
2. Check resistance between ESP/TCS/ABS control unit harness connector B109 terminals 61(L) and 63(R).

61(L) – 63(R) : Approx. 54 – 66Ω

OK or NG

OK >> Replace ESP/TCS/ABS control unit.

NG >> Repair harness between Data link connector and ESP/TCS/ABS control unit.

**Steering Angle Sensor Circuit Check**

EKS004W5

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of steering angle sensor for damage, bend and loose connection. (sensor-side and harness-side)

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

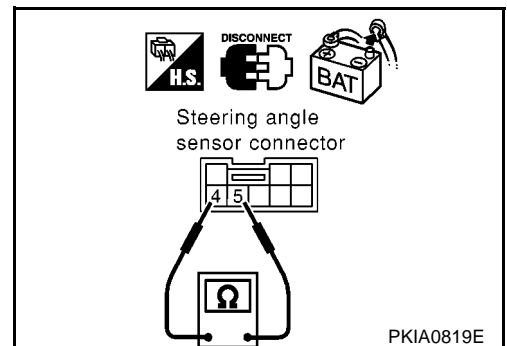
1. Disconnect steering angle sensor connector.
2. Check resistance between steering angle sensor harness connector M33 terminals 4(L) and 5(R).

4(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

OK >> Replace steering angle sensor.

NG >> Repair harness between steering angle sensor and smart entrance control unit.



Smart Entrance Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

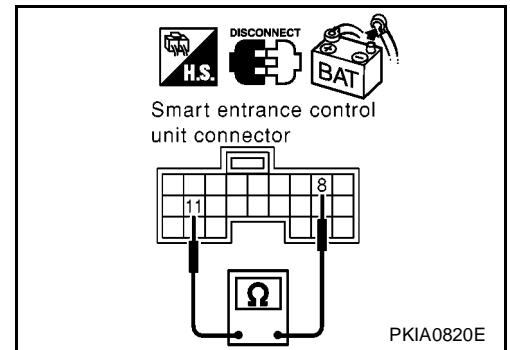
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
NG >> Repair harness between steering angle sensor and smart entrance control unit.



ICC Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - ICC unit.
 - Harness connector B5.
 - Harness connector M23.

OK or NG

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

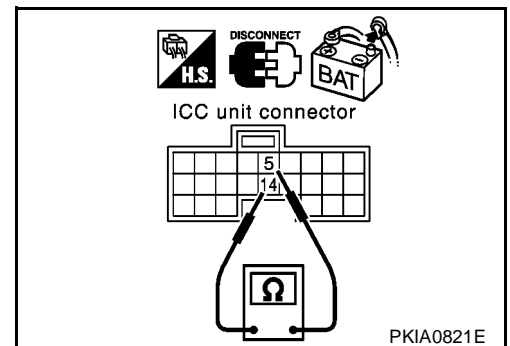
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ICC unit connector.
2. Check resistance between ICC unit harness connector B9 terminals 14(L) and 5(R).

14(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ICC unit.
NG >> Repair harness between ICC unit and smart entrance control unit.



ICC Sensor Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (sensor-side and harness-side)
 - ICC sensor.
 - Harness connector E124.
 - Harness connector M25.

OK or NG

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

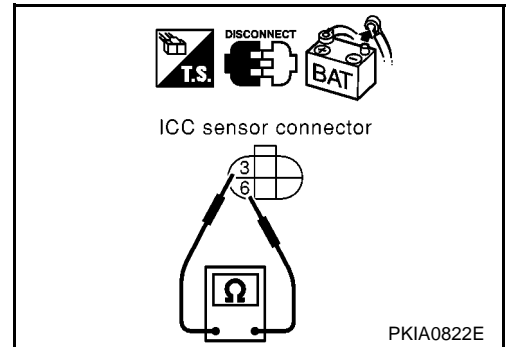
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ICC sensor connector.
2. Check resistance between ICC sensor harness connector E53 terminals 3(L) and 6(R).

3(L) – 6(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ICC sensor.
 NG >> Repair harness between ICC unit and ICC sensor.



Combination Meter Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

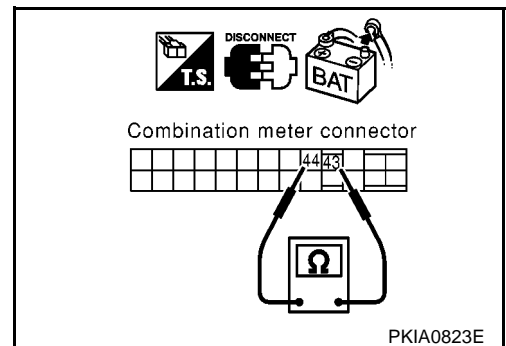
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 43(L) and 44(R).

43(L) – 44(R) : Approx. 108 – 132Ω

OK or NG

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



CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, sensor-side, control unit-side, control module-side and harness-side)
 - Combination meter.
 - ICC sensor.
 - ICC unit.
 - Smart entrance control unit.
 - Steering angle sensor.
 - ESP/TCS/ABS control unit.
 - TCM.
 - ECM.
 - Between ICC sensor and ICC unit.
 - Between ESP/TCS/ABS control unit and ECM.

OK or NG

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

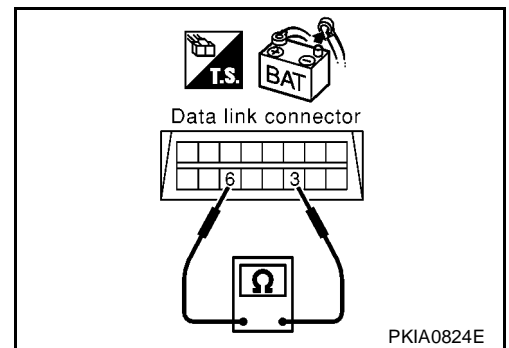
2. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect the following connectors.
 - Combination meter connector.
 - Smart entrance control unit connector.
 - Steering angle sensor connector.
 - Harness connector M25.
 - Harness connector M23.
 - Harness connector M89.
 - Harness connector M79.
2. Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.

OK or NG

- OK >> GO TO 3.
 NG >>
 - Repair harness between harness connector M25 and combination meter.
 - Repair harness between harness connector M25 and harness connector M23.
 - Repair harness between harness connector M23 and smart entrance control unit.
 - Repair harness between smart entrance control unit and steering angle sensor.
 - Repair harness between Data link connector and steering angle sensor.
 - Repair harness between harness connector M89 and harness connector M79.



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3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

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

3(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG >> ● Repair harness between harness connector M25 and combination meter.

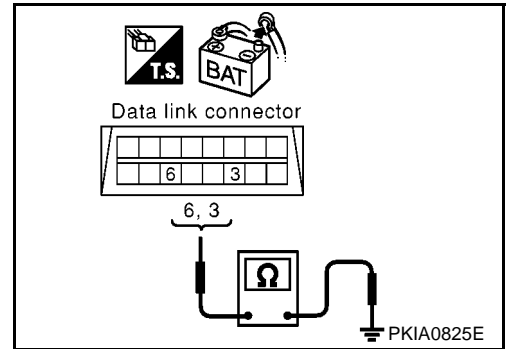
● Repair harness between harness connector M25 and harness connector M23.

● Repair harness between harness connector M23 and smart entrance control unit.

● Repair harness between smart entrance control unit and steering angle sensor.

● Repair harness between Data link connector and steering angle sensor.

● Repair harness between harness connector M89 and harness connector M79.



4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ICC sensor connector.

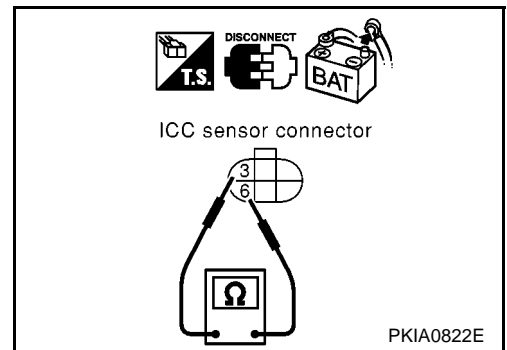
2. Check continuity between ICC sensor harness connector E53 terminals 3 (L) and 6(R).

3(L) – 6(R) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between ICC sensor and harness connector E124.



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ICC sensor harness connector E53 terminals 3 (L), 6 (R) and ground.

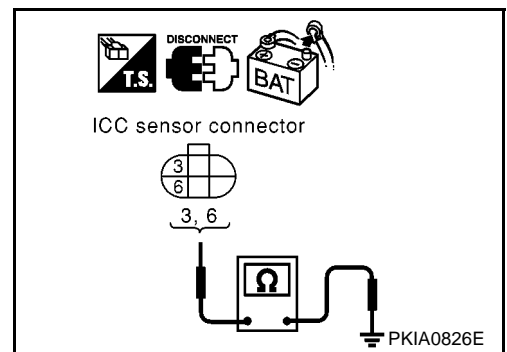
3(L) – ground : Continuity should not exist.

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

OK or NG

OK >> GO TO 6.

NG >> Repair harness between ICC sensor and harness connector E124.



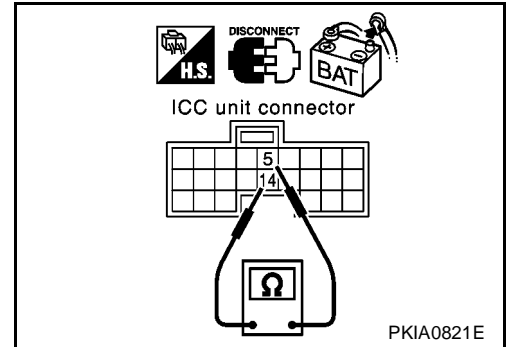
6. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ICC unit connector.
2. Check continuity between ICC unit harness connector B9 terminals 14 (L) and 5(R).

14(L) – 5(R) : Continuity should not exist.

OK or NG

- OK >> GO TO 7.
 NG >> Repair harness between ICC unit and harness connector B5.



7. CHECK HARNESS FOR SHORT CIRCUIT

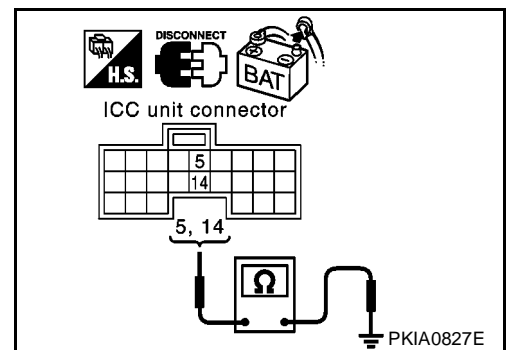
- Check continuity between ICC unit harness connector B9 terminals 14 (L), 5 (R) and ground.

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

5(R) – ground : Continuity should not exist.

OK or NG

- OK >> GO TO 8.
 NG >> Repair harness between ICC unit and harness connector B5.



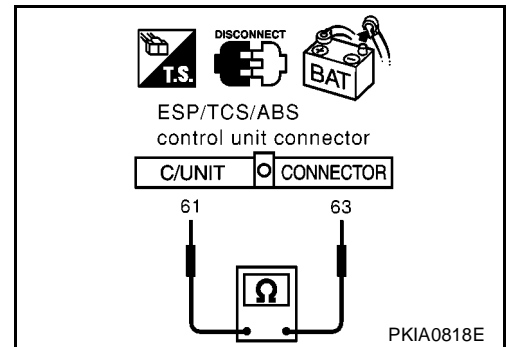
8. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector.
2. Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L) and 63(R).

61(L) – 63(R) : Continuity should not exist.

OK or NG

- OK >> GO TO 9.
 NG >> Repair harness between ESP/TCS/ABS control unit and harness connector B102.



9. CHECK HARNESS FOR SHORT CIRCUIT

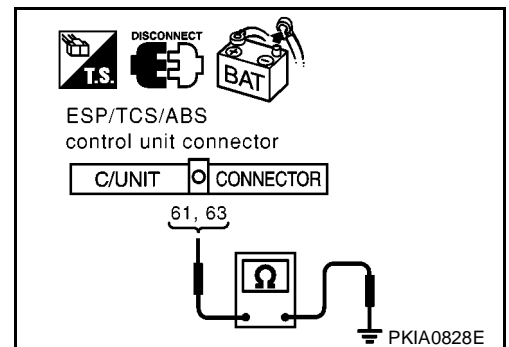
- Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L), 63 (R) and ground.

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

63(R) – ground : Continuity should not exist.

OK or NG

- OK >> GO TO 10.
 NG >> Repair harness between ESP/TCS/ABS control unit and harness connector B102.



10. CHECK HARNESS FOR SHORT CIRCUIT

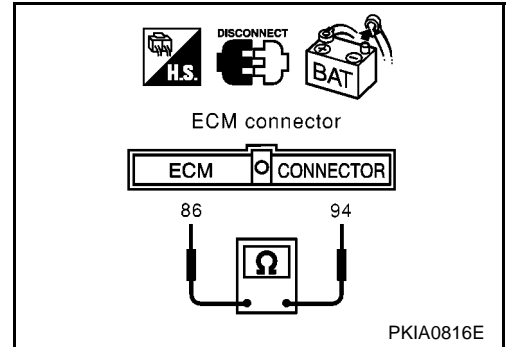
1. Disconnect ECM connector and TCM connector.
2. Check continuity between ECM harness connector F102 terminals 94 (L) and 86(R).

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

OK or NG

OK >> GO TO 11.

- NG >> ● Repair harness between ECM and harness connector F108.
- Repair harness between TCM and harness connector F108.



11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.

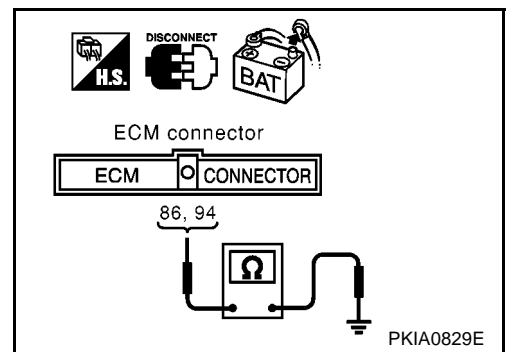
94(L) – ground : Continuity should not exist.

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

OK or NG

OK >> GO TO 12.

- NG >> ● Repair harness between ECM and harness connector F108.
- Repair harness between TCM and harness connector F108.



12. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-178, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

- OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "SMART ENTRANCE", and "ICC" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC".

- NG >> Replace ECM and/or Combination meter.

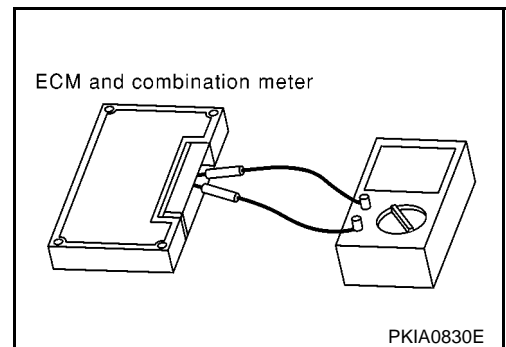
Component Inspection

ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

EKS004W9

- Remove ECM and Combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between Combination meter terminals 43 and 44.

Unit	Terminal	Resistance value (Ω)
ECM	94 – 86	Approx. 108 - 132
Combination meter	43 – 44	



CAN SYSTEM (TYPE 8)

PF:23710

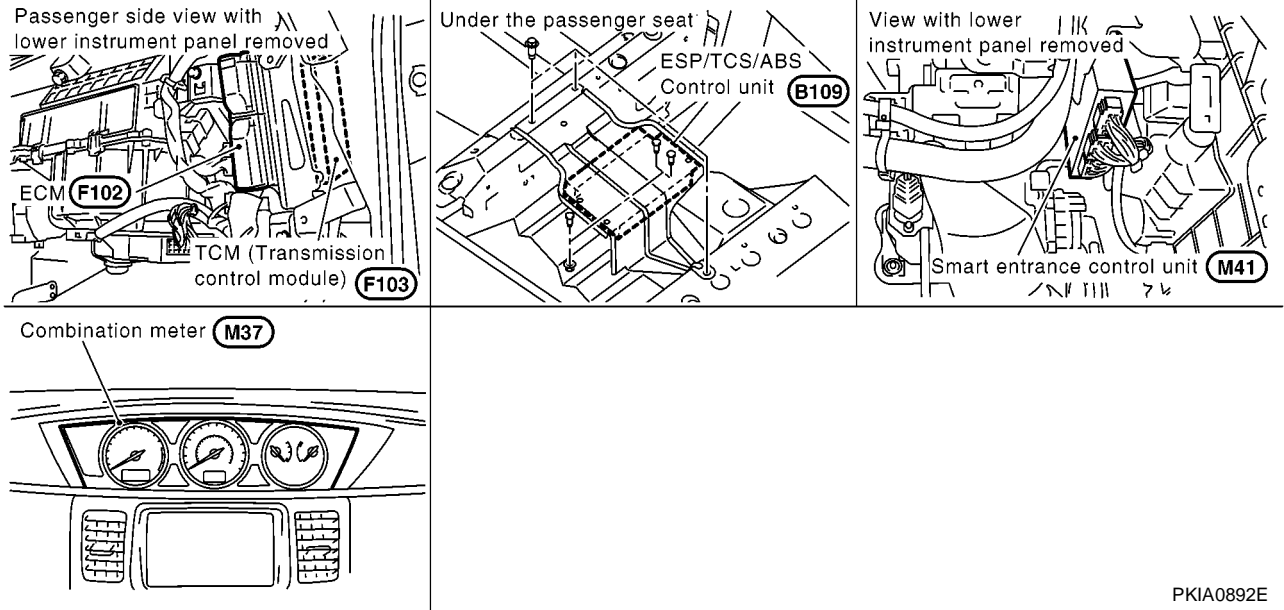
System Description

EKS004VC

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

EKS004VD



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CAN SYSTEM (TYPE 8)

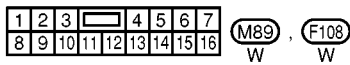
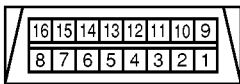
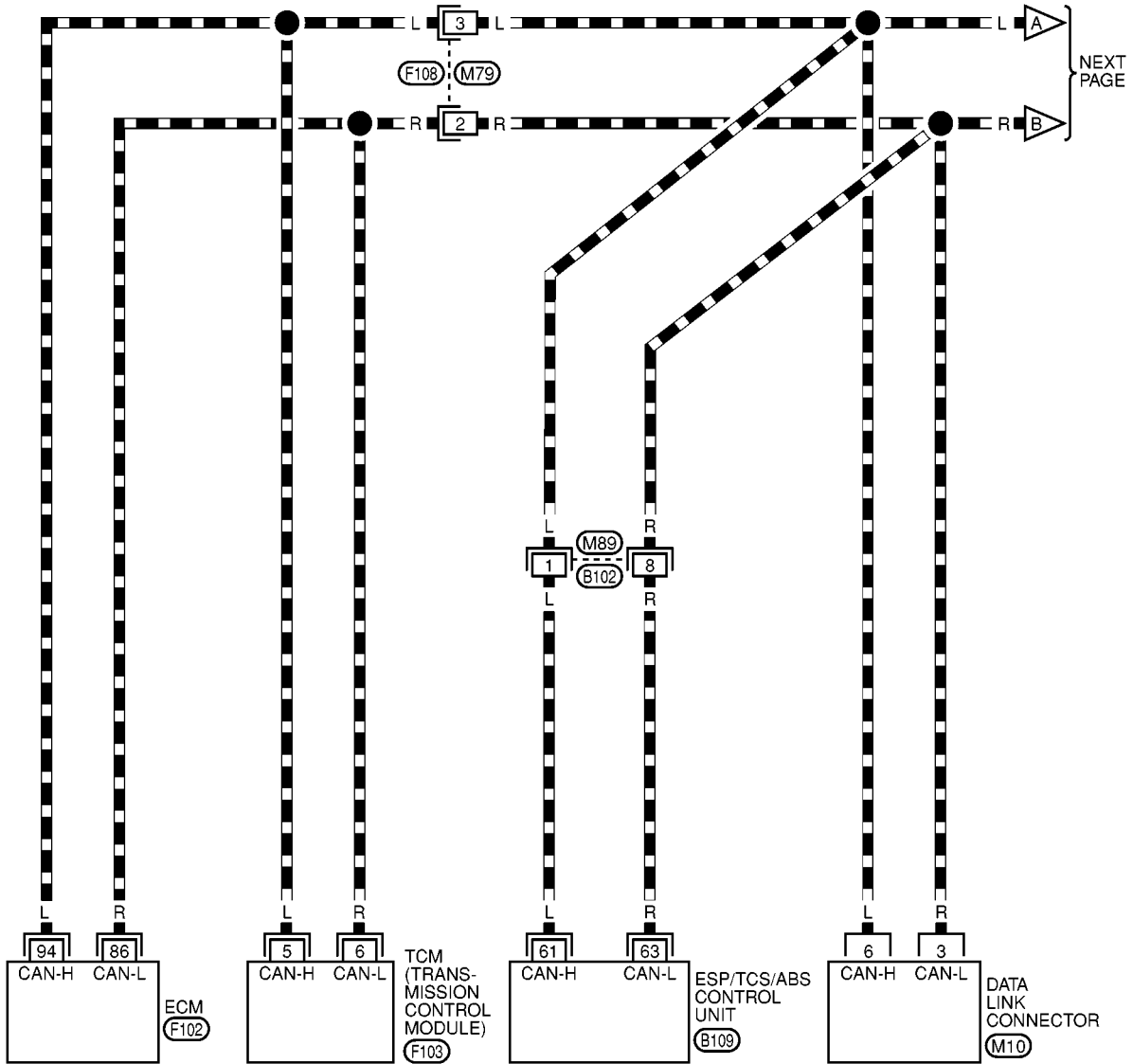
[CAN]

Wiring Diagram — CAN —

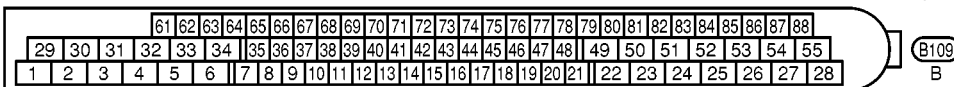
EKS004VE

LAN-CAN-17

▬ : DATA LINE



REFER TO THE FOLLOWING.
(F102), (F103) - ELECTRICAL UNITS



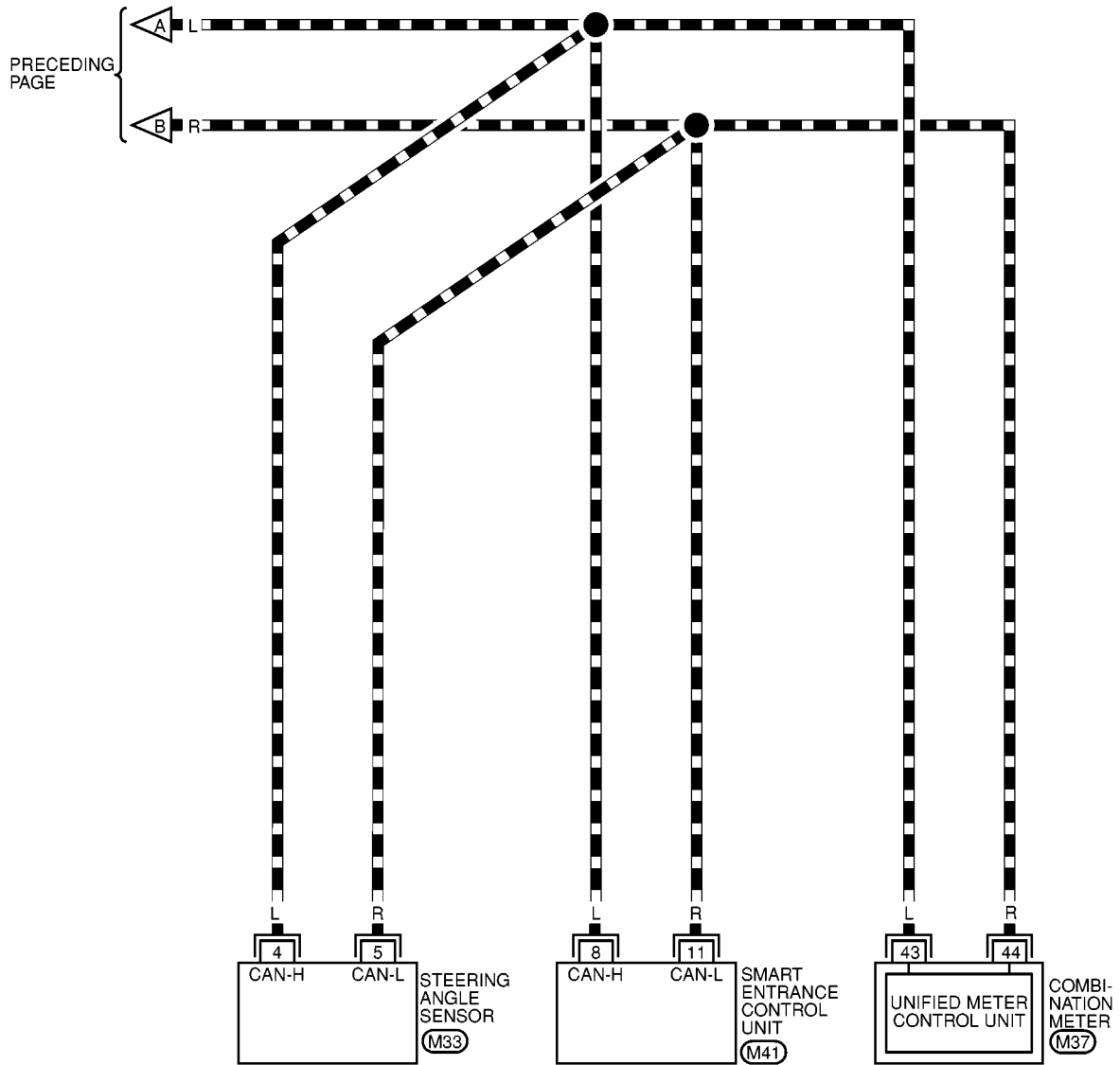
MKWA0367E

CAN SYSTEM (TYPE 8)

[CAN]

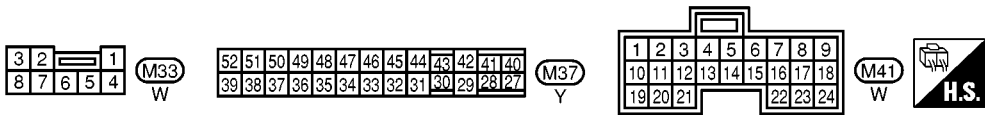
LAN-CAN-18

▬ : DATA LINE



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MKWA0368E

Work Flow

EKS004VF

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-183, "CHECK SHEET"](#)
3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-183, "CHECK SHEET"](#)

NOTE:

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

4. According to the check sheet results (example), start inspection. Refer to [LAN-184, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

CAN SYSTEM (TYPE 8)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
CVT
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
CVT
DATA MONITOR

Attach copy of
ABS
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

PKIA0737E

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CAN SYSTEM (TYPE 8)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN <input checked="" type="checkbox"/> CIRC 2	CAN <input checked="" type="checkbox"/> CIRC 3	—	CAN <input checked="" type="checkbox"/> CIRC 6	CAN <input checked="" type="checkbox"/> CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 2: Replace TCM

ENGINE	CAN COMM	CAN CIRC 1	—	CAN <input checked="" type="checkbox"/> CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN <input checked="" type="checkbox"/> CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	CAN <input checked="" type="checkbox"/> CIRC 3	—	—	CAN <input checked="" type="checkbox"/> CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 3: Replace ESP/TCS/ABS control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN <input checked="" type="checkbox"/> CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN <input checked="" type="checkbox"/> CIRC 3	—	—	CAN CIRC 4
ABS	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	CAN <input checked="" type="checkbox"/> CIRC 3	—	CAN <input checked="" type="checkbox"/> CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 4: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	—	CAN <input checked="" type="checkbox"/> CIRC 3

PKIA0738E

CAN SYSTEM (TYPE 8)

[CAN]

Case 5

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 6

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 9

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 10

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 11

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

PKIA0739E

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CAN SYSTEM (TYPE 8)

[CAN]

Case 12

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 13

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

PKIA0740E

NOTE:

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

INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace TCM.

Case 3: Replace ESP/TCS/ABS control unit.

Case 4: Replace Smart entrance control unit.

Case 5: Check Harness between TCM and Data link connector. Refer to [LAN-186, "Circuit Check Between TCM and Data Link Connector"](#)

Case 6: Check Harness between Data link connector and Smart entrance control unit. Refer to [LAN-187, "Circuit Check Between Data Link Connector and Smart Entrance Control Unit"](#)

Case 7: Check ECM Circuit. Refer to [LAN-188, "ECM Circuit Check"](#)

Case 8: Check TCM Circuit. Refer to [LAN-189, "TCM Circuit Check"](#)

Case 9: Check ESP/TCS/ABS control unit Circuit. Refer to [LAN-189, "ESP/TCS/ABS Control Unit Circuit Check"](#)

Case 10: Check Steering angle sensor Circuit. Refer to [LAN-190, "Steering Angle Sensor Circuit Check"](#)

Case 11: Check Smart entrance control unit Circuit. Refer to [LAN-190, "Smart Entrance Control Unit Circuit Check"](#)

Case 12: Check Combination meter Circuit. Refer to [LAN-191, "Combination Meter Circuit Check"](#)

Case 13: Check CAN communication Circuit. Refer to [LAN-191, "CAN Communication Circuit Check"](#)

Circuit Check Between TCM and Data Link Connector

EKS004VS

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side, control unit-side and harness-side)
 - TCM.
 - ESP/TCS/ABS control unit.
 - Between TCM and ESP/TCS/ABS control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

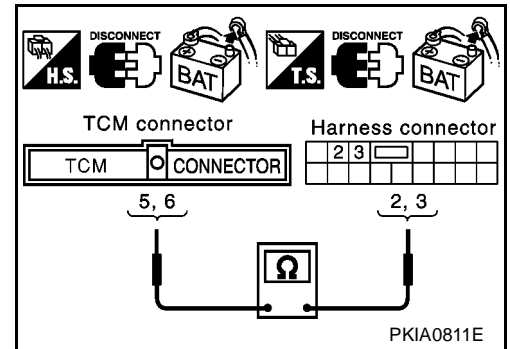
1. Disconnect TCM connector and harness connector F108.
2. Check continuity between TCM harness connector F103 terminals 5 (L), 6 (R) and harness connector F108 terminals 3 (L), 2 (R).

5(L) – 3(L) : Continuity should exist.

6(R) – 2(R) : Continuity should exist.

OK or NG

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



3. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between harness connector M79 terminals 3 (L), 2 (R) and Data link connector M10 terminals 6 (L), 3 (R).

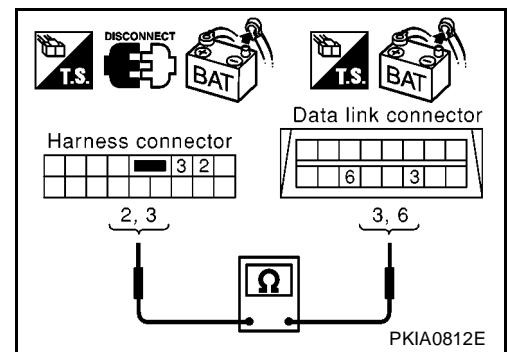
3(L) – 6(L) : Continuity should exist.

2(R) – 3(R) : Continuity should exist.

OK or NG

- OK >> Reconnect all connectors to perform “SELF-DIAG RESULTS” and “DATA MONITOR” for “ENGINE”, “CVT”, “ABS”, and “SMART ENTRANCE” displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for “ENGINE” and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for “CVT”. Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for “ABS”. Refer to [BCS-40, "CAN Communication Line Check"](#) for “SMART ENTRANCE”.

- NG >> Repair harness.



Circuit Check Between Data Link Connector and Smart Entrance Control Unit

EKS004VG

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side, sensor-side and harness-side)
 - Smart entrance control unit.
 - Steering angle sensor.
 - ESP/TCS/ABS control unit.
 - Between smart entrance control unit and ESP/TCS/ABS control unit.

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

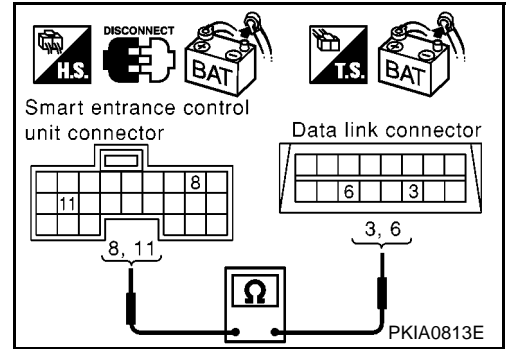
1. Disconnect smart entrance control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and Data link connector M10 terminals 6 (L), 3 (R).

8(L) – 6(L) : Continuity should exist.
11(R) – 3(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform “SELF-DIAG RESULTS” and “DATA MONITOR” for “ENGINE”, “CVT”, “ABS”, and “SMART ENTRANCE” displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for “ENGINE” and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for “CVT”. Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for “ABS”. Refer to [BCS-40, "CAN Communication Line Check"](#) for “SMART ENTRANCE”.

NG >> Repair harness.



ECM Circuit Check

EKS004VH

1. CHECK CONNECTOR

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

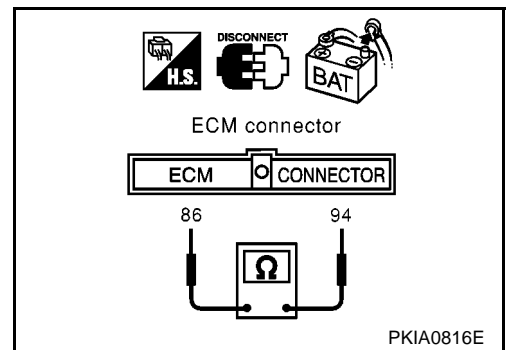
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F102 terminals 94(L) and 86(R).

94(L) – 86(R) : Approx. 108 – 132Ω

OK or NG

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



TCM Circuit Check**1. CHECK CONNECTOR**

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

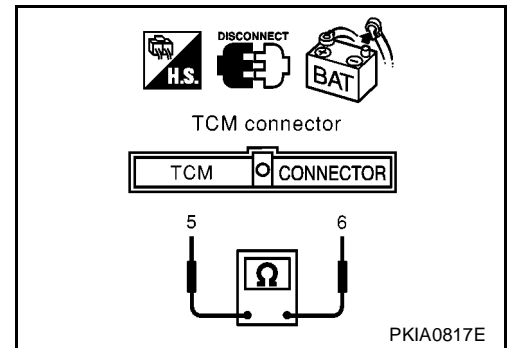
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector.
2. Check resistance between TCM harness connector F103 terminals 5(L) and 6(R).

5(L) – 6(R) : Approx. 54 – 66Ω

OK or NG

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

**ESP/TCS/ABS Control Unit Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - ESP/TCS/ABS control unit.
 - Harness connector B102.
 - Harness connector M89.

OK or NG

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

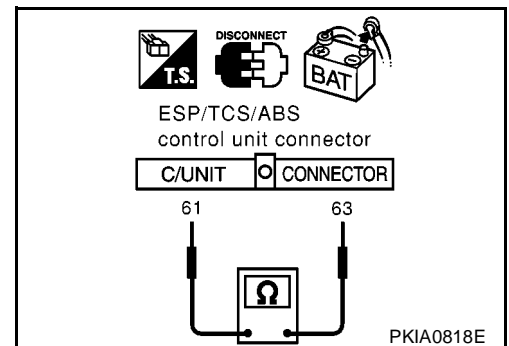
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector.
2. Check resistance between ESP/TCS/ABS control unit harness connector B109 terminals 61(L) and 63(R).

61(L) – 63(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ESP/TCS/ABS control unit.
 NG >> Repair harness between Data link connector and ESP/TCS/ABS control unit.



Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of steering angle sensor for damage, bend and loose connection. (sensor-side and harness-side)

OK or NG

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

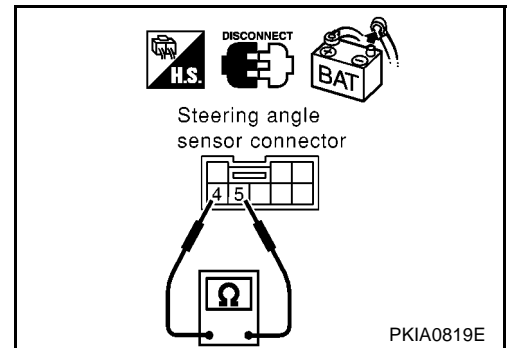
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect steering angle sensor connector.
2. Check resistance between steering angle sensor harness connector M33 terminals 4(L) and 5(R).

4(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace steering angle sensor.
NG >> Repair harness between steering angle sensor and smart entrance control unit.



Smart Entrance Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

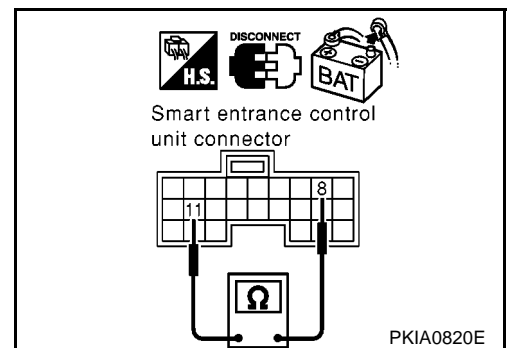
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
NG >> Repair harness between steering angle sensor and smart entrance control unit.



Combination Meter Circuit Check**1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

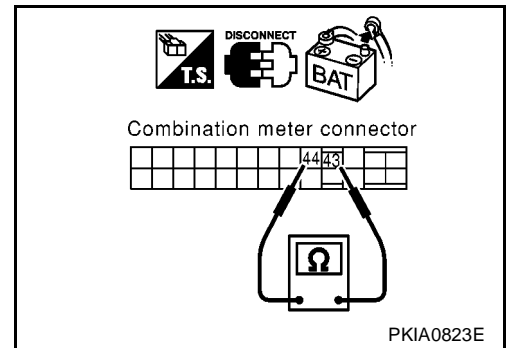
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 43(L) and 44(R).

43(L) – 44(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
 NG >> Repair harness between smart entrance control unit and combination meter.

**CAN Communication Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, control unit-side, sensor-side, control module-side and harness-side)
 - Combination meter.
 - Smart entrance control unit.
 - Steering angle sensor.
 - ESP/TCS/ABS control unit.
 - TCM.
 - ECM.
 - Between ESP/TCS/ABS control unit and ECM.

OK or NG

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

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2. CHECK HARNESS FOR SHORT CIRCUIT

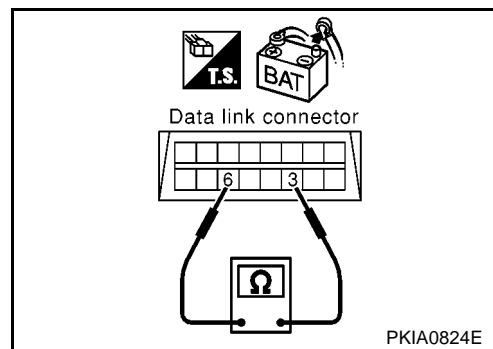
- Disconnect the following connectors.
 - Combination meter connector.
 - Smart entrance control unit connector.
 - Steering angle sensor connector.
 - Harness connector M89.
 - Harness connector M79.
- Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

- NG >>
- Repair harness between smart entrance control unit and combination meter.
 - Repair harness between smart entrance control unit and steering angle sensor.
 - Repair harness between Data link connector and steering angle sensor.
 - Repair harness between harness connector M89 and harness connector M79.



3. CHECK HARNESS FOR SHORT CIRCUIT

- Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

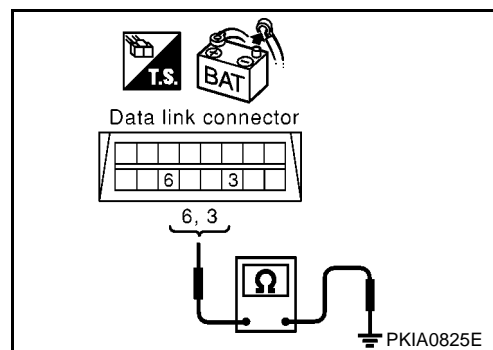
6(L) – ground : Continuity should not exist.

3(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

- NG >>
- Repair harness between smart entrance control unit and combination meter.
 - Repair harness between smart entrance control unit and steering angle sensor.
 - Repair harness between Data link connector and steering angle sensor.
 - Repair harness between harness connector M89 and harness connector M79.



4. CHECK HARNESS FOR SHORT CIRCUIT

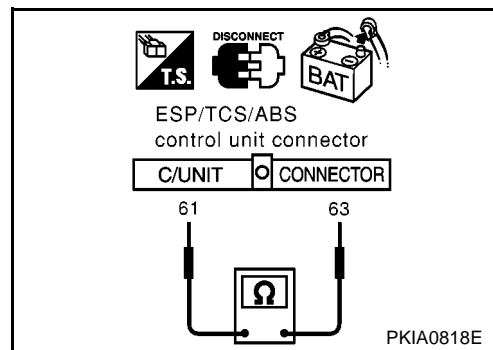
- Disconnect ESP/TCS/ABS control unit connector.
- Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L) and 63(R).

61(L) – 63(R) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

- NG >> Repair harness between ESP/TCS/ABS control unit and harness connector B102.



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L), 63 (R) and ground.

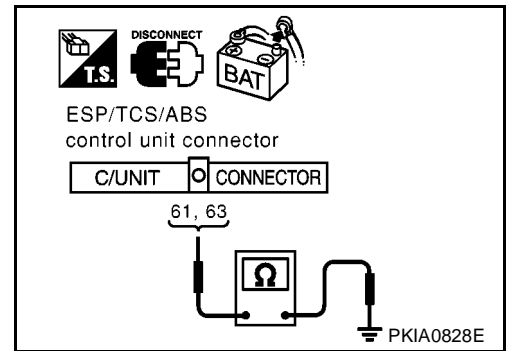
61(L) – ground : Continuity should not exist.

63(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between ESP/TCS/ABS control unit and harness connector B102.



6. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ECM connector and TCM connector.
2. Check continuity between ECM harness connector F102 terminals 94 (L) and 86(R).

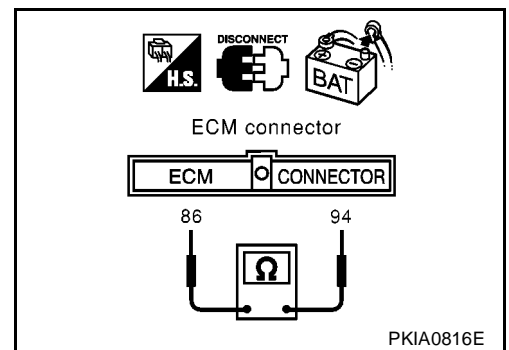
94(L) – 86(R) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> ● Repair harness between ECM and harness connector F108.

- Repair harness between TCM and harness connector F108.



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.

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

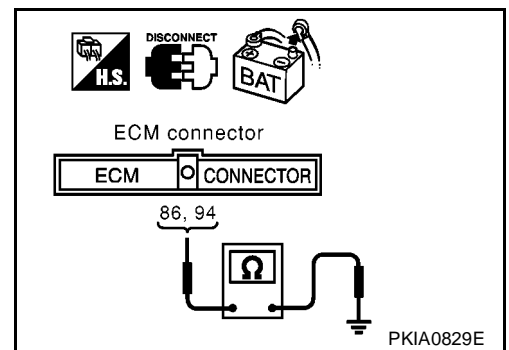
86(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG >> ● Repair harness between ECM and harness connector F108.

- Repair harness between TCM and harness connector F108.



8. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-194, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

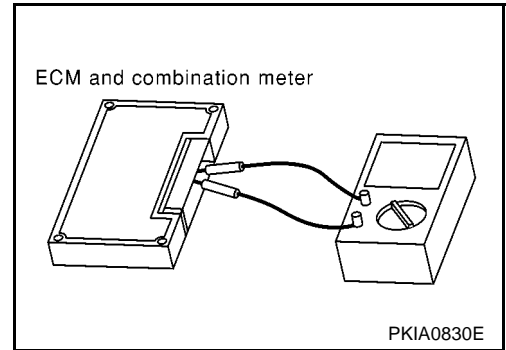
NG >> Replace ECM and/or Combination meter.

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 43 and 44.

Unit	Terminal	Resistance value (Ω)
ECM	94 – 86	Approx. 108 - 132
Combination meter	43 – 44	



CAN SYSTEM (TYPE 9)

PF23710

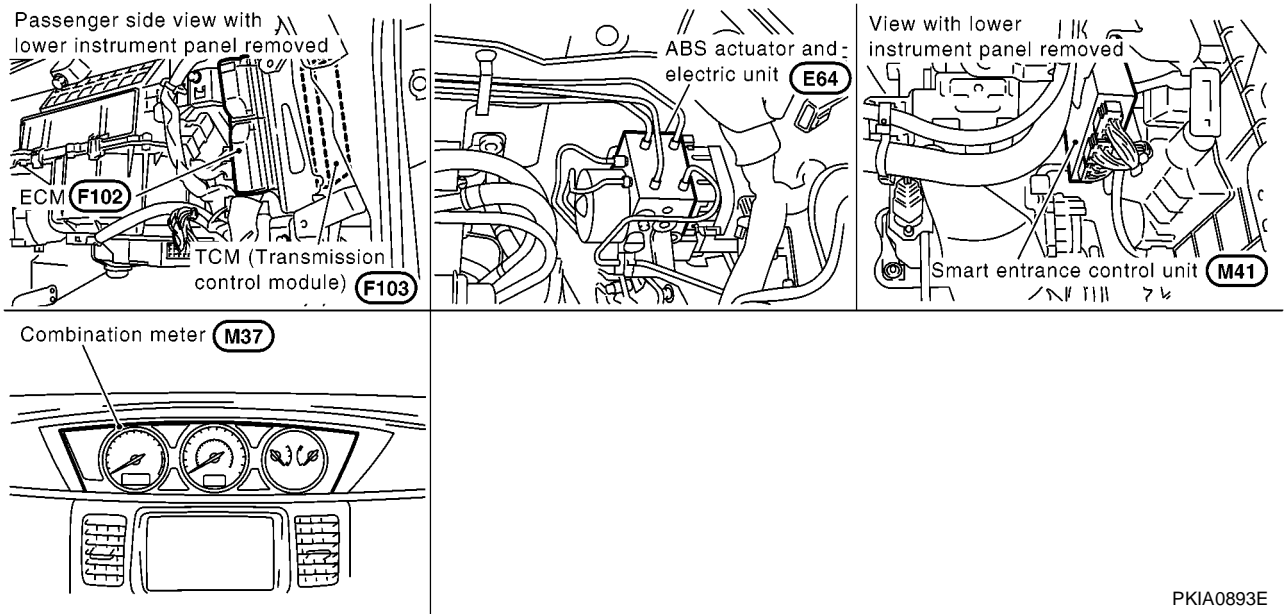
System Description

EKS004UL

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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LAN

CAN SYSTEM (TYPE 9)

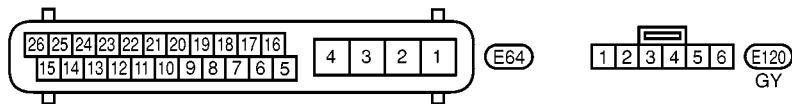
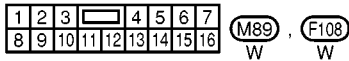
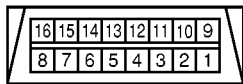
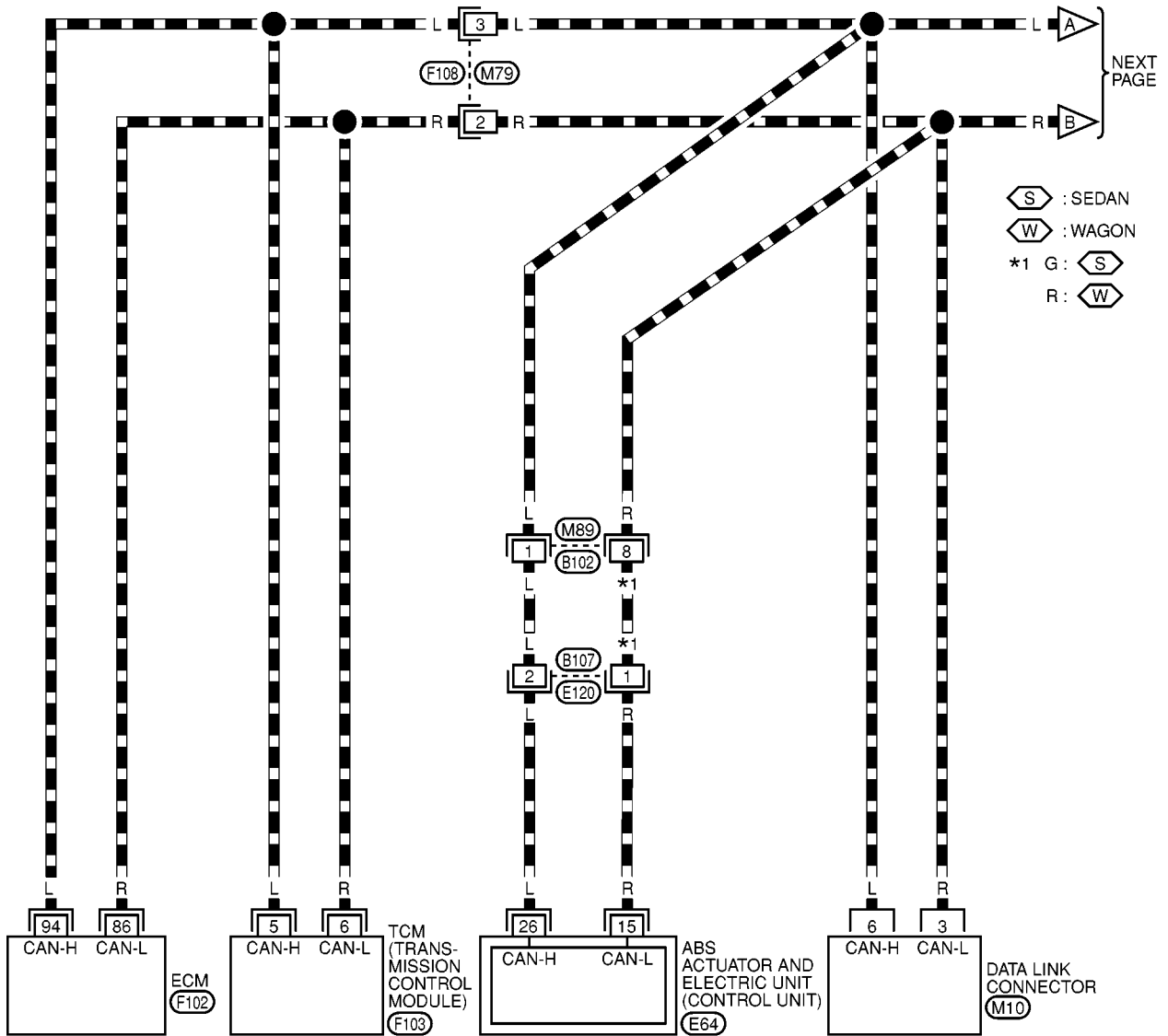
[CAN]

Wiring Diagram — CAN —

EKS004UN

LAN-CAN-19

▬ : DATA LINE

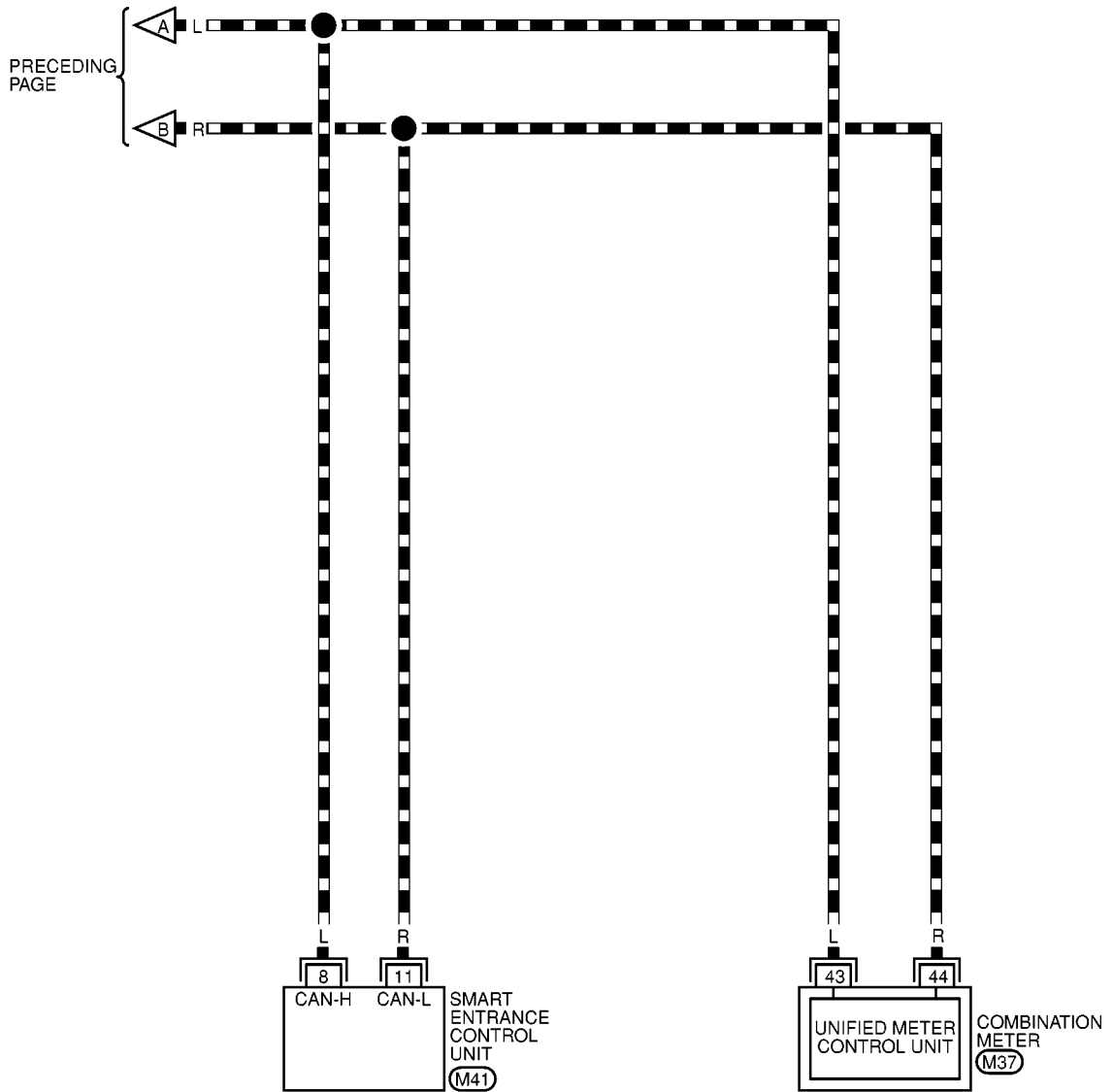


REFER TO THE FOLLOWING.
F102, F103 - ELECTRICAL UNITS

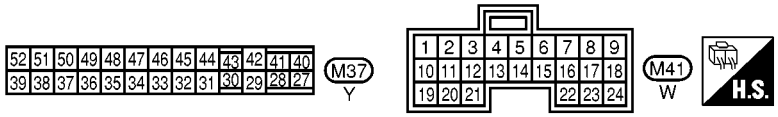
MKWA0369E

LAN-CAN-20

▬ : DATA LINE



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Work Flow

EKS004UO

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-199, "CHECK SHEET"](#)
3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-199, "CHECK SHEET"](#)

NOTE:

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

4. According to the check sheet results (example), start inspection. Refer to [LAN-200, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

CAN SYSTEM (TYPE 9)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
CVT
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
CVT
DATA MONITOR

Attach copy of
ABS
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

PKIA0741E

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CAN SYSTEM (TYPE 9)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN COMM ✓	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2 ✓	—	CAN CIRC 6 ✓	CAN CIRC 4 ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 2: Replace TCM

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2 ✓	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	CAN CIRC 3 ✓	—	CAN CIRC 4 ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 3: Replace ABS actuator and electric unit (control unit)

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3 ✓	—	CAN CIRC 4
ABS	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 4: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	—	CAN CIRC 3 ✓

Case 5

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6 ✓	CAN CIRC 4 ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3 ✓	—	CAN CIRC 4 ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	—	CAN CIRC 3

PKIA0742E

CAN SYSTEM (TYPE 9)

[CAN]

Case 6

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 9

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 10

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 11

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 12

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

PKIA0743E

NOTE:

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

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INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace TCM.

Case 3: Replace ABS actuator and electric unit (control unit).

Case 4: Replace Smart entrance control unit.

Case 5: Check Harness between TCM and Data link connector. Refer to [LAN-202, "Circuit Check Between TCM and Data Link Connector"](#)

Case 6: Check Harness between Data link connector and Smart entrance control unit. Refer to [LAN-203, "Circuit Check Between Data Link Connector and Smart Entrance Control Unit"](#)

Case 7: Check ECM Circuit. Refer to [LAN-204, "ECM Circuit Check"](#)

Case 8: Check TCM Circuit. Refer to [LAN-204, "TCM Circuit Check"](#)

Case 9: Check ABS actuator and electric unit (control unit) Circuit. Refer to [LAN-205, "ABS Actuator and Electric Unit \(control unit\) Circuit Check"](#)

Case 10: Check Smart entrance control unit Circuit. Refer to [LAN-205, "Smart Entrance Control Unit Circuit Check"](#)

Case 11: Check Combination meter Circuit. Refer to [LAN-206, "Combination Meter Circuit Check"](#)

Case 12: Check CAN communication Circuit. Refer to [LAN-206, "CAN Communication Circuit Check"](#)

Circuit Check Between TCM and Data Link Connector

EKS004UP

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side, control unit-side and harness-side)
 - TCM.
 - ABS actuator and electric unit (control unit).
 - Between TCM and ABS actuator and electric unit (control unit).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector and harness connector F108.
2. Check continuity between TCM harness connector F103 terminals 5 (L), 6 (R) and harness connector F108 terminals 3 (L), 2 (R).

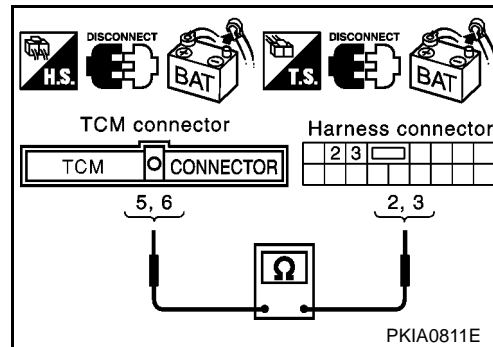
5(L) – 3(L) : Continuity should exist.

6(R) – 2(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between harness connector M79 terminals 3 (L), 2 (R) and Data link connector M10 terminals 6 (L), 3 (R).

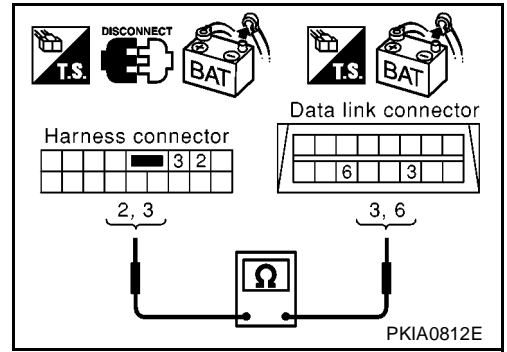
3(L) – 6(L) : Continuity should exist.

2(R) – 3(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform “SELF-DIAG RESULTS” and “DATA MONITOR” for “ENGINE”, “CVT”, “ABS”, and “SMART ENTRANCE” displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for “ENGINE” and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for “CVT”. Refer to [BRC-33, "CAN Communication Circuit"](#) for “ABS”. Refer to [BCS-40, "CAN Communication Line Check"](#) for “SMART ENTRANCE”.

NG >> Repair harness.



Circuit Check Between Data Link Connector and Smart Entrance Control Unit

EKS004U0

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - Smart entrance control unit.
 - ABS actuator and electric unit (control unit).
 - Between smart entrance control unit and ABS actuator and electric unit (control unit).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and Data link connector M10 terminals 6 (L), 3 (R).

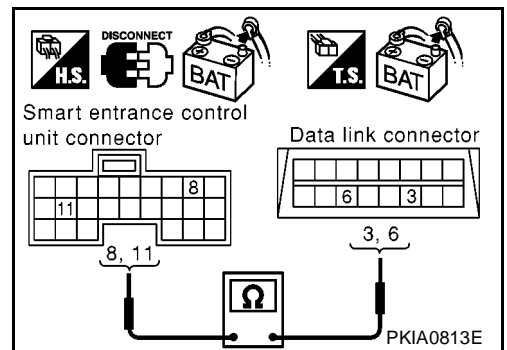
8(L) – 6(L) : Continuity should exist.

11(R) – 3(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform “SELF-DIAG RESULTS” and “DATA MONITOR” for “ENGINE”, “CVT”, “ABS”, and “SMART ENTRANCE” displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for “ENGINE” and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for “CVT”. Refer to [BRC-33, "CAN Communication Circuit"](#) for “ABS”. Refer to [BCS-40, "CAN Communication Line Check"](#) for “SMART ENTRANCE”.

NG >> Repair harness.



ECM Circuit Check**1. CHECK CONNECTOR**

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

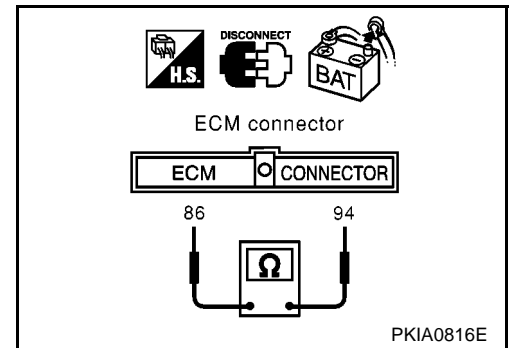
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F102 terminals 94(L) and 86(R).

94(L) – 86(R) : Approx. 108 – 132Ω

OK or NG

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

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

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

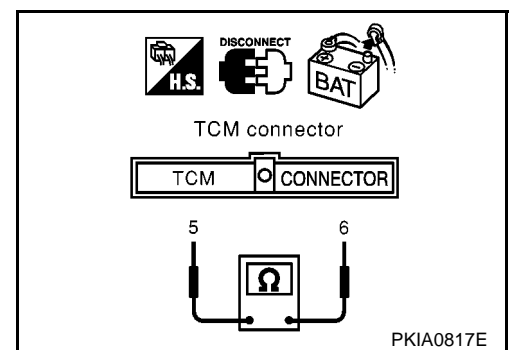
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector.
2. Check resistance between TCM harness connector F103 terminals 5(L) and 6(R).

5(L) – 6(R) : Approx. 54 – 66Ω

OK or NG

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



ABS Actuator and Electric Unit (control unit) Circuit Check

EKS004UT

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - ABS actuator and electric unit (control unit).
 - Harness connector E120.
 - Harness connector B107.
 - Harness connector B102.
 - Harness connector M89.

OK or NG

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

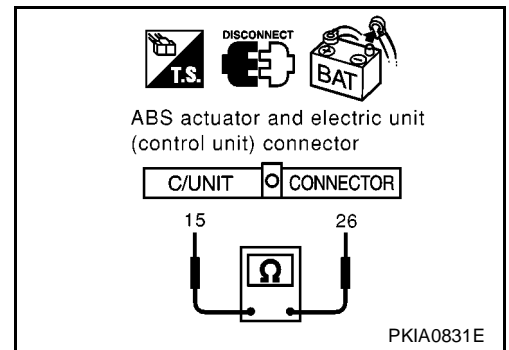
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E64 terminals 26(L) and 15(R).

26(L) – 15(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
 NG >> Repair harness between Data link connector and ABS actuator and electric unit (control unit).

**Smart Entrance Control Unit Circuit Check**

EKS004UU

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

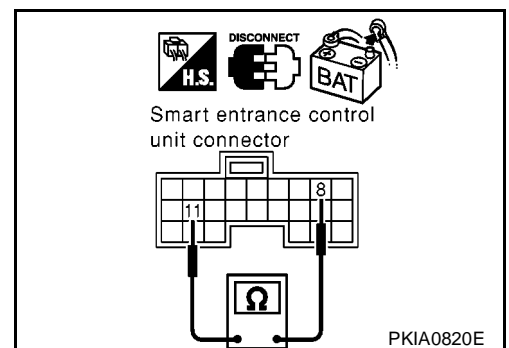
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
 NG >> Repair harness between Data link connector and smart entrance control unit.

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Combination Meter Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

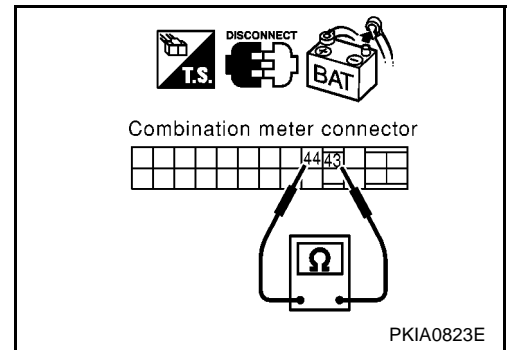
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 43(L) and 44(R).

43(L) – 44(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
NG >> Repair harness between smart entrance control unit and combination meter.



CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, control unit-side, control module-side and harness-side)
 - Combination meter.
 - Smart entrance control unit.
 - ABS actuator and electric unit (control unit).
 - TCM.
 - ECM.
 - Between ABS actuator and electric unit (control unit) and ECM.

OK or NG

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

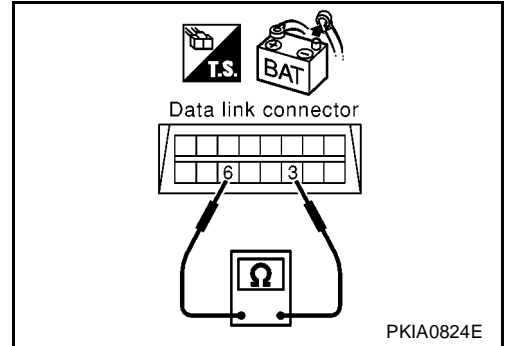
2. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect the following connectors.
 - Combination meter connector.
 - Smart entrance control unit connector.
 - Harness connector M89.
 - Harness connector M79.
2. Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.

OK or NG

- OK >> GO TO 3.
 NG >> ● Repair harness between smart entrance control unit and combination meter.
 ● Repair harness between Data link connector and smart entrance control unit.
 ● Repair harness between harness connector M89 and harness connector M79.



3. CHECK HARNESS FOR SHORT CIRCUIT

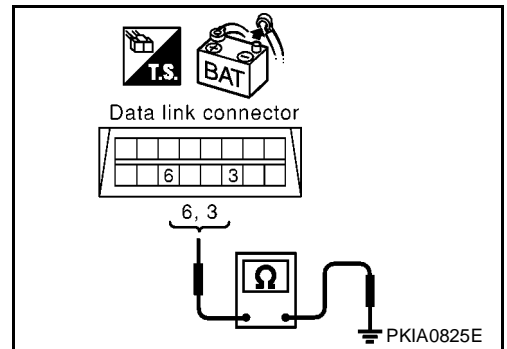
Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

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

3(R) – ground : Continuity should not exist.

OK or NG

- OK >> GO TO 4.
 NG >> ● Repair harness between smart entrance control unit and combination meter.
 ● Repair harness between Data link connector and smart entrance control unit.
 ● Repair harness between harness connector M89 and harness connector M79.



4. CHECK HARNESS FOR SHORT CIRCUIT

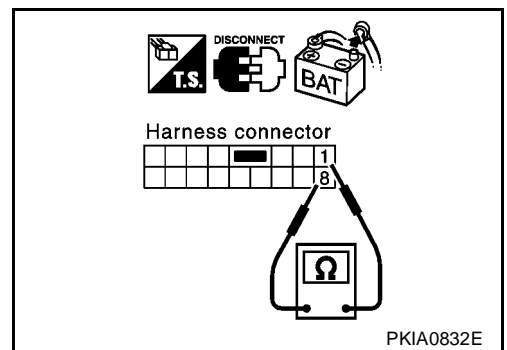
1. Disconnect harness connector B107.
2. Check the following.
 - Continuity between harness connector B102 terminals 1 (L) and 8(G).(Sedan models)
 - Continuity between harness connector B102 terminals 1 (L) and 8(R).(Wagon models)

1(L) – 8(G) (Sedan models) : Continuity should not exist.

1(L) – 8(R) (Wagon models) : Continuity should not exist.

OK or NG

- OK >> GO TO 5.
 NG >> Repair harness between harness connector B102 and harness connector B107.

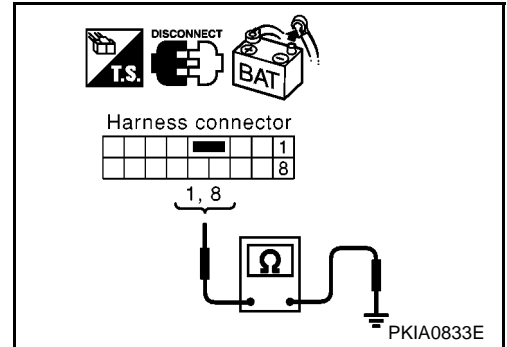


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5. CHECK HARNESS FOR SHORT CIRCUIT

1. Check the following.
 - Continuity between harness connector B102 terminals 1 (L), 8(G) and ground.(Sedan models)
 - Continuity between harness connector B102 terminals 1 (L), 8(R) and ground.(Wagon models)

- 1(L) – ground (Sedan models) : Continuity should not exist.**
- 8(G) – ground (Sedan models) : Continuity should not exist.**
- 1(L) – ground (Wagon models) : Continuity should not exist.**
- 8(R) – ground (Wagon models) : Continuity should not exist.**



OK or NG

- OK >> GO TO 6.
- NG >> Repair harness between harness connector B102 and harness connector B107.

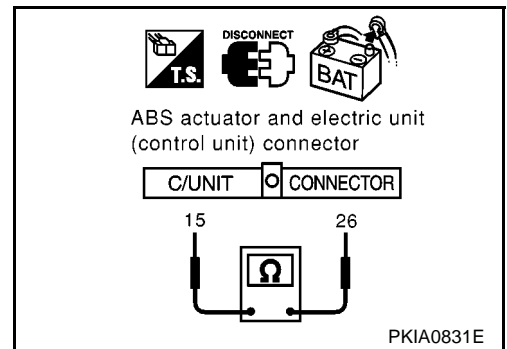
6. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L) and 15(R).

- 26(L) – 15(R) : Continuity should not exist.**

OK or NG

- OK >> GO TO 7.
- NG >> Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.



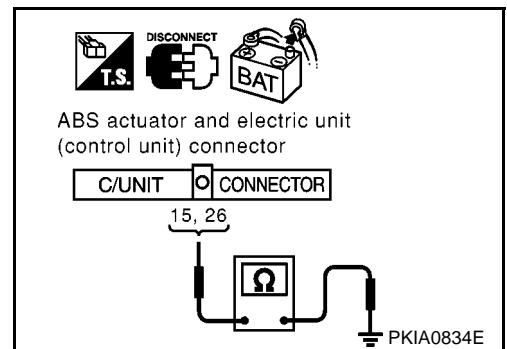
7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L), 15 (R) and ground.

- 26(L) – ground : Continuity should not exist.**
- 15(R) – ground : Continuity should not exist.**

OK or NG

- OK >> GO TO 8.
- NG >> Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.



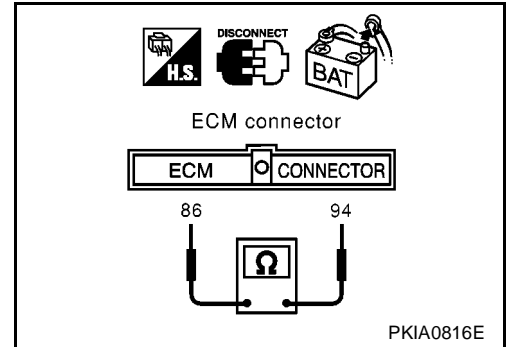
8. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ECM connector and TCM connector.
2. Check continuity between ECM harness connector F102 terminals 94 (L) and 86(R).

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

OK or NG

- OK >> GO TO 9.
- NG >>
 - Repair harness between ECM and harness connector F108.
 - Repair harness between TCM and harness connector F108.



9. CHECK HARNESS FOR SHORT CIRCUIT

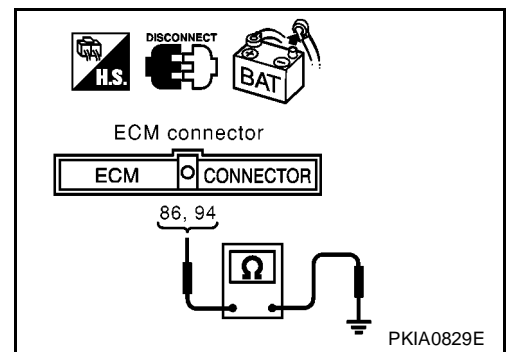
Check continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.

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

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

OK or NG

- OK >> GO TO 10.
- NG >>
 - Repair harness between ECM and harness connector F108.
 - Repair harness between TCM and harness connector F108.



10. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-209, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

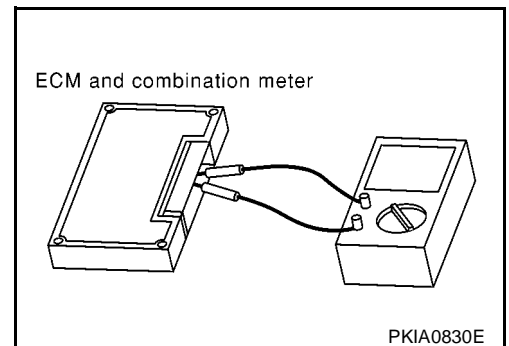
- OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
- NG >> Replace ECM and/or Combination meter.

Component Inspection ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

EKS004UX

- Remove ECM and Combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between Combination meter terminals 43 and 44.

Unit	Terminal	Resistance value (Ω)
ECM	94 – 86	Approx. 108 - 132
Combination meter	43 – 44	



CAN SYSTEM (TYPE 10)

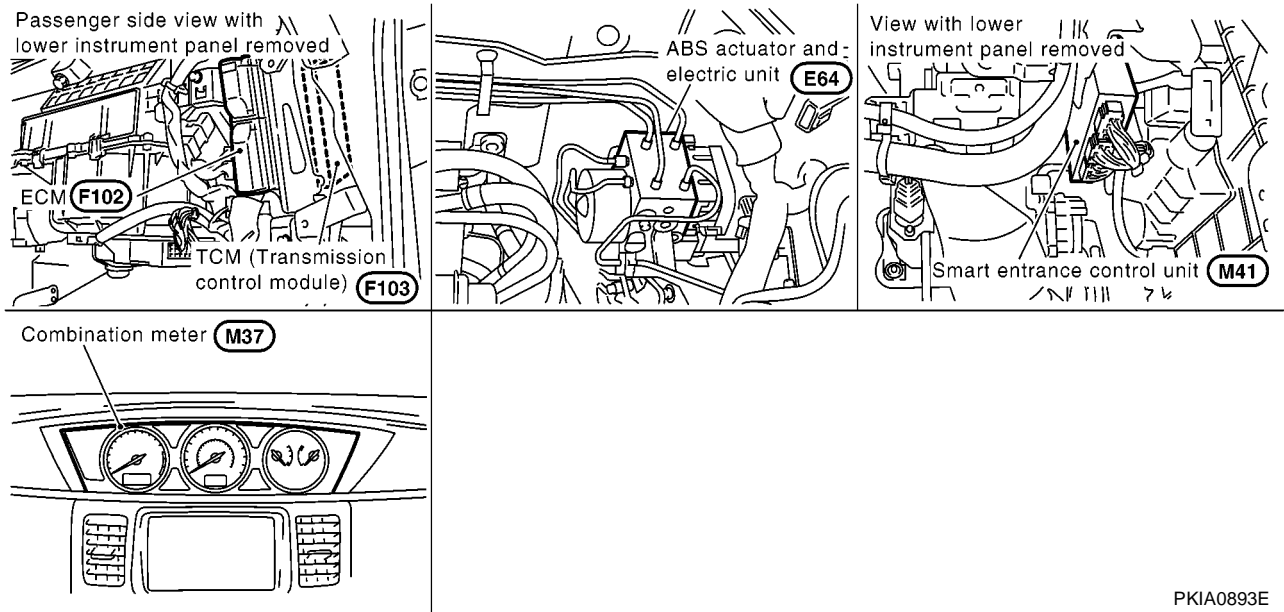
System Description

EKS004U7

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

EKS004U8



PKIA0893E

CAN SYSTEM (TYPE 10)

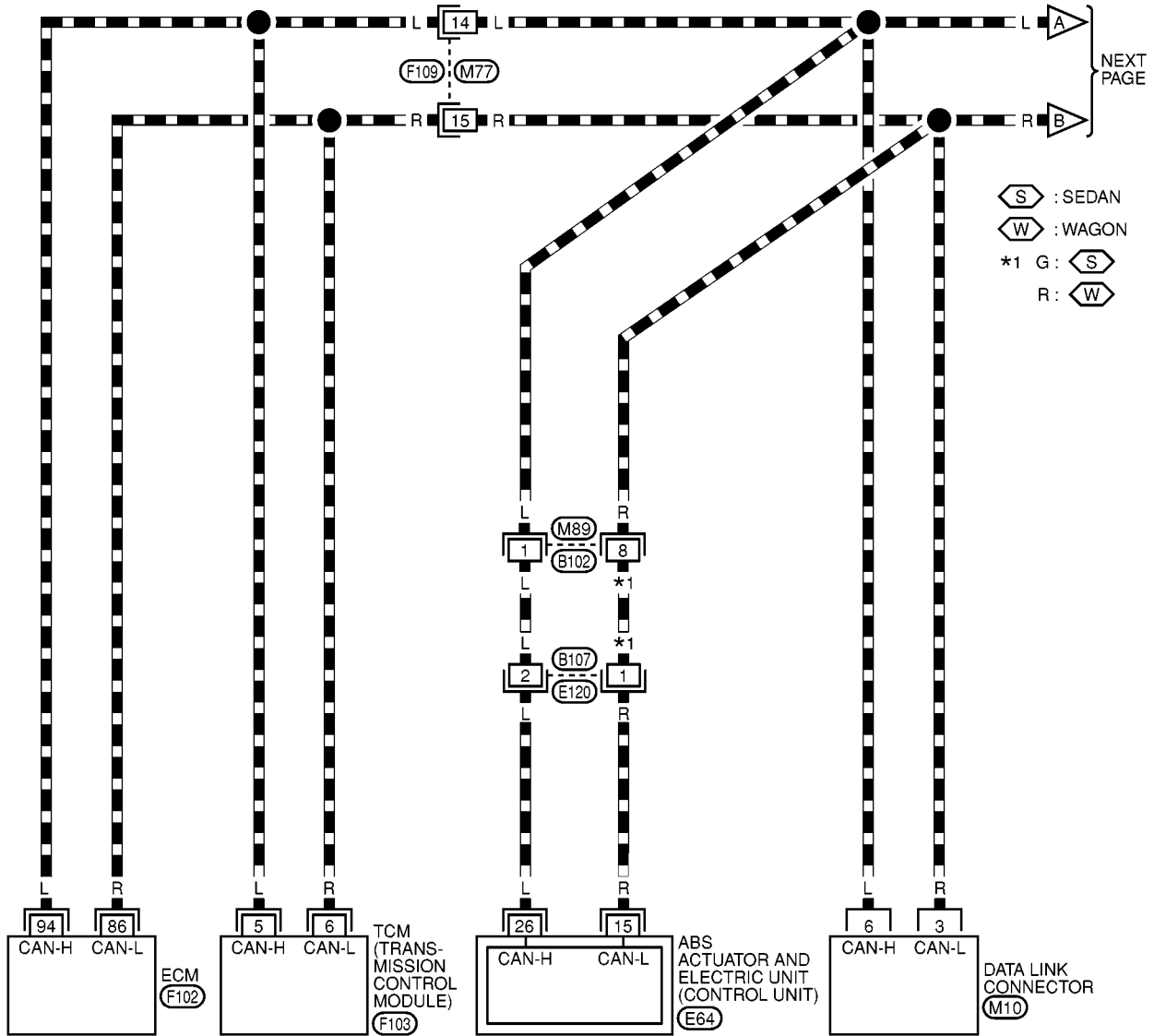
[CAN]

Wiring Diagram — CAN —

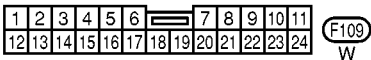
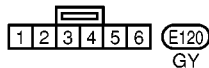
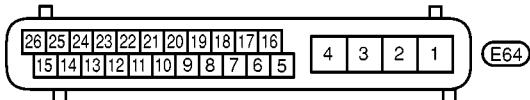
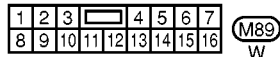
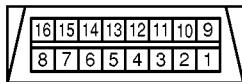
EKS004U9

LAN-CAN-21

▬ : DATA LINE



LAN



REFER TO THE FOLLOWING.
F102, F103 - ELECTRICAL UNITS

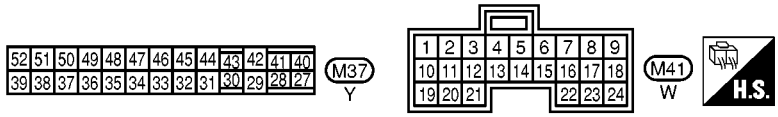
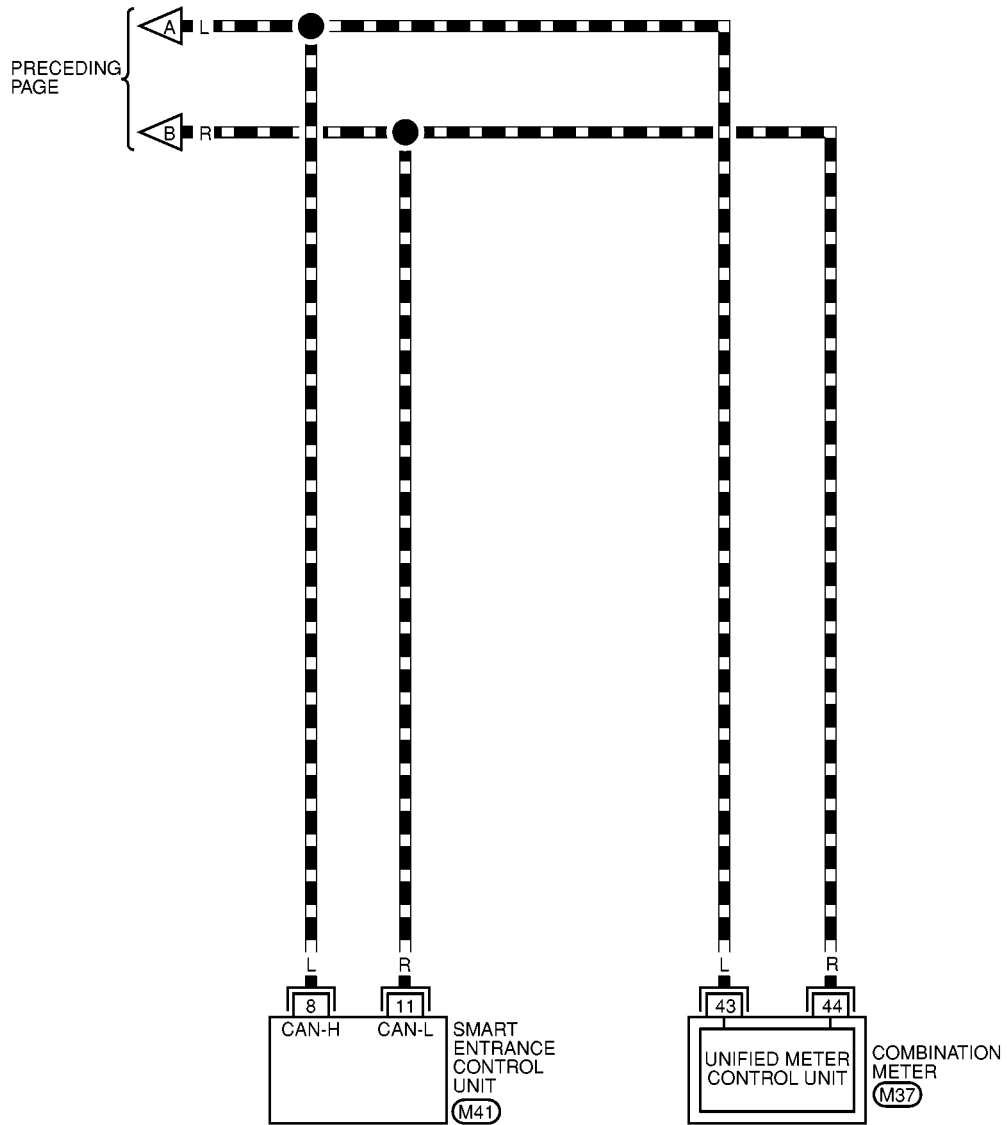
MKWA0371E

CAN SYSTEM (TYPE 10)

[CAN]

LAN-CAN-22

▬ : DATA LINE



MKWA0372E

Work Flow

EKS004UA

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "A/T", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [AT-190, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [AT-393, "CAN COMMUNICATION LINE"](#) (ALL) for "A/T". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-214, "CHECK SHEET"](#)
3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-214, "CHECK SHEET"](#)
NOTE:
If "NG" is displayed on "CAN COMM" for the diagnosed control unit, replace the control unit.
4. According to the check sheet results (example), start inspection. Refer to [LAN-215, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

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M

CAN SYSTEM (TYPE 10)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
A/T
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
A/T
DATA MONITOR

Attach copy of
ABS
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

PKIA0744E

CAN SYSTEM (TYPE 10)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN <input checked="" type="checkbox"/> CIRC 2	—	CAN <input checked="" type="checkbox"/> CIRC 6	CAN <input checked="" type="checkbox"/> CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 2: Replace TCM

ENGINE	CAN COMM	CAN CIRC 1	—	CAN <input checked="" type="checkbox"/> CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	CAN <input checked="" type="checkbox"/> CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 3: Replace ABS actuator and electric unit (control unit)

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 4: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	CAN <input checked="" type="checkbox"/> CIRC 3

Case 5

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN <input checked="" type="checkbox"/> CIRC 6	CAN <input checked="" type="checkbox"/> CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN <input checked="" type="checkbox"/> CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	CAN CIRC 3

PKIA0745E

A
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LAN

CAN SYSTEM (TYPE 10)

[CAN]

Case 6

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 9

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 10

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 11

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 12

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

PKIA0746E

NOTE:

If “NG” is displayed on “CAN COMM” for the diagnosed control unit, replace the control unit.

INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace TCM.

Case 3: Replace ABS actuator and electric unit (control unit).

Case 4: Replace Smart entrance control unit.

Case 5: Check Harness between TCM and Data link connector. Refer to [LAN-217, "Circuit Check Between TCM and Data Link Connector"](#)

Case 6: Check Harness between Data link connector and Smart entrance control unit. Refer to [LAN-218, "Circuit Check Between Data Link Connector and Smart Entrance Control Unit"](#)

Case 7: Check ECM Circuit. Refer to [LAN-219, "ECM Circuit Check"](#)

Case 8: Check TCM Circuit. Refer to [LAN-219, "TCM Circuit Check"](#)

Case 9: Check ABS actuator and electric unit (control unit) Circuit. Refer to [LAN-220, "ABS Actuator and Electric Unit \(control unit\) Circuit Check"](#)

Case 10: Check Smart entrance control unit Circuit. Refer to [LAN-220, "Smart Entrance Control Unit Circuit Check"](#)

Case 11: Check Combination meter Circuit. Refer to [LAN-221, "Combination Meter Circuit Check"](#)

Case 12: Check CAN communication Circuit. Refer to [LAN-221, "CAN Communication Circuit Check"](#)

Circuit Check Between TCM and Data Link Connector

EKS004UJ

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side, control unit-side and harness-side)
 - TCM.
 - ABS actuator and electric unit (control unit).
 - Between TCM and ABS actuator and electric unit (control unit).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector and harness connector F109.
2. Check continuity between TCM harness connector F103 terminals 5 (L), 6 (R) and harness connector F109 terminals 14 (L), 15 (R).

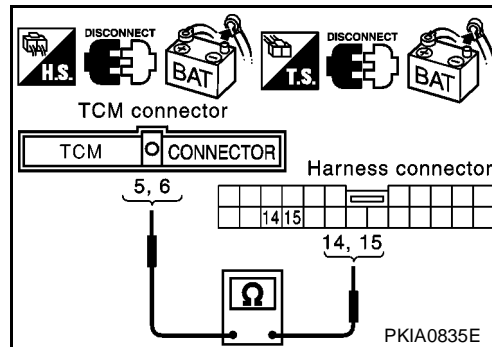
5(L) – 14(L) : Continuity should exist.

6(R) – 15(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between harness connector M77 terminals 14 (L), 15 (R) and Data link connector M10 terminals 6 (L), 3 (R).

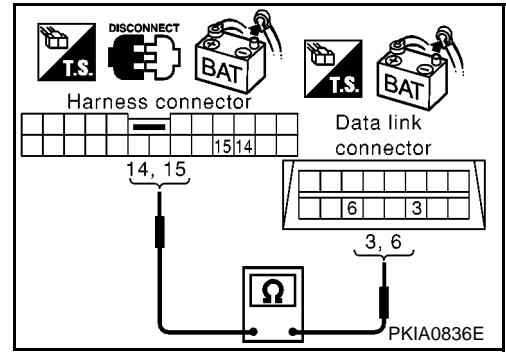
14(L) – 6(L) : Continuity should exist.

15(R) – 3(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "A/T", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [AT-190, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [AT-393, "CAN COMMUNICATION LINE"](#) (ALL) for "A/T". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



Circuit Check Between Data Link Connector and Smart Entrance Control Unit

EKS004UB

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - Smart entrance control unit.
 - ABS actuator and electric unit (control unit).
 - Between smart entrance control unit and ABS actuator and electric unit (control unit).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and Data link connector M10 terminals 6 (L), 3 (R).

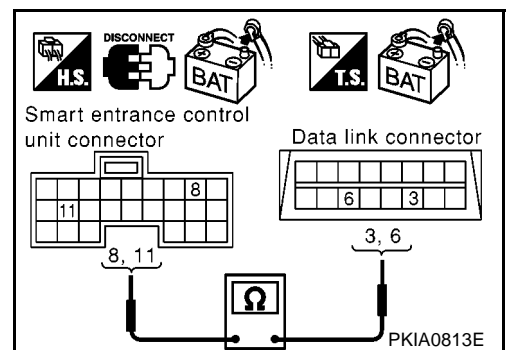
8(L) – 6(L) : Continuity should exist.

11(R) – 3(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "A/T", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [AT-190, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [AT-393, "CAN COMMUNICATION LINE"](#) (ALL) for "A/T". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



ECM Circuit Check**1. CHECK CONNECTOR**

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

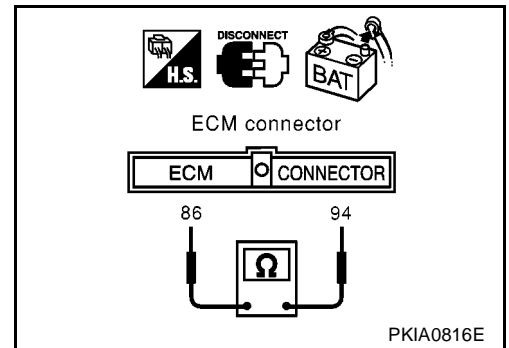
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F102 terminals 94(L) and 86(R).

94(L) – 86(R) : Approx. 108 – 132Ω

OK or NG

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

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

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

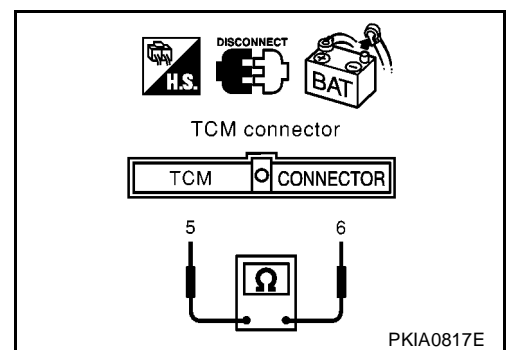
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector.
2. Check resistance between TCM harness connector F103 terminals 5(L) and 6(R).

5(L) – 6(R) : Approx. 54 – 66Ω

OK or NG

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



ABS Actuator and Electric Unit (control unit) Circuit Check

EKS004UD

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - ABS actuator and electric unit (control unit).
 - Harness connector E120.
 - Harness connector B107.
 - Harness connector B102.
 - Harness connector M89.

OK or NG

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

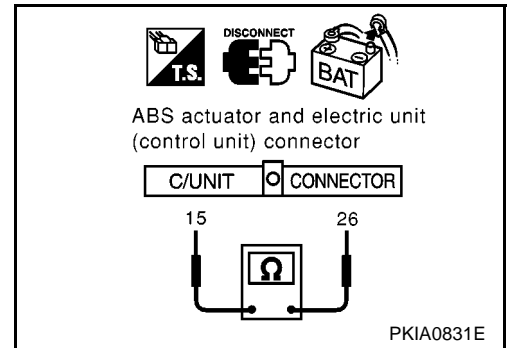
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E64 terminals 26(L) and 15(R).

26(L) – 15(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
 NG >> Repair harness between Data link connector and ABS actuator and electric unit (control unit).



Smart Entrance Control Unit Circuit Check

EKS004UE

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

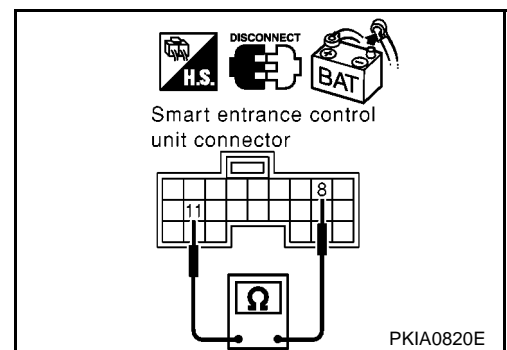
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
 NG >> Repair harness between Data link connector and smart entrance control unit.



Combination Meter Circuit Check**1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

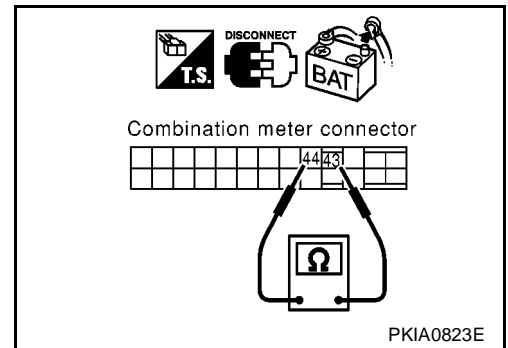
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 43(L) and 44(R).

43(L) – 44(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
 NG >> Repair harness between smart entrance control unit and combination meter.

**CAN Communication Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, control unit-side, control module-side and harness-side)
 - Combination meter.
 - Smart entrance control unit.
 - ABS actuator and electric unit (control unit).
 - TCM.
 - ECM.
 - Between ABS actuator and electric unit (control unit) and ECM.

OK or NG

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

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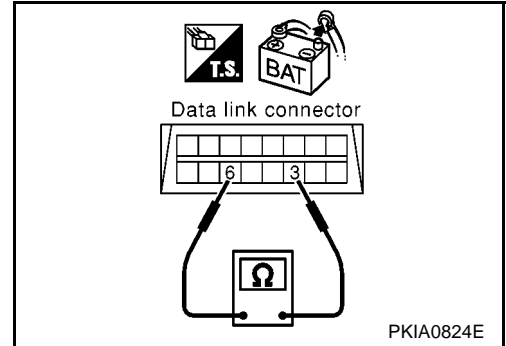
2. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect the following connectors.
 - Combination meter connector.
 - Smart entrance control unit connector.
 - Harness connector M89.
 - Harness connector M77.
2. Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.

OK or NG

- OK >> GO TO 3.
 NG >> ● Repair harness between smart entrance control unit and combination meter.
- Repair harness between Data link connector and smart entrance control unit.
 - Repair harness between harness connector M89 and harness connector M77.



3. CHECK HARNESS FOR SHORT CIRCUIT

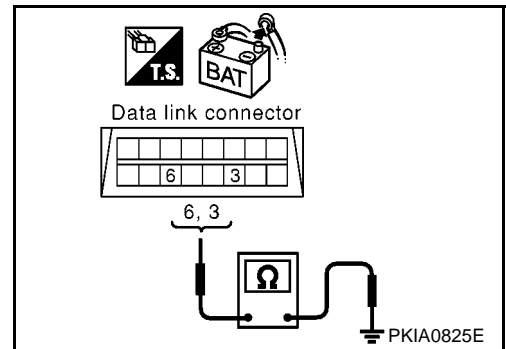
Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

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

3(R) – ground : Continuity should not exist.

OK or NG

- OK >> GO TO 4.
 NG >> ● Repair harness between smart entrance control unit and combination meter.
- Repair harness between Data link connector and smart entrance control unit.
 - Repair harness between harness connector M89 and harness connector M77.



4. CHECK HARNESS FOR SHORT CIRCUIT

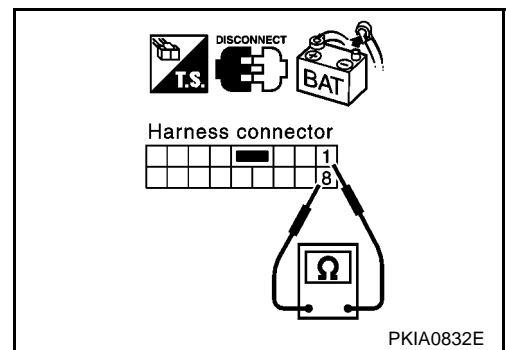
1. Disconnect harness connector B107.
2. Check the following.
 - Continuity between harness connector B102 terminals 1 (L) and 8(G).(Sedan models)
 - Continuity between harness connector B102 terminals 1 (L) and 8(R).(Wagon models)

1(L) – 8(G) (Sedan models) : Continuity should not exist.

1(L) – 8(R) (Wagon models) : Continuity should not exist.

OK or NG

- OK >> GO TO 5.
 NG >> Repair harness between harness connector B102 and harness connector B107.



5. CHECK HARNESS FOR SHORT CIRCUIT

1. Check the following.

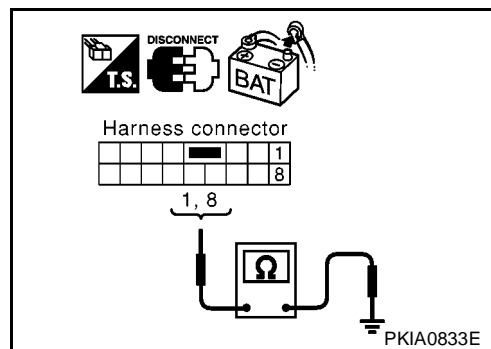
- Continuity between harness connector B102 terminals 1 (L), 8(G) and ground.(Sedan models)
- Continuity between harness connector B102 terminals 1 (L), 8(R) and ground.(Wagon models)

1(L) – ground (Sedan models) : Continuity should not exist.

8(G) – ground (Sedan models) : Continuity should not exist.

1(L) – ground (Wagon models) : Continuity should not exist.

8(R) – ground (Wagon models) : Continuity should not exist.



OK or NG

OK >> GO TO 6.

NG >> Repair harness between harness connector B102 and harness connector B107.

6. CHECK HARNESS FOR SHORT CIRCUIT

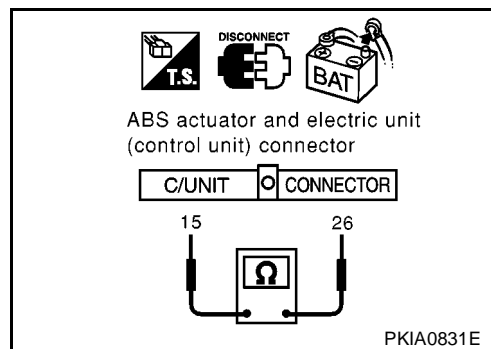
1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L) and 15(R).

26(L) – 15(R) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L), 15 (R) and ground.

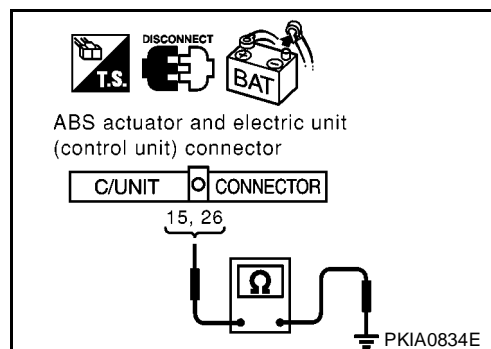
26(L) – ground : Continuity should not exist.

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

OK or NG

OK >> GO TO 8.

NG >> Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.



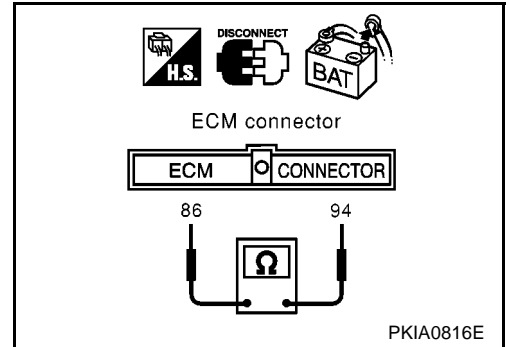
8. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ECM connector and TCM connector.
2. Check continuity between ECM harness connector F102 terminals 94 (L) and 86(R).

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

OK or NG

- OK >> GO TO 9.
- NG >>
 - Repair harness between ECM and harness connector F109.
 - Repair harness between TCM and harness connector F109.



9. CHECK HARNESS FOR SHORT CIRCUIT

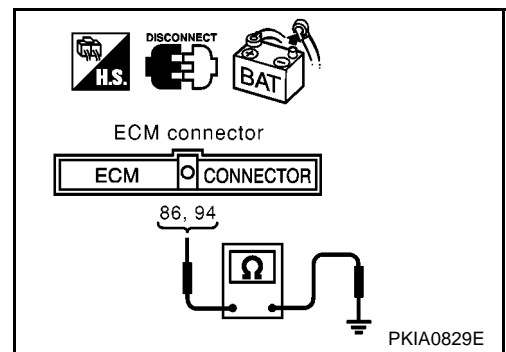
Check continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.

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

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

OK or NG

- OK >> GO TO 10.
- NG >>
 - Repair harness between ECM and harness connector F109.
 - Repair harness between TCM and harness connector F109.



10. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-224, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

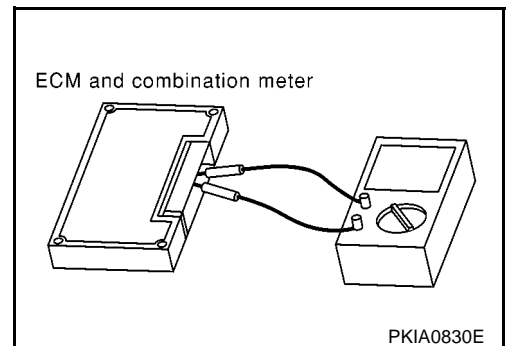
- OK >> Reconnect all connectors to perform “SELF-DIAG RESULTS” and “DATA MONITOR” for “ENGINE”, “A/T”, “ABS”, and “SMART ENTRANCE” displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for “ENGINE” and Refer to [AT-190, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [AT-393, "CAN COMMUNICATION LINE"](#) (ALL) for “A/T”. Refer to [BRC-33, "CAN Communication Circuit"](#) for “ABS”. Refer to [BCS-40, "CAN Communication Line Check"](#) for “SMART ENTRANCE”.
- NG >> Replace ECM and/or Combination meter.

Component Inspection ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

EKS004UH

- Remove ECM and Combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between Combination meter terminals 43 and 44.

Unit	Terminal	Resistance value (Ω)
ECM	94 – 86	Approx. 108 - 132
Combination meter	43 – 44	



CAN SYSTEM (TYPE 11)

PPF:23710

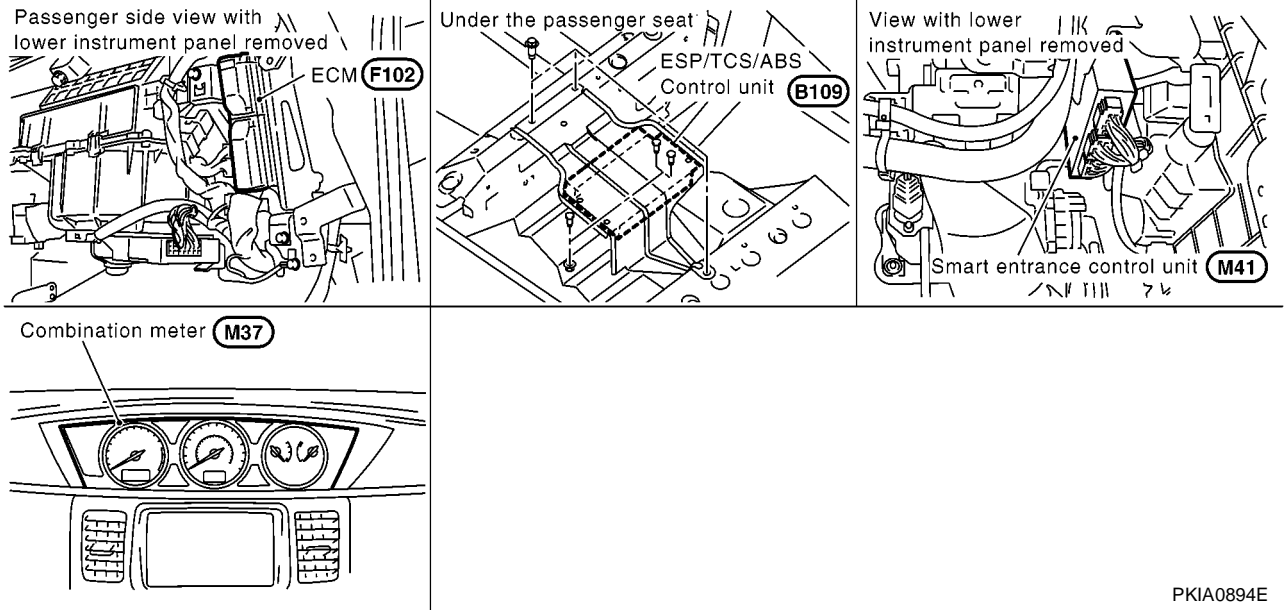
System Description

EKS004UY

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

EKS004UZ



PKIA0894E

A
B
C
D
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F
G
H
I
J
L
M

LAN

CAN SYSTEM (TYPE 11)

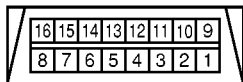
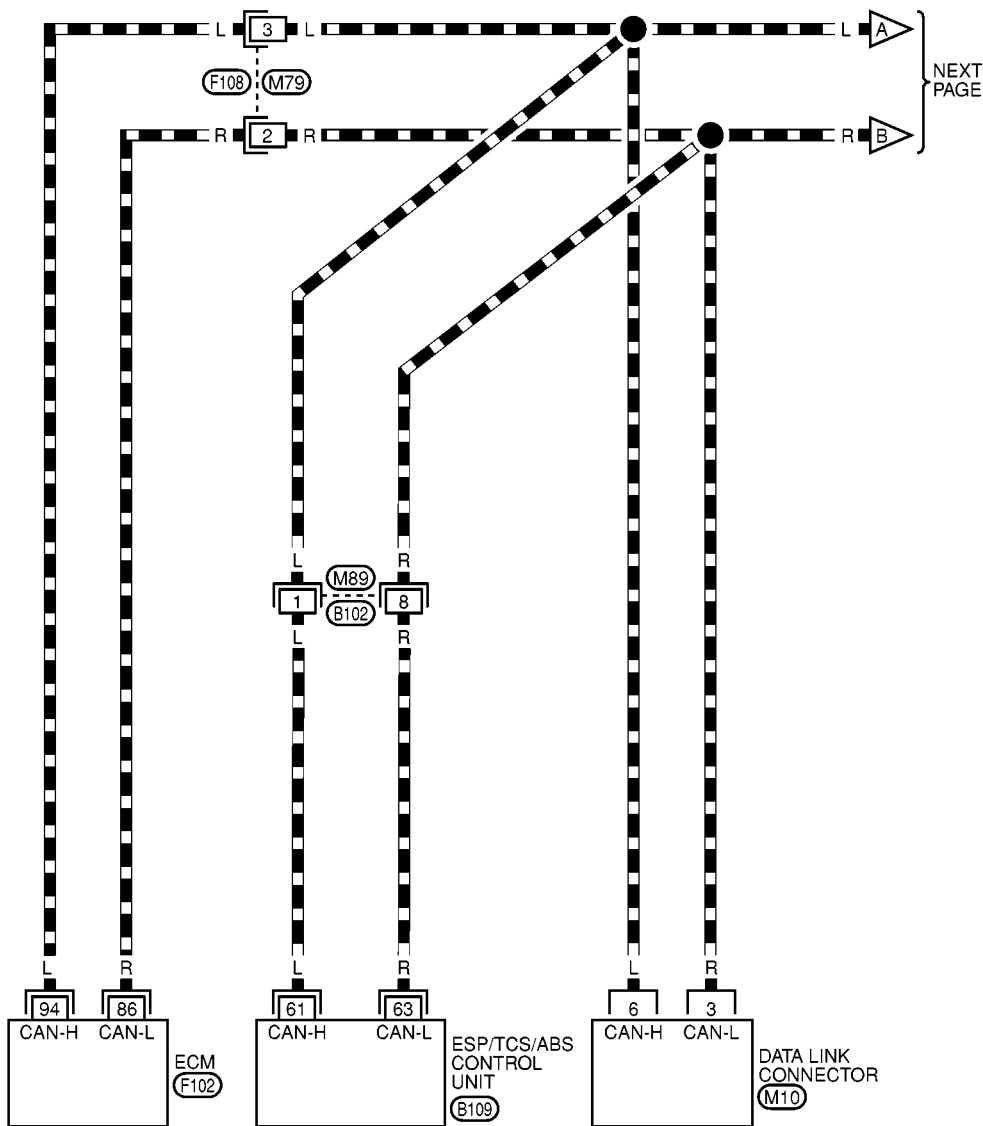
[CAN]

Wiring Diagram — CAN —

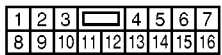
EKS004V0

LAN-CAN-23

▬ : DATA LINE

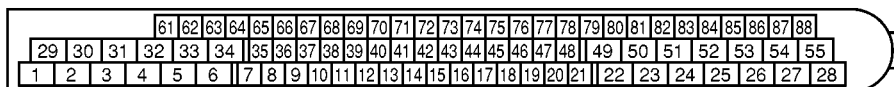


(M10)
W



(M89) (F108)
W W

REFER TO THE FOLLOWING.
(F102) -ELECTRICAL UNITS



(B109)
B

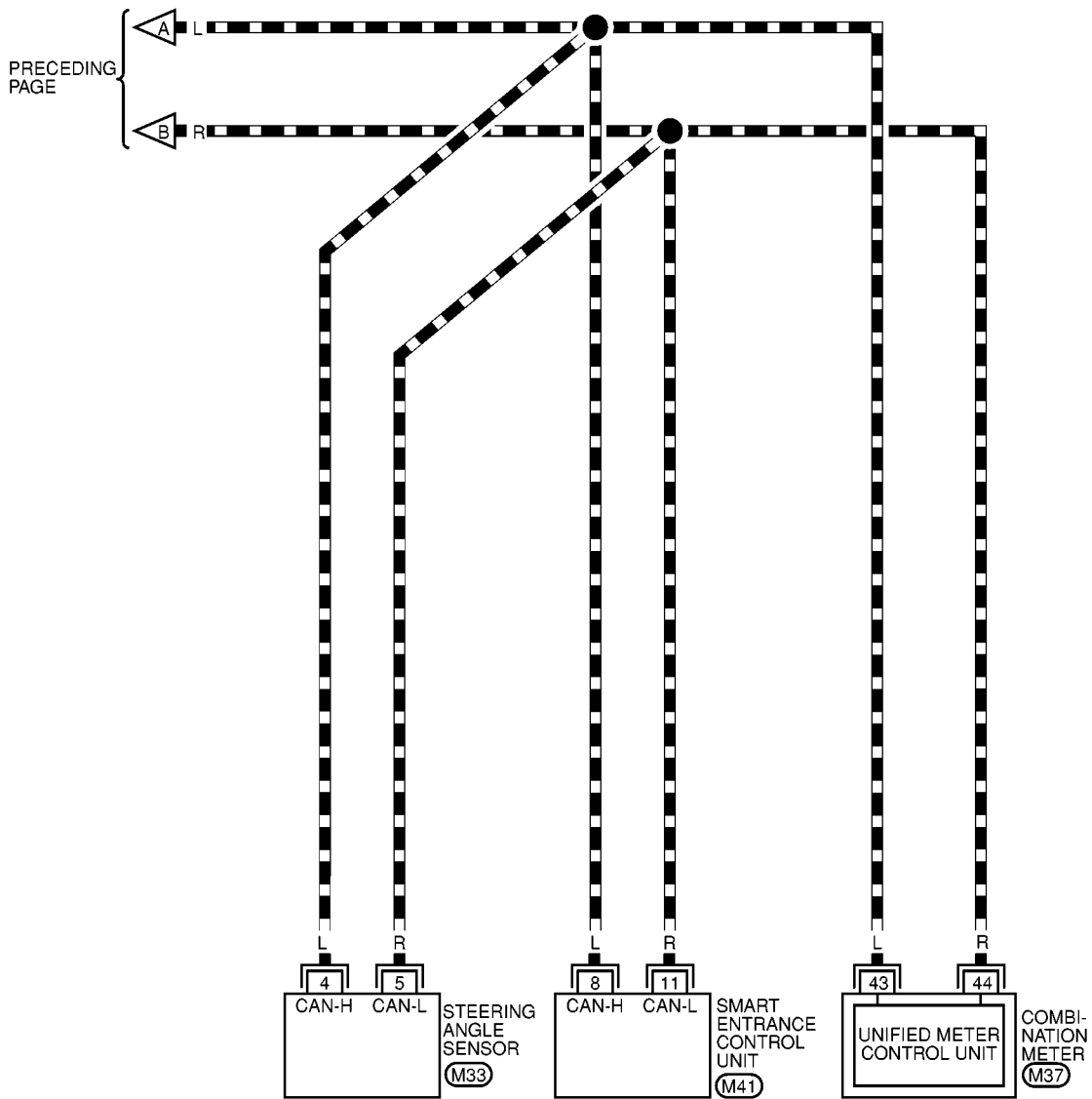
MKWA0373E

CAN SYSTEM (TYPE 11)

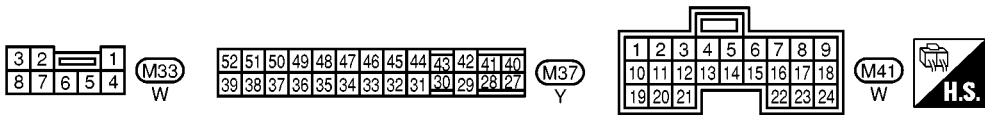
[CAN]

LAN-CAN-24

▬ : DATA LINE



A
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LAN
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M



MKWA0374E

Work Flow

EKS004V1

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-229, "CHECK SHEET"](#)
3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-229, "CHECK SHEET"](#)

NOTE:

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

4. According to the check sheet results (example), start inspection. Refer to [LAN-230, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

CAN SYSTEM (TYPE 11)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
ABS
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

PKIA0747E

A
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CAN SYSTEM (TYPE 11)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN <input checked="" type="checkbox"/> CIRC 3	—	CAN <input checked="" type="checkbox"/> CIRC 6	CAN <input checked="" type="checkbox"/> CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 2: Replace ESP/TCS/ABS control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN <input checked="" type="checkbox"/> CIRC 3	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	CAN <input checked="" type="checkbox"/> CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 3: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	CAN <input checked="" type="checkbox"/> CIRC 3

Case 4

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN <input checked="" type="checkbox"/> CIRC 6	CAN <input checked="" type="checkbox"/> CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN <input checked="" type="checkbox"/> CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	CAN CIRC 3

Case 5

ENGINE	CAN COMM	CAN <input checked="" type="checkbox"/> CIRC 1	—	CAN <input checked="" type="checkbox"/> CIRC 3	—	CAN <input checked="" type="checkbox"/> CIRC 6	CAN <input checked="" type="checkbox"/> CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	CAN CIRC 3

Case 6

ENGINE	CAN COMM	CAN CIRC 1	—	CAN <input checked="" type="checkbox"/> CIRC 3	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN <input checked="" type="checkbox"/> CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	CAN <input checked="" type="checkbox"/> CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN <input checked="" type="checkbox"/> CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

PKIA0748E

Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 9

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 10

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

PKIA0749E

NOTE:

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

INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace ESP/TCS/ABS control unit.

Case 3: Replace Smart entrance control unit.

Case 4: Check Harness between Data link connector and Smart entrance control unit. Refer to [LAN-231, "Circuit Check Between Data Link Connector and Smart Entrance Control Unit"](#)

Case 5: Check ECM Circuit. Refer to [LAN-232, "ECM Circuit Check"](#)

Case 6: Check ESP/TCS/ABS control unit Circuit. Refer to [LAN-233, "ESP/TCS/ABS Control Unit Circuit Check"](#)

Case 7: Check Steering angle sensor Circuit. Refer to [LAN-233, "Steering Angle Sensor Circuit Check"](#)

Case 8: Check Smart entrance control unit Circuit. Refer to [LAN-234, "Smart Entrance Control Unit Circuit Check"](#)

Case 9: Check Combination meter Circuit. Refer to [LAN-234, "Combination Meter Circuit Check"](#)

Case 10: Check CAN communication Circuit. Refer to [LAN-235, "CAN Communication Circuit Check"](#)

Circuit Check Between Data Link Connector and Smart Entrance Control Unit

EKS004V3

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side, sensor-side and harness-side)
 - Smart entrance control unit.
 - Steering angle sensor.
 - ESP/TCS/ABS control unit.
 - Between smart entrance control unit and ESP/TCS/ABS control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and Data link connector M10 terminals 6 (L), 3 (R).

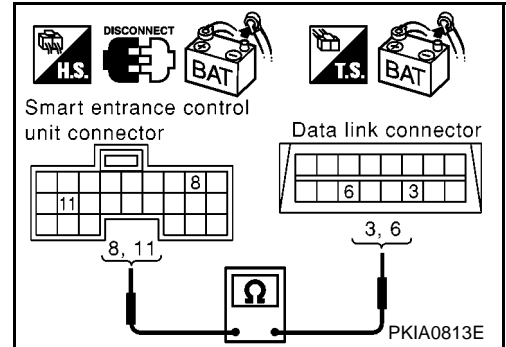
8(L) – 6(L) : Continuity should exist.

11(R) – 3(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform “SELF-DIAG RESULTS” and “DATA MONITOR” for “ENGINE”, “ABS”, and “SMART ENTRANCE” displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE" \(WITH EURO-OBD\)](#) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE" \(WITHOUT EURO-OBD\)](#) for “ENGINE” and Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for “ABS”. Refer to [BCS-40, "CAN Communication Line Check"](#) for “SMART ENTRANCE”.

NG >> Repair harness.



ECM Circuit Check

EKS004V4

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side and harness-side)
 - ECM.
 - Harness connector F108.
 - Harness connector M79.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

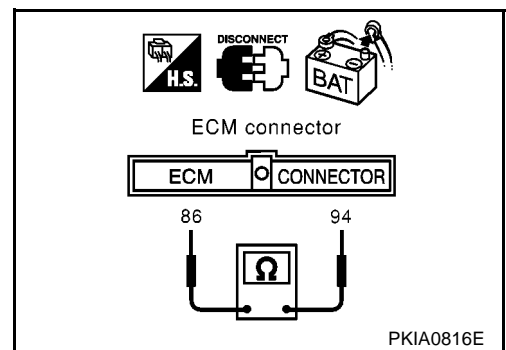
1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F102 terminals 94(L) and 86(R).

94(L) – 86(R) : Approx. 108 – 132Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between Data link connector and ECM.



ESP/TCS/ABS Control Unit Circuit Check

EKS004V6

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - ESP/TCS/ABS control unit.
 - Harness connector B102.
 - Harness connector M89.

OK or NG

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

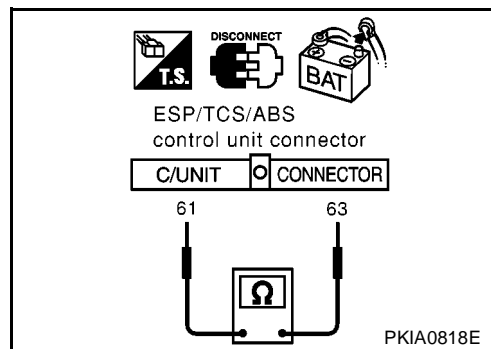
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector.
2. Check resistance between ESP/TCS/ABS control unit harness connector B109 terminals 61(L) and 63(R).

61(L) – 63(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ESP/TCS/ABS control unit.
 NG >> Repair harness between Data link connector and ESP/TCS/ABS control unit.

**Steering Angle Sensor Circuit Check**

EKS004V5

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of steering angle sensor for damage, bend and loose connection. (sensor-side and harness-side)

OK or NG

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

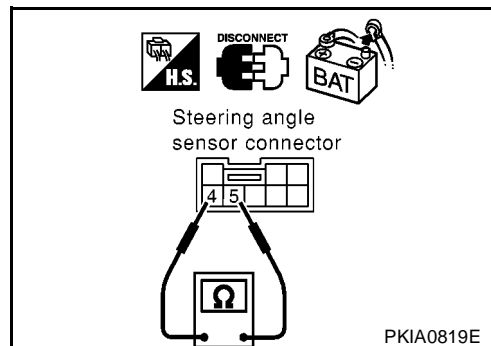
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect steering angle sensor connector.
2. Check resistance between steering angle sensor harness connector M33 terminals 4(L) and 5(R).

4(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace steering angle sensor.
 NG >> Repair harness between steering angle sensor and smart entrance control unit.



Smart Entrance Control Unit Circuit Check

EKS004V7

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

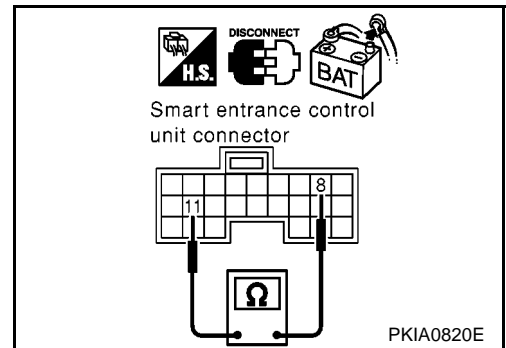
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
NG >> Repair harness between steering angle sensor and smart entrance control unit.



Combination Meter Circuit Check

EKS004V8

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

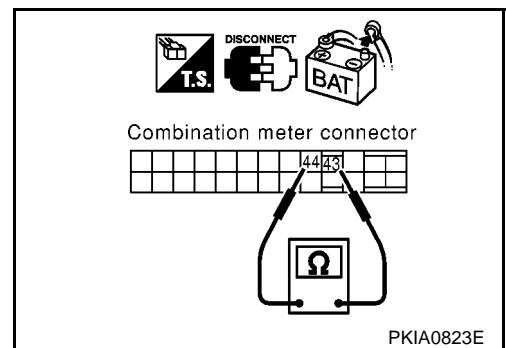
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 43(L) and 44(R).

43(L) – 44(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
NG >> Repair harness between smart entrance control unit and combination meter.



CAN Communication Circuit Check

EKS004V9

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, control unit-side, sensor-side, control module-side and harness-side)
 - Combination meter.
 - Smart entrance control unit.
 - Steering angle sensor.
 - ESP/TCS/ABS control unit.
 - ECM.
 - Between ESP/TCS/ABS control unit and ECM.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

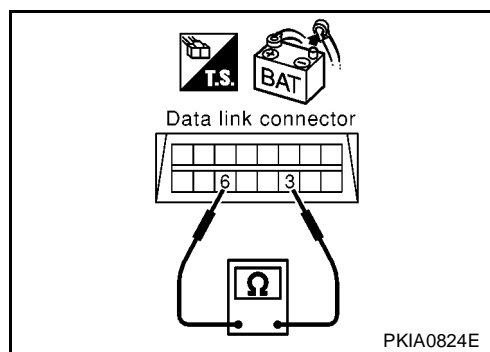
2. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect the following connectors.
 - Combination meter connector.
 - Smart entrance control unit connector.
 - Steering angle sensor connector.
 - Harness connector M89.
 - Harness connector M79.
2. Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.**OK or NG**

OK >> GO TO 3.

- NG >>
- Repair harness between smart entrance control unit and combination meter.
 - Repair harness between smart entrance control unit and steering angle sensor.
 - Repair harness between Data link connector and steering angle sensor.
 - Repair harness between harness connector M89 and harness connector M79.



3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

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

3(R) – ground : Continuity should not exist.

OK or NG

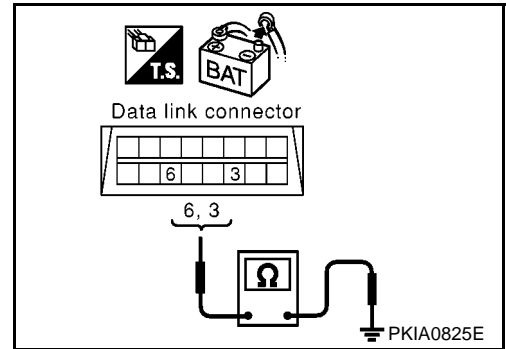
OK >> GO TO 4.

NG >> ● Repair harness between smart entrance control unit and combination meter.

● Repair harness between smart entrance control unit and steering angle sensor.

● Repair harness between Data link connector and steering angle sensor.

● Repair harness between harness connector M89 and harness connector M79.



4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector.

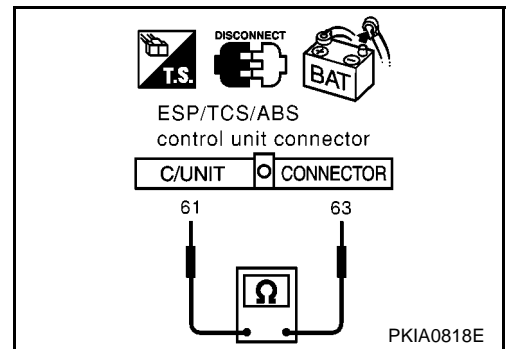
2. Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L) and 63(R).

61(L) – 63(R) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between ESP/TCS/ABS control unit and harness connector B102.



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L), 63 (R) and ground.

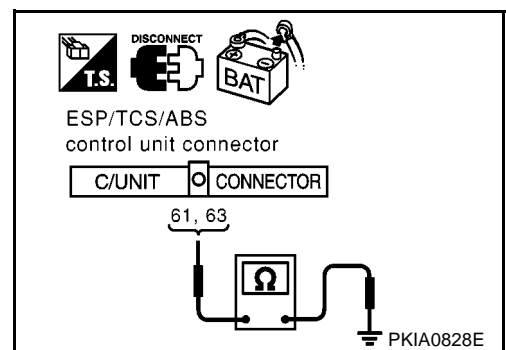
61(L) – ground : Continuity should not exist.

63(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between ESP/TCS/ABS control unit and harness connector B102.



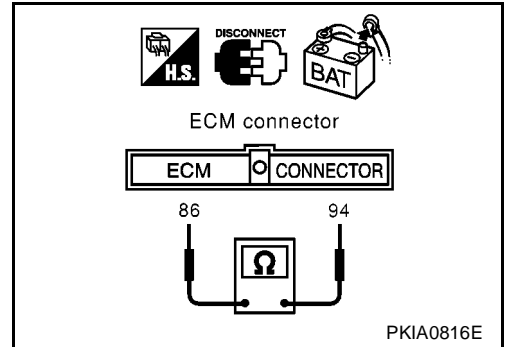
6. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ECM connector.
2. Check continuity between ECM harness connector F102 terminals 94 (L) and 86(R).

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

OK or NG

- OK >> GO TO 7.
 NG >> Repair harness between ECM and harness connector F108.



7. CHECK HARNESS FOR SHORT CIRCUIT

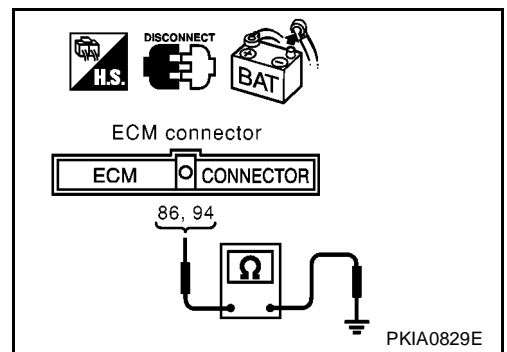
Check continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.

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

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

OK or NG

- OK >> GO TO 8.
 NG >> Repair harness between ECM and harness connector F108.



8. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-237, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

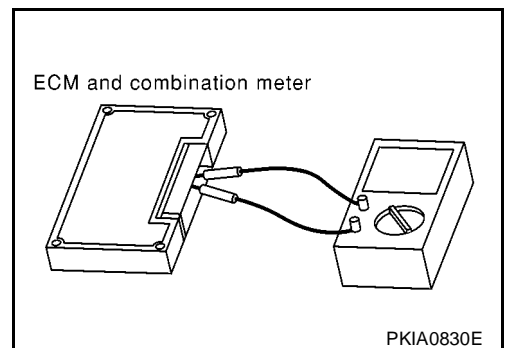
- OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
- NG >> Replace ECM and/or Combination meter.

Component Inspection ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

EKS004VA

- Remove ECM and Combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between Combination meter terminals 43 and 44.

Unit	Terminal	Resistance value (Ω)
ECM	94 – 86	Approx. 108 - 132
Combination meter	43 – 44	



CAN SYSTEM (TYPE 12)

PFP:23710

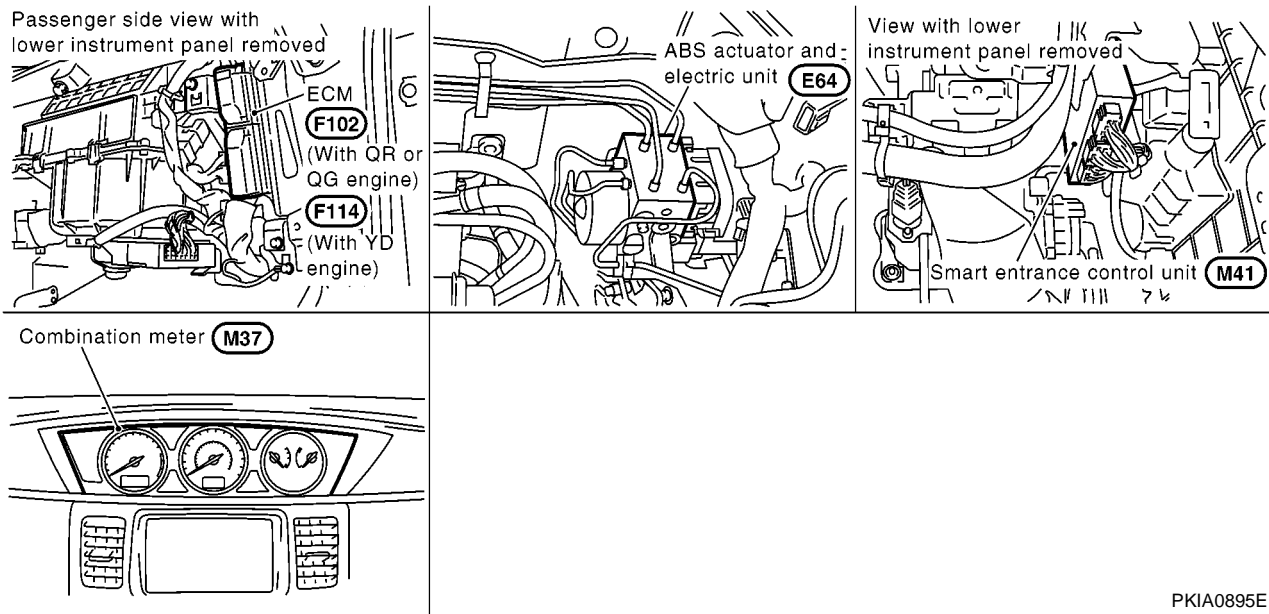
System Description

EKS004SS

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

EKS004ST



PKIA0895E

CAN SYSTEM (TYPE 12)

[CAN]

EKS004SU

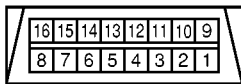
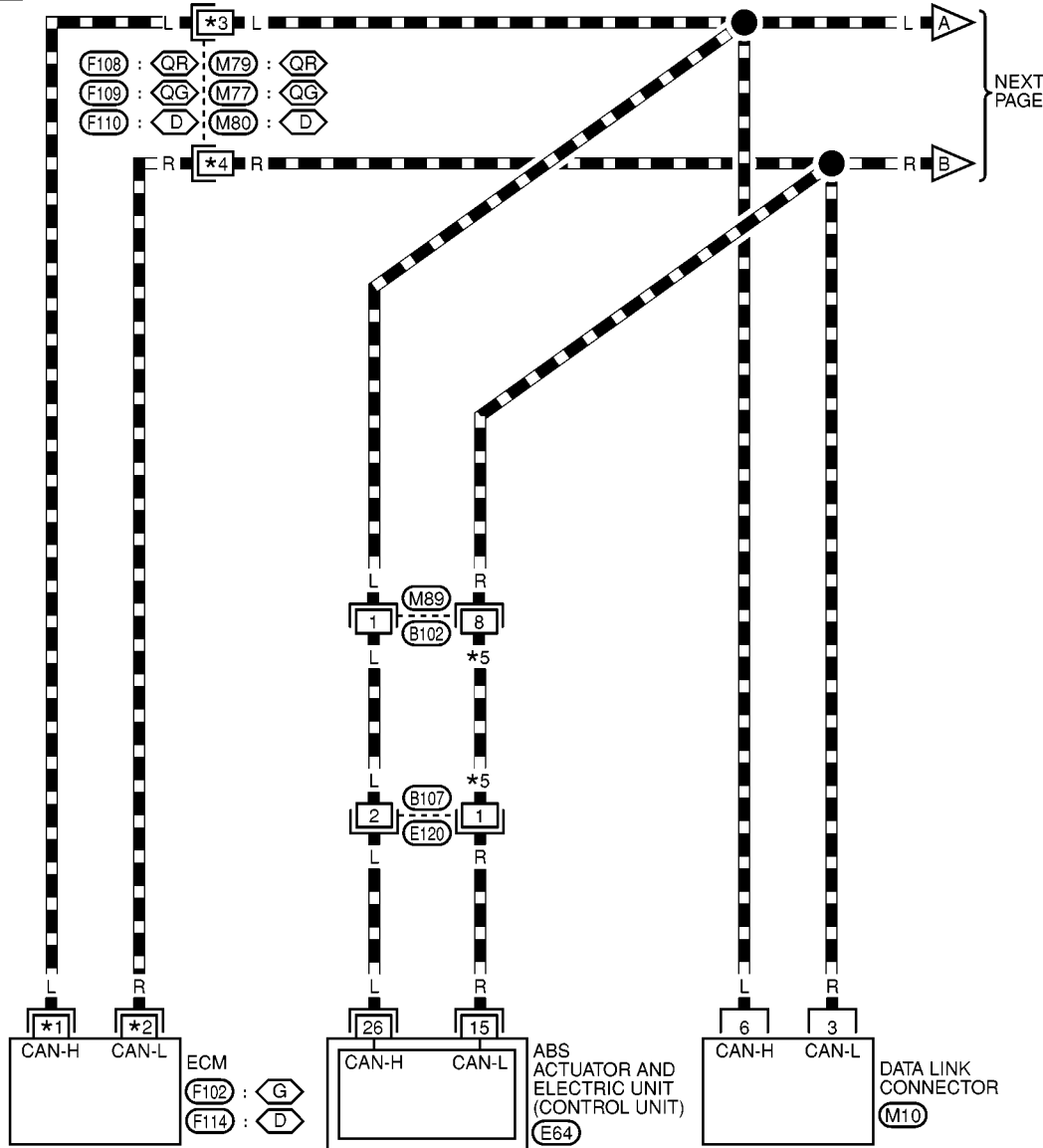
Wiring Diagram — CAN —

LAN-CAN-25

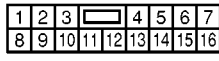
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- G : WITH GASOLINE ENGINE
- D : WITH DIESEL ENGINE
- QR : WITH QR ENGINE
- QG : WITH QG ENGINE
- S : SEDAN
- W : WAGON

- : DATA LINE
- *1 94 : G
- E11 : D
- *2 86 : G
- E10 : D
- *3 3 : QR
- 14 : QG
- 1 : D
- *4 2 : QR
- 15 : QG
- 4 : D
- *5 G : S
- R : W



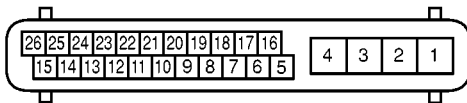
M10
W



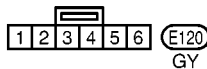
M89
W



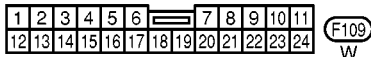
F108
W



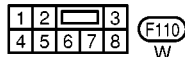
E64



E120
GY



F109
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F110
W

REFER TO THE FOLLOWING.

F102 , F114 -ELECTRICAL UNITS

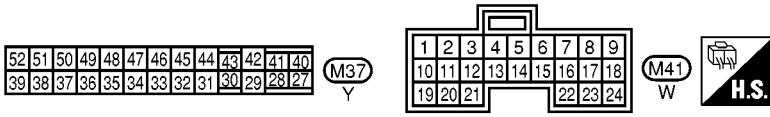
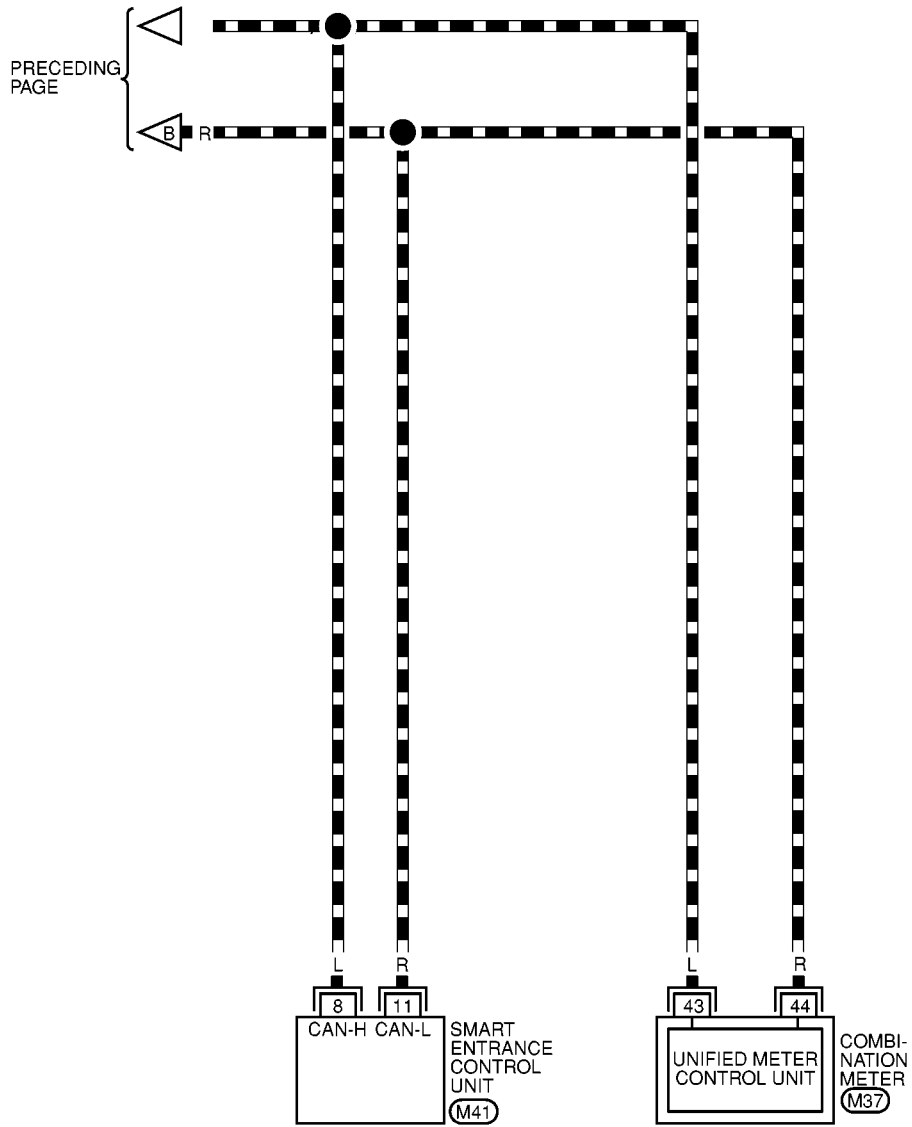
MKWA0375E

CAN SYSTEM (TYPE 12)

[CAN]

LAN-CAN-26

▬ : DATA LINE



MKWA0376E

Work Flow

EKS004SV

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITH EURO-OBD), [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITHOUT EURO-OBD), [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITH EURO-OBD), [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITHOUT EURO-OBD) or [EC-1790, "DTC U1000 CAN COMMUNICATION LINE"](#) (YD ENGINE MODELS) for "ENGINE" and Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-242, "CHECK SHEET"](#)
3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-242, "CHECK SHEET"](#)

NOTE:

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

4. According to the check sheet results (example), start inspection. Refer to [LAN-243, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

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CAN SYSTEM (TYPE 12)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
ABS
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

PKIA0750E

CAN SYSTEM (TYPE 12)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN COMM ✓	CAN CIRC 1	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	CAN CIRC 4 ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3

Case 2: Replace ABS actuator and electric unit (control unit)

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	CAN CIRC 4
ABS	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3

Case 3: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—
SMART ENTRANCE	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	CAN CIRC 3 ✓

Case 4

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	CAN CIRC 4 ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	CAN CIRC 3

Case 5

ENGINE	CAN COMM	CAN CIRC 1 ✓	—	—	—	CAN CIRC 4 ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	CAN CIRC 3

Case 6

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1 ✓	CAN CIRC 2 ✓	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1 ✓	CAN CIRC 2 ✓	—	—	CAN CIRC 3 ✓

PKIA0751E

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Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 9

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

PKIA0752E

NOTE:

If “NG” is displayed on “CAN COMM” for the diagnosed control unit, replace the control unit.

INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace ABS actuator and electric unit (control unit).

Case 3: Replace Smart entrance control unit.

Case 4: Check Harness between Data link connector and Smart entrance control unit. Refer to [LAN-244, "Circuit Check Between Data Link Connector and Smart Entrance Control Unit"](#)

Case 5: Check ECM Circuit. Refer to [LAN-245, "ECM Circuit Check"](#)

Case 6: Check ABS actuator and electric unit (control unit) Circuit. Refer to [LAN-246, "ABS Actuator and Electric Unit \(control unit\) Circuit Check"](#)

Case 7: Check Smart entrance control unit Circuit. Refer to [LAN-247, "Smart Entrance Control Unit Circuit Check"](#)

Case 8: Check Combination meter Circuit. Refer to [LAN-247, "Combination Meter Circuit Check"](#)

Case 9: Check CAN communication Circuit. Refer to [LAN-248, "CAN Communication Circuit Check"](#)

Circuit Check Between Data Link Connector and Smart Entrance Control Unit

EKS004SW

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - Smart entrance control unit.
 - ABS actuator and electric unit (control unit).
 - Between smart entrance control unit and ABS actuator and electric unit (control unit).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and Data link connector M10 terminals 6 (L), 3 (R).

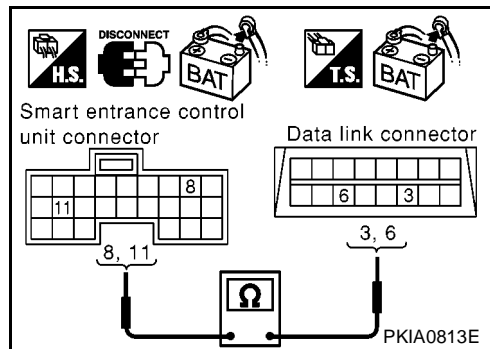
8(L) – 6(L) : Continuity should exist.

11(R) – 3(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITH EURO-OBD), [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITHOUT EURO-OBD), [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITH EURO-OBD), [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITHOUT EURO-OBD) or [EC-1790, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (YD ENGINE MODELS) for "ENGINE" and Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



ECM Circuit Check

EKS004SX

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side and harness-side)
 - ECM.
 - Harness connector F108.(QR engine models)
 - Harness connector M79.(QR engine models)
 - Harness connector F109.(QG engine models)
 - Harness connector M77.(QG engine models)
 - Harness connector F110.(Diesel engine models)
 - Harness connector M80.(Diesel engine models)

OK or NG

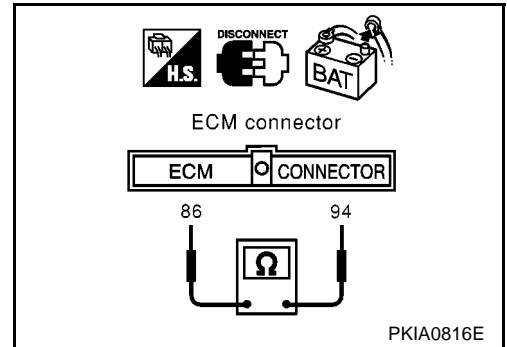
OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

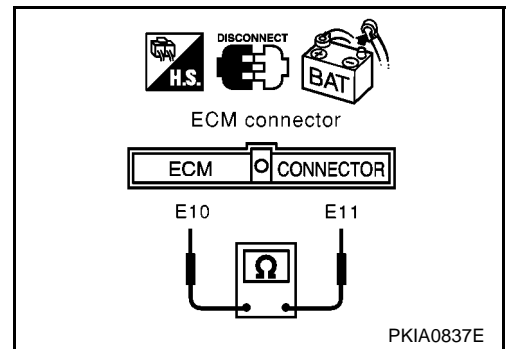
1. Disconnect ECM connector.
2. Check the following.
- Resistance between ECM harness connector F102 terminals 94(L) and 86(R).(Gasoline engine models)

94(L) – 86(R) (Gasoline enging models) : Approx. 108 – 132Ω



- Resistance between ECM harness connector F114 terminals E11(L) and E10(R).(Diesel engine models)

E11(L) – E10(R) (Diesel enging models) : Approx. 108 – 132Ω



OK or NG

- OK >> Replace ECM.
 NG >> Repair harness between Data link connector and ECM.

