

SECTION **DAS**

DRIVER ASSISTANCE SYSTEM

A
B
C
D
E
F
G
H
I
J
K
L
M
N
P
DAS

CONTENTS

ADAS CONTROL UNIT	
PRECAUTION	4
PRECAUTIONS	4
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	4
Precautions For Harness Repair	4
SYSTEM DESCRIPTION	5
COMPONENT PARTS	5
Component Parts Location	5
ADAS Control Unit	5
SYSTEM	6
System Description	6
Fail-safe (ADAS Control Unit)	7
DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)	8
CONSULT Function (ICC/ADAS)	8
ECU DIAGNOSIS INFORMATION	10
ADAS CONTROL UNIT	10
Reference Value	10
Fail-safe (ADAS Control Unit)	11
DTC Inspection Priority Chart	11
DTC Index	12
WIRING DIAGRAM	14
DRIVER ASSISTANCE SYSTEMS	14
Wiring Diagram	14
BASIC INSPECTION	21
ADDITIONAL SERVICE WHEN REPLACING ADAS CONTROL UNIT	21
Description	21
Work Procedure	21
CONFIGURATION (ADAS CONTROL UNIT)	22
Description	22
Work Procedure	22
DTC/CIRCUIT DIAGNOSIS	24
C1A00 CONTROL UNIT	24
DTC Description	24
Diagnosis Procedure	24
C1A01 POWER SUPPLY CIRCUIT 1, C1A02 POWER SUPPLY CIRCUIT 2	25
DTC Description	25
Diagnosis Procedure	25
C1A03 VEHICLE SPEED SENSOR	26
DTC Description	26
Diagnosis Procedure	26
C1B53 SIDE RADAR RIGHT MALFUNCTION	28
DTC Description	28
Diagnosis Procedure	28
C1B54 SIDE RADAR LEFT MALFUNCTION	29
DTC Description	29
Diagnosis Procedure	29
U0121 VDC CAN 2	30
DTC Description	30
Diagnosis Procedure	30
U0401 ECM CAN 1	31
DTC Description	31
Diagnosis Procedure	31
U0402 TCM CAN 1	32
DTC Description	32
Diagnosis Procedure	32
U0415 VDC CAN 1	33
DTC Description	33
Diagnosis Procedure	33

U1000 CAN COMM CIRCUIT	34	ADAS Control Unit	56
Description	34	Combination Meter	56
DTC Description	34	Warning Buzzer	56
Diagnosis Procedure	35	Side Radar LH/RH	57
U1321 CONFIGURATION	36	Blind Spot Warning Indicator LH/RH	57
DTC Description	36	Warning System Switch	57
Diagnosis Procedure	36	Sonar System Off Switch	57
U1503 SIDE RDR L CAN 2	37	SYSTEM	58
DTC Description	37	BSW	58
Diagnosis Procedure	37	BSW : System Description	58
U1504 SIDE RDR L CAN 1	39	RCTA	60
DTC Description	39	RCTA : System Description	61
Diagnosis Procedure	39	Fail-safe (ADAS Control Unit)	63
Fail-safe (Side Radar)	63		
U1505 SIDE RDR R CAN 2	41	OPERATION	65
DTC Description	41	BSW	65
Diagnosis Procedure	41	BSW : Switch Name and Function	65
U1506 SIDE RDR R CAN 1	43	RCTA	66
DTC Description	43	RCTA : Switch Name and Function	66
Diagnosis Procedure	43	HANDLING PRECAUTION	68
U1507 LOST COMM(SIDE RDR R)	45	Precautions for Blind Spot Warning	68
DTC Description	45	Precautions for Rear Cross Traffic Alert	68
Diagnosis Procedure	45	DIAGNOSIS SYSTEM (ADAS CONTROL	
U1508 LOST COMM(SIDE RDR L)	46	UNIT)	70
DTC Description	46	CONSULT Function (ICC/ADAS)	70
Diagnosis Procedure	46	DIAGNOSIS SYSTEM (SIDE RADAR LH)	72
POWER SUPPLY AND GROUND CIRCUIT	48	CONSULT Function (SIDE RADAR LEFT)	72
Diagnosis Procedure	48	DIAGNOSIS SYSTEM (SIDE RADAR RH)	73
REMOVAL AND INSTALLATION	49	CONSULT Function (SIDE RADAR RIGHT)	73
ADAS CONTROL UNIT	49	ECU DIAGNOSIS INFORMATION	74
Removal and Installation	49	ADAS CONTROL UNIT	74
DRIVER ASSISTANCE SYSTEM		Reference Value	74
PRECAUTION	50	Fail-safe (ADAS Control Unit)	75
PRECAUTIONS	50	DTC Inspection Priority Chart	75
Precaution for Supplemental Restraint System		DTC Index	76
(SRS) "AIR BAG" and "SEAT BELT PRE-TEN-		SIDE RADAR LH	78
SIONER"	50	Reference Value	78
Precaution for Work	50	Fail-safe (Side Radar)	78
Precautions For Harness Repair	50	DTC Inspection Priority Chart	79
Blind Spot Warning/Rear Cross Traffic Alert (RC-		DTC Index	79
TA) System Service	51	SIDE RADAR RH	80
PREPARATION	52	Reference Value	80
PREPARATION	52	Fail-safe (Side Radar)	81
Special Service Tool	52	DTC Inspection Priority Chart	81
SYSTEM DESCRIPTION	53	DTC Index	81
COMPONENT PARTS	53	WIRING DIAGRAM	82
Component Parts Location	53	DRIVER ASSISTANCE SYSTEMS	82

Wiring Diagram	82	SIDE RADAR LH	106
BASIC INSPECTION	89	SIDE RADAR LH : Diagnosis Procedure	106
DIAGNOSIS AND REPAIR WORK FLOW	89	SIDE RADAR RH	106
Work Flow	89	SIDE RADAR RH : Diagnosis Procedure	106
ACTION TEST	92	RIGHT/LEFT SWITCHING SIGNAL CIRCUIT	108
BLIND SPOT WARNING	92	Diagnosis Procedure	108
BLIND SPOT WARNING : Description	92	WARNING BUZZER CIRCUIT	109
BLIND SPOT WARNING : Work Procedure	92	Component Function Check	109
RCTA	92	Diagnosis Procedure	109
RCTA : Description	93	WARNING SYSTEM SWITCH CIRCUIT	111
RCTA : Work Procedure	93	Component Function Check	111
DTC/CIRCUIT DIAGNOSIS	94	Diagnosis Procedure	111
C1B50 SIDE RADAR MALFUNCTION	94	Component Inspection	112
DTC Description	94	WARNING SYSTEMS ON INDICATOR CIR- CUIT	113
Diagnosis Procedure	94	Diagnosis Procedure	113
C1B51 BLIND SPOT WARNING INDICATOR SHORT CIRCUIT	95	Component Inspection	114
DTC Description	95	SYMPTOM DIAGNOSIS	115
Diagnosis Procedure	95	DRIVER ASSISTANCE SYSTEM SYMP- TOMS	115
C1B52 BLIND SPOT WARNING INDICATOR OPEN CIRCUIT	97	Symptom Table	115
DTC Description	97	SYSTEM SETTINGS CANNOT BE TURNED ON/OFF ON THE INTEGRAL SWITCH	117
Diagnosis Procedure	97	Description	117
C1B55 RADAR BLOCKAGE	99	Diagnosis Procedure	117
DTC Description	99	NORMAL OPERATING CONDITION	118
Diagnosis Procedure	99	Description	118
U0405 ADAS CAN 2	101	REMOVAL AND INSTALLATION	119
DTC Description	101	WARNING BUZZER	119
Diagnosis Procedure	101	Removal and Installation	119
U1000 CAN COMM CIRCUIT	103	SIDE RADAR	120
SIDE RADAR LH	103	Exploded View	120
SIDE RADAR LH : Description	103	Removal and Installation	120
SIDE RADAR LH : DTC Description	103	BLIND SPOT WARNING INDICATOR	122
SIDE RADAR LH : Diagnosis Procedure	103	Removal and Installation	122
SIDE RADAR RH	104	WARNING SYSTEM SWITCH	123
SIDE RADAR RH : Description	104	Exploded View	123
SIDE RADAR RH : DTC Description	104	Removal and Installation	123
SIDE RADAR RH : Diagnosis Procedure	105		
POWER SUPPLY AND GROUND CIRCUIT	106		

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

INFOID:0000000014386404

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 SR 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, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.
- Improper repair, 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 SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery or batteries, and wait at least three minutes before performing any service.

Precautions For Harness Repair

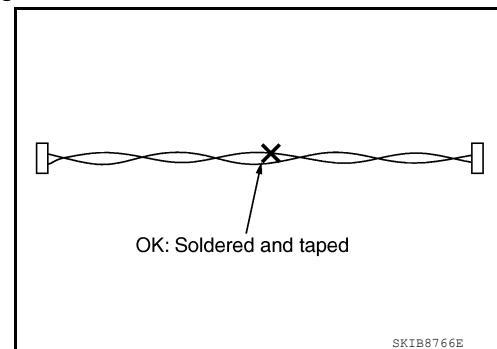
INFOID:0000000014386405

ITS communication uses a twisted pair line. Be careful when repairing it.

- Solder the repaired area and wrap tape around the soldered area.

NOTE:

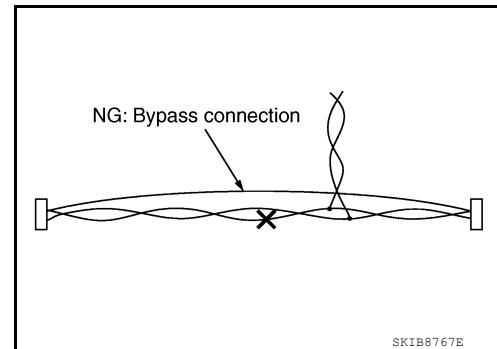
A fray of twisted lines must be within 110 mm (4.33 in).



- Bypass connection is never allowed at the repaired area.

NOTE:

Bypass connection may cause ITS communication error. The spliced wire becomes separated and the characteristics of twisted line are lost.

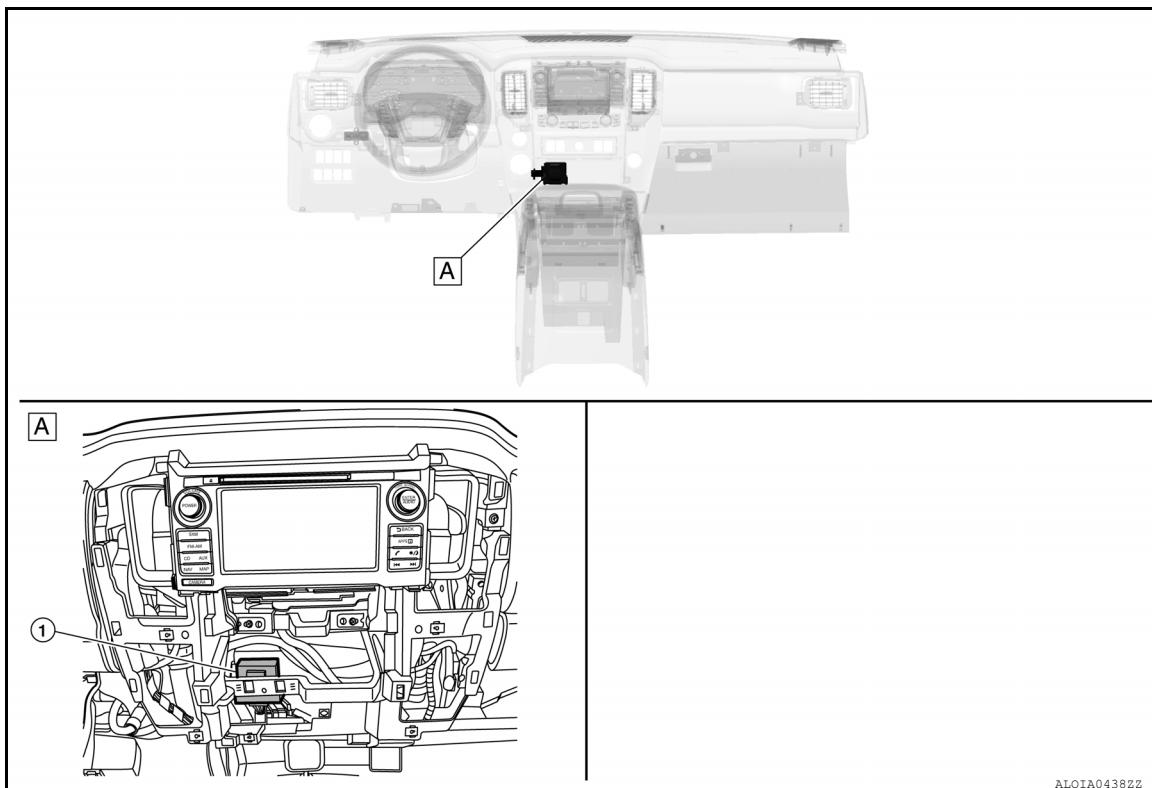


SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000014386406



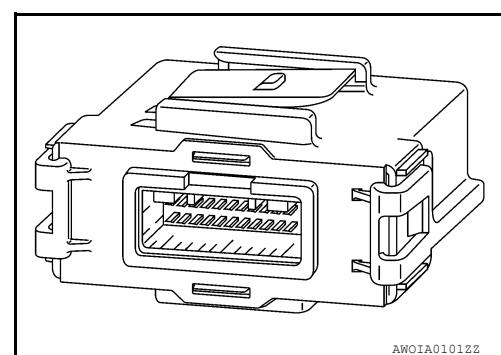
A. View with center console assembly removed.

No.	Component	Description
1.	ADAS control unit	<ul style="list-style-type: none"> Controls each system, based on CAN communication and ITS communication signals received from each control unit. Transmits signals necessary for control between CAN communication and ITS communication.

ADAS Control Unit

INFOID:000000014386407

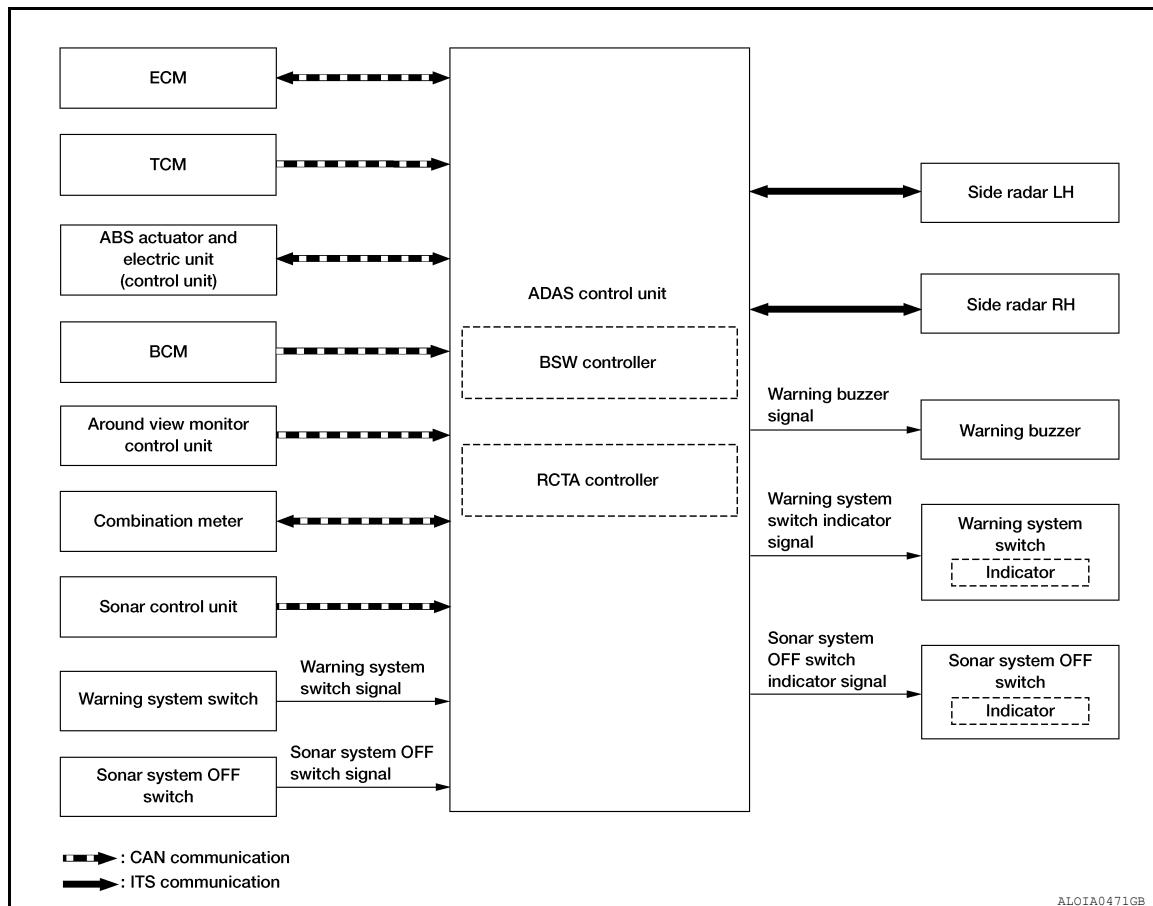
- ADAS control unit is installed below the center console assembly.
- Communicates with each control unit via CAN communication and ITS communication.
- ADAS control unit controls each system, based on ITS communication signals and CAN communication signals from each control unit.



< SYSTEM DESCRIPTION >

SYSTEM**System Description**

INFOID:0000000014386408

SYSTEM DIAGRAM**ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM****Input Signal Item**

Transmit unit	Signal name		Description
TCM	CAN communication	Shift position signal	Receives a shift selector position
ABS actuator and electric unit (control unit)	CAN communication	Vehicle speed signal (ABS)	Receives wheel speeds of four wheels
BCM	CAN communication	Turn indicator signal	Receives an operational state of the turn signal lamp and the hazard lamp
		Dimmer signal	Receives an ON/OFF state of dimmer signal
Side radar LH, RH	CAN communication	Vehicle detection signal	Receives vehicle detection condition of detection zone
ECM	CAN communication	Engine speed signal	Receives an engine speed
Sonar control unit	CAN communication	Rear object detection signal	Receives objects detection result of rear area behind vehicle
Warning system switch	Warning system switch signal		Receives an ON/OFF state of the warning system switch
Sonar system OFF switch	Sonar system OFF switch signal		Receives an ON/OFF state of the sonar system OFF switch

Output Signal Item

SYSTEM

[ADAS CONTROL UNIT]

< SYSTEM DESCRIPTION >

Reception unit	Signal name		Description
Combination meter	CAN communication	BSW warning lamp signal	Transmits a BSW warning lamp signal to turn ON the BSW warning lamp
Sonar control unit	CAN communication	Warning buzzer signal	While the shift selector is in reverse and backing up, transmits a request for a variable warning buzzer signal to alert the driver.
Around view monitor control unit	CAN communication	Visual signal request	Transmits a visual signal request by the ADAS control unit to center display to override other signals and display rear view while the shift lever is in reverse.
Side radar LH, RH	ITS communication	BSW indicator signal	Transmits a BSW indicator signal to turn ON the BSW indicator
		BSW indicator dimmer signal	Transmits a BSW indicator dimmer signal to dimmer BSW indicator
		Vehicle speed signal	Transmits a vehicle speed calculated by the ADAS control unit
Warning system switch indicator	Warning system switch indicator signal		Turns ON the warning system switch indicator
Warning buzzer	Warning buzzer signal		Activates warning buzzer
Sonar system OFF switch indicator	Sonar system OFF switch indicator signal		Turns ON the sonar system OFF switch indicator

DESCRIPTION

- ADAS* control unit controls the following systems based on ITS communication signal and CAN communication signal from each control unit.

NOTE:

- *: Advanced Driver Assistance Systems
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

System	Reference
Blind Spot Warning (BSW)	DAS-58, "BSW : System Description"
Rear Cross Traffic Alert (RCTA)	DAS-61, "RCTA : System Description"

Fail-safe (ADAS Control Unit)

INFOID:000000014718460

If a malfunction occurs in each system, ADAS control unit cancels each control, sounds a beep, and turns ON the warning or indicator lamp.

System	Buzzer	Warning lamp/Warning display	Description
Blind Spot Warning (BSW)	Low-pitched tone	BSW system warning	Cancel
Rear Cross Traffic Alert (RCTA)	—	BSW system warning	Cancel

A
B
C
D
E
F
G
H
I
J
K
L
M
N
P
DAS

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

CONSULT Function (ICC/ADAS)

INFOID:000000014386410

APPLICATION ITEMS

CONSULT performs the following functions via CAN communication using ADAS control unit:

Diagnosis mode	Description
Configuration	<ul style="list-style-type: none"> The vehicle specification that is written in ADAS control unit can be displayed or stored. The vehicle specification can be written when ADAS control unit is replaced.
Work support	Displays causes of automatic system cancellation occurred during system control.
Self Diagnostic Result	Displays the name of a malfunctioning system stored in the ADAS control unit.
Data Monitor	Displays ADAS control unit input/output data in real time.
Active Test	Enables an operational check of a load by transmitting a driving signal from the ADAS control unit to the load.
ECU Identification	Displays ADAS control unit part number.
CAN Diag Support Monitor	Displays a reception/transmission state of CAN communication and ITS communication.

CONFIGURATION

Configuration includes functions as follows.

Function		Description
Read/Write Configuration	Before Replace ECU	Allows the reading of vehicle specification written in ADAS control unit to store the specification in CONSULT.
	After Replace ECU	Allows the writing of the vehicle information stored in CONSULT into the ADAS control unit.
Manual Configuration		Allows the writing of the vehicle specification into the ADAS control unit by hand.

SELF DIAGNOSTIC RESULT

Refer to [DAS-12, "DTC Index"](#).

DATA MONITOR

NOTE:

- The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.
- SIGNAL B, SIGNAL C are displayed, but not used.

Monitored item [Unit]	SIGNAL A	BSW MAIN SIGNAL	Description
VHCL SPEED SE [km/h] or [mph]	×	×	Indicates vehicle speed calculated from ADAS control unit through CAN communication [ABS actuator and electric unit (control unit) transmits vehicle speed signal (wheel speed) through CAN communication]
WARN SYS SW [On/Off]	×	×	Indicates [On/Off] status of warning system switch
BSW/BSI WARN LMP [On/Off]		×	Indicates [On/Off] status of BSW warning lamp output
BSW SYSTEM ON [On/Off]		×	Indicates [On/Off] status of BSW system

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

Monitored item [Unit]	SIGNAL A	BSW MAIN SIGNAL	Description
BSW ON INDICATOR [On/Off]		×	Indicates [On/Off] status of BSW indicator output
SIDE RADAR BLOCK COND [On/Off]		×	Indicates [On/Off] status of BSW system

ACTIVE TEST

CAUTION:

- Never perform “Active Test” while driving the vehicle.
- The “Active Test” cannot be performed when the BSW warning lamp is illuminated.
- Shift the selector lever to “P” position, and then perform the test.

Test item	Description
METER LAMP	The BSW warning lamp can be illuminated by ON/OFF operations as necessary.
ADAS BUZZER	Sounds a buzzer used for BSW, RCTA by arbitrarily operating ON/OFF.

METER LAMP

NOTE:

The test can be performed only when the engine is running.

Test item	Operation	Description	BSW warning lamp
METER LAMP	Off	Stops sending the BSW warning lamp signal to exit from the test.	OFF
	On	Transmits the BSW warning lamp signal to the combination meter via CAN communication.	ON

ADAS BUZZER

Test item	Operation	Description	Operation sound
ADAS BUZZER	On	Starts buzzer output.	—
	Off	Stops buzzer output.	—

ECU IDENTIFICATION

Displays ADAS control unit parts number.

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

ECU DIAGNOSIS INFORMATION

ADAS CONTROL UNIT

Reference Value

INFOID:000000014386411

VALUES ON THE DIAGNOSIS TOOL

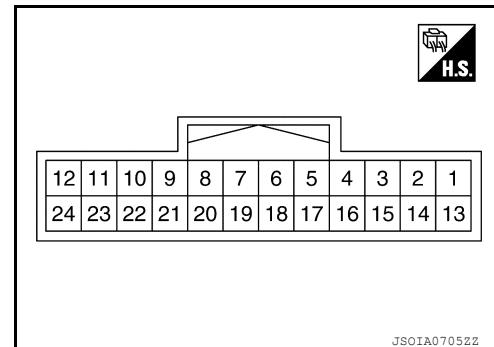
NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor item	Condition		Value/Status
VHCL SPEED SE	While driving		Displays the vehicle speed calculated by ADAS control unit
WARN SYS SW	Ignition switch ON	When warning system switch is pressed	On
		When warning system switch is not pressed	Off
BSW/BSI WARN LMP	Ignition switch ON	BSW warning lamp ON	On
		BSW warning lamp OFF	Off
BSW SYSTEM ON	Ignition switch ON	When the BSW system is ON (BSW indicator on the information display is ON)	On
		When the BSW system is OFF (BSW indicator on the information display is OFF)	Off
BSW ON INDICATOR	Engine running	BSW ON indicator is ON. (Vehicle detected)	On
		BSW ON indicator is OFF. (No vehicle detected)	Off
SIDE RADAR BLOCK COND	Engine running	Side radar or rear bumper is dirty.	On
		Side radar or rear bumper is clean.	Off

TERMINAL LAYOUT

PHYSICAL VALUES



ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
1 (B)	Ground	Ground	Input	—		0 V
2 (L)		ITS communication high	—	—		—
3 (G)		Ignition power supply	Input	Ignition switch ON		Battery voltage
4 (GR)		Warning buzzer signal	Output	Ignition switch ON	Warning buzzer operation	Battery voltage
5 (R)		ITS communication low	—	—		—
6 (R)		CAN Low	Input	—		—
7 (GR)		Warning system ON indicator	Output	Indicator	Illuminated	0 - 0.1 V
9 (L)		CAN high	—	—		—
10 (P)		CAN low	—	—		—
11 (G)		Sonar system OFF switch	Input	Sonar system OFF switch	Pressed	0 - 0.1 V
17 (B/R)		Sonar system OFF switch indicator	Output	Indicator	Released	Battery voltage
18 (L)		CAN High	Input	—	—	0 V
23 (LG)		Warning system switch	Input	Warning system switch	Pressed	0 - 0.1 V
					Released	Battery voltage

Fail-safe (ADAS Control Unit)

INFOID:000000014386412

If a malfunction occurs in each system, ADAS control unit cancels each control, sounds a beep, and turns ON the warning or indicator lamp.

System	Buzzer	Warning lamp/Warning display	Description
Blind Spot Warning (BSW)	Low-pitched tone	BSW system warning	Cancel
Rear Cross Traffic Alert (RCTA)	—	BSW system warning	Cancel

DTC Inspection Priority Chart

INFOID:000000014386413

If multiple DTCs are detected simultaneously, check them one by one depending on the following DTC inspection priority chart.

Priority	Detected items (DTC)
1	• U1508: LOST COMM (SIDE RDR L)
2	• U1000: CAN COMM CIRCUIT • U1321: CONFIGURATION • U1507: LOST COMM (SIDE RDR R)

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

Priority	Detected items (DTC)
3	<ul style="list-style-type: none"> • C1B53: SIDE RDR R MALF • C1B54: SIDE RDR L MALF
4	<ul style="list-style-type: none"> • C1A01: POWER SUPPLY CIR • C1A02: POWER SUPPLY CIR 2 • U0121: VDC CAN CIR 2 • U0401: ECM CAN CIR 1 • U0402: TCM CAN CIR 1 • U0415: VDC CAN CIR 1 • U1503: SIDE RDR L CAN CIR 2 • U1504: SIDE RDR L CAN CIR 1 • U1505: SIDE RDR R CAN CIR 2 • U1506: SIDE RDR R CAN CIR 1
5	<ul style="list-style-type: none"> • C1A03: VHCL SPEED SE CIRC
6	<ul style="list-style-type: none"> • C1A00: CONTROL UNIT

DTC Index

INFOID:0000000014386414

NOTE:

- The details of time display are as per the following.
- CRNT: A malfunction is detected now
- PAST: A malfunction was detected in the past
- IGN counter is displayed on FFD (Freeze Frame Data).
- 0: The malfunctions that are detected now
CAN communication system (U1000, U1010)
- 1 - 39: It increases like 0 → 1 → 2 → 38 → 39 after returning to the normal condition whenever the ignition switch OFF → ON. It returns to 0 when a malfunction is detected again in the process.
- If it is over 39, it is fixed to 39 until the self-diagnosis results are erased.
Other than CAN communication system (Other than U1000, U1010)
- 1 - 49: It increases like 0 → 1 → 2 → 38 → 49 after returning to the normal condition whenever the ignition switch OFF → ON. It returns to 0 when a malfunction is detected again in the process.
- If it is over 49, it is fixed to 49 until the self-diagnosis results are erased.

