

SECTION **ACS**

AUTO CRUISE CONTROL SYSTEM

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

PPF:18930

Description

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Regarding the information for ASCD system, refer to [EC-29, "AUTOMATIC SPEED CONTROL DEVICE \(ASCD\)"](#).

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PRECAUTIONS

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

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

WARNING:

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

Precautions for ICC System Service

NKS001JQ

- Do not look straight into the laser beam discharger when adjusting laser beam aiming.
- Turn the MAIN switch OFF in conditions similar to driving, such as free rollers or a chassis dynamometer.
- Do not use the ICC sensor removing from vehicle, disassemble, or remodel the sensor.
- Erase DTC when replacing parts of ICC system, then check the operation of ICC system after adjusting laser beam aiming if necessary.

PREPARATION

[ICC]

PREPARATION

PPF:00002

Special Service Tools

NKS001JS

The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name	Description
KV99110100 (J-45718) ICC target board	Uses for laser beam aiming adjustment



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DESCRIPTION**Outline**

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The Intelligent Cruise Control (ICC) system automatically maintains a selected distance from the vehicle ahead according to that vehicle's speed, or at the set speed, if the road ahead is clear. The ICC function has two cruise control modes and brake assist (with preview function).

VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE

Vehicle-to-vehicle distance control mode, the driver can maintain the same speed as other vehicles without the constant need to adjust the set speed as the driver would with a normal cruise control system.

The system is intended to enhance the operation of the vehicle when following the vehicle traveling in the same lane and direction.

If the distance sensor detects a slower moving vehicle ahead, the system will reduce speed so that the vehicle ahead can be followed at the selected distance.

The system automatically controls the throttle and applies the brakes (up to 25% of vehicle braking power) if necessary.

The detection range of the sensor is approximately 120 m (390 ft) ahead.

Refer to Owner's Manual for Intelligent Cruise Control System operating instructions.

CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE

Conventional (fixed speed) cruise control mode is cruising at preset speeds.

Refer to Owner's Manual for Intelligent Cruise Control System operating instructions.

BRAKE ASSIST (WITH PREVIEW FUNCTION)

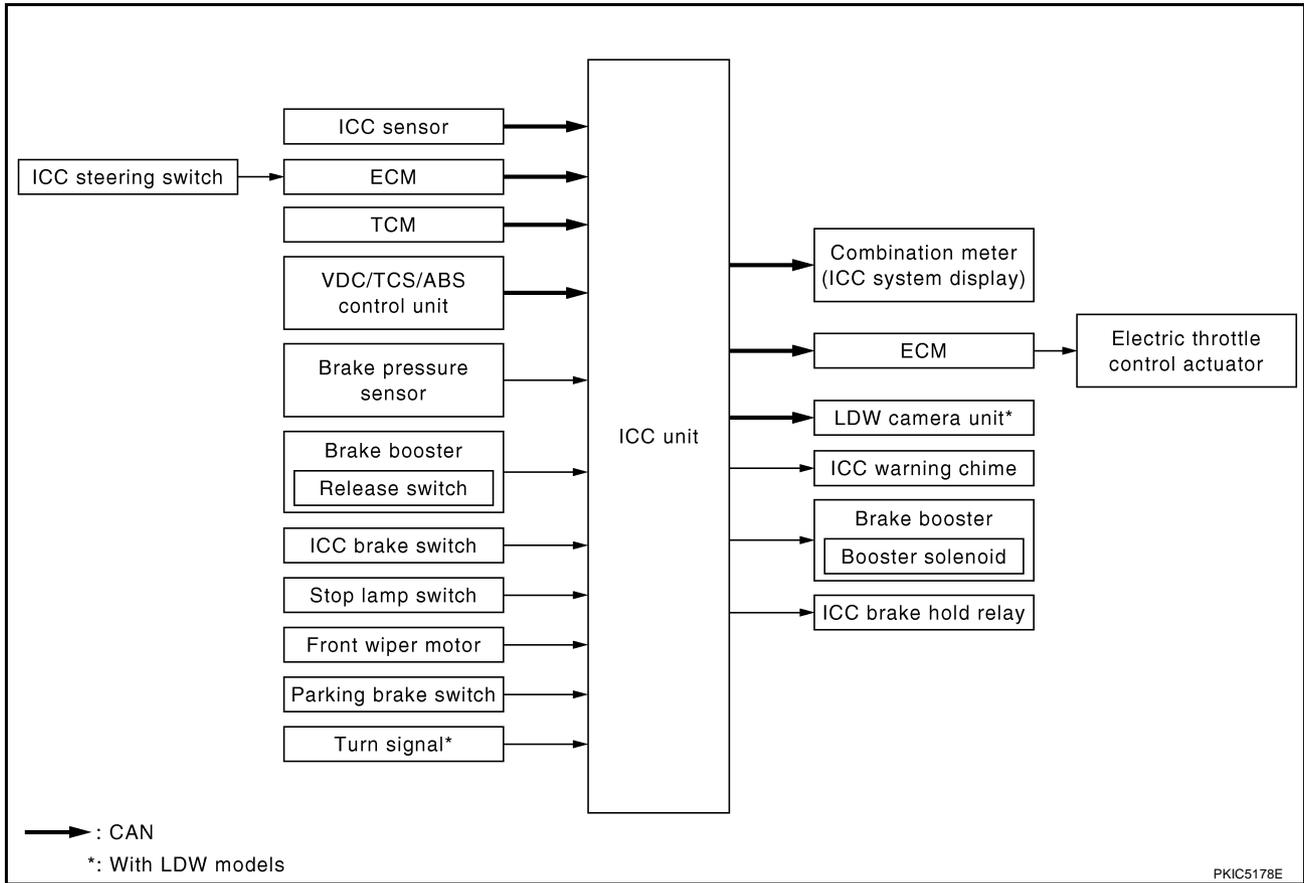
When the force applied to brake pedal exceeds a certain level, the Brake Assist is activated and generates a greater braking force than that of a conventional brake booster even with light pedal force.

When the Preview Function identifies the need to apply the sudden brake by sensing the vehicle ahead in the same lane and the distance and relative speed from it, it applies the brake pre-pressure before driver depress the brake pedal and improves brake response by reducing its free play.

Refer to Owner's Manual for BRAKE ASSIST (WITH PREVIEW FUNCTION) operating instructions.

Functional Diagram

NKS001JU



PKIC5178E

Items of input/output signal to be checked with CONSULT-II

Input	Data monitored Item [unit]	CAN	Description
ECM	THRTL OPENING [%]	×	Indicates throttle angle read by ICC unit through CAN communication (ECM transmits throttle angle through CAN communication).
	ENGINE RPM [rpm]	×	Indicates engine speed read by ICC unit through CAN communication (ECM transmits engine speed through CAN communication).
	MAIN SW [ON/OFF]	×	Indicates [ON/OFF] status as judged from steering switch signal (ECM transmits steering switch signal through CAN communication).
	SET/COAST SW [ON/OFF]	×	Indicates [ON/OFF] status as judged from steering switch signal (ECM transmits steering switch signal through CAN communication).
	CANCEL SW [ON/OFF]	×	Indicates [ON/OFF] status as judged from steering switch signal (ECM transmits steering switch signal through CAN communication).
	RESUME/ACC SW [ON/OFF]	×	Indicates [ON/OFF] status as judged from steering switch signal (ECM transmits steering switch signal through CAN communication).
	IDLE SW [ON/OFF]	×	Indicates [ON/OFF] status of idle switch read by ICC unit through CAN communication (ECM transmits ON/OFF status through CAN communication).
TCM	VHCL SPD AT [km/h] or [mph]	×	Indicates vehicle speed calculated from AT vehicle speed sensor by ICC unit through CAN communication (TCM transmits AT vehicle speed sensor signal through CAN communication).
	GEAR [1, 2, 3, 4, 5]	×	Indicates AT gear position read by ICC unit through CAN communication (TCM transmits gear position through CAN communication).
	D RANGE SW [ON/OFF]	×	Indicates [ON/OFF] status of "D" position read by ICC unit through CAN communication (TCM transmits ON/OFF condition of "D" position through CAN communication).
	NP RANGE SW [ON/OFF]	×	Indicates PNP switch signal read by ICC unit through CAN communication (TCM transmits PNP switch signal through CAN communication).

DESCRIPTION

[ICC]

Input	Data monitored Item [unit]	CAN	Description
VDC/TCS/ABS control unit	VHCL SPEED SE [km/h] or [mph]	×	Indicates vehicle speed calculated from wheel sensor by ICC unit through CAN communication (VDC/TCS/ABS control unit transmits wheel speed sensor signal through CAN communication).
Brake pressure sensor	PRESS SENS [bar]		Indicates brake fluid pressure value calculated from signal voltage of pressure sensor.
Release switch	RELEASE SW NO [ON/OFF]		Indicates [ON/OFF] status as judged from release switch signal. ON when brake is depressed. OFF when brake is not depressed.
	RELEASE SW NC [ON/OFF]		Indicates [ON/OFF] status as judged from release switch signal. ON when brake is not depressed. OFF when brake is depressed.
ICC brake switch	BRAKE SW [ON/OFF]		Indicates [ON/OFF] status as judged from ICC brake switch signal.
Stop lamp switch	STOP LAMP SW [ON/OFF]		Indicates [ON/OFF] status as judged from stop lamp switch signal.
Front wiper motor	WIPER SW [OFF/LOW/HIGH]		Indicates wiper [OFF/LOW/HIGH] status.
Turn signal	TURN SIGNAL [OFF/LH/RH LH/RH]		Indicates turn signal [OFF/LH/RH LH/RH] status.

Output	Data monitored Item [unit]	CAN	Description
ICC warning chime	BUZZER O/P [ON/OFF]		Indicates [ON/OFF] status of ICC warning chime output.
ICC brake hold relay	STP LMP DRIVE [ON/OFF]		Indicates [ON/OFF] status of brake hold relay drive output.

Output	CONSULT-II ICC [ACTIVE TEST] Item	CAN	Description
Combination meter	METER LAMP	×	Able to turn ICC system display ON with a driving signal from ICC unit.
ICC warning chime	ICC BUZZER 1		Able to start ICC warning chime with a driving signal from ICC unit.
Booster solenoid	BOOSTER SOL/V 3		Able to start booster solenoid with a driving signal from ICC unit.
ICC brake hold relay	STOP LAMP		Able to start ICC brake hold relay with a driving signal from ICC unit.

DESCRIPTION

[ICC]

Components Description

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×: Applicable

Component	Vehi- cle-to- vehi- cle dis- tance con- trol mode	Con- ven- tional (fixed speed) cruise con- trol mode	Brake assist (with pre- view brake)	Description
ICC unit	×	×	×	Operates electric throttle control actuator and brake booster based on the sensor signals and CAN communication data, then controls vehicle distance.
ICC sensor	×		×	Irradiates laser beam, and receives reflected laser beam to measure distance from preceding vehicle.
ECM	×	×		Transmits throttle position signal and ICC steering switch signal to ICC unit through CAN communication.
VDC/TCS/ABS control unit	×	×	×	Transmits wheel speed signal to ICC unit through CAN communication.
Brake pressure sensor	×		×	Detects fluid pressure in master cylinder.
Brake booster	×		×	Adjusts brake fluid pressure, based on command from ICC unit.
TCM	×	×		Transmits gear position signal and output shaft revolution signal to ICC unit through CAN communication.
Combination meter	×	×		Receives ICC system display signal from ICC unit through CAN communication.
ICC warning chime	×	×	×	Rings by receiving a signal from ICC unit.
Front wiper motor	×			Is monitored by ICC unit, and ICC unit cancels the ICC system at wiper HI or LO speed operation. (The wiper switch is cancelled according to wiper speed though it is at INT.)
ICC brake switch, stop lamp switch	×	×	×	Transmit operating signal to ICC unit when touching brake pedal. ICC unit cancels ICC system at driver's brake operation.
Parking brake switch	×	×		The ICC system is cancelled when applied.
ICC brake hold relay	×			Receives stop lamp driving signal from ICC unit, and turns stop lamp ON.
Turn signal*				ICC unit reads turn signal status, and transmits turn indicator signal to LDW camera unit through CAN communication. (Turn signal does not control ICC system.)