ABS Actuator and Electric Unit (control unit) Circuit Check

EKS004SY

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - ABS actuator and electric unit (control unit).
 - Harness connector E120.
 - Harness connector B107.
 - Harness connector B102.
 - Harness connector M89.

OK or NG

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

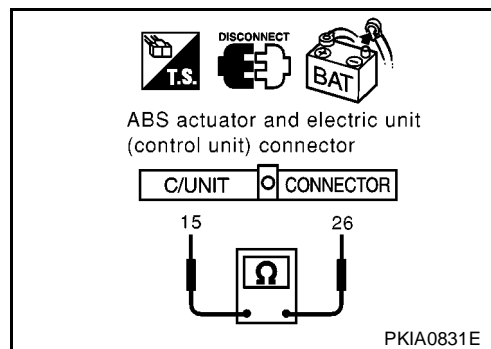
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E64 terminals 26(L) and 15(R).

26(L) – 15(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
 NG >> Repair harness between Data link connector and ABS actuator and electric unit (control unit).



EKS004SZ

Smart Entrance Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

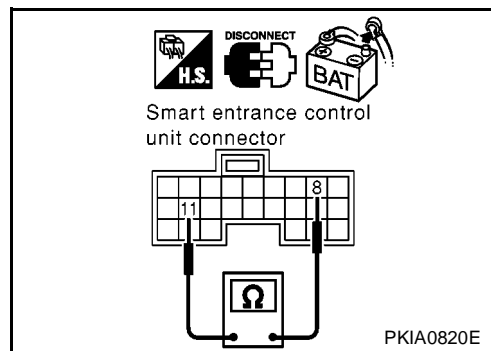
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
 NG >> Repair harness between Data link connector and smart entrance control unit.



EKS004T0

Combination Meter Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

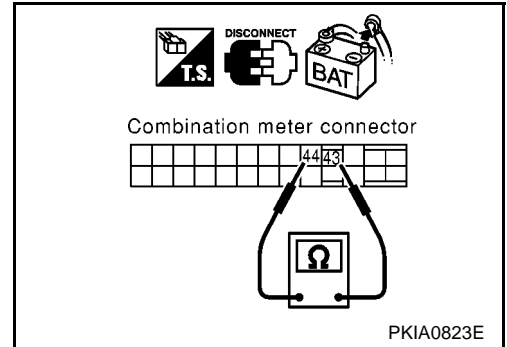
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 43(L) and 44(R).

43(L) – 44(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
 NG >> Repair harness between smart entrance control unit and combination meter.



EKS004T1

CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, control unit-side, control module-side and harness-side)
 - Combination meter.
 - Smart entrance control unit.
 - ABS actuator and electric unit (control unit).
 - ECM.
 - Between ABS actuator and electric unit (control unit) and ECM.

OK or NG

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

2. CHECK HARNESS FOR SHORT CIRCUIT

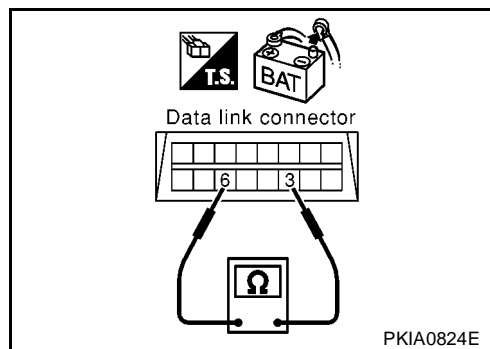
1. Disconnect the following connectors.
 - Combination meter connector.
 - Smart entrance control unit connector.
 - Harness connector M89.
 - Harness connector M79.(QR engine models)
 - Harness connector M77.(QG engine models)
 - Harness connector M80.(Diesel engine models)
2. Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

- NG >>
- Repair harness between smart entrance control unit and combination meter.
 - Repair harness between Data link connector and smart entrance control unit.
 - Repair harness between harness connector M89 and harness connector M79.(QR engine models)
 - Repair harness between harness connector M89 and harness connector M77.(QG engine models)
 - Repair harness between harness connector M89 and harness connector M80.(Diesel engine models)



3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

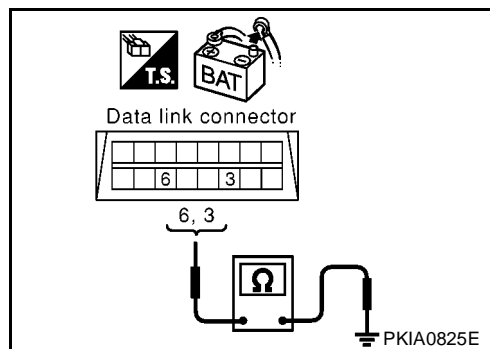
6(L) – ground : Continuity should not exist.

3(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

- NG >>
- Repair harness between smart entrance control unit and combination meter.
 - Repair harness between Data link connector and smart entrance control unit.
 - Repair harness between harness connector M89 and harness connector M79.(QR engine models)
 - Repair harness between harness connector M89 and harness connector M77.(QG engine models)
 - Repair harness between harness connector M89 and harness connector M80.(Diesel engine models)



4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect harness connector B107.
2. Check the following.
 - Continuity between harness connector B102 terminals 1 (L) and 8(G).(Sedan models)
 - Continuity between harness connector B102 terminals 1 (L) and 8(R).(Wagon models)

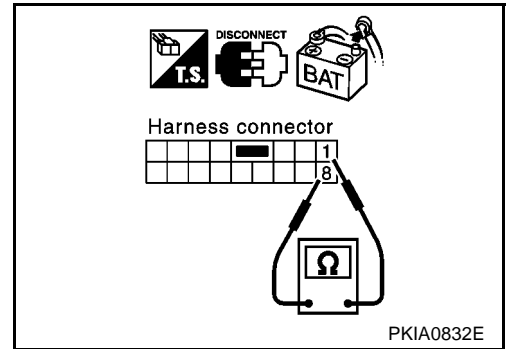
1(L) – 8(G) (Sedan models) : Continuity should not exist.

1(L) – 8(R) (Wagon models) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between harness connector B102 and harness connector B107.



5. CHECK HARNESS FOR SHORT CIRCUIT

1. Check the following.
 - Continuity between harness connector B102 terminals 1 (L), 8(G) and ground.(Sedan models)
 - Continuity between harness connector B102 terminals 1 (L), 8(R) and ground.(Wagon models)

1(L) – ground (Sedan models) : Continuity should not exist.

8(G) – ground (Sedan models) : Continuity should not exist.

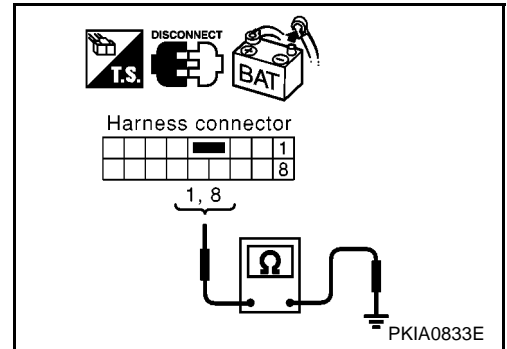
1(L) – ground (Wagon models) : Continuity should not exist.

8(R) – ground (Wagon models) : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between harness connector B102 and harness connector B107.



6. CHECK HARNESS FOR SHORT CIRCUIT

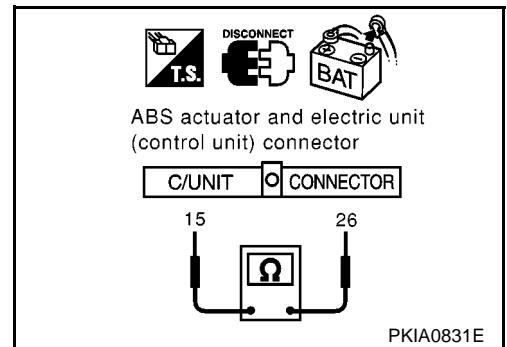
1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L) and 15(R).

26(L) – 15(R) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L), 15 (R) and ground.

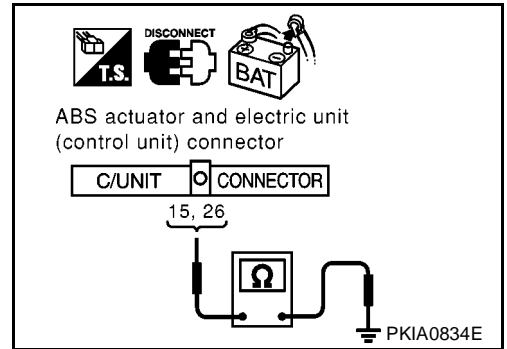
26(L) – ground : Continuity should not exist.

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

OK or NG

OK >> GO TO 8.

NG >> Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.



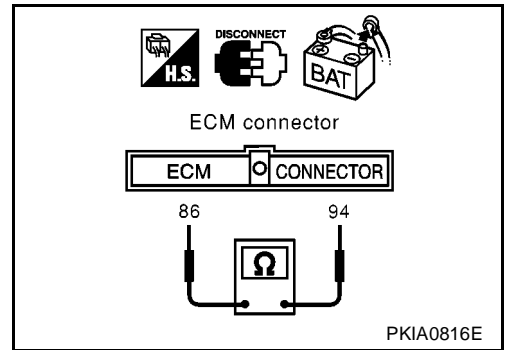
8. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ECM connector.

2. Check the following.

- Continuity between ECM harness connector F102 terminals 94 (L) and 86(R).(Gasoline engine models)

94(L) – 86(R) (Gasoline enging models) : Continuity should not exist.



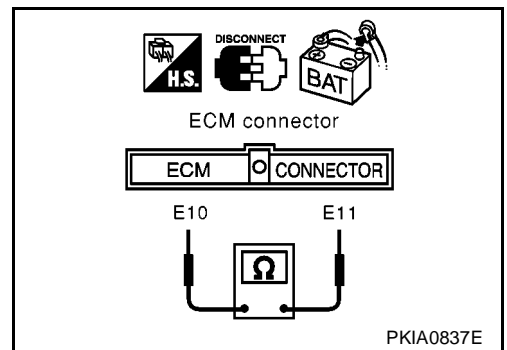
- Continuity between ECM harness connector F114 terminals E11 (L) and E10(R).(Diesel engine models)

E11(L) – E10(R) (Diesel enging models) : Continuity should not exist.

OK or NG

OK >> GO TO 9.

- NG >>
- Repair harness between ECM and harness connector F108.(QR engine models)
 - Repair harness between ECM and harness connector F109.(QG engine models)
 - Repair harness between ECM and harness connector F110.(Diesel engine models)



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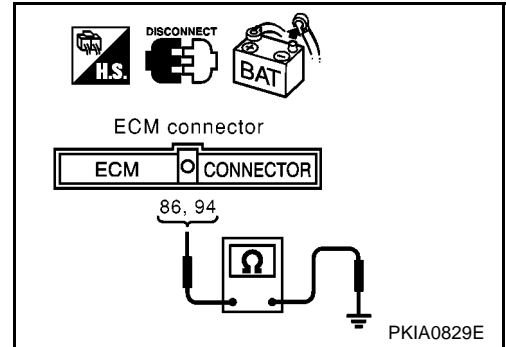
9. CHECK HARNESS FOR SHORT CIRCUIT

1. Check the following.

- Continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.(Gasoline engine models)

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

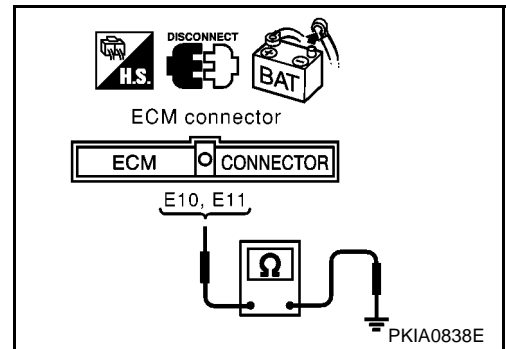
86(R) – ground (Gasoline engine models) : Continuity should not exist.



- Continuity between ECM harness connector F114 terminals E11 (L), E10 (R) and ground.(Diesel engine models)

E11(L) – ground (Diesel engine models) : Continuity should not exist.

E10(R) – ground (Diesel engine models) : Continuity should not exist.



OK or NG

OK >> GO TO 10.

- NG >> ● Repair harness between ECM and harness connector F108.(QR engine models)
- Repair harness between ECM and harness connector F109.(QG engine models)
 - Repair harness between ECM and harness connector F110.(Diesel engine models)

10. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-253, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITH EURO-OBD), [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITHOUT EURO-OBD), [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITH EURO-OBD), [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITHOUT EURO-OBD) or [EC-1790, "DTC U1000 CAN COMMUNICATION LINE"](#) (YD ENGINE MODELS) for "ENGINE" and Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

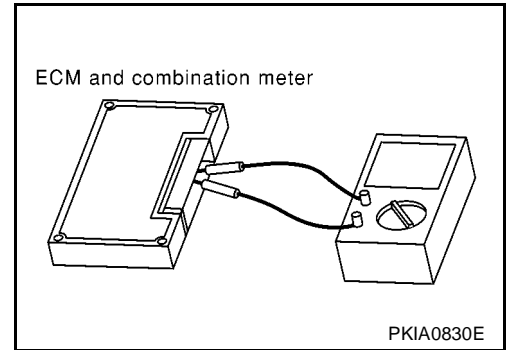
NG >> Replace ECM and/or Combination meter.

Component Inspection

ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

- Remove ECM and Combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.(Gasoline engine models)
- Check resistance between ECM terminals E11 and E10.(Diesel engine models)
- Check resistance between Combination meter terminals 43 and 44.

Unit	Terminal	Resistance value (Ω)
ECM (Gasoline engine models)	94 – 86	Approx. 108 - 132
ECM (Diesel engine models)	E11 – E10	
Combination meter	43 – 44	



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CAN SYSTEM (TYPE 13)

System Description

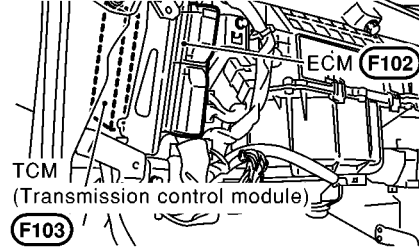
EKS00543

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.

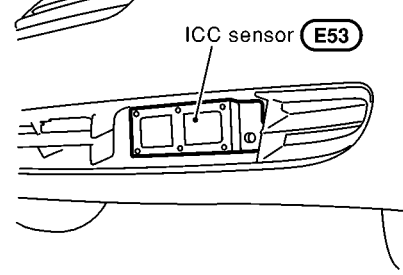
Component Parts and Harness Connector Location

EKS00544

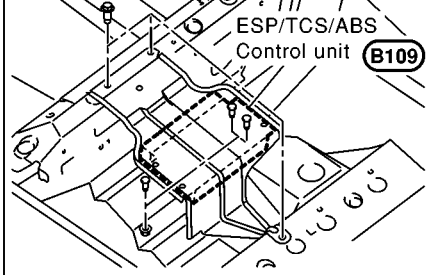
Passenger side view
with lower instrument panel removed



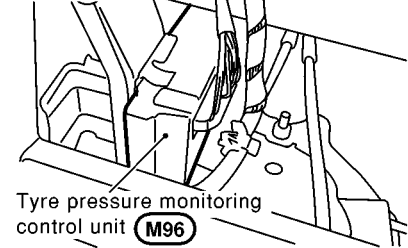
Bumper LH



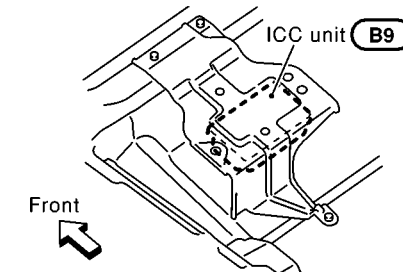
Under the passenger seat



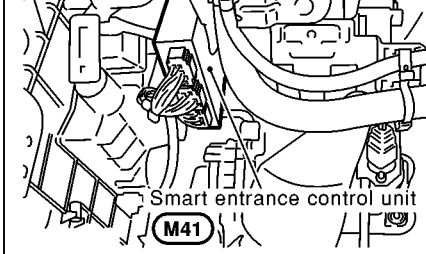
View with instrument panel
center moved



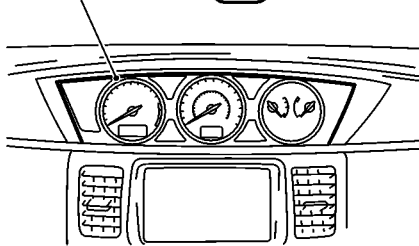
Under the driver's seat



View with lower
instrument panel removed



Combination meter (M37)



PKIA0896E

CAN SYSTEM (TYPE 13)

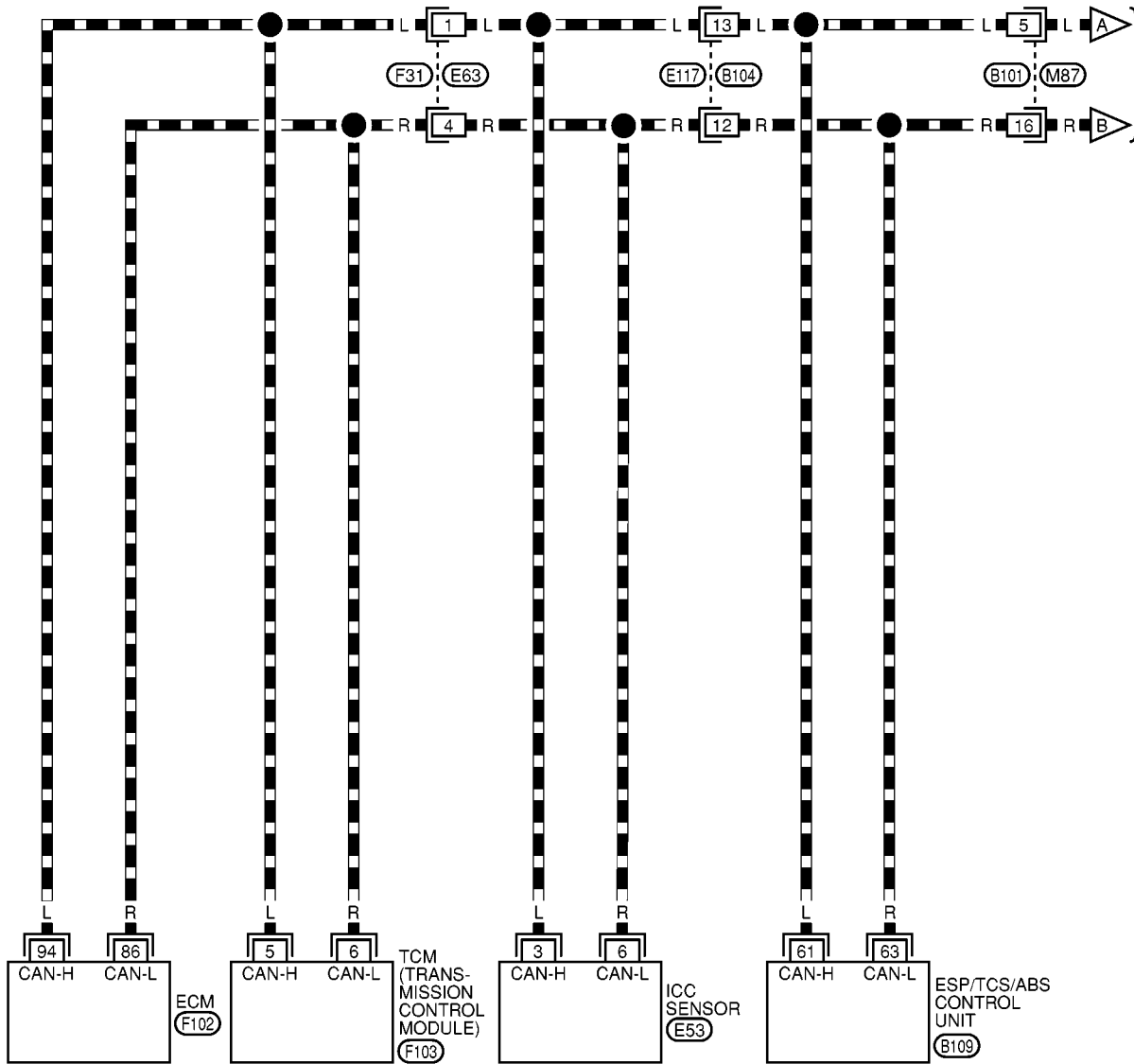
[CAN]

Wiring Diagram — CAN —

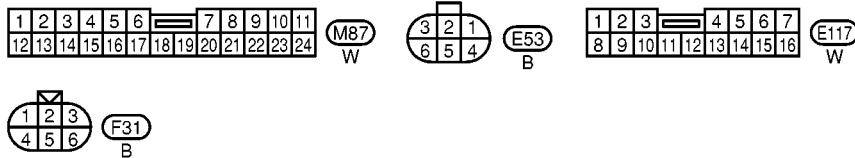
EKS00545

LAN-CAN-27

▬ : DATA LINE



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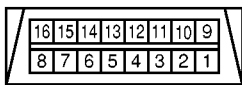
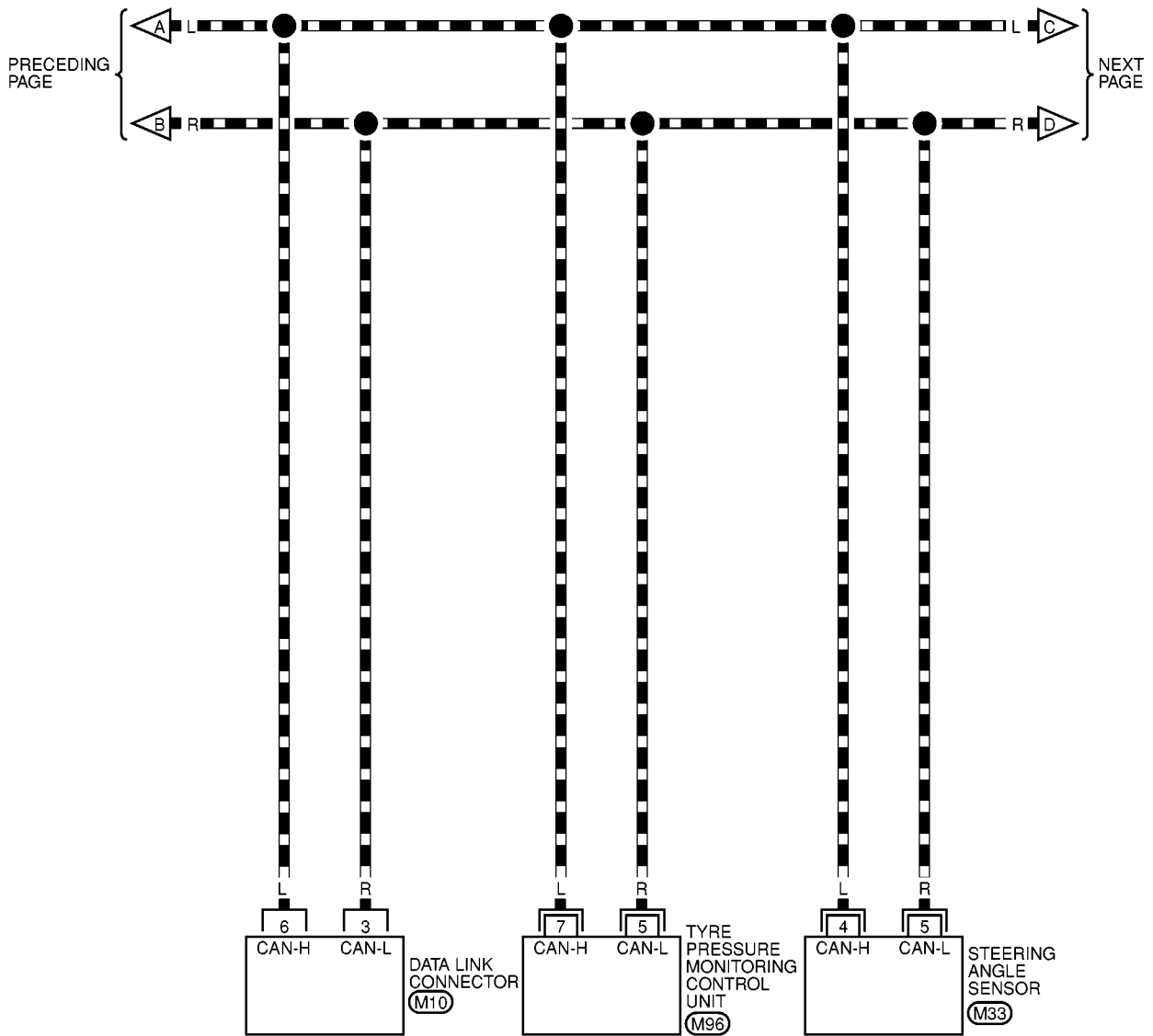


REFER TO THE FOLLOWING.
 (F102), (F103), (B109)
 -ELECTRICAL UNITS

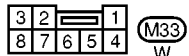
MKWA0237E

LAN-CAN-28

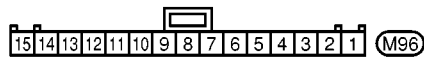
▬ : DATA LINE



(M10)
W



(M33)
W



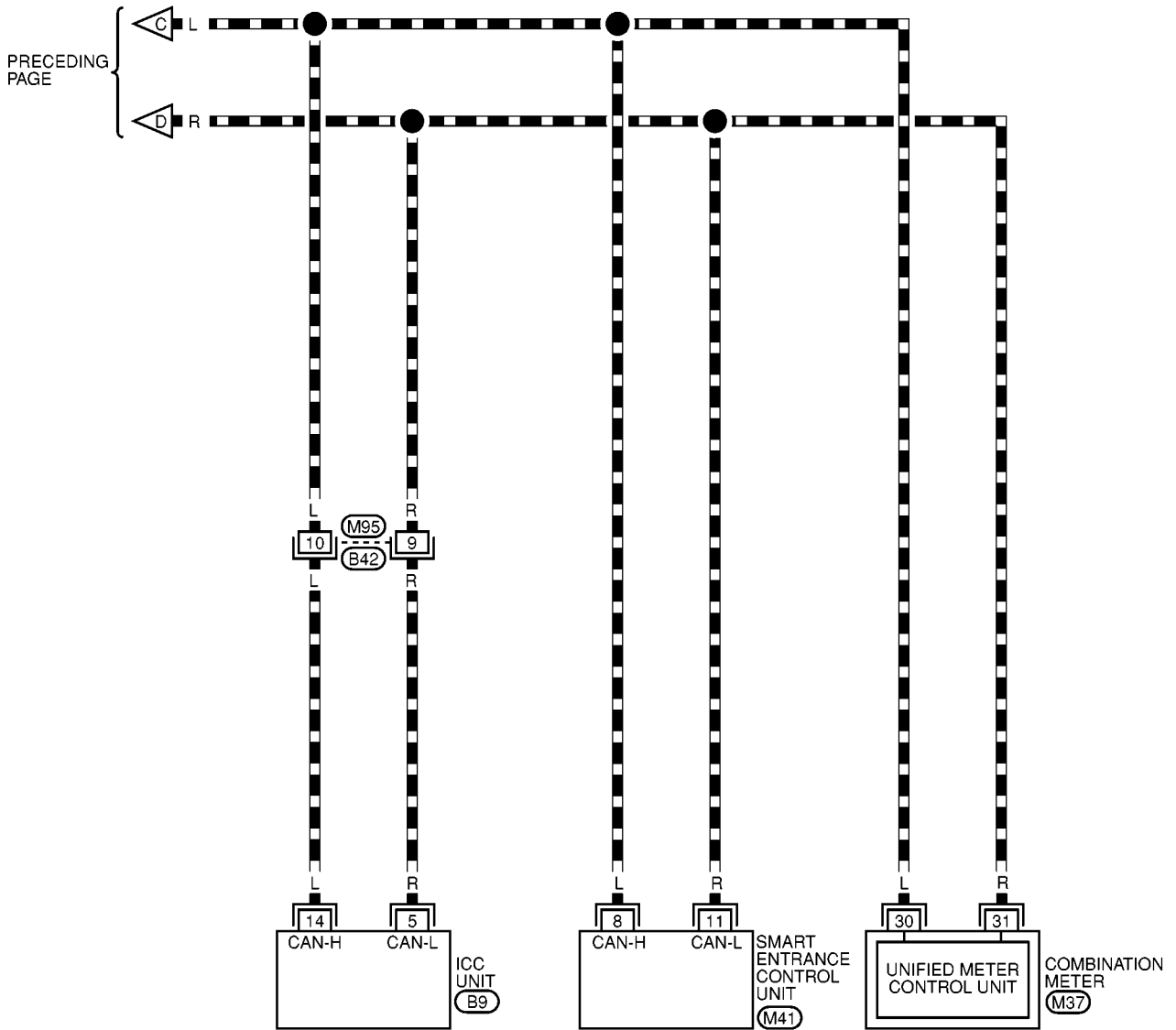
(M96)

CAN SYSTEM (TYPE 13)

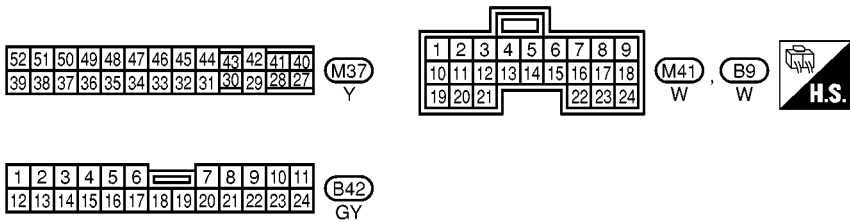
[CAN]

LAN-CAN-29

▬ : DATA LINE



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Work Flow

EKS00546

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "AIR PRESSURE MONITOR", "ICC", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-259, "CHECK SHEET"](#)
3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-259, "CHECK SHEET"](#)

NOTE:

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

4. According to the check sheet results (example), start inspection. Refer to [LAN-260, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

CAN SYSTEM (TYPE 13)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
CVT
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
AIR PRESSURE MONITOR
SELF-DIAG RESULTS

Attach copy of
ICC
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
CVT
DATA MONITOR

Attach copy of
ABS
DATA MONITOR

Attach copy of
AIR PRESSURE MONITOR
DATA MONITOR

Attach copy of
ICC
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

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CAN SYSTEM (TYPE 13)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN COMM ✓	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2 ✓	—	CAN CIRC 3 ✓	—	—	CAN CIRC 5 ✓	CAN CIRC 6 ✓	CAN CIRC 4 ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

Case 2: Replace TCM

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2 ✓	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3 ✓	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4 ✓	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	CAN CIRC 3 ✓	—	—	—	—	CAN CIRC 4 ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

PKIA0754E

CAN SYSTEM (TYPE 13)

[CAN]

Case 3: Replace ESP/TCS/ABS control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

Case 4: Replace Tyre pressure monitoring control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

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CAN SYSTEM (TYPE 13)

[CAN]

Case 5: Replace ICC unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

Case 6: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

PKIA0756E

CAN SYSTEM (TYPE 13)

[CAN]

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

Case 9

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

Case 10

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

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CAN SYSTEM (TYPE 13)

[CAN]

Case 11

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

Case 12

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

Case 13

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

Case 14

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

PKIA0758E

CAN SYSTEM (TYPE 13)

[CAN]

Case 15

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

Case 16

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

Case 17

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

Case 18

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

PKIA0759E

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LAN

CAN SYSTEM (TYPE 13)

[CAN]

Case 19

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

Case 20

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

Case 21

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

Case 22

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	—	CAN CIRC 5	CAN CIRC 6	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	—	—	CAN CIRC 2
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	—	CAN CIRC 3

PKIA0760E

NOTE:

If “NG” is displayed on “CAN COMM” for the diagnosed control unit, replace the control unit.

INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace TCM.

Case 3: Replace ESP/TCS/ABS control unit.

Case 4: Replace Tyre pressure monitoring control unit.

Case 5: Replace ICC unit.

Case 6: Replace Smart entrance control unit.

Case 7: Check Harness between TCM and ICC sensor. Refer to [LAN-267, "Circuit Check Between TCM and ICC Sensor"](#)

Case 8: Check Harness between ICC sensor and ESP/TCS/ABS control unit. Refer to [LAN-268, "Circuit Check Between ICC Sensor and ESP/TCS/ABS Control Unit"](#)

Case 9: Check Harness between ESP/TCS/ABS control unit and Tyre pressure monitoring control unit. Refer to [LAN-269, "Circuit Check Between ESP/TCS/ABS Control Unit and Tyre Pressure Monitoring Control Unit"](#)

Case 10: Check Harness between Tyre pressure monitoring control unit and Steering angle sensor. Refer to [LAN-270, "Circuit Check Between Tyre Pressure Monitoring Control Unit and Steering Angle Sensor"](#)

Case 11: Check Harness between Steering angle sensor and ICC unit. Refer to [LAN-271, "Circuit Check Between Steering Angle Sensor and ICC Unit"](#)

Case 12: Check Harness between ICC unit and Smart entrance control unit. Refer to [LAN-272, "Circuit Check Between ICC Unit and Smart Entrance Control Unit"](#)

Case 13: Check ECM Circuit. Refer to [LAN-272, "ECM Circuit Check"](#)

Case 14: Check TCM Circuit. Refer to [LAN-273, "TCM Circuit Check"](#)

Case 15: Check ICC sensor Circuit. Refer to [LAN-273, "ICC Sensor Circuit Check"](#)

Case 16: Check ESP/TCS/ABS control unit Circuit. Refer to [LAN-274, "ESP/TCS/ABS Control Unit Circuit Check"](#)

Case 17: Check Tyre pressure monitoring control unit Circuit. Refer to [LAN-274, "Tyre Pressure Monitoring Control Unit Circuit Check"](#)

Case 18: Check Steering angle sensor Circuit. Refer to [LAN-275, "Steering Angle Sensor Circuit Check"](#)

Case 19: Check ICC unit Circuit. Refer to [LAN-275, "ICC Unit Circuit Check"](#)

Case 20: Check Smart entrance control unit Circuit. Refer to [LAN-276, "Smart Entrance Control Unit Circuit Check"](#)

Case 21: Check Combination meter Circuit. Refer to [LAN-276, "Combination Meter Circuit Check"](#)

Case 22: Check CAN communication Circuit. Refer to [LAN-277, "CAN Communication Circuit Check"](#)

Circuit Check Between TCM and ICC Sensor

EKS00547

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side, sensor-side and harness-side)
 - TCM.
 - ICC sensor.
 - Between TCM and ICC sensor.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector and harness connector F31.
2. Check continuity between TCM harness connector F103 terminals 5 (L), 6 (R) and harness connector F31 terminals 1 (L), 4 (R).

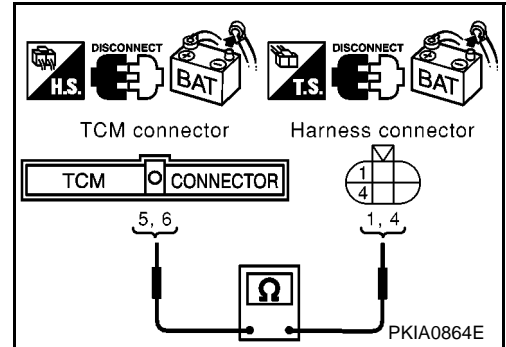
5(L) – 1(L) : Continuity should exist.

6(R) – 4(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ICC sensor connector.
2. Check continuity between harness connector E63 terminals 1 (L), 4 (R) and ICC sensor harness connector E53 terminals 3 (L), 6 (R).

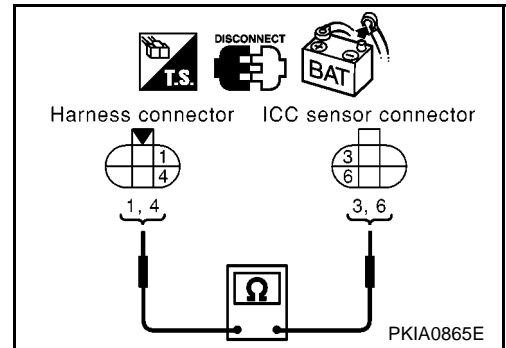
1(L) – 3(L) : Continuity should exist.

4(R) – 6(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "AIR PRESSURE MONITOR", "ICC", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



Circuit Check Between ICC Sensor and ESP/TCS/ABS Control Unit

EKS00548

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (sensor-side, control unit-side and harness-side)
 - ICC sensor.
 - ESP/TCS/ABS control unit.
 - Between ICC sensor and ESP/TCS/ABS control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ICC sensor connector and harness connector E117.
2. Check continuity between ICC sensor harness connector E53 terminals 3 (L), 6 (R) and harness connector E117 terminals 13 (L), 12 (R).

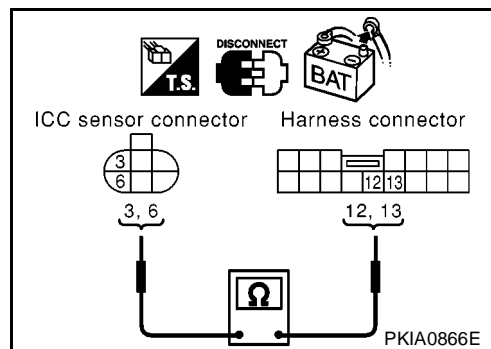
3(L) – 13(L) : Continuity should exist.

6(R) – 12(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector.
2. Check continuity between harness connector B104 terminals 13 (L), 12 (R) and ESP/TCS/ABS control unit harness connector B109 terminals 61 (L), 63 (R).

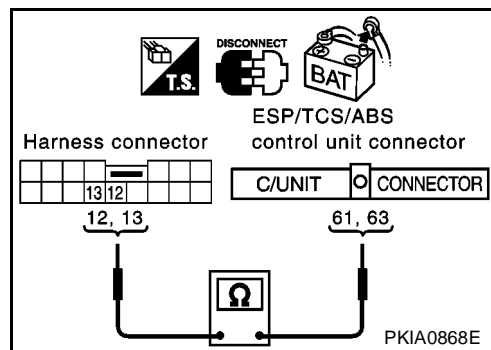
13(L) – 61(L) : Continuity should exist.

12(R) – 63(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "AIR PRESSURE MONITOR", "ICC", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



Circuit Check Between ESP/TCS/ABS Control Unit and Tyre Pressure Monitoring Control Unit

EKS00549

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - Tyre pressure monitoring control unit.
 - ESP/TCS/ABS control unit.
 - Between ESP/TCS/ABS control unit and tyre pressure monitoring control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector and harness connector B101.
2. Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L), 63 (R) and harness connector B101 terminals 5 (L), 16 (R).

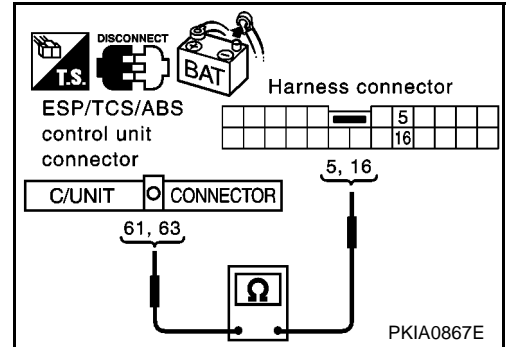
61(L) – 5(L) : Continuity should exist.

63(R) – 16(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect tyre pressure monitoring control unit connector.
2. Check continuity between harness connector M87 terminals 5 (L), 16 (R) and tyre pressure monitoring control unit harness connector M96 terminals 7 (L), 5 (R).

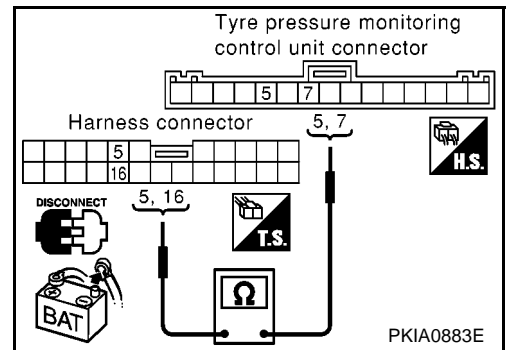
5(L) – 7(L) : Continuity should exist.

16(R) – 5(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "AIR PRESSURE MONITOR", "ICC", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



Circuit Check Between Tyre Pressure Monitoring Control Unit and Steering Angle Sensor

EKS0054A

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (sensor-side, control unit-side and harness-side)
 - Steering angle sensor.
 - Tyre pressure monitoring control unit.

OK or NG

OK >> GO TO 2.

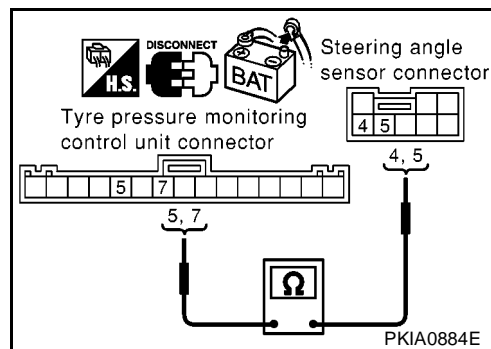
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect tyre pressure monitoring control unit connector and steering angle sensor connector.
2. Check continuity between tyre pressure monitoring control unit harness connector M96 terminals 7 (L), 5 (R) and steering angle sensor harness connector M33 terminals 4 (L), 5 (R).

7(L) – 4(L) : Continuity should exist.

5(R) – 5(R) : Continuity should exist.



OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "AIR PRESSURE MONITOR", "ICC", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.

Circuit Check Between Steering Angle Sensor and ICC Unit

EKS0054B

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side, sensor-side and harness-side)
 - ICC unit.
 - Steering angle sensor.
 - Between ICC unit and steering angle sensor.

OK or NG

OK >> GO TO 2.

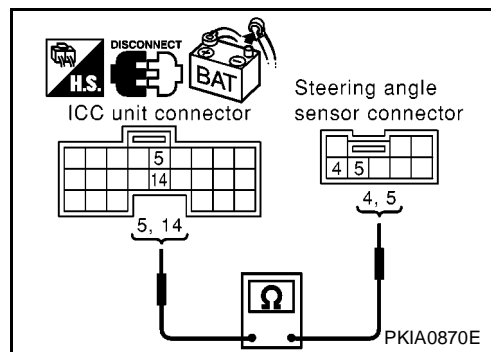
NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ICC unit connector and steering angle sensor connector.
2. Check continuity between ICC unit harness connector B9 terminals 14 (L), 5 (R) and steering angle sensor harness connector M33 terminals 4 (L), 5 (R).

14(L) – 4(L) : Continuity should exist.

5(R) – 5(R) : Continuity should exist.



OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "AIR PRESSURE MONITOR", "ICC", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control](#)

[Unit and Steering Angle Sensor](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.

Circuit Check Between ICC Unit and Smart Entrance Control Unit

EKS0054C

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - ICC unit.
 - Smart entrance control unit.
 - Between ICC unit and smart entrance control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ICC unit connector and smart entrance control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and ICC unit harness connector B9 terminals 14 (L), 5 (R).

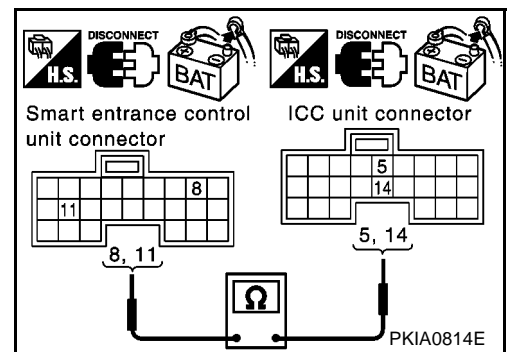
8(L) – 14(L) : Continuity should exist.

11(R) – 5(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "AIR PRESSURE MONITOR", "ICC", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



ECM Circuit Check

EKS0054D

1. CHECK CONNECTOR

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

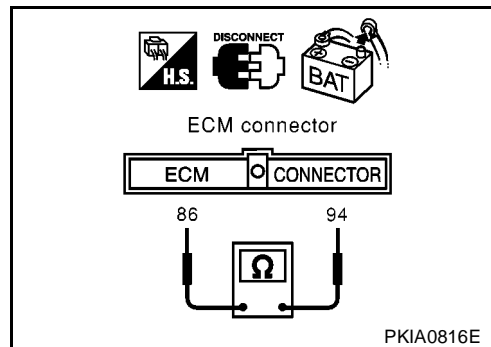
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F102 terminals 94(L) and 86(R).

94(L) – 86(R) : Approx. 108 – 132Ω

OK or NG

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



EKS0054E

TCM Circuit Check

1. CHECK CONNECTOR

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

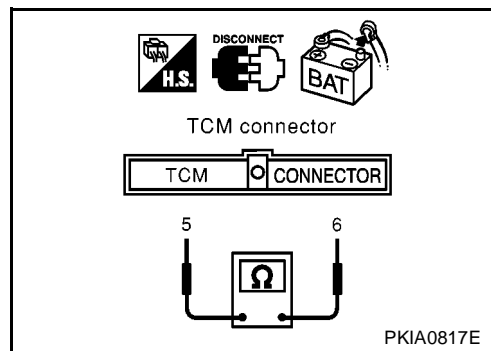
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector.
2. Check resistance between TCM harness connector F103 terminals 5(L) and 6(R).

5(L) – 6(R) : Approx. 54 – 66Ω

OK or NG

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



EKS0054F

ICC Sensor Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of ICC sensor for damage, bend and loose connection. (sensor-side and harness-side)

OK or NG

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

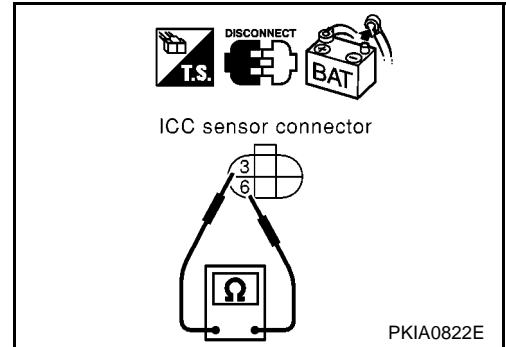
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ICC sensor connector.
2. Check resistance between ICC sensor harness connector E53 terminals 3(L) and 6(R).

3(L) – 6(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ICC sensor.
 NG >> Repair harness between ESP/TCS/ABS control unit and ICC sensor.



EKS0054G

ESP/TCS/ABS Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector of ESP/TCS/ABS control unit for damage, bend and loose connection. (control unit-side and harness-side)

OK or NG

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

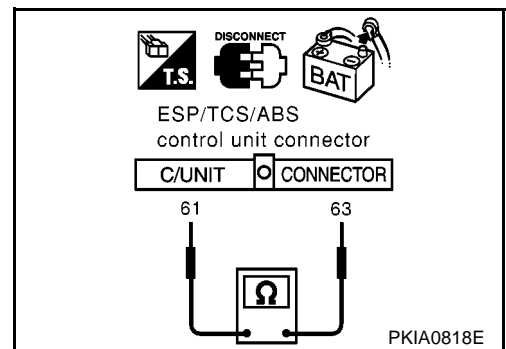
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector.
2. Check resistance between ESP/TCS/ABS control unit harness connector B109 terminals 61(L) and 63(R).

61(L) – 63(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ESP/TCS/ABS control unit.
 NG >> Repair harness between Data link connector and ESP/TCS/ABS control unit.



EKS0054H

Tyre Pressure Monitoring Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of tyre pressure monitoring control unit for damage, bend and loose connection. (control unit-side and harness-side)

OK or NG

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

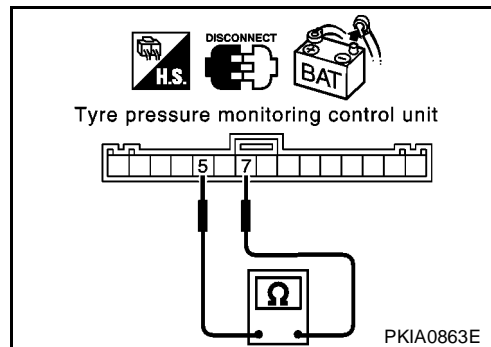
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect tyre pressure monitoring control unit connector.
2. Check resistance between tyre pressure monitoring control unit harness connector M96 terminals 7(L) and 5(R).

7(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace tyre pressure monitoring control unit.
 NG >> Repair harness between steering angle sensor and tyre pressure monitoring control unit.



EKS0054I

Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of steering angle sensor for damage, bend and loose connection. (sensor-side and harness-side)

OK or NG

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

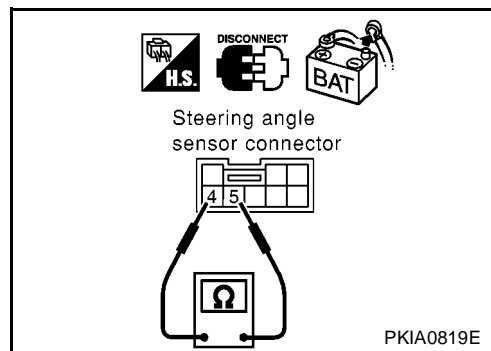
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect steering angle sensor connector.
2. Check resistance between steering angle sensor harness connector M33 terminals 4(L) and 5(R).

4(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace steering angle sensor.
 NG >> Repair harness between tyre pressure monitoring control unit and steering angle sensor.



EKS0054J

ICC Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - ICC unit.
 - Harness connector B42.
 - Harness connector M95.

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

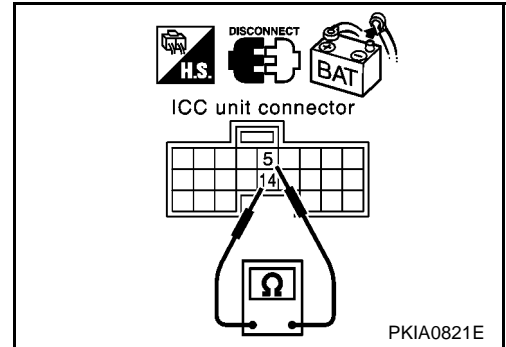
1. Disconnect ICC unit connector.
2. Check resistance between ICC unit harness connector B9 terminals 14(L) and 5(R).

14(L) – 5(R)

: Approx. 54 – 66Ω

OK or NG

- OK >> Replace ICC unit.
 NG >> Repair harness between ICC unit and smart entrance control unit.



Smart Entrance Control Unit Circuit Check

EKS0054K

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

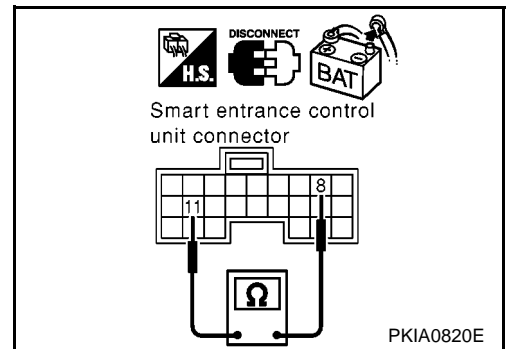
1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R)

: Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
 NG >> Repair harness between ICC unit and smart entrance control unit.



Combination Meter Circuit Check

EKS0054L

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

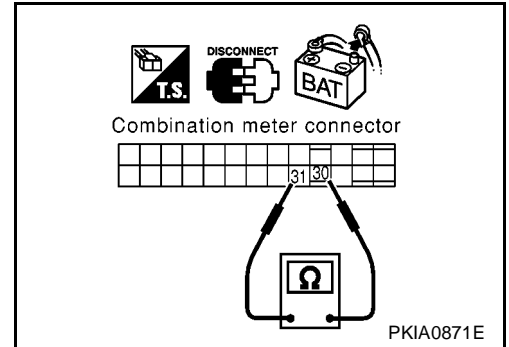
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 30(L) and 31(R).

30(L) – 31(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
 NG >> Repair harness between smart entrance control unit and combination meter.



EKS0054M

CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, control unit-side, sensor-side, control module-side and harness-side)
 - Combination meter.
 - Smart entrance control unit.
 - ICC unit.
 - Steering angle sensor.
 - Tyre pressure monitoring control unit.
 - ESP/TCS/ABS control unit.
 - ICC sensor.
 - TCM.
 - ECM.
 - Between ICC unit and ECM.

OK or NG

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

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2. CHECK HARNESS FOR SHORT CIRCUIT

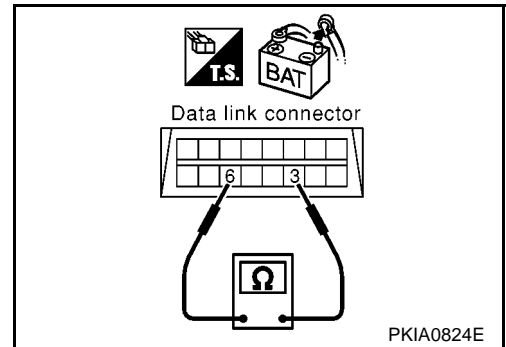
1. Disconnect the following connectors.
 - Combination meter connector.
 - Smart entrance control unit connector.
 - Steering angle sensor connector.
 - Tyre pressure monitoring control unit connector.
 - Harness connector M95.
 - Harness connector M87.
2. Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

- NG >>
- Repair harness between smart entrance control unit and combination meter.
 - Repair harness between smart entrance control unit and harness connector M95.
 - Repair harness between harness connector M95 and steering angle sensor.
 - Repair harness between steering angle sensor and tyre pressure monitoring control unit.
 - Repair harness between Data link connector and tyre pressure monitoring control unit.
 - Repair harness between Data link connector and harness connector M87.



3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

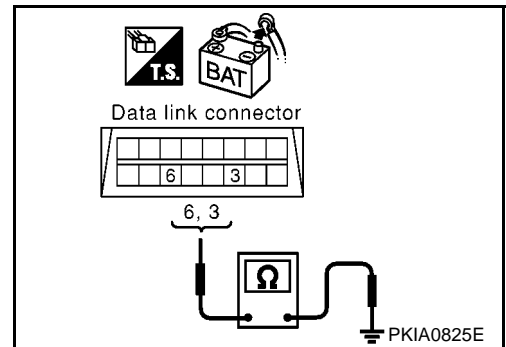
6(L) – ground : Continuity should not exist.

3(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

- NG >>
- Repair harness between smart entrance control unit and combination meter.
 - Repair harness between smart entrance control unit and harness connector M95.
 - Repair harness between harness connector M95 and steering angle sensor.
 - Repair harness between steering angle sensor and tyre pressure monitoring control unit.
 - Repair harness between Data link connector and tyre pressure monitoring control unit.
 - Repair harness between Data link connector and harness connector M87.



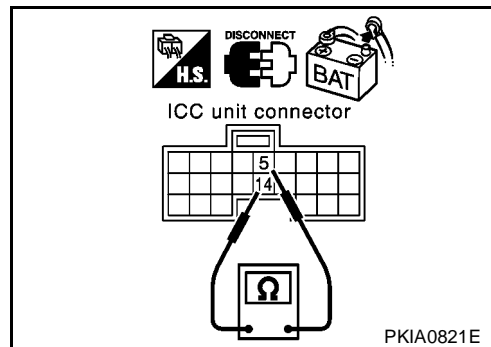
4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ICC unit connector.
2. Check continuity between ICC unit harness connector B9 terminals 14 (L) and 5(R).

14(L) – 5(R) : Continuity should not exist.

OK or NG

- OK >> GO TO 5.
 NG >> Repair harness between ICC unit and harness connector B42.



5. CHECK HARNESS FOR SHORT CIRCUIT

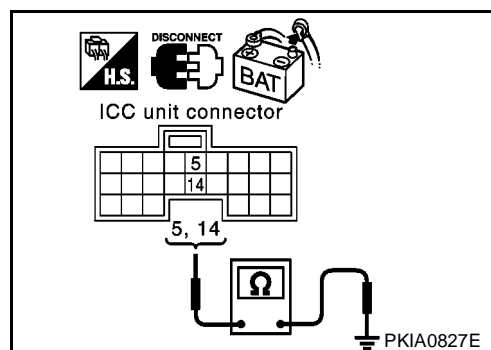
- Check continuity between ICC unit harness connector B9 terminals 14 (L), 5 (R) and ground.

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

5(R) – ground : Continuity should not exist.

OK or NG

- OK >> GO TO 6.
 NG >> Repair harness between ICC unit and harness connector B42.



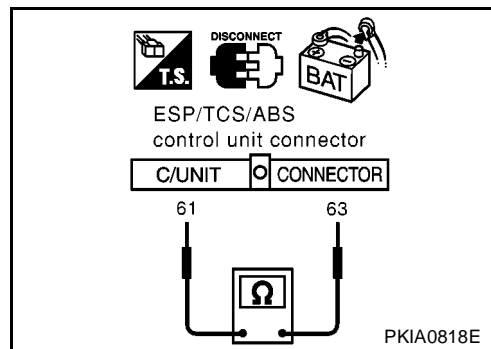
6. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector and harness connector B104.
2. Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L) and 63(R).

61(L) – 63(R) : Continuity should not exist.

OK or NG

- OK >> GO TO 7.
 NG >> ● Repair harness between ESP/TCS/ABS control unit and harness connector B101.
 ● Repair harness between harness connector B104 and harness connector B101.



7. CHECK HARNESS FOR SHORT CIRCUIT

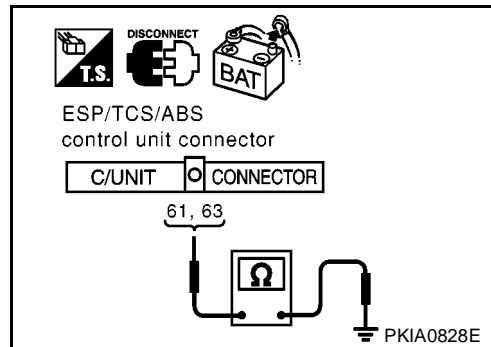
- Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L), 63 (R) and ground.

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

63(R) – ground : Continuity should not exist.

OK or NG

- OK >> GO TO 8.
 NG >> ● Repair harness between ESP/TCS/ABS control unit and harness connector B101.
 ● Repair harness between harness connector B104 and harness connector B101.



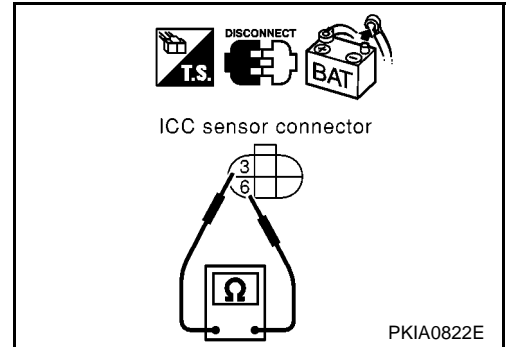
8. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ICC sensor connector and harness connector E63.
2. Check continuity between ICC sensor harness connector E53 terminals 3 (L) and 6(R).

3(L) – 6(R) : Continuity should not exist.

OK or NG

- OK >> GO TO 9.
 NG >> ● Repair harness between ICC sensor and harness connector E117.
 ● Repair harness between harness connector E117 and harness connector E63.



9. CHECK HARNESS FOR SHORT CIRCUIT

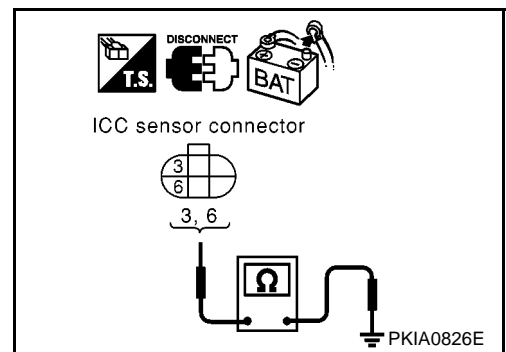
Check continuity between ICC sensor harness connector E53 terminals 3 (L), 6 (R) and ground.

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

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

OK or NG

- OK >> GO TO 10.
 NG >> ● Repair harness between ICC sensor and harness connector E117.
 ● Repair harness between harness connector E117 and harness connector E63.



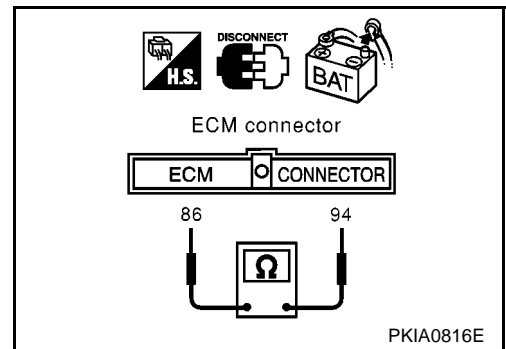
10. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ECM connector and TCM connector.
2. Check continuity between ECM harness connector F102 terminals 94 (L) and 86(R).

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

OK or NG

- OK >> GO TO 11.
 NG >> ● Repair harness between ECM and harness connector F31.
 ● Repair harness between TCM and harness connector F31.



11. CHECK HARNESS FOR SHORT CIRCUIT

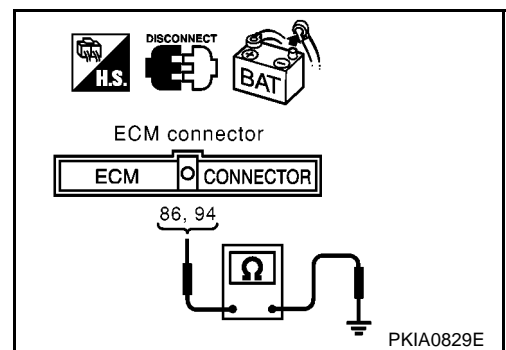
Check continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.

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

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

OK or NG

- OK >> GO TO 12.
 NG >> ● Repair harness between ECM and harness connector F31.
 ● Repair harness between TCM and harness connector F31.



12. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-281, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

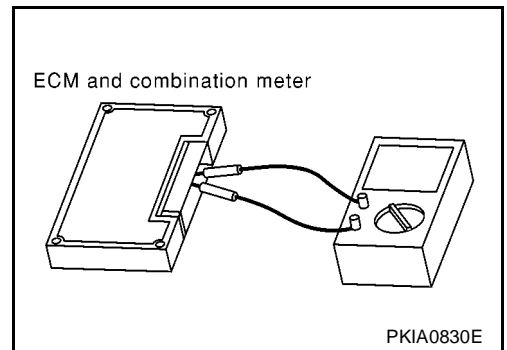
- OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "AIR PRESSURE MONITOR", "ICC", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
- NG >> Replace ECM and/or Combination meter.

Component Inspection
ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

EKS0054N

- Remove ECM and Combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between Combination meter terminals 30 and 31.

Unit	Terminal	Resistance value (Ω)
ECM	94 – 86	Approx. 108 - 132
Combination meter	30 – 31	



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LAN

CAN SYSTEM (TYPE 14)

System Description

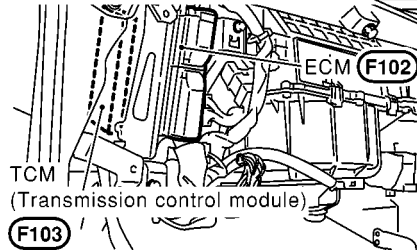
EKS0053M

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.

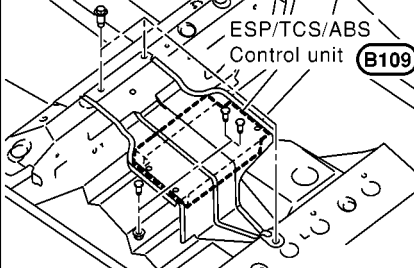
Component Parts and Harness Connector Location

EKS0053N

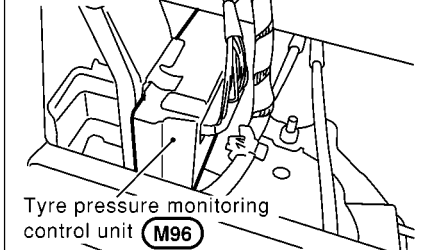
Passenger side view
with lower instrument panel removed



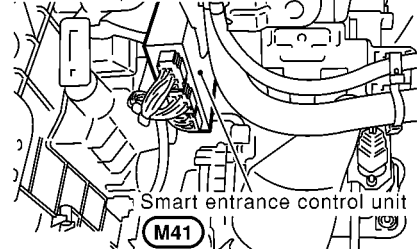
Under the passenger seat



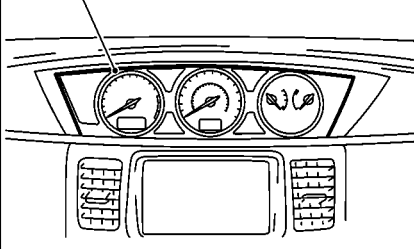
View with instrument panel center moved



View with lower instrument panel removed



Combination meter (M37)



PKIA0897E

CAN SYSTEM (TYPE 14)

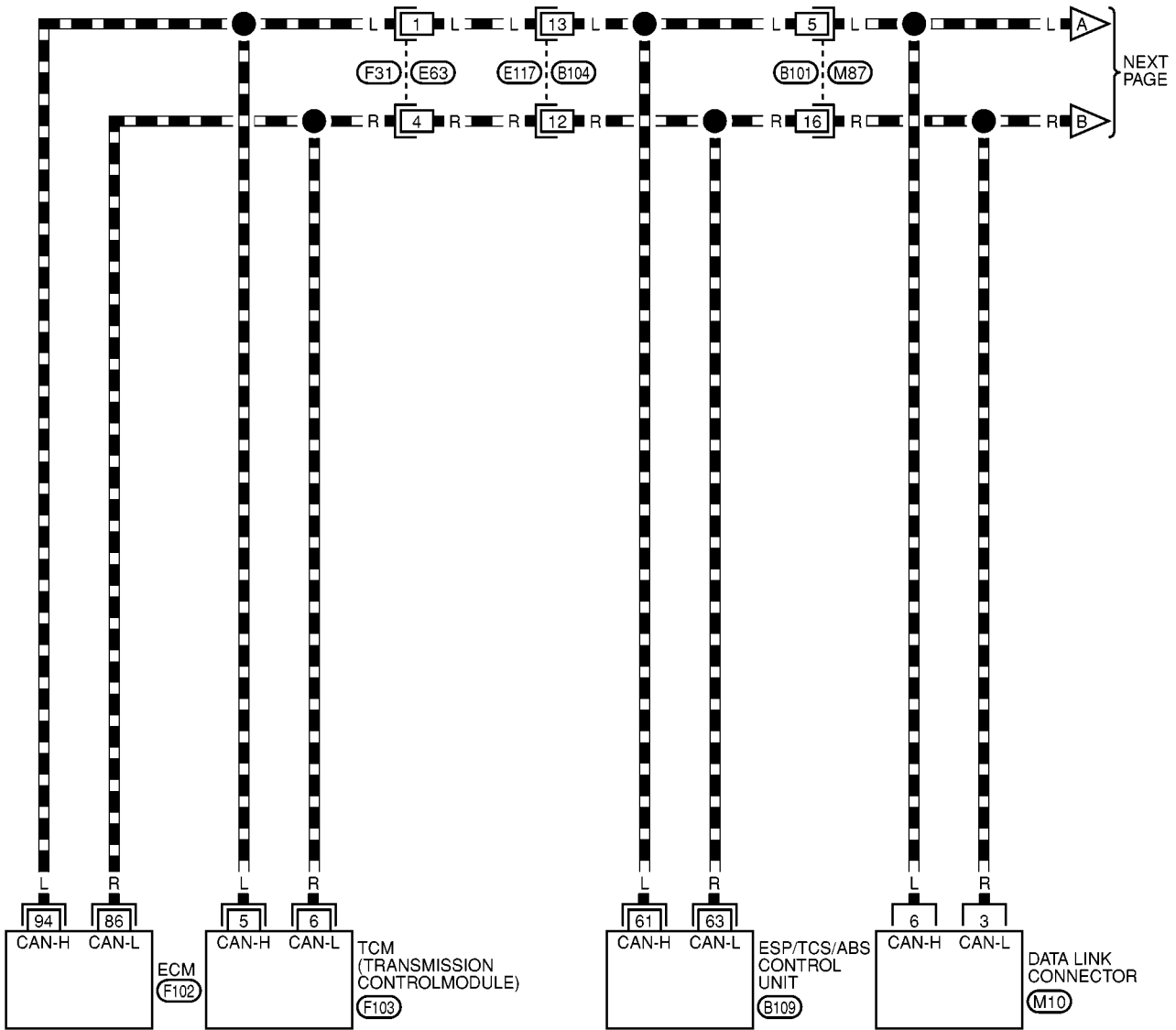
[CAN]

Wiring Diagram — CAN —

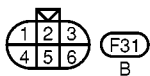
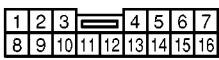
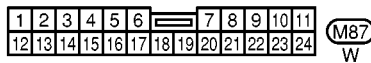
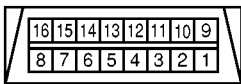
EKS00530

LAN-CAN-30

▬ : DATA LINE



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REFER TO THE FOLLOWING.

F102 , F103 , B109

-ELECTRICAL UNITS

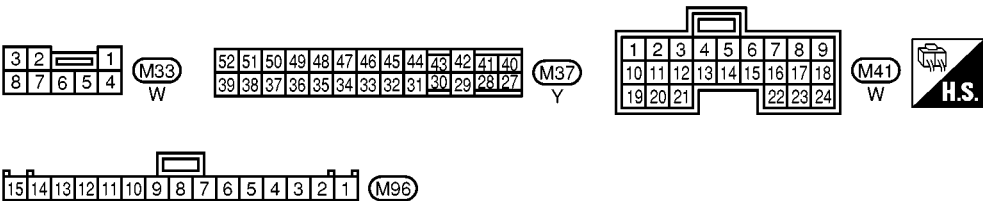
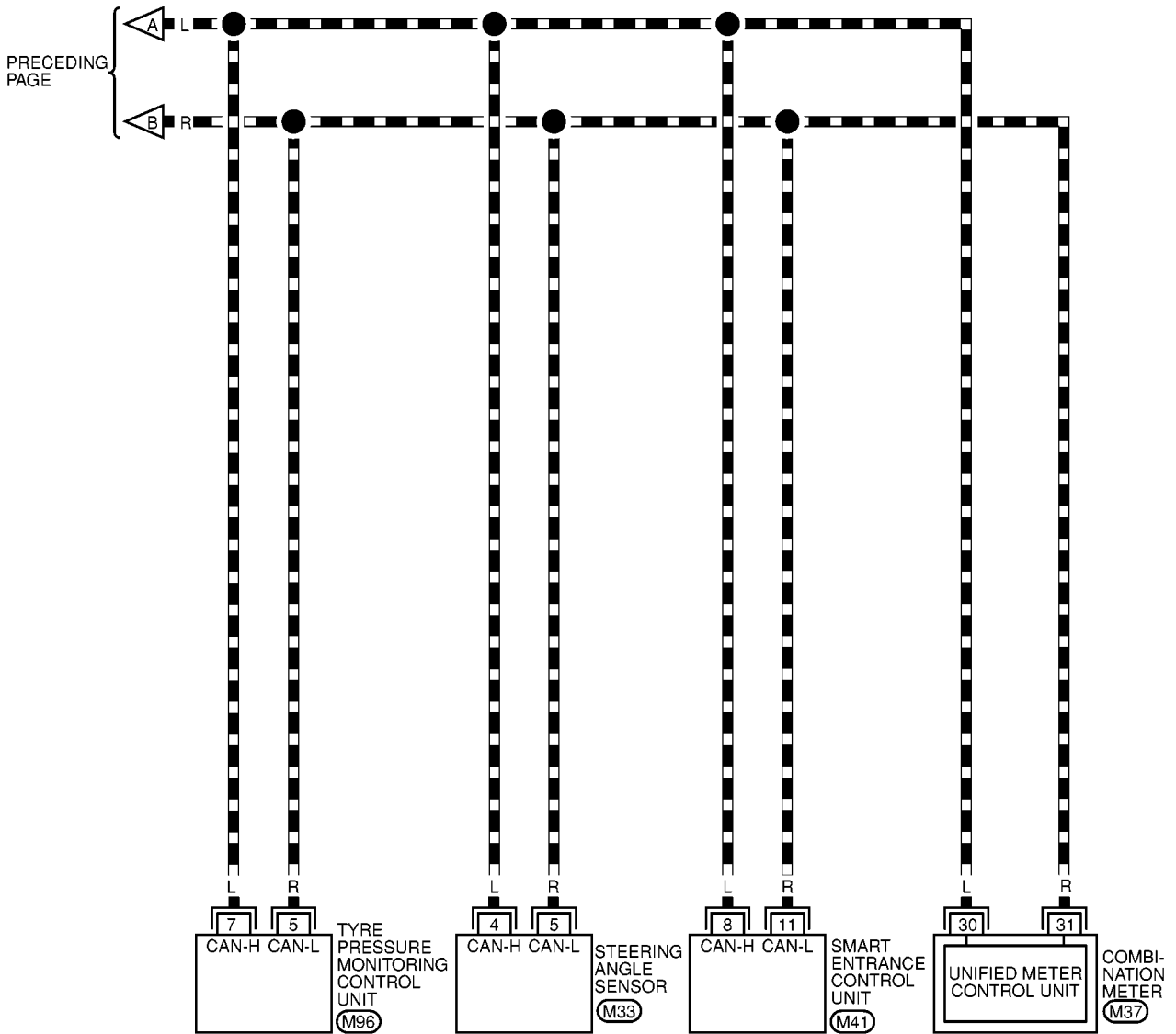
MKWA0240E

CAN SYSTEM (TYPE 14)

[CAN]

LAN-CAN-31

▬ : DATA LINE



MKWA0241E

Work Flow

EKS0053P

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT" "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-286, "CHECK SHEET"](#)
3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-286, "CHECK SHEET"](#)

NOTE:

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

4. According to the check sheet results (example), start inspection. Refer to [LAN-287, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

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CAN SYSTEM (TYPE 14)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
CVT
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
AIR PRESSURE MONITOR
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
CVT
DATA MONITOR

Attach copy of
ABS
DATA MONITOR

Attach copy of
AIR PRESSURE MONITOR
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

PKIA0761E

CAN SYSTEM (TYPE 14)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN COMM ✓	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2 ✓	CAN CIRC 3 ✓	—	—	CAN CIRC 6 ✓	CAN CIRC 4 ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3

Case 2: Replace TCM

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2 ✓	CAN CIRC 3	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3 ✓	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	CAN CIRC 3 ✓	—	—	—	CAN CIRC 4 ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3

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CAN SYSTEM (TYPE 14)

[CAN]

Case 3: Replace ESP/TCS/ABS control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3 ✓	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3 ✓	—	—	—	CAN CIRC 4
ABS	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	CAN CIRC 3 ✓	—	—	CAN CIRC 5 ✓	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3

Case 4: Replace Tyre pressure monitoring control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM ✓	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3

PKIA0763E

CAN SYSTEM (TYPE 14)

[CAN]

Case 5: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3

Case 6

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3

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CAN SYSTEM (TYPE 14)

[CAN]

Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC ✓	CAN CIRC ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC ✓	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC ✓
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC ✓	—	—	—	—	—	CAN CIRC 3

Case 9

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC ✓	CAN CIRC ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC ✓
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC ✓	—	—	—	—	—	CAN CIRC 3

Case 10

ENGINE	CAN COMM	CAN CIRC ✓	—	CAN CIRC ✓	CAN CIRC ✓	—	—	CAN CIRC ✓	CAN CIRC ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC ✓	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC ✓	CAN CIRC 3	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC ✓	—	—	—	—	—	CAN CIRC 3

Case 11

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC ✓	CAN CIRC 3	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	CAN CIRC ✓	—	—	—	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC ✓	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3

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CAN SYSTEM (TYPE 14)

[CAN]

Case 12

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3 ✓	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3 ✓	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1 ✓	CAN CIRC 2 ✓	CAN CIRC 3 ✓	—	—	CAN CIRC 5 ✓	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3

Case 13

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1 ✓	—	—	—	—	—	—	CAN CIRC 4 ✓
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3

Case 14

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5 ✓	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC 3

Case 15

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 6 ✓	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1 ✓	CAN CIRC 2 ✓	—	—	—	—	—	CAN CIRC 3 ✓

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CAN SYSTEM (TYPE 14)

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Case 16

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 6	CAN CIRC ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	—	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	—	CAN CIRC ✓
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	CAN CIRC ✓

Case 17

ENGINE	CAN COMM	CAN CIRC ✓	—	CAN CIRC ✓	CAN CIRC ✓	—	—	CAN CIRC ✓	CAN CIRC ✓
CVT	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	CAN CIRC ✓	—	—	—	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	CAN CIRC ✓	—	—	CAN CIRC ✓	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC ✓	—	—	—	—	—	—	CAN CIRC ✓
SMART ENTRANCE	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	—	—	—	—	CAN CIRC ✓

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NOTE:

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

INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace TCM.