✗: Applicable

	DTC	BSW warning lamp	Fail-safe	Reference
C1A00	CONTROL UNIT	ON	✗	DAS-24
C1A01	POWER SUPPLY CIR	ON	✗	DAS-25
C1A02	POWER SUPPLY CIR 2	ON	✗	DAS-25
C1A03	VHCL SPEED SE CIRC	ON	✗	DAS-26
C1B53	SIDE RDR R MALF	ON	✗	DAS-28
C1B54	SIDE RDR L MALF	ON	✗	DAS-29
NO DTC IS DETECTED. FURTHER TESTING MAY BE RE- QUIRED	NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED	—	—	—
U1000	CAN COMM CIRCUIT	ON	✗	DAS-34
U0121	VDC CAN CIR 2	ON	✗	DAS-30
U0401	ECM CAN CIR 1	ON	✗	DAS-31
U0402	TCM CAN CIR 1	ON	✗	DAS-32
U0415	VDC CAN CIR 1	ON	✗	DAS-33
U1503	SIDE RDR L CAN CIR 2	ON	✗	DAS-37
U1504	SIDE RDR L CAN CIR 1	ON	✗	DAS-39
U1505	SIDE RDR R CAN CIR 2	ON	✗	DAS-41
U1506	SIDE RDR R CAN CIR 1	ON	✗	DAS-43

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

DTC		BSW warning lamp	Fail-safe	Reference
U1507	LOST COMM (SIDE RDR R)	ON	×	DAS-45
U1508	LOST COMM (SIDE RDR L)	ON	×	DAS-46

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

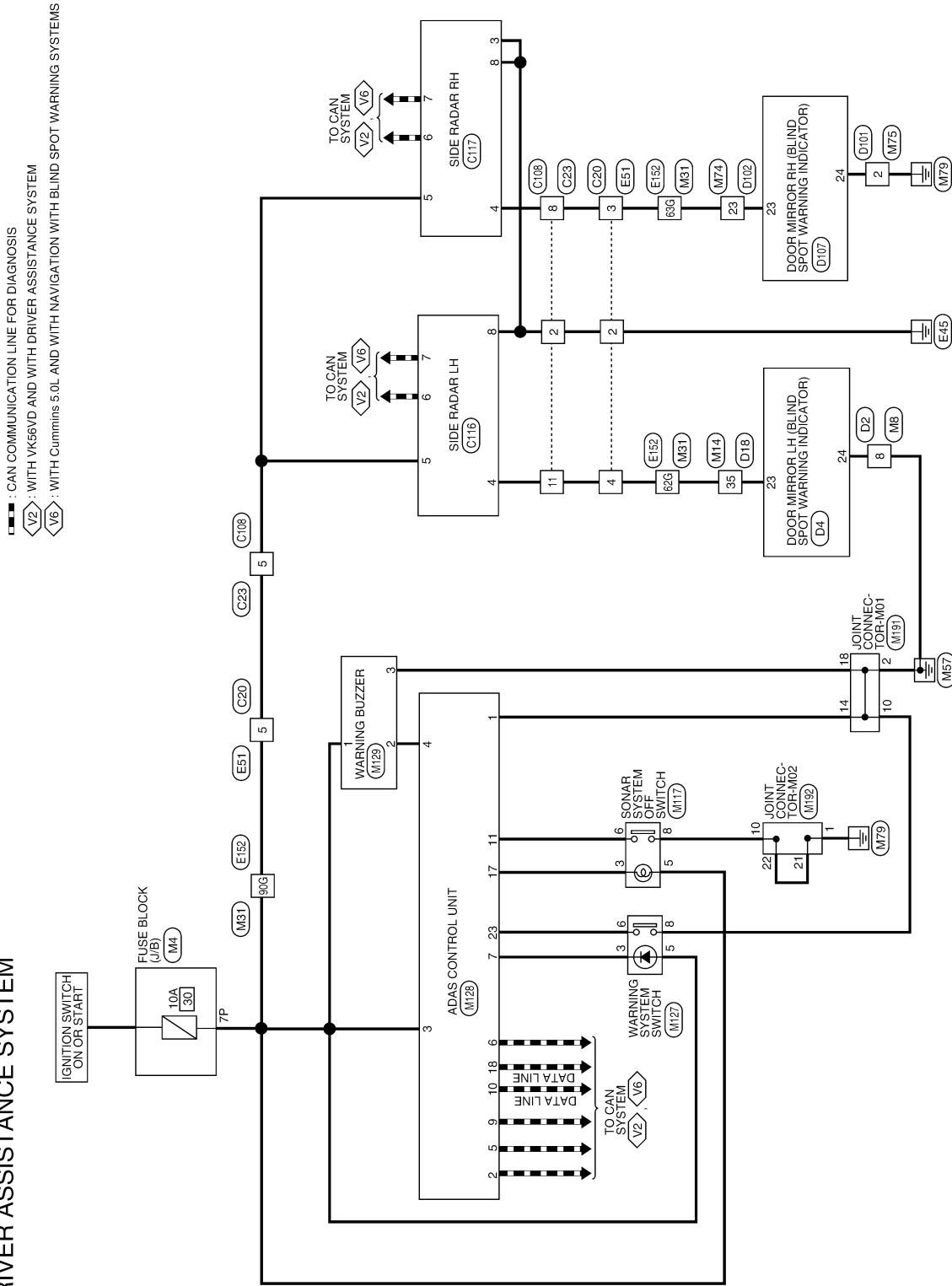
WIRING DIAGRAM

DRIVER ASSISTANCE SYSTEMS

Wiring Diagram

INFOID:0000000014386415

DRIVER ASSISTANCE SYSTEM



Revision: August 2016

DAS-14

2017 Titan NAM

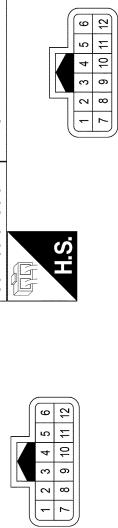
DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

DRIVER ASSISTANCE SYSTEM CONNECTORS

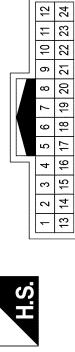
Connector No.	C20	12	R	TO SIDE RADAR SUB HARNESS
Connector Name	WIRE TO WIRE	1		
Connector Type	RH12MB	2		
Connector Color	BLACK	3		



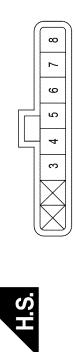
Connector No.	C108	1	L	TO CHASSIS HARNESS
Connector Name	WIRE TO WIRE	2	B	TO CHASSIS HARNESS
Connector Type	RH12MB	3	Y	TO CHASSIS HARNESS
Connector Color	BLACK	4	W	TO CHASSIS HARNESS



Connector No.	C117	1	2	3	4	5	6	7	8	9	10	11	12
Connector Name	SIDE RADAR RH	13	14	15	16	17	18	19	20	21	22	23	24
Connector Type	JAD08FB-6P												
Connector Color	WHITE												



Connector No.	C108	1	2	3	4	5	6	7	8	9	10	11	12
Connector Name	WIRE TO WIRE	13	14	15	16	17	18	19	20	21	22	23	24
Connector Type	RH12MB												
Connector Color	BLACK												



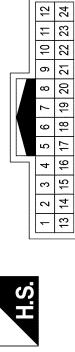
Connector No.	C116	1	L	TO CHASSIS HARNESS
Connector Name	SIDE RADAR LH	2	B	TO CHASSIS HARNESS
Connector Type	JAD08FB-5P	3	Y	TO CHASSIS HARNESS
Connector Color	BLACK	4	W	TO CHASSIS HARNESS



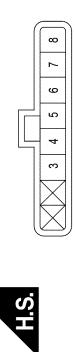
Connector No.	C23	6	5	4	3	2	1	7	6	5	4	5	6	7	8
Connector Name	WIRE TO WIRE	12	11	10	9	8	7	16	15	14	13	12	11	10	9
Connector Type	RH12FB														
Connector Color	BLACK														



Connector No.	D4	1	2	3	4	5	6	7	8	9	10	11	12
Connector Name	DOOR MIRROR LH	13	14	15	16	17	18	19	20	21	22	23	24
Connector Type	TH24MM-NH												
Connector Color	WHITE												



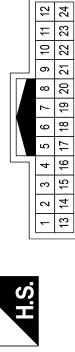
Connector No.	D2	1	2	3	4	5	6	7	8	9	10	11	12
Connector Name	WIRE TO WIRE	13	14	15	16	17	18	19	20	21	22	23	24
Connector Type	NST16FW-CS												
Connector Color	WHITE												



Connector No.	D2	1	B/W	TO MAIN HARNESS
Connector Name	POWERFOLD FOLD- (WITH MEMORY MIRRORS)	2	G/B	TO MAIN HARNESS
Connector Type	POWERFOLD UNFOLD- (WITH MEMORY MIRRORS)	3	B/G	TO MAIN HARNESS
Connector Color	WHITE	4	G/R	TO MAIN HARNESS



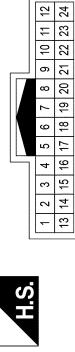
Connector No.	D2	1	B/G	FRONT TURN LH
Connector Name	HEATED MIRROR +	2	W	FRONT TURN LH
Connector Type	EC FEED	3	R	FRONT TURN LH
Connector Color	WHITE	4	G/B	FRONT TURN LH
		5	B/G	FRONT TURN LH



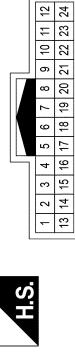
Connector No.	D2	1	B/G	TO MAIN HARNESS
Connector Name	TO MAIN HARNESS	2	G/B	TO MAIN HARNESS
Connector Type	SHIELD	3	L	TO MAIN HARNESS
Connector Color	WHITE	4	R	TO MAIN HARNESS
		5	W/R	TO MAIN HARNESS



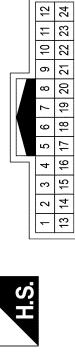
Connector No.	D2	1	B/G	TO MAIN HARNESS
Connector Name	TO MAIN HARNESS	2	G/B	TO MAIN HARNESS
Connector Type	SHIELD	3	L	TO MAIN HARNESS
Connector Color	WHITE	4	R	TO MAIN HARNESS
		5	W/R	TO MAIN HARNESS



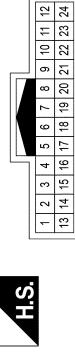
Connector No.	D2	1	B/G	TO MAIN HARNESS
Connector Name	TO MAIN HARNESS	2	G/B	TO MAIN HARNESS
Connector Type	SHIELD	3	L	TO MAIN HARNESS
Connector Color	WHITE	4	R	TO MAIN HARNESS
		5	W/R	TO MAIN HARNESS



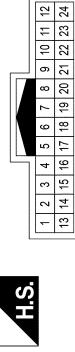
Connector No.	D2	1	B/G	TO MAIN HARNESS
Connector Name	TO MAIN HARNESS	2	G/B	TO MAIN HARNESS
Connector Type	SHIELD	3	L	TO MAIN HARNESS
Connector Color	WHITE	4	R	TO MAIN HARNESS
		5	W/R	TO MAIN HARNESS



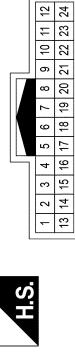
Connector No.	D2	1	B/G	TO MAIN HARNESS
Connector Name	TO MAIN HARNESS	2	G/B	TO MAIN HARNESS
Connector Type	SHIELD	3	L	TO MAIN HARNESS
Connector Color	WHITE	4	R	TO MAIN HARNESS
		5	W/R	TO MAIN HARNESS



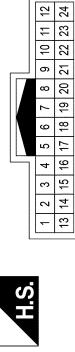
Connector No.	D2	1	B/G	TO MAIN HARNESS
Connector Name	TO MAIN HARNESS	2	G/B	TO MAIN HARNESS
Connector Type	SHIELD	3	L	TO MAIN HARNESS
Connector Color	WHITE	4	R	TO MAIN HARNESS
		5	W/R	TO MAIN HARNESS



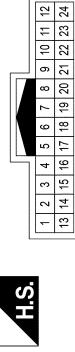
Connector No.	D2	1	B/G	TO MAIN HARNESS
Connector Name	TO MAIN HARNESS	2	G/B	TO MAIN HARNESS
Connector Type	SHIELD	3	L	TO MAIN HARNESS
Connector Color	WHITE	4	R	TO MAIN HARNESS
		5	W/R	TO MAIN HARNESS



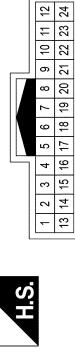
Connector No.	D2	1	B/G	TO MAIN HARNESS
Connector Name	TO MAIN HARNESS	2	G/B	TO MAIN HARNESS
Connector Type	SHIELD	3	L	TO MAIN HARNESS
Connector Color	WHITE	4	R	TO MAIN HARNESS
		5	W/R	TO MAIN HARNESS



Connector No.	D2	1	B/G	TO MAIN HARNESS
Connector Name	TO MAIN HARNESS	2	G/B	TO MAIN HARNESS
Connector Type	SHIELD	3	L	TO MAIN HARNESS
Connector Color	WHITE	4	R	TO MAIN HARNESS
		5	W/R	TO MAIN HARNESS



Connector No.	D2	1	B/G	TO MAIN HARNESS
Connector Name	TO MAIN HARNESS	2	G/B	TO MAIN HARNESS
Connector Type	SHIELD	3	L	TO MAIN HARNESS
Connector Color	WHITE	4	R	TO MAIN HARNESS
		5	W/R	TO MAIN HARNESS



Connector No.	D2	1	B/G	TO MAIN HARNESS

</

DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

DRIVER ASSISTANCE SYSTEM CONNECTORS

Connector No.	D18
Connector Name	WIRE TO WIRE
Connector Type	·TH40FW-NH
Connector Color	WHITE



Terminal No.	Signal Name
1	SB TO MAIN HARNESS - (WITHOUT MEMORY MIRRORS)
1	LG TO MAIN HARNESS - (WITH AROUND VIEW MONITOR)
2	SB TO MAIN HARNESS
3	BG TO MAIN HARNESS
4	Y TO MAIN HARNESS
5	BR TO MAIN HARNESS
6	SB TO MAIN HARNESS
7	V TO MAIN HARNESS
8	GR TO MAIN HARNESS
9	L TO MAIN HARNESS
10	W TO MAIN HARNESS
11	B TO MAIN HARNESS
12	RG TO MAIN HARNESS
13	Y TO MAIN HARNESS
14	LG TO MAIN HARNESS
15	L TO MAIN HARNESS
16	V TO MAIN HARNESS
17	LG TO MAIN HARNESS
18	BR TO MAIN HARNESS
19	LG/B TO MAIN HARNESS
20	Y/V TO MAIN HARNESS - (WITHOUT MEMORY MIRRORS)
21	BR TO MAIN HARNESS - (WITH MEMORY MIRRORS)
22	V TO MAIN HARNESS - (WITH MEMORY MIRRORS)
23	Y TO MAIN HARNESS - (WITHOUT MEMORY MIRRORS)
24	LG TO MAIN HARNESS
25	Y TO MAIN HARNESS
26	L TO MAIN HARNESS
27	Y TO MAIN HARNESS
28	L TO MAIN HARNESS
29	V TO MAIN HARNESS
30	R TO MAIN HARNESS
31	SHIELD TO MAIN HARNESS



Connector No.	D101
Connector Name	WIRE TO WIRE
Connector Type	NS10FW-SCS
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name	Color of Wire	Signal Name
10	9	8	7	6
11	10	9	8	7
12	11	10	9	8
13	12	11	10	9
14	13	12	11	10
15	14	13	12	11
16	15	14	13	12
17	16	15	14	13
18	17	16	15	14
19	18	17	16	15
20	19	18	17	16
21	20	19	18	17
22	21	20	19	18
23	22	21	20	19
24	23	22	21	20
25	24	23	22	21
26	25	24	23	22
27	26	25	24	23
28	27	26	25	24
29	28	27	26	25
30	29	28	27	26
31	30	29	28	27
32	31	30	29	28

Terminal No.	Color of Wire	Signal Name
1	B/W	TO MAIN HARNESS
2	B	TO MAIN HARNESS
3	W/L	TO MAIN HARNESS
4	V	TO MAIN HARNESS
5	W/B	TO MAIN HARNESS
6	G/Y	TO MAIN HARNESS
7	W/B	TO MAIN HARNESS
8	U/B	TO MAIN HARNESS
9	G/Y	TO MAIN HARNESS
10	-	TO MAIN HARNESS



Terminal No.	Color of Wire	Signal Name
7	B	VCC
8	R	VIDEO +
9	G/Y	FR TURN RH
10	B	GND
11	LGB	EC FEED
12	Y/N	EC RETURN
13	L	MEMORY GND
14	LG	TO MAIN HARNESS
15	Y	TO MAIN HARNESS
16	LG	TO MAIN HARNESS
17	-	-
18	B	HEATED MIRROR -
19	W	GND
20	SHIELD	VIDEO -
21	R/G	BAT SAVER OUT
22	L	ROOM LAMP CONT
23	R	LED RH
24	B	GND

Terminal No.	Color of Wire	Signal Name
1	L	TO CHASSIS HARNESS
2	B	TO CHASSIS HARNESS
3	R	TO CHASSIS HARNESS
4	W	TO CHASSIS HARNESS
5	G	TO CHASSIS HARNESS
6	L	TO CHASSIS HARNESS
7	R	TO CHASSIS HARNESS
8	-	-
9	-	-
10	-	-
11	-	-
12	R	TO CHASSIS HARNESS

Terminal No.	Color of Wire	Signal Name
1	BR	SWITCH MTR UP
2	G	SWITCH MTR LT
3	SB	MTR COMMON
4	L/R	POWERFOLD UNFOLD+
5	L	POWERFOLD FOLD+
6	B/W	HEATED MIRROR +

AAOIA0745GB

DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

DRIVER ASSISTANCE SYSTEM CONNECTORS

Connector No.	Signal Name	Color of Wire	Terminal No.	Color of Wire	Signal Name
ET152	WIRE TO WIRE	R/W	24G	G/B	TO MAIN HARNESS
			25G	R/W	TO MAIN HARNESS
			26G	R	TO MAIN HARNESS
			27G	LG	TO MAIN HARNESS
			28G	G/B	TO MAIN HARNESS
			29G	G/B	TO MAIN HARNESS
			30G	BR/Y	TO MAIN HARNESS
			31G	P	TO MAIN HARNESS - (WITH CUMMINS 5.0L)
			31G	R	TO MAIN HARNESS - (WITH V65V10)
			32G	P	TO MAIN HARNESS
			33G	YL	TO MAIN HARNESS
			34G	GR	TO MAIN HARNESS
			35G	GR	TO MAIN HARNESS
			36G	SB	TO MAIN HARNESS
			37G	R/W	TO MAIN HARNESS
			38G	BR	TO MAIN HARNESS
			39G	BR	TO MAIN HARNESS
			40G	-	TO MAIN HARNESS
			41G	R/G	TO MAIN HARNESS
			42G	O	TO MAIN HARNESS - (WITH CUMMINS 5.0L)
			43G	B	TO MAIN HARNESS - (WITH CUMMINS 5.0L)
			43G	G	TO MAIN HARNESS - (WITH V65V10)
			44G	R/Y	TO MAIN HARNESS
			45G	G	TO MAIN HARNESS
			46G	LG	TO MAIN HARNESS
			47G	R	TO MAIN HARNESS
			48G	W	TO MAIN HARNESS
			49G	-	TO MAIN HARNESS
			50G	BR	TO MAIN HARNESS
			51G	R	TO MAIN HARNESS
			52G	L	TO MAIN HARNESS
			53G	W	TO MAIN HARNESS
			54G	W	TO MAIN HARNESS
			55G	G	TO MAIN HARNESS
			56G	BR	TO MAIN HARNESS
			57G	Y	TO MAIN HARNESS
			58G	BG	TO MAIN HARNESS
			59G	BG	TO MAIN HARNESS
			60G	BG	TO MAIN HARNESS
			61G	B	TO MAIN HARNESS
			62G	W	TO MAIN HARNESS
			63G	R	TO MAIN HARNESS
			64G	W/L	TO MAIN HARNESS
			65G	W/R	TO MAIN HARNESS
			66G	BG	TO MAIN HARNESS
			67G	BG	TO MAIN HARNESS
			68G	B	TO MAIN HARNESS
			69G	Y	TO MAIN HARNESS
			70G	L	TO MAIN HARNESS
			71G	R/W	TO MAIN HARNESS
			72G	L/W	TO MAIN HARNESS
			73G	SHIELD	TO MAIN HARNESS
			74G	W	TO MAIN HARNESS
			75G	R	TO MAIN HARNESS
			76G	R/G	TO MAIN HARNESS
			77G	G	TO MAIN HARNESS
			78G	W	TO MAIN HARNESS
			79G	-	TO MAIN HARNESS
			80G	R	TO MAIN HARNESS
			81G	L	TO MAIN HARNESS
			82G	R	TO MAIN HARNESS
			83G	L	TO MAIN HARNESS
			84G	L	TO MAIN HARNESS
			85G	W/B	TO MAIN HARNESS
			86G	BR	TO MAIN HARNESS
			87G	W/B	TO MAIN HARNESS
			88G	P	TO MAIN HARNESS
			89G	L	TO MAIN HARNESS
			90G	G	TO MAIN HARNESS
			91G	G	TO MAIN HARNESS
			92G	V/W	TO MAIN HARNESS
			93G	BR	TO MAIN HARNESS
			94G	G	TO MAIN HARNESS
			95G	G	TO MAIN HARNESS
			96G	W	TO MAIN HARNESS
			97G	R	TO MAIN HARNESS
			98G	W/B	TO MAIN HARNESS
			99G	BR	TO MAIN HARNESS
			100G	GR/W	TO MAIN HARNESS
			101G	W	TO MAIN HARNESS
			102G	W	TO MAIN HARNESS
			103G	Y	TO MAIN HARNESS
			104G	BR	TO MAIN HARNESS
			105G	R	TO MAIN HARNESS
			106G	L	TO MAIN HARNESS
			107G	W	TO MAIN HARNESS
			108G	Y	TO MAIN HARNESS
			109G	W	TO MAIN HARNESS
			110G	W	TO MAIN HARNESS
			111G	R/G	TO MAIN HARNESS
			112G	WB	TO MAIN HARNESS
			113G	BR	TO MAIN HARNESS
			114G	Y/B	TO MAIN HARNESS
			115G	GR/W	TO MAIN HARNESS
			116G	G	TO MAIN HARNESS
			117G	GR/Y	TO MAIN HARNESS
			118G	GR/Y	TO MAIN HARNESS
			119G	Y/N	TO MAIN HARNESS
			120G	GR/Y	TO MAIN HARNESS
			121G	B/Y	TO MAIN HARNESS
			122G	GR	TO MAIN HARNESS
			123G	Y/R	TO MAIN HARNESS
			124G	Y/R	TO MAIN HARNESS
			125G	Y/R	TO MAIN HARNESS
			126G	Y/R	TO MAIN HARNESS
			127G	Y/R	TO MAIN HARNESS
			128G	Y/R	TO MAIN HARNESS
			129G	Y/R	TO MAIN HARNESS
			130G	Y/R	TO MAIN HARNESS
			131G	Y/R	TO MAIN HARNESS
			132G	Y/R	TO MAIN HARNESS
			133G	Y/R	TO MAIN HARNESS
			134G	Y/R	TO MAIN HARNESS
			135G	Y/R	TO MAIN HARNESS
			136G	Y/R	TO MAIN HARNESS
			137G	Y/R	TO MAIN HARNESS
			138G	Y/R	TO MAIN HARNESS
			139G	Y/R	TO MAIN HARNESS
			140G	Y/R	TO MAIN HARNESS
			141G	Y/R	TO MAIN HARNESS
			142G	Y/R	TO MAIN HARNESS
			143G	Y/R	TO MAIN HARNESS
			144G	Y/R	TO MAIN HARNESS
			145G	Y/R	TO MAIN HARNESS
			146G	Y/R	TO MAIN HARNESS
			147G	Y/R	TO MAIN HARNESS
			148G	Y/R	TO MAIN HARNESS
			149G	Y/R	TO MAIN HARNESS
			150G	Y/R	TO MAIN HARNESS
			151G	Y/R	TO MAIN HARNESS
			152G	Y/R	TO MAIN HARNESS
			153G	Y/R	TO MAIN HARNESS
			154G	Y/R	TO MAIN HARNESS
			155G	Y/R	TO MAIN HARNESS
			156G	Y/R	TO MAIN HARNESS
			157G	Y/R	TO MAIN HARNESS
			158G	Y/R	TO MAIN HARNESS
			159G	Y/R	TO MAIN HARNESS
			160G	Y/R	TO MAIN HARNESS
			161G	Y/R	TO MAIN HARNESS
			162G	Y/R	TO MAIN HARNESS
			163G	Y/R	TO MAIN HARNESS
			164G	Y/R	TO MAIN HARNESS
			165G	Y/R	TO MAIN HARNESS
			166G	Y/R	TO MAIN HARNESS
			167G	Y/R	TO MAIN HARNESS
			168G	Y/R	TO MAIN HARNESS
			169G	Y/R	TO MAIN HARNESS
			170G	Y/R	TO MAIN HARNESS
			171G	Y/R	TO MAIN HARNESS
			172G	Y/R	TO MAIN HARNESS
			173G	Y/R	TO MAIN HARNESS
			174G	Y/R	TO MAIN HARNESS
			175G	Y/R	TO MAIN HARNESS
			176G	Y/R	TO MAIN HARNESS
			177G	Y/R	TO MAIN HARNESS
			178G	Y/R	TO MAIN HARNESS
			179G	Y/R	TO MAIN HARNESS
			180G	Y/R	TO MAIN HARNESS
			181G	Y/R	TO MAIN HARNESS
			182G	Y/R	TO MAIN HARNESS
			183G	Y/R	TO MAIN HARNESS
			184G	Y/R	TO MAIN HARNESS
			185G	Y/R	TO MAIN HARNESS
			186G	Y/R	TO MAIN HARNESS
			187G	Y/R	TO MAIN HARNESS
			188G	Y/R	TO MAIN HARNESS
			189G	Y/R	TO MAIN HARNESS
			190G	Y/R	TO MAIN HARNESS
			191G	Y/R	TO MAIN HARNESS
			192G	Y/R	TO MAIN HARNESS
			193G	Y/R	TO MAIN HARNESS
			194G	Y/R	TO MAIN HARNESS
			195G	Y/R	TO MAIN HARNESS
			196G	Y/R	TO MAIN HARNESS
			197G	Y/R	TO MAIN HARNESS
			198G	Y/R	TO MAIN HARNESS
			199G	Y/R	TO MAIN HARNESS
			200G	Y/R	TO MAIN HARNESS
			201G	Y/R	TO MAIN HARNESS
			202G	Y/R	TO MAIN HARNESS
			203G	Y/R	TO MAIN HARNESS
			204G	Y/R	TO MAIN HARNESS
			205G	Y/R	TO MAIN HARNESS
			206G	Y/R	TO MAIN HARNESS
			207G	Y/R	TO MAIN HARNESS
			208G	Y/R	TO MAIN HARNESS
			209G	Y/R	TO MAIN HARNESS
			210G	Y/R	TO MAIN HARNESS
			211G	Y/R	TO MAIN HARNESS
			212G	Y/R	TO MAIN HARNESS
			213G	Y/R	TO MAIN HARNESS
			214G	Y/R	TO MAIN HARNESS
			215G	Y/R	TO MAIN HARNESS
			216G	Y/R	TO MAIN HARNESS
			217G	Y/R	TO MAIN HARNESS
			218G	Y/R	TO MAIN HARNESS
			219G	Y/R	TO MAIN HARNESS
			220G	Y/R	TO MAIN HARNESS
			221G	Y/R	TO MAIN HARNESS
			222G	Y/R	TO MAIN HARNESS
			223G	Y/R	TO MAIN HARNESS
			224G	Y/R	TO MAIN HARNESS
			225G	Y/R	TO MAIN HARNESS
			226G	Y/R	TO MAIN HARNESS
			227G	Y/R	TO MAIN HARNESS
			228G	Y/R	TO MAIN HARNESS
			229G	Y/R	TO MAIN HARNESS
			230G	Y/R	TO MAIN HARNESS
			231G	Y/R	TO MAIN HARNESS
			232G	Y/R	TO MAIN HARNESS
			233G	Y/R	TO MAIN HARNESS
			234G	Y/R	TO MAIN HARNESS
			235G	Y/R	TO MAIN HARNESS
			236G	Y/R	TO MAIN HARNESS
			237G	Y/R	TO MAIN HARNESS
			238G	Y/R	TO MAIN HARNESS
			239G	Y/R	TO MAIN HARNESS
			240G	Y/R	TO MAIN HARNESS
			241G	Y/R	TO MAIN HARNESS
			242G	Y/R	TO MAIN HARNESS
			243G	Y/R	TO MAIN HARNESS
			244G	Y/R	TO MAIN HARNESS
			245G	Y/R	TO MAIN HARNESS
			246G	Y/R	TO MAIN HARNESS
			247G	Y/R	TO MAIN HARNESS
			248G	Y/R	TO MAIN HARNESS
			249G	Y/R	TO MAIN HARNESS
			250G	Y/R	TO MAIN HARNESS
			251G	Y/R	TO MAIN HARNESS
			252G	Y/R	TO MAIN HARNESS
			253G	Y/R	TO MAIN HARNESS
			254G	Y/R	TO MAIN HARNESS
			255G	Y/R	TO MAIN HARNESS
			256G	Y/R	TO MAIN HARNESS
			257G	Y/R	TO MAIN HARNESS
			258G	Y/R	TO MAIN HARNESS
			259G	Y/R	TO MAIN HARNESS
			260G	Y/R	TO MAIN HARNESS
			261G	Y/R	TO MAIN HARNESS
			262G	Y/R	TO MAIN HARNESS
			263G	Y/R	TO MAIN HARNESS
			264G	Y/R	TO MAIN HARNESS
			265G	Y/R	TO MAIN HARNESS
			266G	Y/R	TO MAIN HARNESS
			267G	Y/R	TO MAIN HARNESS
			268G	Y/R	TO MAIN HARNESS
			269G	Y/R	TO MAIN HARNESS
			270G	Y/R	TO MAIN HARNESS
			271G	Y/R	TO MAIN HARNESS
			272G	Y/R	TO MAIN HARNESS
			273G	Y/R	TO MAIN HARNESS
			274G	Y/R	TO MAIN HARNESS
			275G	Y/R	TO MAIN HARNESS
			276G	Y/R	TO MAIN HARNESS
			277G	Y/R	TO MAIN HARNESS
			278G	Y/R	TO MAIN HARNESS
			279G	Y/R	TO MAIN HARNESS
			280G	Y/R	TO MAIN HARNESS
			281G	Y/R	TO MAIN HARNESS
			282G	Y/R	TO MAIN HARNESS
			283G	Y/R	TO MAIN HARNESS
			284G	Y/R	TO MAIN HARNESS
			285G	Y/R	TO MAIN HARNESS
			286G	Y/R	TO MAIN HARNESS
			287G	Y/R	TO MAIN HARNESS
			288G	Y/R	TO MAIN HARNESS
			289G	Y/R	TO MAIN HARNESS
			290G	Y/R	TO MAIN HARNESS

DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

DRIVER ASSISTANCE SYSTEM CONNECTORS

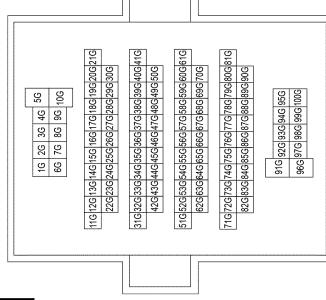
Connector No.	M14
Connector Name	WIRE TO WIRE
Connector Type	·TH40NW-NH
Connector Color	WHITE
	

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

Terminal No.	Color of Wire	Signal Name
1	LG	TO FRONT DOOR LH HARNESS - (WITH MEMORY MIRRORS)
1	SB	TO FRONT DOOR LH HARNESS - (WITHOUT MEMORY MIRRORS)
2	SB	TO FRONT DOOR LH HARNESS
3	B	TO FRONT DOOR LH HARNESS
4	Y	TO FRONT DOOR LH HARNESS
5	V	TO FRONT DOOR LH HARNESS
6	SB	TO FRONT DOOR LH HARNESS
7	Y	TO FRONT DOOR LH HARNESS
8	GR	TO FRONT DOOR LH HARNESS
9	L	TO FRONT DOOR LH HARNESS
10	W	TO FRONT DOOR LH HARNESS
11	B	TO FRONT DOOR LH HARNESS
12	R/G	TO FRONT DOOR LH HARNESS
13	G	TO FRONT DOOR LH HARNESS
14	R	TO FRONT DOOR LH HARNESS
15	O	TO FRONT DOOR LH HARNESS
16	V	TO FRONT DOOR LH HARNESS
17	P	TO FRONT DOOR LH HARNESS
18	G	TO FRONT DOOR LH HARNESS
19	LG/B	TO FRONT DOOR LH HARNESS
20	Y/V	TO FRONT DOOR LH HARNESS - (WITH MEMORY MIRRORS)
21	O	TO FRONT DOOR LH HARNESS - (WITHOUT MEMORY MIRRORS)
21	BR	TO FRONT DOOR LH HARNESS - (WITHOUT MEMORY MIRRORS)
22	BG	TO FRONT DOOR LH HARNESS
23	L	TO FRONT DOOR LH HARNESS - (WITH MEMORY MIRRORS)
23	G	TO FRONT DOOR LH HARNESS - (WITHOUT MEMORY MIRRORS)
24	BR	TO FRONT DOOR LH HARNESS
25	Y	TO FRONT DOOR LH HARNESS
26	LG	TO FRONT DOOR LH HARNESS - (WITH MEMORY MIRRORS)
27	W	TO FRONT DOOR LH HARNESS
28	L	TO FRONT DOOR LH HARNESS
29	P	TO FRONT DOOR LH HARNESS
30	R	TO FRONT DOOR LH HARNESS
31	SHIELD	TO FRONT DOOR LH HARNESS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Type	TH90FW-CCS16-TM4
Connector Color	WHITE
	



32	R	TO FRONT DOOR LH HARNESS	17G	O	TO ENGINE ROOM HARNESS	70G	L	TO ENGINE ROOM HARNESS
33	O	TO FRONT DOOR LH HARNESS	18G	GY	TO ENGINE ROOM HARNESS	71G	R/W	TO ENGINE ROOM HARNESS
34	-	TO FRONT DOOR LH HARNESS	19G	Y/V	TO ENGINE ROOM HARNESS	72G	L/W	TO ENGINE ROOM HARNESS
35	W	TO FRONT DOOR LH HARNESS	20G	GY	TO ENGINE ROOM HARNESS	73G	SHIELD	TO ENGINE ROOM HARNESS
36	L	TO FRONT DOOR LH HARNESS	21G	BY	TO ENGINE ROOM HARNESS	74G	W	TO ENGINE ROOM HARNESS
37	U/R	TO FRONT DOOR LH HARNESS	22G	GR	TO ENGINE ROOM HARNESS	75G	R	TO ENGINE ROOM HARNESS
38	GR	TO FRONT DOOR LH HARNESS	23G	Y/R	TO ENGINE ROOM HARNESS	76G	R/G	TO ENGINE ROOM HARNESS
39	P	TO FRONT DOOR LH HARNESS	24G	GB	TO ENGINE ROOM HARNESS	77G	BG	TO ENGINE ROOM HARNESS
40	R	TO FRONT DOOR LH HARNESS	25G	R/W	TO ENGINE ROOM HARNESS	78G	P	TO ENGINE ROOM HARNESS
			26G	R	TO ENGINE ROOM HARNESS	79G	-	TO ENGINE ROOM HARNESS
			27G	LG	TO ENGINE ROOM HARNESS	80G	R	TO ENGINE ROOM HARNESS
			28G	G/B	TO ENGINE ROOM HARNESS	81G	L	TO ENGINE ROOM HARNESS
			29G	G/B	TO ENGINE ROOM HARNESS	82G	R	TO ENGINE ROOM HARNESS
			30G	BR/Y	TO ENGINE ROOM HARNESS	83G	L	TO ENGINE ROOM HARNESS
			31G	R	TO ENGINE ROOM HARNESS	84G	L	TO ENGINE ROOM HARNESS
			32G	R	TO ENGINE ROOM HARNESS	85G	W	TO ENGINE ROOM HARNESS
			33G	Y/L	TO ENGINE ROOM HARNESS	86G	B/R	TO ENGINE ROOM HARNESS
			34G	GR	TO ENGINE ROOM HARNESS	87G	W	TO ENGINE ROOM HARNESS
			35G	GR	TO ENGINE ROOM HARNESS	88G	Q	TO ENGINE ROOM HARNESS
			36G	SB	TO ENGINE ROOM HARNESS	89G	P	TO ENGINE ROOM HARNESS
			37G	R/W	TO ENGINE ROOM HARNESS	90G	G	TO ENGINE ROOM HARNESS
			38G	BR	TO ENGINE ROOM HARNESS	91G	P	TO ENGINE ROOM HARNESS
			39G	BR	TO ENGINE ROOM HARNESS	92G	W/W	TO ENGINE ROOM HARNESS
			40G	-	TO ENGINE ROOM HARNESS	93G	BR	TO ENGINE ROOM HARNESS
			41G	R/G	TO ENGINE ROOM HARNESS	94G	B	TO ENGINE ROOM HARNESS
			42G	O	TO ENGINE ROOM HARNESS	95G	G	TO ENGINE ROOM HARNESS
			43G	G	TO ENGINE ROOM HARNESS	96G	R	TO ENGINE ROOM HARNESS
			44G	R/Y	TO ENGINE ROOM HARNESS	97G	R	TO ENGINE ROOM HARNESS
			45G	G	TO ENGINE ROOM HARNESS	98G	W/B	TO ENGINE ROOM HARNESS
			46G	LG	TO ENGINE ROOM HARNESS	99G	R	TO ENGINE ROOM HARNESS
			47G	R	TO ENGINE ROOM HARNESS	100G	GR/W	TO ENGINE ROOM HARNESS
			48G	W	TO ENGINE ROOM HARNESS			
			49G	-	TO ENGINE ROOM HARNESS			
			50G	BR	TO ENGINE ROOM HARNESS			
			51G	R	TO ENGINE ROOM HARNESS			
			52G	L	TO ENGINE ROOM HARNESS			
			53G	W	TO ENGINE ROOM HARNESS			
			54G	W	TO ENGINE ROOM HARNESS			
			55G	G	TO ENGINE ROOM HARNESS			
			56G	W	TO ENGINE ROOM HARNESS			
			57G	Y	TO ENGINE ROOM HARNESS			
			58G	BG	TO ENGINE ROOM HARNESS			
			59G	BG	TO ENGINE ROOM HARNESS			
			60G	BG	TO ENGINE ROOM HARNESS			
			61G	O	TO ENGINE ROOM HARNESS			
			62G	W	TO ENGINE ROOM HARNESS			
			63G	O	TO ENGINE ROOM HARNESS			
			64G	W/L	TO ENGINE ROOM HARNESS			
			65G	W/R	TO ENGINE ROOM HARNESS			
			66G	BG	TO ENGINE ROOM HARNESS			
			67G	O	TO ENGINE ROOM HARNESS			
			68G	B	TO ENGINE ROOM HARNESS			
			69G	Y	TO ENGINE ROOM HARNESS			