*: With LDW models

CAN Communication

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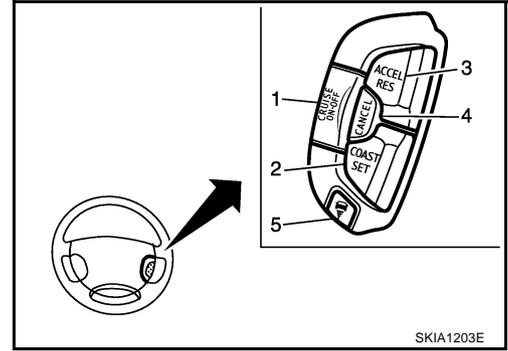
CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electric control units are equipped onto a vehicle, and each control unit shares information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

CAN COMMUNICATION UNIT

Refer to [LAN-40, "CAN Communication Unit"](#) .

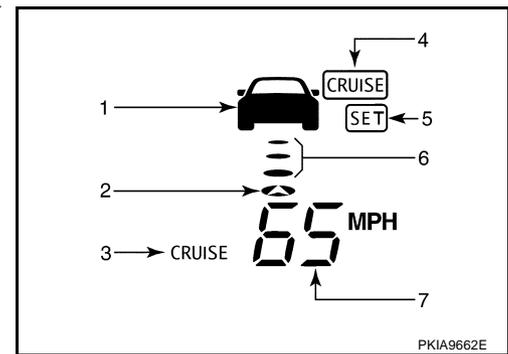
Switch Operation

The system is operated by MAIN switch and four control switches, all mounted on the steering wheel



No.	Switch name	Description
1	MAIN switch	Master switch to activate the system
2	SET/COAST switch	Sets desired cruise speed, reduces speed incrementally
3	RESUME/ACCELERATE switch	Resumes set speed or increases speed incrementally
4	CANCEL switch	Deactivates system without erasing set speed
5	DISTANCE switch	Changes the following distance from: Long, Middle, Short

ICC System Display



No.	Display items	Description
1	Vehicle ahead detection indicator	Indicates whether it detects a vehicle ahead.
2	Own vehicle indicator	Indicates the base vehicle.
3	Intelligent cruise control system warning lamp (Orange)	The light comes on if there is a malfunction in the ICC system.
4	MAIN switch indicator lamp (White)	Indicates that the MAIN switch is ON.
5	SET switch indicator lamp	Indicates that the conventional (fixed speed) cruise control mode is controlled.
6	Set distance indicator	Displays the selected distance between vehicles set with the DISTANCE switch.
7	Set vehicle speed indicator	Indicates the set vehicle speed.

ACTION TEST**ICC System Running Test****NOTE:**

ICC system can set VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE and CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE when selector lever is in "D" and "M" position.

VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE**NOTE:**

- When there is no vehicle ahead, drive at the set speed steadily.
- When there is a vehicle ahead, control to maintain distance from the vehicle ahead, watching its speed.

Set Checking

1. Press the MAIN switch for less than 1.5 seconds.
2. Drive the vehicle between 40 km/h (25 MPH) and 144 km/h (90 MPH).
3. Press the SET/COAST switch.
4. Confirm that the desired speed is set as hand is released from the SET/COAST switch.

NOTE:

The set vehicle speed is displayed on the ICC system display in the combination meter.

Check For Increase Of Cruising Speed

1. Set vehicle-to-vehicle distance control mode at desired speed.
2. Check if the set speed increases by 1 km/h (1 MPH) as RESUME/ACCELERATE switch is pressed.

NOTE:

The maximum set speed of the vehicle-to-vehicle distance control mode is 144 km/h (90 MPH).

Check For Decrease Of Cruising Speed

1. Set vehicle-to-vehicle distance control mode at desired speed.
2. Check if the set speed decreases by 1 km/h (1 MPH) as SET/COAST switch is pressed.

NOTE:

- Vehicle-to-vehicle distance control mode is automatically cancelled when the driving speed lowers to 32 km/h (20 MPH) due to the deceleration of the vehicle ahead.
- The minimum set speed of the vehicle-to-vehicle distance control mode is 40 km/h (25 MPH).

Check For Cancellation Of Vehicle-To-Vehicle Distance Control Mode (Normal Driving Condition) In The Following Cases:

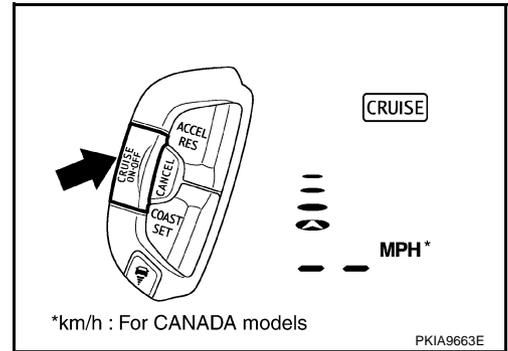
1. When the brake pedal is depressed after the system is turned ON.
2. When the selector lever is shifted into "N" (Neutral) position.
3. When the MAIN switch is turned OFF.
4. When CANCEL switch is operated.

Check For Restoring Speed That Is Set By Vehicle-To-Vehicle Distance Control Mode Before Cancellation

1. Cancel the system by depressing the brake pedal. Then, check if the speed before cancellation is restored when pressing RESUME/ACCELERATE switch with 40 km/h (25 MPH) or above.
2. Cancel the system by shifting the selector lever to "N" position. Then, check if the speed set before the cancellation is restored when RESUME/ACCELERATE switch is pressed.
3. Check if the speed previously set is restored when RESUME/ACCELERATE switch is operated with driving 40 km/h (25 MPH), after canceling vehicle-to-vehicle distance control mode by operating the CANCEL switch.

Check For MAIN Switch

1. Start engine. Then, check if the following operations are performed correctly.
2. Vehicle-to-vehicle distance control mode is displayed in combination meter illumination when MAIN switch is pressed "ON" for less than 1.5 seconds and ready for operation. The illumination goes off when MAIN switch is turned to OFF.
3. "CRUISE" illumination and ICC system display go off when the ignition switch is turned to OFF while MAIN switch is ON ("CRUISE" illumination is ON and vehicle-to-vehicle distance control mode is ready for operation).



Check For RESUME/ACCELERATE, SET/COAST, CANCEL Switches

1. Check if RESUME/ACCELERATE, SET/COAST, CANCEL switches are operated smoothly.
2. Check if switches come up as hand is released from the switches.

Check For Distance Switch

1. Start engine.
2. Press the MAIN switch for less than 1.5 seconds.
3. Press the DISTANCE switch.
4. Check if the set distance indicator changes display in order of: (Long)→(Middle)→(Short).

NOTE:

The set distance indicator shows (Long) immediately after the engine starts.

Distance	Display	Approximate distance at 96 km/h (60 MPH) [m (ft)]
Long		60 (195)
Middle		40 (130)
Short		30 (90)

CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE

Set Checking

1. Press the MAIN switch for more than 1.5 seconds.
2. Drive the vehicle between 40 km/h (25 MPH) and 144 km/h (90 MPH).
3. Press the SET/COAST switch.
4. Confirm that the desired speed is set as hand is released from the SET/COAST switch.

NOTE:

The set vehicle speed is not displayed on the ICC system display in the combination meter.

Check For Increase Of Cruising Speed

1. Set the conventional (fixed speed) cruise control mode at desired speed.
2. Check if the set speed increases by 1.6 km/h (1 MPH) as RESUME/ACCELERATE switch is pressed.

NOTE:

- When pressing and holding the RESUME/ACCELERATE switch during cruise control driving, the vehicle speed increases until the switch is released.
- The maximum set speed is 144 km/h (90 MPH).

Check For Decrease Of Cruising Speed

1. Set the conventional (fixed speed) cruise control mode at desired speed.
2. Check if the set speed decreases by 1.6 km/h (1 MPH) as SET/COAST switch is pressed.

NOTE:

- Conventional (fixed speed) cruise control mode is automatically turned off when the driving speed lowers to 32 km/h (20 MPH).
- The lowest set speed is 40 km/h (25 MPH).

Check For Cancellation Of Conventional (Fixed Speed) Cruise Control Mode (Normal Driving Condition) In The Following Cases:

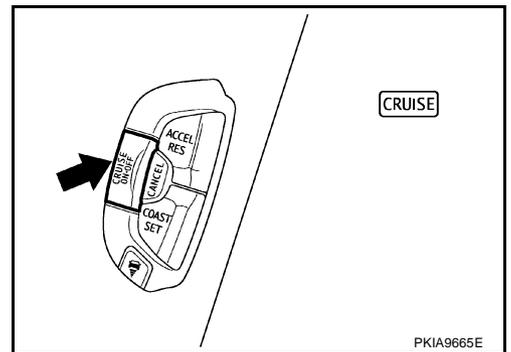
Refer to [ACS-11, "Check For Cancellation Of Vehicle-To-Vehicle Distance Control Mode \(Normal Driving Condition\) In The Following Cases:"](#) .

Check For Restoring Speed That Is Set By Conventional (Fixed Speed) Cruise Control Mode Before ICC Cancellation

Refer to [ACS-11, "Check For Restoring Speed That Is Set By Vehicle-To-Vehicle Distance Control Mode Before Cancellation"](#) .

Check For MAIN Switch

1. Start engine. Then, check if the following operations are performed correctly.
2. "CRUISE" lamp illuminates and ICC system indicator goes off when MAIN switch is pressed "ON" for more than 1.5 seconds, and then ready for operation. The illumination goes off when MAIN switch is turned to OFF.
3. "CRUISE" illumination go off when the ignition switch is turned to OFF while MAIN switch is ON.



Check For RESUME/ACCELERATE, SET/COAST, CANCEL Switches

1. Check if RESUME/ACCELERATE, SET/COAST, CANCEL switches are operated smoothly.
2. Check if switches come up as hand is released from the switches.

LASER BEAM AIMING ADJUSTMENT

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Outline

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Adjust the laser beam aiming every time the ICC sensor is removed or installed.

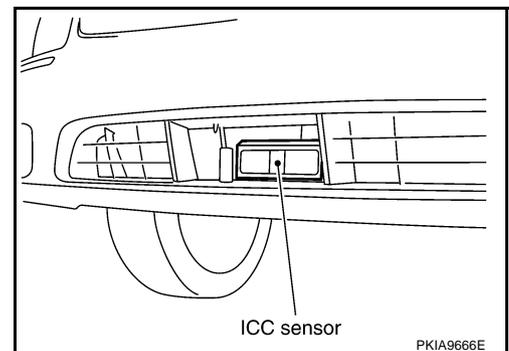
CAUTION:

- Place the vehicle on the level ground when the laser beam aiming adjustment is operated.
- Follow the CONSULT-II when adjusting the laser beam aiming (laser beam aiming adjustment cannot be operated without CONSULT-II).
- Adjust laser beam aiming 5 seconds after starting engine.
- Never ride on vehicle during laser beam aiming adjustment.
- Idle and turn headlamps OFF during laser beam aiming adjustment.

Preparation

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- Adjust the tire pressure to the specified value.
- See that there is no load in the vehicle.
- Coolant, engine oil filled up to correct level and full fuel tank.
- Shift the gear into "P" position and release the parking brake.
- Clean the ICC sensor with a soft cloth.