Case 3: Replace ESP/TCS/ABS control unit.

Case 4: Replace Tyre pressure monitoring control unit.

Case 5: Replace Smart entrance control unit.

Case 6: Check Harness between TCM and ESP/TCS/ABS control unit. Refer to [LAN-293, "Circuit Check Between TCM and ESP/TCS/ABS Control Unit"](#)

Case 7: Check Harness between ESP/TCS/ABS control unit and Tyre pressure monitoring control unit. Refer to [LAN-294, "Circuit Check Between ESP/TCS/ABS Control Unit and Tyre Pressure Monitoring Control Unit"](#)

Case 8: Check Harness between Tyre pressure monitoring control unit and Steering angle sensor. Refer to [LAN-295, "Circuit Check Between Tyre Pressure Monitoring Control Unit and Steering Angle Sensor"](#)

Case 9: Check Harness between Steering angle sensor and Smart entrance control unit. Refer to [LAN-296, "Circuit Check Between Steering Angle Sensor and Smart Entrance Control Unit"](#)

Case 10: Check ECM Circuit. Refer to [LAN-296, "ECM Circuit Check"](#)

Case 11: Check TCM Circuit. Refer to [LAN-297, "TCM Circuit Check"](#)

Case 12: Check ESP/TCS/ABS control unit Circuit. Refer to [LAN-297, "ESP/TCS/ABS Control Unit Circuit Check"](#)

Case 13: Check Tyre pressure monitoring control unit Circuit. Refer to [LAN-298, "Tyre Pressure Monitoring Control Unit Circuit Check"](#)

Case 14: Check Steering angle sensor Circuit. Refer to [LAN-298, "Steering Angle Sensor Circuit Check"](#)

Case 15: Check Smart entrance control unit Circuit. Refer to [LAN-299, "Smart Entrance Control Unit Circuit Check"](#)

Case 16: Check Combination meter Circuit. Refer to [LAN-299, "Combination Meter Circuit Check"](#)
 Case 17: Check CAN communication Circuit. Refer to [LAN-300, "CAN Communication Circuit Check"](#)

Circuit Check Between TCM and ESP/TCS/ABS Control Unit

EKS0053Q

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side, control unit-side and harness-side)
 - TCM.
 - ESP/TCS/ABS control unit.
 - Between TCM and ESP/TCS/ABS control unit.

OK or NG

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

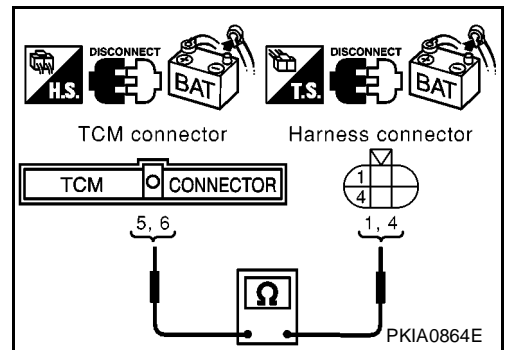
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector and harness connector F31.
2. Check continuity between TCM harness connector F103 terminals 5 (L), 6 (R) and harness connector F31 terminals 1 (L), 4 (R).

5(L) – 1(L) : Continuity should exist.
6(R) – 4(R) : Continuity should exist.

OK or NG

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



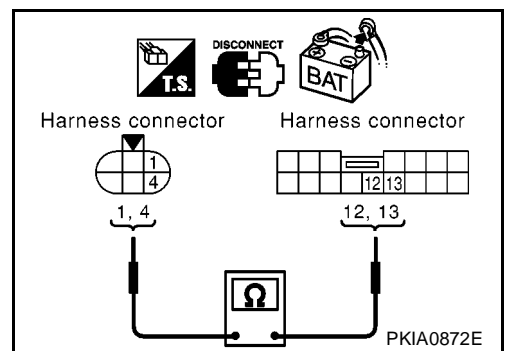
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector E117.
2. Check continuity between harness connector E63 terminals 1 (L), 4 (R) and harness connector E117 terminals 13 (L), 12 (R).

1(L) – 13(L) : Continuity should exist.
4(R) – 12(R) : Continuity should exist.

OK or NG

- OK >> GO TO 4.
 NG >> Repair harness.



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4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector.
2. Check continuity between harness connector B104 terminals 13 (L), 12 (R) and ESP/TCS/ABS control unit harness connector B109 terminals 61 (L), 63 (R).

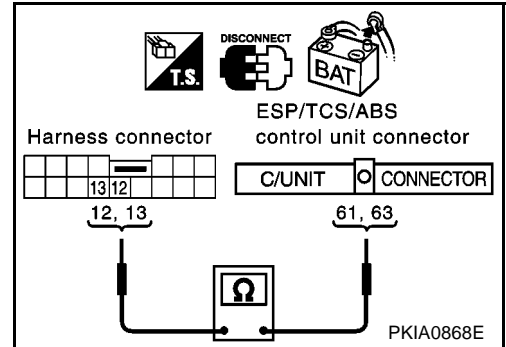
13(L) – 61(L) : Continuity should exist.

12(R) – 63(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT" "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



Circuit Check Between ESP/TCS/ABS Control Unit and Tyre Pressure Monitoring Control Unit

EKS0053R

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - Tyre pressure monitoring control unit.
 - ESP/TCS/ABS control unit.
 - Between ESP/TCS/ABS control unit and tyre pressure monitoring control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector and harness connector B101.
2. Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L), 63 (R) and harness connector B101 terminals 5 (L), 16 (R).

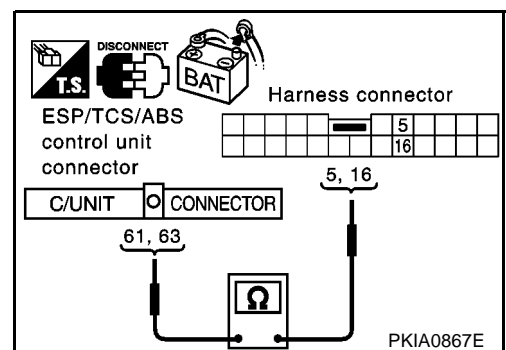
61(L) – 5(L) : Continuity should exist.

63(R) – 16(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect tyre pressure monitoring control unit connector.
2. Check continuity between harness connector M87 terminals 5 (L), 16 (R) and tyre pressure monitoring control unit harness connector M96 terminals 7 (L), 5 (R).

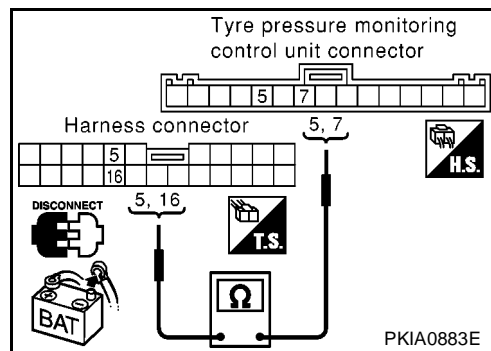
5(L) – 7(L) : Continuity should exist.

16(R) – 5(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT" "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



Circuit Check Between Tyre Pressure Monitoring Control Unit and Steering Angle Sensor

EKS0053S

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
 2. Disconnect the negative battery terminal.
 3. Check following terminals and connector for damage, bend and loose connection. (sensor-side, control unit-side and harness-side)
- Steering angle sensor.
 - Tyre pressure monitoring control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

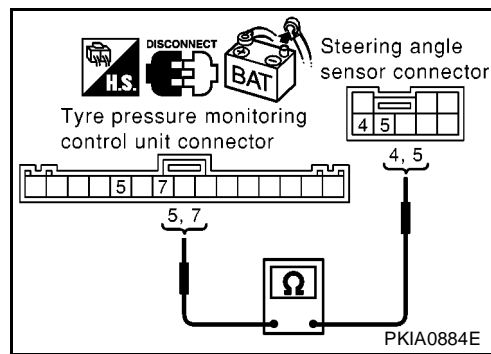
1. Disconnect tyre pressure monitoring control unit connector and steering angle sensor connector.
2. Check continuity between tyre pressure monitoring control unit harness connector M96 terminals 7 (L), 5 (R) and steering angle sensor harness connector M33 terminals 4 (L), 5 (R).

7(L) – 4(L) : Continuity should exist.

5(R) – 5(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT" "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".



[ing Angle Sensor](#)" for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.

Circuit Check Between Steering Angle Sensor and Smart Entrance Control Unit

EKS0053T

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side, sensor-side and harness-side)
 - Smart entrance control unit.
 - Steering angle sensor.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector and steering angle sensor connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and steering angle sensor harness connector M33 terminals 4 (L), 5 (R).

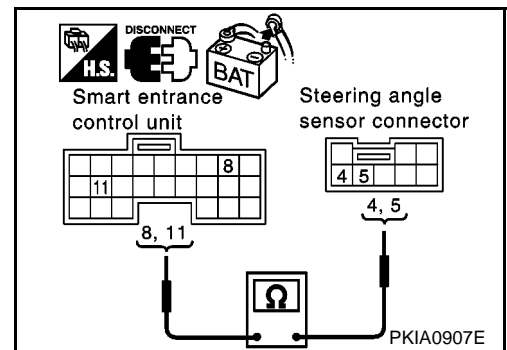
8(L) – 4(L) : Continuity should exist.

11(R) – 5(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT" "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



ECM Circuit Check

EKS0053U

1. CHECK CONNECTOR

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

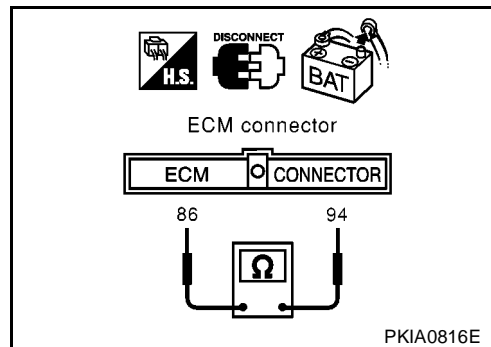
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F102 terminals 94(L) and 86(R).

94(L) – 86(R) : Approx. 108 – 132Ω

OK or NG

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



EKS0053V

TCM Circuit Check

1. CHECK CONNECTOR

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

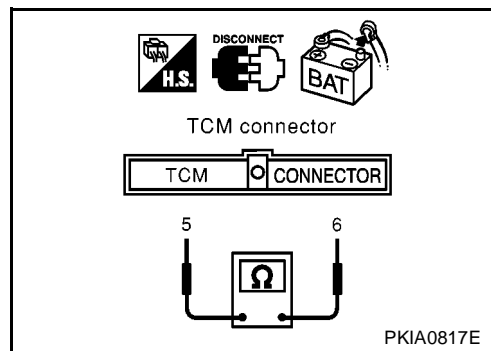
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector.
2. Check resistance between TCM harness connector F103 terminals 5(L) and 6(R).

5(L) – 6(R) : Approx. 54 – 66Ω

OK or NG

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



EKS0053W

ESP/TCS/ABS Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector of ESP/TCS/ABS control unit for damage, bend and loose connection. (control unit-side and harness-side)

OK or NG

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

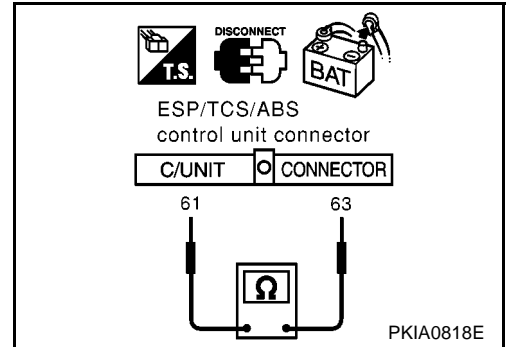
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector.
2. Check resistance between ESP/TCS/ABS control unit harness connector B109 terminals 61(L) and 63(R).

61(L) – 63(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ESP/TCS/ABS control unit.
 NG >> Repair harness between Data link connector and ESP/TCS/ABS control unit.



Tyre Pressure Monitoring Control Unit Circuit Check

EKS0053X

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of tyre pressure monitoring control unit for damage, bend and loose connection. (control unit-side and harness-side)

OK or NG

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

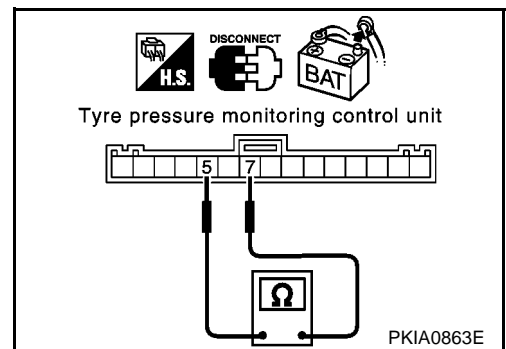
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect tyre pressure monitoring control unit connector.
2. Check resistance between tyre pressure monitoring control unit harness connector M96 terminals 7(L) and 5(R).

7(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace tyre pressure monitoring control unit.
 NG >> Repair harness between steering angle sensor and tyre pressure monitoring control unit.



Steering Angle Sensor Circuit Check

EKS0053Y

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of steering angle sensor for damage, bend and loose connection. (sensor-side and harness-side)

OK or NG

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

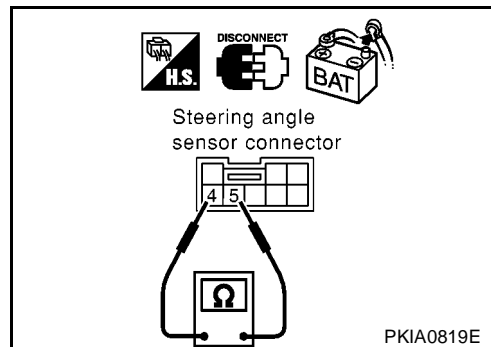
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect steering angle sensor connector.
2. Check resistance between steering angle sensor harness connector M33 terminals 4(L) and 5(R).

4(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace steering angle sensor.
 NG >> Repair harness between steering angle sensor and smart entrance control unit.



Smart Entrance Control Unit Circuit Check

EKS0053Z

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

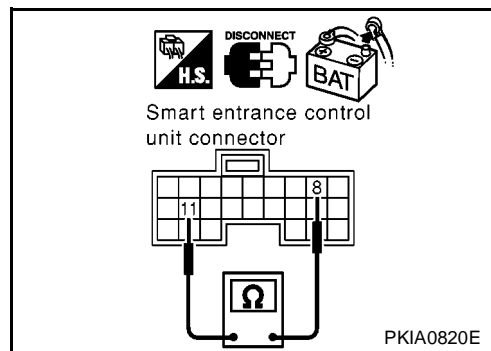
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
 NG >> Repair harness between steering angle sensor and smart entrance control unit.



Combination Meter Circuit Check

EKS00540

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

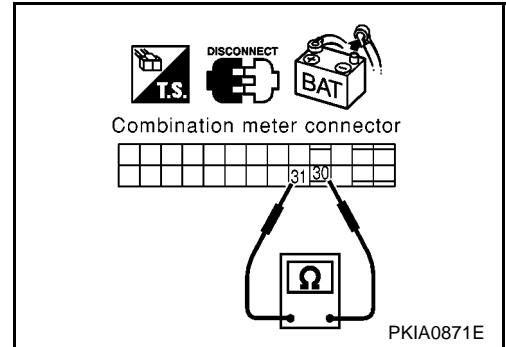
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 30(L) and 31(R).

30(L) – 31(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
 NG >> Repair harness between smart entrance control unit and combination meter.



CAN Communication Circuit Check

EKS00541

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, control unit-side, sensor-side, control module-side and harness-side)
 - Combination meter.
 - Smart entrance control unit.
 - Steering angle sensor.
 - Tyre pressure monitoring control unit.
 - ESP/TCS/ABS control unit.
 - TCM.
 - ECM.
 - Between Data link connector and ECM.

OK or NG

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

2. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect the following connectors.
 - Combination meter connector.
 - Smart entrance control unit connector.
 - Steering angle sensor connector.
 - Tyre pressure monitoring control unit connector.
 - Harness connector M87.
- Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

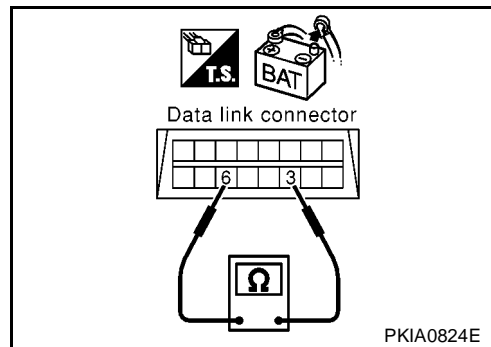
6(L) – 3(R) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG >> ● Repair harness between smart entrance control unit and combination meter.

- Repair harness between smart entrance control unit and steering angle sensor.
- Repair harness between steering angle sensor and tyre pressure monitoring control unit.
- Repair harness between Data link connector and tyre pressure monitoring control unit.
- Repair harness between Data link connector and harness connector M87.



3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

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

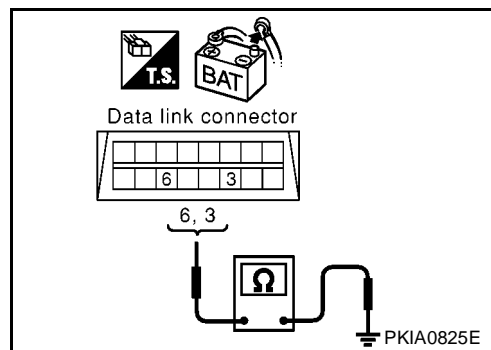
3(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG >> ● Repair harness between smart entrance control unit and combination meter.

- Repair harness between smart entrance control unit and steering angle sensor.
- Repair harness between steering angle sensor and tyre pressure monitoring control unit.
- Repair harness between Data link connector and tyre pressure monitoring control unit.
- Repair harness between Data link connector and harness connector M87.



4. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect ESP/TCS/ABS control unit connector and harness connector B104.
- Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L) and 63(R).

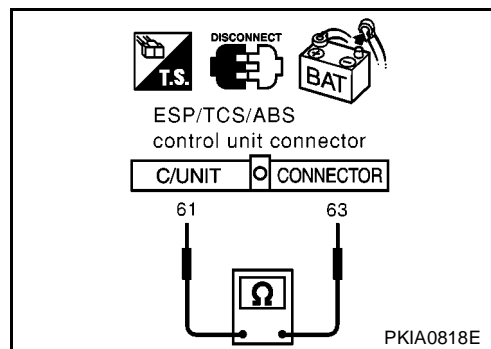
61(L) – 63(R) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> ● Repair harness between ESP/TCS/ABS control unit and harness connector B101.

- Repair harness between harness connector B104 and harness connector B101.



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L), 63 (R) and ground.

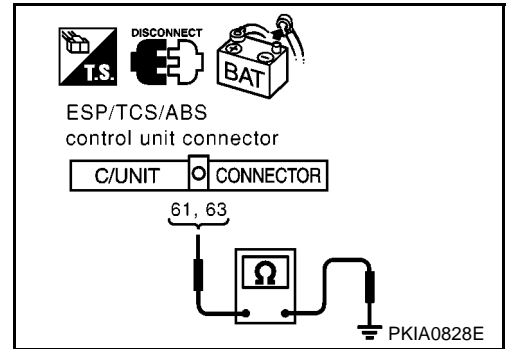
61(L) – ground : Continuity should not exist.

63(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

- NG >> ● Repair harness between ESP/TCS/ABS control unit and harness connector B101.
 ● Repair harness between harness connector B104 and harness connector B101.



6. CHECK HARNESS FOR SHORT CIRCUIT

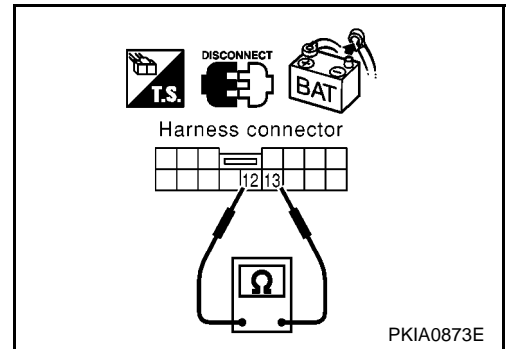
1. Disconnect harness connector E63.
2. Check continuity between harness connector E117 terminals 13 (L) and 12(R).

13(L) – 12(R) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

- NG >> Repair harness between harness connector E117 and harness connector E63.



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector E117 terminals 13 (L) and 12(R) and ground.

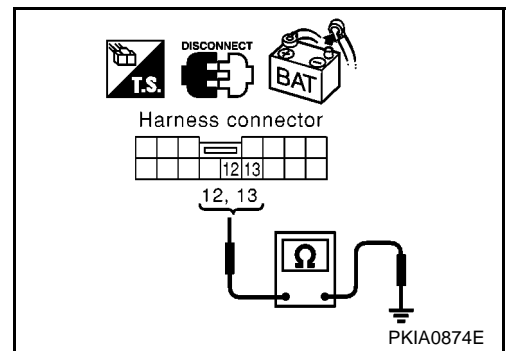
13(L) – ground : Continuity should not exist.

12(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

- NG >> Repair harness between harness connector E117 and harness connector E63.



8. CHECK HARNESS FOR SHORT CIRCUIT

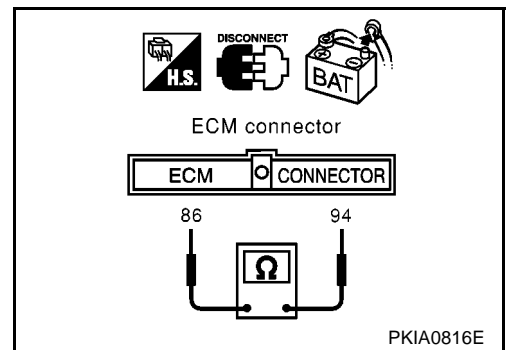
1. Disconnect ECM connector and TCM connector.
2. Check continuity between ECM harness connector F102 terminals 94 (L) and 86(R).

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

OK or NG

OK >> GO TO 9.

- NG >> ● Repair harness between ECM and harness connector F31.
 ● Repair harness between TCM and harness connector F31.



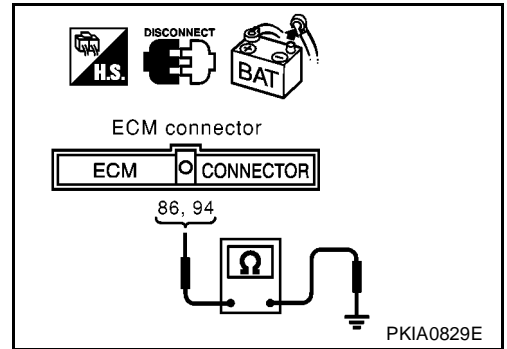
9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.

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

OK or NG

- OK >> GO TO 10.
- NG >>
 - Repair harness between ECM and harness connector F31.
 - Repair harness between TCM and harness connector F31.



10. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-303, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

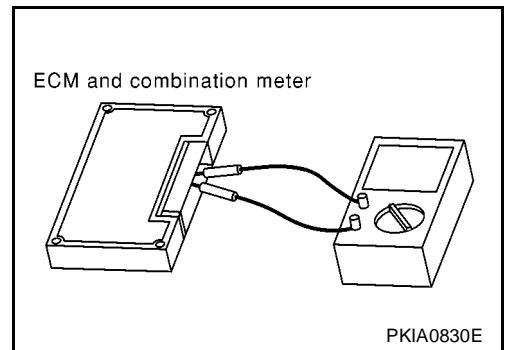
- OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT" "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
- NG >> Replace ECM and/or Combination meter.

Component Inspection
ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

EKS00542

- Remove ECM and Combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between Combination meter terminals 30 and 31.

Unit	Terminal	Resistance value (Ω)
ECM	94 – 86	Approx. 108 - 132
Combination meter	30 – 31	



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CAN SYSTEM (TYPE 15)

System Description

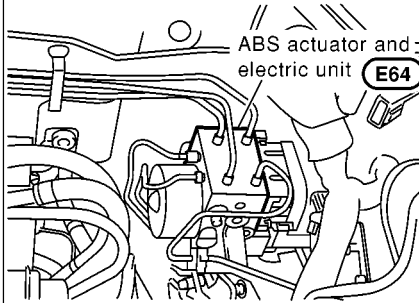
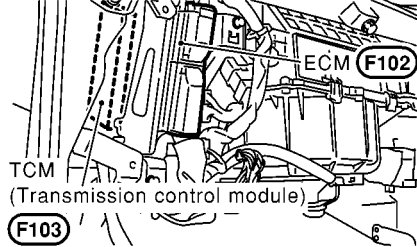
EKS00537

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.

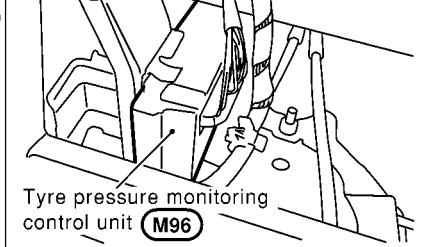
Component Parts and Harness Connector Location

EKS00538

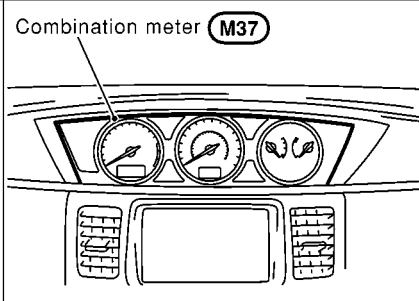
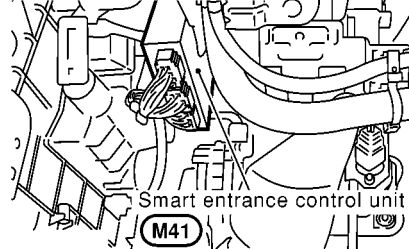
Passenger side view
with lower instrument panel removed



View with instrument panel
center moved



View with lower
instrument panel removed



PKIA0898E

CAN SYSTEM (TYPE 15)

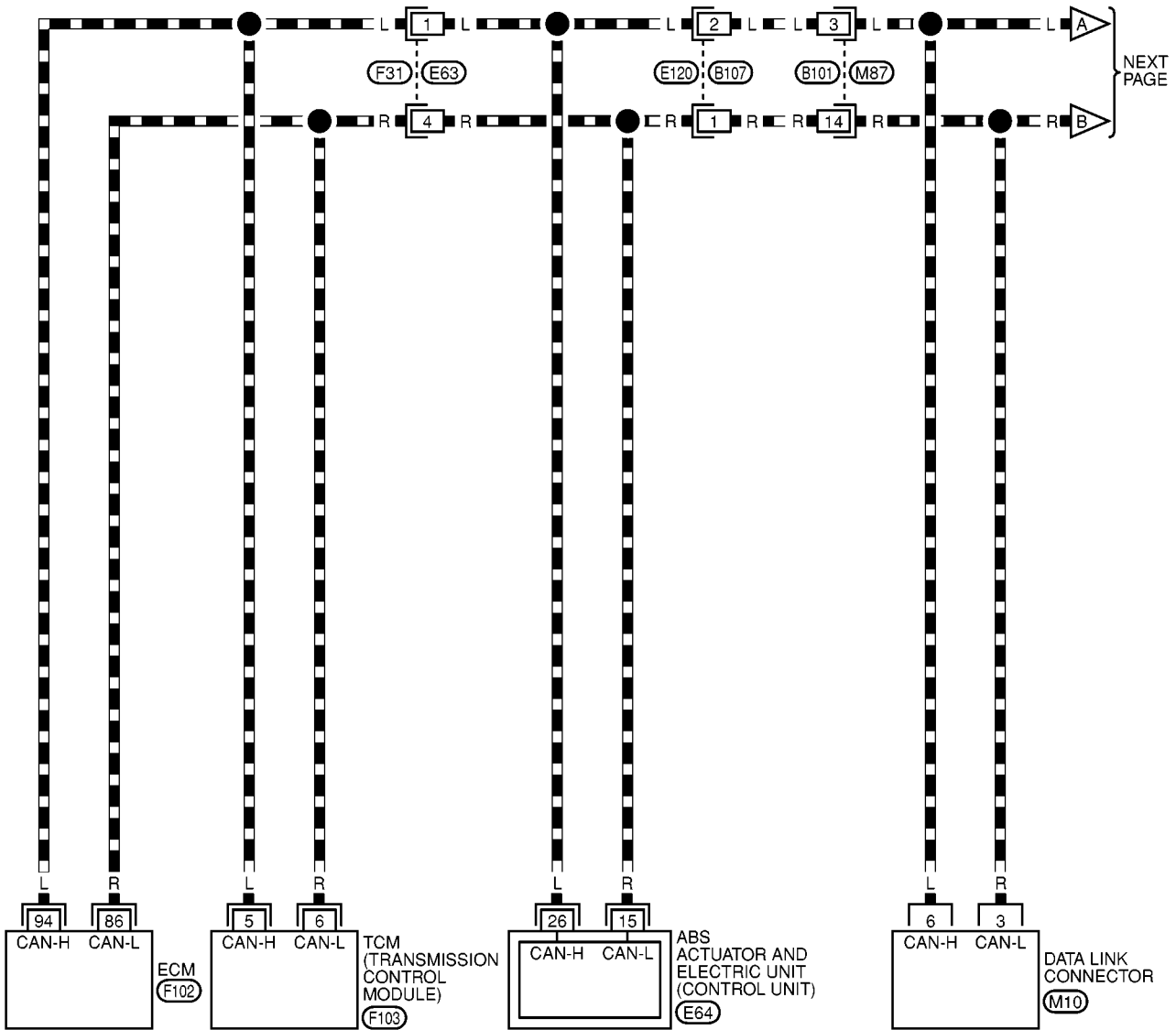
[CAN]

Wiring Diagram — CAN —

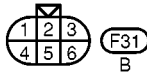
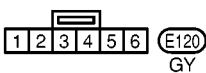
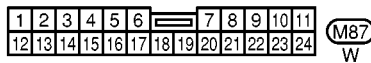
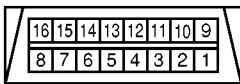
EKS00539

LAN-CAN-32

▬ : DATA LINE



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REFER TO THE FOLLOWING.

E64, F102, F103

-ELECTRICAL UNITS

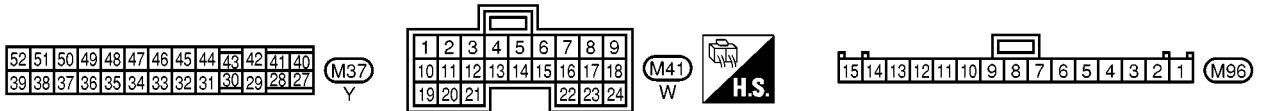
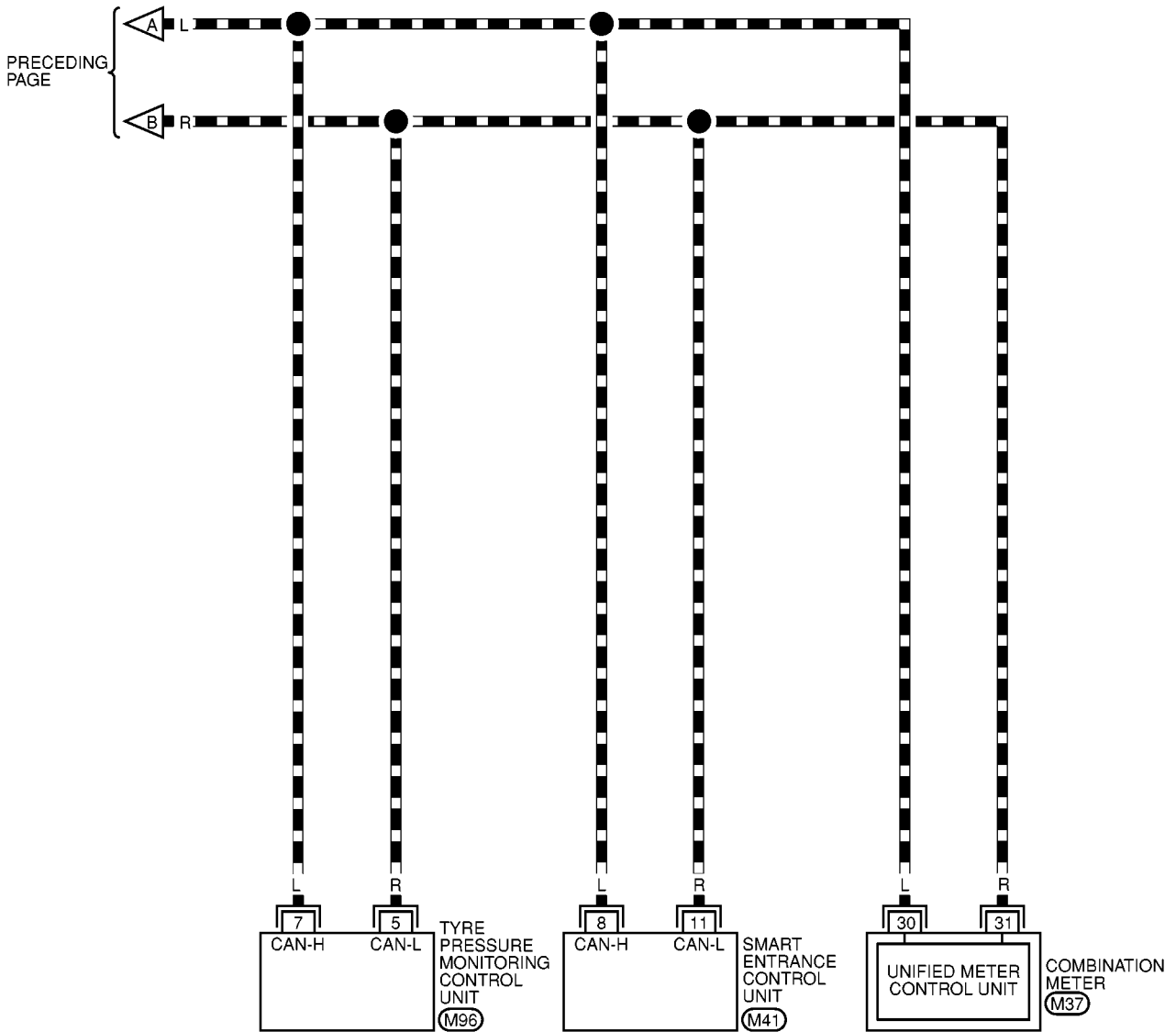
MKWA0242E

CAN SYSTEM (TYPE 15)

[CAN]

LAN-CAN-33

▬ : DATA LINE



MKWA0243E

Work Flow

EKS0053A

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-308, "CHECK SHEET"](#)
3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-308, "CHECK SHEET"](#)

NOTE:

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

4. According to the check sheet results (example), start inspection. Refer to [LAN-309, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

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CAN SYSTEM (TYPE 15)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
CVT
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
AIR PRESSURE MONITOR
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
CVT
DATA MONITOR

Attach copy of
ABS
DATA MONITOR

Attach copy of
AIR PRESSURE MONITOR
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

PKIA0768E

CAN SYSTEM (TYPE 15)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN COMM ✓	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2 ✓	—	—	CAN CIRC 6 ✓	CAN CIRC 4 ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 2: Replace TCM

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2 ✓	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	CAN CIRC 3 ✓	—	—	CAN CIRC 4 ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

PKIA0769E

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LAN

CAN SYSTEM (TYPE 15)

[CAN]

Case 3: Replace ABS actuator and electric unit (control unit)

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 4	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 4: Replace Tyre pressure monitoring control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

PKIA0770E

CAN SYSTEM (TYPE 15)

[CAN]

Case 5: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4

Case 6

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

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LAN

CAN SYSTEM (TYPE 15)

[CAN]

Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 5 ✓	CAN CIRC 8 ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 8 ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 8 ✓
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	—	—	CAN CIRC 3

Case 9

ENGINE	CAN COMM	CAN CIRC 1 ✓	—	CAN CIRC 2 ✓	—	—	CAN CIRC 6 ✓	CAN CIRC 8 ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	—	—	CAN CIRC 3

Case 10

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2 ✓	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1 ✓	CAN CIRC 2 ✓	—	CAN CIRC 3 ✓	—	—	CAN CIRC 4 ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 11

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3 ✓	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1 ✓	CAN CIRC 2 ✓	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

PKIA0772E

CAN SYSTEM (TYPE 15)

[CAN]

Case 12

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	✓ CAN CIRC 1	—	—	—	—	—	✓ CAN CIRC 4
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 13

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	✓ CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	✓ CAN CIRC 1	✓ CAN CIRC 2	—	—	—	—	✓ CAN CIRC 3

Case 14

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	✓ CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	✓ CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	✓ CAN CIRC 4
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	✓ CAN CIRC 3

Case 15

ENGINE	CAN COMM	✓ CAN CIRC 1	—	✓ CAN CIRC 2	—	—	✓ CAN CIRC 6	✓ CAN CIRC 4
CVT	CAN COMM	✓ CAN CIRC 1	✓ CAN CIRC 2	—	✓ CAN CIRC 3	—	—	✓ CAN CIRC 4
ABS	CAN COMM	✓ CAN CIRC 1	✓ CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	✓ CAN CIRC 1	—	—	—	—	—	✓ CAN CIRC 4
SMART ENTRANCE	CAN COMM	✓ CAN CIRC 1	✓ CAN CIRC 2	—	—	—	—	✓ CAN CIRC 3

PKIA0773E

NOTE:

If “NG” is displayed on “CAN COMM” for the diagnosed control unit, replace the control unit.

A
B
C
D
E
F
G
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J
L
M

LAN

INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace TCM.

Case 3: Replace ABS actuator and electric unit (control unit).

Case 4: Replace Tyre pressure monitoring control unit.

Case 5: Replace Smart entrance control unit.

Case 6: Check Harness between TCM and ABS actuator and electric unit (control unit). Refer to [LAN-314, "Circuit Check Between TCM and ABS Actuator and Electric Unit \(control unit\)"](#)

Case 7: Check Harness between Tyre pressure monitoring control unit and ABS actuator and electric unit (control unit). Refer to [LAN-315, "Circuit Check Between ABS Actuator and Electric Unit \(control unit\) and Tyre Pressure Monitoring Control Unit"](#)

Case 8: Check Harness between Tyre pressure monitoring control unit and Smart entrance control unit. Refer to [LAN-316, "Circuit Check Between Tyre pressure monitoring control unit and Smart Entrance Control Unit"](#)

Case 9: Check ECM Circuit. Refer to [LAN-317, "ECM Circuit Check"](#)

Case 10: Check TCM Circuit. Refer to [LAN-318, "TCM Circuit Check"](#)

Case 11: Check ABS actuator and electric unit (control unit) Circuit. Refer to [LAN-318, "ABS Actuator and Electric Unit \(control unit\) Circuit Check"](#)

Case 12: Check Tyre pressure monitoring control unit Circuit. Refer to [LAN-319, "Tyre Pressure Monitoring Control Unit Circuit Check"](#)

Case 13: Check Smart entrance control unit Circuit. Refer to [LAN-319, "Smart Entrance Control Unit Circuit Check"](#)

Case 14: Check Combination meter Circuit. Refer to [LAN-320, "Combination Meter Circuit Check"](#)

Case 15: Check CAN communication Circuit. Refer to [LAN-320, "CAN Communication Circuit Check"](#)

Circuit Check Between TCM and ABS Actuator and Electric Unit (control unit)

EKS0053B

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side, control unit-side and harness-side)
 - TCM.
 - ABS actuator and electric unit (control unit).
 - Between TCM and ABS actuator and electric unit (control unit).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector and harness connector F31.
2. Check continuity between TCM harness connector F103 terminals 5 (L), 6 (R) and harness connector F31 terminals 1 (L), 4 (R).

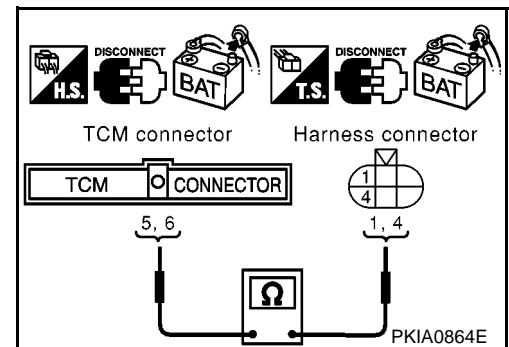
5(L) – 1(L) : Continuity should exist.

6(R) – 4(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check continuity between harness connector E63 terminals 1 (L), 4 (R) and ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L), 15 (R).

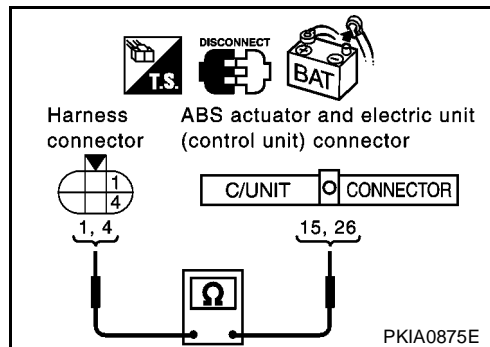
1(L) – 26(L) : Continuity should exist.

4(R) – 15(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



Circuit Check Between ABS Actuator and Electric Unit (control unit) and Tyre Pressure Monitoring Control Unit

EKS0053C

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - ABS actuator and electric unit (control unit).
 - Tyre pressure monitoring control unit.
 - Between ABS actuator and electric unit (control unit) and tyre pressure monitoring control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector and harness connector E120.
2. Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L), 15 (R) and harness connector E120 terminals 2 (L), 1 (R).

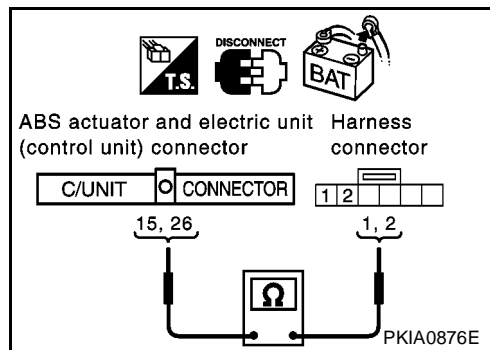
26(L) – 2(L) : Continuity should exist.

15(R) – 1(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



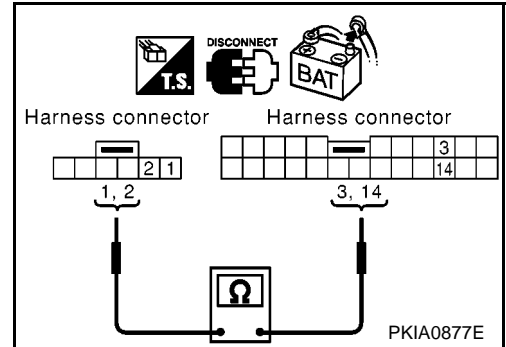
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B101.
2. Check continuity between harness connector B107 terminals 2 (L), 1 (R) and harness connector B101 terminals 3 (L), 14 (R).

2(L) – 3(L) : Continuity should exist.
1(R) – 14(R) : Continuity should exist.

OK or NG

- OK >> GO TO 4.
 NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

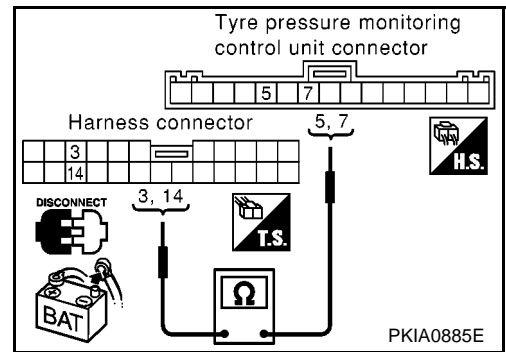
1. Disconnect tyre pressure monitoring control unit connector.
2. Check continuity between harness connector M87 terminals 3 (L), 14 (R) and tyre pressure monitoring control unit harness connector M96 terminals 7 (L), 5 (R).

3(L) – 7(L) : Continuity should exist.
14(R) – 5(R) : Continuity should exist.

OK or NG

- OK >> Reconnect all connectors to perform “SELF-DIAG RESULTS” and “DATA MONITOR” for “ENGINE”, “CVT”, “ABS”, “AIR PRESSURE MONITOR”, and “SMART ENTRANCE” displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for “ENGINE” and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for “CVT”. Refer to [BRC-33, "CAN Communication Circuit"](#) for “ABS”. Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for “AIR PRESSURE MONITOR”. Refer to [BCS-40, "CAN Communication Line Check"](#) for “SMART ENTRANCE”.

- NG >> Repair harness.



Circuit Check Between Tyre pressure monitoring control unit and Smart Entrance Control Unit

EKS0053D

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - Smart entrance control unit.
 - Tyre pressure monitoring control unit.

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector and tyre pressure monitoring control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and tyre pressure monitoring control unit harness connector M96 terminals 7 (L), 5 (R).

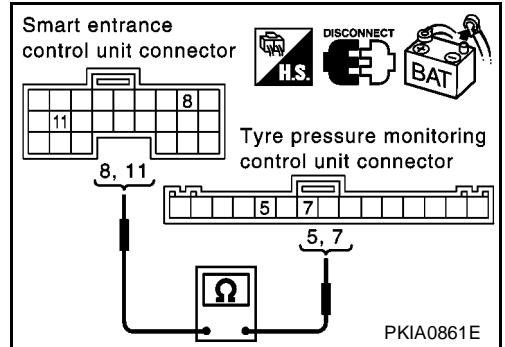
8(L) – 7(L) : Continuity should exist.

11(R) – 5(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



ECM Circuit Check

EKS0053E

1. CHECK CONNECTOR

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

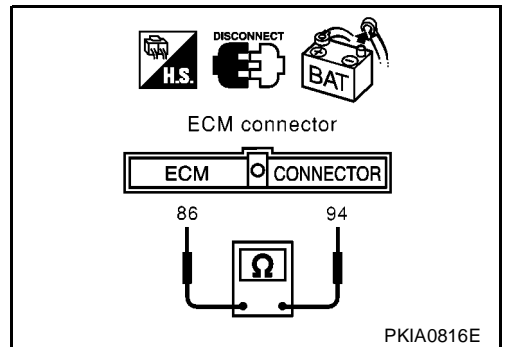
1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F102 terminals 94(L) and 86(R).

94(L) – 86(R) : Approx. 108 – 132Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between TCM and ECM.



TCM Circuit Check**1. CHECK CONNECTOR**

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

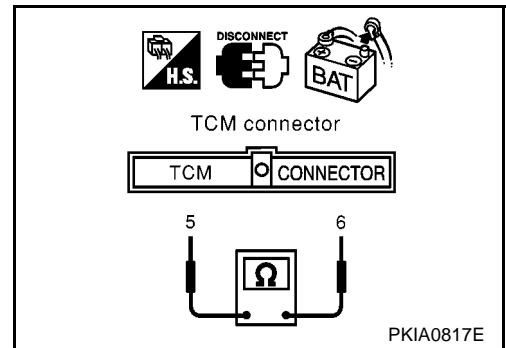
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector.
2. Check resistance between TCM harness connector F103 terminals 5(L) and 6(R).

5(L) – 6(R) : Approx. 54 – 66Ω

OK or NG

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

**ABS Actuator and Electric Unit (control unit) Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection. (control unit-side and harness-side)

OK or NG

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

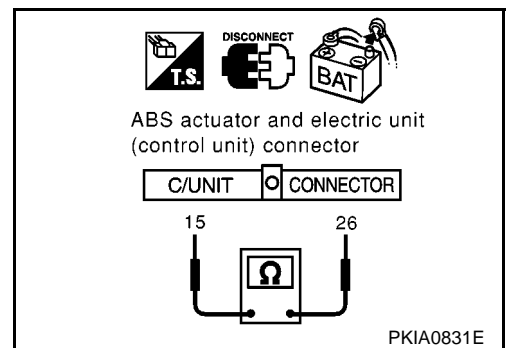
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E64 terminals 26(L) and 15(R).

26(L) – 15(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
 NG >> Repair harness between Data link connector and ABS actuator and electric unit (control unit).



Tyre Pressure Monitoring Control Unit Circuit Check

EKS0053H

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of tyre pressure monitoring control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

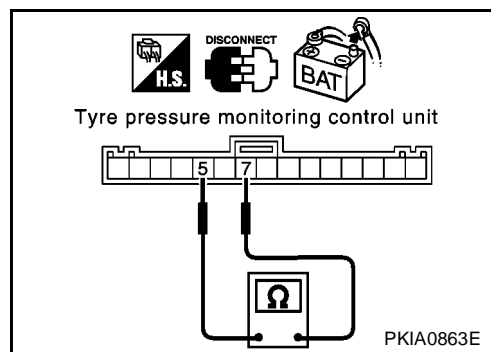
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect tyre pressure monitoring control unit connector.
2. Check resistance between tyre pressure monitoring control unit harness connector M96 terminals 7(L) and 5(R).

7(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace tyre pressure monitoring control unit.
NG >> Repair harness between smart entrance control unit and tyre pressure monitoring control unit.



Smart Entrance Control Unit Circuit Check

EKS0053I

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

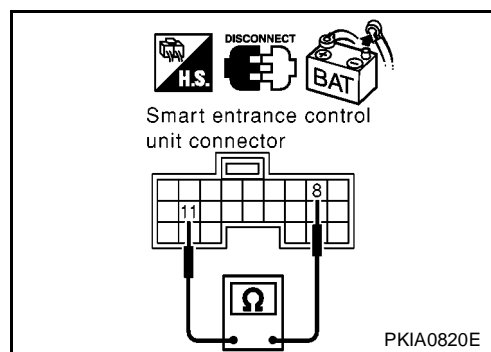
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
NG >> Repair harness between tyre pressure monitoring control unit and smart entrance control unit.



Combination Meter Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

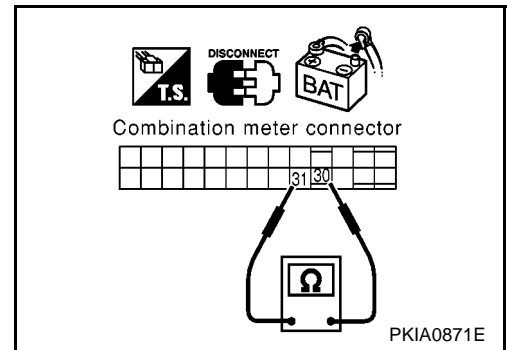
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 30(L) and 31(R).

30(L) – 31(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
 NG >> Repair harness between smart entrance control unit and combination meter.



CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, control unit-side, control module-side and harness-side)
 - Combination meter.
 - Smart entrance control unit.
 - Tyre pressure monitoring control unit.
 - ABS actuator and electric unit (control unit).
 - TCM.
 - ECM.
 - Between Data link connector and ECM.

OK or NG

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

2. CHECK HARNESS FOR SHORT CIRCUIT

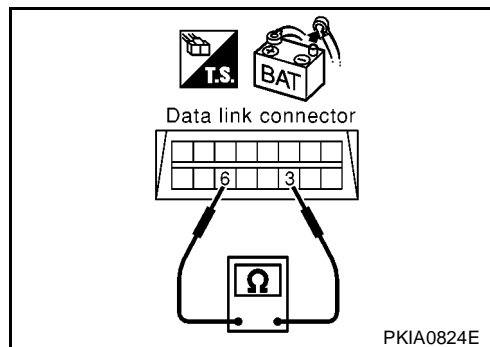
- Disconnect the following connectors.
 - Combination meter connector.
 - Smart entrance control unit connector.
 - Tyre pressure monitoring control unit connector.
 - Harness connector M87.
- Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

- NG >> ● Repair harness between smart entrance control unit and combination meter.
- Repair harness between tyre pressure monitoring control unit and smart entrance control unit.
 - Repair harness between Data link connector and tyre pressure monitoring control unit.
 - Repair harness between Data link connector and harness connector M87.



3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

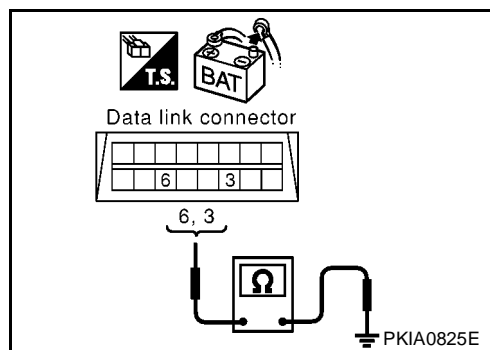
6(L) – ground : Continuity should not exist.

3(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

- NG >> ● Repair harness between smart entrance control unit and combination meter.
- Repair harness between tyre pressure monitoring control unit and smart entrance control unit.
 - Repair harness between Data link connector and tyre pressure monitoring control unit.
 - Repair harness between Data link connector and harness connector M87.



4. CHECK HARNESS FOR SHORT CIRCUIT

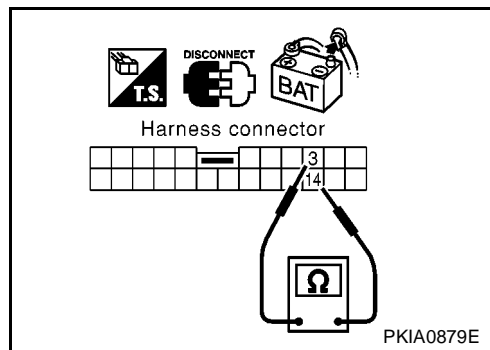
- Disconnect harness connector B107.
- Check continuity between harness connector B101 terminals 3 (L) and 14(R).

3(L) – 14(R) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

- NG >> Repair harness between harness connector B101 and harness connector B107.



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B101 terminals 3 (L), 14(R) and ground.

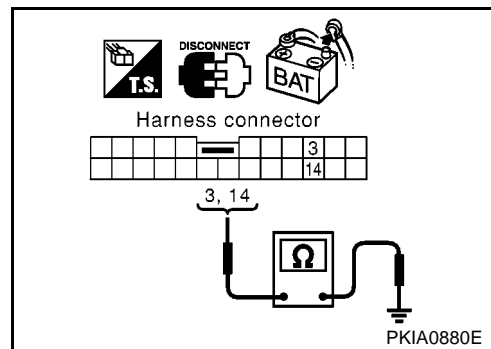
3(L) – ground : Continuity should not exist.

14(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between harness connector B101 and harness connector B107.



6. CHECK HARNESS FOR SHORT CIRCUIT

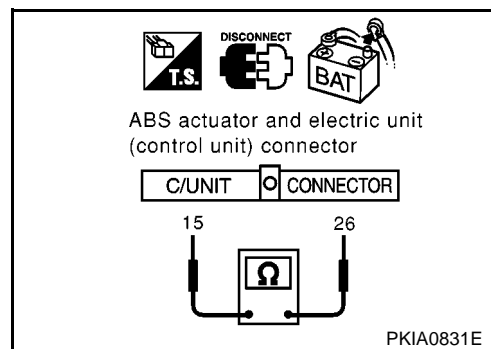
- Disconnect the following connectors.
 - ABS actuator and electric unit (control unit) connector.
 - Harness connector E63.
- Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L) and 15(R).

26(L) – 15(R) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

- NG >>
- Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.
 - Repair harness between harness connector E120 and harness connector E63.



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L), 15 (R) and ground.

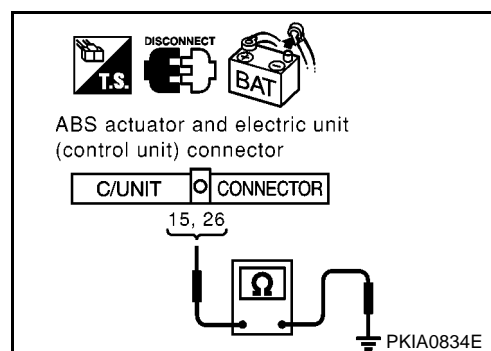
26(L) – ground : Continuity should not exist.

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

OK or NG

OK >> GO TO 8.

- NG >>
- Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.
 - Repair harness between harness connector E120 and harness connector E63.



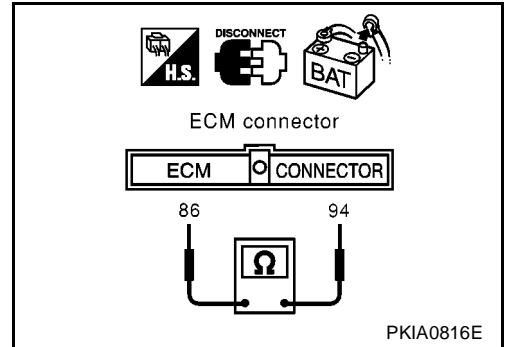
8. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ECM connector and TCM connector.
2. Check continuity between ECM harness connector F102 terminals 94 (L) and 86(R).

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

OK or NG

- OK >> GO TO 9.
 NG >> ● Repair harness between ECM and harness connector F31.
 ● Repair harness between TCM and harness connector F31.



9. CHECK HARNESS FOR SHORT CIRCUIT

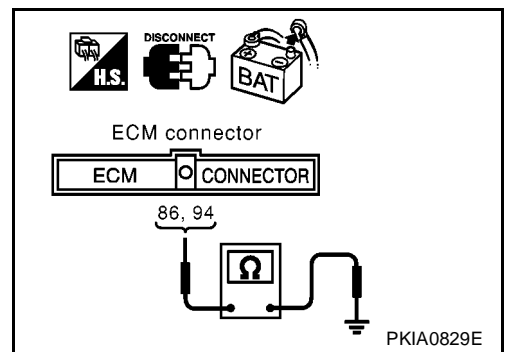
Check continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.

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

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

OK or NG

- OK >> GO TO 10.
 NG >> ● Repair harness between ECM and harness connector F31.
 ● Repair harness between TCM and harness connector F31.



10. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-323, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

- OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

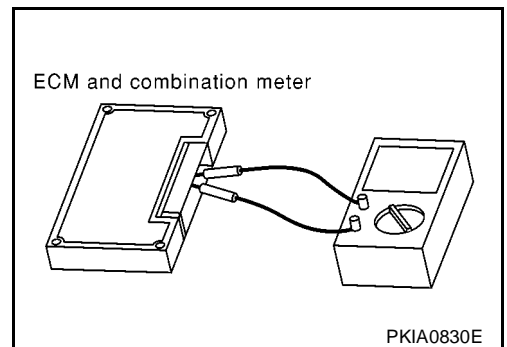
NG >> Replace ECM and/or Combination meter.

**Component Inspection
 ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION**

EKS0053L

- Remove ECM and Combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between Combination meter terminals 30 and 31.

Unit	Terminal	Resistance value (Ω)
ECM	94 – 86	Approx. 108 - 132
Combination meter	30 – 31	



CAN SYSTEM (TYPE 16)

System Description

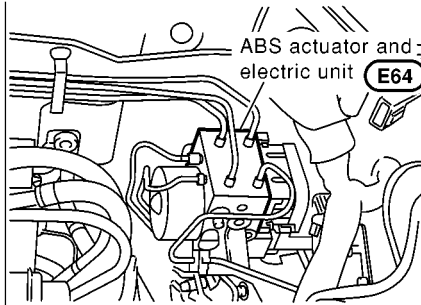
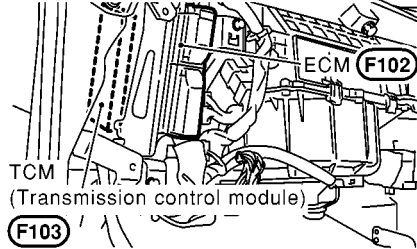
EKS0052S

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.

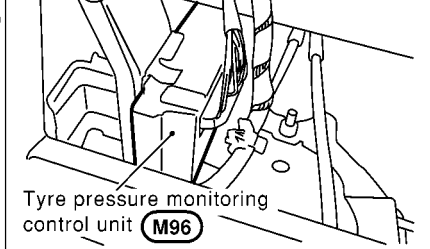
Component Parts and Harness Connector Location

EKS0052T

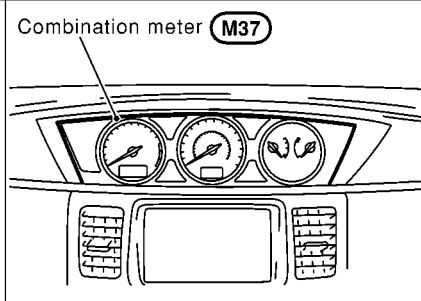
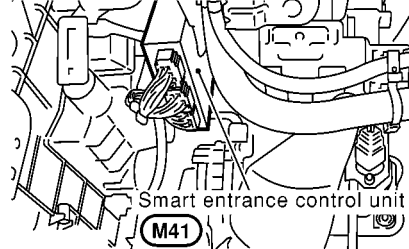
Passenger side view
with lower instrument panel removed



View with instrument panel
center moved



View with lower
instrument panel removed



PKIA0898E

CAN SYSTEM (TYPE 16)

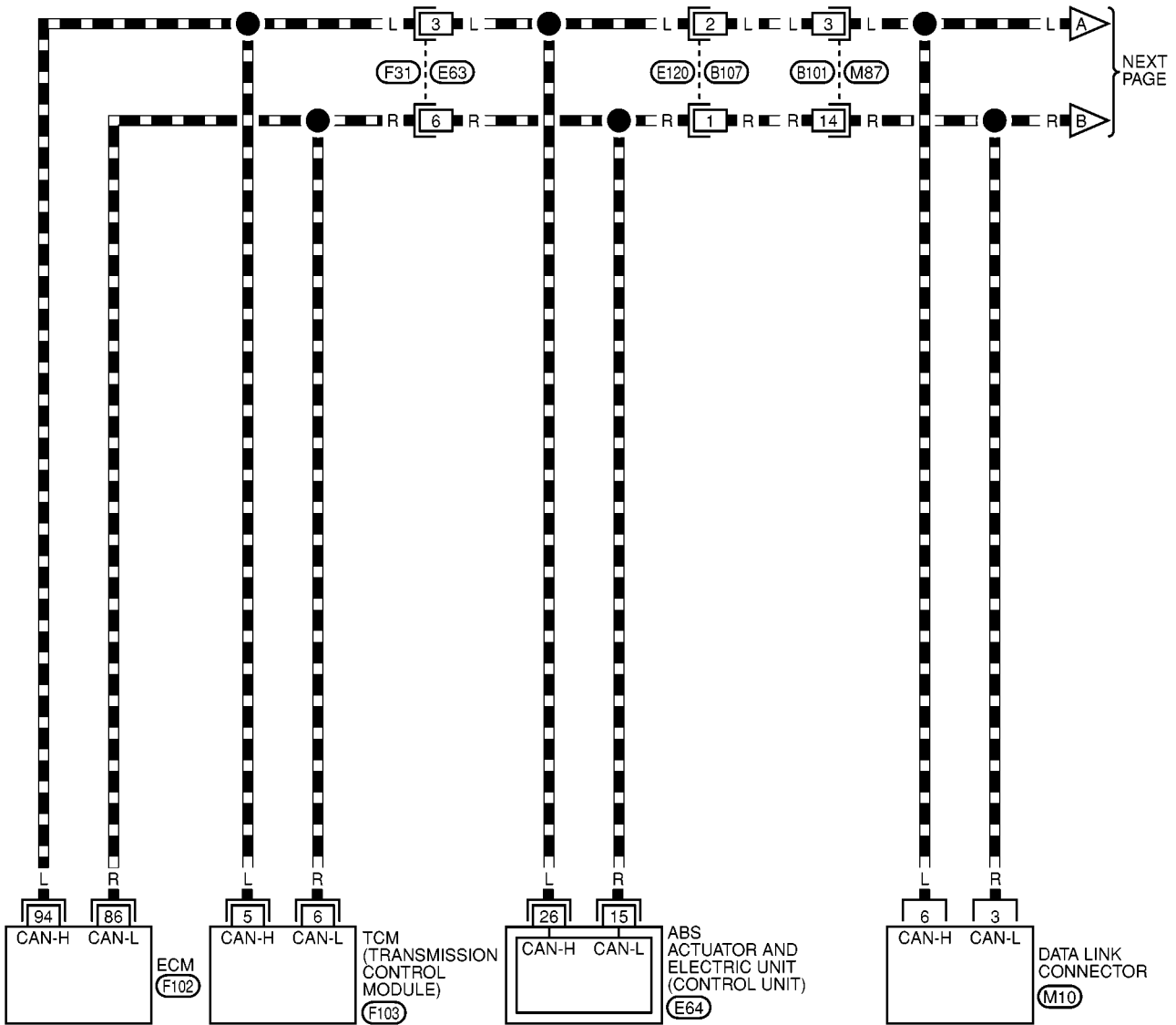
[CAN]

Wiring Diagram — CAN —

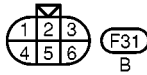
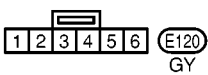
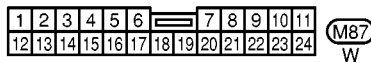
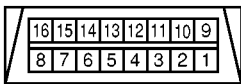
EKS0052U

LAN-CAN-34

▬ : DATA LINE



LAN



REFER TO THE FOLLOWING.

E64, F102, F103

-ELECTRICAL UNITS

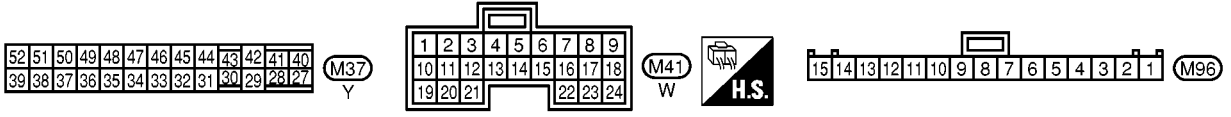
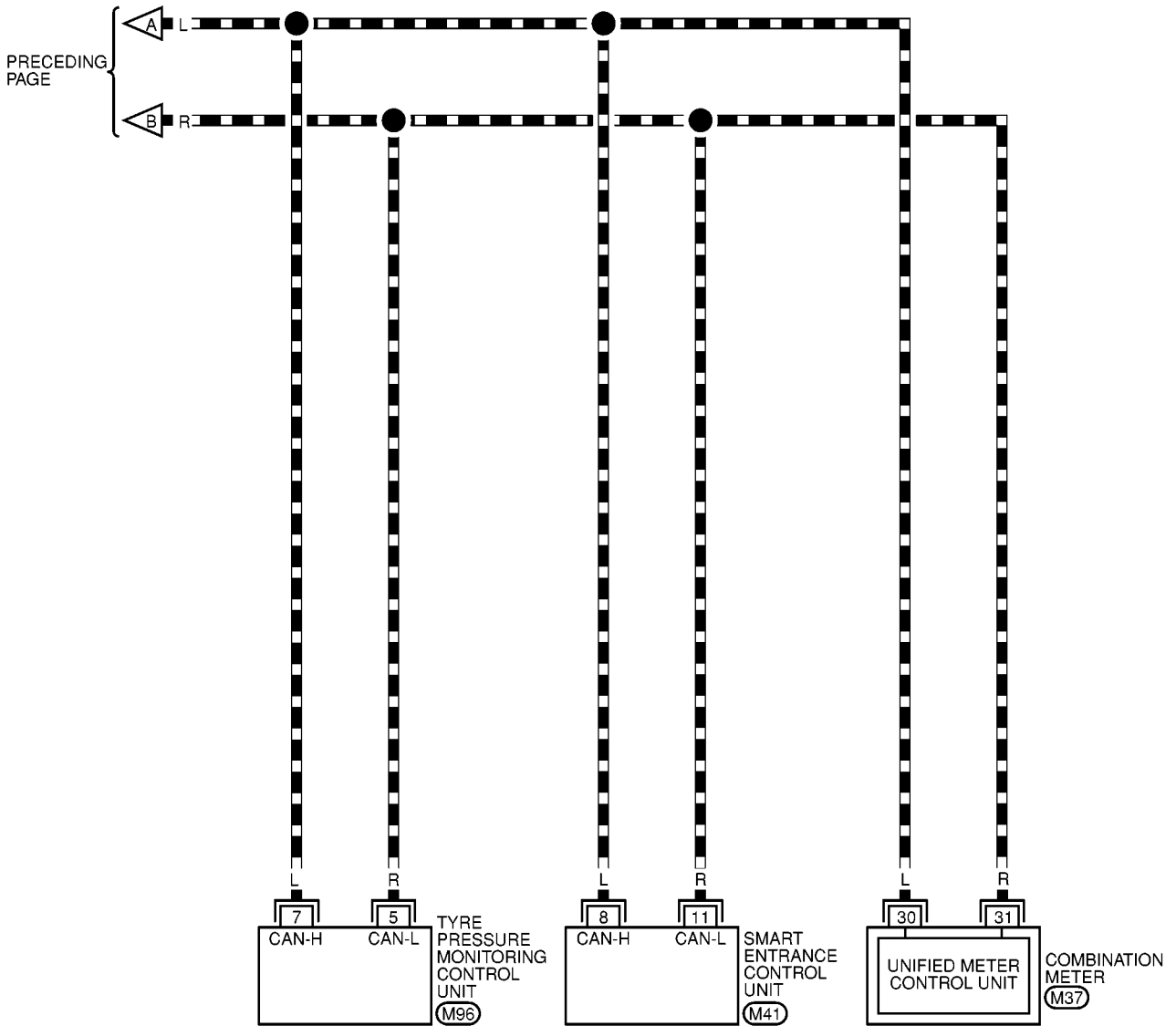
MKWA0246E

CAN SYSTEM (TYPE 16)

[CAN]

LAN-CAN-35

▬ : DATA LINE



MKWA0247E

Work Flow

EKS0052V

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "A/T", "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [AT-190, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [AT-393, "CAN COMMUNICATION LINE"](#) (ALL) for "A/T". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-328, "CHECK SHEET"](#)
3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-328, "CHECK SHEET"](#)

NOTE:

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

4. According to the check sheet results (example), start inspection. Refer to [LAN-329, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

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LAN

CAN SYSTEM (TYPE 16)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
A/T
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
AIR PRESSURE MONITOR
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
A/T
DATA MONITOR

Attach copy of
ABS
DATA MONITOR

Attach copy of
AIR PRESSURE MONITOR
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

PKIA0774E

CAN SYSTEM (TYPE 16)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN COMM ✓	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC ✓	—	—	CAN CIRC ✓	CAN CIRC ✓
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 2: Replace TCM

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC ✓	—	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC ✓	—	—	—	—	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

PKIA0775E

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LAN

CAN SYSTEM (TYPE 16)

[CAN]

Case 3: Replace ABS actuator and electric unit (control unit)

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 4: Replace Tyre pressure monitoring control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM ✓	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

PKIA0776E

CAN SYSTEM (TYPE 16)

[CAN]

Case 5: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 6

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

PKIA0777E

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LAN

CAN SYSTEM (TYPE 16)

[CAN]

Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 9

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 10

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 11

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

PKIA0778E

CAN SYSTEM (TYPE 16)

[CAN]

Case 12

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	✓ CAN CIRC 1	—	—	—	—	—	✓ CAN CIRC 4
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 13

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	✓ CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	✓ CAN CIRC 1	✓ CAN CIRC 2	—	—	—	—	✓ CAN CIRC 3

Case 14

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	—	CAN CIRC 6	✓ CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	✓ CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	✓ CAN CIRC 4
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	✓ CAN CIRC 3

Case 15

ENGINE	CAN COMM	✓ CAN CIRC 1	—	✓ CAN CIRC 2	—	—	✓ CAN CIRC 6	✓ CAN CIRC 4
A/T	CAN COMM	✓ CAN CIRC 1	✓ CAN CIRC 2	—	—	—	—	✓ CAN CIRC 4
ABS	CAN COMM	✓ CAN CIRC 1	✓ CAN CIRC 2	—	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	✓ CAN CIRC 1	—	—	—	—	—	✓ CAN CIRC 4
SMART ENTRANCE	CAN COMM	✓ CAN CIRC 1	✓ CAN CIRC 2	—	—	—	—	✓ CAN CIRC 3

PKIA0779E

NOTE:

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

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INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace TCM.