AAOIA0747GB

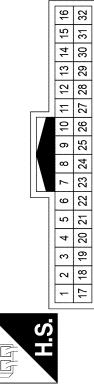
DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

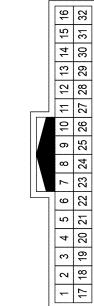
[ADAS CONTROL UNIT]

DRIVER ASSISTANCE SYSTEM CONNECTORS

Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Type	TH32NW-NH
Connector Color	WHITE



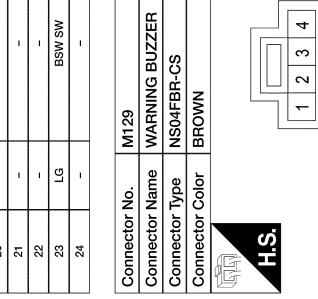
Connector No.	M75
Connector Name	WIRE TO WIRE
Connector Type	NS10MW-CS
Connector Color	WHITE



Connector No.	H.S.
Connector Name	TO FRONT DOOR RH HARNESS



Connector No.	M127
Connector Name	WARNING SYSTEM SWITCH
Connector Type	TH08FW-NH
Connector Color	WHITE



Connector No.	M129
Connector Name	WARNING BUZZER
Connector Type	NS04FBR-CS
Connector Color	BROWN

Terminal No.	Color of Wire	Signal Name	Signal Name	Terminal No.	Color of Wire	Signal Name	Signal Name
1	BR	TO FRONT DOOR RH HARNESS	B/W	1	L	ILLUMINATION +	ILLUMINATION +
2	V	TO FRONT DOOR RH HARNESS	B	2	-	-	BSW SW IND
3	BR	TO FRONT DOOR RH HARNESS	W/L	3	GR	BSW SW IND	-
4	L	TO FRONT DOOR RH HARNESS	V	4	W/B	TO FRONT DOOR RH HARNESS	GR
5	L/R	TO FRONT DOOR RH HARNESS	W/B	5	GR	TO FRONT DOOR RH HARNESS	ILLUMINATION -
6	L	TO FRONT DOOR RH HARNESS	G/Y	6	G	TO FRONT DOOR RH HARNESS	ILLUMINATION -
7	R/G	TO FRONT DOOR RH HARNESS	W/Y	7	G	TO FRONT DOOR RH HARNESS	IGNITION
8	B	TO FRONT DOOR RH HARNESS	L/B	8	LG	TO FRONT DOOR RH HARNESS	BSW SW
9	W	TO FRONT DOOR RH HARNESS	G/Y	9	-	-	-
10	Y	TO FRONT DOOR RH HARNESS	10	8	B	GND	GND
11	LG	TO FRONT DOOR RH HARNESS	-	11	-	-	-
12	L	TO FRONT DOOR RH HARNESS	-	12	G	IGN	IGN
13	Y/V	TO FRONT DOOR RH HARNESS	-	13	GR	SIGNAL	SIGNAL
14	W/L	TO FRONT DOOR RH HARNESS	-	14	B	GND	GND
15	V/R	TO FRONT DOOR RH HARNESS	-	15	-	-	-
16	L/W	TO FRONT DOOR RH HARNESS	-	16	-	-	-
17	SB	TO FRONT DOOR RH HARNESS	-	17	-	-	-
18	Y	TO FRONT DOOR RH HARNESS	-	18	-	-	-
19	G	TO FRONT DOOR RH HARNESS	-	19	-	-	-
20	V/W	TO FRONT DOOR RH HARNESS - (WITHOUT AUTOMATIC DRIVE POSITIONER)	-	20	-	-	-
21	GR/R	TO FRONT DOOR RH HARNESS - (WITH AUTOMATIC DRIVE POSITIONER)	-	21	-	-	-
22	-	TO FRONT DOOR RH HARNESS	O	22	-	-	-
23	R	TO FRONT DOOR RH HARNESS	-	23	L	GND	IT'S CAN-H
24	SHIELD	TO FRONT DOOR RH HARNESS	-	24	G	IGN	-
25	W	TO FRONT DOOR RH HARNESS	-	25	4	GR	BUZZER OUTPUT
26	B/G	TO FRONT DOOR RH HARNESS	-	26	5	R	IT'S CAN-L
27	G	TO FRONT DOOR RH HARNESS	-	27	6	R	CAN-L
28	LG/B	TO FRONT DOOR RH HARNESS	-	28	7	GR	SW LED
29	-	TO FRONT DOOR RH HARNESS	-	29	8	-	-
30	-	TO FRONT DOOR RH HARNESS	-	30	9	L	CAN-H
31	-	TO FRONT DOOR RH HARNESS	-	31	10	P	CAN-L
32	-	TO FRONT DOOR RH HARNESS	-	32	11	G	NC

Terminal No.	Color of Wire	Signal Name	Signal Name	Terminal No.	Color of Wire	Signal Name	Signal Name
1	BR	ILLUMINATION +	ILLUMINATION +	1	B	GND	GND
2	W	-	-	2	L	IT'S CAN-H	IT'S CAN-H
3	BR	IND-(WITH DRIVER ASSISTANCE)	IND-(WITH DRIVER ASSISTANCE)	3	G	BUZZER OUTPUT	-
4	B	IND-(WITHOUT DRIVER ASSISTANCE)	IND-(WITHOUT DRIVER ASSISTANCE)	4	GR	IT'S CAN-L	IT'S CAN-L
5	GR	ILLUMINATION -	ILLUMINATION -	5	R	CAN-L	CAN-L
6	G	IND-(WITH DRIVER ASSISTANCE)	IND-(WITH DRIVER ASSISTANCE)	6	R	SW LED	SW LED
7	-	IND-(WITHOUT DRIVER ASSISTANCE)	IND-(WITHOUT DRIVER ASSISTANCE)	7	GR	-	-
8	B	BACKUP ECU	BACKUP ECU	8	9	L	CAN-H
9	GND	-	-	9	10	P	CAN-L
10	-	-	-	10	11	G	NC
11	-	-	-	11	12	-	-
12	-	-	-	12	13	-	-
13	-	-	-	13	14	-	-
14	-	-	-	14	-	-	-

AAOIA0748GB

DAS

P

Z

K

W

G

T

D

A

C

M

I

L

U

Y

P

N

M

T

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

T

M

DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

DRIVER ASSISTANCE SYSTEM CONNECTORS

Connector No.	M191
Connector Name	JOINT CONNECTOR-M01
Connector Type	NH24FW-J
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name
1	-	-	1	B	GROUND
2	B	GND	2	B	GND
3	B	GND	3	B	GROUND
4	B	GROUND	4	-	-
5	-	-	5	B	GROUND
6	B	GND	6	B	GND
7	B	GND	7	B	GROUND
8	B	GND	8	B	GROUND
9	-	-	9	B	GROUND
10	B	GND	10	B	GND
11	B	GND	11	B	GROUND
12	B	GND	12	B	GND
13	B	GND	13	-	-
14	B	GND	14	B	GND
15	B	GND	15	B	GROUND
16	-	-	16	B	GND
17	B	GND	17	-	-
18	B	GND	18	SHIELD	SHIELD
19	SHIELD	GROUND	19	SHIELD	SHIELD
20	B	GND	20	SHIELD	SHIELD
21	B	GND	21	B	GND
22	B	GND	22	B	GND
23	B	GROUND	23	B	GROUND
24	B	GROUND	24	B	GROUND

AAOIA0749GB

BASIC INSPECTION

ADDITIONAL SERVICE WHEN REPLACING ADAS CONTROL UNIT

Description

INFOID:000000014386416

Always perform the ADAS control unit configuration after replacing the ADAS control unit.

Work Procedure

INFOID:000000014386417

1. ADAS CONTROL UNIT CONFIGURATION

CONSULT

Perform the ADAS control unit configuration. Refer to [DAS-22, "Description"](#).

>> GO TO 2.

2. PERFORM SELF-DIAGNOSIS

CONSULT

1. Turn ignition switch ON.
2. Select "Self Diagnostic Result" mode of "ICC/ADAS".
3. Check DTC.

Is DTC detected?

YES >> Perform the trouble diagnosis for the detected DTC. Refer to [DAS-12, "DTC Index"](#).
NO >> Inspection End.

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

CONFIGURATION (ADAS CONTROL UNIT)

Description

INFOID:0000000014386418

- Since vehicle specifications are not included in the ADAS control unit after replacement, it is required to write vehicle specifications using CONSULT.
- Configuration has three functions as follows:

Function		Description
Read/Write Configuration	Before ECU	Allows the reading of vehicle specification written in ADAS control unit to store the specification in CONSULT.
	After ECU replacement	Allows the writing of the vehicle information stored in CONSULT into the ADAS control unit.
Manual Configuration		Allows the writing of the vehicle specification into the ADAS control unit by hand.

Work Procedure

INFOID:0000000014386419

CAUTION:

- Use “Manual Configuration” only when “TYPE ID” of ADAS control unit cannot be read.
- If an error occurs during configuration, start over from the beginning.

1. CHECKING TYPE ID (1)

Use FAST (service parts catalogue) to search ADAS control unit of the applicable vehicle and find “Type ID”.

Is “Type ID” displayed?

YES >> Print out “Type ID” and GO TO 2.

NO >> “Configuration” is not required for ADAS control unit. Replace in the usual manner. Refer to [DAS-49, “Removal and Installation”](#).

2. CHECKING TYPE ID (2)**④ CONSULT Configuration**

1. Select “Before Replace ECU” of “Read/Write Configuration”.
2. Check that “Type ID” is displayed on the CONSULT screen.

Is “Type ID” displayed?

YES >> GO TO 3.

NO >> GO TO 7.

3. VERIFYING TYPE ID (1)**④ CONSULT Configuration**

Compare a “Type ID” displayed on the CONSULT screen with the one searched by using FAST (service parts catalogue) to check that these “Type ID” agree with each other.

NOTE:

For the “Type ID” searched by using FAST (service parts catalog), use the last five digits of the “Type ID”.

>> GO TO 4.

4. SAVING TYPE ID**④ CONSULT Configuration**

Save “Type ID” on CONSULT.

>> GO TO 5.

5. REPLACING ADAS CONTROL UNIT (1)

Replace ADAS control unit. Refer to [DAS-49, “Removal and Installation”](#).

>> GO TO 6.

6. WRITING (AUTOMATIC WRITING)

< BASIC INSPECTION >

CONSULT Configuration

1. Select “After Replace ECU” of “Re/programming, Configuration” or that of “Read / Write Configuration”.
2. Select the “Type ID” agreeing with the one stored on CONSULT and the one searched by using FAST (service parts catalogue) to write the “Type ID” into the ADAS control unit.

NOTE:

For the “Type ID” searched by using FAST (service parts catalog), use the last five digits of the “Type ID”.

>> GO TO 9.

7. REPLACING ADAS CONTROL UNIT (2)

Replace ADAS control unit. Refer to [DAS-49, "Removal and Installation"](#).

>> GO TO 8.

8. WRITING (MANUAL WRITING)

CONSULT Configuration

1. Select “Manual Configuration”.
2. Select the “Type ID” searched by using FAST (service parts catalogue) to write the “Type ID” into the ADAS control unit.

NOTE:

For the “Type ID” searched by using FAST (service parts catalog), use the last five digits of the “Type ID”.

>> GO TO 9.

9. VERIFYING TYPE ID (2)

Compare “Type ID” written into the ADAS control unit with the one searched by using FAST (service parts catalogue) to check that these “Type ID” agree with each other.

NOTE:

For the “Type ID” searched by using FAST (service parts catalog), use the last five digits of the “Type ID”.

>> GO TO 10.

10. RESTART ADAS BY IGN OFF/IGN ON

1. Turn the ignition switch OFF.
2. Turn the ignition switch ON.

>> GO TO 11.

11. PERFORMING SUPPLEMENTARY WORK

1. Perform “Self Diagnostic Result” of all systems.
2. Erase “Self Diagnostic Result”.

>> End of work.

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

< DTC/CIRCUIT DIAGNOSIS >

DTC/CIRCUIT DIAGNOSIS

C1A00 CONTROL UNIT

DTC Description

INFOID:000000014386420

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1A00	CONTROL UNIT (Control unit)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	-
		Threshold	ADAS control unit internal malfunction
		Diagnosis delay time	-

POSSIBLE CAUSE

ADAS control unit

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

PERFORM SELF DIAGNOSTIC RESULT

1. PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Select "All DTC Reading" mode.
3. Check DTC.
4. Check if "C1A00" is detected as the current malfunction in "Self Diagnostic Result" mode of "ICC/ADAS".

Is "C1A00" detected as the current malfunction?

YES >> Refer to [DAS-24, "Diagnosis Procedure"](#).NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:000000014386421

1. CHECK SELF DIAGNOSTIC RESULT

Check if any DTC other than "C1A00" is detected in "Self Diagnostic Result" mode of "ICC/ADAS".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-12, "DTC Index"](#).NO >> Replace the ADAS control unit. Refer to [DAS-49, "Removal and Installation"](#).

C1A01 POWER SUPPLY CIRCUIT 1, C1A02 POWER SUPPLY CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1A01 POWER SUPPLY CIRCUIT 1, C1A02 POWER SUPPLY CIRCUIT 2

DTC Description

INFOID:000000014386422

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition		
C1A01	POWER SUPPLY CIR (Power supply circuit)	1	Diagnosis condition	When Ignition switch is ON.
			Signal (terminal)	-
			Threshold	Less than 7.9 V
			Diagnosis delay time	5 seconds or more
C1A02	POWER SUPPLY CIR 2 (Power supply circuit 2)	2	Diagnosis condition	When Ignition switch is ON.
			Signal (terminal)	-
			Threshold	More than 19.3 V
			Diagnosis delay time	5 seconds or more

POSSIBLE CAUSE

- Connector, harness, fuse
- ADAS control unit

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Turn the Blind Spot Warning system ON.
3. Perform "All DTC Reading" mode.
4. Check if "C1A01" or "C1A02" is detected as the current malfunction in "Self Diagnostic Result" mode of "ICC/ADAS".

Is "C1A01" or "C1A02" detected as the current malfunction?

YES >> Refer to [DAS-25, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:000000014386423

1. CHECK ADAS CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit of ADAS control unit. Refer to [DAS-48, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> Replace the ADAS control unit. Refer to [DAS-49, "Removal and Installation"](#).

NO >> Repair or replace the malfunctioning parts.

DAS

< DTC/CIRCUIT DIAGNOSIS >

C1A03 VEHICLE SPEED SENSOR**DTC Description**

INFOID:0000000014386424

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1A03	VHCL SPEED SE CIRC (Vehicle speed sensor circuit)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	If the vehicle speed is greater than 19 mph (30km/h) 0.3s and vehicle speed drops to less than 1.8 mph (3km/h) within 200ms and vehicle speed is less than 3km/h continues for 3s.
		Diagnosis delay time	–

POSSIBLE CAUSE

- Wheel speed sensor
- ABS actuator and electric unit (control unit)
- ADAS control unit

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE**1. CHECK DTC PRIORITY**

If DTC "C1A03" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.
 • U1000: Refer to [DAS-34, "DTC Description"](#).

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE**④ CONSULT**

1. Start the engine.
2. Turn the Blind Spot Warning system ON.
3. Drive the vehicle at 30 km/h (19 MPH) or more.

CAUTION:**Always drive safely.**

4. Stop the vehicle.
5. Perform "All DTC Reading" mode.
6. Check if "C1A03" is detected as the current malfunction in "Self Diagnostic Result" mode of "ICC/ADAS".

Is "C1A03" detected as the current malfunction?

YES >> Refer to [DAS-26, "Diagnosis Procedure"](#).
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).
 NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000014386425

1. CHECK DTC PRIORITY

If DTC "C1A03" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.
 • U1000: Refer to [DAS-34, "DTC Description"](#).

NO >> GO TO 2.

2.CHECK DATA MONITOR

1. Start the engine.
2. Drive the vehicle at 19 mph (30 km/h) or more.
3. Check that the value of "VHCL SPD SE" in "Data Monitor" of "ICC/ADAS" is almost the same as the actual vehicle speed.

CAUTION:

Be careful of the vehicle speed.

Is the inspection result normal?

YES >> Replace the ADAS control unit. Refer to [DAS-49, "Removal and Installation"](#).
NO >> GO TO 3.

3.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF DIAGNOSTIC RESULT

Check if any DTC is detected in "Self Diagnostic Result" mode of "ABS".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-55, "DTC Index"](#).
NO >> Replace the ADAS control unit. Refer to [DAS-49, "Removal and Installation"](#).

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

C1B53 SIDE RADAR RIGHT MALFUNCTION

DTC Description

INFOID:0000000014386426

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1B53	SIDE RDR R MALF (Side radar right malfunction)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	ADAS control unit detects that side radar RH has a malfunction
		Diagnosis delay time	–

POSSIBLE CAUSE

Side radar RH

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Turn the Blind Spot Warning system ON.
3. Perform "All DTC Reading" mode.
4. Check if "C1B53" is detected as the current malfunction in "Self Diagnostic Result" mode of "ICC/ADAS".

Is "C1B53" detected as the current malfunction?

YES >> Refer to [DAS-28, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000014386427

1. CHECK SELF DIAGNOSTIC RESULT

Check if "U1000" is detected other than "C1B53" in "Self Diagnostic Result" mode of "ICC/ADAS".

Is "U1000" detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts.
Refer to [DAS-34, "DTC Description"](#).

NO >> GO TO 2.

2. CHECK SELF DIAGNOSTIC RESULT

Check if any DTC is detected in "Self Diagnostic Result" mode of "SIDE RADAR RIGHT".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to
[DAS-79, "DTC Index"](#) (Side radar LH), [DAS-81, "DTC Index"](#) (Side radar RH).

NO >> Replace the ADAS control unit. Refer to [DAS-49, "Removal and Installation"](#).

C1B54 SIDE RADAR LEFT MALFUNCTION

DTC Description

INFOID:000000014386428

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1B54	SIDE RDR L MALF (Side radar left malfunction)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	ADAS control unit detects that side radar LH has a malfunction
		Diagnosis delay time	–

POSSIBLE CAUSE

Side radar LH

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Turn the Blind Spot Warning system ON.
3. Perform "All DTC Reading" mode.
4. Check if "C1B54" is detected as the current malfunction in "Self Diagnostic Result" mode of "ICC/ADAS".

Is "C1B54" detected as the current malfunction?

YES >> Refer to [DAS-28, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:000000014386429

1. CHECK SELF DIAGNOSTIC RESULT

Check if "U1000" is detected other than "C1B54" in "Self Diagnostic Result" mode of "ICC/ADAS".

Is "U1000" detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to [DAS-34, "DTC Description"](#).

NO >> GO TO 2.

2. CHECK SELF DIAGNOSTIC RESULTS

Check if any DTC is detected in "Self Diagnostic Result" mode of "SIDE RADAR LEFT".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-79, "DTC Index"](#) (Side radar LH), [DAS-81, "DTC Index"](#) (Side radar RH).

NO >> Replace the ADAS control unit. Refer to [DAS-49, "Removal and Installation"](#).

DAS

P

< DTC/CIRCUIT DIAGNOSIS >

U0121 VDC CAN 2**DTC Description**

INFOID:0000000014386430

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U0121	VDC CAN CIR2 (VDC CAN circuit2)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	—
		Threshold	If ADAS control unit detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication
		Diagnosis delay time	—

POSSIBLE CAUSE

ABS actuator and electric unit (control unit)

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE**1. CHECK DTC PRIORITY**

If DTC "U0121" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?YES >> Perform diagnosis of applicable. Refer to [DAS-34, "DTC Description"](#).

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE**④ CONSULT**

1. Start the engine.
2. Turn the Blind Spot Warning system ON.
3. Perform "All DTC Reading" mode.
4. Check if "U0121" is detected as the current malfunction in "Self Diagnostic Result" mode of "ICC/ADAS".

Is "U0121" detected as the current malfunction?YES >> Refer to [DAS-30, "Diagnosis Procedure"](#).NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000014386431

1. CHECK DTC PRIORITY

If DTC "U0121" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?YES >> Perform diagnosis of applicable. Refer to [DAS-34, "DTC Description"](#).

NO >> GO TO 2.

2. CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" mode of "ABS".

Is any DTC detected?YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-55, "DTC Index"](#).NO >> Replace the ADAS control unit. Refer to [DAS-49, "Removal and Installation"](#).

< DTC/CIRCUIT DIAGNOSIS >

U0401 ECM CAN 1**DTC Description**

INFOID:000000014386432

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U0401	ECM CAN CIR1 (ECM CAN circuit1)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	If ADAS control unit detects an error signal that is received from ECM via CAN communication
		Diagnosis delay time	–

POSSIBLE CAUSE

ECM

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE**1. CHECK DTC PRIORITY**

If DTC "U0401" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?YES >> Perform diagnosis of applicable. Refer to [DAS-34, "DTC Description"](#).

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE**④ CONSULT**

1. Start the engine.
2. Turn the Blind Spot Warning system ON.
3. Perform "All DTC Reading" mode.
4. Check if "U0401" is detected as the current malfunction in "Self Diagnostic Result" mode of "ICC/ADAS".

Is "U0401" detected as the current malfunction?YES >> Refer to [DAS-31, "Diagnosis Procedure"](#).NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:000000014386433

1. CHECK DTC PRIORITY

If DTC "U0401" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?YES >> Perform diagnosis of applicable. Refer to [DAS-34, "DTC Description"](#).

NO >> GO TO 2.

2. CHECK ECM SELF DIAGNOSTIC RESULT

Check if any DTC is detected in "Self Diagnostic Result" mode of "ENGINE".

Is any DTC detected?YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [EC-837, "DTC Index"](#) (Cummins 5.0L Engine) or [EC-136, "DTC Index"](#) (VK56VD Engine).NO >> Replace the ADAS control unit. Refer to [DAS-49, "Removal and Installation"](#).

A

B

C

D

E

F

G

H

I

J

K

L

M

DAS

P

< DTC/CIRCUIT DIAGNOSIS >

U0402 TCM CAN 1**DTC Description**

INFOID:0000000014386434

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U0402	TCM CAN CIRC1 (TCM CAN circuit1)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	If ADAS control unit detects an error signal that is received from TCM via CAN communication
		Diagnosis delay time	–

POSSIBLE CAUSE

TCM

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE**1. CHECK DTC PRIORITY**

If DTC "U0402" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?YES >> Perform diagnosis of applicable. Refer to [DAS-34, "DTC Description"](#).

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE**④ CONSULT**

1. Start the engine.
2. Turn the Blind Spot Warning system ON.
3. Perform "All DTC Reading" mode.
4. Check if "U0402" is detected as the current malfunction in "Self Diagnostic Result" mode of "ICC/ADAS".

Is "U0402" detected as the current malfunction?YES >> Refer to [DAS-32, "Diagnosis Procedure"](#).NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000014386435

1. CHECK DTC PRIORITY

If DTC "U0402" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?YES >> Perform diagnosis of applicable. Refer to [DAS-34, "DTC Description"](#).

NO >> GO TO 2.

2. CHECK TCM SELF DIAGNOSTIC RESULT

Check if any DTC is detected in "Self Diagnostic Result" mode of "TRANSMISSION".

Is any DTC detected?YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [TM-69, "DTC Index"](#) (RE6R01A) or [TM-334, "DTC Index"](#) (RE7R01B).NO >> Replace the ADAS control unit. Refer to [DAS-49, "Removal and Installation"](#).

< DTC/CIRCUIT DIAGNOSIS >

U0415 VDC CAN 1

DTC Description

INFOID:000000014386436

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U0415	VDC CAN CIR1 (VDC CAN circuit1)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	If ADAS control unit detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication
		Diagnosis delay time	–

POSSIBLE CAUSE

ABS actuator and electric unit (control unit)

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1. CHECK DTC PRIORITY

If DTC "U0415" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?YES >> Perform diagnosis of applicable. Refer to [DAS-34, "DTC Description"](#).

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

 CONSULT

1. Start the engine.
2. Turn the Blind Spot Warning system ON.
3. Perform "All DTC Reading" mode.
4. Check if "U0415" is detected as the current malfunction in "Self Diagnostic Result" mode of "ICC/ADAS".

Is "U0415" detected as the current malfunction?YES >> Refer to [DAS-33, "Diagnosis Procedure"](#).NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:000000014386437

1. CHECK DTC PRIORITY

If DTC "U0415" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?YES >> Perform diagnosis of applicable. Refer to [DAS-34, "DTC Description"](#).

NO >> GO TO 2.

2. CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF DIAGNOSTIC RESULT

Check if any DTC is detected in "Self Diagnostic Result" mode of "ABS".

Is any DTC detected?YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-55, "DTC Index"](#).NO >> Replace the ADAS control unit. Refer to [DAS-49, "Removal and Installation"](#).

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

< DTC/CIRCUIT DIAGNOSIS >

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000014386438

CAN COMMUNICATION

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicles are equipped with many electronic control units, 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, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads the required data only.

CAN communication signal chart. Refer to [LAN-74, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart"](#).

ITS COMMUNICATION

- ITS communication is a multiplex communication system. This enables the system to transmit and receive large quantities of data at high speed by connecting control units with 2 communication lines.
- ITS communication lines adopt twisted-pair line style (two lines twisted) for noise immunity.

DTC Description

INFOID:0000000014386439

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1000	CAN COMM CIRCUIT (CAN communication circuit)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	If ADAS control unit is not transmitting or receiving CAN communication signal or ITS communication
		Diagnosis delay time	2 seconds or more

NOTE:

If "U1000" is detected, first diagnose the CAN communication system.

POSSIBLE CAUSE

- CAN communication system
- ITS communication system

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

NOTE:

With the detection of "U1000", some systems do not perform the fail-safe operation. A system controlling based on a signal received from the control unit performs fail-safe operation when the communication with the ADAS control unit becomes inoperable.

DTC CONFIRMATION PROCEDURE**1. PERFORM DTC CONFIRMATION PROCEDURE****Ⓐ CONSULT**

- Start the engine.
- Turn the Blind Spot Warning system ON.
- Perform "All DTC Reading" mode.
- Check if the "U1000" is detected as the current malfunction in "Self Diagnostic Result" mode of "ICC/ADAS".

Is "U1000" detected as the current malfunction?

YES >> Refer to [DAS-31, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

< DTC/CIRCUIT DIAGNOSIS >

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:000000014386440

1. PERFORM THE SELF DIAGNOSTIC RESULT

CONSULT

1. Turn the ignition switch ON.
2. Turn the Blind Spot Warning system ON, and then wait for 30 seconds or more.
3. Perform "All DTC Reading" mode.
4. Check if "U1000" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1000" detected as the current malfunction?

YES >> Refer to [LAN-53, "Trouble Diagnosis Flow Chart"](#).

NO >> Inspection End.

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

< DTC/CIRCUIT DIAGNOSIS >

U1321 CONFIGURATION**DTC Description**

INFOID:0000000014386441

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detecting condition	
U1321	NOT CONFIGURED	Diagnosis condition	When ignition switch is on.
		Signal (terminal)	—
		Threshold	If ADAS is not configured.
		Diagnosis delay time	—

POSSIBLE CAUSE

ADAS control unit not configured

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE**1. PERFORM DTC CONFIRMATION PROCEDURE****④ CONSULT**

1. Start the engine.
2. Turn the Blind Spot Warning system ON.
3. Perform "All DTC Reading" mode.
4. Check if "U1321" is detected as the current malfunction in "Self Diagnostic Result" mode of "ICC/ADAS".

Is "U1321" detected as the current malfunction?YES >> Refer to [DAS-36, "Diagnosis Procedure"](#).

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000014386442

1. PERFORM CONFIGURATION OF ADAS CONTROL UNIT

Perform configuration of ADAS control unit when DTC "U1321" is detected.

>> Perform configuration of ADAS control unit. Refer to [DAS-22, "Work Procedure"](#).

< DTC/CIRCUIT DIAGNOSIS >

U1503 SIDE RDR L CAN 2**DTC Description**

INFOID:000000014386443

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1503	SIDE RDR L CAN CIR 2 (Side radar left CAN circuit 2)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	ADAS control unit detects an error signal that is received from side radar LH via ITS communication
		Diagnosis delay time	–

POSSIBLE CAUSE

Side radar LH

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE**1. CHECK DTC PRIORITY**

If DTC "U1503" is displayed with DTC "U1000" or "U1508", first diagnose the DTC "U1000" or "U1508".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.

- U1000: Refer to [DAS-34, "DTC Description"](#).
- U1508: Refer to [DAS-46, "DTC Description"](#).

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE**④ CONSULT**

1. Start the engine.
2. Turn the Blind Spot Warning system ON.
3. Perform "All DTC Reading" mode.
4. Check if "U1503" is detected as the current malfunction in "Self Diagnostic Result" mode of "ICC/ADAS".

Is "U1503" detected as the current malfunction?YES >> Refer to [DAS-37, "Diagnosis Procedure"](#).NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:000000014386444

1. CHECK DTC PRIORITY

If DTC "U1503" is displayed with DTC "U1000" or "U1508", first diagnose the DTC "U1000" or "U1508".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.

- U1000: Refer to [DAS-34, "DTC Description"](#).
- U1508: Refer to [DAS-46, "DTC Description"](#).

NO >> GO TO 2.

2. CHECK SIDE RADAR LH SELF DIAGNOSTIC RESULT

Check if any DTC is detected in "Self Diagnostic Result" mode of "SIDE RADAR LEFT".

Is any DTC detected?

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

U1503 SIDE RDR L CAN 2

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-79, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-49, "Removal and Installation"](#).

< DTC/CIRCUIT DIAGNOSIS >

U1504 SIDE RDR L CAN 1**DTC Description**

INFOID:000000014386445

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1504	SIDE RDR L CAN CIR 1 (Side radar left CAN circuit 1)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	ADAS control unit detects an error signal that is received from side radar LH via ITS communication
		Diagnosis delay time	–

POSSIBLE CAUSE

Side radar LH

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE**1. CHECK DTC PRIORITY**

If DTC "U1504" is displayed with DTC "U1000" or "U1508", first diagnose the DTC "U1000" or "U1508".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.

- U1000: Refer to [DAS-34, "DTC Description"](#).
- U1508: Refer to [DAS-46, "DTC Description"](#).

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE**④ CONSULT**

1. Start the engine.
2. Turn the Blind Spot Warning system ON.
3. Perform "All DTC Reading" mode.
4. Check if "U1504" is detected as the current malfunction in "Self Diagnostic Result" mode of "ICC/ADAS".

Is "U1504" detected as the current malfunction?YES >> Refer to [DAS-39, "Diagnosis Procedure"](#).NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:000000014386446

1. CHECK DTC PRIORITY

If DTC "U1504" is displayed with DTC "U1000" or "U1508", first diagnose the DTC "U1000" or "U1508".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.

- U1000: Refer to [DAS-34, "DTC Description"](#).
- U1508: Refer to [DAS-46, "DTC Description"](#).