Outline of Adjustment Procedure

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1. Set up the ICC target board [SST: KV99110100 (J-45718)].
2. Adjust the sensor following the procedure on CONSULT-II. (Turn manually the screw for up-down position adjustment. ICC sensor automatically adjust the right-left position.)

Setting the ICC Target Board

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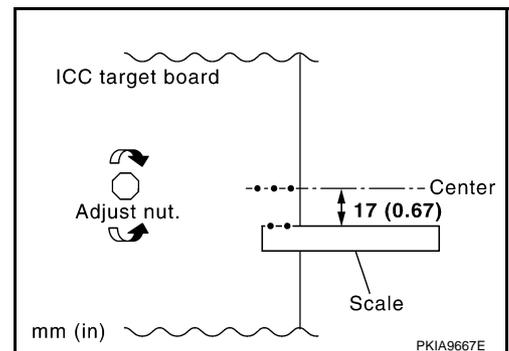
Accurate ICC target board setting is required for the laser beam aiming adjustment.

CAUTION:

ICC system does not function normally if laser beam aiming is not accurate.

ADJUSTING HEIGHT OF THE TARGET

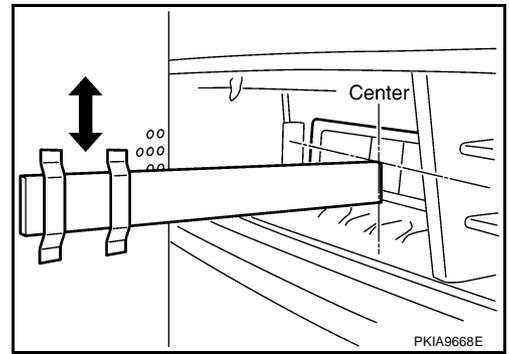
1. Attach a scale at 17 mm (0.67 in) below the center.



LASER BEAM AIMING ADJUSTMENT

[ICC]

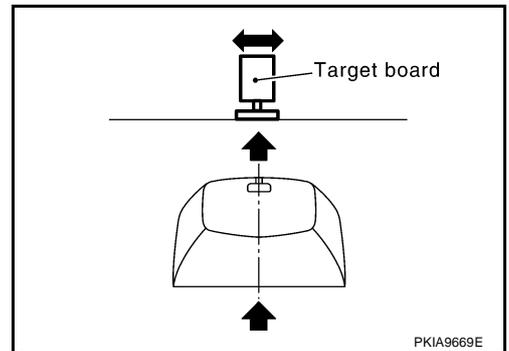
- Adjust the height of the target board stand so that the scale edge points to the center of the ICC sensor.



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SETTING THE TARGET

- Suspend a thread with weight on tip to splice the center of the front and rear bumpers. Then, mark the center point on the ground as each weight points.
- Link the front and rear bumpers center points marked on the ground, and mark a point 5 m (16.4 ft) ahead of the sensor, on the extended line of the previous link line of the bumper center points. Then, adjust the position of the target board so that the center come on the top of the marked point [5 m (16.4 ft) ahead of the sensor] and face to the vehicle.
- Adjust the position of the target board so that the extended line that links the center of the rear wind shield (the center of the rear window defogger pattern) and the center of the front wind shield (the setting part of the room mirror) align with the center suspended from the board.

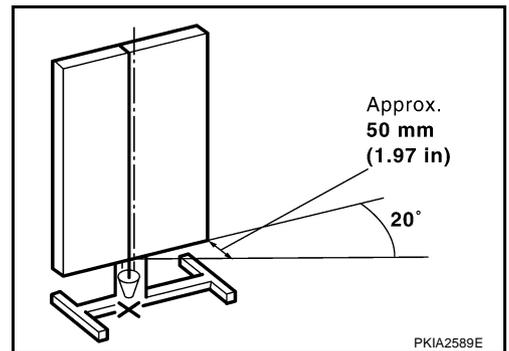


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- Suspend a thread with weight on tip on the center of the target board. Then mark the point of weight on the ground.
- Pivot the edge of the target board 20° to either side.

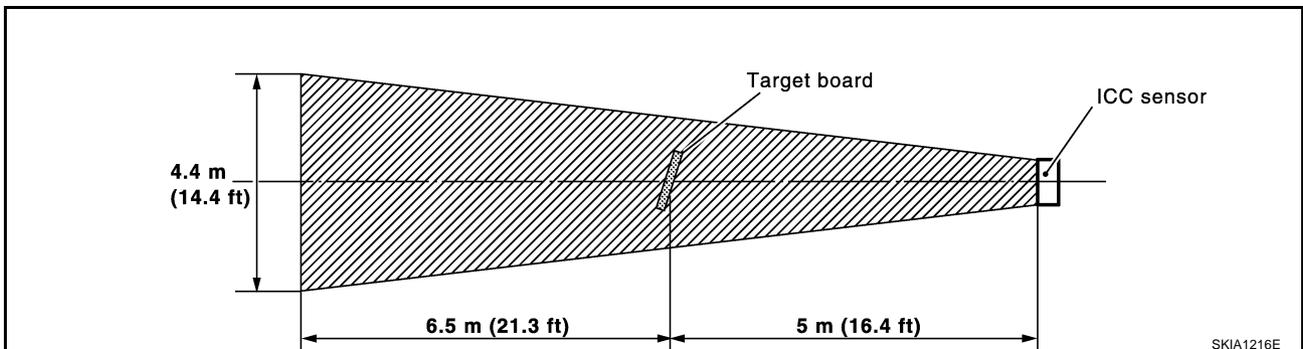
NOTE:

Approx. 50 mm (1.97 in) shift rates the 20° movement.



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- Do not place anything in the space shown in the figure (view from top).



NOTE:

In case the space shown in the figure is not available, make space by covering the side of the target board with a 400 mm (15.75 in)-size frosted black board or black cloth.

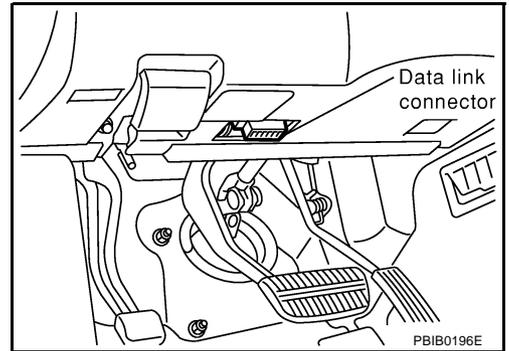
Aiming Adjustment

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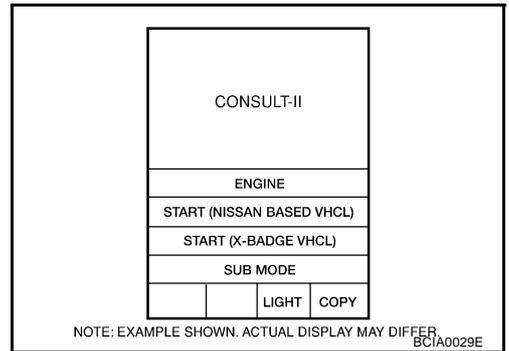
CAUTION:

- Complete all necessary work for laser beam adjustment until the adjustment completes as shown in the procedure. If the procedure does not complete, the ICC system is inoperable.
- If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication.

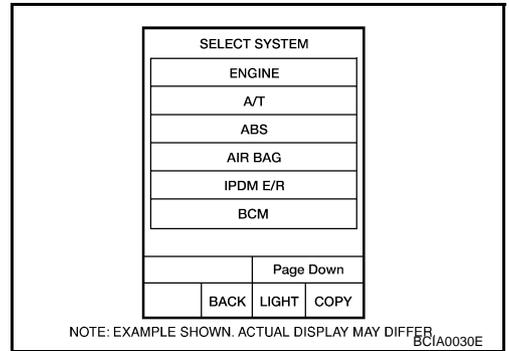
1. Turn ignition switch OFF.
2. Connect CONSULT-II and CONSULT-II CONVERTER on the data link connector.



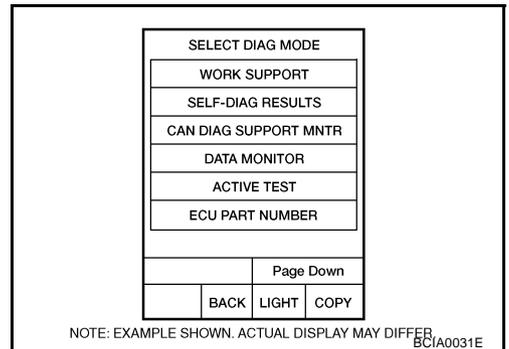
3. Start engine, wait for at least 10 seconds, and touch "START (NISSAN BASED VHCL)".



4. Touch "ICC" on "SELECT SYSTEM" screen. If "ICC" is not indicated, go to [GI-37, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



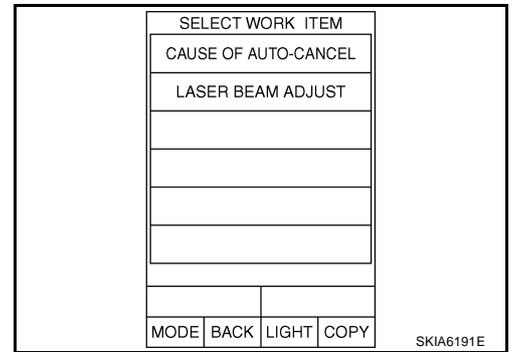
5. Touch "WORK SUPPORT" on "SELECT DIAG MODE" screen.



LASER BEAM AIMING ADJUSTMENT

[ICC]

6. Touch "LASER BEAM ADJUST" on "SELECT WORK ITEM" screen.

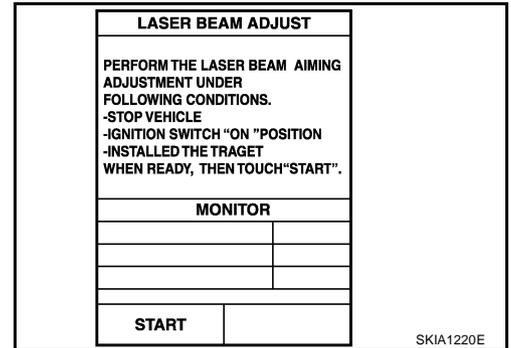


7. Touch "START".

CAUTION:

If the adjustment screen does not appear on the CONSULT-II screen in 10 seconds. After touching "LASER BEAM ADJUST" screen, the following causes may be considered:

- Target is not set accurately.
- There is not enough space beside the target.
- The range of laser beam aiming exceeds for improper installation position.
 - Deformation of vehicle body.
 - Deformation of unit.
 - Deformation of bracket.
- The area is not suitable for the adjustment work.
- ICC sensor is not clean.



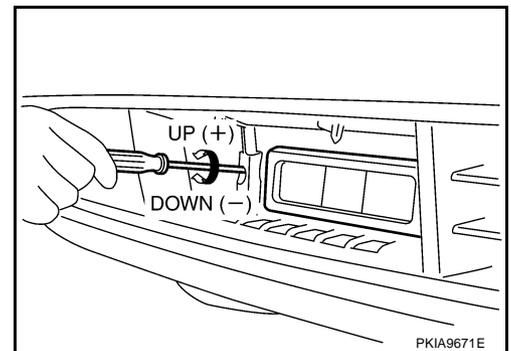
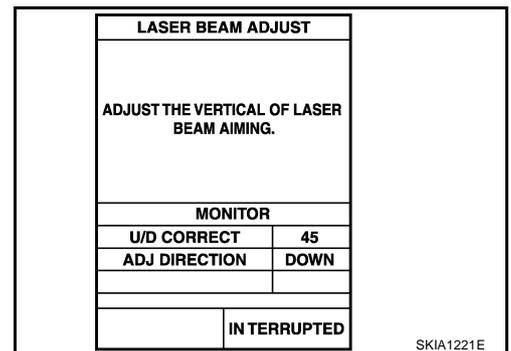
8. After the CONSULT-II displays "ADJUST THE VERTICAL OF LASER BEAM AIMING" turn the up-down direction adjusting screw until "U/D CORRECT" value is set in the range of ± 4 .