Case 3: Replace ABS actuator and electric unit (control unit).

Case 4: Replace Tyre pressure monitoring control unit.

Case 5: Replace Smart entrance control unit.

Case 6: Check Harness between TCM and ABS actuator and electric unit (control unit). Refer to [LAN-334, "Circuit Check Between TCM and ABS Actuator and Electric Unit \(control unit\)"](#)

Case 7: Check Harness between Tyre pressure monitoring control unit and ABS actuator and electric unit (control unit). Refer to [LAN-335, "Circuit Check Between ABS Actuator and Electric Unit \(control unit\) and Tyre Pressure Monitoring Control Unit"](#)

Case 8: Check Harness between Tyre pressure monitoring control unit and Smart entrance control unit. Refer to [LAN-336, "Circuit Check Between Tyre pressure monitoring control unit and Smart Entrance Control Unit"](#)

Case 9: Check ECM Circuit. Refer to [LAN-337, "ECM Circuit Check"](#)

Case 10: Check TCM Circuit. Refer to [LAN-338, "TCM Circuit Check"](#)

Case 11: Check ABS actuator and electric unit (control unit) Circuit. Refer to [LAN-338, "ABS Actuator and Electric Unit \(control unit\) Circuit Check"](#)

Case 12: Check Tyre pressure monitoring control unit Circuit. Refer to [LAN-339, "Tyre Pressure Monitoring Control Unit Circuit Check"](#)

Case 13: Check Smart entrance control unit Circuit. Refer to [LAN-339, "Smart Entrance Control Unit Circuit Check"](#)

Case 14: Check Combination meter Circuit. Refer to [LAN-340, "Combination Meter Circuit Check"](#)

Case 15: Check CAN communication Circuit. Refer to [LAN-340, "CAN Communication Circuit Check"](#)

Circuit Check Between TCM and ABS Actuator and Electric Unit (control unit)

EKS0052W

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side, control unit-side and harness-side)
 - TCM.
 - ABS actuator and electric unit (control unit).
 - Between TCM and ABS actuator and electric unit (control unit).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector and harness connector F31.
2. Check continuity between TCM harness connector F103 terminals 5 (L), 6 (R) and harness connector F31 terminals 3 (L), 6 (R).

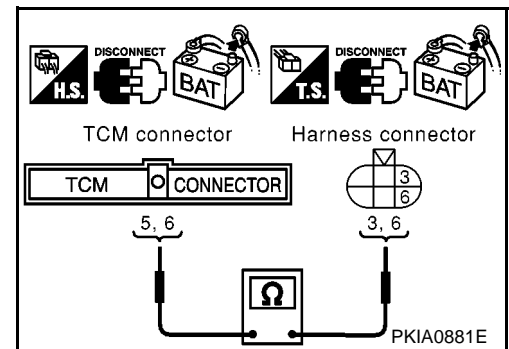
5(L) – 3(L) : Continuity should exist.

6(R) – 6(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check continuity between harness connector E63 terminals 3 (L), 6 (R) and ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L), 15 (R).

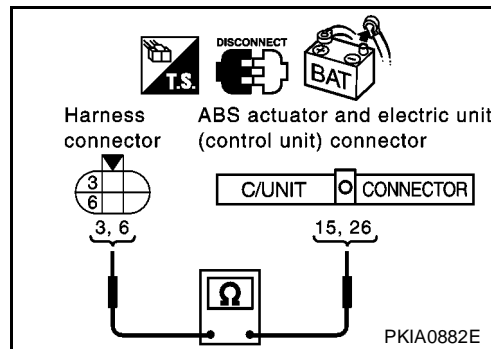
3(L) – 26(L) : Continuity should exist.

6(R) – 15(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "A/T", "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [AT-190, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [AT-393, "CAN COMMUNICATION LINE"](#) (ALL) for "A/T". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



Circuit Check Between ABS Actuator and Electric Unit (control unit) and Tyre Pressure Monitoring Control Unit

EKS0052X

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - ABS actuator and electric unit (control unit).
 - Tyre pressure monitoring control unit.
 - Between ABS actuator and electric unit (control unit) and tyre pressure monitoring control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector and harness connector E120.
2. Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L), 15 (R) and harness connector E120 terminals 2 (L), 1 (R).

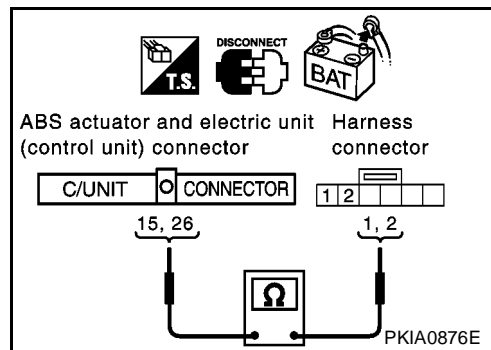
26(L) – 2(L) : Continuity should exist.

15(R) – 1(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B101.
2. Check continuity between harness connector B107 terminals 2 (L), 1 (R) and harness connector B101 terminals 3 (L), 14 (R).

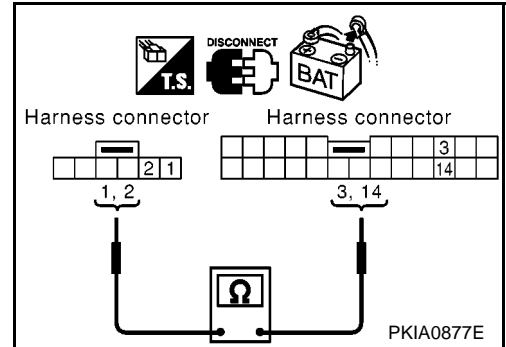
2(L) – 3(L) : Continuity should exist.

1(R) – 14(R) : Continuity should exist.

OK or NG

OK >> GO TO 4.

NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect tyre pressure monitoring control unit connector.
2. Check continuity between harness connector M87 terminals 3 (L), 14 (R) and tyre pressure monitoring control unit harness connector M96 terminals 7 (L), 5 (R).

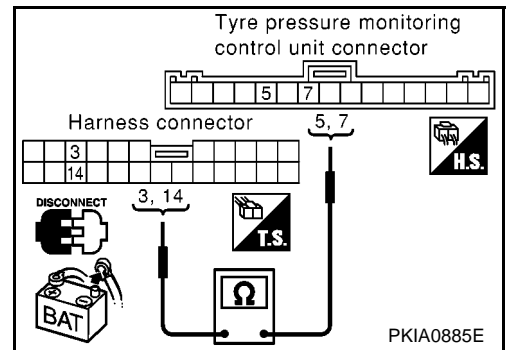
3(L) – 7(L) : Continuity should exist.

14(R) – 5(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "A/T", "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [AT-190, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [AT-393, "CAN COMMUNICATION LINE"](#) (ALL) for "A/T". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



Circuit Check Between Tyre pressure monitoring control unit and Smart Entrance Control Unit

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - Smart entrance control unit.
 - Tyre pressure monitoring control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

EKS0052Y

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector and tyre pressure monitoring control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and tyre pressure monitoring control unit harness connector M96 terminals 7 (L), 5 (R).

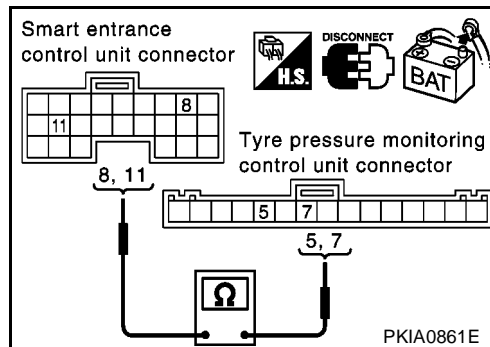
8(L) – 7(L) : Continuity should exist.

11(R) – 5(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "A/T", "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE" \(WITH EURO-OBD\)](#) or [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE" \(WITHOUT EURO-OBD\)](#) for "ENGINE" and Refer to [AT-190, "DTC U1000 CAN COMMUNICATION LINE" \(EURO-OBD\)](#) or [AT-393, "CAN COMMUNICATION LINE" \(ALL\)](#) for "A/T". Refer to [BRC-33, "CAN Communication Circuit" for "ABS"](#). Refer to [WT-35, "Inspection 4: CAN Communication Line" for "AIR PRESSURE MONITOR"](#). Refer to [BCS-40, "CAN Communication Line Check" for "SMART ENTRANCE"](#).

NG >> Repair harness.



ECM Circuit Check

EKS0052Z

1. CHECK CONNECTOR

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

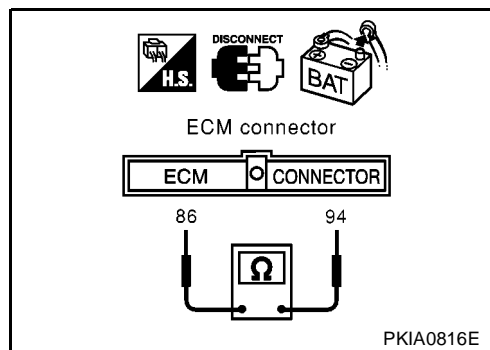
1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F102 terminals 94(L) and 86(R).

94(L) – 86(R) : Approx. 108 – 132Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between TCM and ECM.



TCM Circuit Check**1. CHECK CONNECTOR**

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

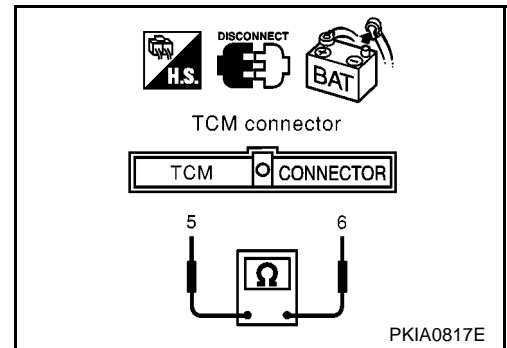
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector.
2. Check resistance between TCM harness connector F103 terminals 5(L) and 6(R).

5(L) – 6(R) : Approx. 54 – 66Ω

OK or NG

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

**ABS Actuator and Electric Unit (control unit) Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection. (control unit-side and harness-side)

OK or NG

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

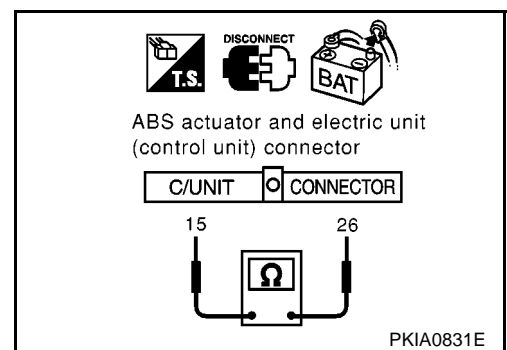
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E64 terminals 26(L) and 15(R).

26(L) – 15(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
 NG >> Repair harness between Data link connector and ABS actuator and electric unit (control unit).



Tyre Pressure Monitoring Control Unit Circuit Check**1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of tyre pressure monitoring control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

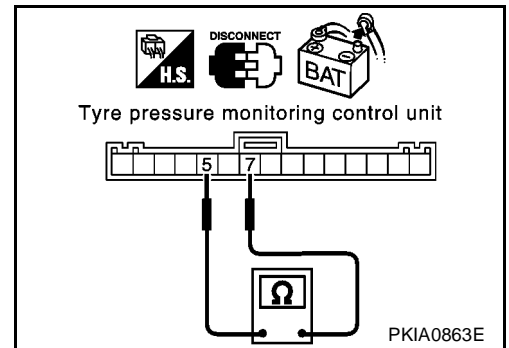
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect tyre pressure monitoring control unit connector.
2. Check resistance between tyre pressure monitoring control unit harness connector M96 terminals 7(L) and 5(R).

7(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace tyre pressure monitoring control unit.
 NG >> Repair harness between smart entrance control unit and tyre pressure monitoring control unit.

**Smart Entrance Control Unit Circuit Check****1. CHECK CONNECTOR**

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

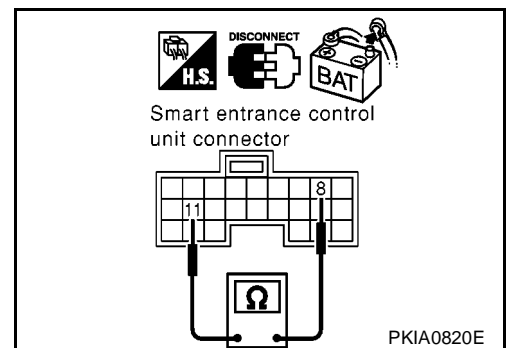
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
 NG >> Repair harness between tyre pressure monitoring control unit and smart entrance control unit.

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Combination Meter Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

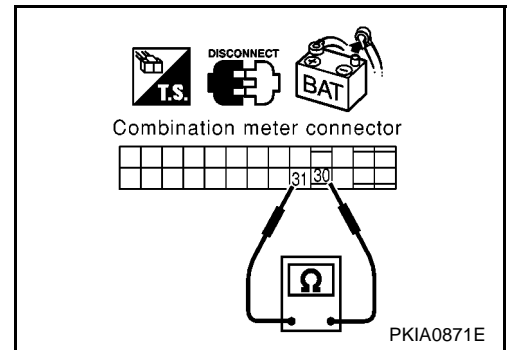
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 30(L) and 31(R).

30(L) – 31(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
NG >> Repair harness between smart entrance control unit and combination meter.



CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, control unit-side, control module-side and harness-side)
 - Combination meter.
 - Smart entrance control unit.
 - Tyre pressure monitoring control unit.
 - ABS actuator and electric unit (control unit).
 - TCM.
 - ECM.
 - Between Data link connector and ECM.

OK or NG

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

2. CHECK HARNESS FOR SHORT CIRCUIT

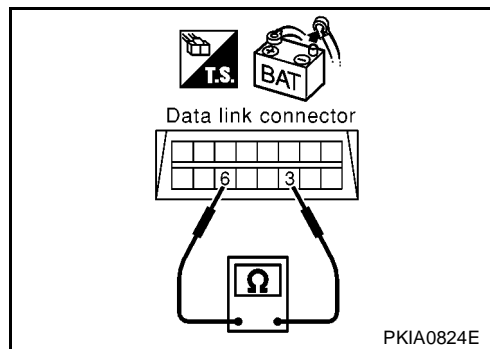
- Disconnect the following connectors.
 - Combination meter connector.
 - Smart entrance control unit connector.
 - Tyre pressure monitoring control unit connector.
 - Harness connector M87.
- Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

- NG >> ● Repair harness between smart entrance control unit and combination meter.
- Repair harness between tyre pressure monitoring control unit and smart entrance control unit.
 - Repair harness between Data link connector and tyre pressure monitoring control unit.
 - Repair harness between Data link connector and harness connector M87.



3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

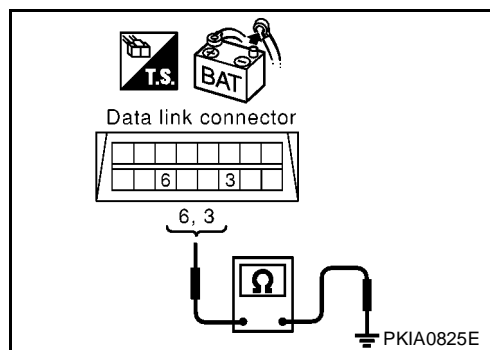
6(L) – ground : Continuity should not exist.

3(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

- NG >> ● Repair harness between smart entrance control unit and combination meter.
- Repair harness between tyre pressure monitoring control unit and smart entrance control unit.
 - Repair harness between Data link connector and tyre pressure monitoring control unit.
 - Repair harness between Data link connector and harness connector M87.



4. CHECK HARNESS FOR SHORT CIRCUIT

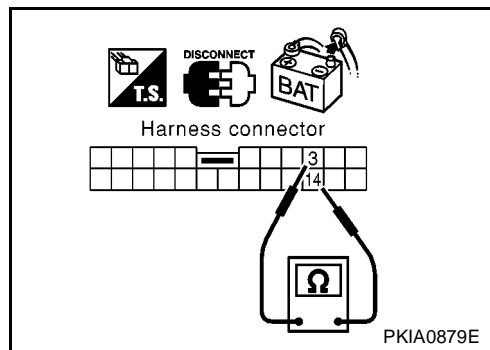
- Disconnect harness connector B107.
- Check continuity between harness connector B101 terminals 3 (L) and 14(R).

3(L) – 14(R) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

- NG >> Repair harness between harness connector B101 and harness connector B107.



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B101 terminals 3 (L), 14(R) and ground.

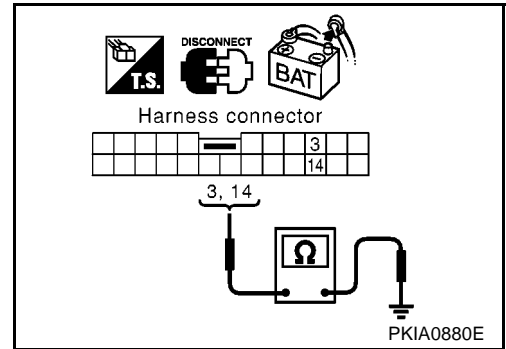
3(L) – ground : Continuity should not exist.

14(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between harness connector B101 and harness connector B107.



6. CHECK HARNESS FOR SHORT CIRCUIT

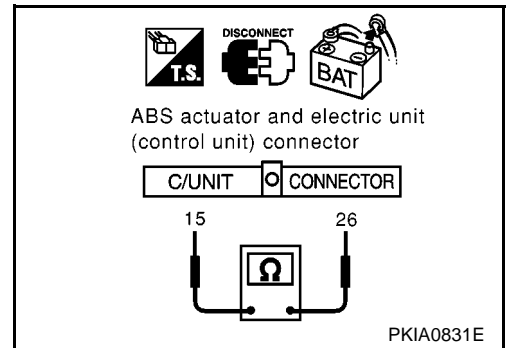
- Disconnect the following connectors.
 - ABS actuator and electric unit (control unit) connector.
 - Harness connector E63.
- Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L) and 15(R).

26(L) – 15(R) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

- NG >>
- Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.
 - Repair harness between harness connector E120 and harness connector E63.



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L), 15 (R) and ground.

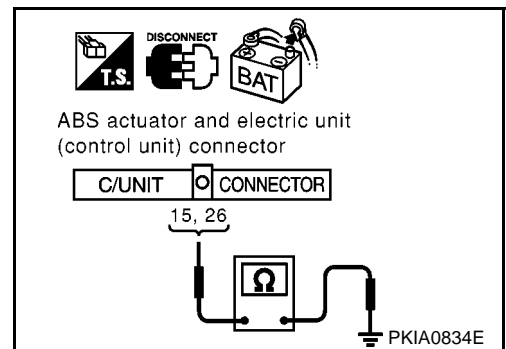
26(L) – ground : Continuity should not exist.

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

OK or NG

OK >> GO TO 8.

- NG >>
- Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.
 - Repair harness between harness connector E120 and harness connector E63.



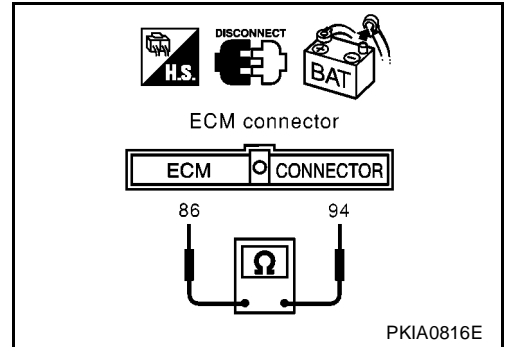
8. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ECM connector and TCM connector.
2. Check continuity between ECM harness connector F102 terminals 94 (L) and 86(R).

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

OK or NG

- OK >> GO TO 9.
 NG >> ● Repair harness between ECM and harness connector F31.
 ● Repair harness between TCM and harness connector F31.



9. CHECK HARNESS FOR SHORT CIRCUIT

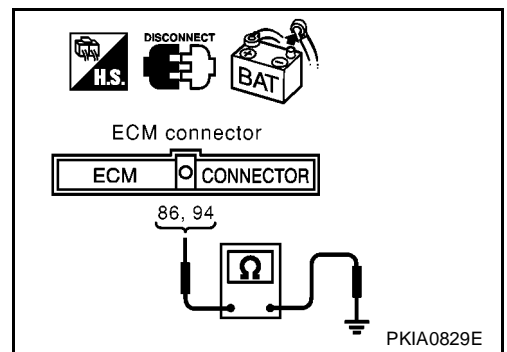
Check continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.

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

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

OK or NG

- OK >> GO TO 10.
 NG >> ● Repair harness between ECM and harness connector F31.
 ● Repair harness between TCM and harness connector F31.



10. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-343, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

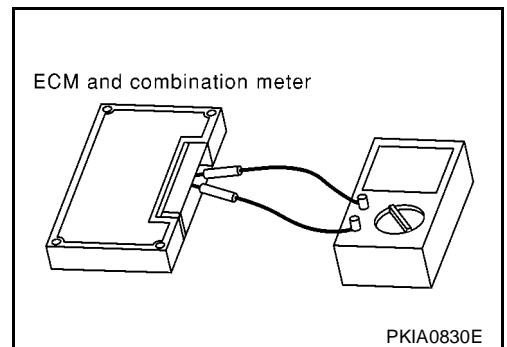
- OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "A/T", "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [AT-190, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [AT-393, "CAN COMMUNICATION LINE"](#) (ALL) for "A/T". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
- NG >> Replace ECM and/or Combination meter.

**Component Inspection
 ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION**

EKS00536

- Remove ECM and Combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between Combination meter terminals 30 and 31.

Unit	Terminal	Resistance value (Ω)
ECM	94 – 86	Approx. 108 - 132
Combination meter	30 – 31	



CAN SYSTEM (TYPE 17)

PFP:23710

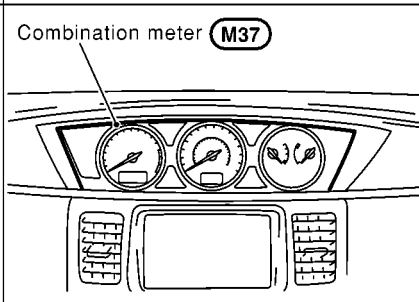
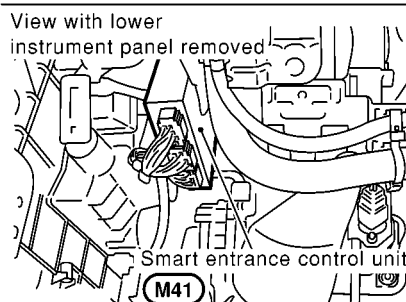
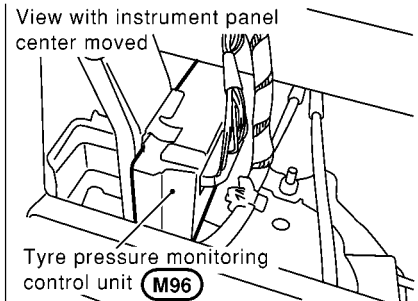
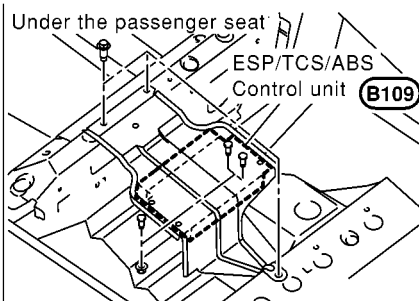
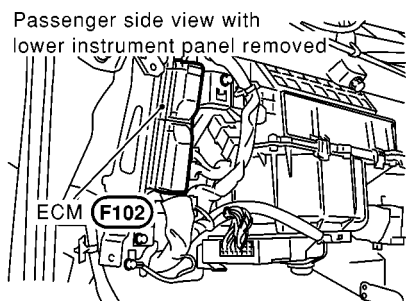
System Description

EKS0051V

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

EKS0051W



PKIA0899E

CAN SYSTEM (TYPE 17)

[CAN]

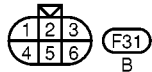
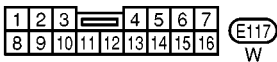
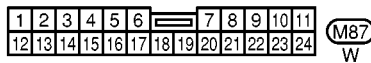
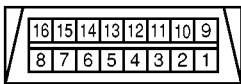
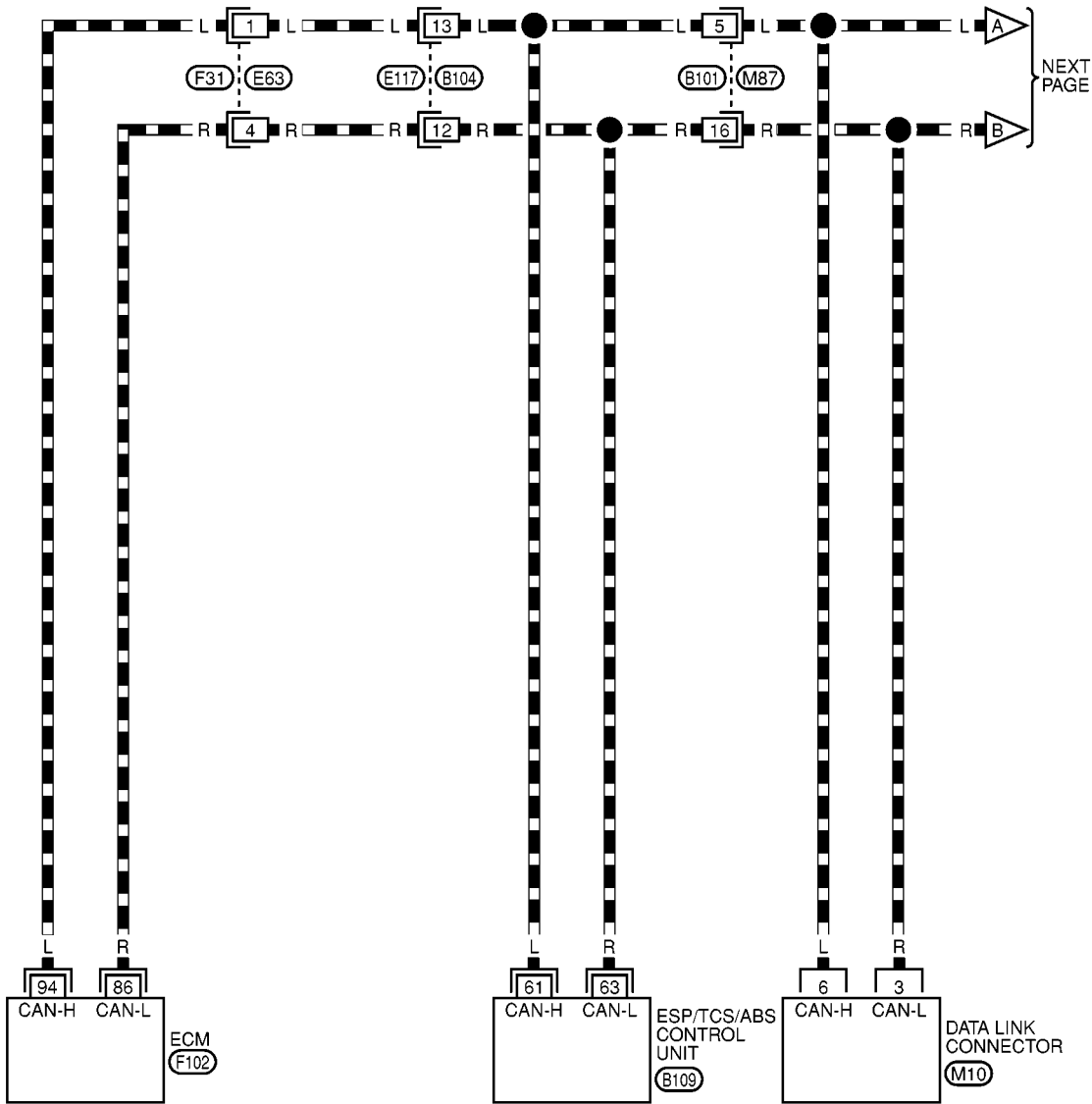
Wiring Diagram — CAN —

EKS0051X

LAN-CAN-36

— : DATA LINE

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REFER TO THE FOLLOWING.
 (F102) , (B109) -ELECTRICAL UNITS

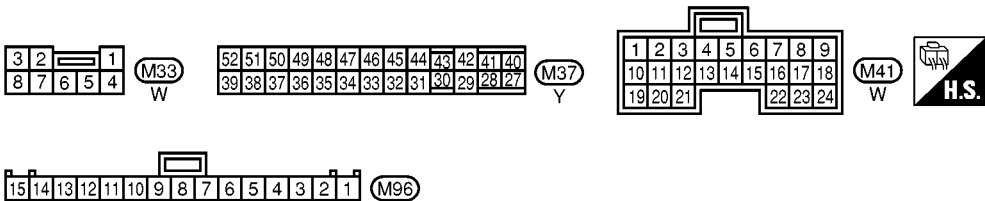
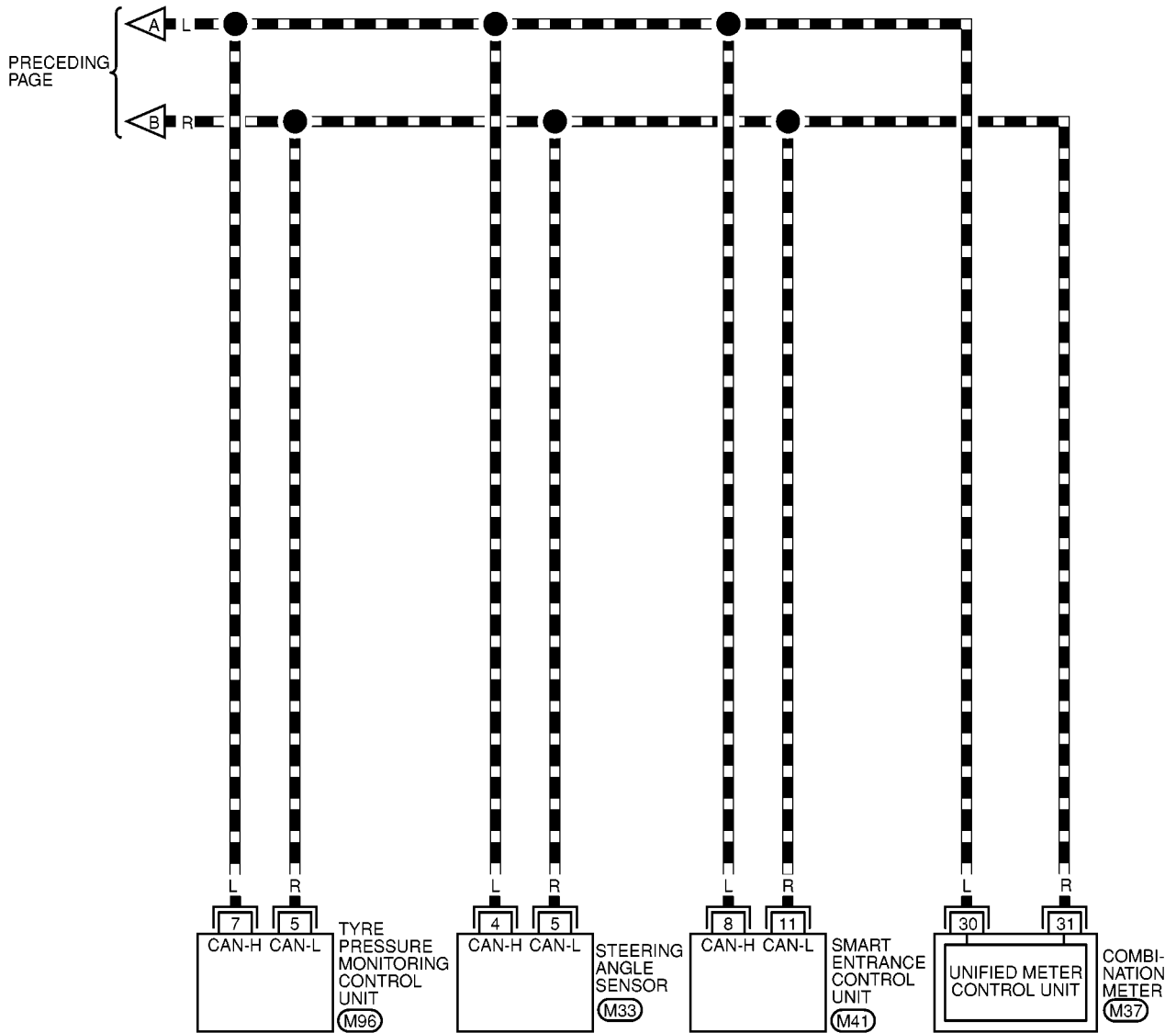
MKWA0251E

CAN SYSTEM (TYPE 17)

[CAN]

LAN-CAN-37

▬ : DATA LINE



MKWA0252E

Work Flow

EKS0051Y

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-348, "CHECK SHEET"](#)
3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-348, "CHECK SHEET"](#)
NOTE:
If "NG" is displayed on "CAN COMM" for the diagnosed control unit, replace the control unit.
4. According to the check sheet results (example), start inspection. Refer to [LAN-349, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

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LAN

CAN SYSTEM (TYPE 17)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
AIR PRESSURE
MONITOR
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
ABS
DATA MONITOR

Attach copy of
AIR PRESSURE
MONITOR
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

PKIA0780E

CAN SYSTEM (TYPE 17)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN COMM ✓	CAN CIRC 1	—	CAN CIRC 3	—	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3 ✓	—	—	CAN CIRC 6 ✓	CAN CIRC 4 ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 2: Replace ESP/TCS/ABS control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3 ✓	—	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	CAN CIRC 5 ✓	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 3: Replace Tyre pressure monitoring control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM ✓	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

PKIA0781E

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LAN

CAN SYSTEM (TYPE 17)

[CAN]

Case 4: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	—	—	CAN CIRC 3 ✓

Case 5

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	—	CAN CIRC ✓	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC ✓	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC ✓	—	—	—	—	CAN CIRC 3

Case 6

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	—	CAN CIRC ✓	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC ✓	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC ✓
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC ✓	—	—	—	—	CAN CIRC 3

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	—	CAN CIRC ✓	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC ✓
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC ✓	—	—	—	—	CAN CIRC 3

PKIA0782E

CAN SYSTEM (TYPE 17)

[CAN]

Case 8

ENGINE	CAN COMM	CAN CIRC ✓	—	CAN CIRC ✓	—	—	CAN CIRC ✓	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC ✓	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC ✓	—	—	—	—	CAN CIRC 3

Case 9

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC ✓	—	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	—	CAN CIRC ✓	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 10

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC ✓	—	—	—	—	—	CAN CIRC ✓
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 11

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC ✓	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 12

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	—	CAN CIRC ✓	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 5	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	—	—	—	—	CAN CIRC ✓

PKIA0783E

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NOTE:

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

Case 13								
ENGINE	CAN COMM	CAN CIRC 1	-	CAN CIRC 3	-	-	CAN CIRC 6	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	-	-	CAN CIRC 5	-	-
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	-	-	-	-	-	CAN CIRC ✓
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	-	-	-	-	CAN CIRC ✓

Case 14								
ENGINE	CAN COMM	CAN CIRC ✓	-	CAN CIRC ✓	-	-	CAN CIRC ✓	CAN CIRC ✓
ABS	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	-	-	CAN CIRC ✓	-	-
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC ✓	-	-	-	-	-	CAN CIRC ✓
SMART ENTRANCE	CAN COMM	CAN CIRC ✓	CAN CIRC ✓	-	-	-	-	CAN CIRC ✓

PKIA0784E

INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace ESP/TCS/ABS control unit.

Case 3: Replace Tyre pressure monitoring control unit.

Case 4: Replace Smart entrance control unit.

Case 5: Check Harness between ESP/TCS/ABS control unit and Tyre pressure monitoring control unit. Refer to [LAN-352, "Circuit Check Between ESP/TCS/ABS Control Unit and Tyre Pressure Monitoring Control Unit"](#)

Case 6: Check Harness between Tyre pressure monitoring control unit and Steering angle sensor. Refer to [LAN-353, "Circuit Check Between Tyre Pressure Monitoring Control Unit and Steering Angle Sensor"](#)

Case 7: Check Harness between Steering angle sensor and Smart entrance control unit. Refer to [LAN-354, "Circuit Check Between Steering Angle Sensor and Smart Entrance Control Unit"](#)

Case 8: Check ECM Circuit. Refer to [LAN-355, "ECM Circuit Check"](#)

Case 9: Check ESP/TCS/ABS control unit Circuit. Refer to [LAN-355, "ESP/TCS/ABS Control Unit Circuit Check"](#)

Case 10: Check Tyre pressure monitoring control unit Circuit. Refer to [LAN-356, "Tyre Pressure Monitoring Control Unit Circuit Check"](#)

Case 11: Check Steering angle sensor Circuit. Refer to [LAN-356, "Steering Angle Sensor Circuit Check"](#)

Case 12: Check Smart entrance control unit Circuit. Refer to [LAN-357, "Smart Entrance Control Unit Circuit Check"](#)

Case 13: Check Combination meter Circuit. Refer to [LAN-357, "Combination Meter Circuit Check"](#)

Case 14: Check CAN communication Circuit. Refer to [LAN-358, "CAN Communication Circuit Check"](#)

Circuit Check Between ESP/TCS/ABS Control Unit and Tyre Pressure Monitoring Control Unit

EKS0051Z

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - Tyre pressure monitoring control unit.
 - ESP/TCS/ABS control unit.
 - Between ESP/TCS/ABS control unit and tyre pressure monitoring control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector and harness connector B101.
2. Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L), 63 (R) and harness connector B101 terminals 5 (L), 16 (R).

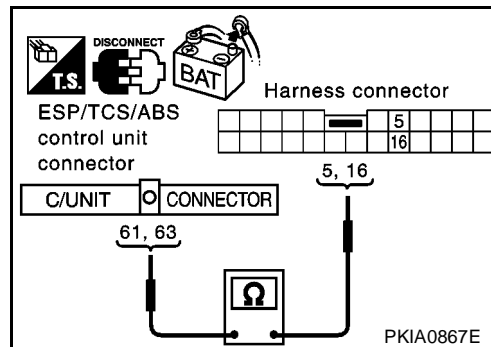
61(L) – 5(L) : Continuity should exist.

63(R) – 16(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect tyre pressure monitoring control unit connector.
2. Check continuity between harness connector M87 terminals 5 (L), 16 (R) and tyre pressure monitoring control unit harness connector M96 terminals 7 (L), 5 (R).

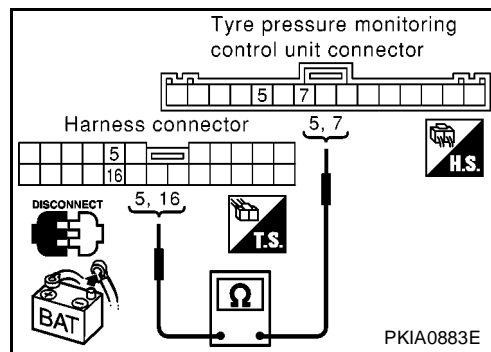
5(L) – 7(L) : Continuity should exist.

16(R) – 5(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE" \(WITH EURO-OBD\)](#) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE" \(WITHOUT EURO-OBD\)](#) for "ENGINE" and Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



Circuit Check Between Tyre Pressure Monitoring Control Unit and Steering Angle Sensor

EKS0052M

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (sensor-side, control unit-side and harness-side)
 - Steering angle sensor.
 - Tyre pressure monitoring control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect tyre pressure monitoring control unit connector and steering angle sensor connector.
2. Check continuity between tyre pressure monitoring control unit harness connector M96 terminals 7 (L), 5 (R) and steering angle sensor harness connector M33 terminals 4 (L), 5 (R).

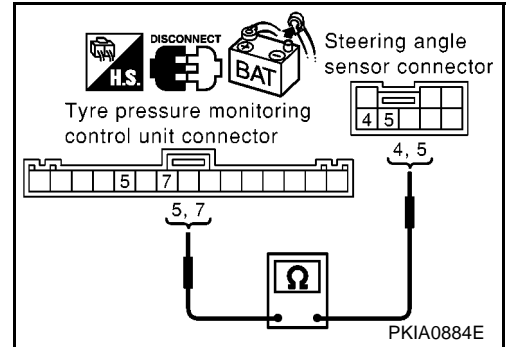
7(L) – 4(L) : Continuity should exist.

5(R) – 5(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



Circuit Check Between Steering Angle Sensor and Smart Entrance Control Unit

EKS00520

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side, sensor-side and harness-side)
 - Smart entrance control unit.
 - Steering angle sensor.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector and steering angle sensor connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and steering angle sensor harness connector M33 terminals 4 (L), 5 (R).

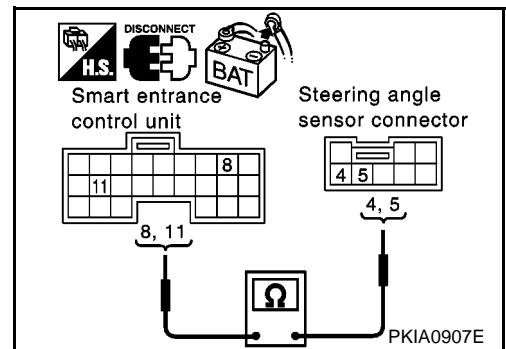
8(L) – 4(L) : Continuity should exist.

11(R) – 5(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



ECM Circuit Check

EKS00521

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side and harness-side)
 - ECM.
 - Harness connector F31.
 - Harness connector E63.
 - Harness connector E117.
 - Harness connector B104.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

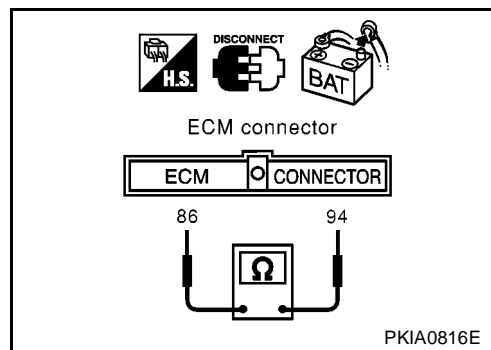
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F102 terminals 94(L) and 86(R).

94(L) – 86(R)**: Approx. 108 – 132Ω**OK or NG

OK >> Replace ECM.

NG >> Repair harness between ESP/TCS/ABS control unit and ECM.

**ESP/TCS/ABS Control Unit Circuit Check**

EKS00522

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector of ESP/TCS/ABS control unit for damage, bend and loose connection. (control unit-side and harness-side)

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

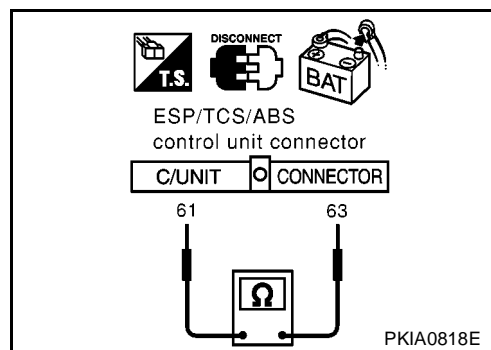
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector.
2. Check resistance between ESP/TCS/ABS control unit harness connector B109 terminals 61(L) and 63(R).

61(L) – 63(R)**: Approx. 54 – 66Ω**OK or NG

OK >> Replace ESP/TCS/ABS control unit.

NG >> Repair harness between Data link connector and ESP/TCS/ABS control unit.



Tyre Pressure Monitoring Control Unit Circuit Check

EKS0052N

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of tyre pressure monitoring control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

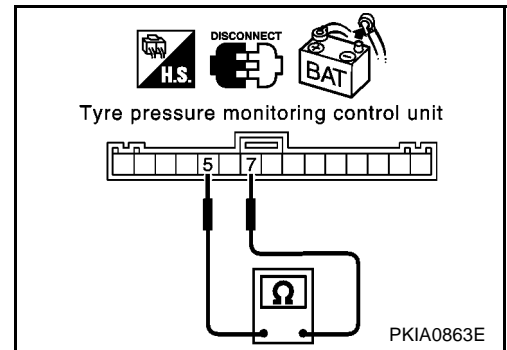
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect tyre pressure monitoring control unit connector.
2. Check resistance between tyre pressure monitoring control unit harness connector M96 terminals 7(L) and 5(R).

7(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace tyre pressure monitoring control unit.
NG >> Repair harness between steering angle sensor and tyre pressure monitoring control unit.



Steering Angle Sensor Circuit Check

EKS00523

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of steering angle sensor for damage, bend and loose connection. (sensor-side and harness-side)

OK or NG

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

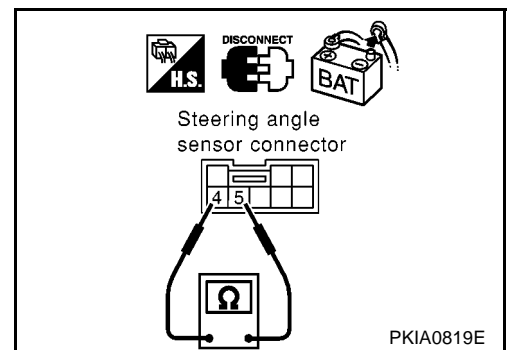
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect steering angle sensor connector.
2. Check resistance between steering angle sensor harness connector M33 terminals 4(L) and 5(R).

4(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace steering angle sensor.
NG >> Repair harness between steering angle sensor and smart entrance control unit.



Smart Entrance Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

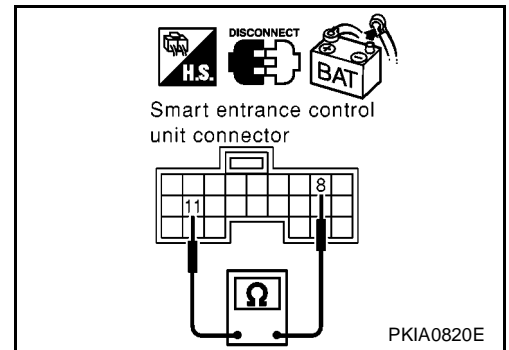
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
NG >> Repair harness between steering angle sensor and smart entrance control unit.



Combination Meter Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

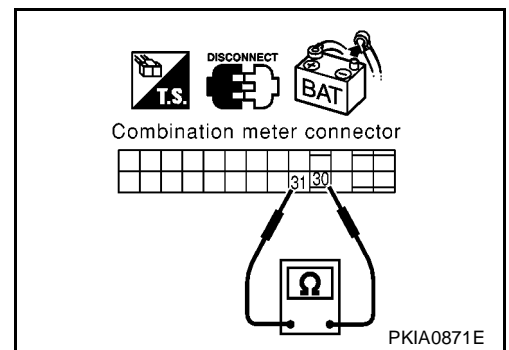
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 30(L) and 31(R).

30(L) – 31(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
NG >> Repair harness between smart entrance control unit and combination meter.



CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, control unit-side, sensor-side, control module-side and harness-side)
 - Combination meter.
 - Smart entrance control unit.
 - Steering angle sensor.
 - Tyre pressure monitoring control unit.
 - ESP/TCS/ABS control unit.
 - ECM.
 - Between Data link connector and ECM.

OK or NG

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

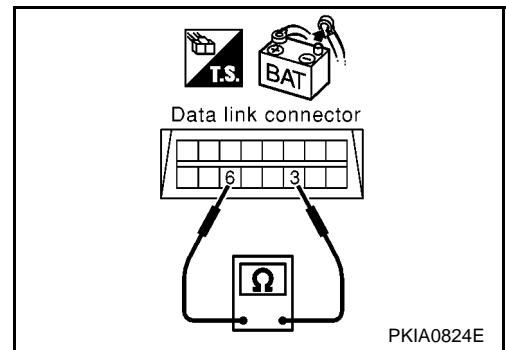
2. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect the following connectors.
 - Combination meter connector.
 - Smart entrance control unit connector.
 - Steering angle sensor connector.
 - Tyre pressure monitoring control unit connector.
 - Harness connector M87.
2. Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.

OK or NG

- OK >> GO TO 3.
 NG >>
 - Repair harness between smart entrance control unit and combination meter.
 - Repair harness between smart entrance control unit and steering angle sensor.
 - Repair harness between steering angle sensor and tyre pressure monitoring control unit.
 - Repair harness between Data link connector and tyre pressure monitoring control unit.
 - Repair harness between Data link connector and harness connector M87.



3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

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

3(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

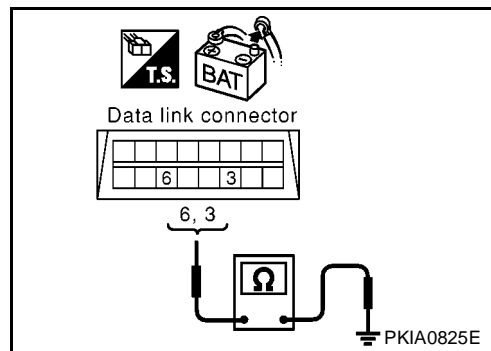
NG >> ● Repair harness between smart entrance control unit and combination meter.

● Repair harness between smart entrance control unit and steering angle sensor.

● Repair harness between steering angle sensor and tyre pressure monitoring control unit.

● Repair harness between Data link connector and tyre pressure monitoring control unit.

● Repair harness between Data link connector and harness connector M87.



4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector and harness connector B104.

2. Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L) and 63(R).

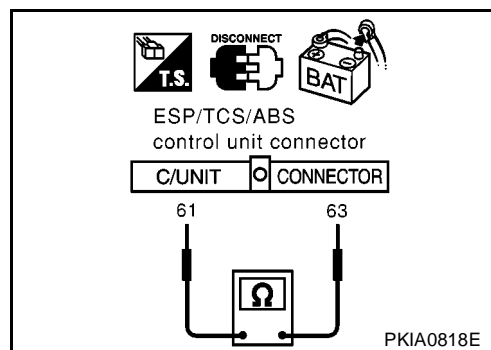
61(L) – 63(R) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> ● Repair harness between ESP/TCS/ABS control unit and harness connector B101.

● Repair harness between harness connector B104 and harness connector B101.



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L), 63 (R) and ground.

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

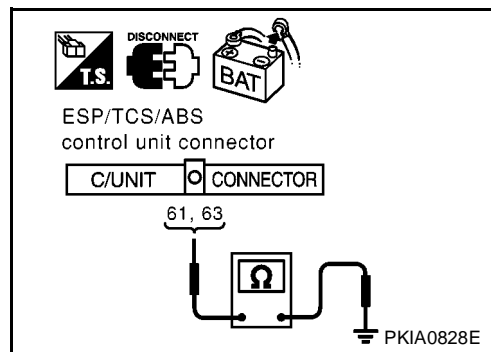
63(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> ● Repair harness between ESP/TCS/ABS control unit and harness connector B101.

● Repair harness between harness connector B104 and harness connector B101.



6. CHECK HARNESS FOR SHORT CIRCUIT

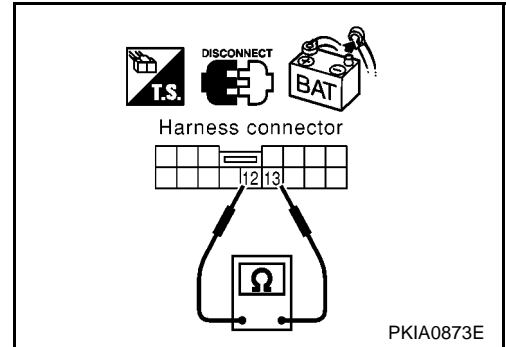
1. Disconnect harness connector E63.
2. Check continuity between harness connector E117 terminals 13 (L) and 12(R).

13(L) – 12(R) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> Repair harness between harness connector E117 and harness connector E63.



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector E117 terminals 13 (L) and 12(R) and ground.

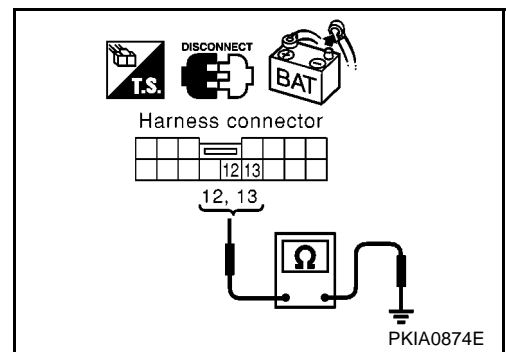
13(L) – ground : Continuity should not exist.

12(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG >> Repair harness between harness connector E117 and harness connector E63.



8. CHECK HARNESS FOR SHORT CIRCUIT

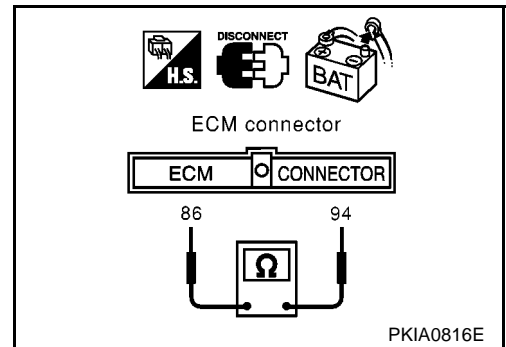
1. Disconnect ECM connector.
2. Check continuity between ECM harness connector F102 terminals 94 (L) and 86(R).

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

OK or NG

OK >> GO TO 9.

NG >> Repair harness between ECM and harness connector F31.



9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.

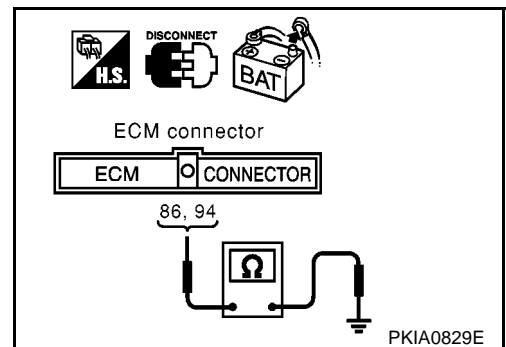
94(L) – ground : Continuity should not exist.

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

OK or NG

OK >> GO TO 10.

NG >> Repair harness between ECM and harness connector F31.



10. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-361, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

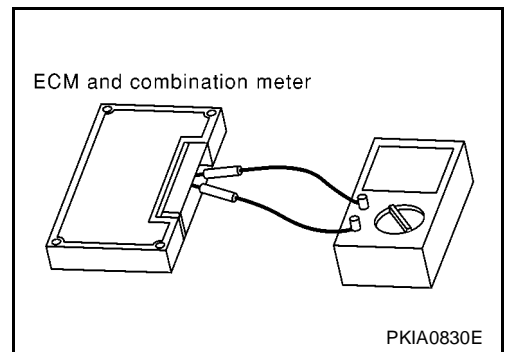
- OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
- NG >> Replace ECM and/or Combination meter.

Component Inspection
ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

EKS00527

- Remove ECM and Combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between Combination meter terminals 30 and 31.

Unit	Terminal	Resistance value (Ω)
ECM	94 – 86	Approx. 108 - 132
Combination meter	30 – 31	



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CAN SYSTEM (TYPE 18)

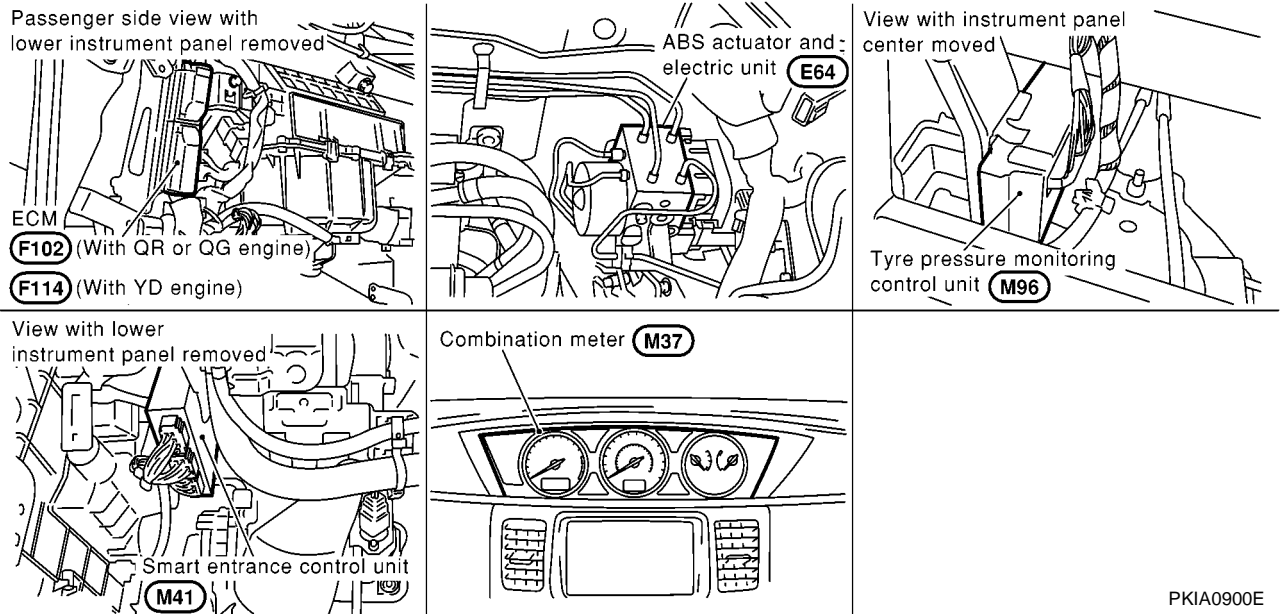
System Description

EKS00511

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

EKS0051J



PKIA0900E

CAN SYSTEM (TYPE 18)

[CAN]

EKS0051K

Wiring Diagram — CAN —

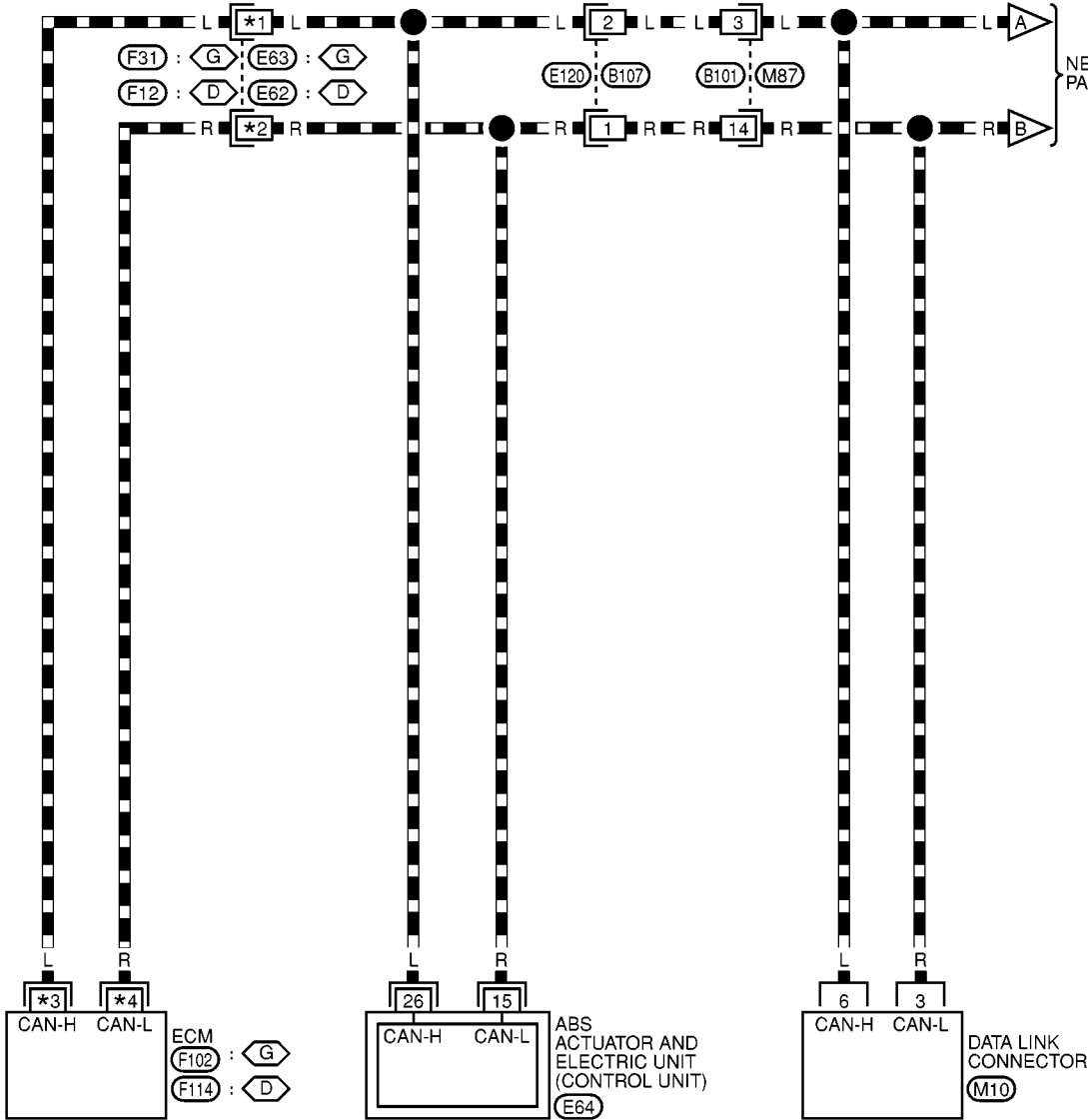
- : WITH GASOLINE ENGINE
- : WITH DIESEL ENGINE
- : WITH QR ENGINE
- : WITH QG ENGINE

LAN-CAN-38

— : DATA LINE

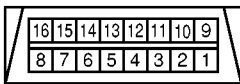
- *1 1:
- 3:
- 5:
- *2 4:
- 6:
- 9:
- *3 94:
- E11:
- *4 86:
- E10:

NEXT PAGE

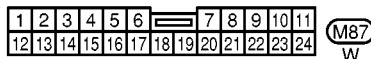


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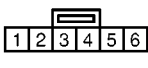
LAN



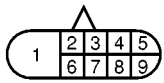
M10
W



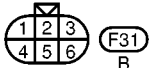
M87
W



E120
GY



F12
GY



F31
B

REFER TO THE FOLLOWING.

, ,

-ELECTRICAL UNITS

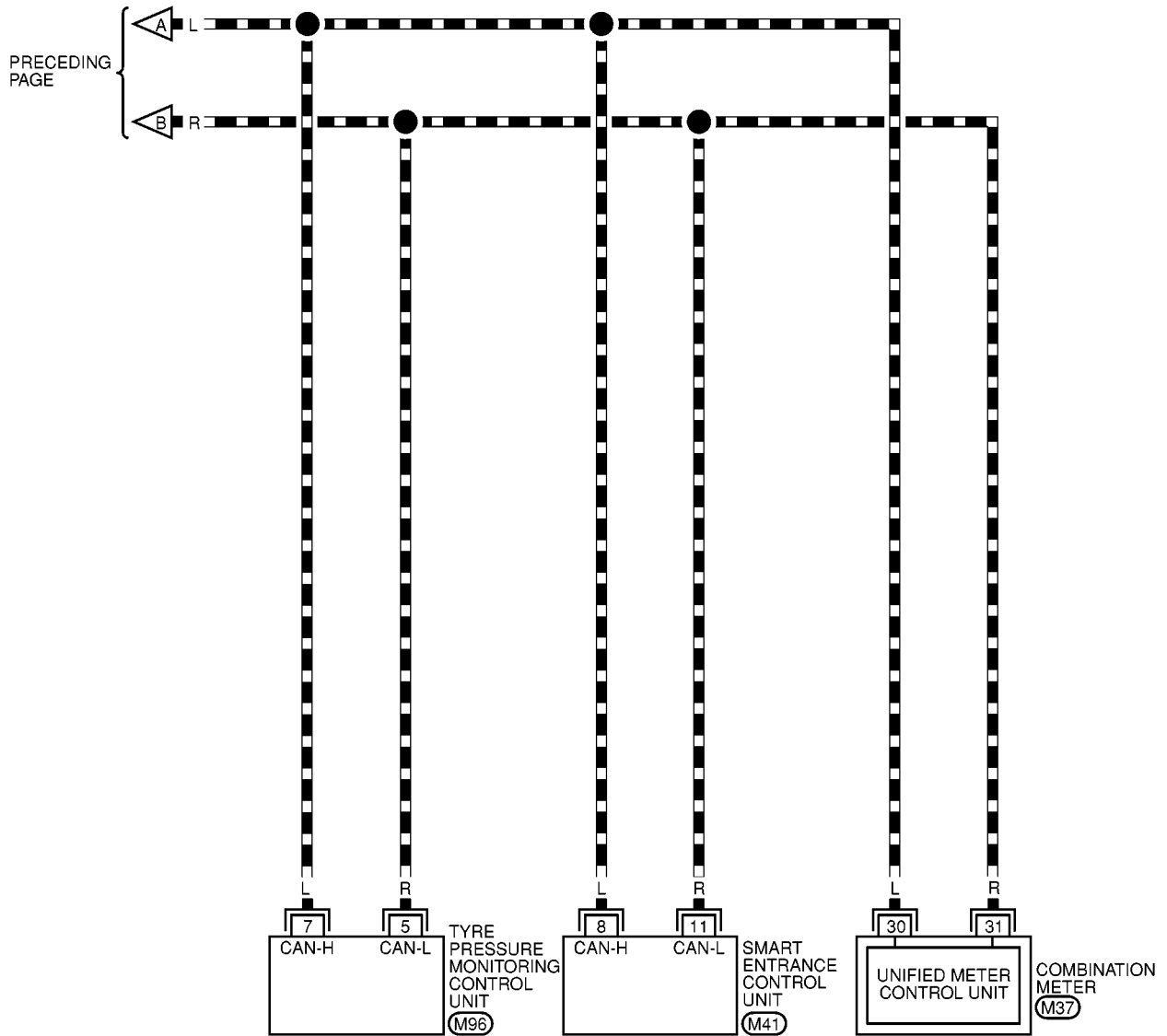
MKWA0253E

CAN SYSTEM (TYPE 18)

[CAN]

LAN-CAN-39

▬ : DATA LINE



52	51	50	49	48	47	46	45	44	43	42	41	40
39	38	37	36	35	34	33	32	31	30	29	28	27

M37
Y

1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18
19	20	21			22	23	24	

M41
W



15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
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M96

MKWA0254E

Work Flow

EKS0051L

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITH EURO-OBD), [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITHOUT EURO-OBD), [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITH EURO-OBD), [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITHOUT EURO-OBD) or [EC-1790, "DTC U1000 CAN COMMUNICATION LINE"](#) (YD ENGINE MODELS) for "ENGINE" and Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
 2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-366, "CHECK SHEET"](#)
 3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-366, "CHECK SHEET"](#)
- NOTE:**
If "NG" is displayed on "CAN COMM" for the diagnosed control unit, replace the control unit.
4. According to the check sheet results (example), start inspection. Refer to [LAN-367, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

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CAN SYSTEM (TYPE 18)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
AIR PRESSURE
MONITOR
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
ABS
DATA MONITOR

Attach copy of
AIR PRESSURE
MONITOR
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

PKIA0785E

CAN SYSTEM (TYPE 18)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN <input checked="" type="checkbox"/> CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 2: Replace ABS actuator and electric unit (control unit)

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 3: Replace Tyre pressure monitoring control unit

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
AIR PRESSURE MONITOR	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 4: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	CAN <input checked="" type="checkbox"/> CIRC 3

Case 5

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN <input checked="" type="checkbox"/> CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	CAN CIRC 3

PKIA0786E

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LAN

CAN SYSTEM (TYPE 18)

[CAN]

Case 6

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 9

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 10

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 11

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 12

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
AIR PRESSURE MONITOR	CAN COMM	CAN CIRC 1	—	—	—	—	CAN CIRC 2
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

PKIA0787E

NOTE:

If “NG” is displayed on “CAN COMM” for the diagnosed control unit, replace the control unit.

INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace ABS actuator and electric unit (control unit).

Case 3: Replace Tyre pressure monitoring control unit.

Case 4: Replace Smart entrance control unit.

Case 5: Check Harness between ABS actuator and electric unit (control unit) and Tyre pressure monitoring control unit. Refer to [LAN-369, "Circuit Check Between ABS Actuator and Electric Unit \(control unit\) and Tyre Pressure Monitoring Control Unit"](#)

Case 6: Check Harness between Tyre pressure monitoring control unit and Smart entrance control unit. Refer to [LAN-370, "Circuit Check Between Tyre pressure monitoring control unit and Smart Entrance Control Unit"](#)

Case 7: Check ECM Circuit. Refer to [LAN-371, "ECM Circuit Check"](#)

Case 8: Check ABS actuator and electric unit (control unit) Circuit. Refer to [LAN-372, "ABS Actuator and Electric Unit \(control unit\) Circuit Check"](#)

Case 9: Check Tyre pressure monitoring control unit Circuit. Refer to [LAN-373, "Tyre Pressure Monitoring Control Unit Circuit Check"](#)

Case 10: Check Smart entrance control unit Circuit. Refer to [LAN-373, "Smart Entrance Control Unit Circuit Check"](#)

Case 11: Check Combination meter Circuit. Refer to [LAN-374, "Combination Meter Circuit Check"](#)

Case 12: Check CAN communication Circuit. Refer to [LAN-374, "CAN Communication Circuit Check"](#)

Circuit Check Between ABS Actuator and Electric Unit (control unit) and Tyre Pressure Monitoring Control Unit

EKS0051M

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - Tyre pressure monitoring control unit.
 - ABS actuator and electric unit (control unit).
 - Between tyre pressure monitoring control unit and ABS actuator and electric unit (control unit).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector and harness connector E120.
2. Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L), 15 (R) and harness connector E120 terminals 2 (L), 1 (R).

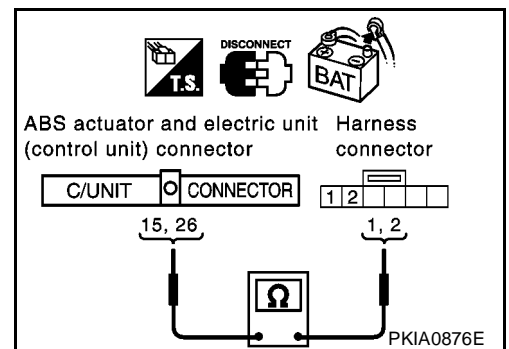
26(L) – 2(L) : Continuity should exist.

15(R) – 1(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



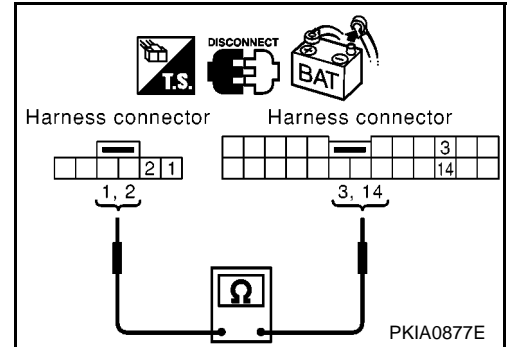
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B101.
2. Check continuity between harness connector B107 terminals 2 (L), 1 (R) and harness connector B101 terminals 3 (L), 14 (R).

2(L) – 3(L) : Continuity should exist.
1(R) – 14(R) : Continuity should exist.