NO >> GO TO 2.

2. CHECK SIDE RADAR LH SELF DIAGNOSTIC RESULT

Check if any DTC is detected in "Self Diagnostic Result" mode of "SIDE RADAR LEFT".

Is any DTC detected?

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

U1504 SIDE RDR L CAN 1

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-79, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-49, "Removal and Installation"](#).

< DTC/CIRCUIT DIAGNOSIS >

U1505 SIDE RDR R CAN 2

DTC Description

INFOID:000000014386447

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1505 SIDE RDR R CAN CIR 2 (Side radar right CAN circuit 2)		Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	ADAS control unit detects an error signal that is received from side radar RH via ITS communication
		Diagnosis delay time	–

POSSIBLE CAUSE

Side radar RH

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1. CHECK DTC PRIORITY

If DTC "U1505" is displayed with DTC "U1000" or "U1507", first diagnose the DTC "U1000" or "U1507".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.

- U1000: Refer to [DAS-34, "DTC Description"](#).
- U1507: Refer to [DAS-45, "DTC Description"](#).

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

④ CONSULT

1. Start the engine.
2. Turn the Blind Spot Warning system ON.
3. Perform "All DTC Reading" mode.
4. Check if "U1505" is detected as the current malfunction in "Self Diagnostic Result" mode of "ICC/ADAS".

Is "U1505" detected as the current malfunction?

YES >> Refer to [DAS-41, "Diagnosis Procedure"](#).NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:000000014386448

1. CHECK DTC PRIORITY

If DTC "U1505" is displayed with DTC "U1000" or "U1507", first diagnose the DTC "U1000" or "U1507".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.

- U1000: Refer to [DAS-34, "DTC Description"](#).
- U1507: Refer to [DAS-45, "DTC Description"](#).

NO >> GO TO 2.

2. CHECK SIDE RADAR RH SELF DIAGNOSTIC RESULT

Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT".

Is any DTC detected?

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

U1505 SIDE RDR R CAN 2

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-81, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-49, "Removal and Installation"](#).

< DTC/CIRCUIT DIAGNOSIS >

U1506 SIDE RDR R CAN 1

DTC Description

INFOID:000000014386449

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1506 SIDE RDR R CAN CIR 1 (Side radar right CAN circuit 1)		Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	ADAS control unit detects an error signal that is received from side radar RH via ITS communication
		Diagnosis delay time	–

POSSIBLE CAUSE

Side radar RH

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1. CHECK DTC PRIORITY

If DTC "U1506" is displayed with DTC "U1000" or "U1507", first diagnose the DTC "U1000" or "U1507".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.

- U1000: Refer to [DAS-34, "DTC Description"](#).
- U1507: Refer to [DAS-45, "DTC Description"](#).

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

④ CONSULT

1. Start the engine.
2. Turn the Blind Spot Warning system ON.
3. Perform "All DTC Reading" mode.
4. Check if "U1506" is detected as the current malfunction in "Self Diagnostic Result" mode of "ICC/ADAS".

Is "U1506" detected as the current malfunction?

YES >> Refer to [DAS-39, "Diagnosis Procedure"](#).NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:000000014386450

1. CHECK DTC PRIORITY

If DTC "U1506" is displayed with DTC "U1000" or "U1507", first diagnose the DTC "U1000" or "U1507".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.

- U1000: Refer to [DAS-34, "DTC Description"](#).
- U1507: Refer to [DAS-45, "DTC Description"](#).

NO >> GO TO 2.

2. CHECK SIDE RADAR RH SELF DIAGNOSTIC RESULTS

Check if any DTC is detected in "Self Diagnostic Result" mode of "SIDE RADAR RIGHT".

Is any DTC detected?

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

U1506 SIDE RDR R CAN 1

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-81, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-49, "Removal and Installation"](#).

< DTC/CIRCUIT DIAGNOSIS >

U1507 LOST COMM(SIDE RDR R)**DTC Description**

INFOID:0000000014386451

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1507	LOST COMM(SIDE RDR R) [Lost communication (Side radar right)]	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	ADAS control unit cannot receive ITS communication signal from side radar RH
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

- Side radar RH right/left switching signal circuit
- ITS communication system
- Side radar RH

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE**1. CHECK DTC PRIORITY**

If DTC "U1507" is displayed with DTC "U1000", first diagnose the DTC "U1507".

Is applicable DTC detected?YES >> Perform diagnosis of applicable. Refer to [DAS-34, "DTC Description"](#).

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE**④ CONSULT**

1. Start the engine.
2. Turn the Blind Spot Warning system ON.
3. Perform "All DTC Reading" mode.
4. Check if "U1507" is detected as the current malfunction in "Self Diagnostic Result" mode of "ICC/ADAS".

Is "U1507" detected as the current malfunction?YES >> Refer to [DAS-45, "Diagnosis Procedure"](#).NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000014386452

1. CHECK RIGHT/LEFT SWITCHING SIGNAL CIRCUITCheck right/left switching signal circuit. Refer to [DAS-108, "Diagnosis Procedure"](#).Is the inspection result normal?YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts.
Refer to [LAN-53, "Trouble Diagnosis Flow Chart"](#).

NO >> Repair right/left switching signal circuit.

DAS

P

< DTC/CIRCUIT DIAGNOSIS >

U1508 LOST COMM(SIDE RDR L)**DTC Description**

INFOID:0000000014386453

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1508	LOST COMM(SIDE RDR L) [Lost communication (Side radar left)]	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	ADAS control unit cannot receive ITS communication signal from side radar LH
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

- Side radar LH harness connector
- ITS communication system
- Side radar LH

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE**1. CHECK DTC PRIORITY**

If DTC "U1508" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-34, "DTC Description"](#).
NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE**④ CONSULT**

1. Start the engine.
2. Turn the Blind Spot Warning system ON.
3. Perform "All DTC Reading" mode.
4. Check if "U1508" is detected as the current malfunction in "Self Diagnostic Result" mode of "ICC/ADAS".

Is "U1508" detected as the current malfunction?

YES >> Refer to [DAS-46, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000014386454

1. CHECK DTC PRIORITY

If DTC "U1508" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-34, "DTC Description"](#).
NO >> GO TO 2.

2. CHECK SIDE RADAR HARNESS CONNECTOR

1. Turn the ignition switch OFF.
2. Check the terminals and connectors of the side radar LH for damage, bend and short (unit side and connector side).

Is the inspection result normal?

U1508 LOST COMM(SIDE RDR L)

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts.
Refer to [LAN-53, "Trouble Diagnosis Flow Chart"](#).

NO >> Repair the terminal or connector.

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000014386455

Regarding Wiring Diagram information, refer to [DAS-14, "Wiring Diagram"](#).

1. CHECK FUSES

Check that the following fuse is not blown:

Signal name	Fuse No.
Ignition power supply	30 (10A)

Is the fuse blown?

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

2. CHECK ADAS CONTROL UNIT POWER SUPPLY CIRCUIT

Check voltage between ADAS control unit harness connector and ground.

Terminal		Condition	Voltage (Approx.)
(+)	(-)		
ADAS control unit	Ground	Ignition switch	
Connector		OFF	0 V
M128		ON	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the ADAS control unit power supply circuit.

3. CHECK ADAS CONTROL UNIT GROUND CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect the ADAS control unit connector.
3. Check for continuity between ADAS control unit harness connector and ground.

ADAS control unit		Ground	Continuity
Connector	Terminal		
M128	1		Yes

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair the ADAS control unit ground circuit.

REMOVAL AND INSTALLATION

ADAS CONTROL UNIT

Removal and Installation

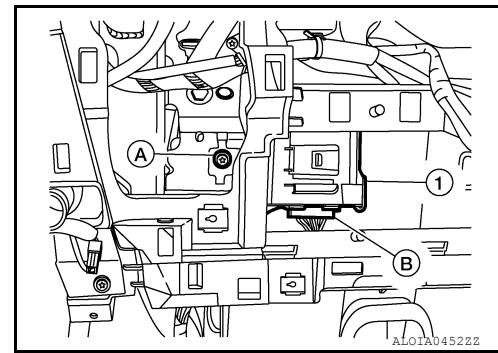
INFOID:000000014386456

REMOVAL

CAUTION:

Before replacing ADAS control unit, perform "Before Replace ECU" of "Read / Write Configuration" to save or print current vehicle specification. Refer to [DAS-21, "Description"](#).

1. Disconnect battery or batteries. Refer to [PG-185, "Battery Disconnect"](#).
2. Remove cluster lid C lower. Refer to [IP-17, "CLUSTER LID C LOWER : Removal and Installation"](#).
3. Remove cluster lid C. Refer to [IP-16, "CLUSTER LID C FINISHER : Removal and Installation"](#).
4. Remove ADAS control unit screw (A).
5. Disconnect harness connector (B) from ADAS control unit (1).



6. Remove ADAS control unit.

INSTALLATION

CAUTION:

If replacing ADAS module, be sure to perform the additional service procedures. Refer to [DAS-21, "Description"](#).

Installation is in the reverse order of removal.

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

INFOID:0000000014386457

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 SR 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, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.
- Improper repair, 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 SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery or batteries, and wait at least three minutes before performing any service.

Precaution for Work

INFOID:0000000014386458

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
 - Water soluble dirt:
 - Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
 - Then rub with a soft, dry cloth.
 - Oily dirt:
 - Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
 - Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
 - Then rub with a soft, dry cloth.
 - Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
 - For genuine leather seats, use a genuine leather seat cleaner.

Precautions For Harness Repair

INFOID:0000000014386459

ITS communication uses a twisted pair line. Be careful when repairing it.

PRECAUTIONS

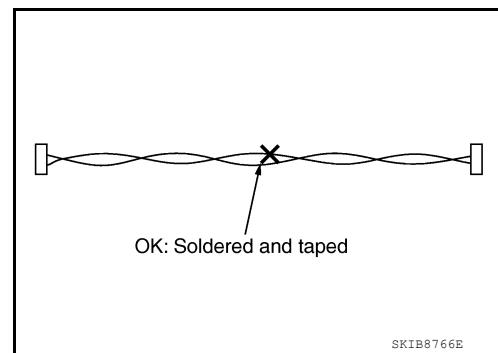
< PRECAUTION >

- Solder the repaired area and wrap tape around the soldered area.

NOTE:

A fray of twisted lines must be within 110 mm (4.33 in).

[DRIVER ASSISTANCE SYSTEM]

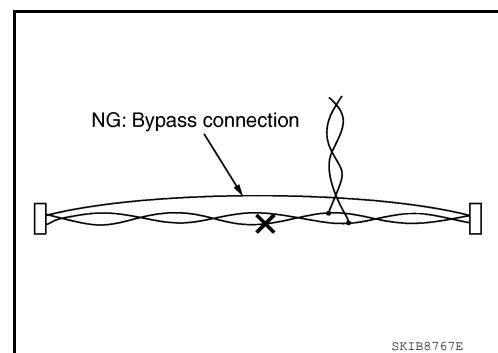


A
B
C
D
E
F
G

- Bypass connection is never allowed at the repaired area.

NOTE:

Bypass connection may cause ITS communication error. The spliced wire becomes separated and the characteristics of twisted line are lost.



H
I
J
K
L
M
N

Blind Spot Warning/Rear Cross Traffic Alert (RCTA) System Service

INFOID:0000000014386460

CAUTION:

- Do not use the **Blind Spot Warning/ Rear Cross Traffic Alert (RCTA) system** when driving with free rollers or a chassis dynamometer.
- Do not perform the active test while driving.

TO KEEP THE BLIND SPOT WARNING/REAR CROSS TRAFFIC ALERT (RCTA) SYSTEM OPERATING PROPERLY, BE SURE TO OBSERVE THE FOLLOWING ITEMS:

System Maintenance

The side radars for the Blind Spot Warning and Rear Cross Traffic Alert (RCTA) system are located near the rear bumper.

- Be sure to keep the area near the side radars clean.
- Do not attach stickers (including transparent material), install accessories or apply additional paint near the side radars.
- Do not strike or damage the area around the side radars.

I
J
K
L
M
N

DAS

P

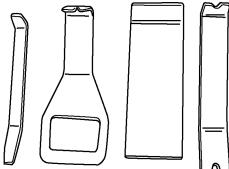
PREPARATION

PREPARATION

Special Service Tool

INFOID:000000014386461

The actual shape of the tools may differ from those illustrated here.

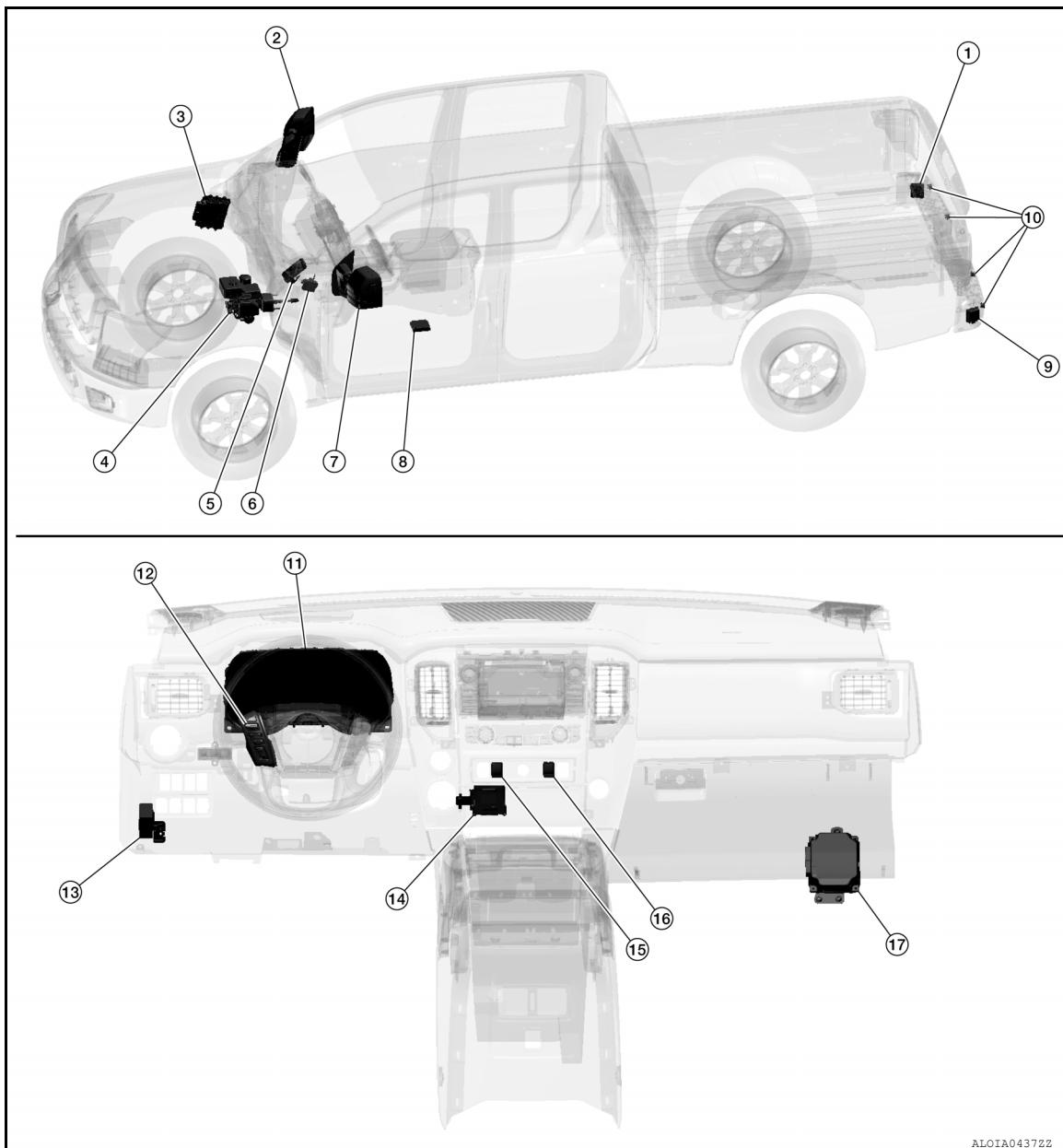
Tool number (TechMate No.)	Description
— (J-46534) Trim Tool Set	 AWJIA0483ZZ

SYSTEM DESCRIPTION**COMPONENT PARTS**

Component Parts Location

INFOID:000000014386462

WITH CUMMINS 5.0L



ALOIA04372Z

DAS

P

No.	Component	Description
1.	Side radar RH	Refer to DAS-57, "Side Radar LH/RH" .
2.	Door mirror RH (blind spot warning indicator)	Refer to DAS-57, "Blind Spot Warning Indicator LH/RH" .
3.	ECM	<ul style="list-style-type: none"> Transmits the engine speed signal to ADAS control unit via CAN communication. Refer to EC-736, "Component Parts Location" for detailed installation location.
4.	ABS actuator and electric unit (control unit)	<ul style="list-style-type: none"> Transmits vehicle speed signal to ADAS control unit via CAN communication. Refer to BRC-9, "Component Parts Location" for detailed installation location.

P

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

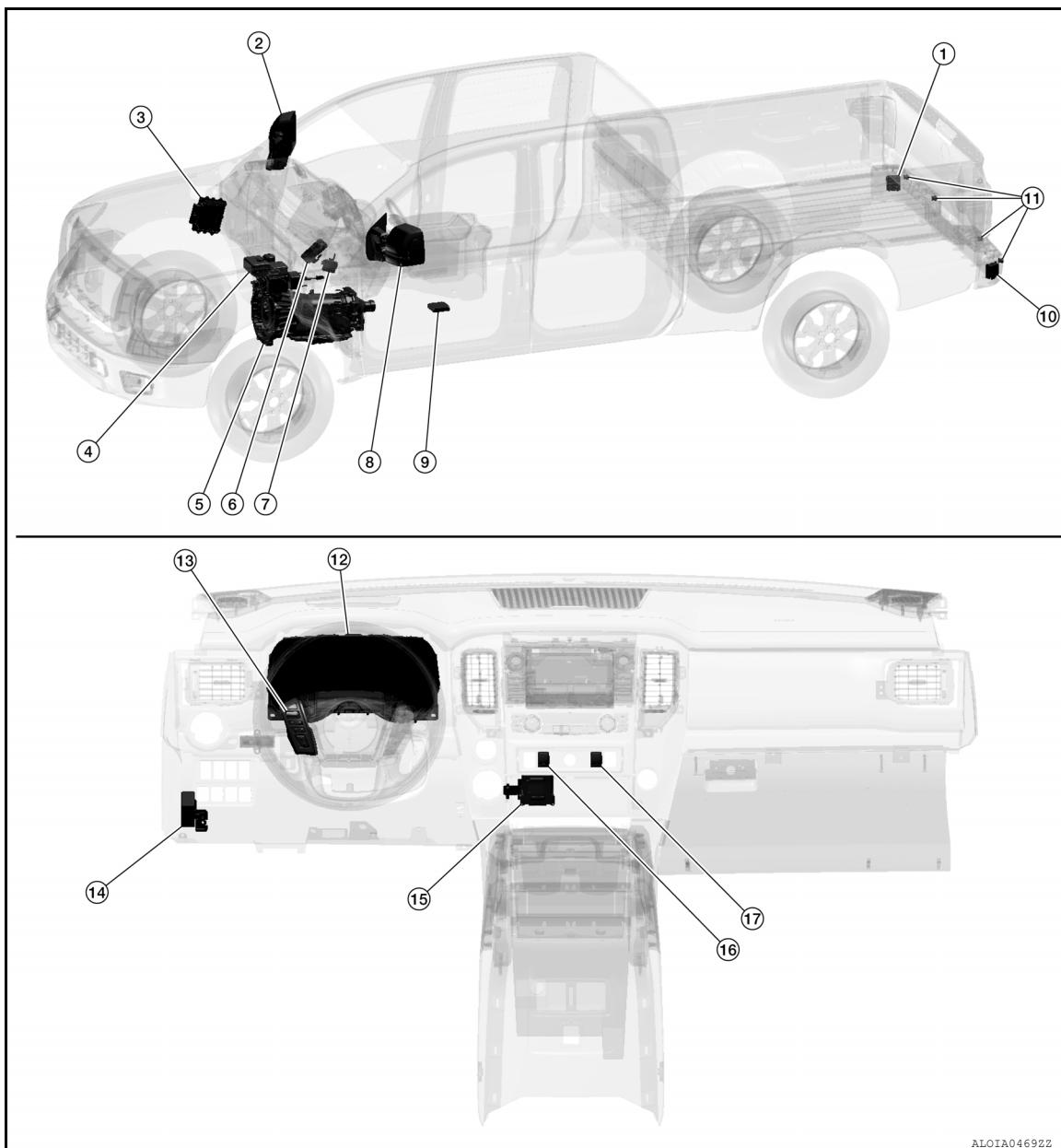
No.	Component	Description
5.	BCM	<ul style="list-style-type: none"> Transmits the turn indicator signal and position light request signal to ADAS control unit via CAN communication. Refer to BCS-5, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.
6.	Sonar control unit	Refer to SN-6, "Sonar Control Unit" .
7.	Door mirror LH (blind spot warning indicator)	Refer to DAS-57, "Blind Spot Warning Indicator LH/RH" .
8.	Around view monitor control unit	Refer to AV-296, "Around View Monitor Control Unit" .
9.	Side radar LH	Refer to DAS-57, "Side Radar LH/RH" .
10.	Rear sonar sensors	Refer to SN-8, "System Description" .
11.	Combination meter	Refer to DAS-56, "Combination Meter" .
12.	Steering switches	Transmits steering switch signal to combination meter for driver assistance system settings.
13.	Warning buzzer	Refer to DAS-56, "Warning Buzzer" .
14.	ADAS control unit	Refer to DAS-56, "ADAS Control Unit" .
15.	Sonar system OFF switch	Refer to DAS-57, "Sonar System Off Switch" .
16.	Warning system switch	Refer to DAS-57, "Warning System Switch" .
17.	TCM	<ul style="list-style-type: none"> TCM transmits the shift selector position signal to ADAS control unit via CAN communication. Refer to TM-15, "A/T CONTROL SYSTEM : Component Parts Location" for detailed installation location.

WITH VK56VD

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]



ALOIA04692Z

No.	Component	Description
1.	Side radar RH	Refer to DAS-57, "Side Radar LH/RH" .
2.	Door mirror RH (blind spot warning indicator)	Refer to DAS-57, "Blind Spot Warning Indicator LH/RH" .
3.	ECM	<ul style="list-style-type: none"> Transmits the engine speed signal to ADAS control unit via CAN communication. Refer to EC-36, "Component Parts Location" for detailed installation location.
4.	ABS actuator and electric unit (control unit)	<ul style="list-style-type: none"> Transmits vehicle speed signal to ADAS control unit via CAN communication. Refer to BRC-9, "Component Parts Location" for detailed installation location.
5.	TCM	<ul style="list-style-type: none"> TCM transmits the shift selector signal to ADAS control unit via CAN communication. Refer to TM-266, "A/T CONTROL SYSTEM : Component Parts Location" for detailed installation location.
6.	BCM	<ul style="list-style-type: none"> Transmits the turn indicator signal and position light request signal to ADAS control unit via CAN communication. Refer to BCS-5, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.
7.	Sonar control unit	Refer to SN-6, "Sonar Control Unit" .

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

DAS

P

COMPONENT PARTS

< SYSTEM DESCRIPTION >

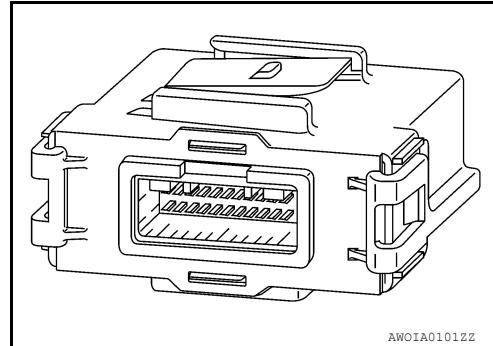
[DRIVER ASSISTANCE SYSTEM]

No.	Component	Description
8.	Door mirror LH (blind spot warning indicator)	Refer to DAS-57, "Blind Spot Warning Indicator LH/RH" .
9.	Around view monitor control unit	Refer to AV-296, "Around View Monitor Control Unit" .
10.	Side radar LH	Refer to DAS-57, "Side Radar LH/RH" .
11.	Rear sonar sensors	Refer to SN-8, "System Description" .
12.	Combination meter	Refer to DAS-56, "Combination Meter" .
13.	Steering switches	Transmits steering switch signal to combination meter for driver assistance system settings.
14.	Warning buzzer	Refer to DAS-56, "Warning Buzzer" .
15.	ADAS control unit	Refer to DAS-56, "ADAS Control Unit" .
16.	Sonar system OFF switch	Refer to DAS-57, "Sonar System Off Switch" .
17.	Warning system switch	Refer to DAS-57, "Warning System Switch" .

ADAS Control Unit

INFOID:0000000014386463

- Controls the BSW system, based on received signals.
- Communicates with each control unit via CAN communication.
- Connected with the side radar (LH and RH) via ITS communication, ADAS control unit receives a vehicle detection signal and transmits a BSW indicator signal and a BSW indicator dimmer signal to the side radar.
- Receives a warning system switch signal from the warning system switch.
- Transmits a warning buzzer output signal to the warning buzzer.



AWOIA0101ZZ

Combination Meter

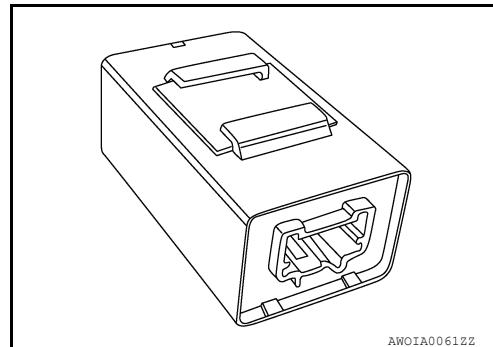
INFOID:0000000014386464

- Receives meter display signal from ADAS control unit via CAN communication.
- Displays the system status according to a signal received from the ADAS control unit.

Warning Buzzer

INFOID:0000000014386465

- The warning buzzer is installed behind the instrument lower panel LH.
- When a warning buzzer signal is received from the ADAS control unit, the buzzer sounds.



AWOIA0061ZZ

COMPONENT PARTS

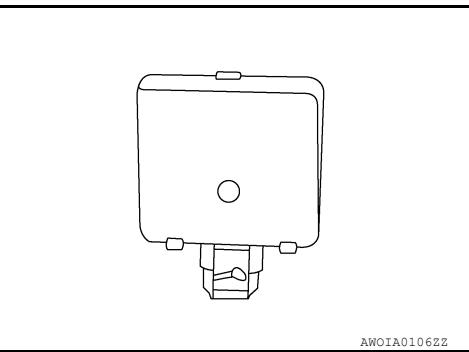
< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

INFOID:0000000014386466

Side Radar LH/RH

- Installed at the ends of the rear bumper, the side radar detects other vehicles beside own vehicle in an adjacent lane, and oncoming cross traffic while backing up.
- Connected with the ADAS control unit via ITS communication, the side radar transmits a vehicle detection signal.
- Receives a Blind Spot Warning indicator signal and a Blind Spot Warning indicator dimmer signal from the ADAS control unit and transmits an indicator operation signal to the Blind Spot Warning indicator LH/RH.
- Since side radar RH and side radar LH have the same specifications, side radar RH has the right/left switching signal circuit for identification.



A
B
C
D

Blind Spot Warning Indicator LH/RH

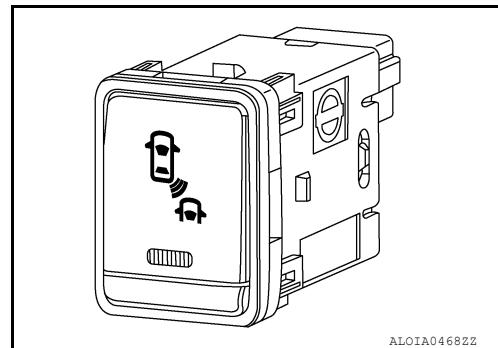
INFOID:0000000014386467

- Integrated with the door mirror glass, the Blind Spot Warning indicator warns the driver by lighting/blinking.
- Receives a Blind Spot Warning indicator operation signal from the side radar LH/RH and blinks or turns ON/OFF the Blind Spot Warning indicator.

Warning System Switch

INFOID:0000000014386468

The warning system switch is used to turn the BSW system ON/OFF.

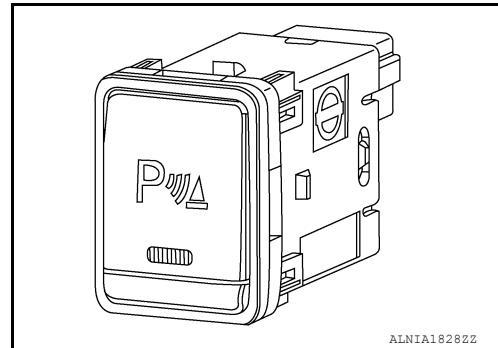


E
F
G
H
I
J

Sonar System Off Switch

INFOID:0000000014386469

The sonar system off switch is used to turn the system ON/OFF.



K
L
M
N

DAS

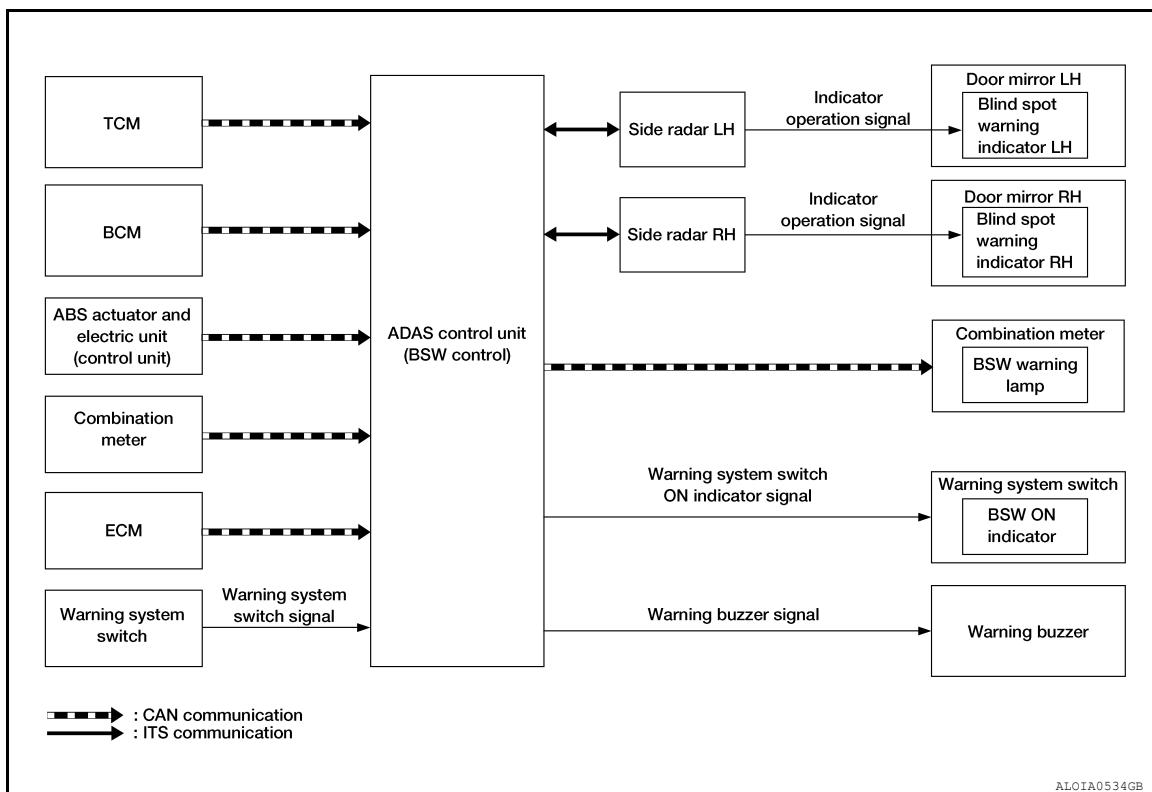
P

< SYSTEM DESCRIPTION >

SYSTEM**BSW**

BSW : System Description

INFOID:000000014386470

SYSTEM DIAGRAM**ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM**

ADAS control unit receives signals via CAN communication. It also detects vehicle conditions that are necessary for Blind Spot Warning control.