CAUTION:

Turn the screw slowly. The value change on display is slower than actual movement of the ICC sensor. Wait for 2 seconds every time the screw is turned half a rotation.

NOTE:

Turning the screw clockwise to laser beam is downward and counterclockwise to laser beam is upward.



9. When "U/D CORRECT" value indicates ± 4 , confirm that the margin of value remains within ± 4 at least for 2 seconds with no equipment or hand touching the ICC sensor.

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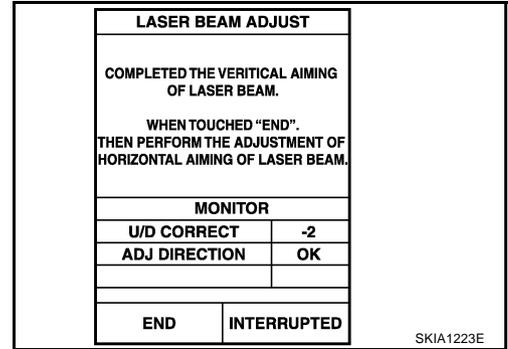
LASER BEAM AIMING ADJUSTMENT

[ICC]

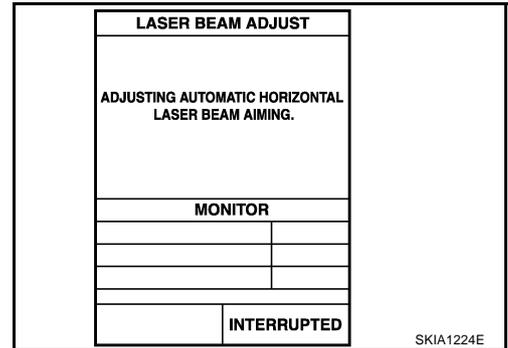
When “COMPLETED THE VERTICAL AIMING OF LASER BEAM” appears on screen, touch “END”.

CAUTION:

Be sure that the margin of “U/D CORRECT” is within ± 4 with ICC sensor unit is untouched.



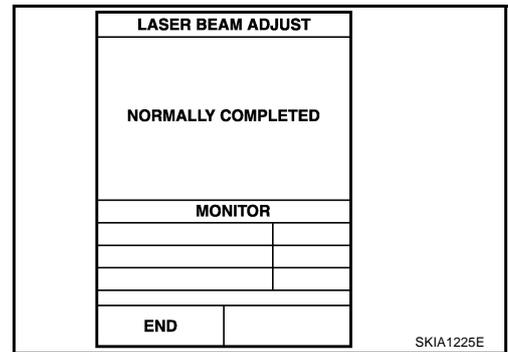
- Confirm that “ADJUSTING AUTOMATIC HORIZONTAL LASER BEAM AIMING” is on screen and wait for a while. (maximum: 10 seconds.)



- Confirm that “NORMALLY COMPLETED” is displayed on CONSULT-II and close the aiming adjustment procedure by touching “END”.

CAUTION:

Complete all the procedures once “LASER BEAM ADJUST” mode is entered in CONSULT-II. When the procedure is discontinued, the ICC system is inoperable.



CHECK AFTER THE ADJUSTMENT

Test the ICC system operation by running test. Refer to [ACS-11, "ICC System Running Test"](#) .

ELECTRICAL UNITS LOCATION

[ICC]

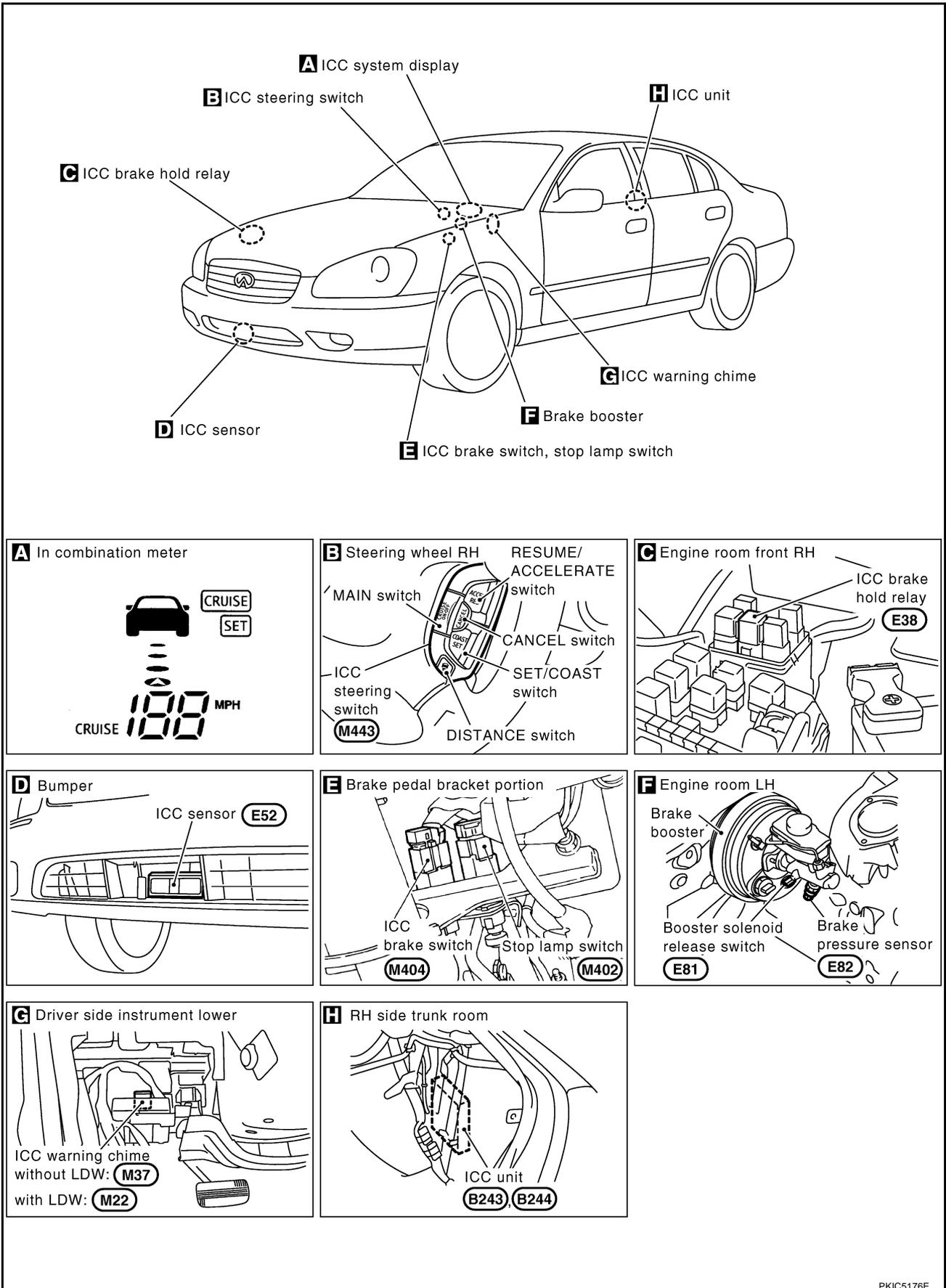
ELECTRICAL UNITS LOCATION

PPF:25230

Component Parts and Harness Connector Location

NKS001K5

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PKIC5176E

WIRING DIAGRAM

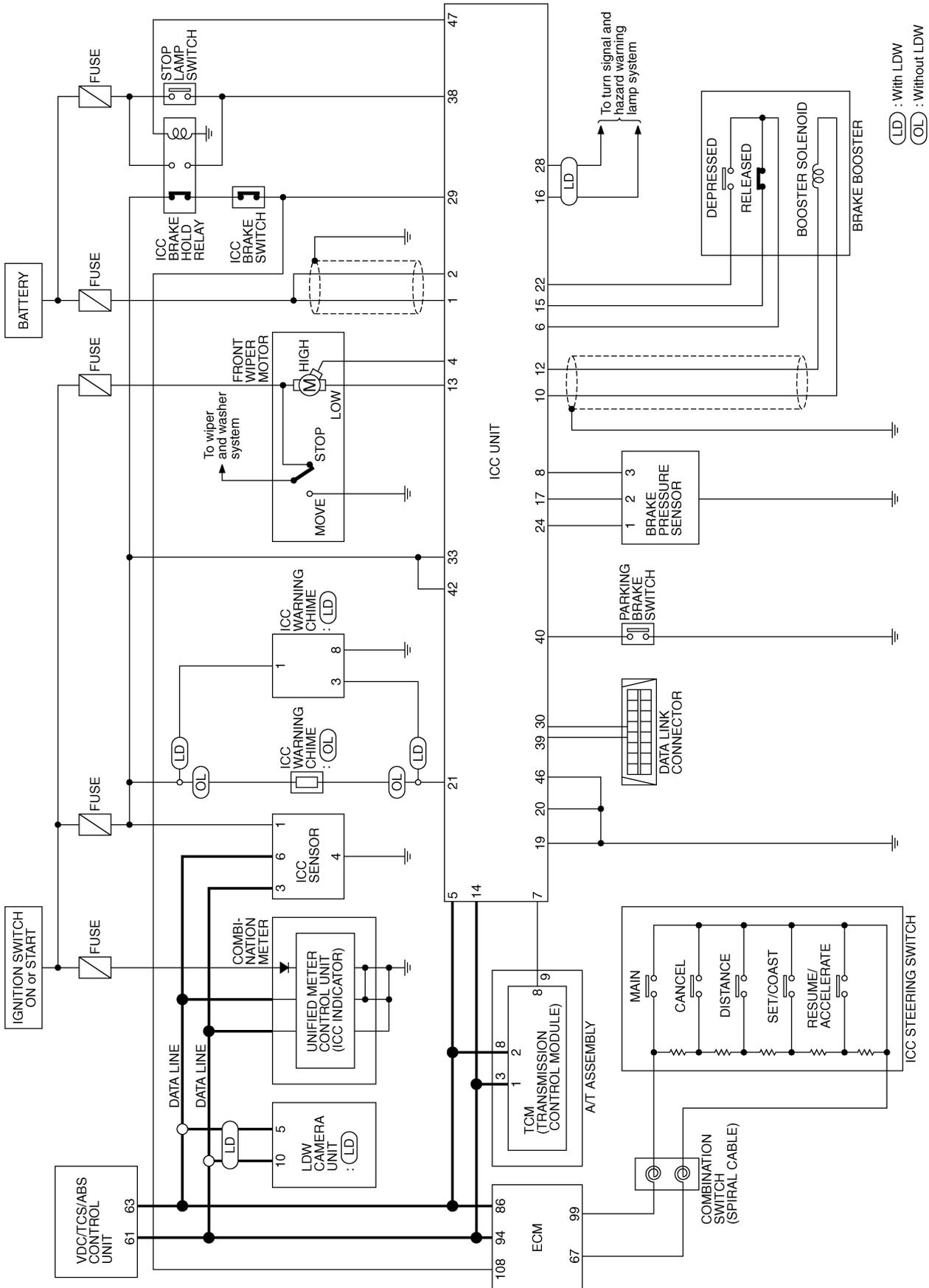
[ICC]