OK or NG

- OK >> GO TO 4.
 NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

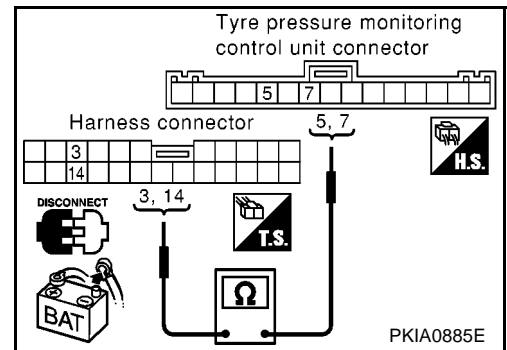
1. Disconnect tyre pressure monitoring control unit connector.
2. Check continuity between harness connector M87 terminals 3 (L), 14 (R) and tyre pressure monitoring control unit harness connector M96 terminals 7 (L), 5 (R).

3(L) – 7(L) : Continuity should exist.
14(R) – 5(R) : Continuity should exist.

OK or NG

- OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITH EURO-OBD), [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITHOUT EURO-OBD), [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITH EURO-OBD), [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITHOUT EURO-OBD) or [EC-1790, "DTC U1000 CAN COMMUNICATION LINE"](#) (YD ENGINE MODELS) for "ENGINE" and Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

- NG >> Repair harness.



Circuit Check Between Tyre pressure monitoring control unit and Smart Entrance Control Unit

EKS0051N

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - Smart entrance control unit.
 - Tyre pressure monitoring control unit.

OK or NG

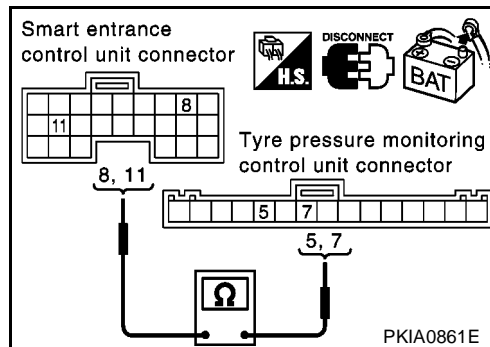
- OK >> GO TO 2.
 NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector and tyre pressure monitoring control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and tyre pressure monitoring control unit harness connector M96 terminals 7 (L), 5 (R).

8(L) – 7(L) : Continuity should exist.

11(R) – 5(R) : Continuity should exist.



OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITH EURO-OBD), [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITHOUT EURO-OBD), [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITH EURO-OBD), [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITHOUT EURO-OBD) or [EC-1790, "DTC U1000 CAN COMMUNICATION LINE"](#) (YD ENGINE MODELS) for "ENGINE" and Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.

ECM Circuit Check

EKS00510

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side and harness-side)
 - ECM.
 - Harness connector F31.(Gasoline engine models)
 - Harness connector E63.(Gasoline engine models)
 - Harness connector F12.(Diesel engine models)
 - Harness connector E62.(Diesel engine models)

OK or NG

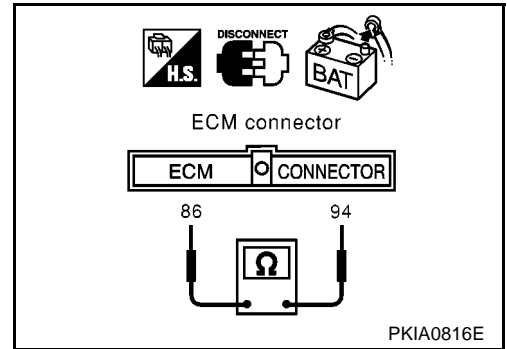
OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

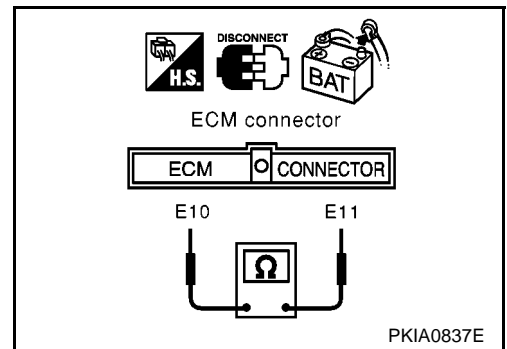
1. Disconnect ECM connector.
2. Check the following.
- Resistance between ECM harness connector F102 terminals 94(L) and 86(R).(Gasoline engine models)

94(L) – 86(R) (Gasoline enging models) : Approx. 108 – 132Ω



- Resistance between ECM harness connector F114 terminals E11(L) and E10(R).(Diesel engine models)

E11(L) – E10(R) (Diesel enging models) : Approx. 108 – 132Ω



OK or NG

- OK >> Replace ECM.
- NG >> Repair harness between ABS actuator and electric unit (control unit) and ECM.

ABS Actuator and Electric Unit (control unit) Circuit Check

EKS0051P

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection. (control unit-side and harness-side)

OK or NG

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

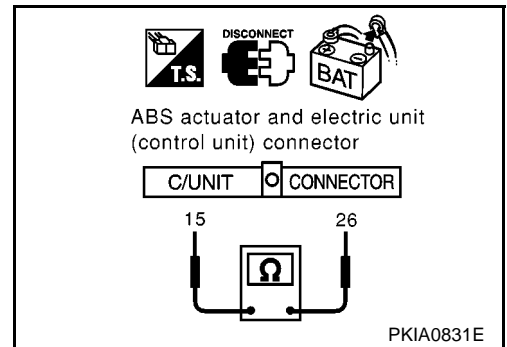
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E64 terminals 26(L) and 15(R).

26(L) – 15(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
- NG >> Repair harness between Data link connector and ABS actuator and electric unit (control unit).



Tyre Pressure Monitoring Control Unit Circuit Check

EKS0051Q

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of tyre pressure monitoring control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

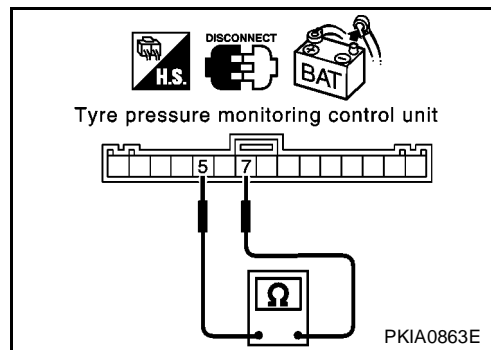
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect tyre pressure monitoring control unit connector.
2. Check resistance between tyre pressure monitoring control unit harness connector M96 terminals 7(L) and 5(R).

7(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace tyre pressure monitoring control unit.
NG >> Repair harness between smart entrance control unit and tyre pressure monitoring control unit.



Smart Entrance Control Unit Circuit Check

EKS0051R

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

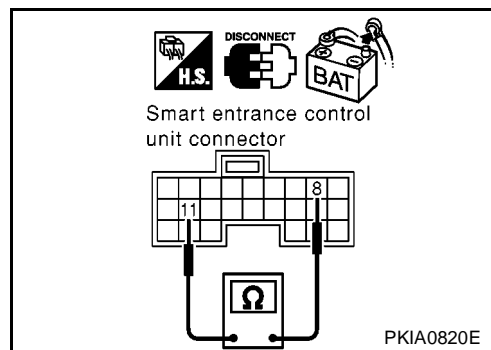
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
NG >> Repair harness between tyre pressure monitoring control unit and smart entrance control unit.



Combination Meter Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

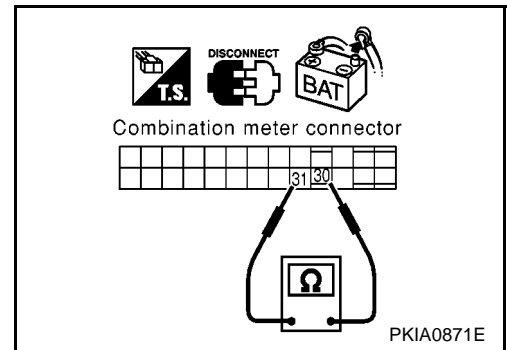
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 30(L) and 31(R).

30(L) – 31(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
NG >> Repair harness between smart entrance control unit and combination meter.



CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, control unit-side, control module-side and harness-side)
 - Combination meter.
 - Smart entrance control unit.
 - Tyre pressure monitoring control unit.
 - ABS actuator and electric unit (control unit).
 - ECM.
 - Between Data link connector and ECM.

OK or NG

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

2. CHECK HARNESS FOR SHORT CIRCUIT

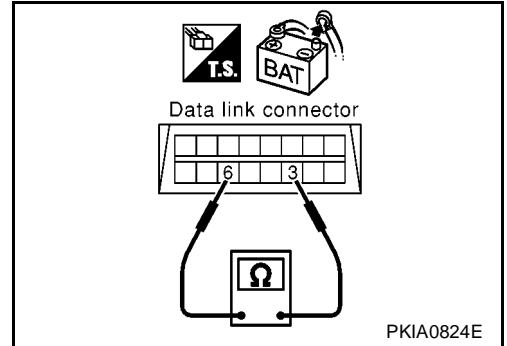
1. Disconnect the following connectors.
 - Combination meter connector.
 - Smart entrance control unit connector.
 - Tyre pressure monitoring control unit connector.
 - Harness connector M87.
2. Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

- NG >> ● Repair harness between smart entrance control unit and combination meter.
- Repair harness between smart entrance control unit and tyre pressure monitoring control unit.
 - Repair harness between Data link connector and tyre pressure monitoring control unit.
 - Repair harness between Data link connector and harness connector M87.



3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

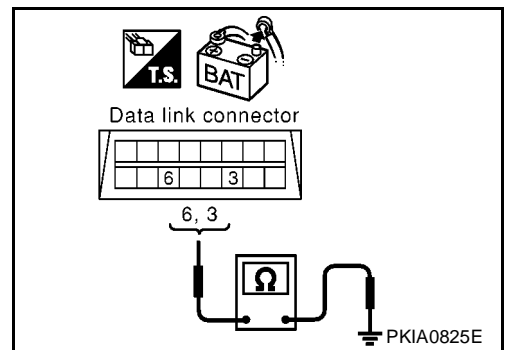
6(L) – ground : Continuity should not exist.

3(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

- NG >> ● Repair harness between smart entrance control unit and combination meter.
- Repair harness between smart entrance control unit and tyre pressure monitoring control unit.
 - Repair harness between Data link connector and tyre pressure monitoring control unit.
 - Repair harness between Data link connector and harness connector M87.



4. CHECK HARNESS FOR SHORT CIRCUIT

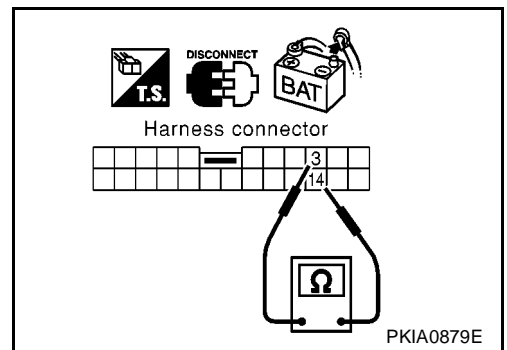
1. Disconnect harness connector B107.
2. Check continuity between harness connector B101 terminals 3 (L) and 14(R).

3(L) – 14(R) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

- NG >> Repair harness between harness connector B101 and harness connector B107.



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B101 terminals 3 (L), 14(R) and ground.

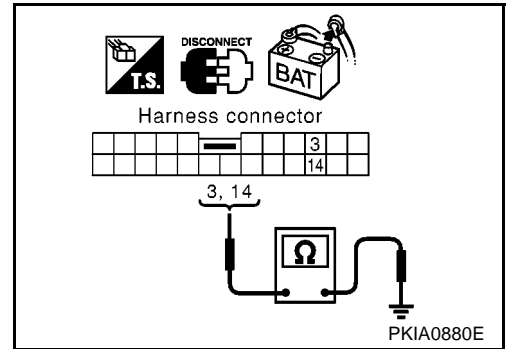
3(L) – ground : Continuity should not exist.

14(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between harness connector B101 and harness connector B107.



6. CHECK HARNESS FOR SHORT CIRCUIT

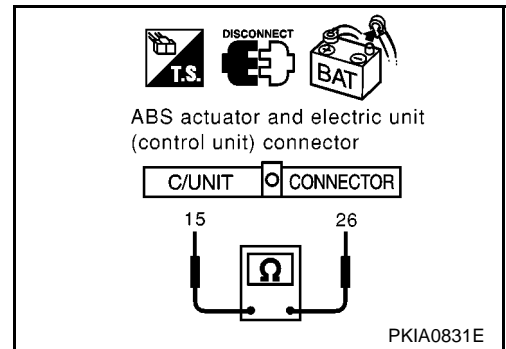
- Disconnect the following connectors.
 - ABS actuator and electric unit (control unit) connector.
 - Harness connector E63.(Gasoline engine models)
 - Harness connector E62.(Diesel engine models)
- Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L) and 15(R).

26(L) – 15(R) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

- NG >>
- Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.
 - Repair harness between harness connector E120 and harness connector E63.(Gasoline engine models)
 - Repair harness between harness connector M120 and harness connector E62.(Diesel engine models)



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L), 15 (R) and ground.

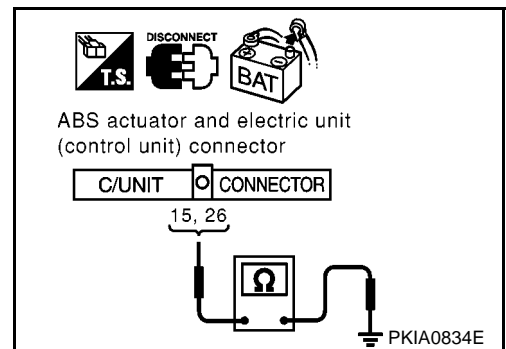
26(L) – ground : Continuity should not exist.

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

OK or NG

OK >> GO TO 8.

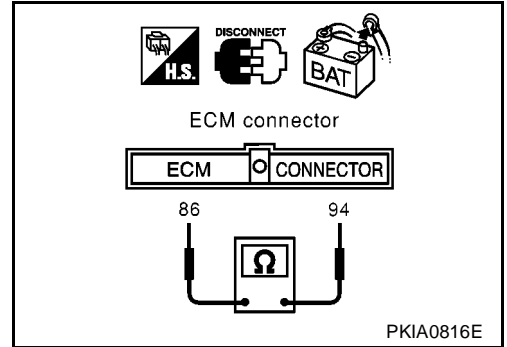
- NG >>
- Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.
 - Repair harness between harness connector E120 and harness connector E63.(Gasoline engine models)
 - Repair harness between harness connector M120 and harness connector E62.(Diesel engine models)



8. CHECK HARNESS FOR SHORT CIRCUIT

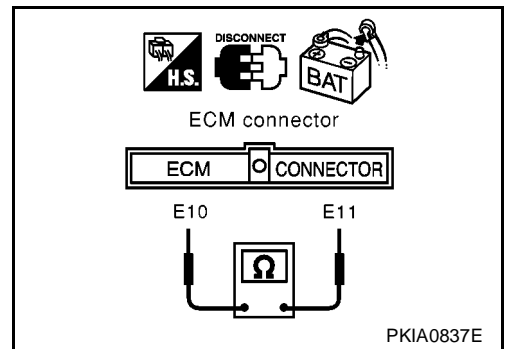
1. Disconnect ECM connector.
 2. Check the following.
- Continuity between ECM harness connector F102 terminals 94 (L) and 86(R).(Gasoline engine models)

94(L) – 86(R) (Gasoline engine models) : Continuity should not exist.



- Continuity between ECM harness connector F114 terminals E11 (L) and E10(R).(Diesel engine models)

E11(L) – E10(R) (Diesel engine models) : Continuity should not exist.



OK or NG

OK >> GO TO 9.

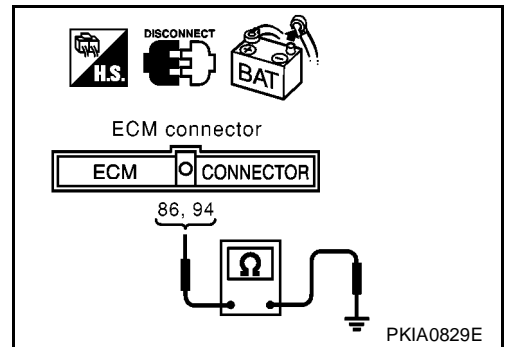
- NG >> ● Repair harness between ECM and harness connector F31.(Gasoline engine models)
- Repair harness between ECM and harness connector F12.(Diesel engine models)

9. CHECK HARNESS FOR SHORT CIRCUIT

1. Check the following.
- Continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.(Gasoline engine models)

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

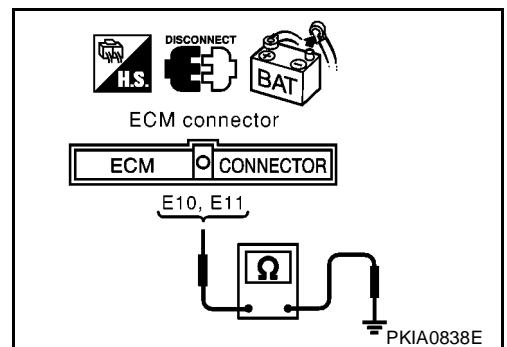
86(R) – ground (Gasoline engine models) : Continuity should not exist.



- Continuity between ECM harness connector F114 terminals E11 (L), E10 (R) and ground.(Diesel engine models)

E11(L) – ground (Diesel engine models) : Continuity should not exist.

E10(R) – ground (Diesel engine models) : Continuity should not exist.



OK or NG

OK >> GO TO 10.

- NG >> ● Repair harness between ECM and harness connector F31.(Gasoline engine models)
- Repair harness between ECM and harness connector F12.(Diesel engine models)

10. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-378, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

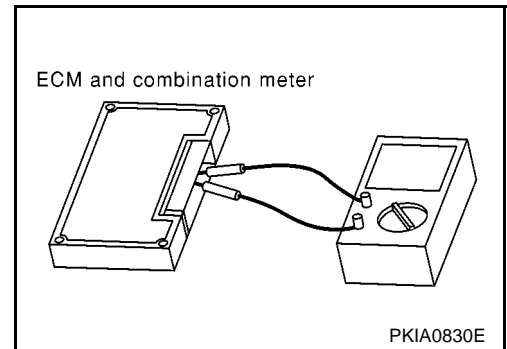
OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", "AIR PRESSURE MONITOR", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITH EURO-OBD), [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITHOUT EURO-OBD), [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITH EURO-OBD), [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITHOUT EURO-OBD) or [EC-1790, "DTC U1000 CAN COMMUNICATION LINE"](#) (YD ENGINE MODELS) for "ENGINE" and Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [WT-35, "Inspection 4: CAN Communication Line"](#) for "AIR PRESSURE MONITOR". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Replace ECM and/or Combination meter.

Component Inspection ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

EKS0051U

- Remove ECM and Combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.(Gasoline engine models)
- Check resistance between ECM terminals E11 and E10.(Diesel engine models)
- Check resistance between Combination meter terminals 30 and 31.



Unit	Terminal	Resistance value (Ω)
ECM (Gasoline engine models)	94 – 86	Approx. 108 - 132
ECM (Diesel engine models)	E11 – E10	
Combination meter	30 – 31	

CAN SYSTEM (TYPE 19)

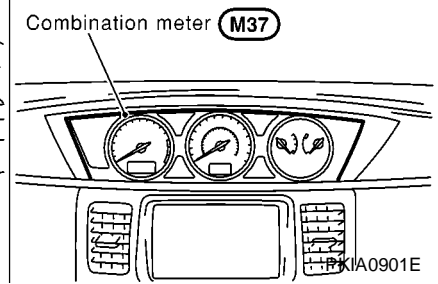
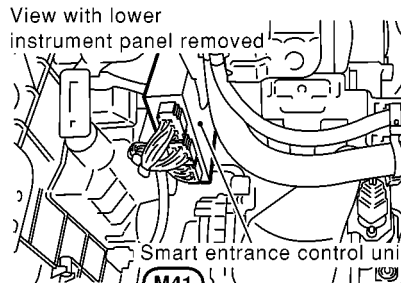
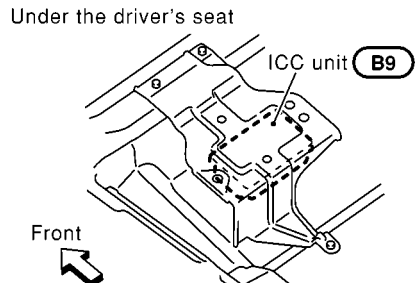
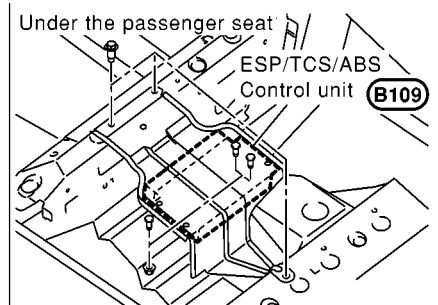
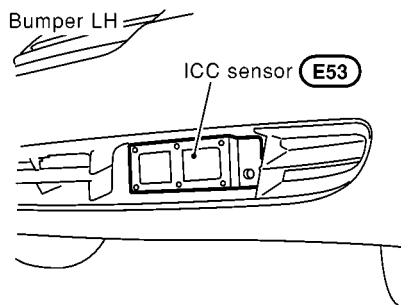
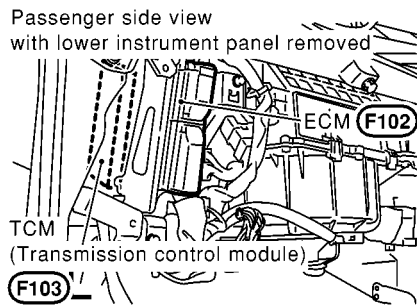
System Description

EKS0050Z

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

EKS00510



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CAN SYSTEM (TYPE 19)

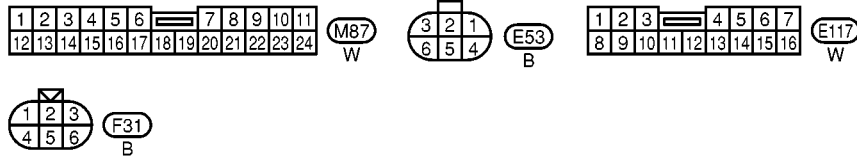
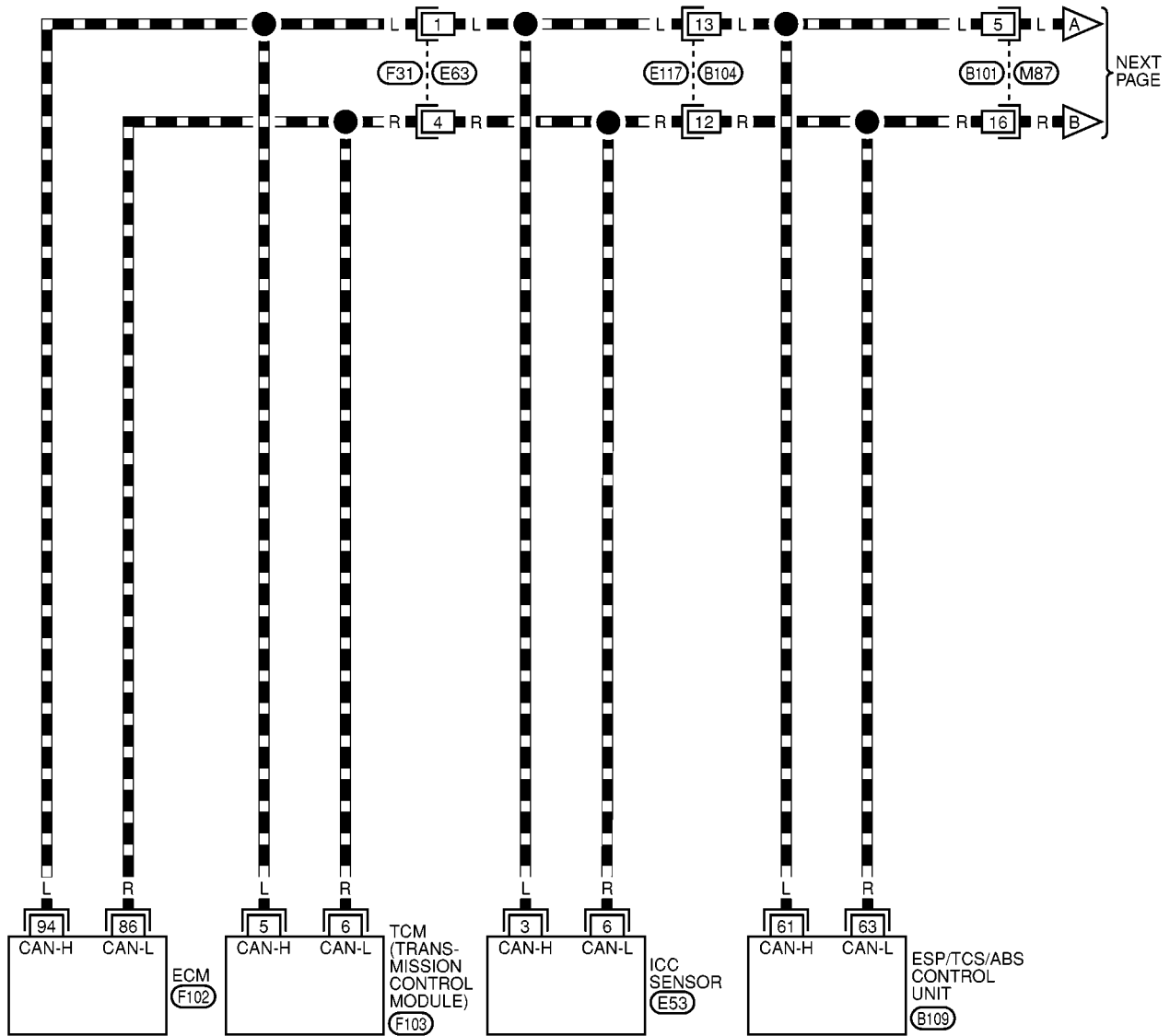
[CAN]

EKS00511

Wiring Diagram — CAN —

LAN-CAN-40

▬ : DATA LINE



REFER TO THE FOLLOWING.

F102 , F103 , B109

-ELECTRICAL UNITS

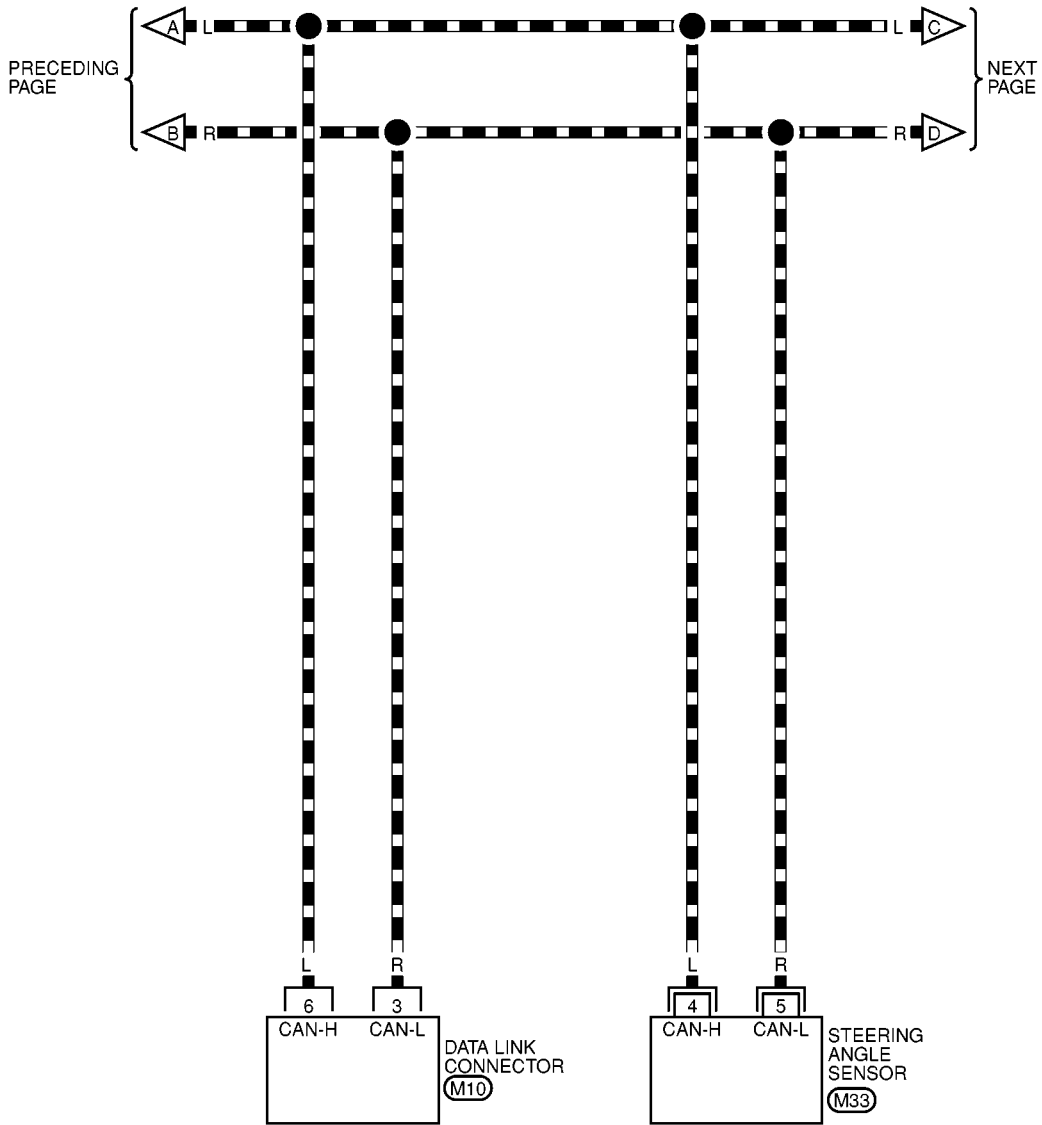
MKWA0377E

CAN SYSTEM (TYPE 19)

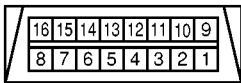
[CAN]

LAN-CAN-41

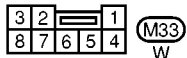
▬ : DATA LINE



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M33
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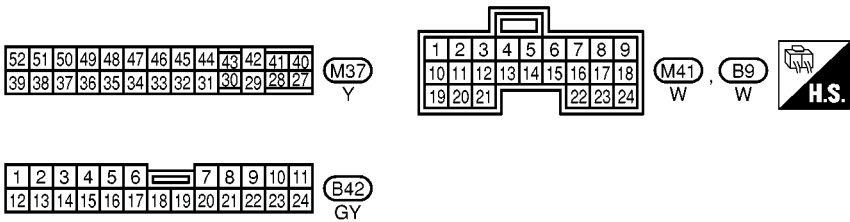
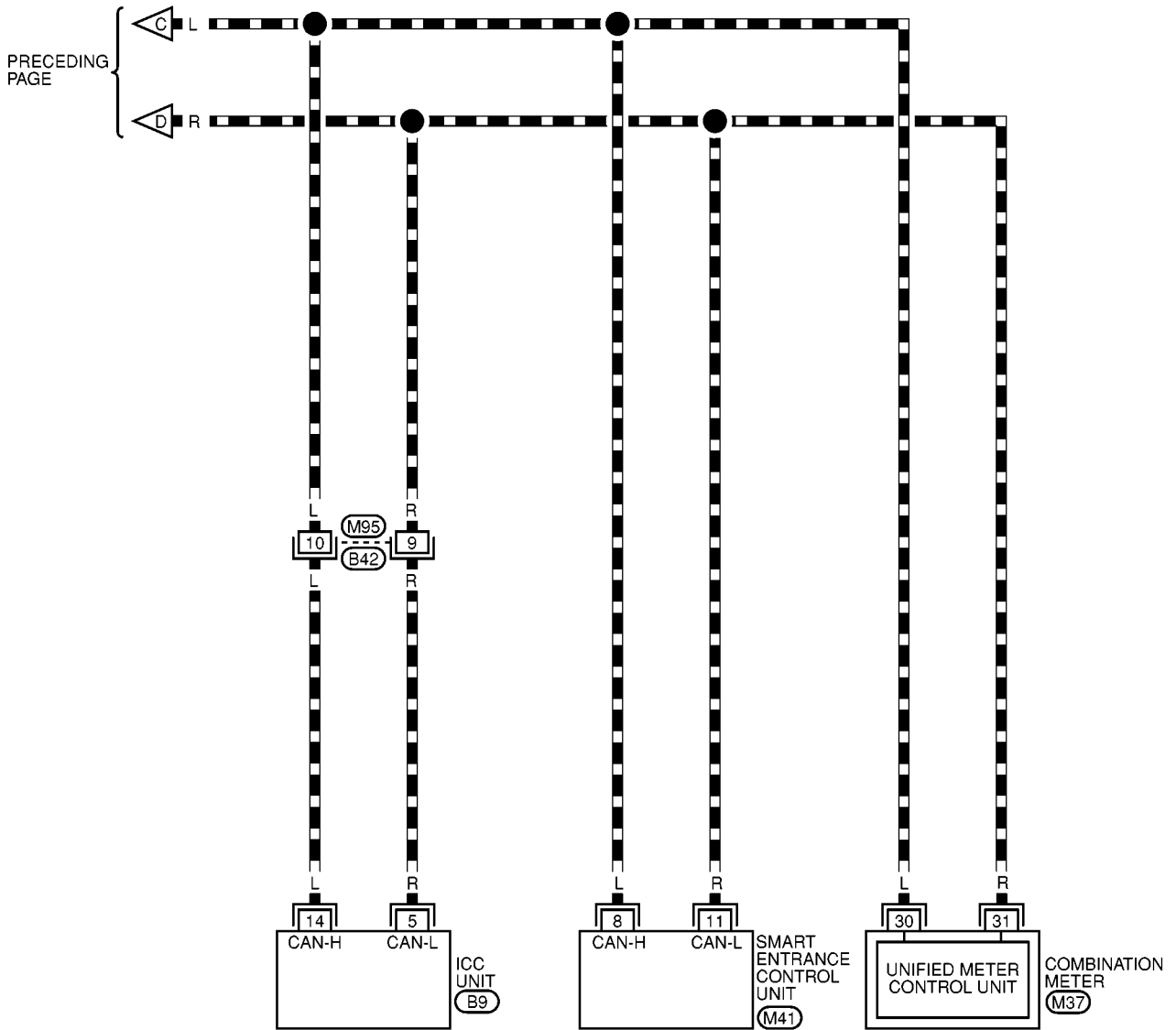
MKWA0378E

CAN SYSTEM (TYPE 19)

[CAN]

LAN-CAN-42

▬ : DATA LINE



MKWA0379E

Work Flow

EKS00512

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "ICC", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-384, "CHECK SHEET"](#)
3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-384, "CHECK SHEET"](#)

NOTE:

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

4. According to the check sheet results (example), start inspection. Refer to [LAN-385, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

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CAN SYSTEM (TYPE 19)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
CVT
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
ICC
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
CVT
DATA MONITOR

Attach copy of
ABS
DATA MONITOR

Attach copy of
ICC
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

PKIA0788E

CAN SYSTEM (TYPE 19)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

Case 2: Replace TCM

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

PKIA0789E

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CAN SYSTEM (TYPE 19)

[CAN]

Case 3: Replace ESP/TCS/ABS control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

Case 4: Replace ICC unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

PKIA0790E

CAN SYSTEM (TYPE 19)

[CAN]

Case 5: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

Case 6

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

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LAN

CAN SYSTEM (TYPE 19)

[CAN]

Case 9

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

Case 10

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

Case 11

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

Case 12

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

PKIA0792E

CAN SYSTEM (TYPE 19)

[CAN]

Case 13

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

Case 14

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

Case 15

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

Case 16

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

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CAN SYSTEM (TYPE 19)

[CAN]

Case 17

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

Case 18

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

Case 19

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 5	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	—	CAN CIRC 5	CAN CIRC 6	—	—
ICC	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 4	CAN CIRC 8	CAN CIRC 3	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	—	—	CAN CIRC 3

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NOTE:

If “NG” is displayed on “CAN COMM” for the diagnosed control unit, replace the control unit.

INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace TCM.

Case 3: Replace ESP/TCS/ABS control unit.

Case 4: Replace ICC unit.

Case 5: Replace Smart entrance control unit.

Case 6: Check Harness between TCM and ICC sensor. Refer to [LAN-391, "Circuit Check Between TCM and ICC Sensor"](#)

Case 7: Check Harness between ICC sensor and ESP/TCS/ABS control unit. Refer to [LAN-392, "Circuit Check Between ICC Sensor and ESP/TCS/ABS Control Unit"](#)

Case 8: Check Harness between ESP/TCS/ABS control unit and Steering angle sensor. Refer to [LAN-393, "Circuit Check Between ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#)

Case 9: Check Harness between Steering angle sensor and ICC unit. Refer to [LAN-394, "Circuit Check Between Steering Angle Sensor and ICC Unit"](#)

Case 10: Check Harness between ICC unit and Smart entrance control unit. Refer to [LAN-395, "Circuit Check Between ICC Unit and Smart Entrance Control Unit"](#)

Case 11: Check ECM Circuit. Refer to [LAN-395, "ECM Circuit Check"](#)

Case 12: Check TCM Circuit. Refer to [LAN-396, "TCM Circuit Check"](#)

Case 13: Check ICC sensor Circuit. Refer to [LAN-396, "ICC Sensor Circuit Check"](#)

Case 14: Check ESP/TCS/ABS control unit Circuit. Refer to [LAN-397, "ESP/TCS/ABS Control Unit Circuit Check"](#)

Case 15: Check Steering angle sensor Circuit. Refer to [LAN-397, "Steering Angle Sensor Circuit Check"](#)

Case 16: Check ICC unit Circuit. Refer to [LAN-398, "ICC Unit Circuit Check"](#)

Case 17: Check Smart entrance control unit Circuit. Refer to [LAN-398, "Smart Entrance Control Unit Circuit Check"](#)

Case 18: Check Combination meter Circuit. Refer to [LAN-399, "Combination Meter Circuit Check"](#)

Case 19: Check CAN communication Circuit. Refer to [LAN-400, "CAN Communication Circuit Check"](#)

Circuit Check Between TCM and ICC Sensor

EKS00513

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side, sensor-side and harness-side)
 - TCM.
 - ICC sensor.
 - Between TCM and ICC sensor.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector and harness connector F31.
2. Check continuity between TCM harness connector F103 terminals 5 (L), 6 (R) and harness connector F31 terminals 1 (L), 4 (R).

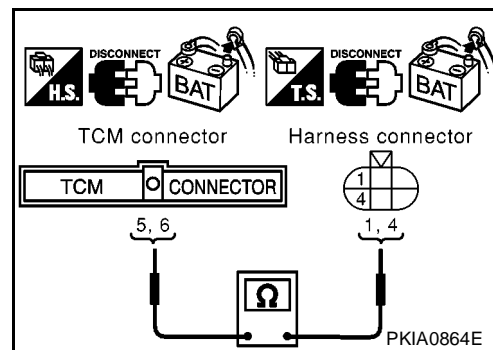
5(L) – 1(L) : Continuity should exist.

6(R) – 4(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ICC sensor connector.
2. Check continuity between harness connector E63 terminals 1 (L), 4 (R) and ICC sensor harness connector E53 terminals 3 (L), 6 (R).

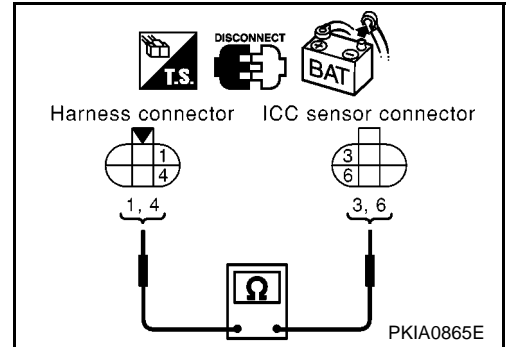
1(L) – 3(L) : Continuity should exist.

4(R) – 6(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "ICC", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



Circuit Check Between ICC Sensor and ESP/TCS/ABS Control Unit

EKS00514

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (sensor-side, control unit-side and harness-side)
 - ICC sensor.
 - ESP/TCS/ABS control unit.
 - Between ICC sensor and ESP/TCS/ABS control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ICC sensor connector and harness connector E117.
2. Check continuity between ICC sensor harness connector E53 terminals 3 (L), 6 (R) and harness connector E117 terminals 13 (L), 12 (R).

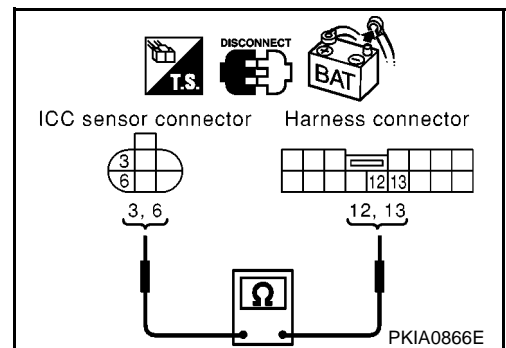
3(L) – 13(L) : Continuity should exist.

6(R) – 12(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector.
2. Check continuity between harness connector B104 terminals 13 (L), 12 (R) and ESP/TCS/ABS control unit harness connector B109 terminals 61 (L), 63 (R).

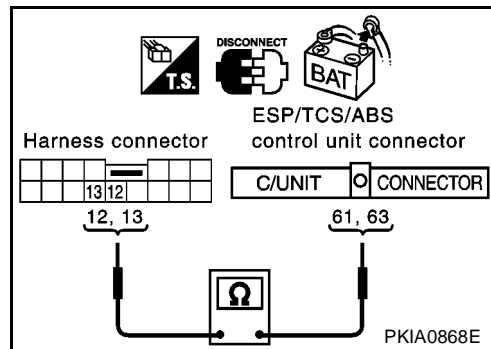
13(L) – 61(L) : Continuity should exist.

12(R) – 63(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "ICC", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



Circuit Check Between ESP/TCS/ABS Control Unit and Steering Angle Sensor

EKS00515

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (sensor-side, control unit-side and harness-side)
 - Steering angle sensor.
 - ESP/TCS/ABS control unit.
 - Between ESP/TCS/ABS control unit and steering angle sensor.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector and harness connector B101.
2. Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L), 63 (R) and harness connector B101 terminals 5 (L), 16 (R).

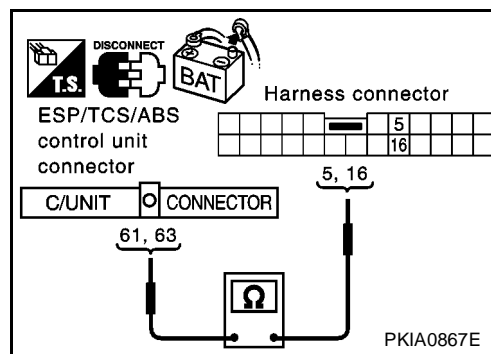
61(L) – 5(L) : Continuity should exist.

63(R) – 16(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect steering angle sensor connector.
2. Check continuity between harness connector M87 terminals 5 (L), 16 (R) and steering angle sensor harness connector M33 terminals 4 (L), 5 (R).

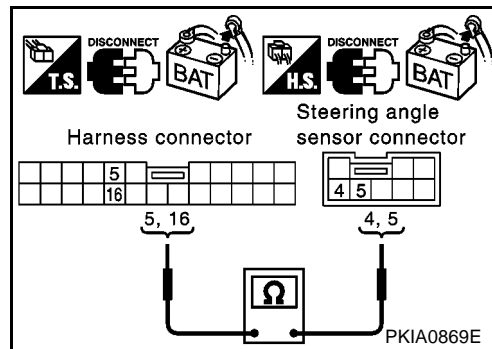
5(L) – 4(L) : Continuity should exist.

16(R) – 5(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "ICC", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



Circuit Check Between Steering Angle Sensor and ICC Unit

EKS00516

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side, sensor-side and harness-side)
 - ICC unit.
 - Steering angle sensor.
 - Between ICC unit and steering angle sensor.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

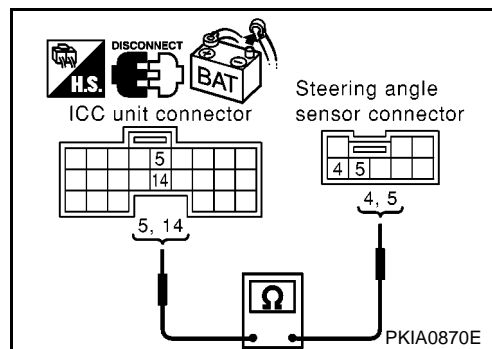
1. Disconnect ICC unit connector and steering angle sensor connector.
2. Check continuity between ICC unit harness connector B9 terminals 14 (L), 5 (R) and steering angle sensor harness connector M33 terminals 4 (L), 5 (R).

14(L) – 4(L) : Continuity should exist.

5(R) – 5(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "ICC", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS".



Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.

Circuit Check Between ICC Unit and Smart Entrance Control Unit

EKS00517

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - ICC unit.
 - Smart entrance control unit.
 - Between ICC unit and smart entrance control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ICC unit connector and smart entrance control unit connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and ICC unit harness connector B9 terminals 14 (L), 5 (R).

8(L) – 14(L) : Continuity should exist.

11(R) – 5(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "ICC", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.

ECM Circuit Check

EKS00518

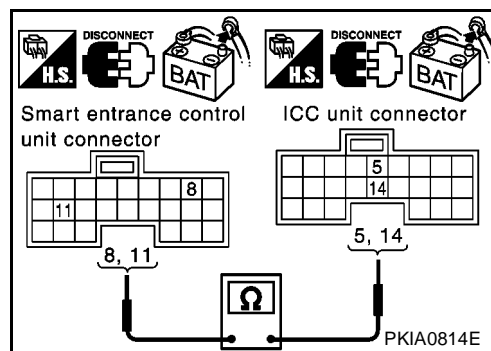
1. CHECK CONNECTOR

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



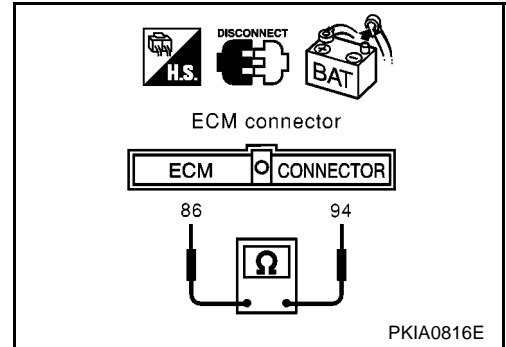
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F102 terminals 94(L) and 86(R).

94(L) – 86(R) : Approx. 108 – 132Ω

OK or NG

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



EKS00519

TCM Circuit Check

1. CHECK CONNECTOR

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

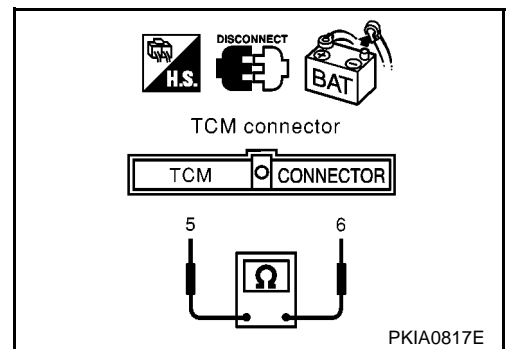
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector.
2. Check resistance between TCM harness connector F103 terminals 5(L) and 6(R).

5(L) – 6(R) : Approx. 54 – 66Ω

OK or NG

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



EKS0051A

ICC Sensor Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of ICC sensor for damage, bend and loose connection. (sensor-side and harness-side)

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

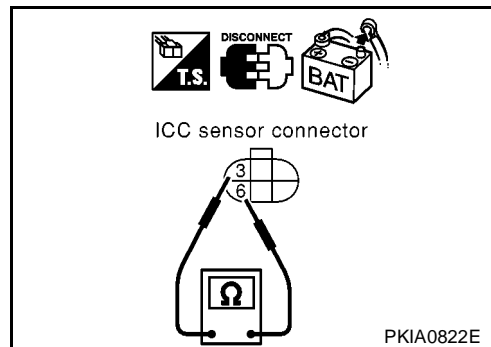
1. Disconnect ICC sensor connector.
2. Check resistance between ICC sensor harness connector E53 terminals 3(L) and 6(R).

3(L) – 6(R)

: Approx. 54 – 66Ω

OK or NG

- OK >> Replace ICC sensor.
 NG >> Repair harness between ESP/TCS/ABS control unit and ICC sensor.



EKS0051B

ESP/TCS/ABS Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector of ESP/TCS/ABS control unit for damage, bend and loose connection. (control unit-side and harness-side)

OK or NG

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

2. CHECK HARNESS FOR OPEN CIRCUIT

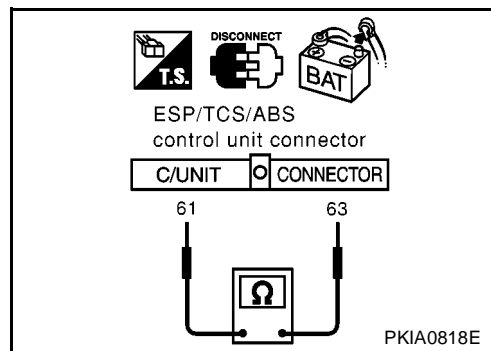
1. Disconnect ESP/TCS/ABS control unit connector.
2. Check resistance between ESP/TCS/ABS control unit harness connector B109 terminals 61(L) and 63(R).

61(L) – 63(R)

: Approx. 54 – 66Ω

OK or NG

- OK >> Replace ESP/TCS/ABS control unit.
 NG >> Repair harness between Data link connector and ESP/TCS/ABS control unit.



EKS0051C

Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of steering angle sensor for damage, bend and loose connection. (sensor-side and harness-side)

OK or NG

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

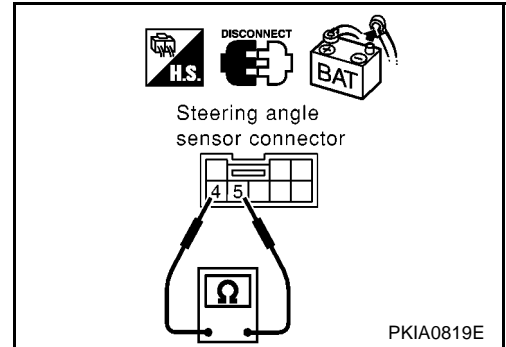
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect steering angle sensor connector.
2. Check resistance between steering angle sensor harness connector M33 terminals 4(L) and 5(R).

4(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace steering angle sensor.
 NG >> Repair harness between Data link connector and steering angle sensor.



EKS0051D

ICC Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - ICC unit.
 - Harness connector B42.
 - Harness connector M95.

OK or NG

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

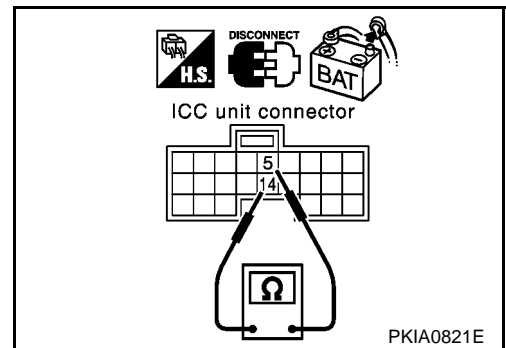
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ICC unit connector.
2. Check resistance between ICC unit harness connector B9 terminals 14(L) and 5(R).

14(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ICC unit.
 NG >> Repair harness between ICC unit and smart entrance control unit.



EKS0051E

Smart Entrance Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection. (control unit-side and harness-side)

OK or NG

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

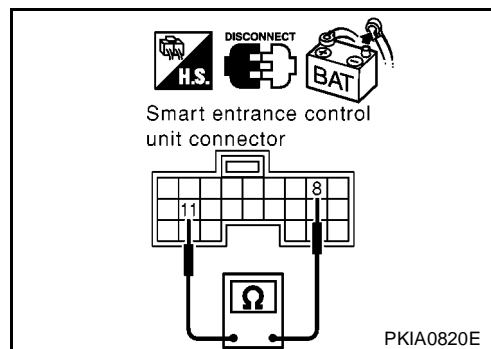
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
 NG >> Repair harness between ICC unit and smart entrance control unit.



EKS0051F

Combination Meter Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

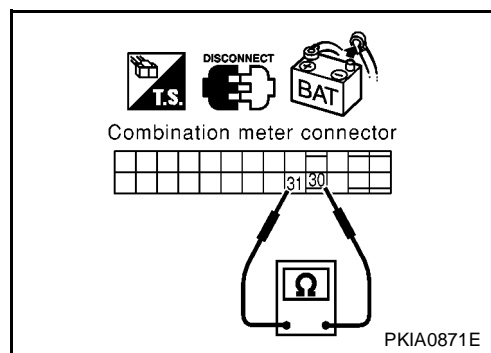
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 30(L) and 31(R).

30(L) – 31(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
 NG >> Repair harness between smart entrance control unit and combination meter.



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CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, control unit-side, sensor-side, control module-side and harness-side)
 - Combination meter.
 - Smart entrance control unit.
 - ICC unit.
 - Steering angle sensor.
 - ESP/TCS/ABS control unit.
 - ICC sensor.
 - TCM.
 - ECM.
 - Between ICC unit and ECM.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

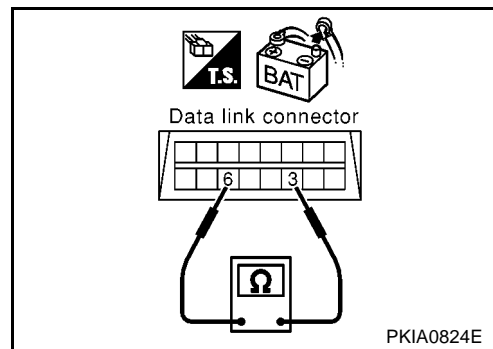
1. Disconnect the following connectors.
 - Combination meter connector.
 - Smart entrance control unit connector.
 - Steering angle sensor connector.
 - Harness connector M95.
 - Harness connector M87.
2. Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

- NG >>
- Repair harness between smart entrance control unit and combination meter.
 - Repair harness between smart entrance control unit and harness connector M95.
 - Repair harness between harness connector M95 and steering angle sensor.
 - Repair harness between Data link connector and steering angle sensor.
 - Repair harness between Data link connector and harness connector M87.



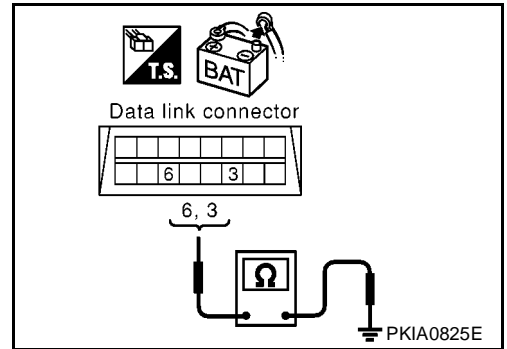
3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

- 6(L) – ground : Continuity should not exist.**
- 3(R) – ground : Continuity should not exist.**

OK or NG

- OK >> GO TO 4.
- NG >>
 - Repair harness between smart entrance control unit and combination meter.
 - Repair harness between smart entrance control unit and harness connector M95.
 - Repair harness between harness connector M95 and steering angle sensor.
 - Repair harness between Data link connector and steering angle sensor.
 - Repair harness between Data link connector and harness connector M87.



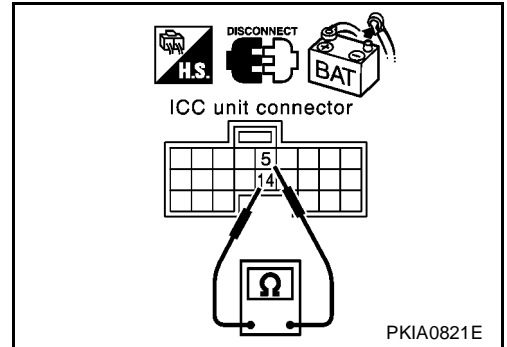
4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ICC unit connector.
2. Check continuity between ICC unit harness connector B9 terminals 14 (L) and 5(R).

- 14(L) – 5(R) : Continuity should not exist.**

OK or NG

- OK >> GO TO 5.
- NG >> Repair harness between ICC unit and harness connector B42.



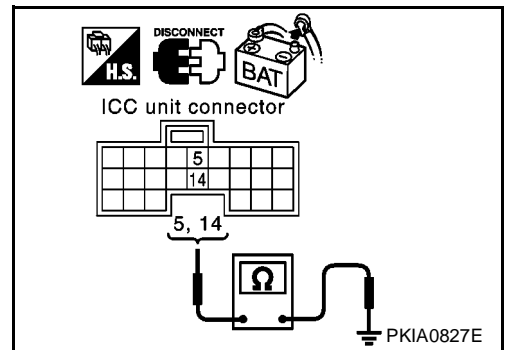
5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ICC unit harness connector B9 terminals 14 (L), 5 (R) and ground.

- 14(L) – ground : Continuity should not exist.**
- 5(R) – ground : Continuity should not exist.**

OK or NG

- OK >> GO TO 6.
- NG >> Repair harness between ICC unit and harness connector B42.



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6. CHECK HARNESS FOR SHORT CIRCUIT

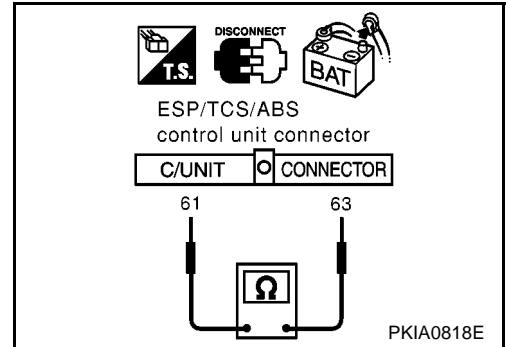
1. Disconnect ESP/TCS/ABS control unit connector and harness connector B104.
2. Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L) and 63(R).

61(L) – 63(R) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

- NG >> ● Repair harness between ESP/TCS/ABS control unit and harness connector B101.
- Repair harness between harness connector B104 and harness connector B101.



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L), 63 (R) and ground.

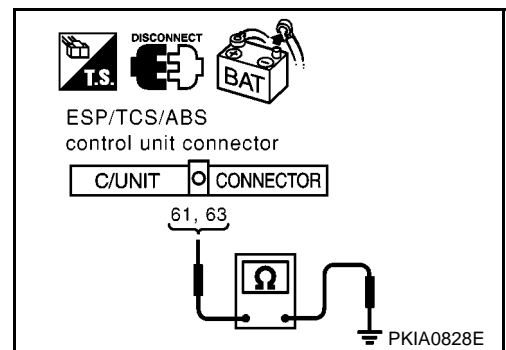
61(L) – ground : Continuity should not exist.

63(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

- NG >> ● Repair harness between ESP/TCS/ABS control unit and harness connector B101.
- Repair harness between harness connector B104 and harness connector B101.



8. CHECK HARNESS FOR SHORT CIRCUIT

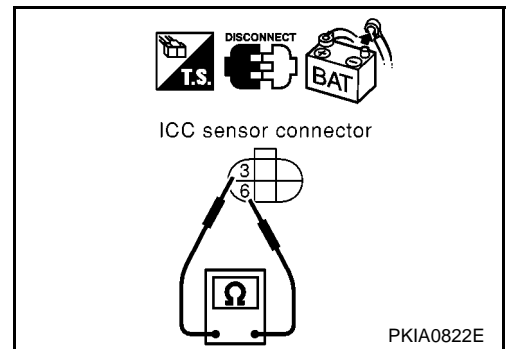
1. Disconnect ICC sensor connector and harness connector E63.
2. Check continuity between ICC sensor harness connector E53 terminals 3 (L) and 6(R).

3(L) – 6(R) : Continuity should not exist.

OK or NG

OK >> GO TO 9.

- NG >> ● Repair harness between ICC sensor and harness connector E117.
- Repair harness between harness connector E117 and harness connector E63.



9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ICC sensor harness connector E53 terminals 3 (L), 6 (R) and ground.

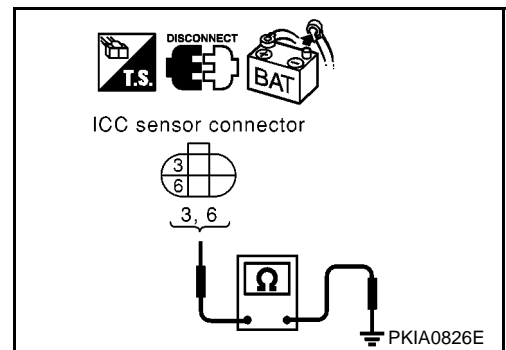
3(L) – ground : Continuity should not exist.

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

OK or NG

OK >> GO TO 10.

- NG >> ● Repair harness between ICC sensor and harness connector E117.
- Repair harness between harness connector E117 and harness connector E63.



10. CHECK HARNESS FOR SHORT CIRCUIT

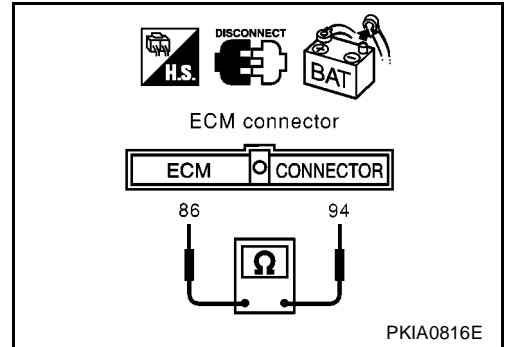
1. Disconnect ECM connector and TCM connector.
2. Check continuity between ECM harness connector F102 terminals 94 (L) and 86(R).

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

OK or NG

OK >> GO TO 11.

- NG >> ● Repair harness between ECM and harness connector F31.
- Repair harness between TCM and harness connector F31.



11. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.

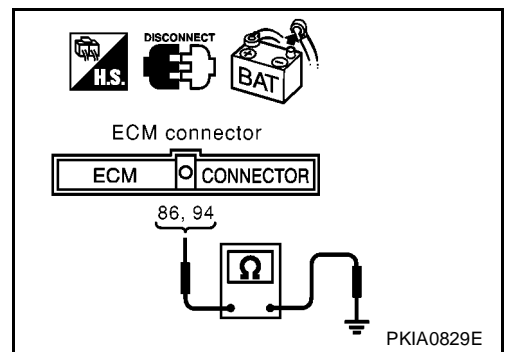
94(L) – ground : Continuity should not exist.

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

OK or NG

OK >> GO TO 12.

- NG >> ● Repair harness between ECM and harness connector F31.
- Repair harness between TCM and harness connector F31.



12. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-403, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

- OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", "ICC", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) for "ICC". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Replace ECM and/or Combination meter.

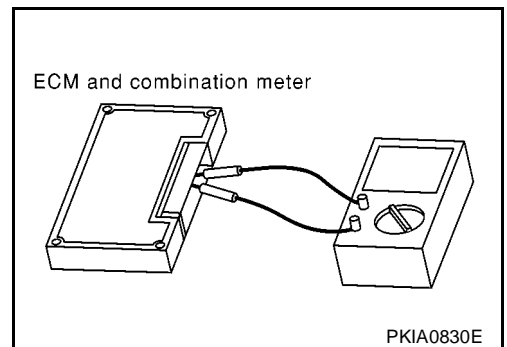
Component Inspection

ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

EKS0051H

- Remove ECM and Combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between Combination meter terminals 30 and 31.

Unit	Terminal	Resistance value (Ω)
ECM	94 – 86	Approx. 108 - 132
Combination meter	30 – 31	



CAN SYSTEM (TYPE 20)

PFP:23710

System Description

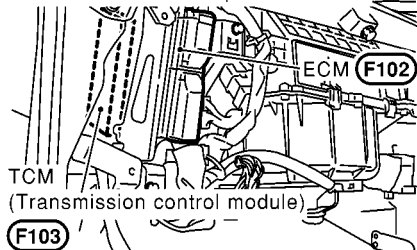
EKS0050K

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.

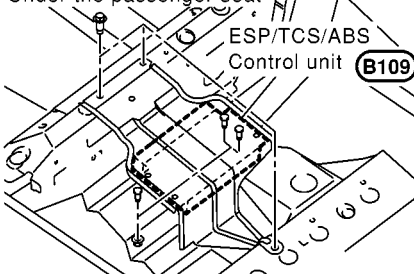
Component Parts and Harness Connector Location

EKS0050L

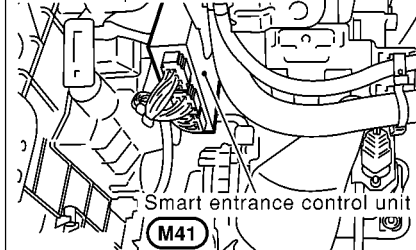
Passenger side view
with lower instrument panel removed



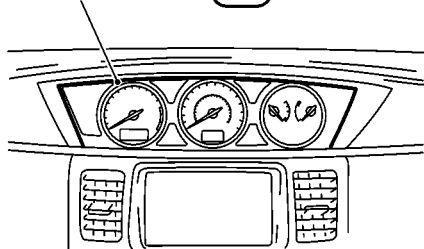
Under the passenger seat



View with lower
instrument panel removed



Combination meter (M37)



PKIA0902E

CAN SYSTEM (TYPE 20)

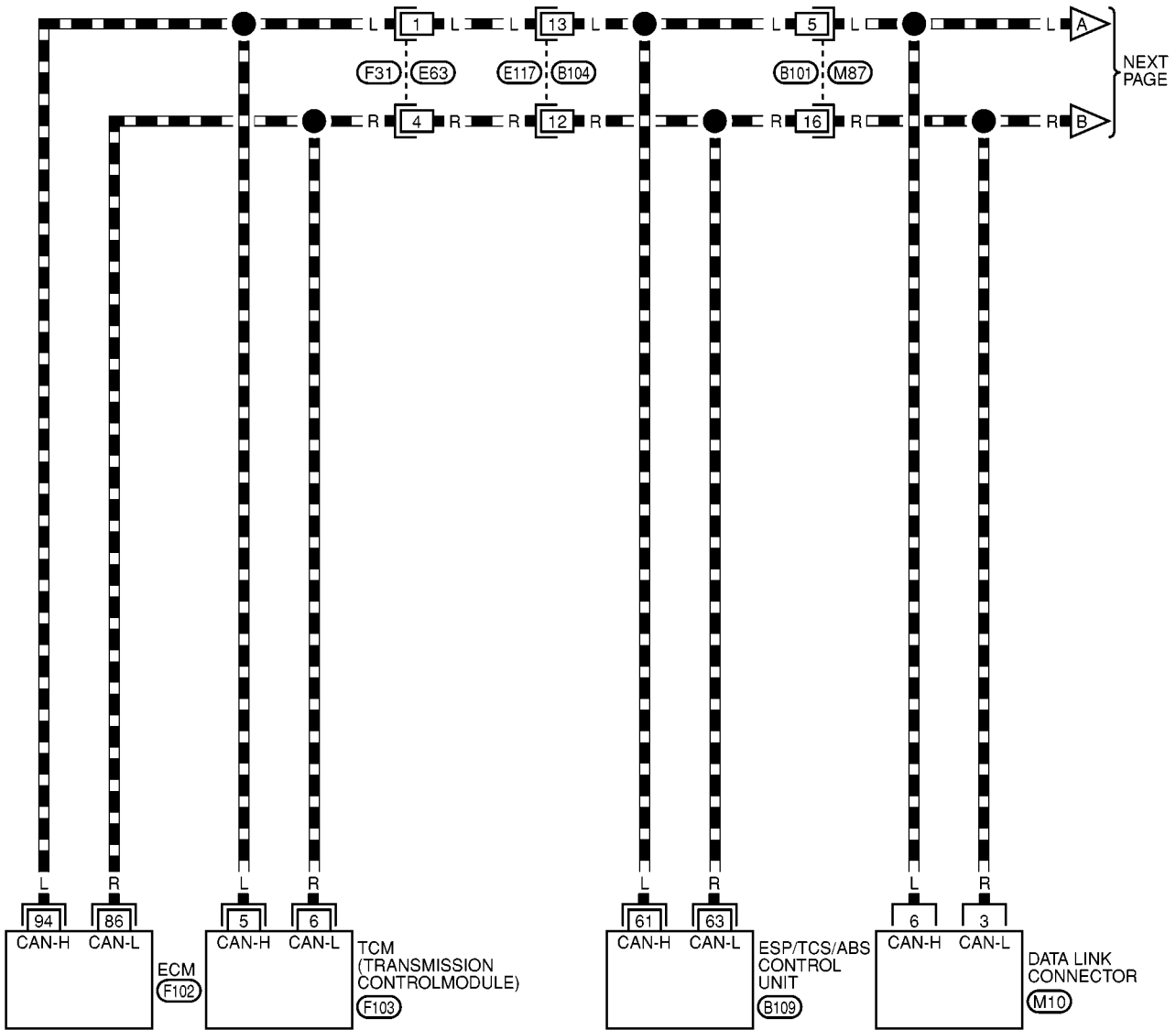
[CAN]

Wiring Diagram — CAN —

EKS0050M

LAN-CAN-43

▬ : DATA LINE



A
B
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L
M

REFER TO THE FOLLOWING.

(F102), (F103), (B109)

-ELECTRICAL UNITS

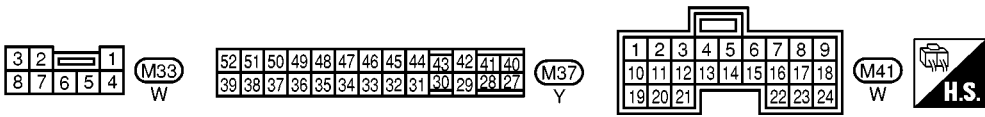
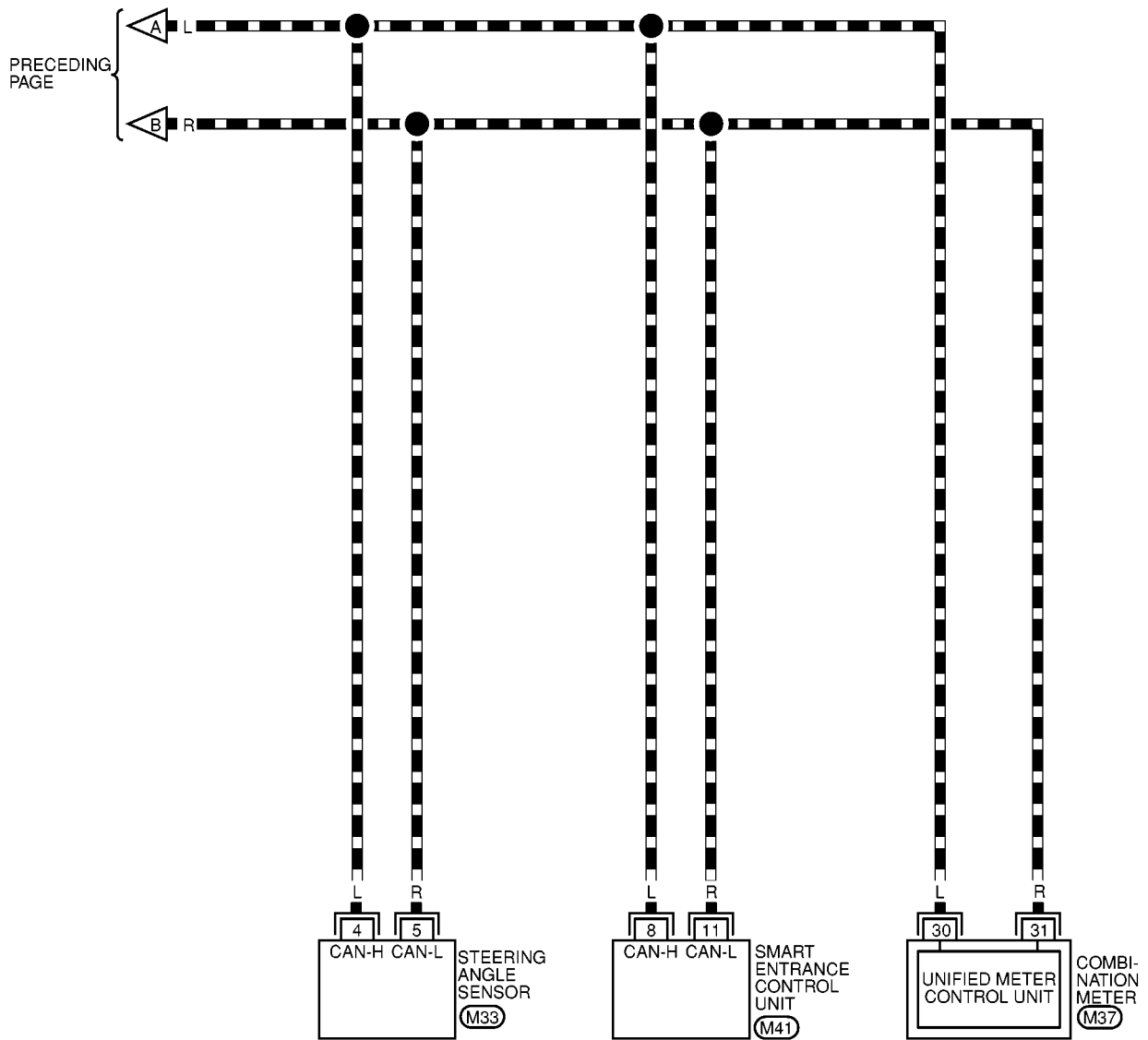
MKWA0380E

CAN SYSTEM (TYPE 20)

[CAN]

LAN-CAN-44

▬ : DATA LINE



MKWA0381E

Work Flow

EKS0050N

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-408, "CHECK SHEET"](#)
3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-408, "CHECK SHEET"](#)
NOTE:
If "NG" is displayed on "CAN COMM" for the diagnosed control unit, replace the control unit.
4. According to the check sheet results (example), start inspection. Refer to [LAN-409, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

A

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LAN

L

M

CAN SYSTEM (TYPE 20)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
CVT
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
CVT
DATA MONITOR

Attach copy of
ABS
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

PKIA0795E

CAN SYSTEM (TYPE 20)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

A
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J
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M

LAN

Case 1: Replace ECM

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 2: Replace TCM

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 3: Replace ESP/TCS/ABS control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 4: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3
ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 5

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

PKIA0796E

CAN SYSTEM (TYPE 20)

[CAN]

Case 6

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 9

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 10

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 11

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 12

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

PKIA0797E

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Case 13								
ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

Case 14								
ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	CAN CIRC 3	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—	CAN CIRC 3

PKIA0798E

NOTE:

If “NG” is displayed on “CAN COMM” for the diagnosed control unit, replace the control unit.

INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace TCM.

Case 3: Replace ESP/TCS/ABS control unit.

Case 4: Replace Smart entrance control unit.

Case 5: Check Harness between TCM and ESP/TCS/ABS control unit. Refer to [LAN-411, "Circuit Check Between TCM and ESP/TCS/ABS Control Unit"](#)

Case 6: Check Harness between ESP/TCS/ABS control unit and Steering angle sensor. Refer to [LAN-413, "Circuit Check Between ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#)

Case 7: Check Harness between Steering angle sensor and Smart entrance control unit. Refer to [LAN-414, "Circuit Check Between Steering Angle Sensor and Smart Entrance Control Unit"](#)

Case 8: Check ECM Circuit. Refer to [LAN-414, "ECM Circuit Check"](#)

Case 9: Check TCM Circuit. Refer to [LAN-415, "TCM Circuit Check"](#)

Case 10: Check ESP/TCS/ABS control unit Circuit. Refer to [LAN-415, "ESP/TCS/ABS Control Unit Circuit Check"](#)

Case 11: Check Steering angle sensor Circuit. Refer to [LAN-416, "Steering Angle Sensor Circuit Check"](#)

Case 12: Check Smart entrance control unit Circuit. Refer to [LAN-416, "Smart Entrance Control Unit Circuit Check"](#)

Case 13: Check Combination meter Circuit. Refer to [LAN-417, "Combination Meter Circuit Check"](#)

Case 14: Check CAN communication Circuit. Refer to [LAN-418, "CAN Communication Circuit Check"](#)

Circuit Check Between TCM and ESP/TCS/ABS Control Unit

EKS00500

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side, control unit-side and harness-side)
 - TCM.
 - ESP/TCS/ABS control unit.
 - Between TCM and ESP/TCS/ABS control unit.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector and harness connector F31.
2. Check continuity between TCM harness connector F103 terminals 5 (L), 6 (R) and harness connector F31 terminals 1 (L), 4 (R).

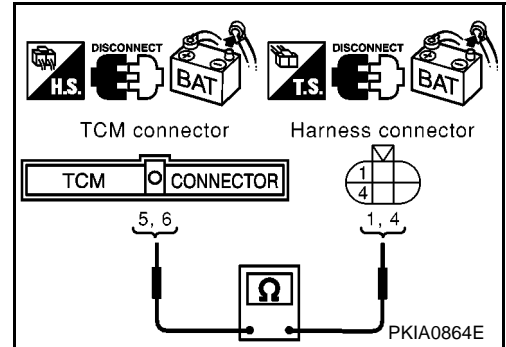
5(L) – 1(L) : Continuity should exist.

6(R) – 4(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector E117.
2. Check continuity between harness connector E63 terminals 1 (L), 4 (R) and harness connector E117 terminals 13 (L), 12 (R).

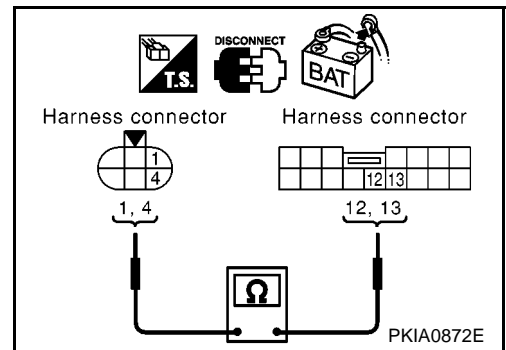
1(L) – 13(L) : Continuity should exist.

4(R) – 12(R) : Continuity should exist.

OK or NG

OK >> GO TO 4.

NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector.
2. Check continuity between harness connector B104 terminals 13 (L), 12 (R) and ESP/TCS/ABS control unit harness connector B109 terminals 61 (L), 63 (R).

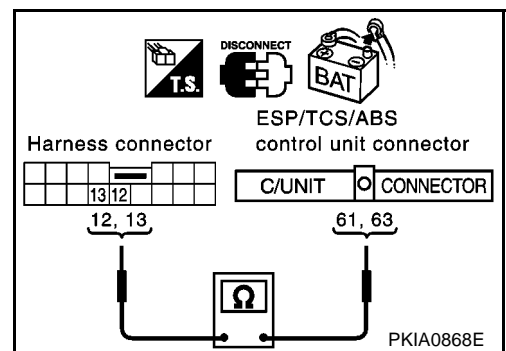
13(L) – 61(L) : Continuity should exist.

12(R) – 63(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



Circuit Check Between ESP/TCS/ABS Control Unit and Steering Angle Sensor

EKS0050P

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check following terminals and connector for damage, bend and loose connection. (sensor-side, control unit-side and harness-side)
 - Steering angle sensor.
 - ESP/TCS/ABS control unit.
 - Between ESP/TCS/ABS control unit and steering angle sensor.

OK or NG

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

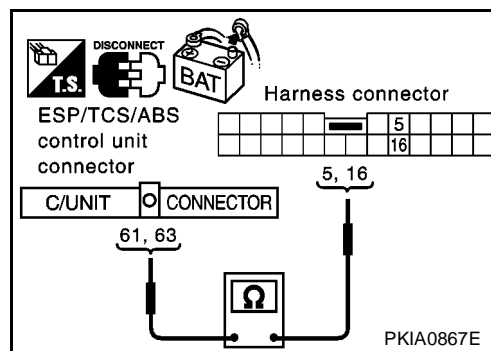
2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect ESP/TCS/ABS control unit connector and harness connector B101.
- Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L), 63 (R) and harness connector B101 terminals 5 (L), 16 (R).

- 61(L) – 5(L) : Continuity should exist.**
63(R) – 16(R) : Continuity should exist.

OK or NG

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



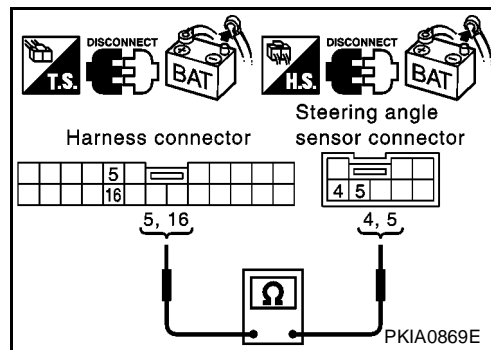
3. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect steering angle sensor connector.
- Check continuity between harness connector M87 terminals 5 (L), 16 (R) and steering angle sensor harness connector M33 terminals 4 (L), 5 (R).

- 5(L) – 4(L) : Continuity should exist.**
16(R) – 5(R) : Continuity should exist.

OK or NG

- OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
- NG >> Repair harness.



Circuit Check Between Steering Angle Sensor and Smart Entrance Control Unit

EKS00500

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side, sensor-side and harness-side)
 - Smart entrance control unit.
 - Steering angle sensor.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

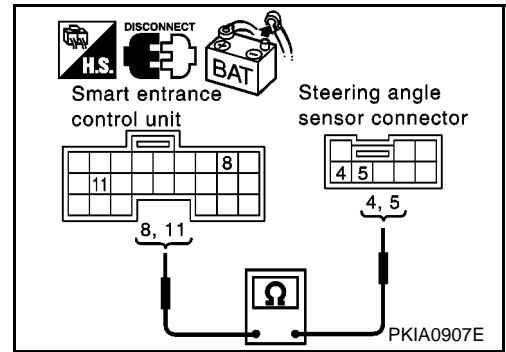
1. Disconnect smart entrance control unit connector and steering angle sensor connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and steering angle sensor harness connector M33 terminals 4 (L), 5 (R).

8(L) – 4(L) : Continuity should exist.**11(R) – 5(R) : Continuity should exist.**

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.

**ECM Circuit Check**

EKS0050R

1. CHECK CONNECTOR

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

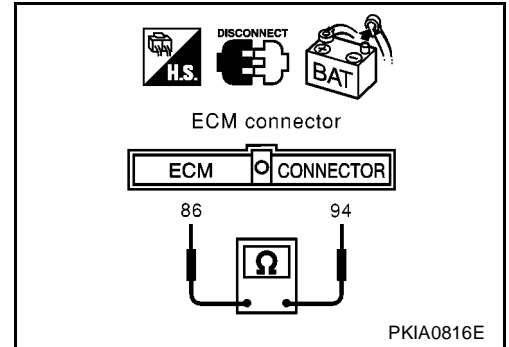
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F102 terminals 94(L) and 86(R).

94(L) – 86(R) : Approx. 108 – 132Ω

OK or NG

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



EKS0050S

TCM Circuit Check

1. CHECK CONNECTOR

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

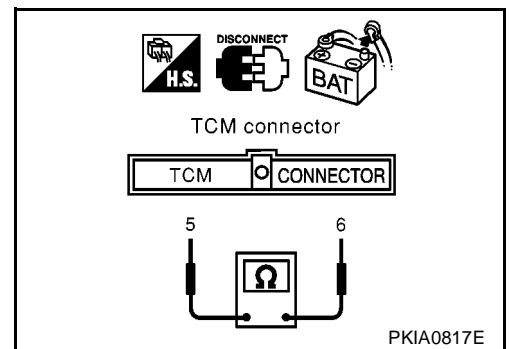
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector.
2. Check resistance between TCM harness connector F103 terminals 5(L) and 6(R).

5(L) – 6(R) : Approx. 54 – 66Ω

OK or NG

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



EKS0050T

ESP/TCS/ABS Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector of ESP/TCS/ABS control unit for damage, bend and loose connection. (control unit-side and harness-side)

OK or NG

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

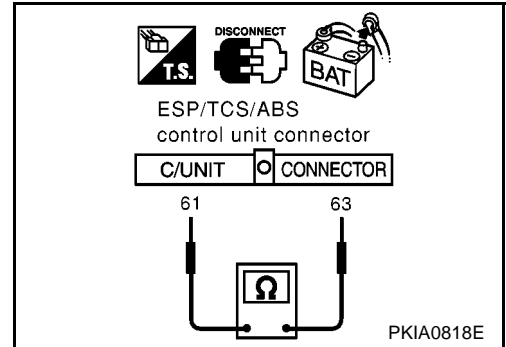
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector.
2. Check resistance between ESP/TCS/ABS control unit harness connector B109 terminals 61(L) and 63(R).

61(L) – 63(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ESP/TCS/ABS control unit.
 NG >> Repair harness between Data link connector and ESP/TCS/ABS control unit.



Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of steering angle sensor for damage, bend and loose connection. (sensor-side and harness-side)

OK or NG

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

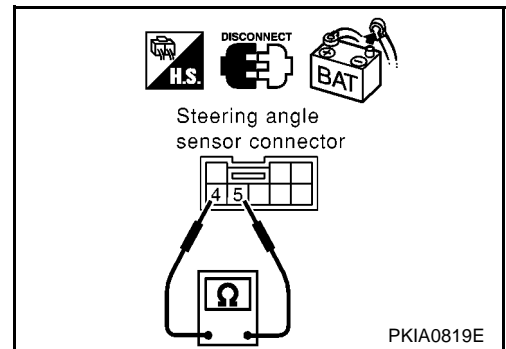
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect steering angle sensor connector.
2. Check resistance between steering angle sensor harness connector M33 terminals 4(L) and 5(R).

4(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace steering angle sensor.
 NG >> Repair harness between steering angle sensor and smart entrance control unit.



Smart Entrance Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection. (control unit-side and harness-side)

OK or NG

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

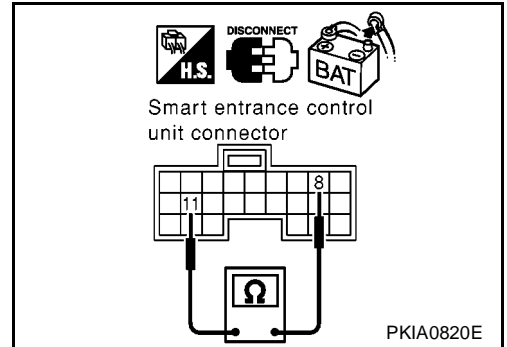
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
 NG >> Repair harness between steering angle sensor and smart entrance control unit.



EKS0050W

Combination Meter Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

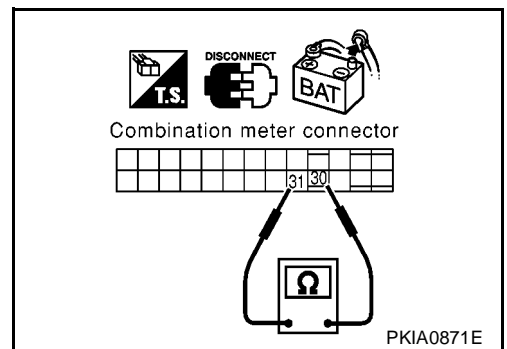
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 30(L) and 31(R).

30(L) – 31(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
 NG >> Repair harness between smart entrance control unit and combination meter.



PKIA0871E

CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, control unit-side, sensor-side, control module-side and harness-side)
 - Combination meter.
 - Smart entrance control unit.
 - Steering angle sensor.
 - ESP/TCS/ABS control unit.
 - TCM.
 - ECM.
 - Between Data link connector and ECM.

OK or NG

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

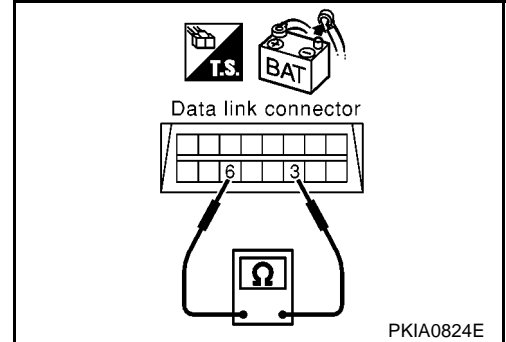
2. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect the following connectors.
 - Combination meter connector.
 - Smart entrance control unit connector.
 - Steering angle sensor connector.
 - Harness connector M87.
2. Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.

OK or NG

- OK >> GO TO 3.
 NG >> ● Repair harness between smart entrance control unit and combination meter.
- Repair harness between smart entrance control unit and steering angle sensor.
 - Repair harness between Data link connector and steering angle sensor.
 - Repair harness between Data link connector and harness connector M87.



3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

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

3(R) – ground : Continuity should not exist.

OK or NG

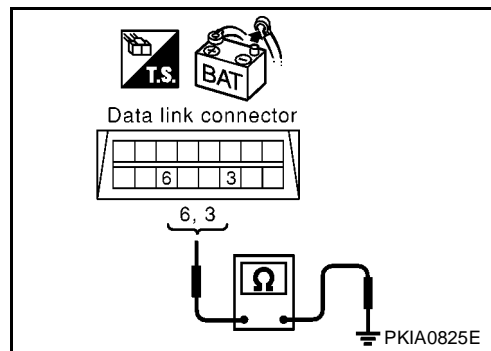
OK >> GO TO 4.

NG >> ● Repair harness between smart entrance control unit and combination meter.

● Repair harness between smart entrance control unit and steering angle sensor.

● Repair harness between Data link connector and steering angle sensor.

● Repair harness between Data link connector and harness connector M87.



4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector and harness connector B104.

2. Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L) and 63(R).

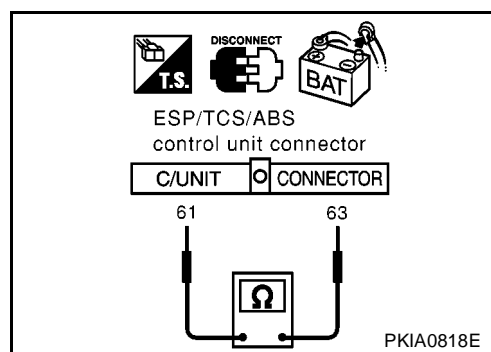
61(L) – 63(R) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> ● Repair harness between ESP/TCS/ABS control unit and harness connector B101.

● Repair harness between harness connector B104 and harness connector B101.



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L), 63 (R) and ground.

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

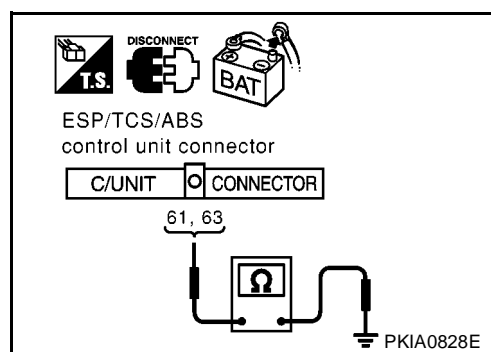
63(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> ● Repair harness between ESP/TCS/ABS control unit and harness connector B101.

● Repair harness between harness connector B104 and harness connector B101.



6. CHECK HARNESS FOR SHORT CIRCUIT

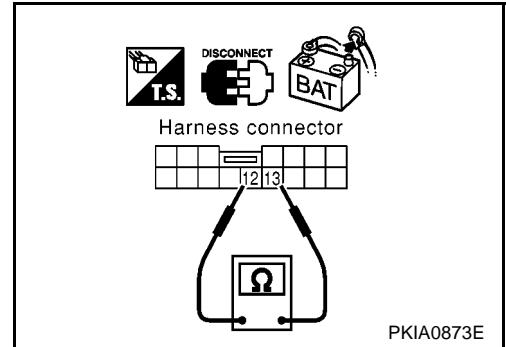
1. Disconnect harness connector E63.
2. Check continuity between harness connector E117 terminals 13 (L) and 12(R).

13(L) – 12(R) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> Repair harness between harness connector E117 and harness connector E63.



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector E117 terminals 13 (L) and 12(R) and ground.

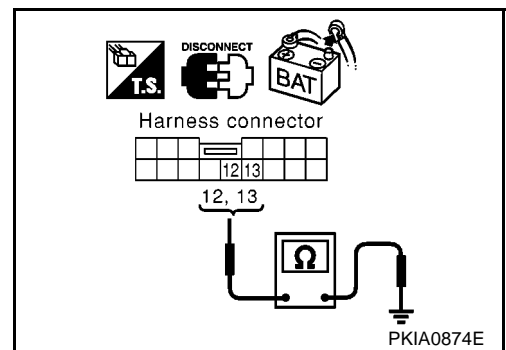
13(L) – ground : Continuity should not exist.

12(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG >> Repair harness between harness connector E117 and harness connector E63.



8. CHECK HARNESS FOR SHORT CIRCUIT

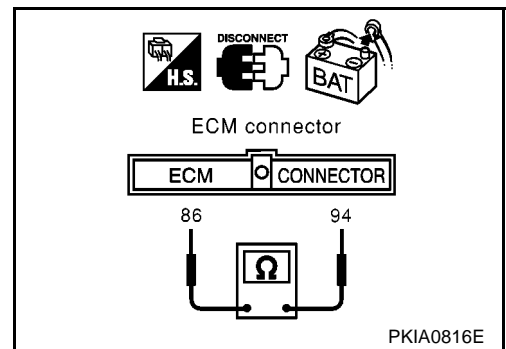
1. Disconnect ECM connector and TCM connector.
2. Check continuity between ECM harness connector F102 terminals 94 (L) and 86(R).

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

OK or NG

OK >> GO TO 9.

- NG >>
- Repair harness between ECM and harness connector F31.
 - Repair harness between TCM and harness connector F31.



9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.

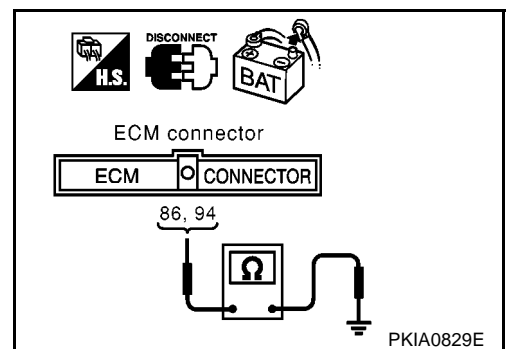
94(L) – ground : Continuity should not exist.

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

OK or NG

OK >> GO TO 10.

- NG >>
- Repair harness between ECM and harness connector F31.
 - Repair harness between TCM and harness connector F31.



10. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-421, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

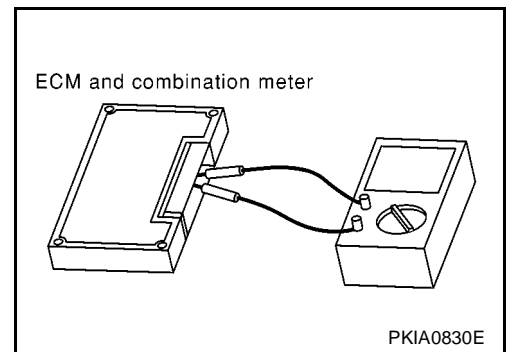
- OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
- NG >> Replace ECM and/or Combination meter.

Component Inspection ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

EKS0050Y

- Remove ECM and Combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between Combination meter terminals 30 and 31.

Unit	Terminal	Resistance value (Ω)
ECM	94 - 86	Approx. 108 - 132
Combination meter	30 - 31	



A
B
C
D
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L
M

LAN

CAN SYSTEM (TYPE 21)

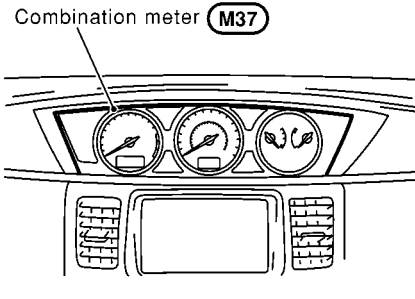
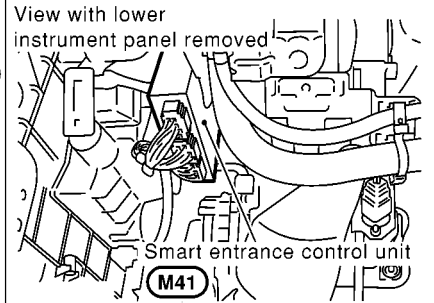
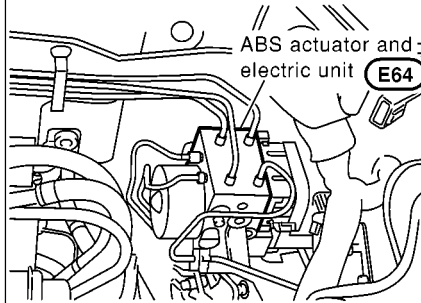
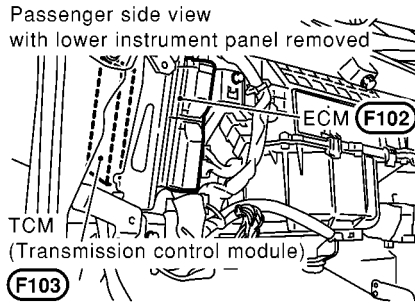
System Description

EKS00507

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

EKS00508



PKIA0903E

CAN SYSTEM (TYPE 21)

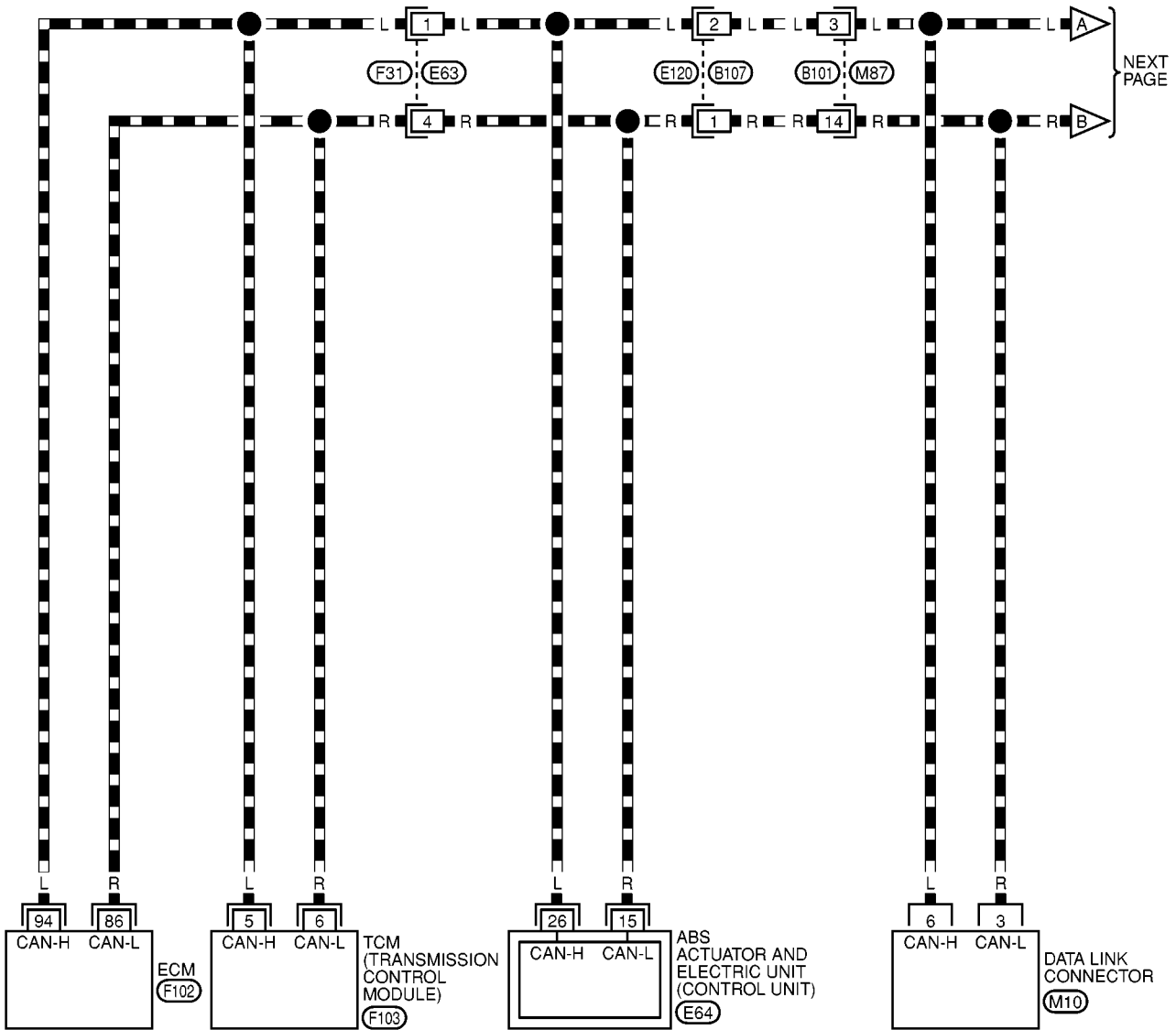
[CAN]

EKS00509

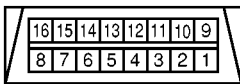
LAN-CAN-45

▬ : DATA LINE

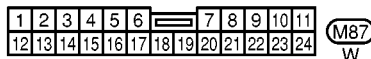
Wiring Diagram — CAN —



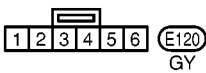
LAN



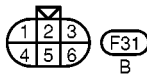
M10
W



M87
W



E120
GY



F31
B

REFER TO THE FOLLOWING.

E64, F102, F103

-ELECTRICAL UNITS

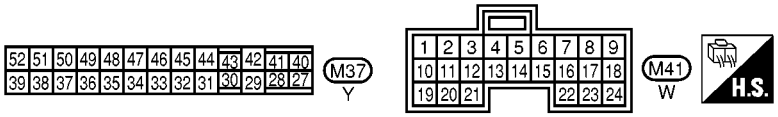
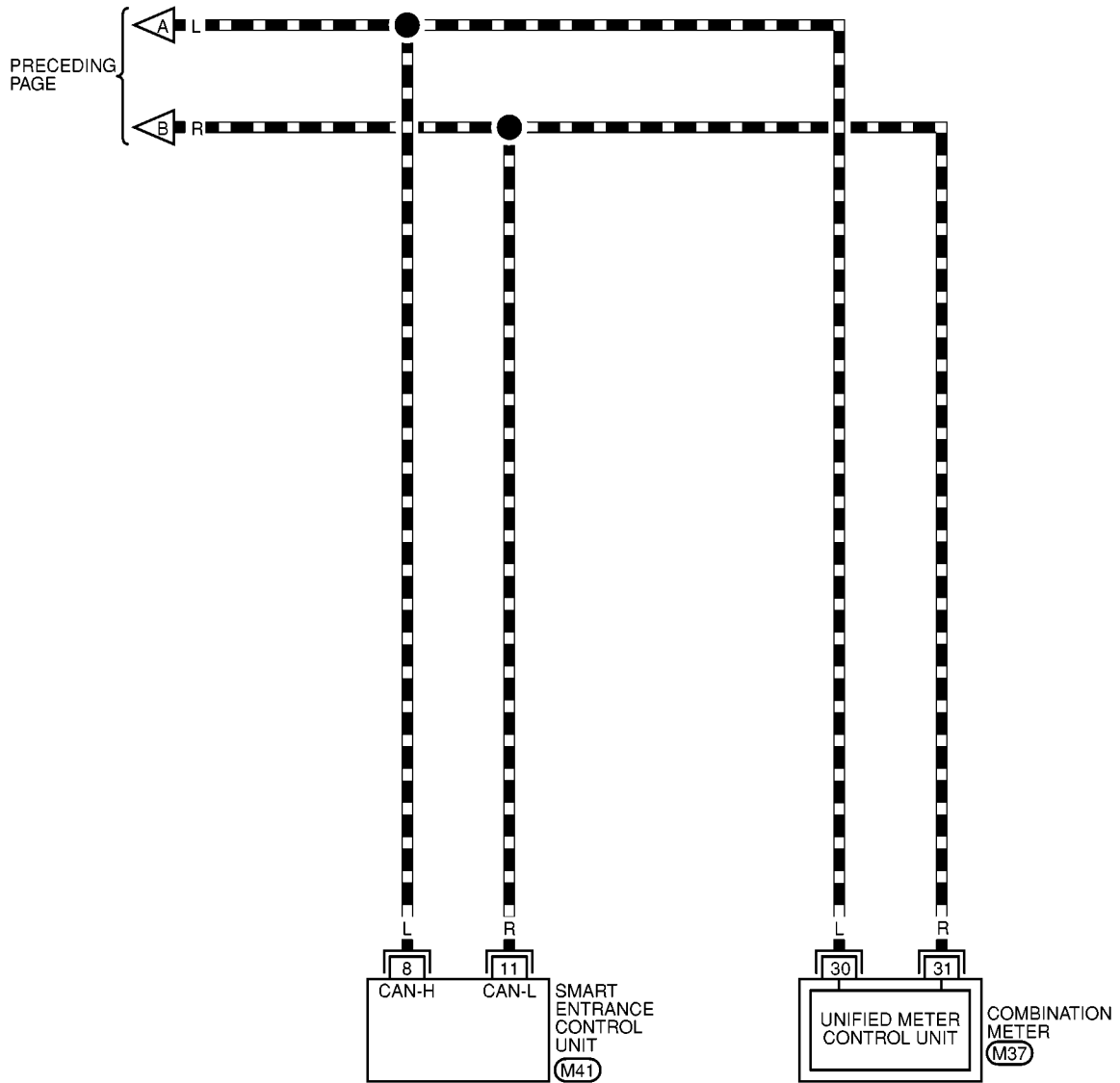
MKWA0382E

CAN SYSTEM (TYPE 21)

[CAN]

LAN-CAN-46

▬ : DATA LINE



MKWA0383E

Work Flow

EKS0050A

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-426, "CHECK SHEET"](#)
3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-426, "CHECK SHEET"](#)
NOTE:
If "NG" is displayed on "CAN COMM" for the diagnosed control unit, replace the control unit.
4. According to the check sheet results (example), start inspection. Refer to [LAN-427, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

A
B
C
D
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LAN

CAN SYSTEM (TYPE 21)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
CVT
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
CVT
DATA MONITOR

Attach copy of
ABS
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

PKIA0799E

CAN SYSTEM (TYPE 21)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN COMM ✓	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2 ✓	—	CAN CIRC 6 ✓	CAN CIRC 4 ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 2: Replace TCM

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2 ✓	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	CAN CIRC 3 ✓	—	CAN CIRC 4 ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 3: Replace ABS actuator and electric unit (control unit)

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3 ✓	—	CAN CIRC 4
ABS	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 4: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	—	CAN CIRC 3 ✓

Case 5

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6 ✓	CAN CIRC 4 ✓
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3 ✓	—	CAN CIRC 4 ✓
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	—	—	CAN CIRC 3

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CAN SYSTEM (TYPE 21)

[CAN]

Case 6

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 9

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 10

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 11

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 12

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
CVT	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 3	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

PKIA0801E

NOTE:

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

INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace TCM.

Case 3: Replace ABS actuator and electric unit (control unit).

Case 4: Replace Smart entrance control unit.

Case 5: Check Harness between TCM and ABS actuator and electric unit (control unit). Refer to [LAN-429, "Circuit Check Between TCM and ABS Actuator and Electric Unit \(control unit\)"](#)

Case 6: Check Harness between ABS actuator and electric unit (control unit) and Smart entrance control unit. Refer to [LAN-430, "Circuit Check Between ABS Actuator and Electric Unit \(control unit\) and Smart Entrance Control Unit"](#)

Case 7: Check ECM Circuit. Refer to [LAN-431, "ECM Circuit Check"](#)

Case 8: Check TCM Circuit. Refer to [LAN-432, "TCM Circuit Check"](#)

Case 9: Check ABS actuator and electric unit (control unit) Circuit. Refer to [LAN-432, "ABS Actuator and Electric Unit \(control unit\) Circuit Check"](#)

Case 10: Check Smart entrance control unit Circuit. Refer to [LAN-433, "Smart Entrance Control Unit Circuit Check"](#)

Case 11: Check Combination meter Circuit. Refer to [LAN-433, "Combination Meter Circuit Check"](#)

Case 12: Check CAN communication Circuit. Refer to [LAN-434, "CAN Communication Circuit Check"](#)

Circuit Check Between TCM and ABS Actuator and Electric Unit (control unit)

EKS0050B

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side, control unit-side and harness-side)
 - TCM.
 - ABS actuator and electric unit (control unit).
 - Between TCM and ABS actuator and electric unit (control unit).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector and harness connector F31.
2. Check continuity between TCM harness connector F103 terminals 5 (L), 6 (R) and harness connector F31 terminals 1 (L), 4 (R).

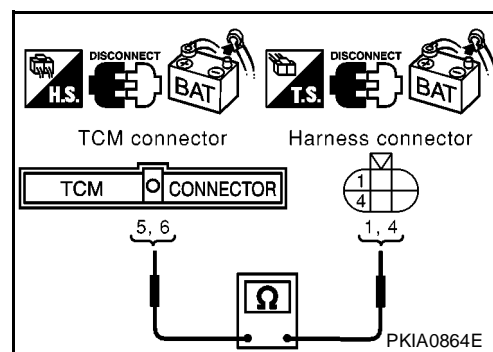
5(L) – 1(L) : Continuity should exist.

6(R) – 4(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

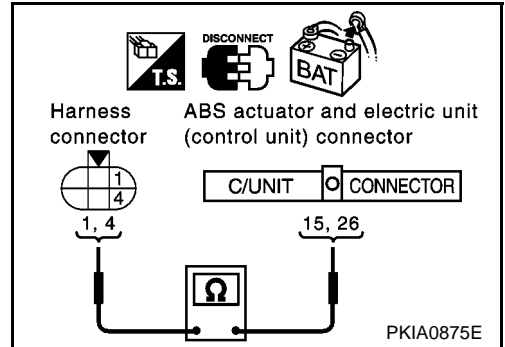
1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check continuity between harness connector E63 terminals 1 (L), 4 (R) and ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L), 15 (R).

1(L) – 26(L) : Continuity should exist.
4(R) – 15(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



Circuit Check Between ABS Actuator and Electric Unit (control unit) and Smart Entrance Control Unit

EKS0050C

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - Smart entrance control unit.
 - ABS actuator and electric unit (control unit).
 - Between smart entrance control unit and ABS actuator and electric unit (control unit).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

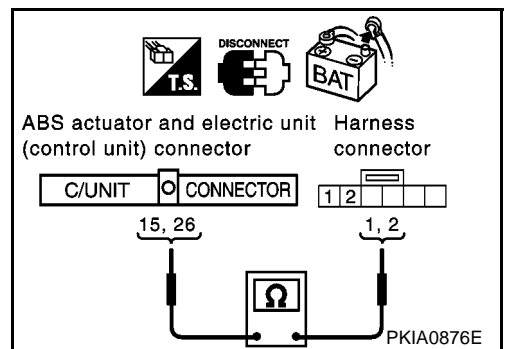
1. Disconnect ABS actuator and electric unit (control unit) connector and harness connector E120.
2. Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L), 15 (R) and harness connector E120 terminals 2 (L), 1 (R).

26(L) – 2(L) : Continuity should exist.
15(R) – 1(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B101.
2. Check continuity between harness connector B107 terminals 2 (L), 1 (R) and harness connector B101 terminals 3 (L), 14 (R).

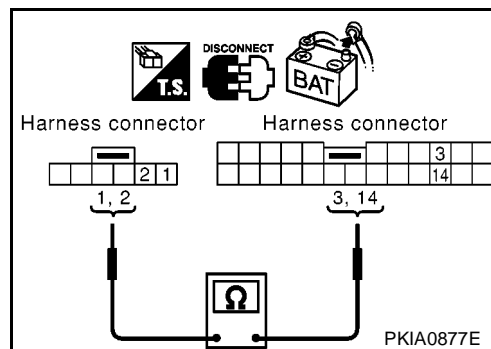
2(L) – 3(L) : Continuity should exist.

1(R) – 14(R) : Continuity should exist.

OK or NG

OK >> GO TO 4.

NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check continuity between harness connector M87 terminals 3 (L), 14 (R) and smart entrance control unit harness connector M41 terminals 8 (L), 11 (R).

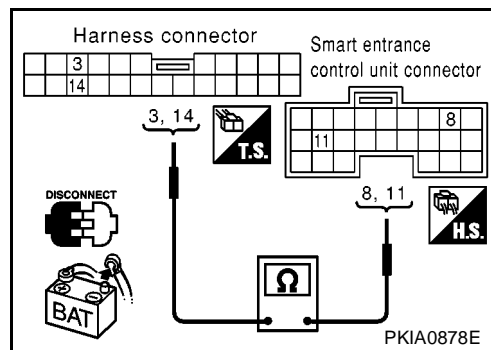
3(L) – 8(L) : Continuity should exist.

14(R) – 11(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



ECM Circuit Check

1. CHECK CONNECTOR

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

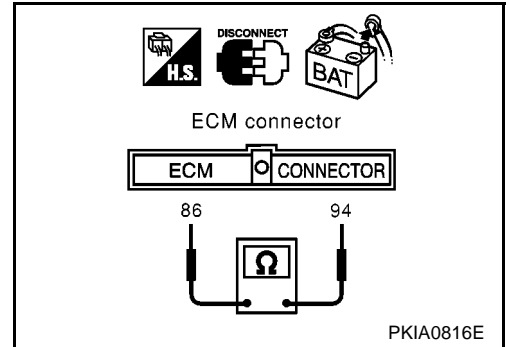
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F102 terminals 94(L) and 86(R).

94(L) – 86(R) : Approx. 108 – 132Ω

OK or NG

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



EKS0050E

TCM Circuit Check

1. CHECK CONNECTOR

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

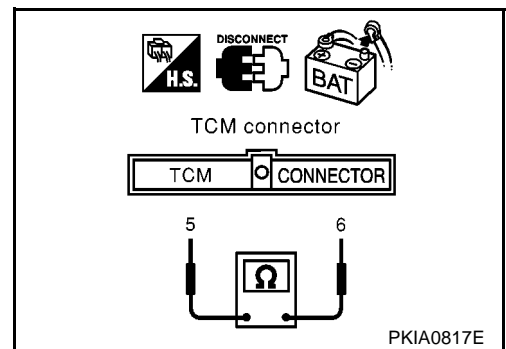
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector.
2. Check resistance between TCM harness connector F103 terminals 5(L) and 6(R).

5(L) – 6(R) : Approx. 54 – 66Ω

OK or NG

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



EKS0050F

ABS Actuator and Electric Unit (control unit) Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection. (control unit-side and harness-side)

OK or NG

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

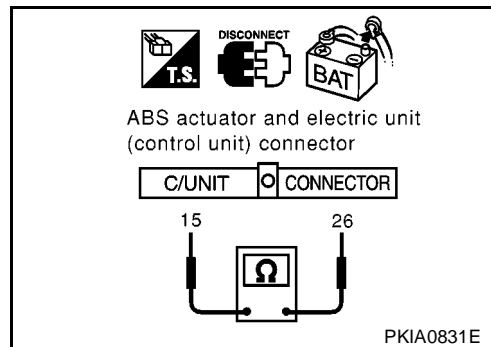
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E64 terminals 26(L) and 15(R).

26(L) – 15(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
 NG >> Repair harness between Data link connector and ABS actuator and electric unit (control unit).



EKS0050G

Smart Entrance Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

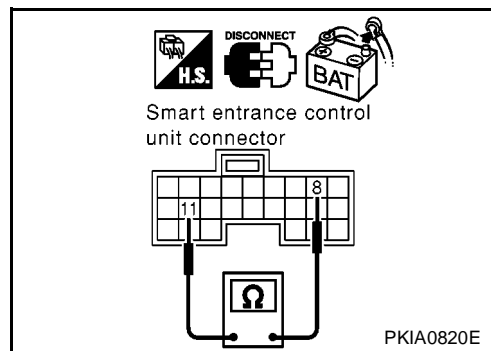
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
 NG >> Repair harness between Data link connector and smart entrance control unit.



EKS0050H

Combination Meter Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

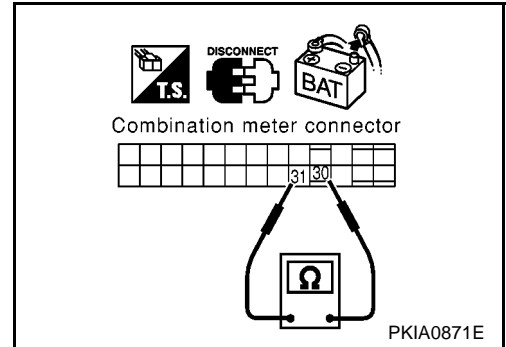
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 30(L) and 31(R).

30(L) – 31(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
 NG >> Repair harness between smart entrance control unit and combination meter.



CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, control unit-side, control module-side and harness-side)
 - Combination meter.
 - Smart entrance control unit.
 - ABS actuator and electric unit (control unit).
 - TCM.
 - ECM.
 - Between Data link connector and ECM.

OK or NG

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

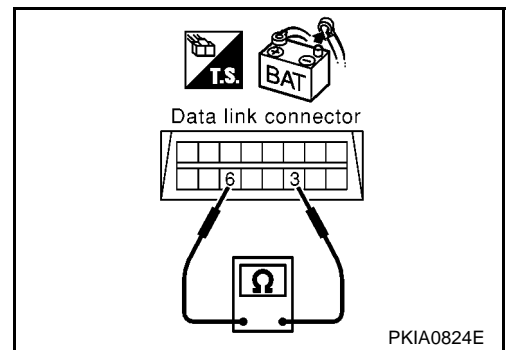
2. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect the following connectors.
 - Combination meter connector.
 - Smart entrance control unit connector.
 - Harness connector M87.
2. Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.

OK or NG

- OK >> GO TO 3.
 NG >>
 - Repair harness between smart entrance control unit and combination meter.
 - Repair harness between Data link connector and smart entrance control unit.
 - Repair harness between Data link connector and harness connector M87.



3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

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

3(R) – ground : Continuity should not exist.

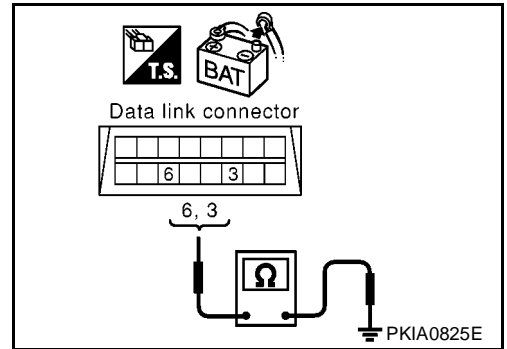
OK or NG

OK >> GO TO 4.

NG >> ● Repair harness between smart entrance control unit and combination meter.

- Repair harness between Data link connector and smart entrance control unit.

- Repair harness between Data link connector and harness connector M87.



4. CHECK HARNESS FOR SHORT CIRCUIT

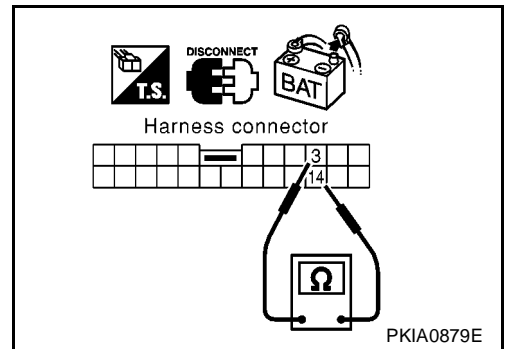
1. Disconnect harness connector B107.
2. Check continuity between harness connector B101 terminals 3 (L) and 14(R).

3(L) – 14(R) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between harness connector B101 and harness connector B107.



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B101 terminals 3 (L), 14(R) and ground

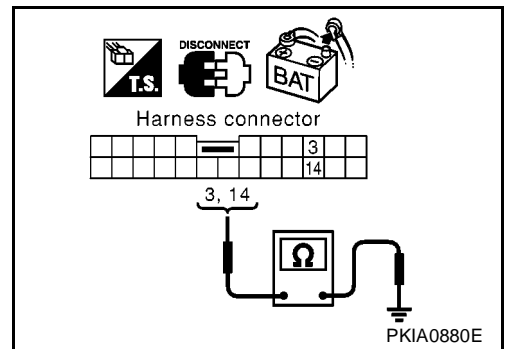
3(L) – ground : Continuity should not exist.

14(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between harness connector B101 and harness connector B107.



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6. CHECK HARNESS FOR SHORT CIRCUIT

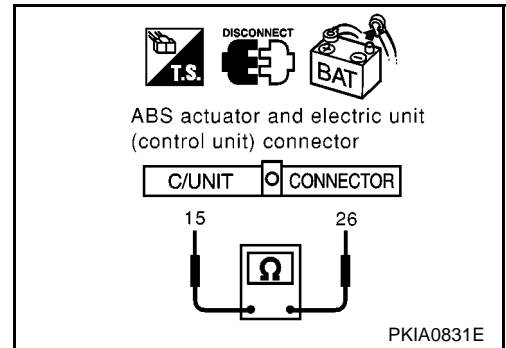
- Disconnect the following connectors.
 - ABS actuator and electric unit (control unit) connector.
 - Harness connector E63.
- Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L) and 15(R).

26(L) – 15(R) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

- NG >> ● Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.
- Repair harness between harness connector E120 and harness connector E63.



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L), 15 (R) and ground.

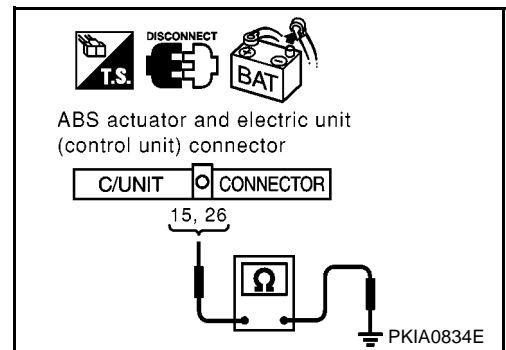
26(L) – ground : Continuity should not exist.

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

OK or NG

OK >> GO TO 8.

- NG >> ● Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.
- Repair harness between harness connector E120 and harness connector E63.



8. CHECK HARNESS FOR SHORT CIRCUIT

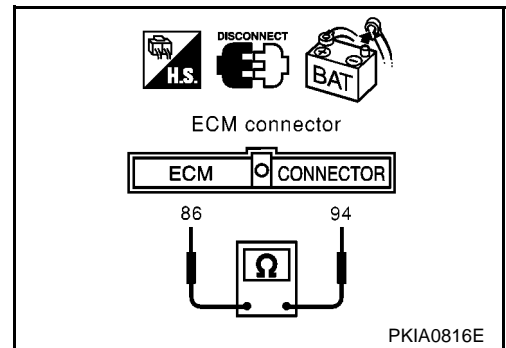
- Disconnect ECM connector and TCM connector.
- Check continuity between ECM harness connector F102 terminals 94 (L) and 86(R).

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

OK or NG

OK >> GO TO 9.

- NG >> ● Repair harness between ECM and harness connector F31.
- Repair harness between TCM and harness connector F31.



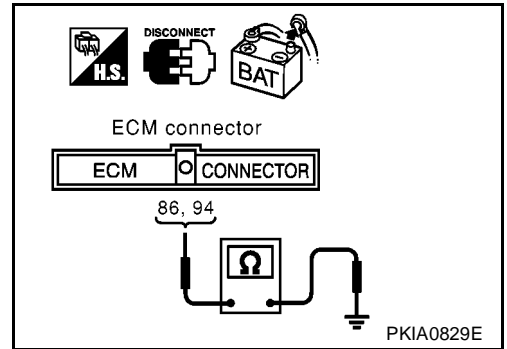
9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.

- 94(L) – ground : Continuity should not exist.**
- 86(R) – ground : Continuity should not exist.**

OK or NG

- OK >> GO TO 10.
- NG >>
 - Repair harness between ECM and harness connector F31.
 - Repair harness between TCM and harness connector F31.



10. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-437, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

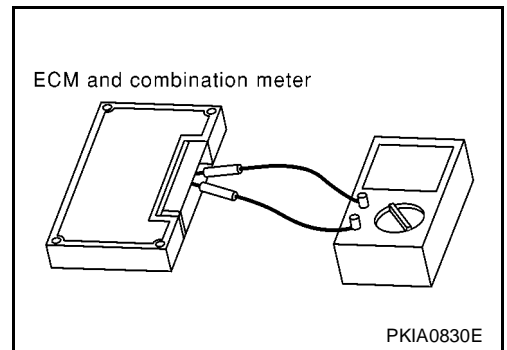
- OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "CVT", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [CVT-118, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [CVT-201, "CAN COMMUNICATION LINE"](#) (ALL) for "CVT". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
- 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 30 and 31.

Unit	Terminal	Resistance value (Ω)
ECM	94 – 86	Approx. 108 - 132
Combination meter	30 – 31	



CAN SYSTEM (TYPE 22)

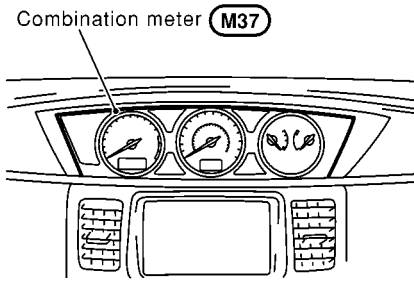
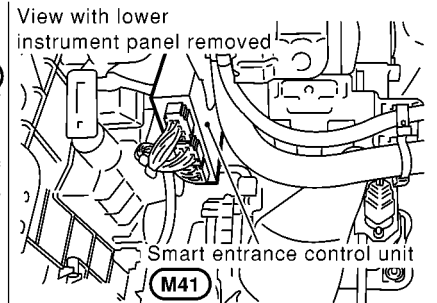
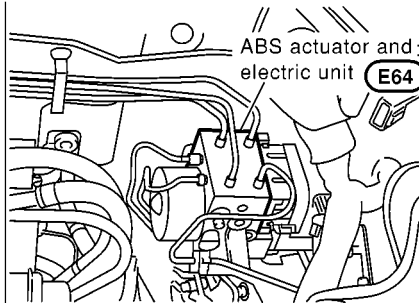
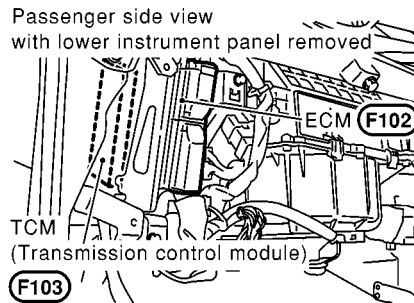
System Description

EKS004ZT

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

EKS004ZU



PKIA0903E

CAN SYSTEM (TYPE 22)

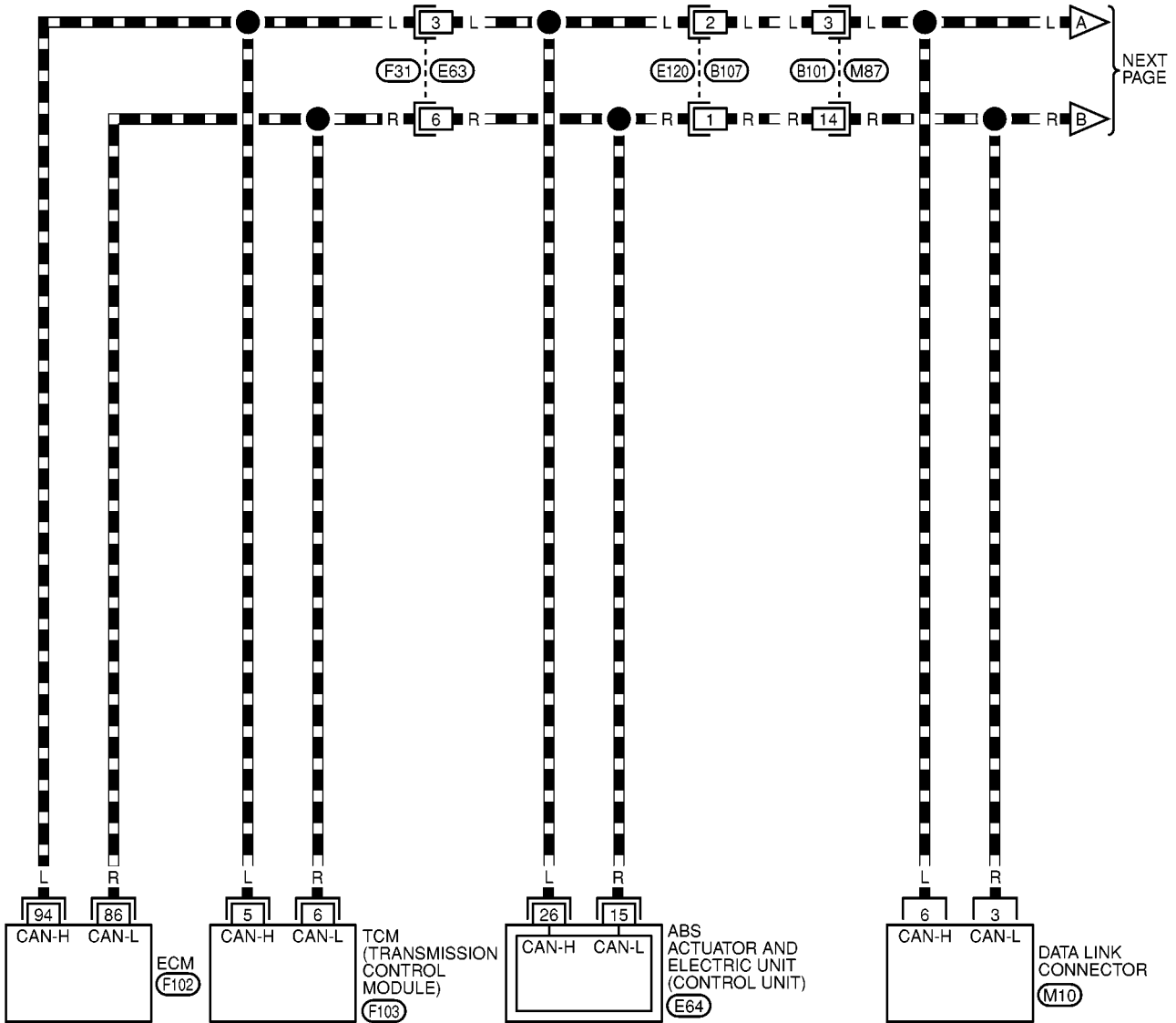
[CAN]

Wiring Diagram — CAN —

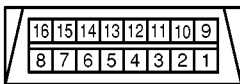
EKS004ZV

LAN-CAN-47

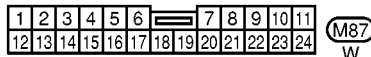
▬ : DATA LINE



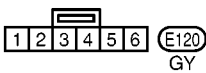
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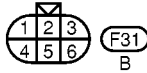
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M87
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E120
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F31
B

REFER TO THE FOLLOWING.

E64 , F102 , F103

-ELECTRICAL UNITS

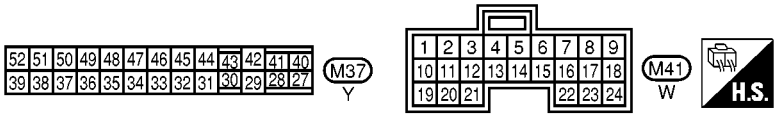
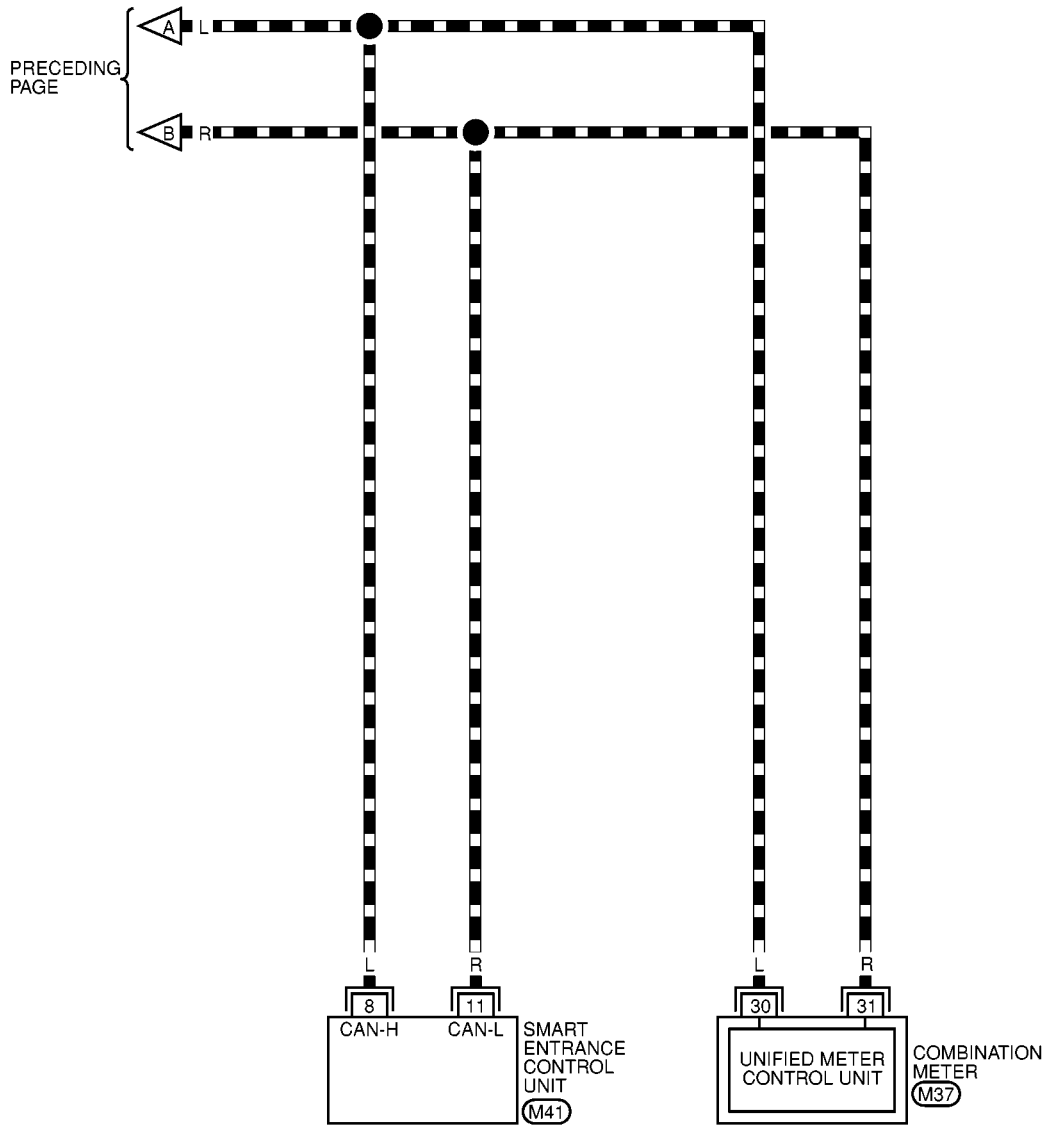
MKWA0384E

CAN SYSTEM (TYPE 22)

[CAN]

LAN-CAN-48

▬ : DATA LINE



MKWA0385E

Work Flow

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "A/T", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [AT-190, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [AT-393, "CAN COMMUNICATION LINE"](#) (ALL) for "A/T". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-442, "CHECK SHEET"](#)
3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-442, "CHECK SHEET"](#)
NOTE:
If "NG" is displayed on "CAN COMM" for the diagnosed control unit, replace the control unit.
4. According to the check sheet results (example), start inspection. Refer to [LAN-443, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

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CAN SYSTEM (TYPE 22)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
A/T
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
A/T
DATA MONITOR

Attach copy of
ABS
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

PKIA0802E

CAN SYSTEM (TYPE 22)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN <input checked="" type="checkbox"/> CIRC 2	—	CAN <input checked="" type="checkbox"/> CIRC 6	CAN <input checked="" type="checkbox"/> CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 2: Replace TCM

ENGINE	CAN COMM	CAN CIRC 1	—	CAN <input checked="" type="checkbox"/> CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	CAN <input checked="" type="checkbox"/> CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 3: Replace ABS actuator and electric unit (control unit)

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 4: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	CAN <input checked="" type="checkbox"/> CIRC 3

Case 5

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN <input checked="" type="checkbox"/> CIRC 6	CAN <input checked="" type="checkbox"/> CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN <input checked="" type="checkbox"/> CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	CAN CIRC 3

PKIA0803E

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CAN SYSTEM (TYPE 22)

[CAN]

Case 6

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 9

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 10

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 11

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 12

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	—	CAN CIRC 6	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

PKIA0804E

NOTE:

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

INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace TCM.

Case 3: Replace ABS actuator and electric unit (control unit).

Case 4: Replace Smart entrance control unit.

Case 5: Check Harness between TCM and ABS actuator and electric unit (control unit). Refer to [LAN-445, "Circuit Check Between TCM and ABS Actuator and Electric Unit \(control unit\)"](#)

Case 6: Check Harness between ABS actuator and electric unit (control unit) and Smart entrance control unit. Refer to [LAN-446, "Circuit Check Between ABS Actuator and Electric Unit \(control unit\) and Smart Entrance Control Unit"](#)

Case 7: Check ECM Circuit. Refer to [LAN-447, "ECM Circuit Check"](#)

Case 8: Check TCM Circuit. Refer to [LAN-448, "TCM Circuit Check"](#)

Case 9: Check ABS actuator and electric unit (control unit) Circuit. Refer to [LAN-448, "ABS Actuator and Electric Unit \(control unit\) Circuit Check"](#)

Case 10: Check Smart entrance control unit Circuit. Refer to [LAN-449, "Smart Entrance Control Unit Circuit Check"](#)

Case 11: Check Combination meter Circuit. Refer to [LAN-449, "Combination Meter Circuit Check"](#)

Case 12: Check CAN communication Circuit. Refer to [LAN-450, "CAN Communication Circuit Check"](#)

Circuit Check Between TCM and ABS Actuator and Electric Unit (control unit)

EKS004ZX

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side, control unit-side and harness-side)
 - TCM.
 - ABS actuator and electric unit (control unit).
 - Between TCM and ABS actuator and electric unit (control unit).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector and harness connector F31.
2. Check continuity between TCM harness connector F103 terminals 5 (L), 6 (R) and harness connector F31 terminals 3 (L), 6 (R).

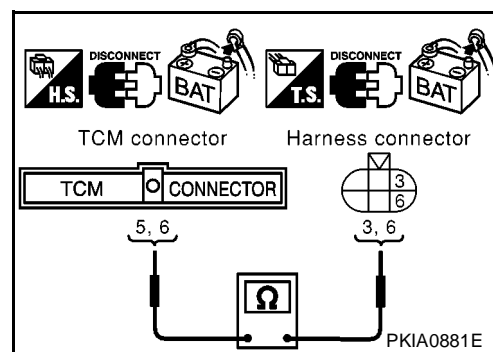
5(L) – 3(L) : Continuity should exist.

6(R) – 6(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

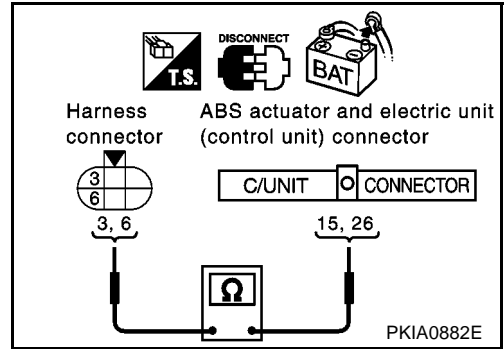
1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check continuity between harness connector E63 terminals 3 (L), 6 (R) and ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L), 15 (R).

3(L) – 26(L) : Continuity should exist.
6(R) – 15(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "A/T", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [AT-190, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [AT-393, "CAN COMMUNICATION LINE"](#) (ALL) for "A/T". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



Circuit Check Between ABS Actuator and Electric Unit (control unit) and Smart Entrance Control Unit

EKS00506

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - Smart entrance control unit.
 - ABS actuator and electric unit (control unit).
 - Between smart entrance control unit and ABS actuator and electric unit (control unit).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

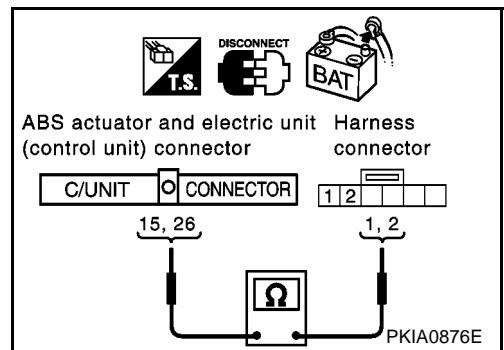
1. Disconnect ABS actuator and electric unit (control unit) connector and harness connector E120.
2. Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L), 15 (R) and harness connector E120 terminals 2 (L), 1 (R).

26(L) – 2(L) : Continuity should exist.
15(R) – 1(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



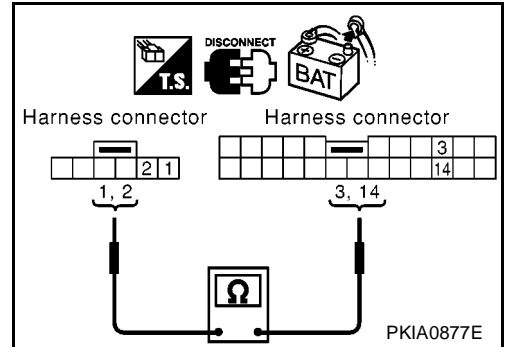
3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B101.
2. Check continuity between harness connector B107 terminals 2 (L), 1 (R) and harness connector B101 terminals 3 (L), 14 (R).

2(L) – 3(L) : Continuity should exist.
1(R) – 14(R) : Continuity should exist.

OK or NG

- OK >> GO TO 4.
 NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

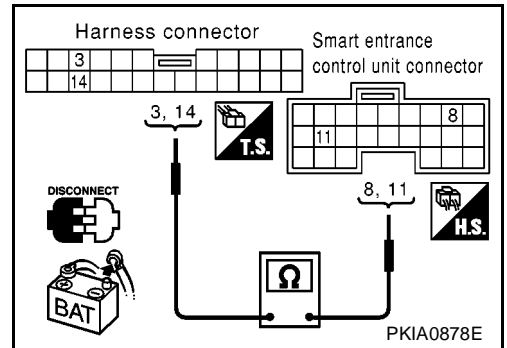
1. Disconnect smart entrance control unit connector.
2. Check continuity between harness connector M87 terminals 3 (L), 14 (R) and smart entrance control unit harness connector M41 terminals 8 (L), 11 (R).

3(L) – 8(L) : Continuity should exist.
14(R) – 11(R) : Continuity should exist.

OK or NG

- OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "A/T", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [AT-190, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBD) or [AT-393, "CAN COMMUNICATION LINE"](#) (ALL) for "A/T". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

- NG >> Repair harness.



ECM Circuit Check

1. CHECK CONNECTOR

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

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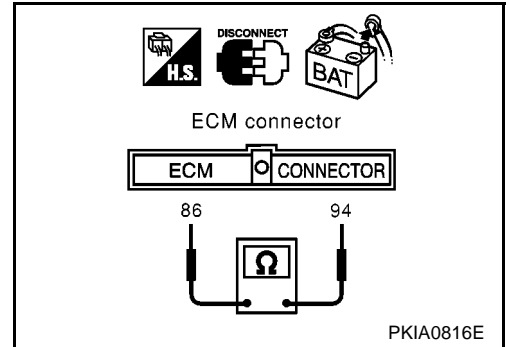
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F102 terminals 94(L) and 86(R).

94(L) – 86(R) : Approx. 108 – 132Ω

OK or NG

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



EKS00500

TCM Circuit Check

1. CHECK CONNECTOR

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

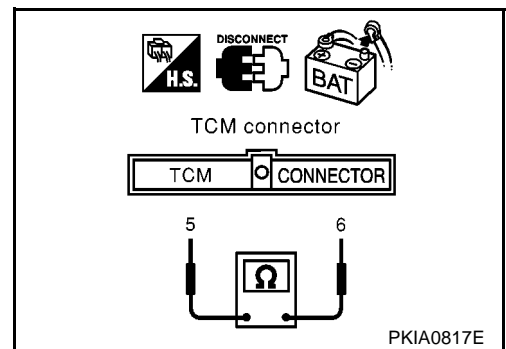
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector.
2. Check resistance between TCM harness connector F103 terminals 5(L) and 6(R).

5(L) – 6(R) : Approx. 54 – 66Ω

OK or NG

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



EKS00501

ABS Actuator and Electric Unit (control unit) Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection. (control unit-side and harness-side)

OK or NG

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

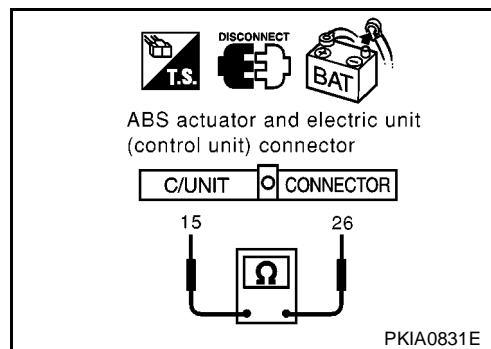
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E64 terminals 26(L) and 15(R).

26(L) – 15(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
 NG >> Repair harness between Data link connector and ABS actuator and electric unit (control unit).



Smart Entrance Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

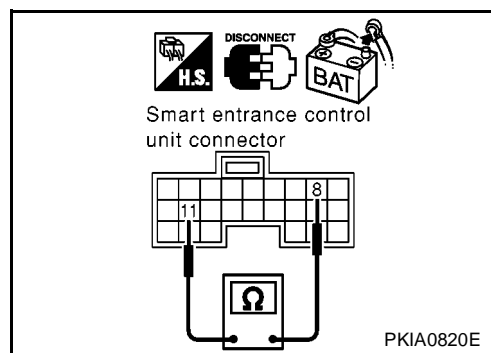
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
 NG >> Repair harness between Data link connector and smart entrance control unit.



Combination Meter Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

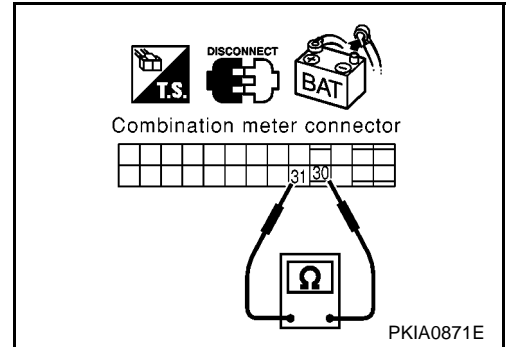
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 30(L) and 31(R).

30(L) – 31(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
 NG >> Repair harness between smart entrance control unit and combination meter.