Input Signal Item

Transmit unit	Signal name		Description
TCM	CAN communication	Shift position signal	Receives a shift selector position.
ABS actuator and electric unit (control unit)	CAN communication	Vehicle speed signal (ABS)	Receives wheel speeds of four wheels.
BCM	CAN communication	Turn indicator signal	Receives an operational state of the turn signal lamp and the hazard lamp.
		Dimmer signal	Receives ON/OFF state of dimmer signal.
Combination meter	CAN communication	System selection signal	Receives a selection state of each item in "Driver Aids" selected with the integral switch.
Side radar LH, RH	ITS communication	Vehicle detection signal	Receives vehicle detection condition of detection zone.
Warning system switch	Warning system switch signal		Receives an ON/OFF state of the warning system switch

Output Signal Item

SYSTEM

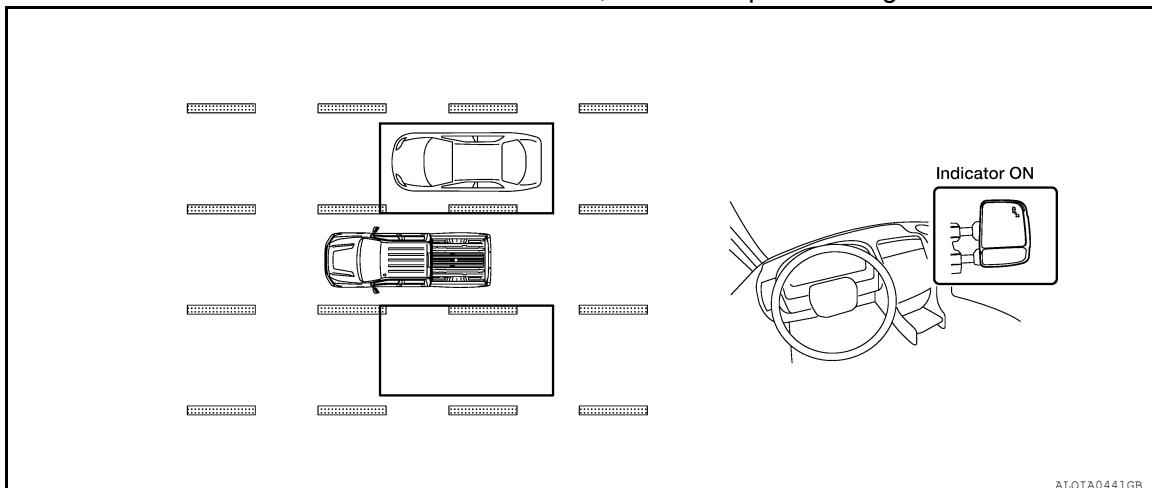
< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Reception unit	Signal name		Description
Combination meter	CAN communication	BSW system indicator signal	
Warning buzzer	Warning buzzer signal		Activates warning buzzer.
Side radar LH, RH	ITS communication	Blind Spot Warning indicator signal	Transmits a Blind Spot Warning indicator signal to turn ON the Blind Spot Warning indicator.
		Blind Spot Warning indicator dimmer signal	Transmits a Blind Spot Warning indicator dimmer signal to dimmer Blind Spot Warning indicator.
		Vehicle speed signal	Transmits a vehicle speed calculated by the ADAS control unit.
Warning system switch indicator	Warning system switch indicator signal		Turns ON the warning system switch indicator

FUNCTION DESCRIPTION

- The BSW system can help alert the driver of other vehicles in adjacent lanes when changing lanes.
- The side radars can detect vehicles on either side of vehicle within the detection zone shown as illustrated.
- This detection zone starts from the outside mirror of vehicle and extends approximately 10 ft. (3.0 m) behind the rear bumper, and approximately 10 ft. (3.0 m) sideways.
- The BSW system operates above approximately 20 MPH (32 km/h).
- If the side radar detects vehicles in the detection zone, the Blind Spot Warning indicator illuminates.



- If the driver then activates the turn signal, a buzzer will sound twice and the Blind Spot Warning indicator will blink.

NOTE:

A

B

C

D

E

F

G

H

I

J

K

L

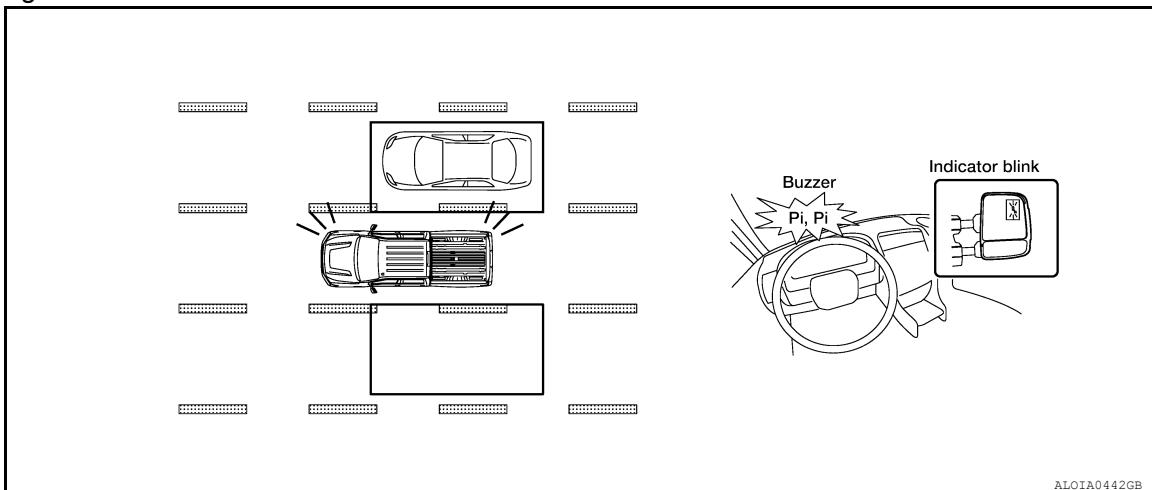
M

DAS

P

< SYSTEM DESCRIPTION >

A buzzer sounds if the side radar have already detected vehicles when the driver activates the turn signal. If a vehicle comes into the detection zone after the driver activates the turn signal, then only the Blind Spot Warning indicator blinks and no buzzer sounds.

**BLIND SPOT WARNING SYSTEM OPERATION DESCRIPTION**

- ADAS control unit enables BSW system.
- The ADAS control unit turns ON the BSW system when selected in driver assistance settings of the combination meter information display.
- Side radar detects a vehicle in the adjacent lane, and transmits the vehicle detection signal to ADAS control unit via ITS communication.
- ADAS control unit starts the control as follows, based on a vehicle detection signal, turn signal and dimmer signal transmitted from BCM via CAN communication:
 - Blind Spot Warning indicator signal and Blind Spot Warning indicator dimmer signal transmission to side radar.
- Side radar transmits an indicator operation signal to the Blind Spot Warning indicator on the side the adjacent vehicle is detected.

OPERATING CONDITION

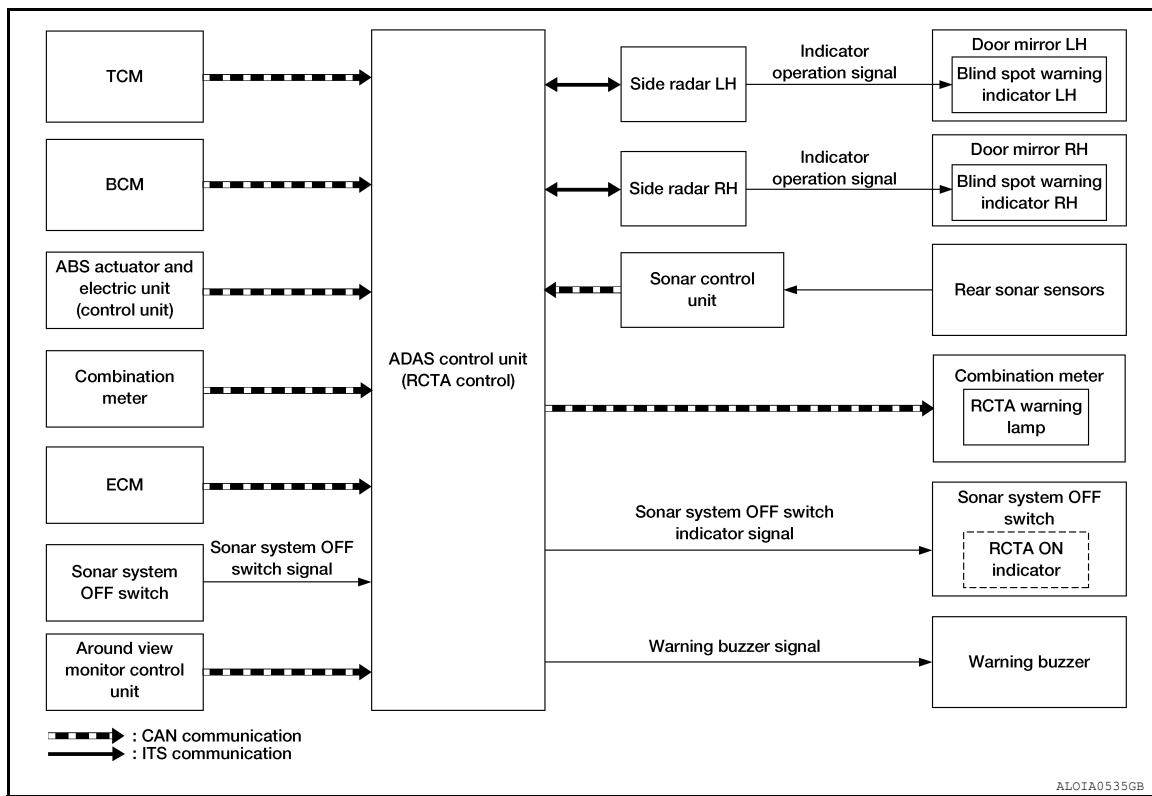
- Blind Spot Warning system display (white): ON
- Vehicle speed: Approximately 20 MPH (32 km/h) or more.

NOTE:

- After the operating conditions of warning are satisfied, the warning continues until the vehicle speed reaches approximately 18 MPH (29 km/h)
- The Blind Spot Warning system may not function properly, depending on the situation. Refer to [DAS-51, "Blind Spot Warning/Rear Cross Traffic Alert \(RCTA\) System Service".](#)

RCTA

SYSTEM DIAGRAM



ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

Input Signal Item

Transmit unit	Signal name		Description
TCM	CAN communication	Current gear position signal	Receives a current gear position.
		Shift position signal	Receives a select lever position.
ABS actuator and electric unit (control unit)	CAN communication	ABS malfunction signal	Receives a malfunction state of ABS.
		VDC malfunction signal	Receives a malfunction state of VDC.
		Vehicle speed signal (ABS)	Receives wheel speeds of four wheels.
BCM	CAN communication	Turn indicator signal	Receives an operational state of the turn signal lamp and the hazard lamp.
		Dimmer signal	Receives and ON/OFF state of dimmer signal.
Side radar LH, RH	CAN communication	Vehicle detection signal	Receives vehicle detection condition of detection zone.
ECM	CAN communication	Engine speed	Receives an engine speed
Sonar control unit	CAN communication	Rear object detection	Receives objects detection result of rear area behind vehicle
Sonar system OFF switch	Sonar system OFF switch signal		Receives an ON/OFF state of the sonar system OFF switch

Output Signal Item

SYSTEM

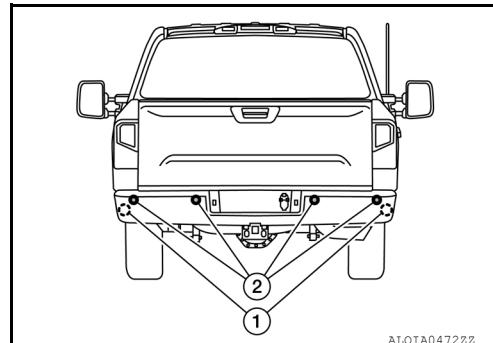
< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

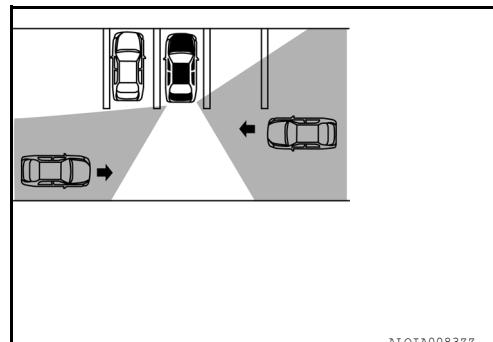
Reception unit	Signal name		Description
Combination meter	CAN communication	BSW system indicator signal	Transmits a BSW indicator signal to turn ON the BSW indicator on the information display.
Sonar control unit	CAN communication	Warning buzzer signal	While the shift selector is in reverse and backing up, transmits a request for a variable warning buzzer to alert the driver.
Around view monitor control unit	CAN communication	Visual signal request	Transmits a visual signal request by the ADAS control unit to center display to override other signals and display rear view while the shift lever is in reverse.
Side radar LH, RH	ITS communication	Blind Spot Warning indicator signal	Transmits a Blind Spot Warning indicator signal to turn ON the Blind Spot Warning indicator.
		Blind Spot Warning indicator dimmer signal	Transmits a Blind Spot Warning indicator dimmer signal to dimmer Blind Spot Warning indicator.
		Vehicle speed signal	Transmits a vehicle speed calculated by the ADAS control unit.
BSW ON indicator	BSW ON indicator signal		Turns ON the BSW ON indicator
Warning buzzer	Warning buzzer signal		Activates warning buzzer
Sonar system OFF switch indicator	Sonar system OFF switch indicator signal		Turns ON the sonar system OFF switch indicator

FUNCTION DESCRIPTION

- The Rear Cross Traffic Area (RCTA) system can help alert the driver of oncoming cross traffic or obstacle when the driver is backing out of a parking space.
- The RCTA system comprise of two main detection systems. The side radars (1), and the four sonar sensors (2) mounted on the rear bumper as illustrated.
- The RCTA system operates at speeds below 5 MPH (8 km/h) whenever the vehicle is in reverse.



- The RCTA system uses the two side radars installed to the rear bumper to detect oncoming cross traffic.
- The side radars can detect an approaching vehicle from up to 66 ft (20 m) away on either side of the vehicle.
- The side radar can detect vehicles on either side of vehicle within the detection zone shown as illustrated.

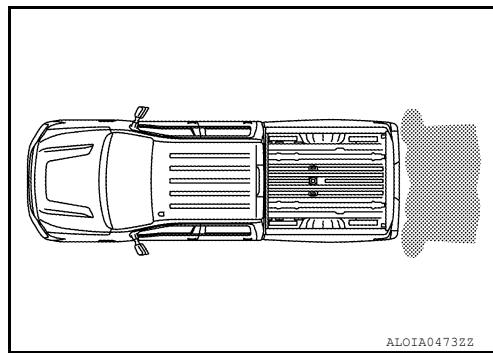


SYSTEM

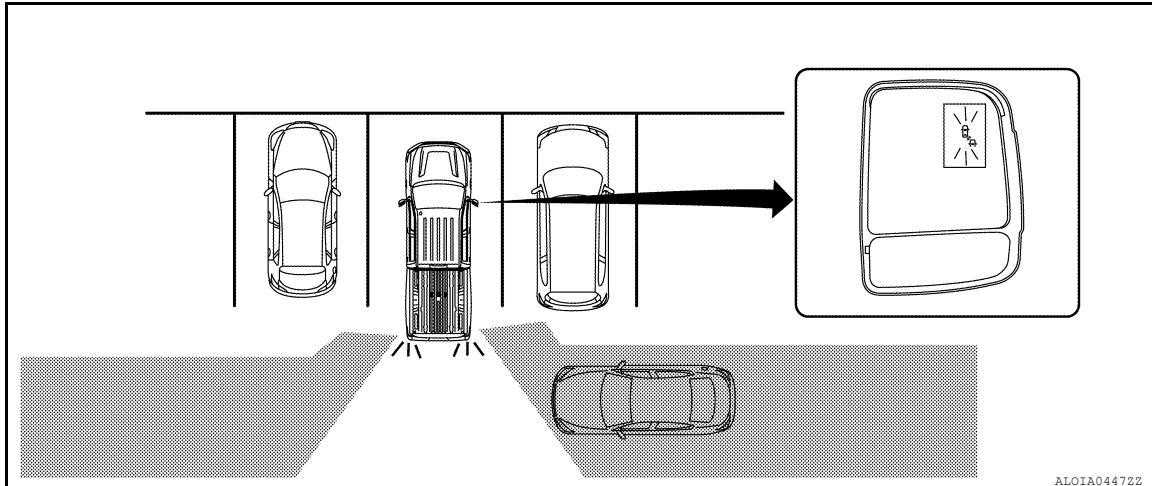
< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

- The sonar sensors can detect rear obstacles of up to approximately 4.9 feet (1.5 m).
- The RCTA system can help alert the driver of an approaching vehicle or obstacle behind the vehicle when the driver is backing out of a parking space.



- If the approaching vehicle is faster, the warning timer is faster. If the approaching vehicle is slower, the warning timer is slower.
- When the radar detects a vehicle approaching from the side, the system gives visual and audible warnings.



Fail-safe (ADAS Control Unit)

INFOID:0000000014718465

If a malfunction occurs in each system, ADAS control unit cancels each control, sounds a beep, and turns ON the warning or indicator lamp.

System	Buzzer	Warning lamp/Warning display	Description
Blind Spot Warning (BSW)	Low-pitched tone	BSW system warning	Cancel
Rear Cross Traffic Alert (RCTA)	—	BSW system warning	Cancel

Fail-safe (Side Radar)

INFOID:0000000014718473

FAIL-SAFE CONTROL BY DTC

Blind Spot Warning (BSW)/Rear Cross Traffic Alert (RCTA)

If a malfunction occurs in the side radar, ADAS control unit cancels control, and turns ON the Blind Spot Warning indicator (orange) on the combination meter.

TEMPORARY DISABLED STATUS AT BLOCKAGE

Blind Spot Warning (BSW)

When the side radar is blocked, the operation is temporarily cancelled. Then the buzzer sounds and the Blind Spot Warning indicator (orange) is turned ON in the combination meter. Also, under the following conditions, the operation may be temporarily cancelled:

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

Rear Cross Traffic Alert (RCTA)

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

DAS

SYSTEM

[DRIVER ASSISTANCE SYSTEM]

< SYSTEM DESCRIPTION >

When the side radar is blocked, the operation is temporarily cancelled. Then the buzzer sounds and the Blind Spot Warning indicator (orange) is turned ON in the combination meter. Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

OPERATION

< SYSTEM DESCRIPTION >

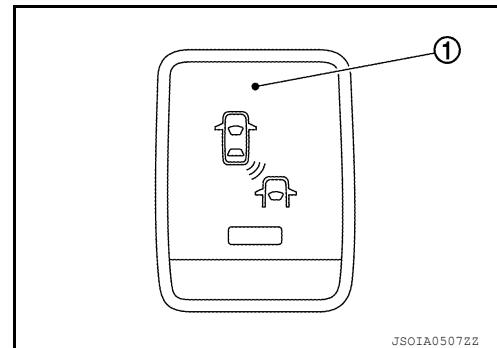
[DRIVER ASSISTANCE SYSTEM]

OPERATION

BSW

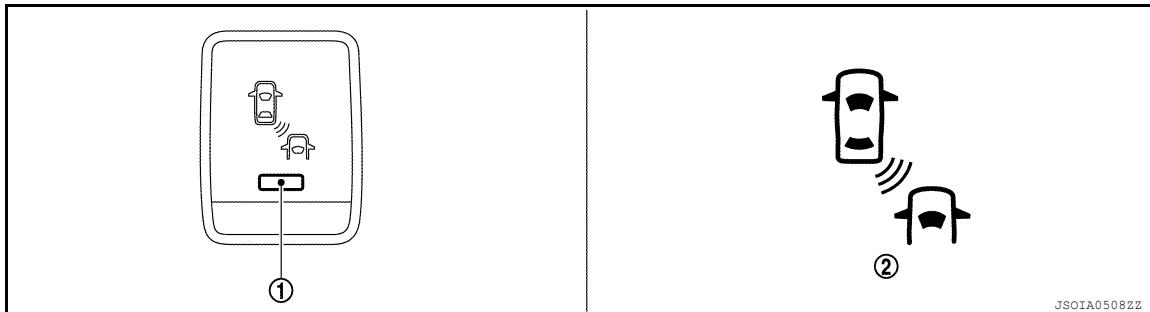
BSW : Switch Name and Function

INFOID:000000014386474



No.	Name	Function
1	Warning system switch	Turns BSW system ON/OFF

INDICATOR AND WARNING LAMP



No.	Name	Description
1	Warning system switch indicator	Illuminates when BSW system is turned ON
2	BSW system indicator (In the combination meter)	<ul style="list-style-type: none">Turns ON when BSW system is ONBlinks when radar blockage is detected

DISPLAY AND WARNING OPERATION

Vehicle condition/ Driver's operation				Action	
BSW system indicator	Vehicle speed (Approx.) [km/h (MPH)]	Turn signal condition	Status of vehicle detection within detection area	Status of the BSW system indicator	Buzzer
OFF	—	—	—	OFF	OFF

A

B

C

D

E

F

G

H

I

J

K

L

M

N

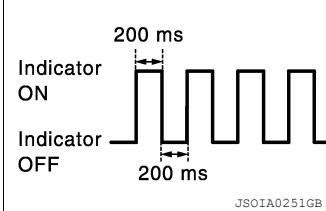
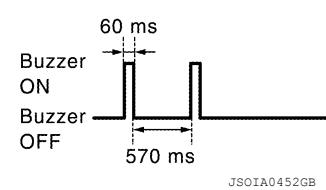
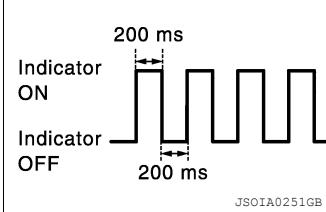
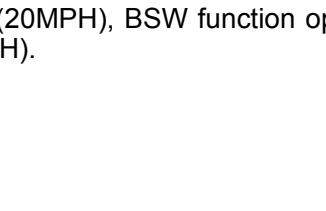
P

DAS

OPERATION

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Vehicle condition/ Driver's operation				Action	
BSW system indicator	Vehicle speed (Approx.) [km/h (MPH)]	Turn signal condition	Status of vehicle detection within detection area	Status of the BSW system indicator	Action
ON	Less than approx. 29 (18)	—	—	OFF	OFF
		—	Vehicle is absent	OFF	OFF
		OFF	Vehicle is detected	ON	OFF
		ON (Vehicle detected direction)	Before turn signal operates Vehicle is detected	<p>Blink</p> 	<p>Short continuous beep</p> 
	Approx. 32 (20) or more	ON (Vehicle detected direction)	Vehicle is detected after turn signal operates	<p>Blink</p> 	OFF
		ON (Vehicle detected direction)	Vehicle is detected after turn signal operates	<p>Blink</p> 	

NOTE:

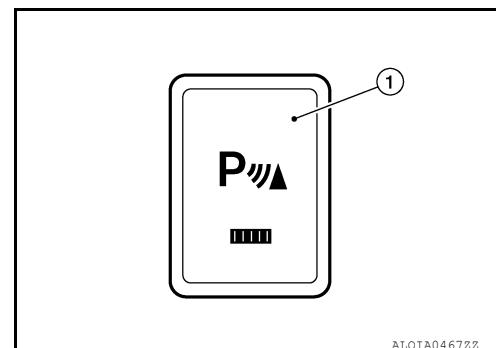
- If vehicle speed exceeds approximately 32 km/h (20MPH), BSW function operates until the vehicle speed becomes lower than approximately 29km/h (18MPH).
- Time shown in the figure is approximate time.

RCTA

RCTA : Switch Name and Function

INFOID:000000014386475

SONAR SYSTEM OFF SWITCH



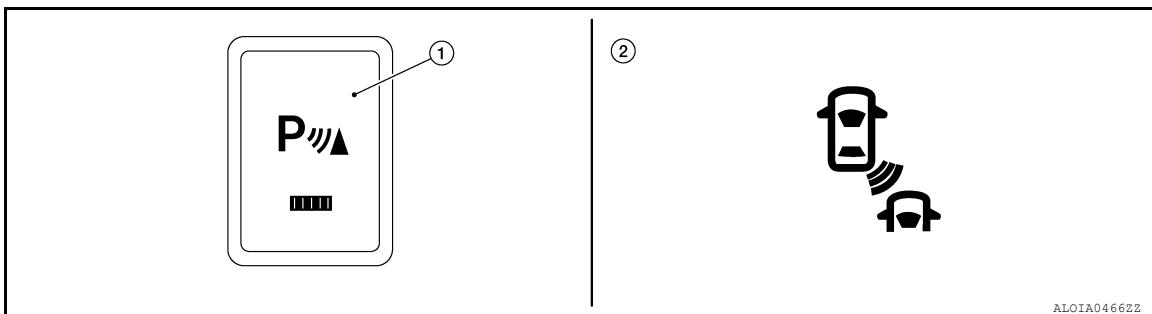
No.	Name	Function
1	Sonar system OFF switch	Turns the sonar system and RCTA system ON/OFF

OPERATION

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

INDICATOR AND WARNING LAMP



No.	Name	Description
1	Sonar system OFF switch	Switch indicator illuminates when Sonar system and RCTA system are turned ON
2	RCTA indicator (In the combination meter)	<ul style="list-style-type: none"> Turns ON when RCTA system is ON Blinks when radar blockage is detected

NOTE:

If vehicle speed exceeds approximately 8 km/h (5MPH), RCTA function will stop operating until the vehicle speed becomes approximately 8km/h (5MPH) or lower.

DISPLAY AND WARNING OPERATION

Vehicle condition/ Driver's operation				Action	
RCTA ON indicator	Vehicle speed (Approx.) [km/h (MPH)]	Shift lever position	Status of vehicle detection within detection area	Indication of the RCTA indicator	Action
OFF	—	—	—	OFF	OFF
ON	More than approx. 8 (5)	—	—	OFF	OFF
	Approx. 8 (5) or less	Except (R)	Vehicle is absent	OFF	OFF
		Reverse (R)	Vehicle is detected	ON	ON

A
B
C
D
E

F
G

H
I
J
K
L
M
N

DAS

P

HANDLING PRECAUTION

Precautions for Blind Spot Warning

INFOID:000000014386476

SIDE RADAR HANDLING

- Side radar for Blind Spot Warning system is located inside the rear bumper.
- Always keep the rear bumper near the side radar clean.
- Do not attach a sticker (including transparent material), install an accessory or paint work near the side radar.
- Do not strike or damage the areas around the side radar.
- Do not strike, damage, and scratch the side radar, especially the vent seal (gray circular) area, under repair.

BLIND SPOT WARNING

- The Blind Spot Warning system is not a replacement for proper driving procedure and is not designed to prevent contact with vehicles or objects. When changing lanes, always use the side and rear mirrors and turn and look in the direction driver will move to ensure it is safe to change lanes. Never rely solely on the Blind Spot Warning system.
- The Blind Spot Warning system may not provide the warning for vehicles that pass through the detection zone quickly.
- Excessive noise (for example, audio system volume, open vehicle window) will interfere with the chime sound, and it may not be heard.
- The side radar may not be able to detect and activate Blind Spot Warning when certain objects are present such as:
 - Pedestrians, bicycles, animals.
 - Several types of vehicles such as motorcycles.
 - Oncoming vehicles.
 - Vehicles remaining in the detection zone when driver accelerate from a stop.
 - A vehicle merging into an adjacent lane at a speed approximately the same as vehicle.
 - A vehicle approaching rapidly from behind.
 - A vehicle which vehicle overtakes rapidly.
- Severe weather or road spray conditions may reduce the ability of the radar to detect other vehicles.
- The side radar detection zone is designed based on a standard lane width. When driving in a wider lane, the side radar may not detect vehicles in an adjacent lane. When driving in a narrow lane, the side radar may detect vehicles driving two lanes away.
- The side radar is designed to ignore most stationary objects, however, objects such as guardrails, walls, foliage and parked vehicles may occasionally be detected. This is a normal operating condition.

Precautions for Rear Cross Traffic Alert

INFOID:000000014386477

SIDE RADAR HANDLING

- Side radar for Rear Cross Traffic Alert system is located inside the rear bumper.
- Always keep the rear bumper near the side radar clean.
- Do not attach a sticker (including transparent material), install an accessory or paint work near the side radar.
- Do not strike or damage the areas around the side radar.
- Do not strike, damage, and scratch the side radar, especially the vent seal (gray circular) area, under repair.

REAR CROSS TRAFFIC ALERT

- Always check surroundings and turn to check what is behind you before backing up. The radar sensors detect approaching (moving) vehicles. The radar sensors cannot detect every object such as:
 - Pedestrians, bicycles, motorcycles, animals or child operated toy vehicles.
 - A vehicle that passing at speeds greater than approximately 30 KM/H (19 MPH)
 - A vehicle that passing at speeds lower than approximately 8 KM/H (5 MPH)
- The radar sensors may not detect approaching vehicles in certain situations:
 - When the vehicle that is parked next to you obstructs the beam of the radar sensor.
 - When the vehicle is parked in an angled parking space.
 - When the vehicle is parked on an incline.
 - When an approaching vehicle turns into your vehicles parking lot isle.
 - When the angle formed by your vehicle is too small.
- The following conditions may reduce the ability of the radar to detect other vehicles:
 - Severe weather

HANDLING PRECAUTION

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

- Road spray
- Ice build up on the vehicle
- Frost on the vehicle
- Dirt build up on the vehicle
- Do not attach stickers (including transparent material), install accessories or apply additional paint near the radar sensors. These conditions may reduce the ability of the radar to detect other vehicles.
- Do not use RCTA systems when towing a trailer.
- Excessive noise (e.g. audio system volume, open vehicle window) will interfere with the chime sound and it may not be heard.

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

CONSULT Function (ICC/ADAS)

INFOID:000000014718466

APPLICATION ITEMS

CONSULT performs the following functions via CAN communication using ADAS control unit:

Diagnosis mode	Description
Configuration	<ul style="list-style-type: none"> The vehicle specification that is written in ADAS control unit can be displayed or stored. The vehicle specification can be written when ADAS control unit is replaced.
Work support	Displays causes of automatic system cancellation occurred during system control.
Self Diagnostic Result	Displays the name of a malfunctioning system stored in the ADAS control unit.
Data Monitor	Displays ADAS control unit input/output data in real time.
Active Test	Enables an operational check of a load by transmitting a driving signal from the ADAS control unit to the load.
ECU Identification	Displays ADAS control unit part number.
CAN Diag Support Monitor	Displays a reception/transmission state of CAN communication and ITS communication.

CONFIGURATION

Configuration includes functions as follows.

Function		Description
Read/Write Configuration	Before Replace ECU	Allows the reading of vehicle specification written in ADAS control unit to store the specification in CONSULT.
	After Replace ECU	Allows the writing of the vehicle information stored in CONSULT into the ADAS control unit.
Manual Configuration		Allows the writing of the vehicle specification into the ADAS control unit by hand.

SELF DIAGNOSTIC RESULT

Refer to [DAS-76, "DTC Index"](#).

DATA MONITOR

NOTE:

- The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.
- SIGNAL B, SIGNAL C are displayed, but not used.

Monitored item [Unit]	SIGNAL A	BSW MAIN SIGNAL	Description
VHCL SPEED SE [km/h] or [mph]	×	×	Indicates vehicle speed calculated from ADAS control unit through CAN communication [ABS actuator and electric unit (control unit) transmits vehicle speed signal (wheel speed) through CAN communication]
WARN SYS SW [On/Off]	×	×	Indicates [On/Off] status of warning system switch
BSW/BSI WARN LMP [On/Off]		×	Indicates [On/Off] status of BSW warning lamp output
BSW SYSTEM ON [On/Off]		×	Indicates [On/Off] status of BSW system

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Monitored item [Unit]	SIGNAL A	BSW MAIN SIGNAL	Description
BSW ON INDICATOR [On/Off]		×	Indicates [On/Off] status of BSW indicator output
SIDE RADAR BLOCK COND [On/Off]		×	Indicates [On/Off] status of BSW system

ACTIVE TEST

CAUTION:

- Never perform “Active Test” while driving the vehicle.
- The “Active Test” cannot be performed when the BSW warning lamp is illuminated.
- Shift the selector lever to “P” position, and then perform the test.

Test item	Description
METER LAMP	The BSW warning lamp can be illuminated by ON/OFF operations as necessary.
ADAS BUZZER	Sounds a buzzer used for BSW, RCTA by arbitrarily operating ON/OFF.

METER LAMP

NOTE:

The test can be performed only when the engine is running.

Test item	Operation	Description	BSW warning lamp
METER LAMP	Off	Stops sending the BSW warning lamp signal to exit from the test.	OFF
	On	Transmits the BSW warning lamp signal to the combination meter via CAN communication.	ON

ADAS BUZZER

Test item	Operation	Description	Operation sound
ADAS BUZZER	On	Starts buzzer output.	—
	Off	Stops buzzer output.	—

ECU IDENTIFICATION

Displays ADAS control unit parts number.

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

DIAGNOSIS SYSTEM (SIDE RADAR LH)

CONSULT Function (SIDE RADAR LEFT)

INFOID:000000014386479

DESCRIPTION

CONSULT performs the following functions by communicating with the side radar LH.

Select diag mode	Function
Self Diagnostic Result	Displays memorized DTC in the side radar.
Data Monitor	Displays real-time data of side radar.
Active Test	Enables operation check of electrical loads by sending driving signal to them.
ECU Identification	Displays part number of side radar.