WIRING DIAGRAM

PFP:00000

Schematic

NKS001K6



TKWM3833E

WIRING DIAGRAM

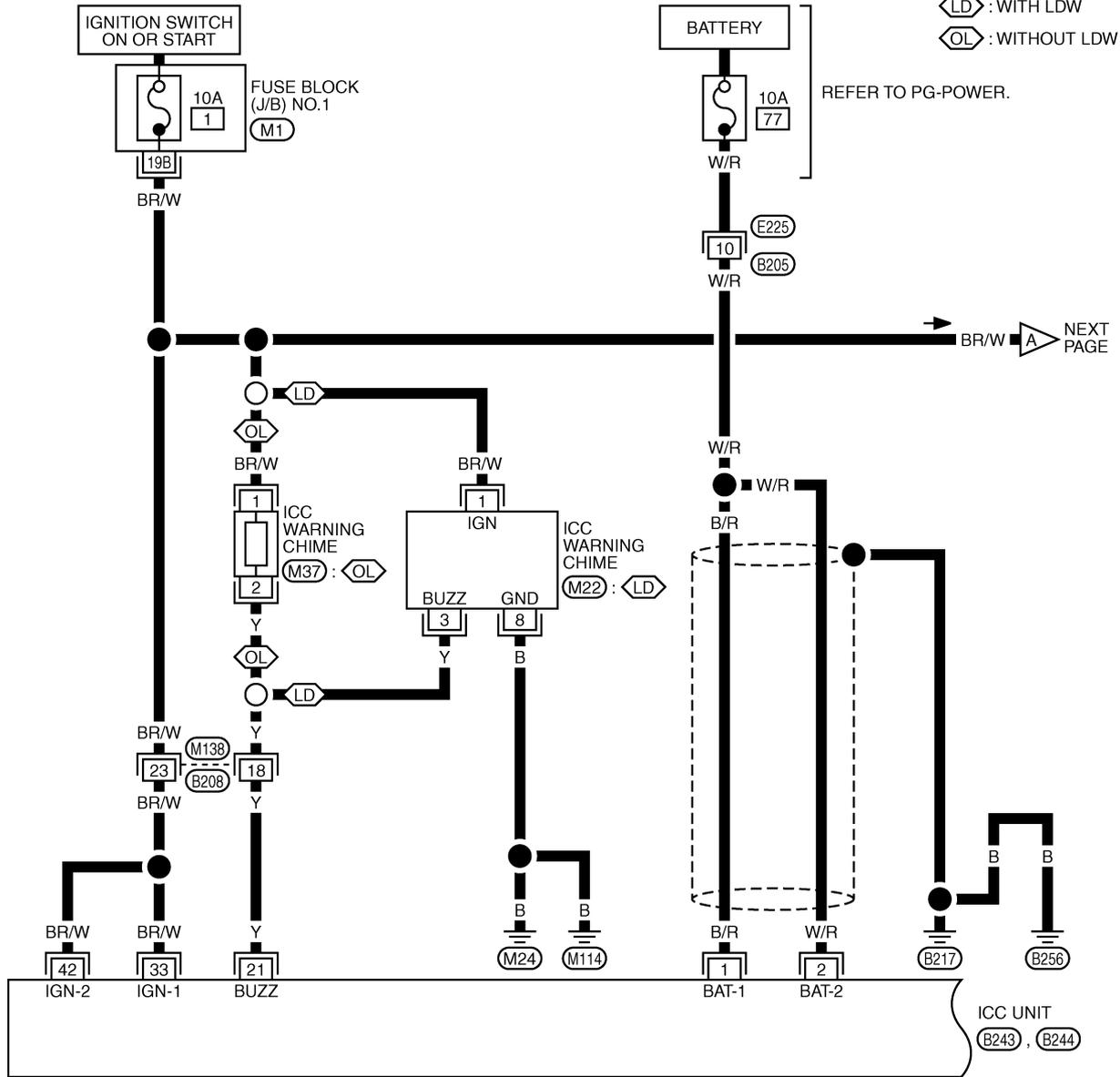
[ICC]

Wiring Diagram — ICC —

NKS001K7

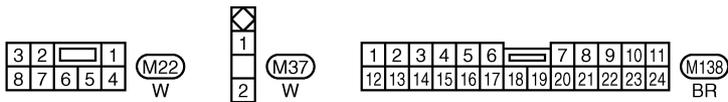
ACS-ICC-01

LD : WITH LDW
OL : WITHOUT LDW

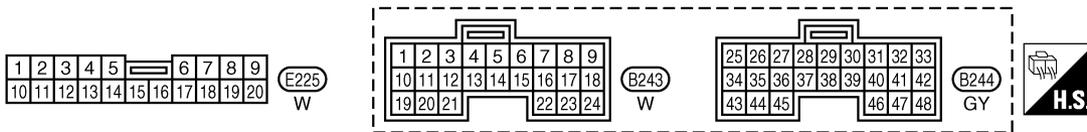


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REFER TO THE FOLLOWING.
M1 - FUSE BLOCK-JUNCTION BOX (J/B) NO.1

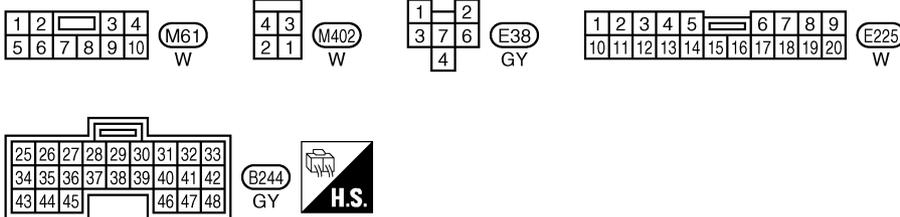
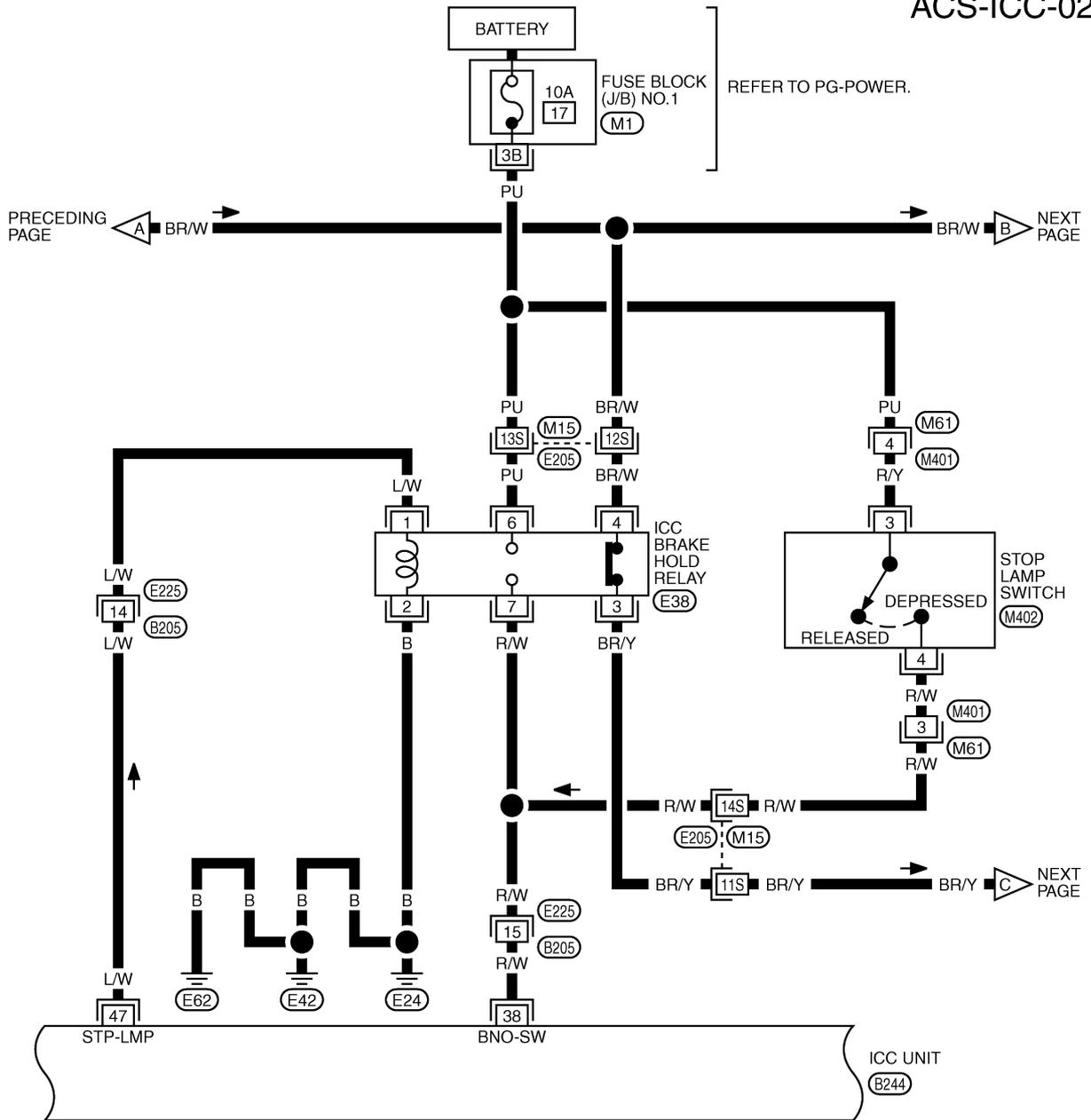


TKWM3834E

WIRING DIAGRAM

[ICC]

ACS-ICC-02



REFER TO THE FOLLOWING.

- (E205) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1) -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

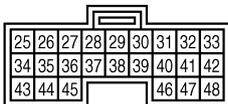
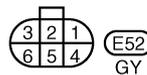
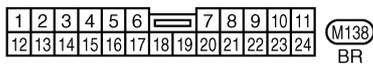
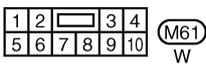
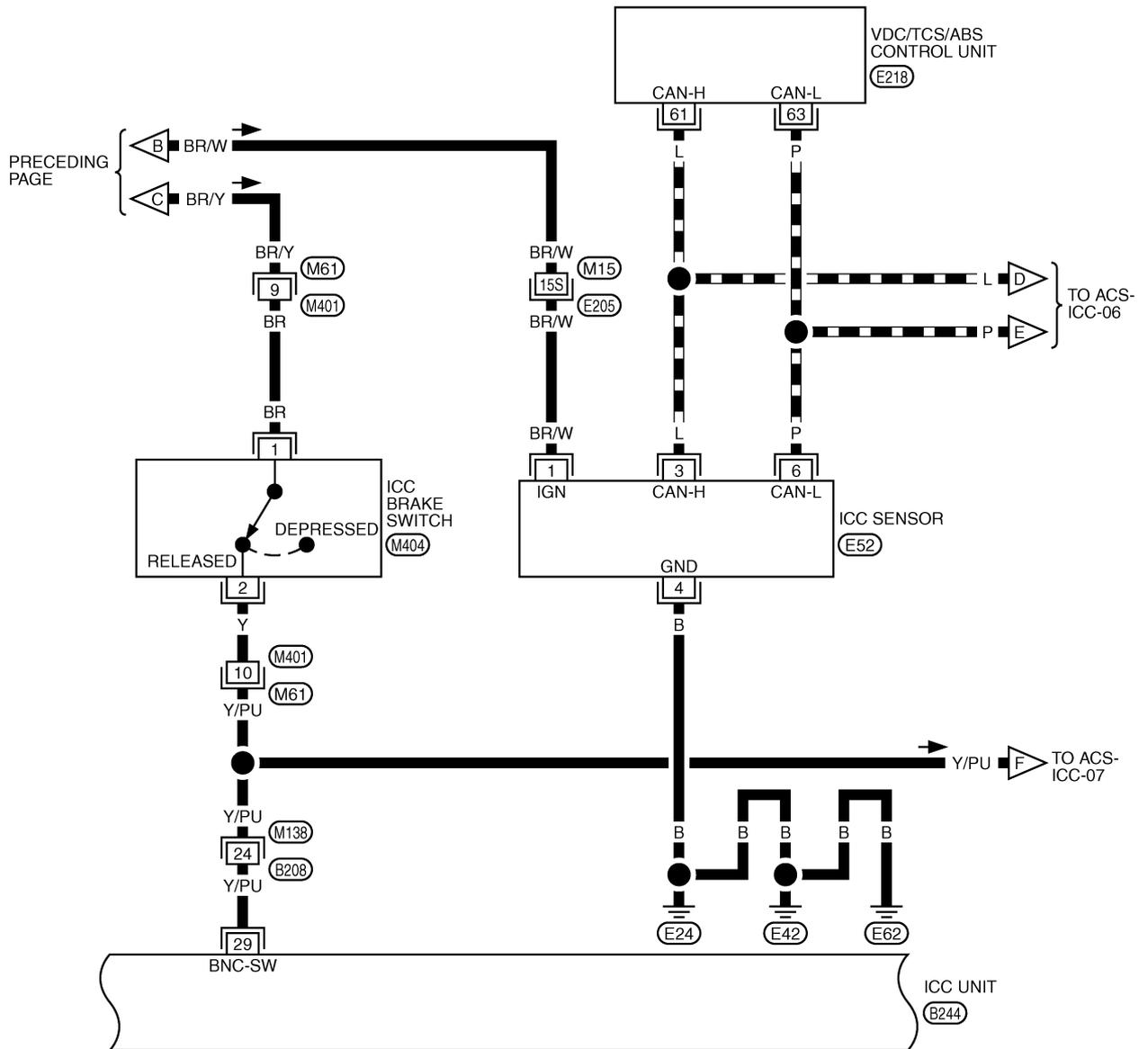
TKWM3835E

WIRING DIAGRAM

[ICC]

ACS-ICC-03

▬ : DATA LINE



REFER TO THE FOLLOWING.