CAN Communication Circuit Check

EKS00504

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, control unit-side, control module-side and harness-side)
 - Combination meter.
 - Smart entrance control unit.
 - ABS actuator and electric unit (control unit).
 - TCM.
 - ECM.
 - Between Data link connector and ECM.

OK or NG

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

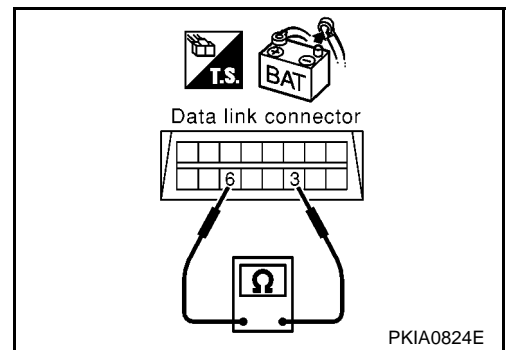
2. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect the following connectors.
 - Combination meter connector.
 - Smart entrance control unit connector.
 - Harness connector M87.
2. Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.

OK or NG

- OK >> GO TO 3.
 NG >>
 - Repair harness between smart entrance control unit and combination meter.
 - Repair harness between Data link connector and smart entrance control unit.
 - Repair harness between Data link connector and harness connector M87.



3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

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

3(R) – ground : Continuity should not exist.

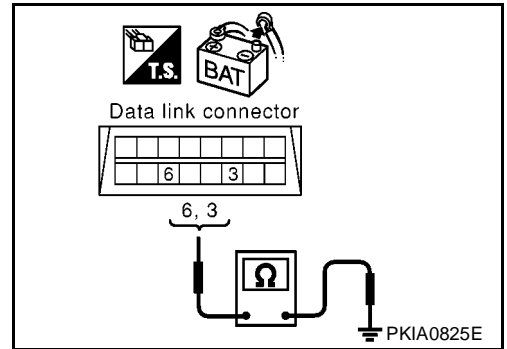
OK or NG

OK >> GO TO 4.

NG >> ● Repair harness between smart entrance control unit and combination meter.

- Repair harness between Data link connector and smart entrance control unit.

- Repair harness between Data link connector and harness connector M87.



4. CHECK HARNESS FOR SHORT CIRCUIT

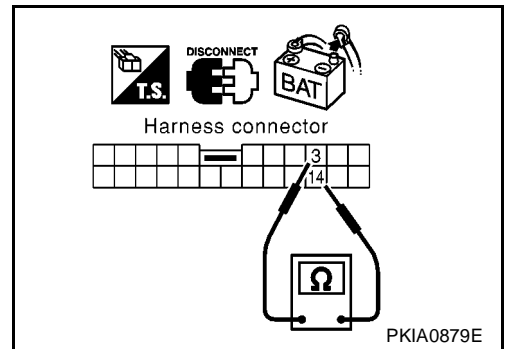
1. Disconnect harness connector B107.
2. Check continuity between harness connector B101 terminals 3 (L) and 14(R).

3(L) – 14(R) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between harness connector B101 and harness connector B107.



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B101 terminals 3 (L), 14(R) and ground

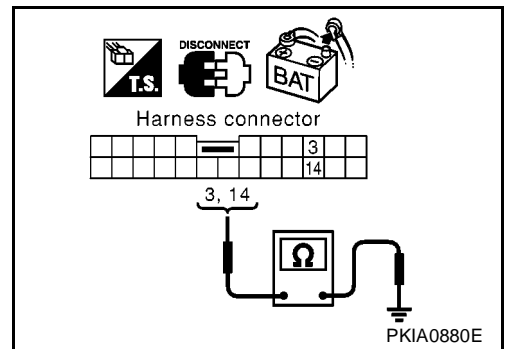
3(L) – ground : Continuity should not exist.

14(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between harness connector B101 and harness connector B107.



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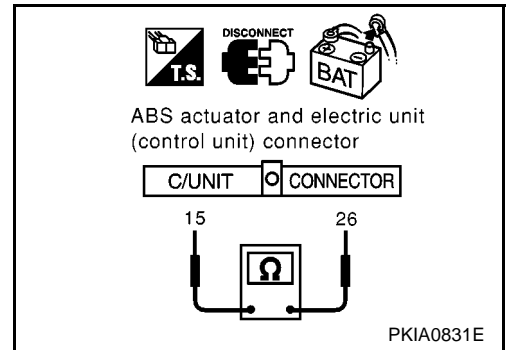
6. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect the following connectors.
 - ABS actuator and electric unit (control unit) connector.
 - Harness connector E63.
2. Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L) and 15(R).

26(L) – 15(R) : Continuity should not exist.

OK or NG

- OK >> GO TO 7.
- NG >> ● Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.
- Repair harness between harness connector E120 and harness connector E63.



7. CHECK HARNESS FOR SHORT CIRCUIT

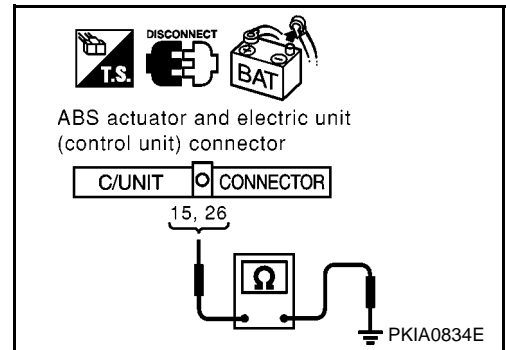
Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L), 15 (R) and ground.

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

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

OK or NG

- OK >> GO TO 8.
- NG >> ● Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.
- Repair harness between harness connector E120 and harness connector E63.



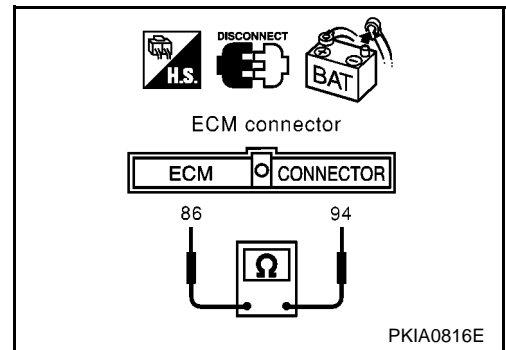
8. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ECM connector and TCM connector.
2. Check continuity between ECM harness connector F102 terminals 94 (L) and 86(R).

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

OK or NG

- OK >> GO TO 9.
- NG >> ● Repair harness between ECM and harness connector F31.
- Repair harness between TCM and harness connector F31.



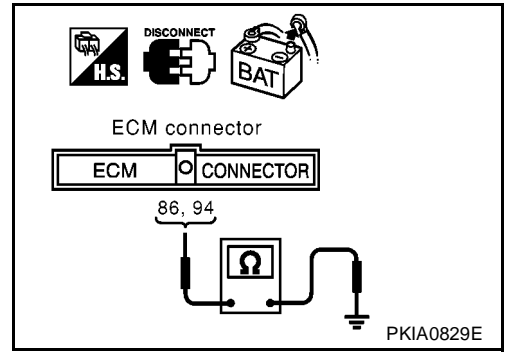
9. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.

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

OK or NG

- OK >> GO TO 10.
- NG >>
 - Repair harness between ECM and harness connector F31.
 - Repair harness between TCM and harness connector F31.



10. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-453, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

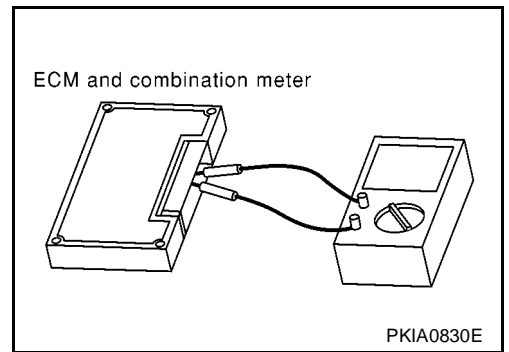
- OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "A/T", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBd) or [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBd) for "ENGINE" and Refer to [AT-190, "DTC U1000 CAN COMMUNICATION LINE"](#) (EURO-OBd) or [AT-393, "CAN COMMUNICATION LINE"](#) (ALL) for "A/T". Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
- 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 30 and 31.

Unit	Terminal	Resistance value (Ω)
ECM	94 – 86	Approx. 108 - 132
Combination meter	30 – 31	



CAN SYSTEM (TYPE 23)

PFP:23710

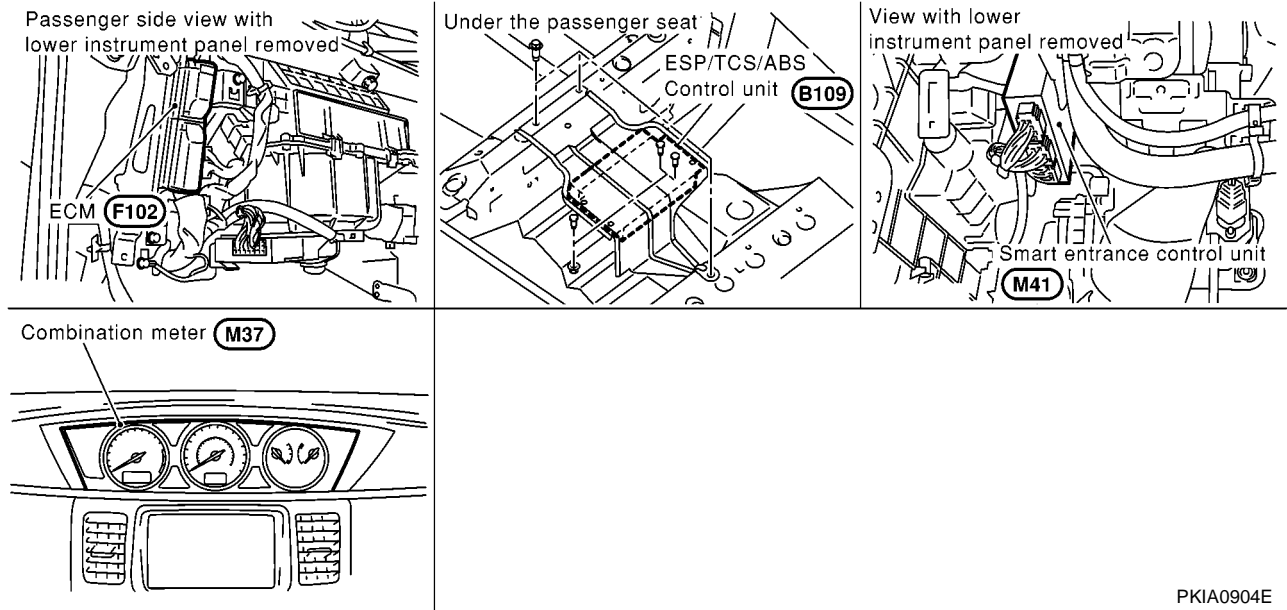
System Description

EKS004ZG

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

EKS004ZH



PKIA0904E

CAN SYSTEM (TYPE 23)

[CAN]

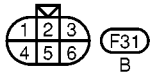
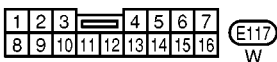
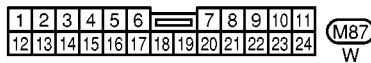
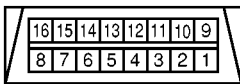
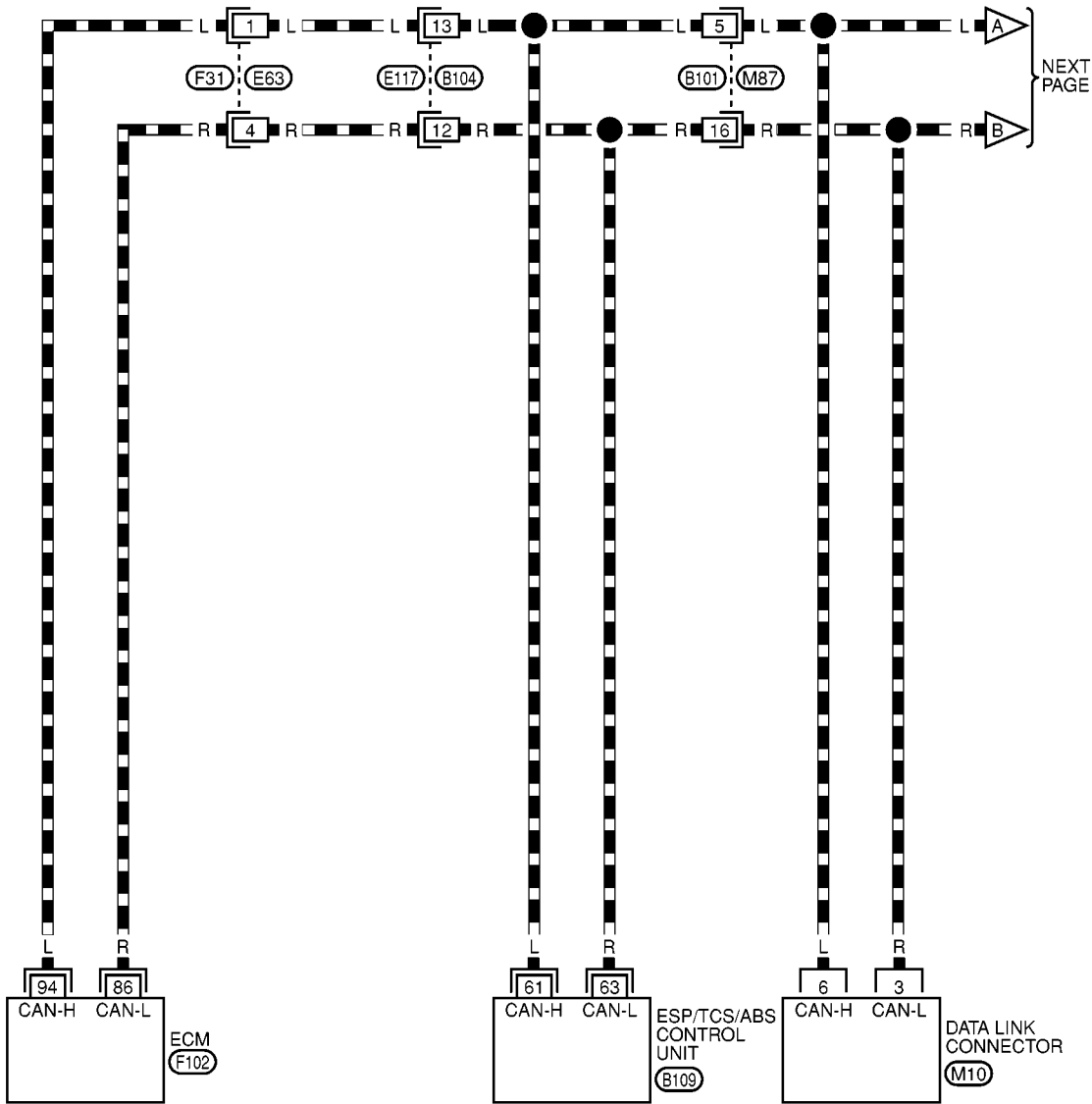
Wiring Diagram — CAN —

EKS004Z1

LAN-CAN-49

— : DATA LINE

A
B
C
D
E
F
G
H
I
J
LAN
L
M



REFER TO THE FOLLOWING.
 (F102) , (B109) -ELECTRICAL UNITS

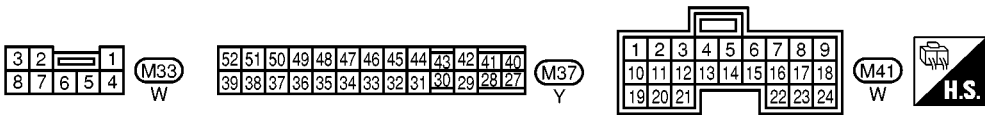
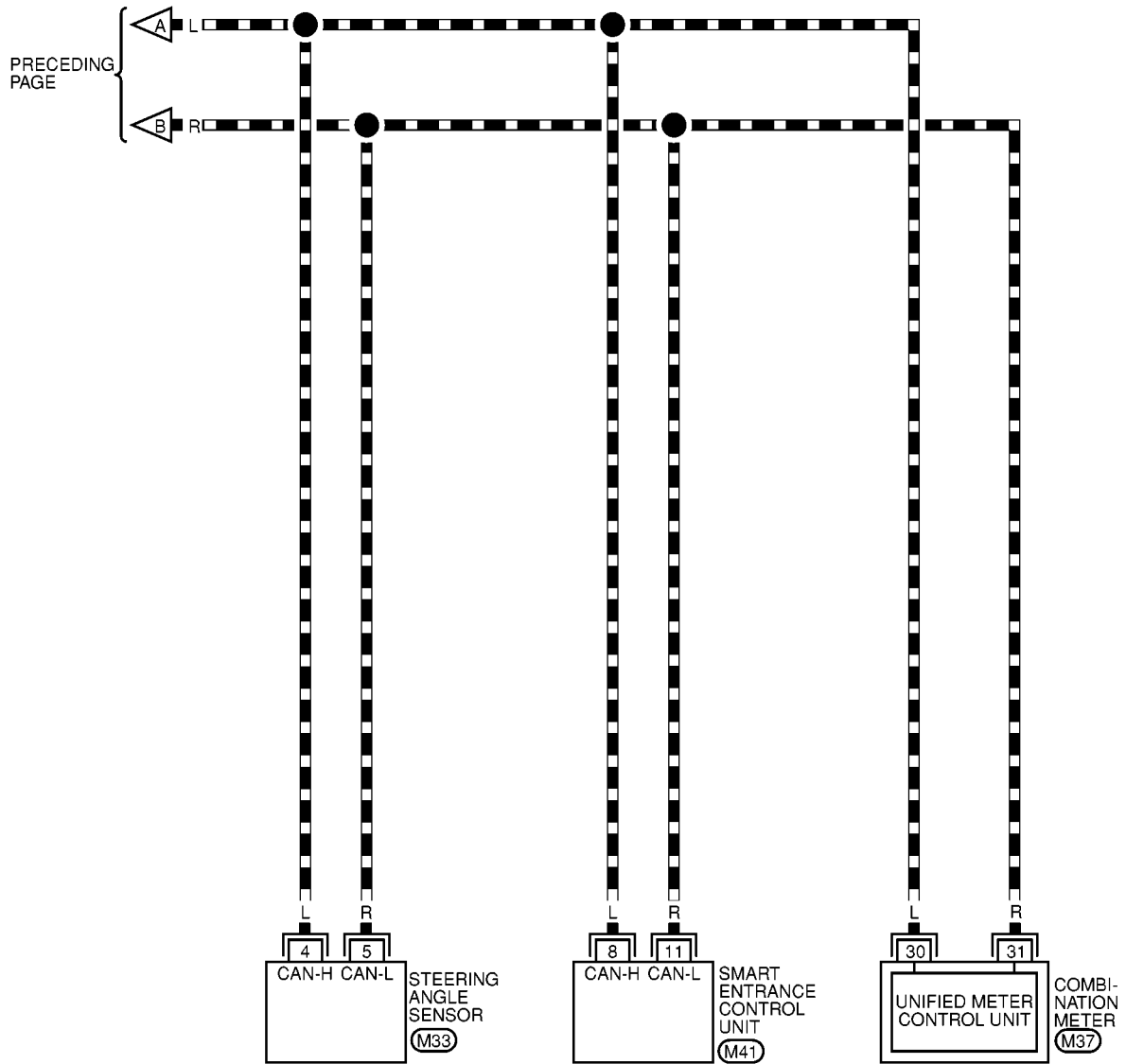
MKWA0386E

CAN SYSTEM (TYPE 23)

[CAN]

LAN-CAN-50

▬ : DATA LINE



MKWA0387E

Work Flow

EKS004ZJ

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
 2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-458, "CHECK SHEET"](#)
 3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-458, "CHECK SHEET"](#)
- NOTE:**
If "NG" is displayed on "CAN COMM" for the diagnosed control unit, replace the control unit.
4. According to the check sheet results (example), start inspection. Refer to [LAN-459, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

A

B

C

D

E

F

G

H

I

J

LAN

L

M

CAN SYSTEM (TYPE 23)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
ABS
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

PKIA0805E

CAN SYSTEM (TYPE 23)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN <input checked="" type="checkbox"/> CIRC 3	—	CAN <input checked="" type="checkbox"/> CIRC 6	CAN <input checked="" type="checkbox"/> CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 2: Replace ESP/TCS/ABS control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN <input checked="" type="checkbox"/> CIRC 3	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	CAN <input checked="" type="checkbox"/> CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 3: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN <input checked="" type="checkbox"/> COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	CAN <input checked="" type="checkbox"/> CIRC 3

Case 4

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN <input checked="" type="checkbox"/> CIRC 6	CAN <input checked="" type="checkbox"/> CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN <input checked="" type="checkbox"/> CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	CAN CIRC 3

Case 5

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN <input checked="" type="checkbox"/> CIRC 6	CAN <input checked="" type="checkbox"/> CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	CAN CIRC 3

Case 6

ENGINE	CAN COMM	CAN <input checked="" type="checkbox"/> CIRC 1	—	CAN <input checked="" type="checkbox"/> CIRC 3	—	CAN <input checked="" type="checkbox"/> CIRC 6	CAN <input checked="" type="checkbox"/> CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	—	—	CAN CIRC 3

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	CAN <input checked="" type="checkbox"/> CIRC 3	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN <input checked="" type="checkbox"/> CIRC 1	CAN <input checked="" type="checkbox"/> CIRC 2	—	CAN <input checked="" type="checkbox"/> CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

PKIA0806E

A
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M

LAN

CAN SYSTEM (TYPE 23)

[CAN]

Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 9

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 10

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

Case 11

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 3	—	CAN CIRC 6	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 5	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—	CAN CIRC 3

PKIA0807E

NOTE:

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

INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace ESP/TCS/ABS control unit.

Case 3: Replace Smart entrance control unit.

Case 4: Check Harness between ESP/TCS/ABS control unit and Steering angle sensor. Refer to [LAN-461, "Circuit Check Between ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#)

Case 5: Check Harness between Steering angle sensor and Smart entrance control unit. Refer to [LAN-462, "Circuit Check Between Steering Angle Sensor and Smart Entrance Control Unit"](#)

Case 6: Check ECM Circuit. Refer to [LAN-462, "ECM Circuit Check"](#)

Case 7: Check ESP/TCS/ABS control unit Circuit. Refer to [LAN-463, "ESP/TCS/ABS Control Unit Circuit Check"](#)

Case 8: Check Steering angle sensor Circuit. Refer to [LAN-463, "Steering Angle Sensor Circuit Check"](#)

Case 9: Check Smart entrance control unit Circuit. Refer to [LAN-464, "Smart Entrance Control Unit Circuit Check"](#)

Case 10: Check Combination meter Circuit. Refer to [LAN-464, "Combination Meter Circuit Check"](#)

Case 11: Check CAN communication Circuit. Refer to [LAN-465, "CAN Communication Circuit Check"](#)

Circuit Check Between ESP/TCS/ABS Control Unit and Steering Angle Sensor

EKS004ZS

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- Disconnect the negative battery terminal.
- Check following terminals and connector for damage, bend and loose connection. (sensor-side, control unit-side and harness-side)
 - Steering angle sensor.
 - ESP/TCS/ABS control unit.
 - Between ESP/TCS/ABS control unit and steering angle sensor.

OK or NG

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

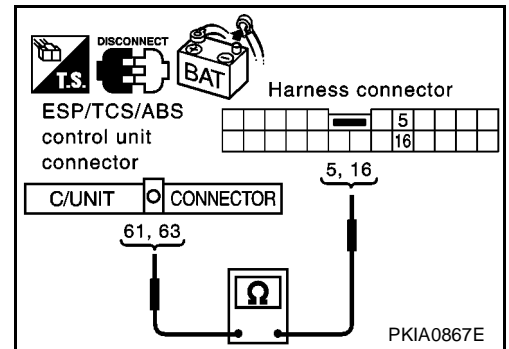
2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect ESP/TCS/ABS control unit connector and harness connector B101.
- Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L), 63 (R) and harness connector B101 terminals 5 (L), 16 (R).

- 61(L) – 5(L) : Continuity should exist.**
63(R) – 16(R) : Continuity should exist.

OK or NG

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



3. CHECK HARNESS FOR OPEN CIRCUIT

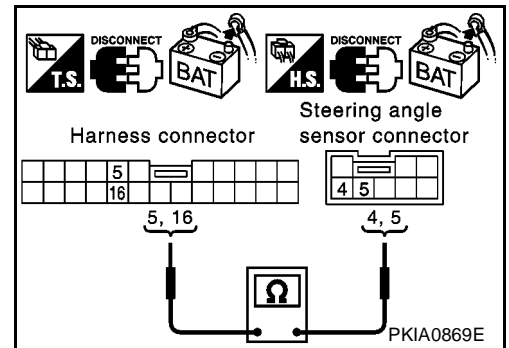
- Disconnect steering angle sensor connector.
- Check continuity between harness connector M87 terminals 5 (L), 16 (R) and steering angle sensor harness connector M33 terminals 4 (L), 5 (R).

- 5(L) – 4(L) : Continuity should exist.**
16(R) – 5(R) : Continuity should exist.

OK or NG

- OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

- NG >> Repair harness.



Circuit Check Between Steering Angle Sensor and Smart Entrance Control Unit

EKS004ZK

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side, sensor-side and harness-side)
 - Smart entrance control unit.
 - Steering angle sensor.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

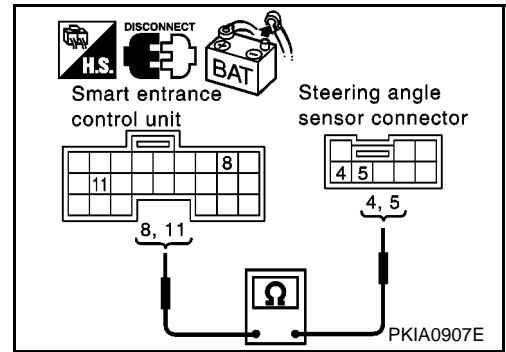
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector and steering angle sensor connector.
2. Check continuity between smart entrance control unit harness connector M41 terminals 8 (L), 11 (R) and steering angle sensor harness connector M33 terminals 4 (L), 5 (R).

8(L) – 4(L) : Continuity should exist.**11(R) – 5(R) : Continuity should exist.**OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE" \(WITH EURO-OBD\)](#) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE" \(WITHOUT EURO-OBD\)](#) for "ENGINE" and Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.

**ECM Circuit Check**

EKS004ZL

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side and harness-side)
 - ECM.
 - Harness connector F31.
 - Harness connector E63.
 - Harness connector E117.
 - Harness connector B104.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

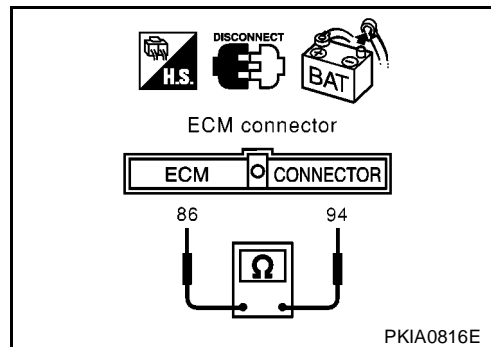
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ECM connector.
2. Check resistance between ECM harness connector F102 terminals 94(L) and 86(R).

94(L) – 86(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace ECM.
 NG >> Repair harness between ESP/TCS/ABS control unit and ECM.



EKS004ZM

ESP/TCS/ABS Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector of ESP/TCS/ABS control unit for damage, bend and loose connection. (control unit-side and harness-side)

OK or NG

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

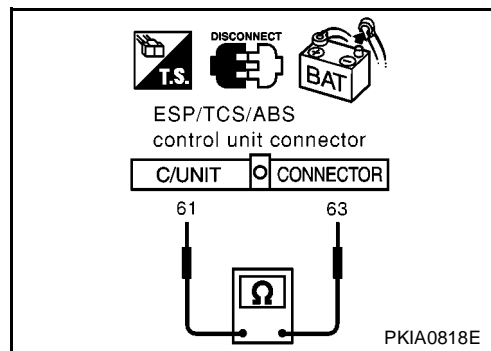
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector.
2. Check resistance between ESP/TCS/ABS control unit harness connector B109 terminals 61(L) and 63(R).

61(L) – 63(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ESP/TCS/ABS control unit.
 NG >> Repair harness between Data link connector and ESP/TCS/ABS control unit.



EKS004ZM

Steering Angle Sensor Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of steering angle sensor for damage, bend and loose connection. (sensor-side and harness-side)

OK or NG

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

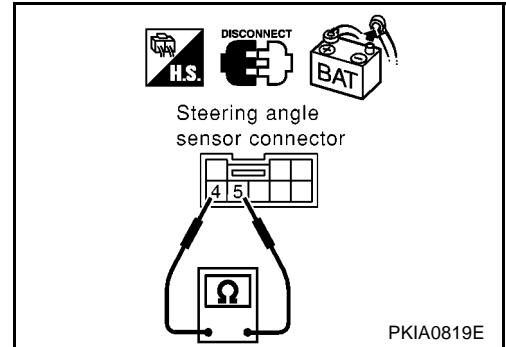
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect steering angle sensor connector.
2. Check resistance between steering angle sensor harness connector M33 terminals 4(L) and 5(R).

4(L) – 5(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace steering angle sensor.
 NG >> Repair harness between steering angle sensor and smart entrance control unit.



Smart Entrance Control Unit Circuit Check

EKS004ZO

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

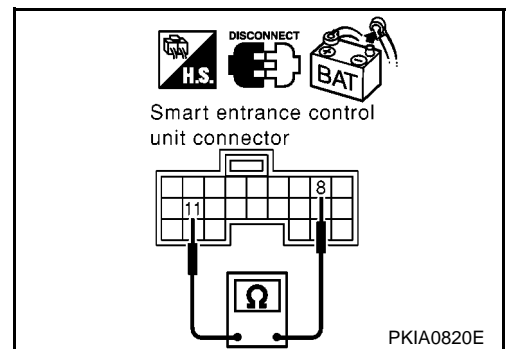
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
 NG >> Repair harness between steering angle sensor and smart entrance control unit.



Combination Meter Circuit Check

EKS004ZP

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

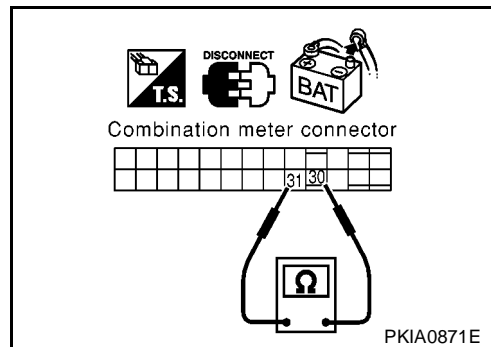
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 30(L) and 31(R).

30(L) – 31(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
 NG >> Repair harness between smart entrance control unit and combination meter.



EKS004ZQ

CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, control unit-side, sensor-side, control module-side and harness-side)
 - Combination meter.
 - Smart entrance control unit.
 - Steering angle sensor.
 - ESP/TCS/ABS control unit.
 - ECM.
 - Between Data link connector and ECM.

OK or NG

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

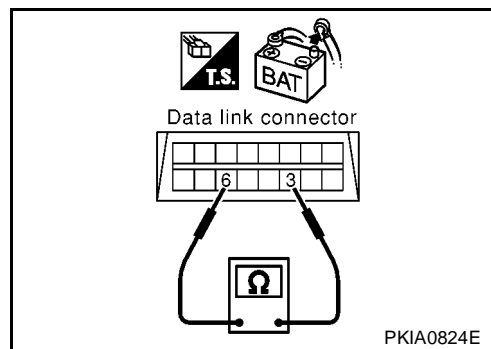
2. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect the following connectors.
 - Combination meter connector.
 - Smart entrance control unit connector.
 - Steering angle sensor connector.
 - Harness connector M87.
2. Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.

OK or NG

- OK >> GO TO 3.
 NG >>
 - Repair harness between smart entrance control unit and combination meter.
 - Repair harness between smart entrance control unit and steering angle sensor.
 - Repair harness between Data link connector and steering angle sensor.
 - Repair harness between Data link connector and harness connector M87.



3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

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

3(R) – ground : Continuity should not exist.

OK or NG

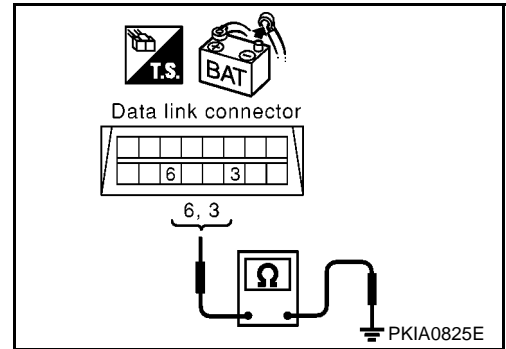
OK >> GO TO 4.

NG >> ● Repair harness between smart entrance control unit and combination meter.

● Repair harness between smart entrance control unit and steering angle sensor.

● Repair harness between Data link connector and steering angle sensor.

● Repair harness between Data link connector and harness connector M87.



4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ESP/TCS/ABS control unit connector and harness connector B104.

2. Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L) and 63(R).

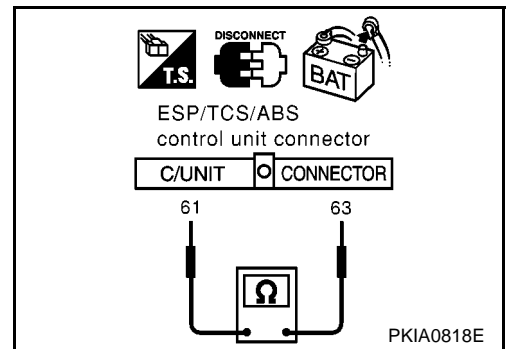
61(L) – 63(R) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> ● Repair harness between ESP/TCS/ABS control unit and harness connector B101.

● Repair harness between harness connector B104 and harness connector B101.



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ESP/TCS/ABS control unit harness connector B109 terminals 61 (L), 63 (R) and ground.

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

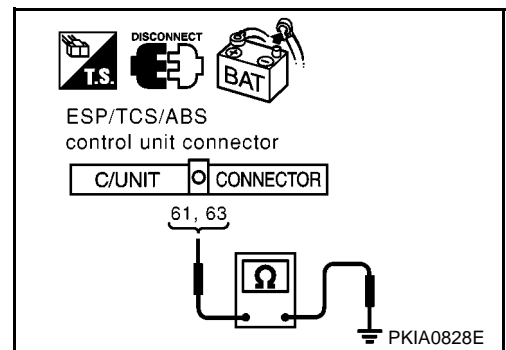
63(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> ● Repair harness between ESP/TCS/ABS control unit and harness connector B101.

● Repair harness between harness connector B104 and harness connector B101.



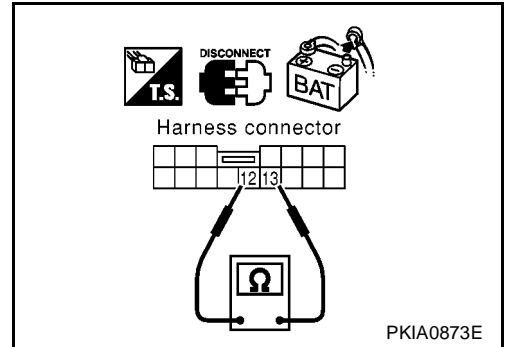
6. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect harness connector E63.
2. Check continuity between harness connector E117 terminals 13 (L) and 12(R).

13(L) – 12(R) : Continuity should not exist.

OK or NG

- OK >> GO TO 7.
 NG >> Repair harness between harness connector E117 and harness connector E63.



7. CHECK HARNESS FOR SHORT CIRCUIT

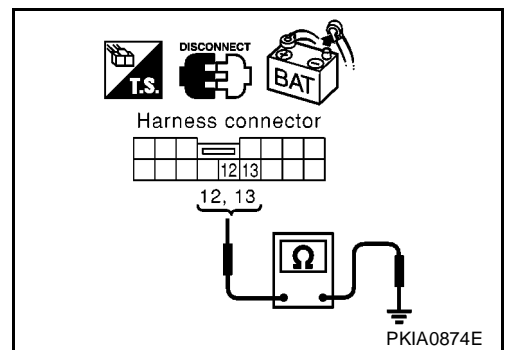
- Check continuity between harness connector E117 terminals 13 (L) and 12(R) and ground.

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

12(R) – ground : Continuity should not exist.

OK or NG

- OK >> GO TO 8.
 NG >> Repair harness between harness connector E117 and harness connector E63.



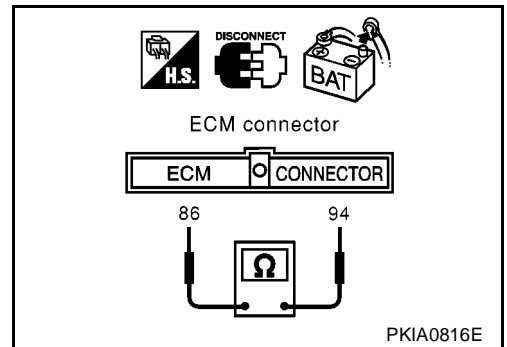
8. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect ECM connector.
2. Check continuity between ECM harness connector F102 terminals 94 (L) and 86(R).

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

OK or NG

- OK >> GO TO 9.
 NG >> Repair harness between ECM and harness connector F31.



9. CHECK HARNESS FOR SHORT CIRCUIT

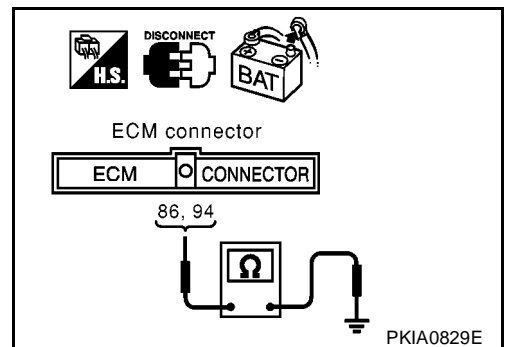
- Check continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.

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

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

OK or NG

- OK >> GO TO 10.
 NG >> Repair harness between ECM and harness connector F31.



10. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-468, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITH EURO-OBD) or [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (WITHOUT EURO-OBD) for "ENGINE" and Refer to [BRC-107, "Inspection 15 CAN Communication Circuit, ESP/TCS/ABS Control Unit and Steering Angle Sensor"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Replace ECM and/or Combination meter.

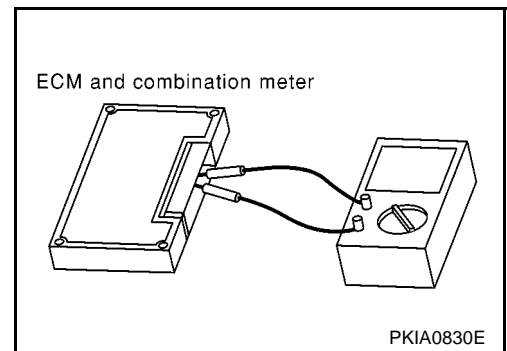
Component Inspection

ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

EKS004ZR

- Remove ECM and Combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between Combination meter terminals 30 and 31.

Unit	Terminal	Resistance value (Ω)
ECM	94 – 86	Approx. 108 - 132
Combination meter	30 – 31	



CAN SYSTEM (TYPE 24)

PPF:23710

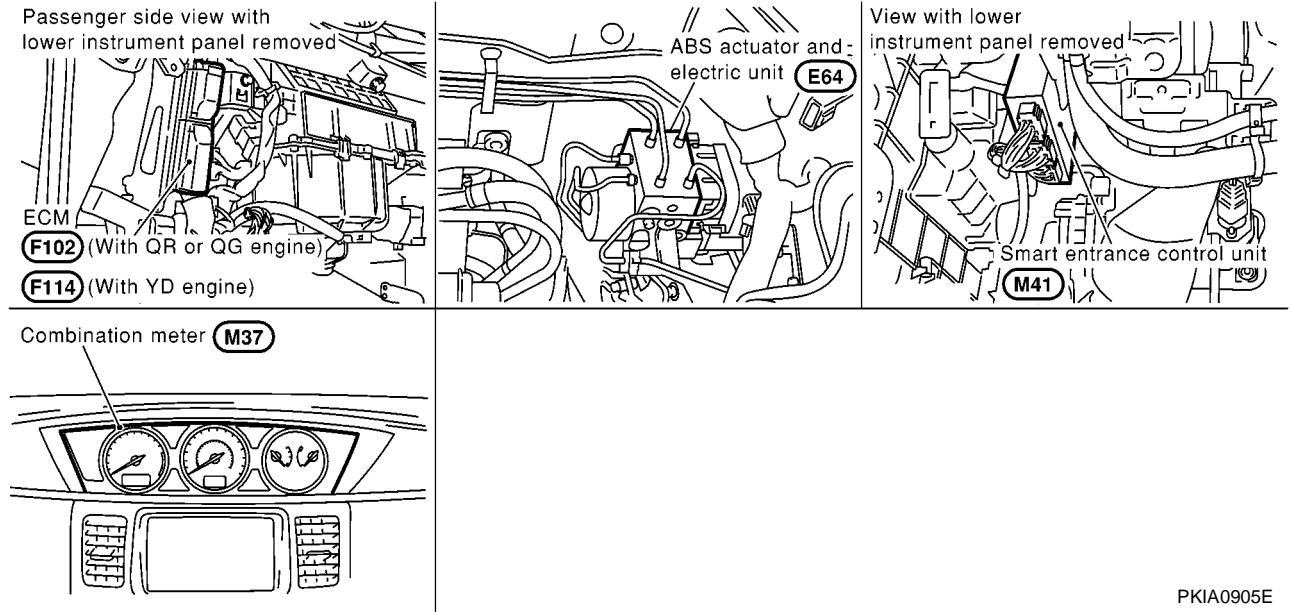
System Description

EKS004Z5

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

EKS004Z6



PKIA0905E

A
B
C
D
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H
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J
L
M

LAN

CAN SYSTEM (TYPE 24)

[CAN]

EKS004Z7

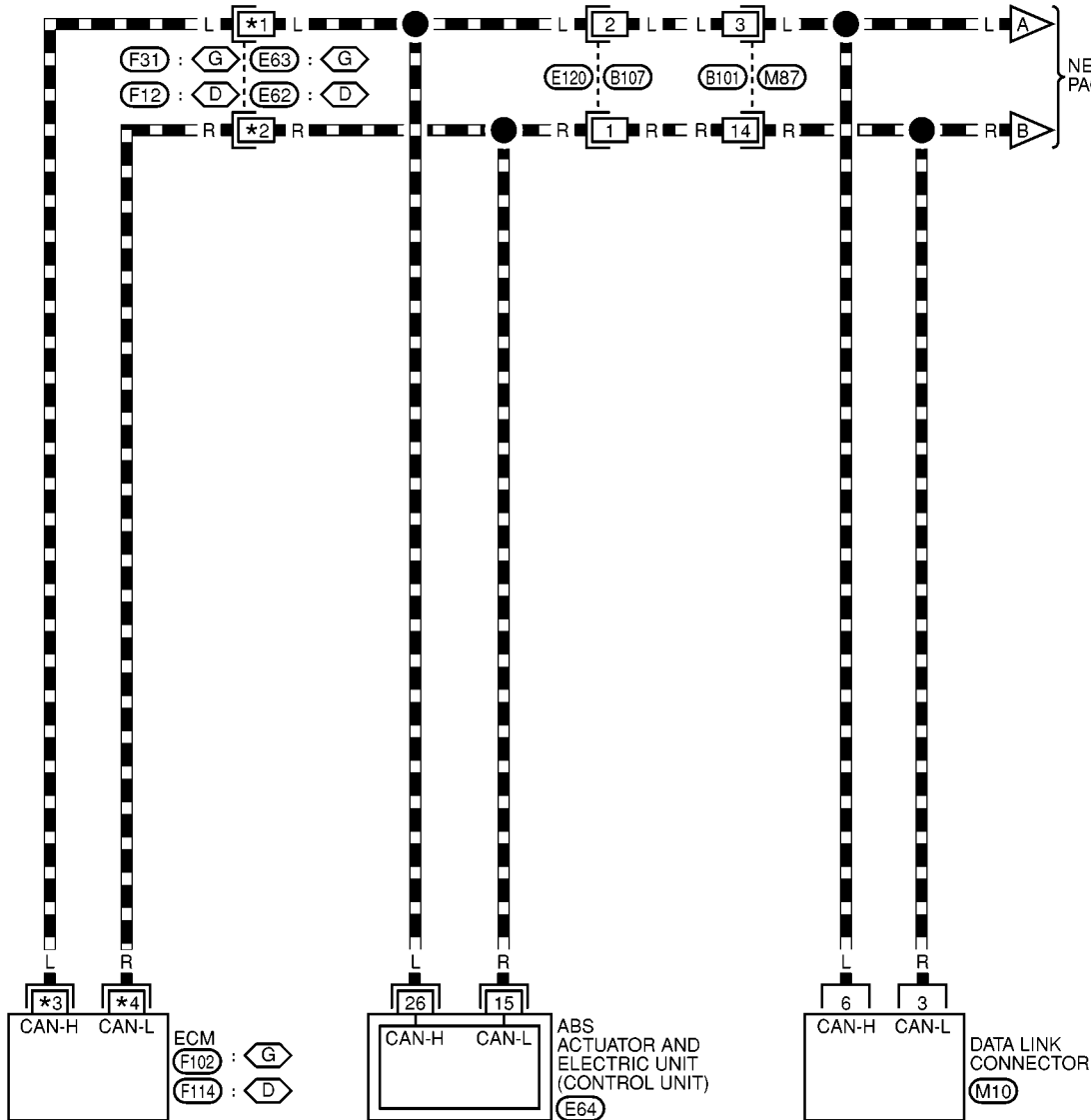
Wiring Diagram — CAN —

- : WITH GASOLINE ENGINE
- : WITH DIESEL ENGINE
- : WITH QR ENGINE
- : WITH QG ENGINE

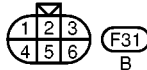
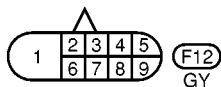
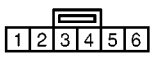
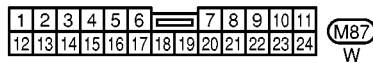
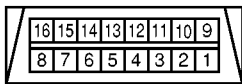
LAN-CAN-51

: DATA LINE

- *1 1:
- 3:
- 5:
- *2 4:
- 6:
- 9:
- *3 94:
- E11:
- *4 86:
- E10:



NEXT PAGE



REFER TO THE FOLLOWING.

, ,

-ELECTRICAL UNITS

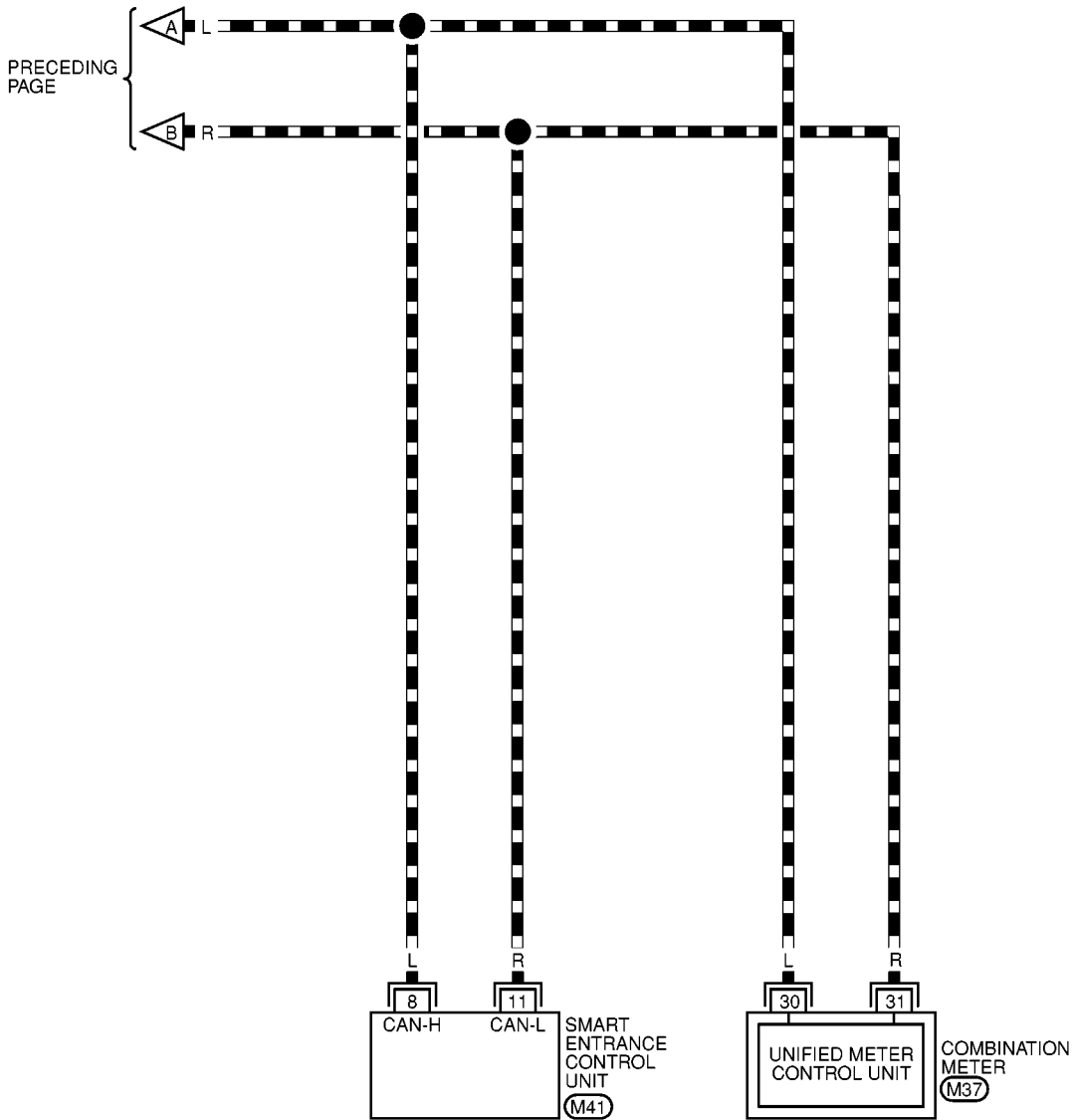
MKWA0388E

CAN SYSTEM (TYPE 24)

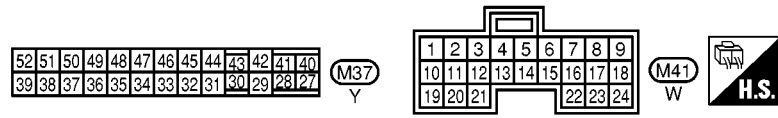
[CAN]

LAN-CAN-52

▬ : DATA LINE



A
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MKWA0389E

Work Flow

EKS004Z8

1. Print all the data of "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITH EURO-OBD), [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITHOUT EURO-OBD), [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITH EURO-OBD), [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITHOUT EURO-OBD) or [EC-1790, "DTC U1000 CAN COMMUNICATION LINE"](#) (YD ENGINE MODELS) for "ENGINE" and Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".
2. Attach the printed sheet of "SELF-DIAG RESULTS" and "DATA MONITOR" onto the check sheet. Refer to [LAN-473, "CHECK SHEET"](#)
3. Based on the data monitor results, put "v" marks onto the items with "UNKWN" or "NG" in the check sheet table. Refer to [LAN-473, "CHECK SHEET"](#)

NOTE:

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

4. According to the check sheet results (example), start inspection. Refer to [LAN-474, "CHECK SHEET RESULTS \(EXAMPLE\)"](#)

CAN SYSTEM (TYPE 24)

[CAN]

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3

Symptoms:

Attach copy of
ENGINE
SELF-DIAG RESULTS

Attach copy of
ABS
SELF-DIAG RESULTS

Attach copy of
SMART ENTRANCE
SELF-DIAG RESULTS

Attach copy of
ENGINE
DATA MONITOR

Attach copy of
ABS
DATA MONITOR

Attach copy of
SMART ENTRANCE
DATA MONITOR

PKIA0808E

A
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J
LAN
L
M

CAN SYSTEM (TYPE 24)

[CAN]

CHECK SHEET RESULTS (EXAMPLE)

Case 1: Replace ECM

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3

Case 2: Replace ABS actuator and electric unit (control unit)

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3

Case 3: Replace Smart entrance control unit

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3

Case 4

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3

Case 5

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3

Case 6

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3

Case 7

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3

PKIA0809E

Case 8

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3

Case 9

ENGINE	CAN COMM	CAN CIRC 1	—	—	—	CAN CIRC 4
ABS	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	—
SMART ENTRANCE	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	—	CAN CIRC 3

PKIA0810E

NOTE:

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

INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).

Case 1: Replace ECM.

Case 2: Replace ABS actuator and electric unit (control unit).

Case 3: Replace Smart entrance control unit.

Case 4: Check Harness between ABS actuator and electric unit (control unit) and Smart entrance control unit.

Refer to [LAN-475, "Circuit Check Between ABS Actuator and Electric Unit \(control unit\) and Smart Entrance Control Unit"](#)

Case 5: Check ECM Circuit. Refer to [LAN-477, "ECM Circuit Check"](#)

Case 6: Check ABS actuator and electric unit (control unit) Circuit. Refer to [LAN-477, "ABS Actuator and Electric Unit \(control unit\) Circuit Check"](#)

Case 7: Check Smart entrance control unit Circuit. Refer to [LAN-478, "Smart Entrance Control Unit Circuit Check"](#)

Case 8: Check Combination meter Circuit. Refer to [LAN-478, "Combination Meter Circuit Check"](#)

Case 9: Check CAN communication Circuit. Refer to [LAN-479, "CAN Communication Circuit Check"](#)

Circuit Check Between ABS Actuator and Electric Unit (control unit) and Smart Entrance Control Unit

EKS00429

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control unit-side and harness-side)
 - Smart entrance control unit.
 - ABS actuator and electric unit (control unit).
 - Between smart entrance control unit and ABS actuator and electric unit (control unit).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector and harness connector E120.
2. Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L), 15 (R) and harness connector E120 terminals 2 (L), 1 (R).

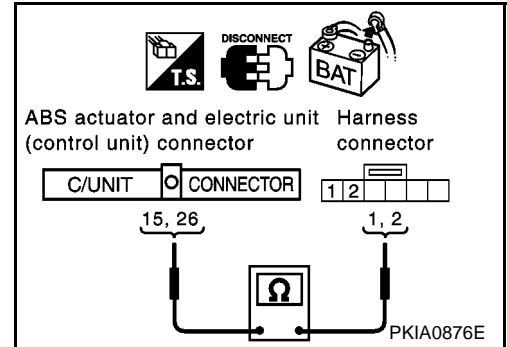
26(L) – 2(L) : Continuity should exist.

15(R) – 1(R) : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect harness connector B101.
2. Check continuity between harness connector B107 terminals 2 (L), 1 (R) and harness connector B101 terminals 3 (L), 14 (R).

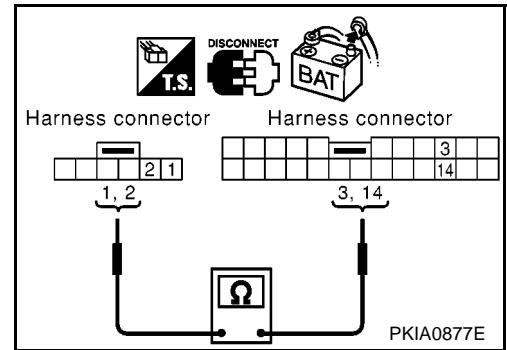
2(L) – 3(L) : Continuity should exist.

1(R) – 14(R) : Continuity should exist.

OK or NG

OK >> GO TO 4.

NG >> Repair harness.



4. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check continuity between harness connector M87 terminals 3 (L), 14 (R) and smart entrance control unit harness connector M41 terminals 8 (L), 11 (R).

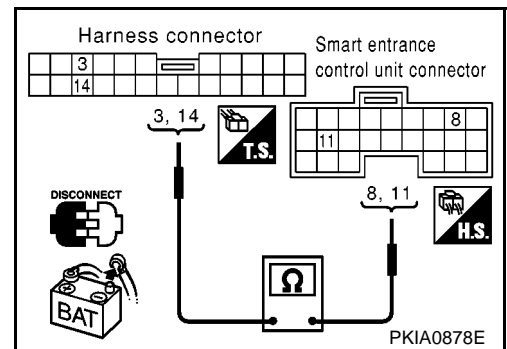
3(L) – 8(L) : Continuity should exist.

14(R) – 11(R) : Continuity should exist.

OK or NG

OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITH EURO-OBD), [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITHOUT EURO-OBD), [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITH EURO-OBD), [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITHOUT EURO-OBD) or [EC-1790, "DTC U1000 CAN COMMUNICATION LINE"](#) (YD ENGINE MODELS) for "ENGINE" and Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Repair harness.



ECM Circuit Check

EKS004ZA

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (control module-side and harness-side)
 - ECM.
 - Harness connector F31.(Gasoline engine models)
 - Harness connector E63.(Gasoline engine models)
 - Harness connector F12.(Diesel engine models)
 - Harness connector E62.(Diesel engine models)

OK or NG

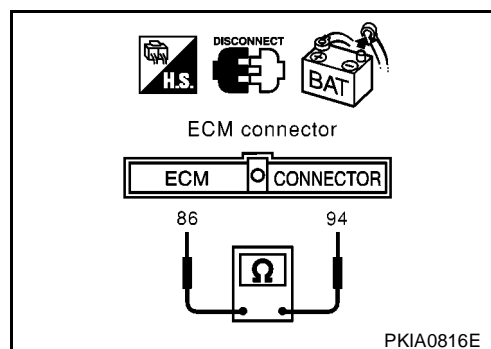
OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

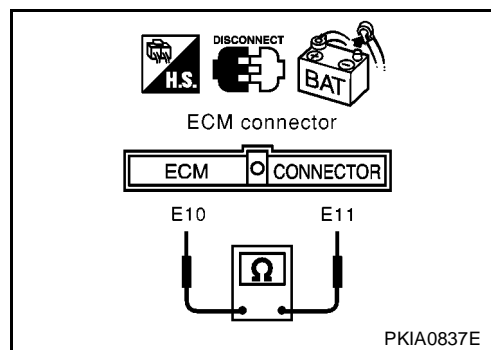
1. Disconnect ECM connector.
2. Check the following.
 - Resistance between ECM harness connector F102 terminals 94(L) and 86(R).(Gasoline engine models)

94(L) – 86(R) (Gasoline enging models) : Approx. 108 – 132Ω



- Resistance between ECM harness connector F114 terminals E11(L) and E10(R).(Diesel engine models)

E11(L) – E10(R) (Diesel enging models) : Approx. 108 – 132Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ABS actuator and electric unit (control unit) and ECM.

ABS Actuator and Electric Unit (control unit) Circuit Check

EKS004ZB

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection. (control unit-side and harness-side)

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

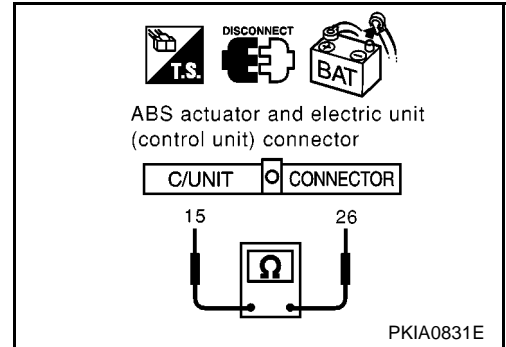
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect ABS actuator and electric unit (control unit) connector.
2. Check resistance between ABS actuator and electric unit (control unit) harness connector E64 terminals 26(L) and 15(R).

26(L) – 15(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace ABS actuator and electric unit (control unit).
 NG >> Repair harness between Data link connector and ABS actuator and electric unit (control unit).



Smart Entrance Control Unit Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check terminals and connector of smart entrance control unit for damage, bend and loose connection.(control unit-side and harness-side)

OK or NG

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

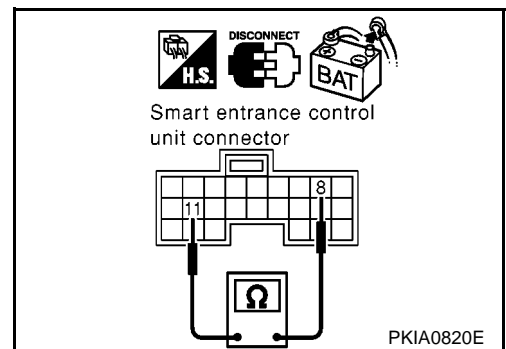
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect smart entrance control unit connector.
2. Check resistance between smart entrance control unit harness connector M41 terminals 8(L) and 11(R).

8(L) – 11(R) : Approx. 54 – 66Ω

OK or NG

- OK >> Replace smart entrance control unit.
 NG >> Repair harness between Data link connector and smart entrance control unit.



Combination Meter Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. 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.

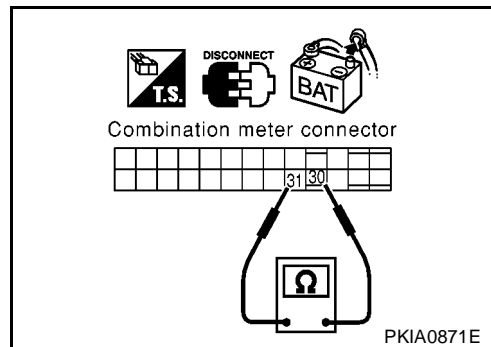
2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M37 terminals 30(L) and 31(R).

30(L) – 31(R) : Approx. 108 – 132Ω

OK or NG

- OK >> Replace combination meter.
 NG >> Repair harness between smart entrance control unit and combination meter.



CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect the negative battery terminal.
3. Check following terminals and connector for damage, bend and loose connection. (meter-side, control unit-side, control module-side and harness-side)

- Combination meter.
- Smart entrance control unit.
- ABS actuator and electric unit (control unit).
- ECM.
- Between Data link connector and ECM.

OK or NG

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

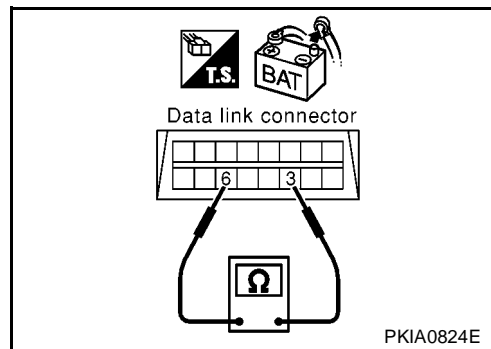
2. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect the following connectors.
 - Combination meter connector.
 - Smart entrance control unit connector.
 - Harness connector M87.
2. Check continuity between Data link connector M10 terminals 6 (L) and 3(R).

6(L) – 3(R) : Continuity should not exist.

OK or NG

- OK >> GO TO 3.
 NG >>
 - Repair harness between smart entrance control unit and combination meter.
 - Repair harness between Data link connector and smart entrance control unit.
 - Repair harness between Data link connector and harness connector M87.



3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between Data link connector M10 terminals 6 (L), 3(R) and ground.

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

3(R) – ground : Continuity should not exist.

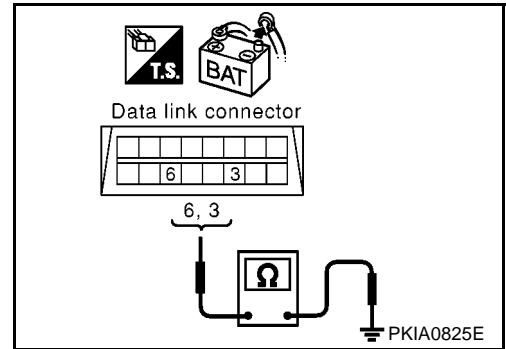
OK or NG

OK >> GO TO 4.

NG >> ● Repair harness between smart entrance control unit and combination meter.

- Repair harness between Data link connector and smart entrance control unit.

- Repair harness between Data link connector and harness connector M87.



4. CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect harness connector B107.

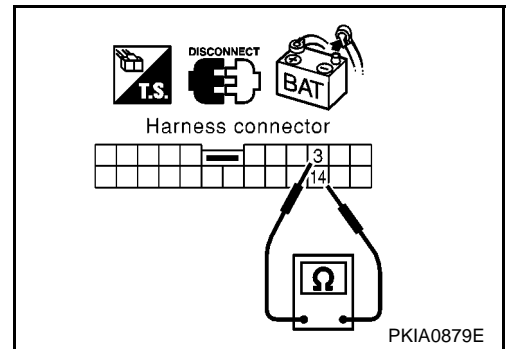
2. Check continuity between harness connector B101 terminals 3 (L) and 14(R).

3(L) – 14(R) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness between harness connector B101 and harness connector B107.



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between harness connector B101 terminals 3 (L), 14(R) and ground.

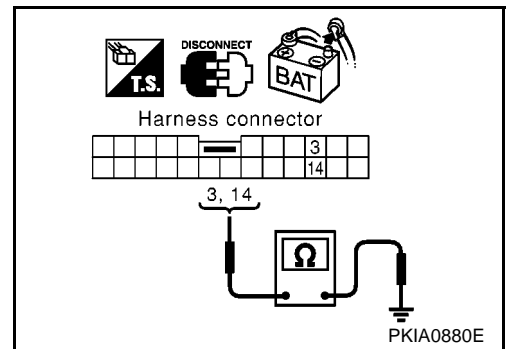
3(L) – ground : Continuity should not exist.

14(R) – ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness between harness connector B101 and harness connector B107.



6. CHECK HARNESS FOR SHORT CIRCUIT

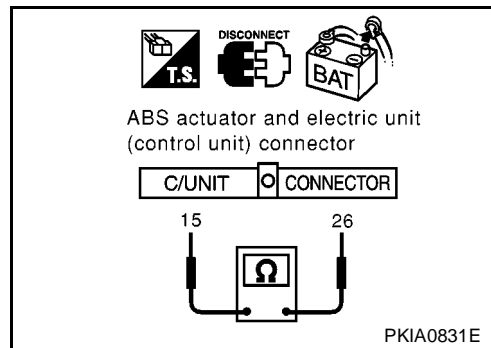
1. Disconnect the following connectors.
 - ABS actuator and electric unit (control unit) connector.
 - Harness connector E63.(Gasoline engine models)
 - Harness connector E62.(Diesel engine models)
2. Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L) and 15(R).

26(L) – 15(R) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

- NG >>
- Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.
 - Repair harness between harness connector E120 and harness connector E63.(Gasoline engine models)
 - Repair harness between harness connector M120 and harness connector E62.(Diesel engine models)



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ABS actuator and electric unit (control unit) harness connector E64 terminals 26 (L), 15 (R) and ground.

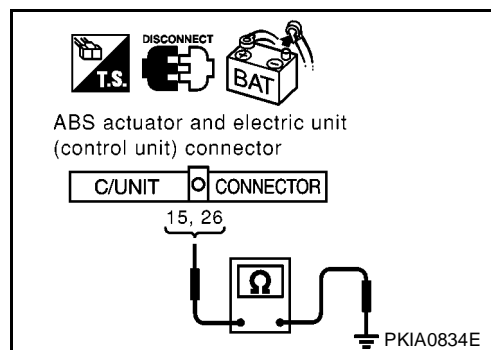
26(L) – ground : Continuity should not exist.

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

OK or NG

OK >> GO TO 8.

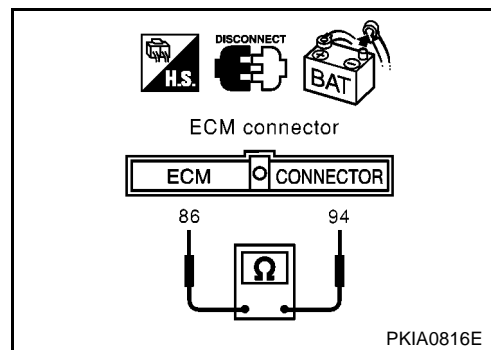
- NG >>
- Repair harness between ABS actuator and electric unit (control unit) and harness connector E120.
 - Repair harness between harness connector E120 and harness connector E63.(Gasoline engine models)
 - Repair harness between harness connector M120 and harness connector E62.(Diesel engine models)



8. CHECK HARNESS FOR SHORT CIRCUIT

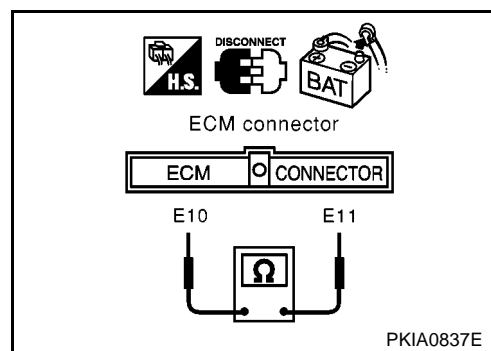
1. Disconnect ECM connector.
 2. Check the following.
- Continuity between ECM harness connector F102 terminals 94 (L) and 86(R).(Gasoline engine models)

94(L) – 86(R) (Gasoline engine models) : Continuity should not exist.



- Continuity between ECM harness connector F114 terminals E11 (L) and E10(R).(Diesel engine models)

E11(L) – E10(R) (Diesel engine models) : Continuity should not exist.



OK or NG

OK >> GO TO 9.

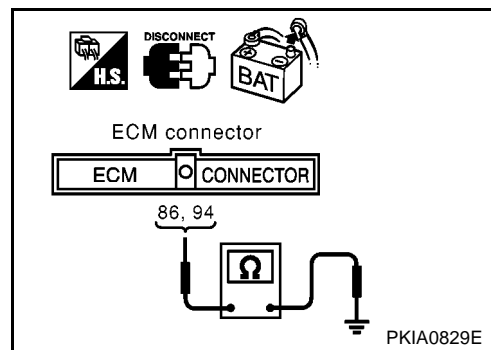
- NG >> ● Repair harness between ECM and harness connector F31.(Gasoline engine models)
- Repair harness between ECM and harness connector F12.(Diesel engine models)

9. CHECK HARNESS FOR SHORT CIRCUIT

1. Check the following.
- Continuity between ECM harness connector F102 terminals 94 (L), 86 (R) and ground.(Gasoline engine models)

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

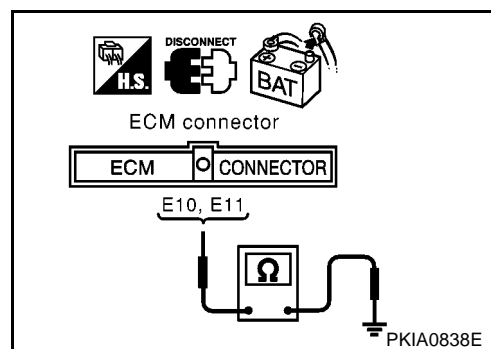
86(R) – ground (Gasoline engine models) : Continuity should not exist.



- Continuity between ECM harness connector F114 terminals E11 (L), E10 (R) and ground.(Diesel engine models)

E11(L) – ground (Diesel engine models) : Continuity should not exist.

E10(R) – ground (Diesel engine models) : Continuity should not exist.



OK or NG

OK >> GO TO 10.

- NG >> ● Repair harness between ECM and harness connector F31.(Gasoline engine models)
- Repair harness between ECM and harness connector F12.(Diesel engine models)

10. ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

Check components inspection. Refer to [LAN-483, "ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION"](#)

OK or NG

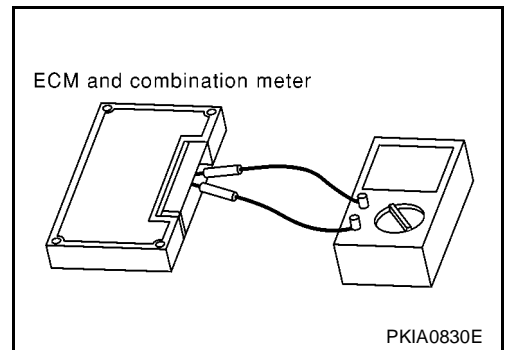
OK >> Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE", "ABS", and "SMART ENTRANCE" displayed on CONSULT-II. Refer to [EC-150, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITH EURO-OBD), [EC-663, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QG ENGINE MODELS WITHOUT EURO-OBD), [EC-1083, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITH EURO-OBD), [EC-1505, "DTC U1000, U1001 CAN COMMUNICATION LINE"](#) (QR ENGINE MODELS WITHOUT EURO-OBD) or [EC-1790, "DTC U1000 CAN COMMUNICATION LINE"](#) (YD ENGINE MODELS) for "ENGINE" and Refer to [BRC-33, "CAN Communication Circuit"](#) for "ABS". Refer to [BCS-40, "CAN Communication Line Check"](#) for "SMART ENTRANCE".

NG >> Replace ECM and/or Combination meter.

Component Inspection
ECM / COMBINATION METER INTERNAL CIRCUIT INSPECTION

EKS004ZF

- Remove ECM and Combination meter from vehicle.
- Check resistance between ECM terminals 94 and 86.(Gasoline engine models)
- Check resistance between ECM terminals E11 and E10.(Diesel engine models)
- Check resistance between Combination meter terminals 30 and 31.



Unit	Terminal	Resistance value (Ω)
ECM (Gasoline engine models)	94 – 86	Approx. 108 - 132
ECM (Diesel engine models)	E11 – E10	
Combination meter	30 – 31	

A
B
C
D
E
F
G
H
I
J
L
M

LAN