SELF DIAGNOSTIC RESULT

Self Diagnostic Result

Displays memorized DTC in side radar LH. Refer to [DAS-79, "DTC Index"](#).

FFD (Freeze Frame Data)

The side radar records the following data when the malfunction is detected.

Freeze Frame Data item	Description
VHCL SP from ADAS	The vehicle speed (from ADAS control unit) at the moment a malfunction is detected is displayed
TURN SIG STATUS	Turn signal status at the moment a malfunction is detected is displayed

DATA MONITOR

Monitored item [Unit]	Description
BSW/CTA WARN STATUS [On/Off]	Indicates [ON/OFF] status of vehicle detection
CTA SYSTEM ON [On/Off]	Indicates [ON/OFF] status of Rear Cross Traffic Alert system
BSW STATUS [On/Off]	Indicates [ON/OFF] status of Blind Spot Warning system
VHCL SPD SE [km/h]	Indicates vehicle speed [km/h]
TURN SIGNAL [LH/RH/Off]	Indicates the [LH/RH/Off] operation of the signal
SHIFT POSITION [P/R/N/D]	Indicates position of transmission range switch
LUMINANCE (LEFT) [Hi/Lo]	Indicates the left side luminance level of the radar
LUMINANCE (RIGHT) [Hi/Lo]	Indicates the right side luminance level of the radar

ACTIVE TEST

CAUTION:

- Never perform the “Active Test” while driving.
- “Active Test” cannot be started while the Blind Spot Warning indicator is illuminated.

Active test item	Operation	Description
BSW/BSI INDICATOR DRIVE	On	Outputs the voltage to illuminate the Blind Spot Warning indicator.
	Off	Stops the voltage to illuminate the Blind Spot Warning indicator.

DIAGNOSIS SYSTEM (SIDE RADAR RH)

CONSULT Function (SIDE RADAR RIGHT)

INFOID:000000014386480

DESCRIPTION

CONSULT performs the following functions by communicating with the side radar RH.

Select diag mode	Function
Self Diagnostic Result	Displays memorized DTC in the side radar.
Data Monitor	Displays real-time data of side radar.
Active Test	Enables operation check of electrical loads by sending driving signal to them.
ECU Identification	Displays part number of side radar.

SELF DIAGNOSTIC RESULT

Self Diagnostic Result

Displays memorized DTC in side radar RH. Refer to [DAS-81, "DTC Index"](#).

FFD (Freeze Frame Data)

The side radar records the following data when the malfunction is detected.

Freeze Frame Data item	Description
VHCL SP from ADAS	The vehicle speed (from ADAS control unit) at the moment a malfunction is detected is displayed
TURN SIG STATUS	Turn signal status at the moment a malfunction is detected is displayed

DATA MONITOR

Monitored item [Unit]	Description
BSW/CTA WARN STATUS [On/Off]	Indicates [ON/OFF] status of vehicle detection
CTA SYSTEM ON [On/Off]	Indicates [ON/OFF] status of Rear Cross Traffic Alert system
BSW STATUS [On/Off]	Indicates [ON/OFF] status of Blind Spot Warning system
VHCL SPD SE [km/h]	Indicates vehicle speed [km/h]
TURN SIGNAL [LH/RH/Off]	Indicates the [LH/RH/Off] operation of the signal
SHIFT POSITION [P/R/N/D]	Indicates position of transmission range switch
LUMINANCE (LEFT) [Hi/Lo]	Indicates the left side luminance level of the radar
LUMINANCE (RIGHT) [Hi/Lo]	Indicates the right side luminance level of the radar

ACTIVE TEST

CAUTION:

- Never perform the active test while driving.
- Active test cannot be started while the Blind Spot Warning indicator is illuminated.

Active test item	Operation	Description
BSW/BSI INDICATOR DRIVE	On	Outputs the voltage to illuminate the Blind Spot Warning indicator.
	Off	Stops the voltage to illuminate the Blind Spot Warning indicator.

ECU DIAGNOSIS INFORMATION

ADAS CONTROL UNIT

Reference Value

INFOID:000000014718467

VALUES ON THE DIAGNOSIS TOOL

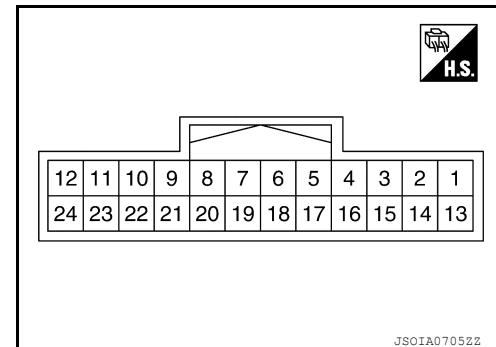
NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor item	Condition		Value/Status
VHCL SPEED SE	While driving		Displays the vehicle speed calculated by ADAS control unit
WARN SYS SW	Ignition switch ON	When warning system switch is pressed	On
		When warning system switch is not pressed	Off
BSW/BSI WARN LMP	Ignition switch ON	BSW warning lamp ON	On
		BSW warning lamp OFF	Off
BSW SYSTEM ON	Ignition switch ON	When the BSW system is ON (BSW indicator on the information display is ON)	On
		When the BSW system is OFF (BSW indicator on the information display is OFF)	Off
BSW ON INDICATOR	Engine running	BSW ON indicator is ON. (Vehicle detected)	On
		BSW ON indicator is OFF. (No vehicle detected)	Off
SIDE RADAR BLOCK COND	Engine running	Side radar or rear bumper is dirty.	On
		Side radar or rear bumper is clean.	Off

TERMINAL LAYOUT

PHYSICAL VALUES



ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
1 (B)	Ground	Ground	Input	—		0 V
2 (L)		ITS communication high	—	—		—
3 (G)		Ignition power supply	Input	Ignition switch ON		Battery voltage
4 (GR)		Warning buzzer signal	Output	Ignition switch ON	Warning buzzer operation	Battery voltage
5 (R)		ITS communication low	—	—		—
6 (R)		CAN Low	Input	—		—
7 (GR)		Warning system ON indicator	Output	Indicator	Illuminated	0 - 0.1 V
9 (L)		CAN high	—	—		—
10 (P)		CAN low	—	—		—
11 (G)		Sonar system OFF switch	Input	Sonar system OFF switch	Pressed	0 - 0.1 V
17 (B/R)		Sonar system OFF switch indicator	Output	Indicator	Released	Battery voltage
18 (L)		CAN High	Input	—	—	0 V
23 (LG)		Warning system switch	Input	Warning system switch	Pressed	0 - 0.1 V
					Released	Battery voltage

Fail-safe (ADAS Control Unit)

INFOID:000000014718468

If a malfunction occurs in each system, ADAS control unit cancels each control, sounds a beep, and turns ON the warning or indicator lamp.

System	Buzzer	Warning lamp/Warning display	Description
Blind Spot Warning (BSW)	Low-pitched tone	BSW system warning	Cancel
Rear Cross Traffic Alert (RCTA)	—	BSW system warning	Cancel

DTC Inspection Priority Chart

INFOID:000000014718469

If multiple DTCs are detected simultaneously, check them one by one depending on the following DTC inspection priority chart.

Priority	Detected items (DTC)
1	• U1508: LOST COMM (SIDE RDR L)
2	• U1000: CAN COMM CIRCUIT • U1321: CONFIGURATION • U1507: LOST COMM (SIDE RDR R)

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

Priority	Detected items (DTC)
3	<ul style="list-style-type: none"> • C1B53: SIDE RDR R MALF • C1B54: SIDE RDR L MALF
4	<ul style="list-style-type: none"> • C1A01: POWER SUPPLY CIR • C1A02: POWER SUPPLY CIR 2 • U0121: VDC CAN CIR 2 • U0401: ECM CAN CIR 1 • U0402: TCM CAN CIR 1 • U0415: VDC CAN CIR 1 • U1503: SIDE RDR L CAN CIR 2 • U1504: SIDE RDR L CAN CIR 1 • U1505: SIDE RDR R CAN CIR 2 • U1506: SIDE RDR R CAN CIR 1
5	<ul style="list-style-type: none"> • C1A03: VHCL SPEED SE CIRC
6	<ul style="list-style-type: none"> • C1A00: CONTROL UNIT

DTC Index

INFOID:0000000014718470

NOTE:

- The details of time display are as per the following.
- CRNT: A malfunction is detected now
- PAST: A malfunction was detected in the past
- IGN counter is displayed on FFD (Freeze Frame Data).
- 0: The malfunctions that are detected now
CAN communication system (U1000, U1010)
- 1 - 39: It increases like 0 → 1 → 2 → 38 → 39 after returning to the normal condition whenever the ignition switch OFF → ON. It returns to 0 when a malfunction is detected again in the process.
- If it is over 39, it is fixed to 39 until the self-diagnosis results are erased.
Other than CAN communication system (Other than U1000, U1010)
- 1 - 49: It increases like 0 → 1 → 2 → 38 → 49 after returning to the normal condition whenever the ignition switch OFF → ON. It returns to 0 when a malfunction is detected again in the process.
- If it is over 49, it is fixed to 49 until the self-diagnosis results are erased.

✗: Applicable

	DTC	BSW warning lamp	Fail-safe	Reference
C1A00	CONTROL UNIT	ON	✗	DAS-24
C1A01	POWER SUPPLY CIR	ON	✗	DAS-25
C1A02	POWER SUPPLY CIR 2	ON	✗	DAS-25
C1A03	VHCL SPEED SE CIRC	ON	✗	DAS-26
C1B53	SIDE RDR R MALF	ON	✗	DAS-28
C1B54	SIDE RDR L MALF	ON	✗	DAS-29
NO DTC IS DETECTED. FURTHER TESTING MAY BE RE- QUIRED	NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED	—	—	—
U1000	CAN COMM CIRCUIT	ON	✗	DAS-34
U0121	VDC CAN CIR 2	ON	✗	DAS-30
U0401	ECM CAN CIR 1	ON	✗	DAS-31
U0402	TCM CAN CIR 1	ON	✗	DAS-32
U0415	VDC CAN CIR 1	ON	✗	DAS-33
U1503	SIDE RDR L CAN CIR 2	ON	✗	DAS-37
U1504	SIDE RDR L CAN CIR 1	ON	✗	DAS-39
U1505	SIDE RDR R CAN CIR 2	ON	✗	DAS-41
U1506	SIDE RDR R CAN CIR 1	ON	✗	DAS-43

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

DTC		BSW warning lamp	Fail-safe	Reference
U1507	LOST COMM (SIDE RDR R)	ON	×	DAS-45
U1508	LOST COMM (SIDE RDR L)	ON	×	DAS-46

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

SIDE RADAR LH

Reference Value

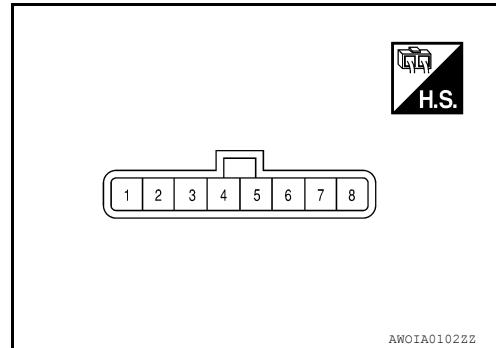
INFOID:000000014386485

VALUES ON THE DIAGNOSIS TOOL

CONSULT MONITOR ITEM

Monitor Item	Condition	Value/Status
BSW/CTA WARN STATUS	BSW system is normal	On
	BSW system is malfunctioning	Off
CTA SYSTEM ON	CTA system is ON	On
	CTA system is OFF	Off
BSW STATUS	BSW system is ON	Off
	BSW system is OFF	On
VHCL SPD SE	Indicates current vehicle speed	km/h
TURN SIGNAL	Left/right turn signal is ON	On
	Left/right turn signal is OFF	Off
SHIFT POSITION	Shows the position of the transmission range switch	P/R/N/D/L
LUMINANCE(LEFT)	Shows radar left luminance level	Hi/Lo
LUMINANCE (RIGHT)	Shows radar right luminance level	Hi/Lo

TERMINAL LAYOUT



AWOIA01022Z

PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
4 (W)	Ground	Blind Spot Warning indicator	Output	Approx. 2 sec. after ignition switch OFF \Rightarrow ON (bulb check)	6 V
5 (LG)	Ground	Ignition power supply	Input	Ignition switch ON	Battery voltage
6 (L)	—	ITS communication high	—	—	—
7 (R)	—	ITS communication low	—	—	—
8 (B)	Ground	Ground	—	—	0 V

Fail-safe (Side Radar)

INFOID:000000014386486

FAIL-SAFE CONTROL BY DTC

Blind Spot Warning (BSW)/Rear Cross Traffic Alert (RCTA)

If a malfunction occurs in the side radar, ADAS control unit cancels control, and turns ON the Blind Spot Warning indicator (orange) on the combination meter.

TEMPORARY DISABLED STATUS AT BLOCKAGE

Blind Spot Warning (BSW)

When the side radar is blocked, the operation is temporarily cancelled. Then the buzzer sounds and the Blind Spot Warning indicator (orange) is turned ON in the combination meter. Also, under the following conditions, the operation may be temporarily cancelled:

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

Rear Cross Traffic Alert (RCTA)

When the side radar is blocked, the operation is temporarily cancelled. Then the buzzer sounds and the Blind Spot Warning indicator (orange) is turned ON in the combination meter. Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

DTC Inspection Priority Chart

INFOID:000000014386487

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

Priority	Detected items (DTC)
1	U1000: CAN COMM CIRCUIT
2	U0405: ADAS CAN CIR 2
3	C1B50: SIDE RDR MALFUNCTION
4	<ul style="list-style-type: none"> • C1B51: BSW/BSI IND SHORT CIR • C1B52: BSW/BSI IND OPEN CIR • C1B55: RADAR BLOCKAGE

DTC Index

INFOID:000000014386488

x: Applicable

DTC	Fail-safe	Reference page
	Blind Spot Warning/Rear Cross Traffic Alert	
C1B50	x	DAS-94
C1B51	x	DAS-95
C1B52	x	DAS-97
C1B55	x	DAS-99
U1000	x	DAS-103
U0405	x	DAS-101

DAS

SIDE RADAR RH

Reference Value

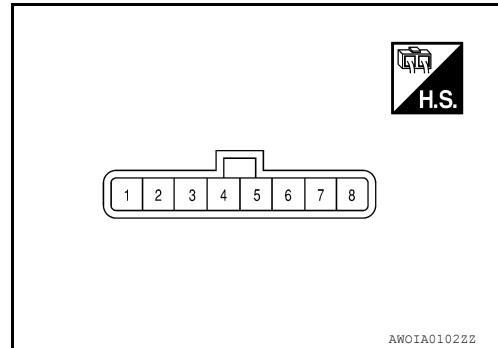
INFOID:000000014386489

VALUES ON THE DIAGNOSIS TOOL

CONSULT MONITOR ITEM

Monitor Item	Condition	Value/Status
BSW/CTA WARN STATUS	BSW system is normal	On
	BSW system is malfunctioning	Off
CTA SYSTEM ON	CTA system is ON	On
	CTA system is OFF	Off
BSW STATUS	BSW system is ON	Off
	BSW system is OFF	On
VHCL SPD SE	Indicates current vehicle speed	km/h
TURN SIGNAL	Left/right turn signal is ON	On
	Left/right turn signal is OFF	Off
SHIFT POSITION	Shows the position of the transmission range switch	P/R/N/D/L
LUMINANCE(LEFT)	Shows radar left luminance level	Hi/Lo
LUMINANCE (RIGHT)	Shows radar right luminance level	Hi/Lo

TERMINAL LAYOUT



AWOIA0102ZZ

PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
3 (B)	Ground	Right/Left switching signal	Input	—	0 V
4 (R)	Ground	Blind Spot Warning indicator	Output	Approx. 2 sec. after ignition switch OFF \Rightarrow ON (bulb check)	6 V
5 (LG)	Ground	Ignition power supply	Input	Ignition switch ON	Battery voltage
6 (L)	—	ITS communication high	—	—	—
7 (R)	—	ITS communication low	—	—	—
8 (B)	Ground	Ground	—	—	0 V

Fail-safe (Side Radar)

A

FAIL-SAFE CONTROL BY DTC

B

Blind Spot Warning (BSW)/Rear Cross Traffic Alert (RCTA)

C

If a malfunction occurs in the side radar, ADAS control unit cancels control, and turns ON the Blind Spot Warning indicator (orange) on the combination meter.

D

TEMPORARY DISABLED STATUS AT BLOCKAGE

E

Blind Spot Warning (BSW)

F

When the side radar is blocked, the operation is temporarily cancelled. Then the buzzer sounds and the Blind Spot Warning indicator (orange) is turned ON in the combination meter. Also, under the following conditions, the operation may be temporarily cancelled:

G

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.

H

Rear Cross Traffic Alert (RCTA)

I

When the side radar is blocked, the operation is temporarily cancelled. Then the buzzer sounds and the Blind Spot Warning indicator (orange) is turned ON in the combination meter. Also, under the following conditions, the operation may be temporarily cancelled.

J

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.

K

DTC Inspection Priority Chart

L

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

M

Priority	Detected items (DTC)
1	U1000: CAN COMM CIRCUIT
2	U0405: ADAS CAN CIR 2
3	C1B50: SIDE RDR MALFUNCTION
4	<ul style="list-style-type: none"> • C1B51: BSW/BSI IND SHORT CIR • C1B52: BSW/BSI IND OPEN CIR • C1B55: RADAR BLOCKAGE

N

DTC Index

O

P

x: Applicable

Q

R

S

T

U

DAS

DTC	Fail-safe		Reference page
	Blind Spot Warning/Rear Cross Traffic Alert		
C1B50	SIDE RDR MALFUNCTION	x	DAS-94
C1B51	BSW/BSI IND SHORT CIR	x	DAS-95
C1B52	BSW/BSI IND OPEN CIR	x	DAS-97
C1B55	RADAR BLOCKAGE	x	DAS-99
U1000	CAN COMM CIRCUIT	x	DAS-104
U0405	ADAS CAN CIR2	x	DAS-101

DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[DRIVER ASSISTANCE SYSTEM]

WIRING DIAGRAM

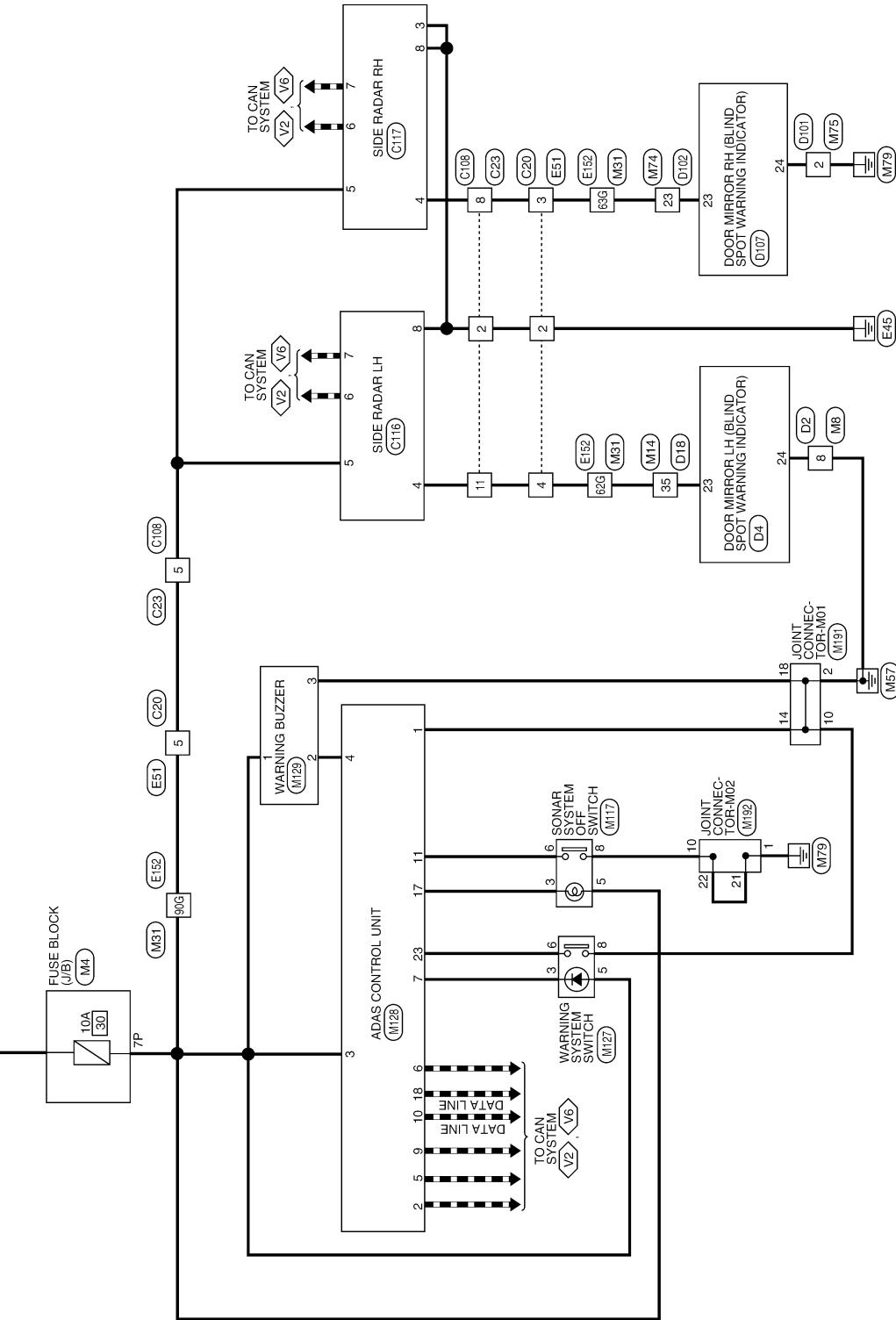
DRIVER ASSISTANCE SYSTEMS

Wiring Diagram

INFOID:000000014718471

DRIVER ASSISTANCE SYSTEM

- : CAN COMMUNICATION LINE FOR DIAGNOSIS
- : WITH VK56VD AND WITH DRIVER ASSISTANCE SYSTEM
- : WITH Cummins 5.0L AND WITH NAVIGATION WITH BLIND SPOT WARNING SYSTEMS



DRIVER ASSISTANCE SYSTEMS

[DRIVER ASSISTANCE SYSTEM]

< WIRING DIAGRAM >

DRIVER ASSISTANCE SYSTEM CONNECTORS

Connector No.	C20	12	R	TO SIDE RADAR SUB HARNESS
Connector Name	WIRE TO WIRE	1		
Connector Type	RH12MB	2		
Connector Color	BLACK	3		



Connector No.	C108	7	6	5	4	3	2	1
Connector Name	WIRE TO WIRE	16	15	14	13	12	11	10
Connector Type	JAD08FB-6P	9	8	7	6	5	4	3
Connector Color	BLACK	12	11	10	9	8	7	6



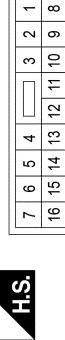
Connector No.	C117	1	2	3	4	5	6	7	8	9	10	11	12
Connector Name	SIDE RADAR RH	13	14	15	16	17	18	19	20	21	22	23	24
Connector Type	TH24MW-NH												
Connector Color	WHITE												



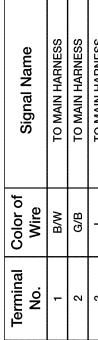
Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name
1	L	TO ENGINE ROOM HARNESS	3	B	ADDRESS
2	B	TO ENGINE ROOM HARNESS	4	R	SIGNAL
3	Y	TO ENGINE ROOM HARNESS	5	LG	IGN
4	W	TO ENGINE ROOM HARNESS	6	L	CAN-H
5	LG	TO ENGINE ROOM HARNESS	7	R	CAN-L
6	L	TO ENGINE ROOM HARNESS	8	B	GND
7	R	TO ENGINE ROOM HARNESS			
8	-	TO ENGINE ROOM HARNESS			
9	-	TO ENGINE ROOM HARNESS			
10	-	TO ENGINE ROOM HARNESS			
11	-	TO ENGINE ROOM HARNESS			
12	R	TO ENGINE ROOM HARNESS			

Connector No.	C116	7	6	5	4	3	2	1
Connector Name	SIDE RADAR LH	16	15	14	13	12	11	10
Connector Type	JAD08FB-5P	9	8	7	6	5	4	3
Connector Color	BLACK	12	11	10	9	8	7	6

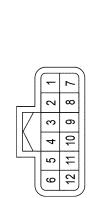
Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name
1	B	TO MAIN HARNESS	3	R	TO MAIN HARNESS
2	G/B	TO MAIN HARNESS	4	L	TO MAIN HARNESS
3	G	TO MAIN HARNESS	5	R	TO MAIN HARNESS
4	W/R	TO MAIN HARNESS	6	W/L	TO MAIN HARNESS
5	V	TO MAIN HARNESS	7	B	TO MAIN HARNESS
6	L/W	TO MAIN HARNESS	8	B	TO MAIN HARNESS
7	L	TO MAIN HARNESS	9	L/W	TO MAIN HARNESS
8	R/G	TO MAIN HARNESS	10	L/R	TO MAIN HARNESS
9	Y	TO MAIN HARNESS	11	L/W	TO MAIN HARNESS
10	SB	TO MAIN HARNESS	12	L	TO MAIN HARNESS
11	V	TO MAIN HARNESS	13	Y	TO MAIN HARNESS
12	SB	TO MAIN HARNESS	14	SB	TO MAIN HARNESS
13	W	TO MAIN HARNESS	15	V	TO MAIN HARNESS
14	LG	TO MAIN HARNESS	16	LG	TO MAIN HARNESS



Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name
1	LG	SWITCH MTR UP	1	LG	SWITCH MTR UP
2	Y	SWITCH MOTOR LT (WITHOUT MEMORY MIRRORS)	2	Y	SWITCH MOTOR LT (WITH MEMORY MIRRORS)
3	LG	SWITCH MOTOR LT (WITH MEMORY MIRRORS)	2	L	SWITCH MOTOR LT (WITH MEMORY MIRRORS)
4	G	MOTOR COMMON	3	BG	MOTOR COMMON
5	G	POWERFOLD UNFOLD- (WITH MEMORY MIRRORS)	4	GL	POWERFOLD UNFOLD- (WITH MEMORY MIRRORS)
6	G	POWERFOLD FOLD- (WITH MEMORY MIRRORS)	5	GR	POWERFOLD FOLD- (WITH MEMORY MIRRORS)
7	W	HEATED MIRROR +	6	BW	HEATED MIRROR +
8	R	VCC	7	W	VCC
9	R/G	VIDEO +	8	R	VIDEO +
10	B	FRONT TURN LH	9	B/G	FRONT TURN LH
11	LG/B	EC FEED	10	B	GND
12	Y	EC RETURN	11	LG/B	GND
13	Y	MEMORY GND	12	B	MEMORY GND
14	SB	MEMORY FEED	13	B	MEMORY FEED
15	V	HORN SENSOR	14	SB	HORN SENSOR
16	BG	VEER SENSOR	15	V	VEER SENSOR
17	-	-	16	B	ROOM LAMP CONT
18	B	HEATED MIRROR -	17	-	-
19	B	GND	18	-	-
20	SHIELD	VIDEO -	19	-	-
21	R/G	BAT SAVER OUT	20	-	-
22	L	ROOM LAMP CONT	21	-	-
23	W	LED LH	22	-	-
24	B	GND	23	-	-



Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name
1	LG	TO SIDE RADAR SUB HARNESS	4	W	TO SIDE RADAR SUB HARNESS
2	B	TO SIDE RADAR SUB HARNESS	5	LG	TO SIDE RADAR SUB HARNESS
3	-	TO SIDE RADAR SUB HARNESS	6	L	TO SIDE RADAR SUB HARNESS
4	-	TO SIDE RADAR SUB HARNESS	7	R	TO SIDE RADAR SUB HARNESS
5	LG	TO SIDE RADAR SUB HARNESS	8	B	TO SIDE RADAR SUB HARNESS
6	L	TO SIDE RADAR SUB HARNESS	9	Y	TO SIDE RADAR SUB HARNESS
7	R	TO SIDE RADAR SUB HARNESS	10	-	TO SIDE RADAR SUB HARNESS
8	Y	TO SIDE RADAR SUB HARNESS	11	W	TO SIDE RADAR SUB HARNESS

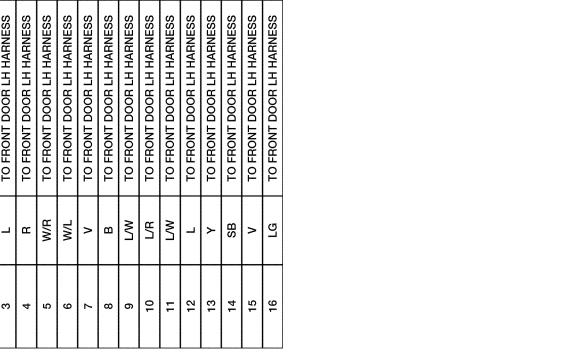
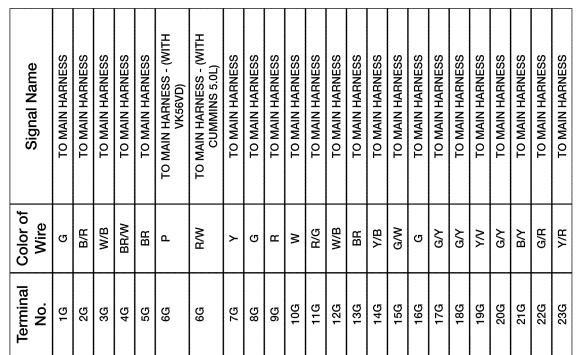
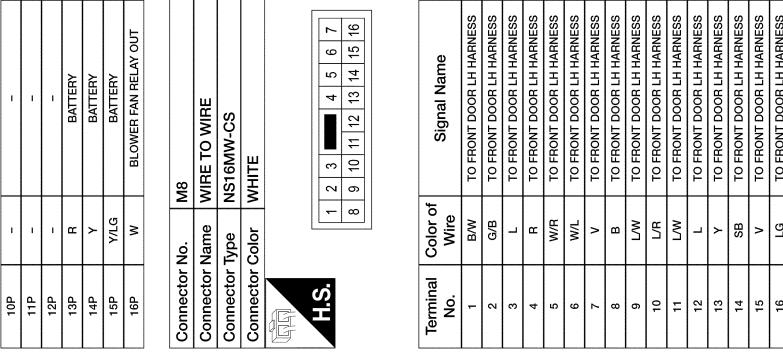
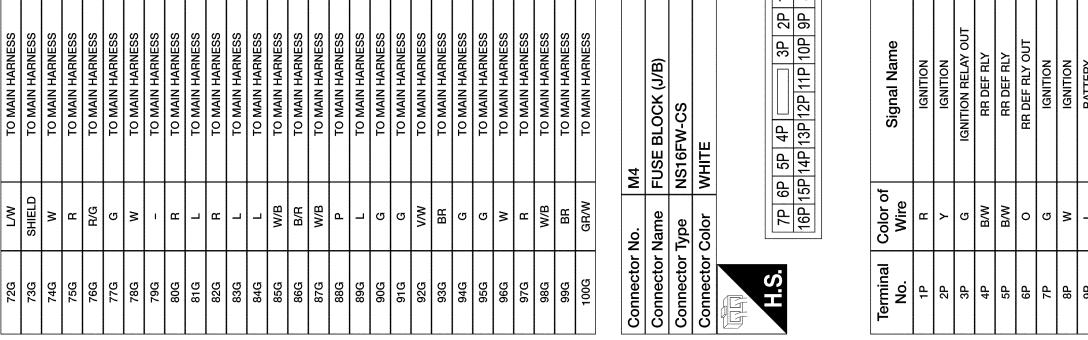
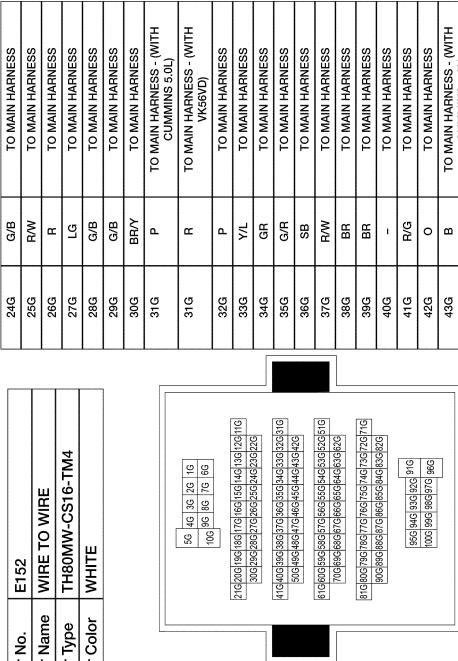
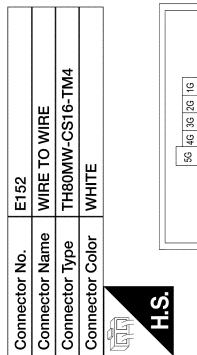


DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[DRIVER ASSISTANCE SYSTEM]

DRIVER ASSISTANCE SYSTEM CONNECTORS



DRIVER ASSISTANCE SYSTEMS

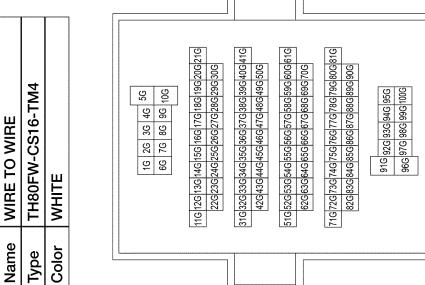
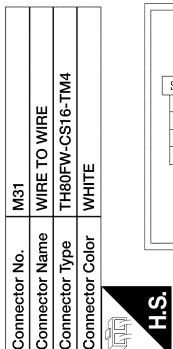
< WIRING DIAGRAM >

[DRIVER ASSISTANCE SYSTEM]

DRIVER ASSISTANCE SYSTEM CONNECTORS

Connector No.	M14
Connector Name	WIRE TO WIRE
Connector Type	·TH40NW-NH
Connector Color	WHITE
	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40



32	R	TO FRONT DOOR LH HARNESS	17G	O	TO ENGINE ROOM HARNESS	70G	L	TO ENGINE ROOM HARNESS
33	O	TO FRONT DOOR LH HARNESS	18G	GY	TO ENGINE ROOM HARNESS	71G	R/W	TO ENGINE ROOM HARNESS
34	-	TO FRONT DOOR LH HARNESS	19G	Y/V	TO ENGINE ROOM HARNESS	72G	L/W	TO ENGINE ROOM HARNESS
35	W	TO FRONT DOOR LH HARNESS	20G	GY	TO ENGINE ROOM HARNESS	73G	SHIELD	TO ENGINE ROOM HARNESS
36	L	TO FRONT DOOR LH HARNESS	21G	BY	TO ENGINE ROOM HARNESS	74G	W	TO ENGINE ROOM HARNESS
37	LR	TO FRONT DOOR LH HARNESS	22G	GR	TO ENGINE ROOM HARNESS	75G	R	TO ENGINE ROOM HARNESS
38	GR	TO FRONT DOOR LH HARNESS	23G	Y/R	TO ENGINE ROOM HARNESS	76G	R/G	TO ENGINE ROOM HARNESS
39	P	TO FRONT DOOR LH HARNESS	24G	GB	TO ENGINE ROOM HARNESS	77G	BG	TO ENGINE ROOM HARNESS
40	R	TO FRONT DOOR LH HARNESS	25G	R/W	TO ENGINE ROOM HARNESS	78G	P	TO ENGINE ROOM HARNESS
			26G	R	TO ENGINE ROOM HARNESS	79G	-	TO ENGINE ROOM HARNESS
			27G	LG	TO ENGINE ROOM HARNESS	80G	R	TO ENGINE ROOM HARNESS
			28G	GB	TO ENGINE ROOM HARNESS	81G	L	TO ENGINE ROOM HARNESS
			29G	GB	TO ENGINE ROOM HARNESS	82G	R	TO ENGINE ROOM HARNESS
			30G	BR/Y	TO ENGINE ROOM HARNESS	83G	L	TO ENGINE ROOM HARNESS
			31G	R	TO ENGINE ROOM HARNESS	84G	L	TO ENGINE ROOM HARNESS
			32G	R	TO ENGINE ROOM HARNESS	85G	W	TO ENGINE ROOM HARNESS
			33G	YL	TO ENGINE ROOM HARNESS	86G	B/R	TO ENGINE ROOM HARNESS
			34G	GR	TO ENGINE ROOM HARNESS	87G	W	TO ENGINE ROOM HARNESS
			35G	GR	TO ENGINE ROOM HARNESS	88G	Q	TO ENGINE ROOM HARNESS
			36G	SB	TO ENGINE ROOM HARNESS	89G	P	TO ENGINE ROOM HARNESS
			37G	R/W	TO ENGINE ROOM HARNESS	90G	G	TO ENGINE ROOM HARNESS
			38G	BR	TO ENGINE ROOM HARNESS	91G	P	TO ENGINE ROOM HARNESS
			39G	BR	TO ENGINE ROOM HARNESS	92G	W/W	TO ENGINE ROOM HARNESS
			40G	-	TO ENGINE ROOM HARNESS	93G	BR	TO ENGINE ROOM HARNESS
			41G	R/G	TO ENGINE ROOM HARNESS	94G	B	TO ENGINE ROOM HARNESS
			42G	O	TO ENGINE ROOM HARNESS	95G	G	TO ENGINE ROOM HARNESS
			43G	G	TO ENGINE ROOM HARNESS	96G	R	TO ENGINE ROOM HARNESS
			44G	RY	TO ENGINE ROOM HARNESS	97G	R	TO ENGINE ROOM HARNESS
			45G	G	TO ENGINE ROOM HARNESS	98G	W/B	TO ENGINE ROOM HARNESS
			46G	LG	TO ENGINE ROOM HARNESS	99G	R	TO ENGINE ROOM HARNESS
			47G	R	TO ENGINE ROOM HARNESS	100G	GR/W	TO ENGINE ROOM HARNESS
			48G	W	TO ENGINE ROOM HARNESS			
			49G	-	TO ENGINE ROOM HARNESS			
			50G	BR	TO ENGINE ROOM HARNESS			
			51G	R	TO ENGINE ROOM HARNESS			
			52G	L	TO ENGINE ROOM HARNESS			
			53G	W	TO ENGINE ROOM HARNESS			
			54G	W	TO ENGINE ROOM HARNESS			
			55G	G	TO ENGINE ROOM HARNESS			
			56G	W	TO ENGINE ROOM HARNESS			
			57G	Y	TO ENGINE ROOM HARNESS			
			58G	BG	TO ENGINE ROOM HARNESS			
			59G	BG	TO ENGINE ROOM HARNESS			
			60G	BG	TO ENGINE ROOM HARNESS			
			61G	O	TO ENGINE ROOM HARNESS			
			62G	W	TO ENGINE ROOM HARNESS			
			63G	O	TO ENGINE ROOM HARNESS			
			64G	W/L	TO ENGINE ROOM HARNESS			
			65G	W/R	TO ENGINE ROOM HARNESS			
			66G	BG	TO ENGINE ROOM HARNESS			
			67G	O	TO ENGINE ROOM HARNESS			
			68G	B	TO ENGINE ROOM HARNESS			
			69G	Y	TO ENGINE ROOM HARNESS			

AAOIA0747GB

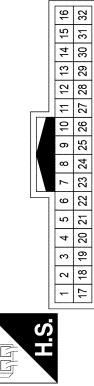
DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[DRIVER ASSISTANCE SYSTEM]

DRIVER ASSISTANCE SYSTEM CONNECTORS

Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Type	TH32NW-NH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name	Signal Name
1	BR	TO FRONT DOOR RH HARNESS	B/W
2	V	TO FRONT DOOR RH HARNESS	B
3	BR	TO FRONT DOOR RH HARNESS	W/L
4	L	TO FRONT DOOR RH HARNESS	V
5	L/R	TO FRONT DOOR RH HARNESS	W/B
6	L	TO FRONT DOOR RH HARNESS	G/Y
7	R/G	TO FRONT DOOR RH HARNESS	W/B
8	B	TO FRONT DOOR RH HARNESS	L/B
9	W	TO FRONT DOOR RH HARNESS	G/Y
10	Y	TO FRONT DOOR RH HARNESS	—
11	LG	TO FRONT DOOR RH HARNESS	—
12	L	TO FRONT DOOR RH HARNESS	—
13	YV	TO FRONT DOOR RH HARNESS	—
14	W/L	TO FRONT DOOR RH HARNESS	—
15	V/R	TO FRONT DOOR RH HARNESS	—
16	L/W	TO FRONT DOOR RH HARNESS	—
17	SB	TO FRONT DOOR RH HARNESS	—
18	Y	TO FRONT DOOR RH HARNESS	—
19	G	TO FRONT DOOR RH HARNESS	—
20	V/W	TO FRONT DOOR RH HARNESS - (WITHOUT AUTOMATIC DRIVE POSITIONER)	—
20	GR/R	TO FRONT DOOR RH HARNESS - (WITH AUTOMATIC DRIVE POSITIONER)	—
21	—	TO FRONT DOOR RH HARNESS	—
22	—	TO FRONT DOOR RH HARNESS	—
23	O	TO FRONT DOOR RH HARNESS	—
24	R	TO FRONT DOOR RH HARNESS	—
25	SHIELD	TO FRONT DOOR RH HARNESS	—
26	W	TO FRONT DOOR RH HARNESS	—
27	BG	TO FRONT DOOR RH HARNESS	—
28	G	TO FRONT DOOR RH HARNESS	—
29	LG/B	TO FRONT DOOR RH HARNESS	—
30	—	TO FRONT DOOR RH HARNESS	—
31	—	TO FRONT DOOR RH HARNESS	—
32	—	TO FRONT DOOR RH HARNESS	—

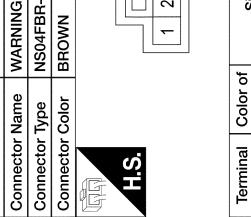
Terminal No.	Color of Wire	Signal Name	Signal Name
1	B/W	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
2	B	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
3	W/L	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
4	V	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
5	L/R	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
6	L	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
7	G/Y	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
8	W/B	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
9	G/Y	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
10	Y	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
11	LG	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
12	L	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
13	YV	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
14	W/L	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
15	V/R	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
16	L/W	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
17	SB	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
18	Y	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
19	G	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
20	V/W	TO FRONT DOOR RH HARNESS - (WITHOUT AUTOMATIC DRIVE POSITIONER)	TO FRONT DOOR RH HARNESS - (WITHOUT AUTOMATIC DRIVE POSITIONER)

Connector No.	M75
Connector Name	WIRE TO WIRE
Connector Type	NS10MW-CS
Connector Color	WHITE

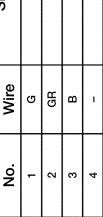


Terminal No.	Color of Wire	Signal Name	Signal Name
1	BR	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
2	V	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
3	BR	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
4	L	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
5	L/R	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
6	L	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
7	R/G	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
8	B	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
9	W	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
10	G	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
11	Y	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
12	LG	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
13	L	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
14	YV	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
15	W/L	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
16	V/R	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
17	L/W	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
18	SB	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
19	Y	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
20	G	TO FRONT DOOR RH HARNESS	TO FRONT DOOR RH HARNESS
21	V/W	TO FRONT DOOR RH HARNESS - (WITHOUT AUTOMATIC DRIVE POSITIONER)	TO FRONT DOOR RH HARNESS - (WITHOUT AUTOMATIC DRIVE POSITIONER)

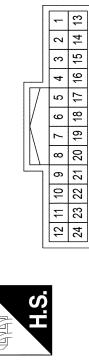
Connector No.	M127
Connector Name	WARNING SYSTEM SWITCH
Connector Type	TH08FW-NH
Connector Color	WHITE



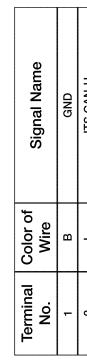
Connector No.	M129
Connector Name	WARNING BUZZER
Connector Type	NS04FBR-CS
Connector Color	BROWN



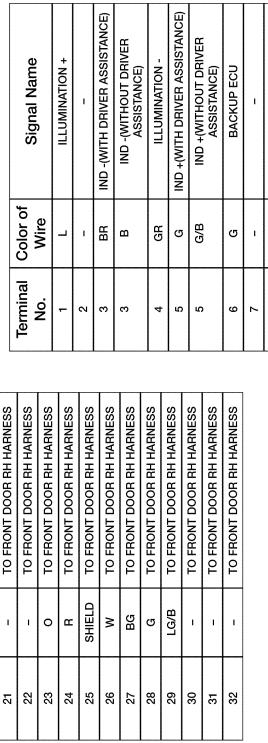
Terminal No.	Color of Wire	Signal Name	Signal Name
1	GR	ILLUMINATION +	L
2	—	—	BSW SW IND
3	GR	ILLUMINATION -	BSW SW IND
4	GR	IGNITION	IGNITION -
5	G	—	GR
6	G	—	GR
7	—	—	BSW SW
8	B	—	BSW SW
9	—	—	GND



Terminal No.	Color of Wire	Signal Name	Signal Name
1	G	IGN	IGN
2	GR	SIGNAL	SIGNAL
3	B	GND	GND
4	—	—	—



Terminal No.	Color of Wire	Signal Name	Signal Name
1	B	GND	GND
2	L	IT'S CAN-H	IT'S CAN-H
3	G	IGN	IGN
4	GR	BUZZER OUTPUT	BUZZER OUTPUT
5	R	IT'S CAN-L	IT'S CAN-L
6	R	CAN-L	CAN-L
7	GR	SW LED	SW LED
8	—	—	—
9	L	CAN-H	CAN-H
10	P	CAN-L	CAN-L
11	G	NC	NC
12	—	—	—
13	—	—	—
14	GR	—	—



AAOIA0748GB

DAS

DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[DRIVER ASSISTANCE SYSTEM]

DRIVER ASSISTANCE SYSTEM CONNECTORS

Connector No.	M191
Connector Name	JOINT CONNECTOR-M01
Connector Type	NH24FW-J
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name
1	-	-	1	B	GROUND
2	B	GND	2	B	GND
3	B	GND	3	B	GROUND
4	B	GROUND	4	-	-
5	-	-	5	B	GROUND
6	B	GND	6	B	GND
7	B	GND	7	B	GROUND
8	B	GND	8	B	GROUND
9	-	-	9	B	GROUND
10	B	GND	10	B	GND
11	B	GND	11	B	GROUND
12	B	GND	12	B	GND
13	B	GND	13	-	-
14	B	GND	14	B	GND
15	B	GND	15	B	GROUND
16	-	-	16	B	GND
17	B	GND	17	-	-
18	B	GND	18	SHIELD	SHIELD
19	SHIELD	GROUND	19	SHIELD	SHIELD
20	B	GND	20	SHIELD	SHIELD
21	B	GND	21	B	GND
22	B	GND	22	B	GND
23	B	GROUND	23	B	GROUND
24	B	GROUND	24	B	GROUND

AAOIA0749GB

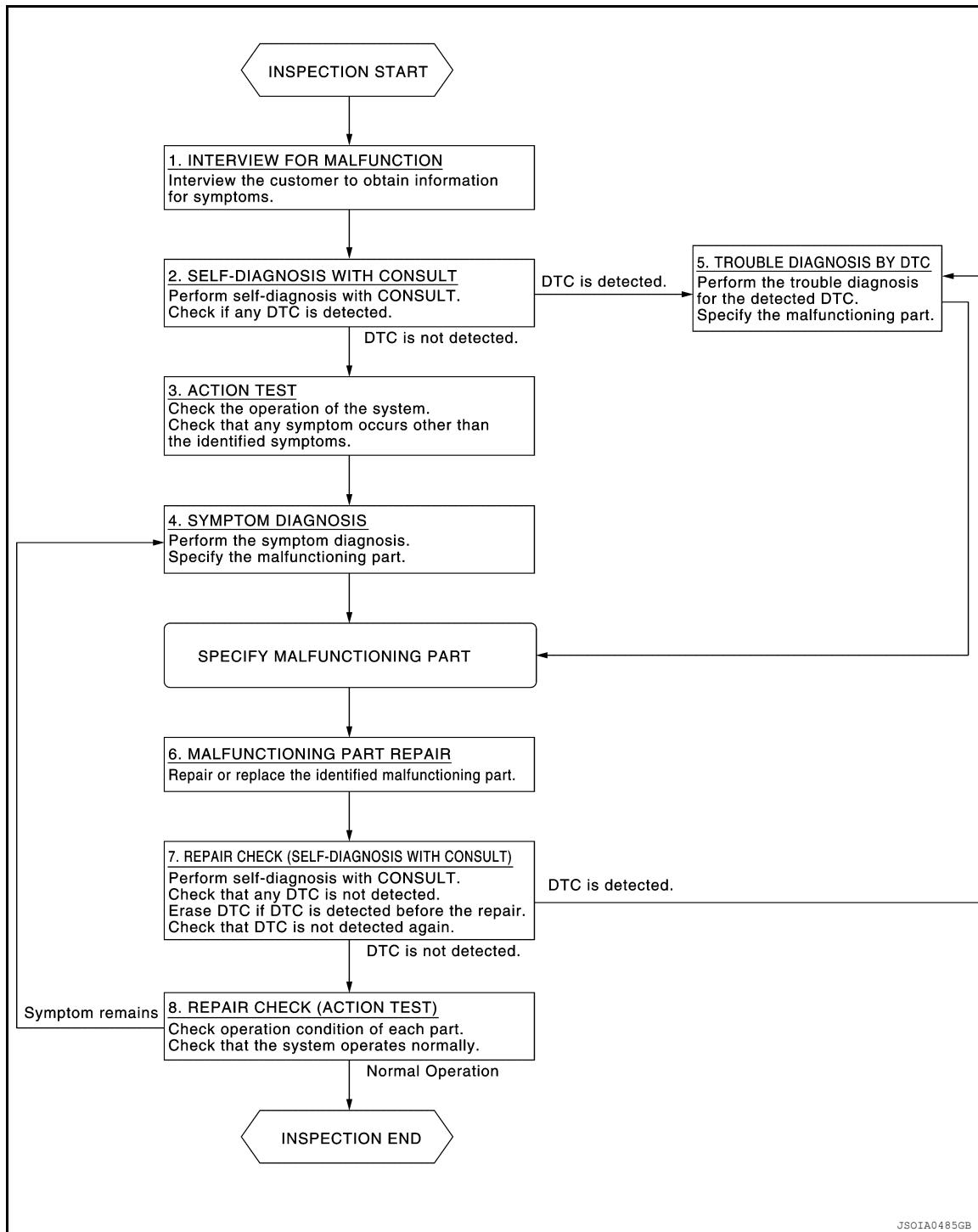
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000014386494

OVERALL SEQUENCE



DETAILED FLOW

1. INTERVIEW FOR MALFUNCTION

It is also important to clarify the customer concerns before starting the inspection. Interview the customer about the concerns carefully and understand the symptoms fully.

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

JSOIA0485GB

< BASIC INSPECTION >

NOTE:

The customers are not professionals. Never assume that “maybe the customer means...” or “maybe the customer mentioned this symptom”.

>> GO TO 2.

2. SELF-DIAGNOSIS WITH CONSULT

 CONSULT

1. Perform “All DTC Reading” mode.
2. Check if the DTC is detected on the “Self Diagnostic Results” of the following:
 - “ICC/ADAS”
 - “SIDE RADAR LEFT”
 - “SIDE RADAR RIGHT”

Is any DTC detected?

YES >> GO TO 5.
NO >> GO TO 3.

3. ACTION TEST

1. Perform the system action test to check the operation status of the following:
 - BSW: Refer to [DAS-92, "BLIND SPOT WARNING : Description"](#).
 - RCTA: Refer to [DAS-93, "RCTA : Description"](#).
2. Check if any other malfunctions occur.

>> GO TO 4.

4. SYMPTOM DIAGNOSIS

Perform the applicable diagnosis according to the diagnosis chart by symptom. Refer to [DAS-115, "Symptom Table"](#).

>> GO TO 6.

5. TROUBLE DIAGNOSIS BY DTC

 CONSULT

1. Check the DTC in the “Self Diagnosis Results”.
2. Perform trouble diagnosis for the following detected DTC:
 - “ICC/ADAS”: Refer to [DAS-12, "DTC Index"](#).
 - “SIDE RADAR LEFT”: Refer to [DAS-79, "DTC Index"](#).
 - “SIDE RADAR RIGHT”: Refer to [DAS-81, "DTC Index"](#).

NOTE:

If “DTC: U1000” is detected, first diagnose the CAN communication system or ITS communication system.

>> GO TO 6.

6. MALFUNCTIONING PART REPAIR

Repair or replace the identified malfunctioning parts.

>> GO TO 7.

7. REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT)

1. Erase “Self Diagnosis Results”.
2. Perform “All DTC Reading” mode again after repairing or replacing the specific items.
3. Check if any DTC is detected in self-diagnosis results of the following:
 - “ICC/ADAS”
 - “SIDE RADAR LEFT”
 - “SIDE RADAR RIGHT”

Is any DTC detected?

YES >> GO TO 5.

DIAGNOSIS AND REPAIR WORK FLOW

[DRIVER ASSISTANCE SYSTEM]

< BASIC INSPECTION >

NO >> GO TO 8.

8. REPAIR CHECK (ACTION TEST)

Perform the following system action test. Check that the malfunction symptom is solved or no other symptoms occur.

- BSW: Refer to [DAS-92, "BLIND SPOT WARNING : Description"](#).
- RCTA: Refer to [DAS-93, "RCTA : Description"](#).

Is there a malfunction symptom?

YES >> GO TO 4.

NO >> Inspection End.

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

ACTION TEST

BLIND SPOT WARNING

BLIND SPOT WARNING : Description

INFOID:000000014386495

Always perform the Blind Spot Warning system action test to check that the system operates normally after replacing the side radar LH/RH, or repairing any Blind Spot Warning system malfunction.

WARNING:

Be careful of traffic conditions and safety around the vehicle when performing road test.

CAUTION:

Fully understand the following items well before the road test;

- Precautions: Refer to [DAS-51, "Blind Spot Warning/Rear Cross Traffic Alert \(RCTA\) System Service"](#).
- System description for Blind Spot Warning: Refer to [DAS-58, "BSW : System Description"](#).
- Normal operating condition: Refer to [DAS-118, "Description"](#).

BLIND SPOT WARNING : Work Procedure

INFOID:000000014386496

WARNING:

Be careful of traffic conditions and safety around the vehicle when performing road test.

CAUTION:

Fully understand the following items well before the road test;

- Precautions: Refer to [DAS-51, "Blind Spot Warning/Rear Cross Traffic Alert \(RCTA\) System Service"](#).
- System description for Blind Spot Warning: Refer to [DAS-58, "BSW : System Description"](#).
- Normal operating condition: Refer to [DAS-118, "Description"](#).

1. CHECK BSW SYSTEM SETTING

1. Start the engine.
2. Check that the BSW system setting can be enabled/disabled on the integral switch.
3. Turn OFF the ignition switch and wait for 5 seconds or more.
4. Check that the previous setting is saved when the engine starts again.

>> GO TO 2.

2. BSW SYSTEM ACTION TEST

1. Enable the setting of the BSW system on the integral switch.
2. Check BSW operation according to the following table:

Vehicle condition/ Driver's operation			Action			
Vehicle speed (Approx.)	Turn signal condition	Status of vehicle detection within detection area	Indication on the Blind Spot Warning indicator	Indication on the combination meter	Indicator color	Buzzer
Less than approx. 18 MPH (29 km/h)	—	—	OFF	ON	White	OFF
Approx. 20 MPH (32 km/h) or more	—	Vehicle is absent	OFF	ON	White	OFF
	OFF	Vehicle is detected	ON	ON	White	OFF
	ON (vehicle detected direction)	Before turn signal operates Vehicle is detected	Blink	Blink	Yellow (Blink)	Short continuous beeps
		Vehicle is detected after turn signal operates	Blink	Blink	Yellow (Blink)	OFF

>> Inspection End.

RCTA

Always perform the RCTA system action test to check that the system operates normally after replacing the side radar LH/RH, or repairing any BSW/RCTA system malfunction.

WARNING:

Be careful of traffic conditions and safety around the vehicle when performing road test.

CAUTION:

Fully understand the following items well before the road test;

- Precautions: Refer to [DAS-51, "Blind Spot Warning/Rear Cross Traffic Alert \(RCTA\) System Service"](#).
- System description for RCTA: Refer to [DAS-61, "RCTA : System Description"](#).
- Normal operating condition: Refer to [DAS-118, "Description"](#).

WARNING:

Be careful of traffic conditions and safety around the vehicle when performing road test.

CAUTION:

Fully understand the following items well before the road test;

- Precautions: Refer to [DAS-51, "Blind Spot Warning/Rear Cross Traffic Alert \(RCTA\) System Service"](#).
- System description for RCTA: Refer to [DAS-61, "RCTA : System Description"](#).
- Normal operating condition: Refer to [DAS-118, "Description"](#).

1.CHECK BSW/RCTA SYSTEM SETTING

1. Start the engine.
2. Check that the BSW system setting can be enabled/disabled using the integral switch on the combination meter information display.
3. Turn OFF the ignition switch and wait for 30 seconds or more.
4. Check that the previous setting is saved when the engine starts again.
5. Check that the sonar system OFF switch is pressed and the sonar system OFF switch indicator turns ON.

>> GO TO 2.

2.ACTION TEST FOR RCTA

1. Check the RCTA operation according to the following table:

Vehicle condition	Action	Buzzer
<ul style="list-style-type: none"> • R range • 5 MPH (8 km/h) 	<ul style="list-style-type: none"> If the radar detects an approaching vehicle from the side. 	<ul style="list-style-type: none"> • Chime sound (single beep) • Flashes Blind Spot Warning indicator on the side of the approaching vehicle is detected. • Yellow rectangular frame appears in the display.
	No approaching vehicle	No action

>> Inspection End.

DAS

DTC/CIRCUIT DIAGNOSIS

C1B50 SIDE RADAR MALFUNCTION

DTC Description

INFOID:000000014386499

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1B50	SIDE RDR MALFUNCTION (Side radar malfunction)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	Side radar malfunction
		Diagnosis delay time	–

POSSIBLE CAUSE

Side radar

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

Ⓐ CONSULT

1. Start the engine.
2. Turn the Blind Spot Warning system ON.
3. Perform “All DTC Reading” mode.
4. Check if “C1B50” is detected as the current malfunction in “Self Diagnostic Result” mode of “SIDE RADAR RIGHT/LEFT”.

Is the “C1B50” detected as the current malfunction?YES >> Refer to [DAS-94, "Diagnosis Procedure"](#).NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:000000014386500

1. PERFORM SELF DIAGNOSTIC

Ⓐ CONSULT

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “SIDE RADAR LEFT/RIGHT”.
3. Touch “ERASE”.
4. Turn ignition switch OFF.
5. Turn ignition switch ON.
6. Check if any DTC other than “C1B50” is detected in “Self Diagnostic Result” mode of “SIDE RADAR LEFT/RIGHT”.

Is any DTC detected?YES >> Perform diagnosis on the detected DTC and repair or replace the malfunction part. Refer to [DAS-81, "DTC Index"](#) (Side Radar Right) or [DAS-79, "DTC Index"](#) (Side Radar Left).NO >> Replace the faulty side radar. Refer to [DAS-120, "Removal and Installation"](#).

C1B51 BLIND SPOT WARNING INDICATOR SHORT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

C1B51 BLIND SPOT WARNING INDICATOR SHORT CIRCUIT

DTC Description

INFOID:000000014386501

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1B51	BSW/BSI IND SHORT CIR (Blind Spot Warning indicator short circuit)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	Short circuit in Blind Spot Warning indicator circuit is detected. (Over current is detected)
		Diagnosis delay time	–

POSSIBLE CAUSE

- Blind Spot Warning indicator circuit
- Blind Spot Warning indicator
- Side radar

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Turn the Blind Spot Warning system ON.
3. Perform "All DTC Reading" mode.
4. Check if "C1B51" is detected as the current malfunction in "Self Diagnostic Result" mode of "SIDE RADAR RIGHT/LEFT".

Is the "C1B51" detected as the current malfunction?

YES >> Refer to [DAS-95, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:000000014386502

Regarding Wiring Diagram information, refer to [DAS-82, "Wiring Diagram"](#).

1. CHECK BLIND SPOT WARNING INDICATOR CIRCUIT FOR OPEN 1

1. Turn ignition switch OFF.
2. Disconnect side radar harness connector and Blind Spot Warning indicator harness connector.
3. Check continuity between side radar harness connector and Blind Spot Warning indicator harness connector.

DAS

Side radar		Blind Spot Warning indicator		Continuity
Connector	Terminal	Connector	Terminal	
C116 LH	4	D4 LH	23	Yes
		D107 RH		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connector.

C1B51 BLIND SPOT WARNING INDICATOR SHORT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

2. CHECK BLIND SPOT WARNING INDICATOR CIRCUIT FOR OPEN 2

Check continuity between Blind Spot Warning indicator harness connector and ground.

Blind Spot Warning indicator		Ground	Continuity
Connector	Terminal		
D4 LH			
D107 RH	24		Yes

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connector.

3. CHECK SIDE RADAR VOLTAGE OUTPUT

1. Connect side radar harness connector.

2. Check voltage between Blind Spot Warning indicator harness connector and ground.

Blind Spot Warning indicator		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
D4 LH			Ignition switch OFF ⇒ ON (Approx. 2 sec.)	
D107 RH	23			6 V

Is the inspection result normal?

YES >> Replace Blind Spot Warning indicator. Refer to [DAS-122, "Removal and Installation"](#).

NO >> Replace side radar. Refer to [DAS-120, "Removal and Installation"](#).

C1B52 BLIND SPOT WARNING INDICATOR OPEN CIRCUIT

DTC Description

INFOID:000000014386503

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1B52	BSW/BSI IND OPEN CIR (Blind Spot Warning indicator open circuit)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	Open circuit in Blind Spot Warning indicator circuit is detected
		Diagnosis delay time	–

POSSIBLE CAUSE

- Blind Spot Warning indicator circuit
- Blind Spot Warning indicator
- Side radar

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

① CONSULT

1. Start the engine.
2. Turn the Blind Spot Warning system ON.
3. Perform "All DTC Reading" mode.
4. Check if "C1B52" is detected as the current malfunction in "Self Diagnostic Result" mode of "SIDE RADAR RIGHT/LEFT".

Is the "C1B52" detected as the current malfunction?

YES >> Refer to [DAS-97, "Diagnosis Procedure"](#).NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:000000014386504

Regarding Wiring Diagram information, refer to [DAS-82, "Wiring Diagram"](#).

1. CHECK BLIND SPOT WARNING INDICATOR CIRCUIT FOR OPEN 1

1. Turn ignition switch OFF.
2. Disconnect side radar harness connector and Blind Spot Warning indicator harness connector.
3. Check continuity between side radar harness connector and Blind Spot Warning indicator harness connector.

DAS

Side radar		Blind Spot Warning indicator		Continuity
Connector	Terminal	Connector	Terminal	
C116 LH	4	D4 LH	23	Yes
C117 RH		D107 RH		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connector.

P

C1B52 BLIND SPOT WARNING INDICATOR OPEN CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

2. CHECK BLIND SPOT WARNING INDICATOR CIRCUIT FOR OPEN 2

Check continuity between Blind Spot Warning indicator harness connector and ground.

Blind Spot Warning indicator		Ground	Continuity
Connector	Terminal		
D4 LH			
D107 RH	24		Yes

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connector.

3. CHECK SIDE RADAR VOLTAGE OUTPUT

1. Connect side radar harness connector.

2. Check voltage between Blind Spot Warning indicator harness connector and ground.

Blind Spot Warning indicator		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
D4 LH			Ignition switch OFF ⇒ ON (Approx. 2 sec.)	
D107 RH	23			6 V

Is the inspection result normal?

YES >> Replace Blind Spot Warning indicator. Refer to [DAS-122, "Removal and Installation"](#).

NO >> Replace side radar. Refer to [DAS-120, "Removal and Installation"](#).

C1B55 RADAR BLOCKAGE

DTC Description

INFOID:000000014386505

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1B55	RADAR BLOCKAGE (Radar blockage)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	Side radar is blocked
		Diagnosis delay time	–

NOTE:

DTC "C1B55" may be detected under the following conditions except for possible cause. (Explain to the customer about the difference between the contamination detection function and the indication when the malfunction is detected and tell them "This is not malfunction".)

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.
- Due to the nature of radar technology it is possible to get a blockage warning and not actually be blocked. This is rare and is known as a false blockage warning. A false blocked condition either self-clears or clears after an ignition cycle.

POSSIBLE CAUSE

Stain or foreign materials is deposited.

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

④ CONSULT

1. Start the engine.
2. Turn the Blind Spot Warning system ON.
3. Perform "All DTC Reading" mode.
4. Check if "C1B55" is detected as the current malfunction in "Self Diagnostic Result" mode of "SIDE RADAR RIGHT/LEFT".

Is the DTC "C1B55" detected?

YES >> Refer to [DAS-99, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:000000014386506

1. CHECK THE REAR BUMPER

Check rear bumper near the side radar contaminated with foreign materials.

>> GO TO 2.

2. CHECK THE SIDE RADAR

Check side radar and the side radar outskirts contaminated with foreign materials.

>> GO TO 3.

3. CHECK THE SIDE RADAR INSTALL CONDITION

Check side radar installation condition (installation position, properly tightened, a bent bracket).

>> GO TO 4.

4. INTERVIEW

1. Ask if there is stain or foreign materials.
2. Ask if there is any temporary ambient condition such as splashing water, mist or fog.
3. Ask if there is any object such as ice, frost or dirt obstructing the side radar.