(E205) -SUPER MULTIPLE JUNCTION (SMJ)

(E218) -ELECTRICAL UNITS

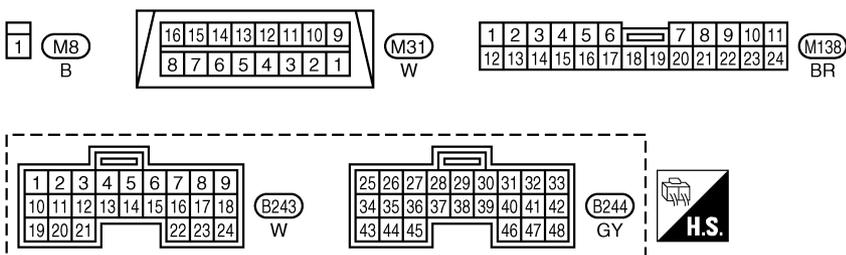
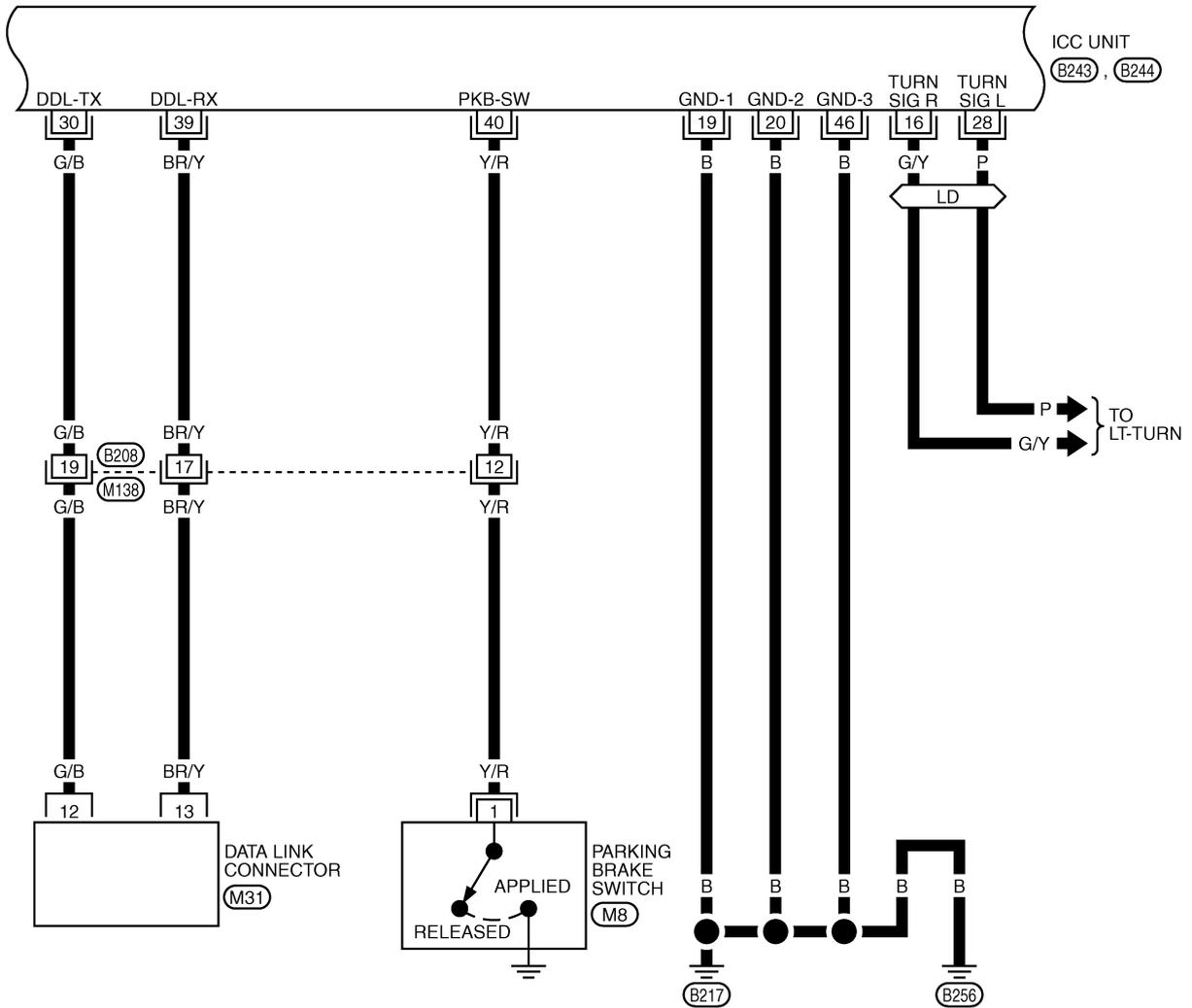
TKWM1459E

WIRING DIAGRAM

[ICC]

ACS-ICC-04

◊LD◊ : WITH LDW

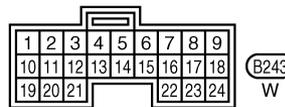
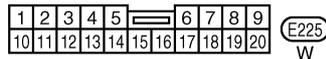
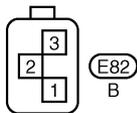
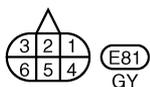
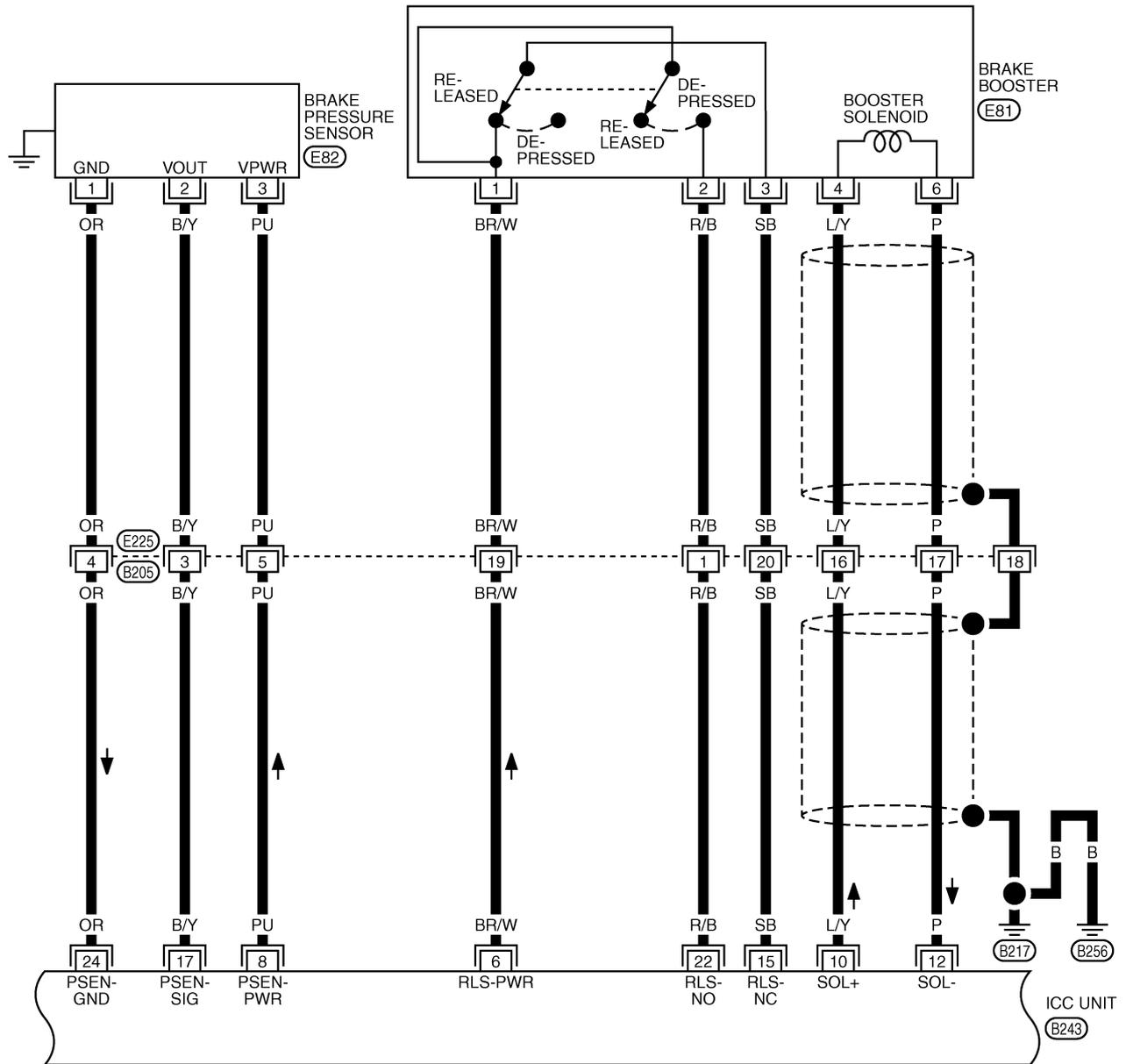


TKWM3836E

WIRING DIAGRAM

[ICC]