Is any of above conditions seen?

YES >> Explain to the customer about the difference between the blockage detection function and the indication when the malfunction is detected and tell them "This is not malfunction".

NO >> Inspection End.

< DTC/CIRCUIT DIAGNOSIS >

INFOID:000000014386507

U0405 ADAS CAN 2

A

DTC Description

B

DTC DETECTION LOGIC

C

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U0405	ADAS CAN CIR2 (ADAS control unit CAN circuit 2)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	Side radar detected an error of ITS communication signal that was received from ADAS control unit
		Diagnosis delay time	–

D

POSSIBLE CAUSE

E

ADAS control unit.

F

FAIL-SAFE

G

The following systems are canceled:

H

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

I

DTC CONFIRMATION PROCEDURE

J

1. CHECK DTC PRIORITY

K

If DTC "U0405" is displayed with DTC "U1000", first diagnose the DTC "U1000".

L

Is applicable DTC detected?

M

YES >> Perform diagnosis of applicable. Refer to [DAS-103, "SIDE RADAR LH : DTC Description"](#) (Side Radar LH) or [DAS-104, "SIDE RADAR RH : DTC Description"](#) (Side Radar RH).

N

NO >> GO TO 2.

O

2. PERFORM DTC CONFIRMATION PROCEDURE

P

④ CONSULT

1. Start the engine.
2. Turn the Blind Spot Warning system ON.
3. Perform "All DTC Reading" mode.
4. Check if U0405 is detected as the current malfunction in "Self Diagnostic Result" mode of "SIDE RADAR RIGHT/LEFT".

Q

Is DTC "U0405" detected?

R

YES >> Refer to [DAS-101, "Diagnosis Procedure"](#).

S

NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

T

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:000000014386508

U

1. CHECK DTC PRIORITY

V

If DTC "U0104" is displayed with DTC "U1000", first diagnose the DTC "U1000".

W

Is applicable DTC detected?

X

YES >> Perform diagnosis of applicable. Refer to [DAS-103, "SIDE RADAR LH : DTC Description"](#) (Side Radar LH) or [DAS-104, "SIDE RADAR RH : DTC Description"](#) (Side Radar RH).

Y

NO >> GO TO 2.

2. SELF DIAGNOSTIC RESULT OF ADAS CONTROL UNIT

Z

④ CONSULT

1. Start the engine.
2. Turn the BSW/RCTA system ON.
3. Select "Self Diagnostic Result" mode of "ICC/ADAS".

4. Check DTC.

Is DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-12, "DTC Index".](#)

NO >> Replace side radar LH or side radar RH. Refer to [DAS-120, "Removal and Installation"](#)

U1000 CAN COMM CIRCUIT

SIDE RADAR LH

SIDE RADAR LH : Description

INFOID:000000014386509

CAN COMMUNICATION

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicles are equipped with many electronic control units, 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, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads the required data only.

CAN communication signal chart. Refer to [LAN-74, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart"](#).

ITS COMMUNICATION

- ITS communication is a multiplex communication system. This enables the system to transmit and receive large quantities of data at high speed by connecting plural units with 2 communication lines.
- ITS communication lines adopt twisted-pair line style (two lines twisted) for noise immunity.

SIDE RADAR LH : DTC Description

INFOID:000000014386510

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1000	CAN COMM CIRCUIT (CAN communication circuit)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	If side radar LH is not transmitting or receiving ITS communication signal
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

ITS communication system

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

④ CONSULT

1. Start the engine.
2. Turn the Blind Spot Warning system ON.
3. Perform "All DTC Reading" mode.
4. Check if "U1000" is detected as the current malfunction in "Self Diagnostic Result" mode of "SIDE RADAR RIGHT/LEFT".

Is "U1000" detected?

YES >> Refer to [DAS-103, "SIDE RADAR LH : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

SIDE RADAR LH : Diagnosis Procedure

INFOID:000000014386511

1. SELF DIAGNOSTIC RESULT

④ CONSULT

< DTC/CIRCUIT DIAGNOSIS >

1. Start the engine.
2. Turn the Blind Spot Warning system ON, and then wait for 30 seconds or more.
3. Perform "ALL DTC READING" mode.
4. Check if "U1000" is detected as the current malfunction in "Self Diagnostic Result" mode of "SIDE RADAR LEFT".

Is "U1000" detected?

YES >> Refer to [LAN-53, "Trouble Diagnosis Flow Chart"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

SIDE RADAR RH

SIDE RADAR RH : Description

INFOID:0000000014386512

CAN COMMUNICATION

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicles are equipped with many electronic control units, 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, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads the required data only.

CAN communication signal chart. Refer to [LAN-74, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart"](#).

ITS COMMUNICATION

- ITS communication is a multiplex communication system. This enables the system to transmit and receive large quantities of data at high speed by connecting plural units with 2 communication lines.
- ITS communication lines adopt twisted-pair line style (two lines twisted) for noise immunity.

SIDE RADAR RH : DTC Description

INFOID:0000000014386513

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1000	CAN COMM CIRCUIT (CAN communication circuit)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	If side radar RH is not transmitting or receiving ITS communication signal
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

ITS communication system

FAIL-SAFE

The following systems are canceled:

- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

④ CONSULT

1. Start the engine.
2. Turn the Blind Spot Warning system ON.
3. Perform "All DTC Reading" mode.
4. Check if "U1000" is detected as the current malfunction in "Self Diagnostic Result" mode of "SIDE RADAR RIGHT/LEFT".

Is "U1000" detected?

YES >> Refer to [DAS-103, "SIDE RADAR LH : Diagnosis Procedure"](#).

< DTC/CIRCUIT DIAGNOSIS >

NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

SIDE RADAR RH : Diagnosis Procedure

INFOID:000000014386514

1. SELF DIAGNOSTIC RESULT

CONSULT

1. Start the engine.
2. Turn the Blind Spot Warning system ON, and then wait for 30 seconds or more.
3. Perform "ALL DTC READING" mode.
4. Check if "U1000" is detected as the current malfunction in "Self Diagnostic Result" mode of "SIDE RADAR RIGHT".

Is "U1000" detected?

YES >> Refer to [LAN-53, "Trouble Diagnosis Flow Chart"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-47, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

POWER SUPPLY AND GROUND CIRCUIT

SIDE RADAR LH

SIDE RADAR LH : Diagnosis Procedure

INFOID:000000014386515

Regarding Wiring Diagram information, refer to [DAS-82, "Wiring Diagram"](#).

1. CHECK FUSES

Check that the following fuse is not blown:

Signal name	Fuse No.
Ignition power supply	30 (10A)

Is the fuse blown?

YES >> Replace the blown fuse after repairing the affected circuit.
 NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect the side radar LH connector.
3. Check voltage between side radar LH harness connector and ground.

Terminals		Condition	Voltage (Approx.)
(+)	(-)		
Side radar LH		Ignition switch	
Connector	Terminal		OFF
C116	5		ON
			Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
 NO >> Repair the side radar LH power supply circuit.

3. CHECK GROUND CIRCUIT

Check continuity between side radar LH harness connector and ground.

Side radar LH		Ground	Continuity
Connector	Terminal		
C116	8		Yes

Is the inspection result normal?

YES >> Inspection End.
 NO >> Repair the side radar LH ground circuit.

SIDE RADAR RH

SIDE RADAR RH : Diagnosis Procedure

INFOID:000000014386516

Regarding Wiring Diagram information, refer to [DAS-82, "Wiring Diagram"](#).

1. CHECK FUSES

Check that the following fuse is not blown:

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

Signal name	Fuse No.
Ignition power supply	30 (10A)

Is the fuse blown?

YES >> Replace the blown fuse after repairing the affected circuit.
NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect the side radar RH connector.
3. Check voltage between side radar RH harness connector and ground.

Terminals		Condition	Voltage (Approx.)
(+)	(-)		
Side radar RH	Ground	Ignition switch	
Connector		OFF	0 V
C117		ON	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair the side radar RH power supply circuit.

3. CHECK GROUND CIRCUIT

Check continuity between side radar RH harness connector and ground.

Side radar RH		Ground	Continuity
Connector	Terminal		
C117	3		Yes
	8		

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair the side radar RH ground circuit.

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:000000014386517

Regarding Wiring Diagram information, refer to [DAS-82, "Wiring Diagram"](#).

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Check the terminals and connectors of the side radar RH for damage, bend and short (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal or connector.

2. CHECK CONTINUITY RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

1. Disconnect side radar RH connector.
2. Check continuity between side radar RH harness connectors and ground.

Side radar RH		Ground	Continuity
Connector	Terminal		
C117	3		Yes

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair harness or connector.

WARNING BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

WARNING BUZZER CIRCUIT

Component Function Check

INFOID:0000000014386518

1. CHECK WARNING BUZZER

CONSULT

1. Select "ADAS BUZZER" in "Active Test" mode of "ICC/ADAS".
2. Check that the function operates normally.

Is the inspection result normal?

YES >> Inspection End.

NO >> Refer to [DAS-109, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:0000000014386519

Regarding Wiring Diagram information, refer to [DAS-82, "Wiring Diagram"](#).

1. CHECK WARNING BUZZER POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect the warning buzzer harness connector.
3. Turn ignition switch ON.
4. Check voltage between the warning buzzer harness connector and ground.

Terminals		Voltage (Approx.)	
(+)			
Warning buzzer			
Connector	Terminal		
M129	1	Battery voltage	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the warning buzzer power supply circuit.

2. CHECK WARNING BUZZER GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between the warning buzzer harness connector and ground.

Warning buzzer		Ground	Continuity
Connector	Terminal		
M129	3		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

3. CHECK WARNING BUZZER SIGNAL CIRCUIT FOR OPEN

1. Disconnect the ADAS control unit connector.
2. Check continuity between the ADAS control unit harness connector and warning buzzer harness connector.

ADAS control unit		Warning buzzer		Continuity
Connector	Terminal	Connector	Terminal	
M128	4	M129	2	

Is the inspection result normal?

WARNING BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

YES >> GO TO 4.

NO >> Repair the harness or connector.

4. CHECK WARNING BUZZER SIGNAL CIRCUIT FOR SHORT

Check continuity between the ADAS control unit harness connector and ground.

ADAS control unit		Ground	Continuity
Connector	Terminal		
M128	4		No

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the harness or connector.

5. CHECK WARNING BUZZER OPERATION

1. Connect the warning buzzer connector.
2. Turn ignition switch ON.
3. Apply ground to warning buzzer terminal 2.
4. Check condition of the warning buzzer.

Does warning buzzer sound?

YES >> Replace the ADAS control unit. Refer to [DAS-49, "Removal and Installation"](#).

NO >> Replace the warning buzzer. Refer to [DAS-119, "Removal and Installation"](#).

WARNING SYSTEM SWITCH CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

WARNING SYSTEM SWITCH CIRCUIT

Component Function Check

INFOID:0000000014386520

1. CHECK WARNING SYSTEM SWITCH INPUT SIGNAL

1. Turn the ignition switch ON.
2. Select the DATA MONITOR item "WARN SYS SW" of "BSW" with CONSULT.
3. With operating the warning system switch, check the monitor status.

Monitor item	Condition	Monitor status
WARN SYS SW	Warning system switch is pressed	On
	Warning system switch is not pressed	OFF

Is the inspection result normal?

YES >> Warning system switch circuit is normal.
NO >> Refer to [DAS-111, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:0000000014386521

Regarding Wiring Diagram information, refer to [DAS-82, "Wiring Diagram"](#).

1. CHECK WARNING SYSTEM SWITCH SIGNAL INPUT

1. Turn the ignition switch ON.
2. While operating the warning system switch, check voltage between ADAS control unit harness connector and ground.

Terminals		Condition	Voltage (Approx.)
(+)	(-)		
ADAS control unit	Terminal	Warning system switch	0 V
Connector			
M128	23		

Is the inspection result normal?

YES >> Replace the ADAS control unit. Refer to [DAS-49, "Removal and Installation"](#).
NO >> GO TO 2.

2. CHECK WARNING SYSTEM SWITCH

1. Check warning system switch. Refer to [DAS-112, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace the warning system switch. Refer to [DAS-123, "Removal and Installation"](#).

3. CHECK WARNING SYSTEM SWITCH GROUND CIRCUIT

Check continuity between warning system switch harness connector and the ground.

Warning system switch		Ground	Continuity
Connector	Terminal		
M127	8		Yes

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair harness or connector.

WARNING SYSTEM SWITCH CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

4. CHECK WARNING SYSTEM SWITCH SIGNAL INPUT CIRCUIT FOR OPEN

1. Disconnect the ADAS control unit connector.
2. Check continuity between the ADAS control unit harness connector and warning system switch harness connector.

ADAS control unit		Warning system switch		Continuity
Connector	Terminal	Connector	Terminal	
M128	23	M127	6	Yes

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

5. CHECK WARNING SYSTEM SWITCH SIGNAL INPUT CIRCUIT FOR SHORT

Check continuity between the ADAS control unit harness connector and ground.

ADAS control unit		Ground	Continuity
Connector	Terminal		
B128	23		No

Is the inspection result normal?

YES >> Replace the ADAS control unit. Refer to [DAS-49, "Removal and Installation"](#).

NO >> Repair the harnesses or connectors.

Component Inspection

INFOID:0000000014386522

1. CHECK WARNING SYSTEM SWITCH

Check continuity of warning system switch.

Terminal		Condition	Continuity
6	8	When warning system switch is pressed	Yes
		When warning system switch is released	No

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace warning system switch. Refer to [DAS-123, "Removal and Installation"](#).

WARNING SYSTEMS ON INDICATOR CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

WARNING SYSTEMS ON INDICATOR CIRCUIT

Diagnosis Procedure

INFOID:000000014386523

Regarding Wiring Diagram information, refer to [DAS-82, "Wiring Diagram"](#).

1. CHECK WARNING SYSTEM SWITCH INDICATOR POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect warning system switch connector.
3. Turn ignition switch ON.
4. Check voltage between warning system switch harness connector and ground.

Terminals		Ground	Voltage (Approx.)		
(+)					
Warning system switch					
Connector	Terminal				
M127	3		Battery voltage		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the warning system switch indicator power supply circuit.

2. CHECK WARNING SYSTEM SWITCH INDICATOR SIGNAL FOR OPEN

1. Turn ignition switch OFF.
2. Disconnect the ADAS control unit harness connector.
3. Check continuity between the ADAS control unit harness connector and warning system switch harness connector.

ADAS control unit		Warning system switch		Continuity
Connector	Terminal	Connector	Terminal	
B128	7	M127	5	Yes

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

3. CHECK WARNING SYSTEM SWITCH INDICATOR SIGNAL CIRCUIT FOR SHORT

Check continuity between the ADAS control unit harness connector and ground.

ADAS control unit		Ground	Continuity
Connector	Terminal		
B128	7		

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK WARNING SYSTEM SWITCH INDICATOR

Check the warning system switch indicator. Refer to [DAS-114, "Component Inspection"](#).

Is the inspection result normal?

YES >> Replace the ADAS control unit. Refer to [DAS-49, "Removal and Installation"](#).

NO >> Replace warning system switch. [DAS-123, "Removal and Installation"](#).

WARNING SYSTEMS ON INDICATOR CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

Component Inspection

INFOID:000000014386524

1. CHECK WARNING SYSTEM SWITCH INDICATOR

Apply battery voltage to warning system switch terminals 5 and 6, and then check if the warning system switch indicator illuminates.

Terminals		Condition	BSW ON indicator
(+)	(-)		
5	3	When the battery voltage is applied	ON
		When the battery voltage is not applied	OFF

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace the warning system switch. Refer to [DAS-123, "Removal and Installation".](#)

SYMPTOM DIAGNOSIS

DRIVER ASSISTANCE SYSTEM SYMPTOMS

Symptom Table

INFOID:000000014386525

BSW SYSTEM SYMPTOMS

CAUTION:

Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

NOTE:

For the operational conditions of BSW, refer to [DAS-58, "BSW : System Description"](#).

Symptom	Possible cause	Inspection item/Reference page
Indicator/warning lamps do not illuminate when ignition switch OFF ⇒ ON.	BSW warning lamp (Yellow) does not illuminate	<ul style="list-style-type: none"> BSW warning lamp signal (CAN) Combination meter ADAS control unit BSW warning lamp (combination meter)
	Warning system switch ON indicator (on the warning system switch) does not illuminate	<ul style="list-style-type: none"> Harness between ADAS control unit and warning system switch Warning system switch ADAS control unit
	BSW indicator does not turn ON	<ul style="list-style-type: none"> Harness between side radar and BSW indicator Side radar LH/RH BSW indicator
BSW system is not activated. (Indicator/warning lamps illuminate when ignition switch OFF ⇒ ON.)	BSW ON indicator is not turned ON ⇌ OFF when operating warning system switch	<ul style="list-style-type: none"> Harness between ADAS control unit and warning system switch Harness between warning system switch and ground ADAS control unit Warning system switch
	Buzzer is not sounding	<ul style="list-style-type: none"> ADAS control unit Warning buzzer

RCTA SYSTEM SYMPTOMS

CAUTION:

Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

NOTE:

For the operational conditions of RCTA, refer to [DAS-61, "RCTA : System Description"](#).

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

DRIVER ASSISTANCE SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

Symptom		Possible cause	Inspection item/Reference page
Indicator/warning lamps do not illuminate when ignition switch OFF \Rightarrow ON.	RCTA warning lamp (Yellow) does not illuminate	<ul style="list-style-type: none"> • RCTA warning lamp signal - Combination meter - ADAS control unit • RCTA warning lamp (combination meter) 	<ul style="list-style-type: none"> • Power supply and ground circuit of ADAS control unit Refer to DAS-48, "Diagnosis Procedure" • ADAS control unit Active test "METER LAMP" Refer to DAS-8, "CONSULT Function (ICC/ADAS)".
	Sonar system OFF switch indicator" (on Sonar system OFF switch) does not illuminate	<ul style="list-style-type: none"> • Harness between ADAS control unit and sonar system OFF switch • Sonar system OFF switch • ADAS control unit 	Sonar system OFF switch indicator circuit Refer to SN-60, "Diagnosis Procedure"
	RCTA indicator does not turn ON	<ul style="list-style-type: none"> • Harness between side radar and RCTA indicator • Side radar LH/RH • RCTA indicator 	Perform self-diagnosis of side radar Refer to DAS-72, "CONSULT Function (SIDE RADAR LEFT)" or DAS-73, "CONSULT Function (SIDE RADAR RIGHT)"
RCTA system is not activated. (Indicator/warning lamps illuminate when ignition switch OFF \Rightarrow ON.)	Sonar system OFF switch is not turned ON \Leftrightarrow OFF when operating sonar system OFF switch	<ul style="list-style-type: none"> • Harness between ADAS control unit and sonar system OFF switch • Harness between sonar system OFF switch and ground • ADAS control unit • Sonar system OFF switch 	Sonar system OFF switch circuit Refer to SN-58, "Diagnosis Procedure"
	Buzzer is not sounding	<ul style="list-style-type: none"> • ADAS control unit • Warning buzzer 	Warning buzzer circuit Refer to DAS-109, "Component Function Check"

SYSTEM SETTINGS CANNOT BE TURNED ON/OFF ON THE INTEGRAL SWITCH

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

SYSTEM SETTINGS CANNOT BE TURNED ON/OFF ON THE INTEGRAL SWITCH

Description

INFOID:000000014386526

System setting is not selectable on the combination meter information display.

Diagnosis Procedure

INFOID:000000014386527

1. CHECK DRIVER ASSISTANCE SYSTEM SETTING

1. Ignition On.
2. Check that the driver assistance system setting can be turned ON/OFF with the integral switch in the combination meter information display using the steering switches.

Is the inspection result normal?

YES >> Inspection End.

NO >> GO TO 2.

2. CHECK STEERING SWITCH CIRCUIT

Check the steering switches. Refer to [MWI-96, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connector.

3. CHECK STEERING SWITCH RESISTANCE

Check the steering switches resistance. Refer to [MWI-96, "Component Inspection"](#).

Is the inspection result normal?

YES >> Replace combination meter. Refer to [MWI-108, "Removal and Installation"](#).

NO >> Replace steering switches. Refer to [AV-70, "Removal and Installation"](#).

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

NORMAL OPERATING CONDITION

Description

INFOID:0000000014386528

PRECAUTIONS FOR BLIND SPOT WARNING (BSW)

- The BSW system is not a replacement for proper driving procedure and are not designed to prevent contact with vehicles or objects. When changing lanes, always use the side and rear mirrors and turn and look in the direction driver will move to ensure it is safe to change lanes. Never rely solely on the BSW system.
- The BSW system may not provide a warning for vehicles that pass through the detection zone quickly.
- Do not use the BSW system when towing a trailer because the system may not function properly.
- Excessive noise (e.g. audio system volume, open vehicle window) will interfere with the chime sound, and it may not be heard.
- The side radar may not be able to detect and activate BSW when certain objects are present such as:
 - Pedestrians, bicycles, animals.
 - Several types of vehicles such as motorcycles.
 - Oncoming vehicles.
 - Vehicles remaining in the detection zone when driver accelerate from a stop.
 - A vehicle merging into an adjacent lane at a speed approximately the same as vehicle.
 - A vehicle approaching rapidly from behind.
 - A vehicle which vehicle overtakes rapidly.
- Severe weather or road spray conditions may reduce the ability of the side radar to detect other vehicles.
- The side radar detection zone is designed based on a standard lane width. When driving in a wider lane, the side radar may not detect vehicles in an adjacent lane. When driving in a narrow lane, the side radar may detect vehicles driving two lanes away.
- The side radar are designed to ignore most stationary objects, however objects such as guardrails, walls, foliage and parked vehicles may occasionally be detected. This is a normal operating condition.

PRECAUTIONS REAR CROSS TRAFFIC ALERT

- The Rear Cross Traffic Alert (RCTA) system is not a replacement for proper driving procedure and is not designed to prevent contact with vehicles or objects. When backing up, always look in the direction driver will move to ensure it is safe to proceed. Never rely solely on the RCTA system.
- Using the RCTA system under some road or weather condition could lead to improper system operation. Always rely on driver's own steering and braking operation to avoid accidents.
- The RCTA system may not provide a warning for vehicles that pass through the detection zone quickly.
- Do not use the RCTA system when towing a trailer.
- Excessive noise (e.g. audio system volume, open vehicle window) will interfere with the chime sound, and it may not be heard.
- The side radar may not be able to detect and activate RCTA when certain objects are present such as:
 - Pedestrians, bicycles, animals.
 - A vehicle passing at a speed greater than approximately 5 MPH (8km/h).
- A radar sensor may not detect approaching vehicles in certain situations:
 - When the vehicle parked aside obstruct the beam of the radar sensor.
 - When the vehicle is parked in an angled parking space.
 - When the vehicle is parked on an inclined ground.
 - When the vehicle turns around into your vehicle's aisle.
 - When the angle formed by your vehicle and approaching vehicle is small.
- Severe weather or road spray conditions may reduce the ability of the radar to detect other vehicles.
- The sonar system may not detect:
 - Small or moving object.
 - Wedge-shaped objects.
 - Object closer to the bumper than 10 inch (30 cm).
 - Thin objects such as rope, wire, chain, etc...
- The side radars are designed to ignore most stationary objects, however objects such as guardrails, walls, foliage and parked vehicles may occasionally be detected. This is a normal operating condition.

REMOVAL AND INSTALLATION

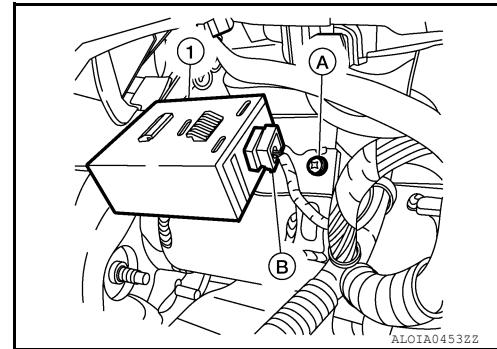
WARNING BUZZER

Removal and Installation

INFOID:000000014386529

REMOVAL

1. Remove instrument lower panel LH. Refer to [IP-22, "Removal and Installation"](#).
2. Disconnect harness connector (B) from warning buzzer (1).
3. Remove screw (A) and remove warning buzzer.



INSTALLATION

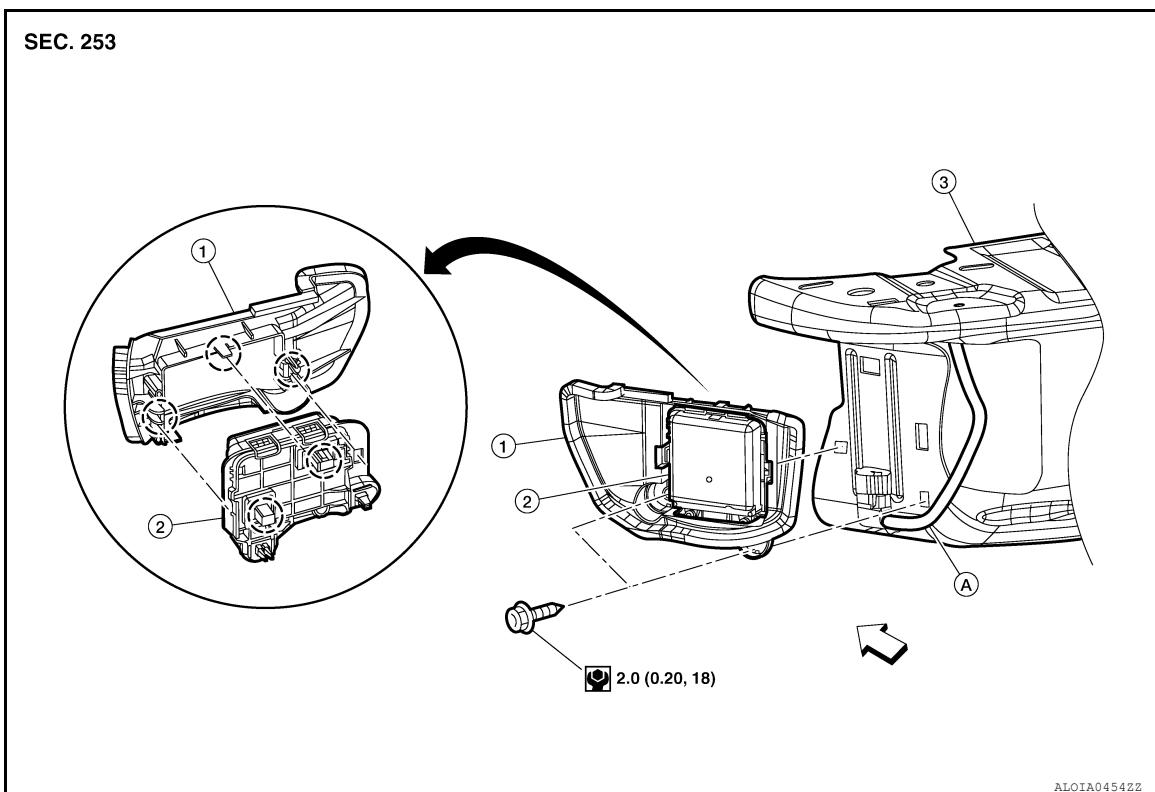
Installation is in the reverse order of removal.

A
B
C
D
E
F
G
H
I
J
K
L
M
N
DAS
P

SIDE RADAR

Exploded View

INFOID:0000000014386530



1. Splash guard	2. Side radar	3. Rear bumper
A. Rear bumper harness	Ⓐ Pawl	← Front

NOTE:

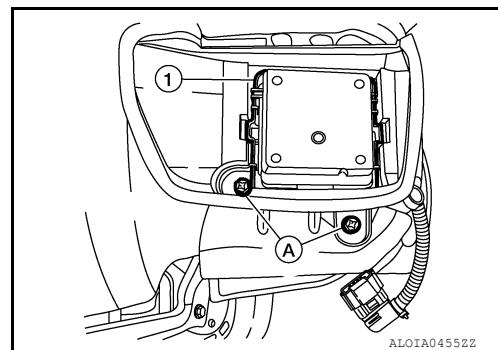
LH shown, RH similar.

Removal and Installation

INFOID:0000000014386531

REMOVAL

1. Remove rear bumper fascia. Refer to [EXT-29, "Removal and Installation"](#).
2. Disconnect harness connector from side radar.
3. Remove screws (A) from side radar (1).



4. Release pawls on rear of side radar using suitable tool and remove.
5. Release pawls using suitable tool and remove splash guard from side radar.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- Do not use side radar if lens has flaws.
- Perform Blind Spot Warning system action test after side radar installation is complete. Refer to [DAS-92, "BLIND SPOT WARNING : Description"](#).
- Perform the Rear Cross Traffic Alert action test after side radar installation is complete. Refer to [DAS-93, "RCTA : Description"](#).

NOTE:

Do not touch side radar lens and keep lens area clean.

A

B

C

D

E

F

G

H

I

J

K

L

M

N

DAS

P

BLIND SPOT WARNING INDICATOR

Removal and Installation

INFOID:0000000014386532

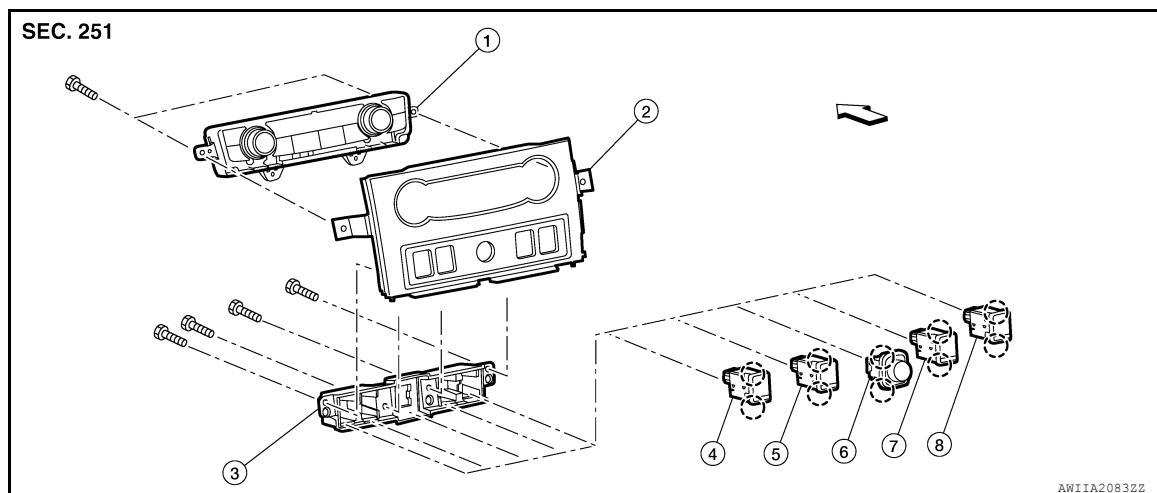
REMOVAL

The Blind Spot Warning indicator is integral with the door mirror glass and is not serviceable separately. Refer to [MIR-33, "Removal and Installation - Without Extended Mirrors"](#) (without extended mirrors) or [MIR-33, "Removal and Installation - With Extended Mirrors"](#) (with extended mirrors) for door mirror glass removal and installation.

WARNING SYSTEM SWITCH

Exploded View

INFOID:000000014386533



- 1. A/C switch assembly
- 2. Cluster lid C
- 3. Switch carrier
- 4. VDC OFF switch
- 5. Sonar system off switch (if equipped)
- 6. Hazard switch
- 7. Warning system switch
- 8. Heated steering wheel switch (if equipped)

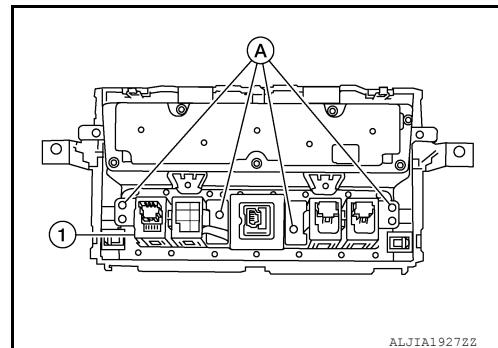
Front

Removal and Installation

INFOID:000000014386534

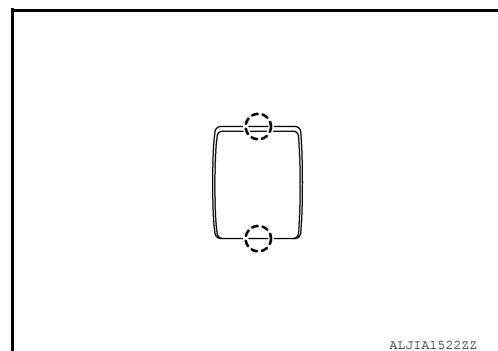
REMOVAL

1. Remove cluster lid C. Refer to [IP-20, "Removal and Installation"](#).
2. Remove screws (A) and switch carrier (1) from cluster lid C.



3. Release pawls using suitable tool and remove warning system switch from switch carrier.

○ : Pawl



INSTALLATION

Installation is in the reverse order of removal.