ACS-ICC-05



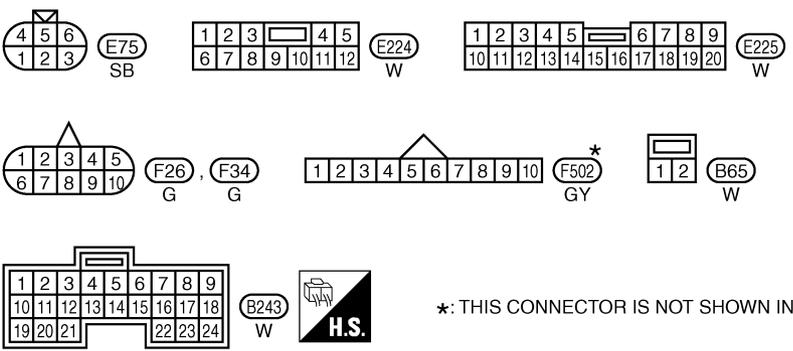
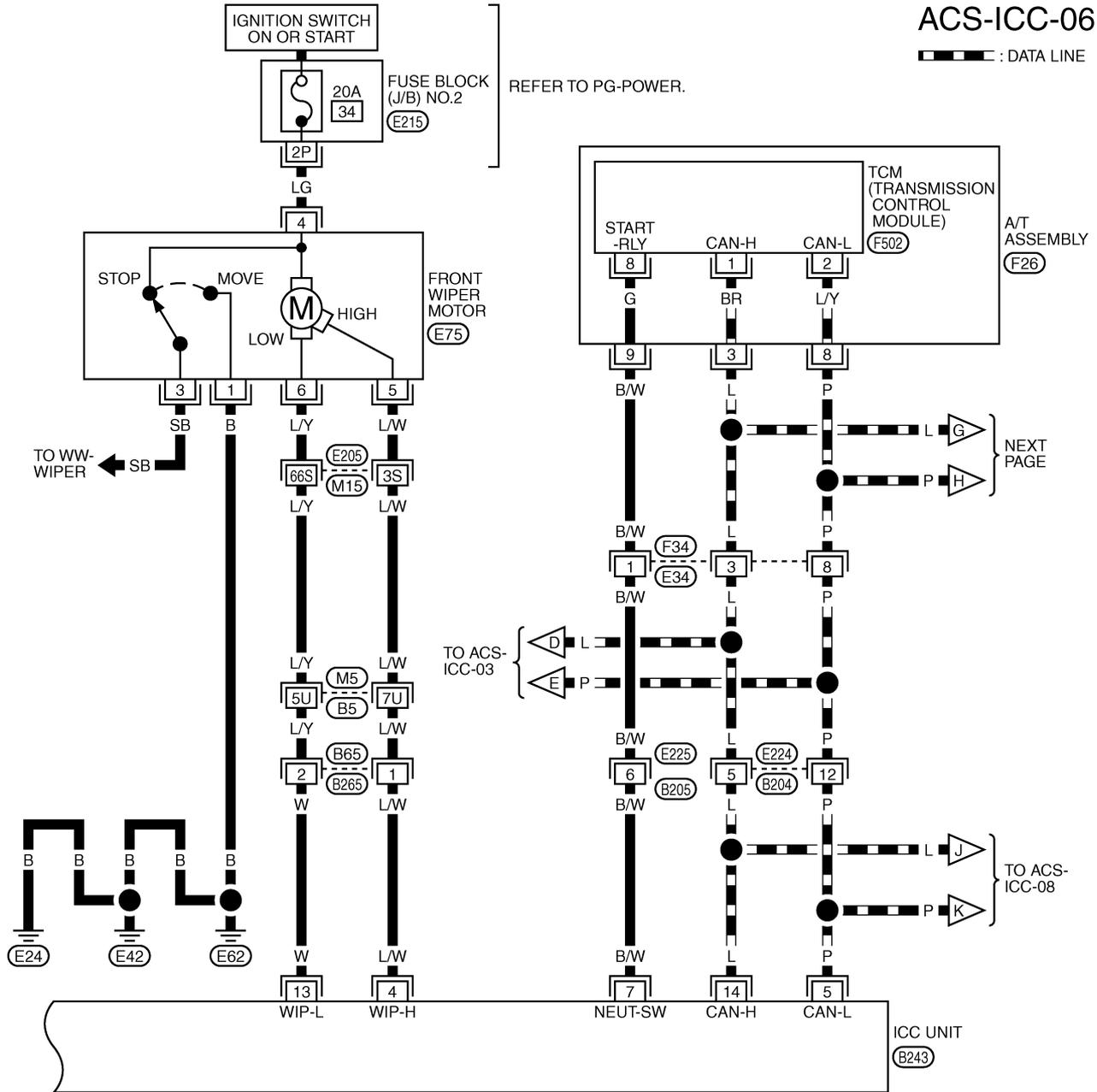
TKWM3837E

WIRING DIAGRAM

[ICC]

ACS-ICC-06

▬ : DATA LINE



REFER TO THE FOLLOWING.

(M5), (E205) -SUPER MULTIPLE JUNCTION (SMJ)

(E215) -FUSE BLOCK-JUNCTION BOX (J/B) NO.2

*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

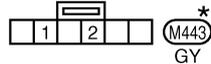
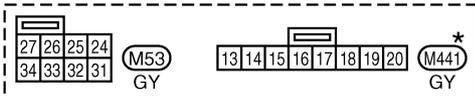
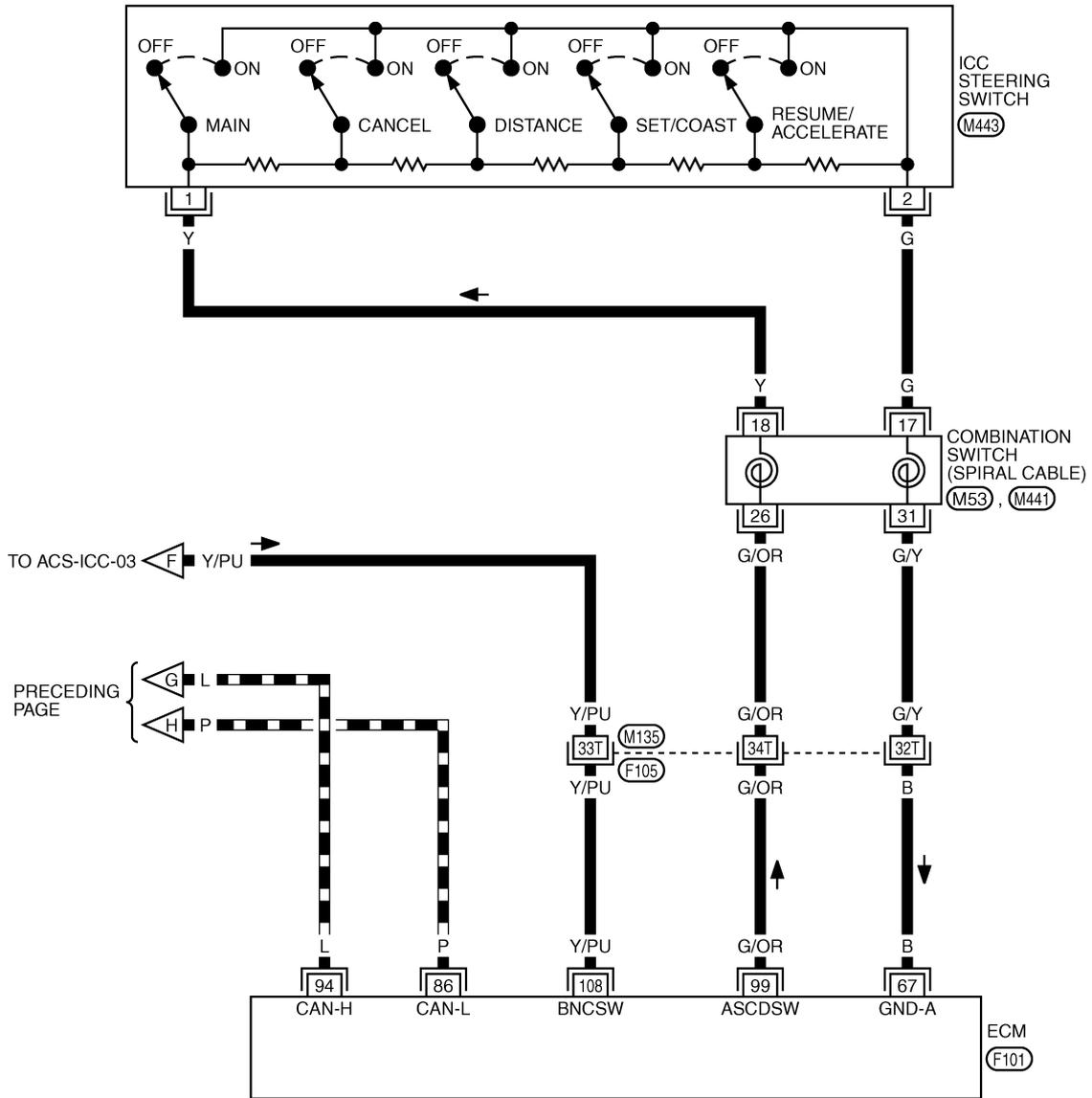
TKWM3838E

WIRING DIAGRAM

[ICC]

ACS-ICC-07

▬ : DATA LINE



REFER TO THE FOLLOWING.

(F105) -SUPER MULTIPLE JUNCTION (SMJ)

(F101) -ELECTRICAL UNITS

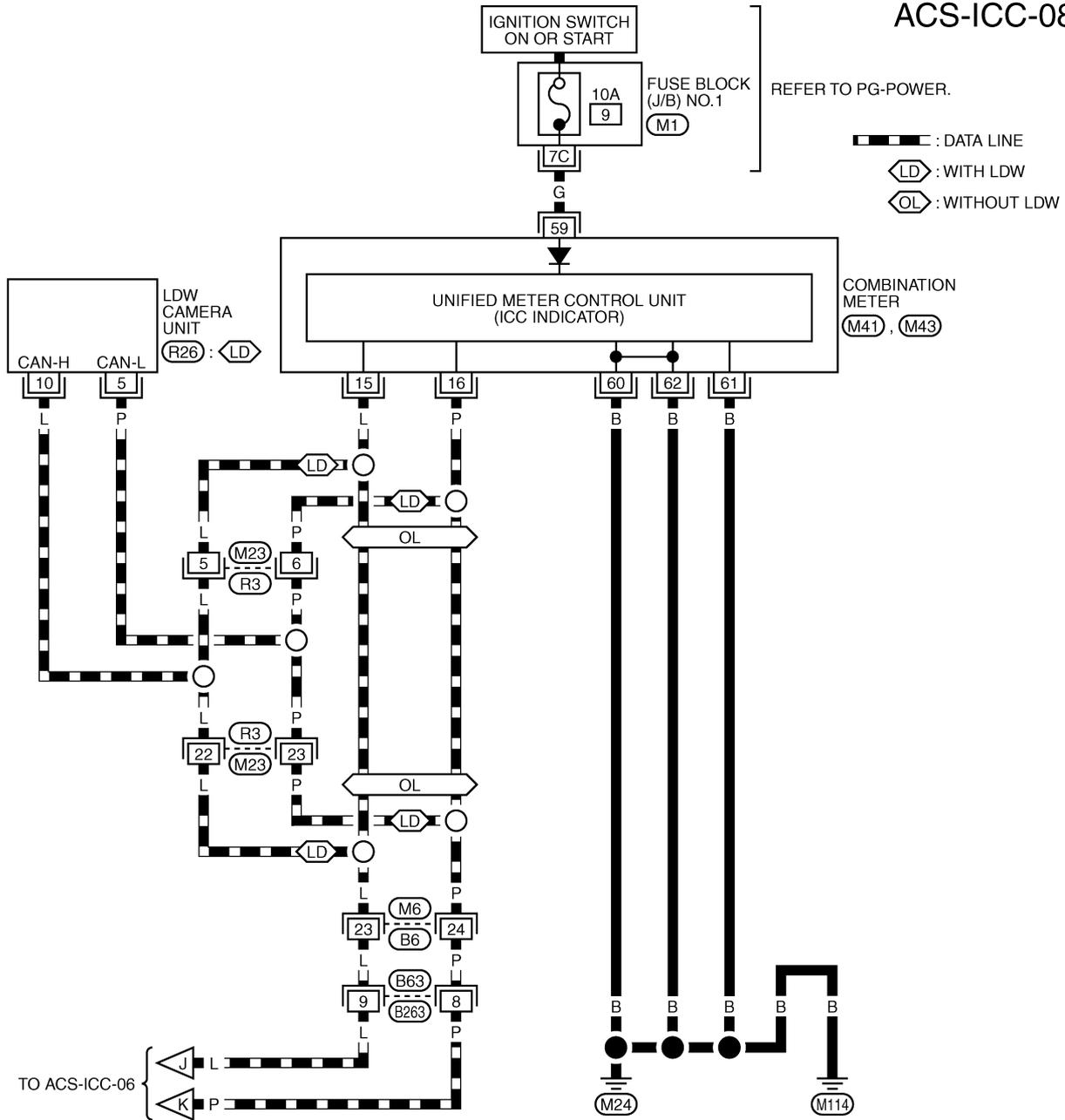
★: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWM3839E

WIRING DIAGRAM

[ICC]

ACS-ICC-08



1	2	3	4	5	6	7	8	9	10	11		
12	13	14	15	16	17	18	19	20	21	22	23	24

(M6)
GY

1	2	3	4	5	6	7	8	9	45	46	47	48	49	50	51	52	53	54	55				
10	11	12	13	14	15	16	17	18	19	20	56	57	58	59	60	61	62	63	64	65	66	67	68

(M41) BR (M43) W

1	2	3	4		
5	6	7	8	9	10

(B63) W

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

(R3) W

1	2	3	4	5	6
7	8	9	10	11	12

(R26) W

REFER TO THE FOLLOWING.
 (M1) - FUSE BLOCK-JUNCTION BOX (J/B) NO.1

TKWM3840E

TERMINALS AND REFERENCE VALUE

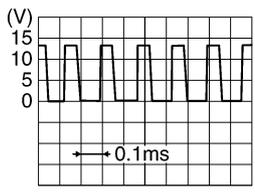
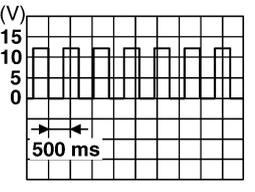
[ICC]

TERMINALS AND REFERENCE VALUE

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Terminals and Reference Value for ICC Unit

NKS001K8

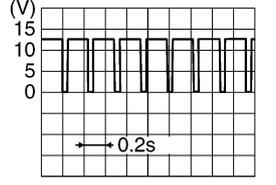
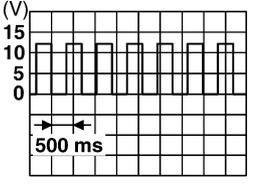
Terminals (Wire color)		Item	Condition		Voltage (V)
+	-		Ignition switch	Operation	
1 (B/R) 2 (W/R)		Battery power supply	OFF	—	Battery voltage
4 (L/W)	Ground	Wiper motor HI signal	ON	Wiper HI operating	Approx. 0
				Wiper HI not operating	Approx. 12
5 (P)		CAN-L	ON	—	—
6 (BR/W)		Release switch power supply	ON	—	Approx. 10
7 (B/W)	Ground	Park/neutral position relay signal	ON	Selector lever in "N" or "P" posi- tions	Approx. 12
				Selector lever in other positions	Approx. 0
8 (PU)	24 (OR)	Brake pressure sensor power supply	ON	—	Approx. 5
10 (L/Y)		Brake booster solenoid (+) side	ON	—	Approx. 12
12 (P)		Brake booster solenoid (-) side	ON	Solenoid operating	 <small>PKIA9673E</small>
				Solenoid not operating	Approx. 12
13 (W)	Ground	Wiper motor LO signal	ON	Wiper LO operating	Approx. 0
				Wiper LO not operating	Approx. 12
14 (L)		CAN-H	ON	—	—
15 (SB)			Brake release switch signal (normal closed)	ON	Depress the brake pedal
	Release the brake pedal				Approx. 10
16 (G/Y)*		Turn Signal (Right)	ON	Turn signal switch OFF	Approx. 0
				Turn signal switch to Right	 <small>SKIA3009J</small>
17 (B/Y)	24 (OR)	Brake pressure sensor signal	ON	Release the brake pedal	Approx. 0.5
				Depress the brake pedal	Approx. 0.5 - 5 (Note) Voltage becomes higher depending on effectiveness of depressing brakes.

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TERMINALS AND REFERENCE VALUE

[ICC]

Terminals (Wire color)		Item	Condition		Voltage (V)	
+	-		Ignition switch	Operation		
19 (B) 20 (B) 46 (B)	Ground	Ground	ON	—	Approx. 0	
21 (Y)		ICC warning chime signal	ON	Activated		
				Not activated	Approx. 12	
22 (R/B)		Brake release switch signal (normally open)	ON	Depress the brake pedal	Approx. 10	
				Release the brake pedal	Approx. 0	
28 (P)*		Turn Signal (Left)	ON	Turn signal switch OFF	Approx. 0	
				Turn signal switch to Left		
29 (Y/PU)		ICC brake switch signal (normal closed)	ON	Selector lever: Not in "N" or "P" position	Depress the brake pedal	Approx. 0
					Release the brake pedal	Approx. 12
30 (G/B)		DDL-TX	—	—	—	
33 (BR/W) 42 (BR/W)		Ignition switch ON or START	ON	—	Battery voltage	
38 (R/W)		Stop lamp switch signal (normally open)	ON	Depress the brake pedal	Approx. 12	
				Release the brake pedal	Approx. 0	
39 (BR/Y)		DDL-RX	—	—	—	
40 (Y/R)		Parking brake signal	ON	Depress the parking brake	Approx. 0	
			Release the parking brake	Approx. 12		
47 (L/W)	Stop lamp drive output signal	ON	Brake operating with ICC system	Approx. 12		
			Brake not operating with ICC system	Approx. 0		

*: With LDW models

Terminals and Reference Value for ICC Sensor

NKS001K9

Terminals (Wire color)		Item	Condition		Voltage (V)
+	-		Ignition switch	Operation	
1 (BR/W)	Ground	ICC sensor power supply	ON	—	Battery voltage
3 (L)		CAN-H	ON	—	—
4 (B)		Ground	ON	—	Approx. 0
6 (P)		CAN-L	ON	—	—

TERMINALS AND REFERENCE VALUE

[ICC]

Terminals and Reference Value for ICC Warning Chime (Without LDW Models)

NKS001KA

Terminals (Wire color)		Item	Condition		Voltage (V)
+	-		Ignition switch	Operation	
1 (BR/W)		ICC warning chime power supply	ON	—	Battery voltage
2 (Y)	Ground	ICC warning chime signal	ON	Chime output OFF	Approx. 12
				Chime output ON	<p style="text-align: right;"><small>PKIA9674E</small></p>

Terminals and Reference Value for ICC Warning Chime (With LDW Models)

NKS002JO

Terminals (Wire color)		Item	Condition		Voltage (V)
+	-		Ignition switch	Operation	
1 (BR/W)		ICC warning chime power supply	ON	—	Battery voltage
3 (Y)	Ground	ICC warning chime signal	ON	Chime output OFF	Approx. 12
				Chime output ON	<p style="text-align: right;"><small>PKIA9674E</small></p>
8(B)		Ground	ON	—	Approx. 0

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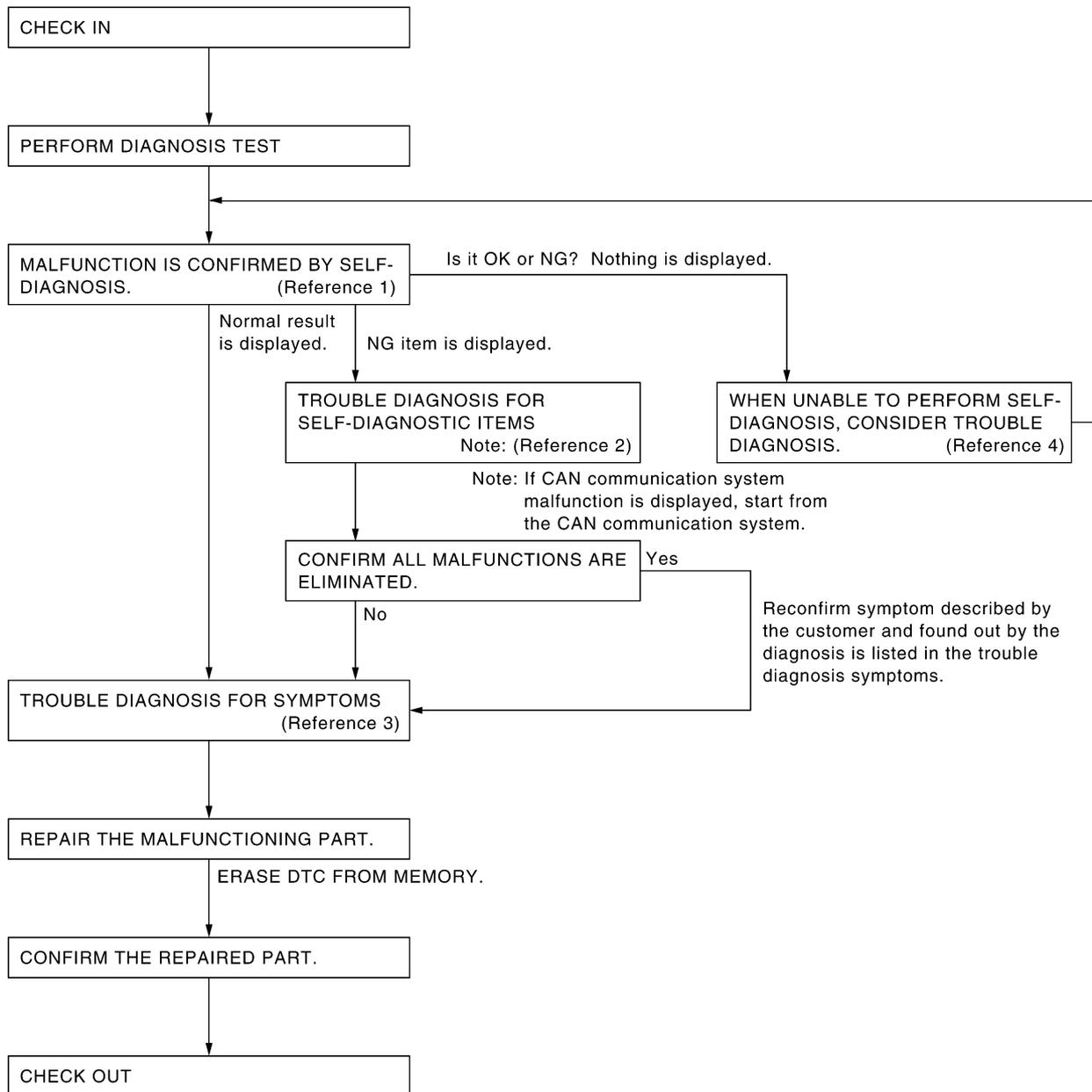
ACS

TROUBLE DIAGNOSIS - GENERAL DESCRIPTION

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Work Flow

NKS001KB



SKIA1227E

- Reference 1... Refer to [ACS-38, "Self-Diagnostic Function"](#) .
- Reference 2... Refer to [ACS-43, "Diagnostic Trouble Code \(DTC\) Chart"](#) .
- Reference 3... Refer to [ACS-68, "Symptom Chart"](#) .
- Reference 4...Refer to [GI-37, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#) / [ACS-40, "SELF-DIAGNOSIS BY ICC SYSTEM DISPLAY WILL NOT RUN"](#) .

CONSULT-II Function (ICC)

CONSULT-II can display each diagnostic item using the diagnostic test modes shown following.

Test mode	Function	Reference page
WORK SUPPORT	<ul style="list-style-type: none"> Monitors aiming direction to facilitate laser beam aiming operation. Indicates causes of automatic cancellation of the ICC system. 	ACS-33
SELF-DIAG RESULTS	Displays malfunctioning system memorized in ICC unit.	ACS-34
DATA MONITOR	Displays real-time input/output data of ICC unit.	ACS-34
CAN DIAG SUPPORT MNTR	The results of transmit/receive diagnosis of CAN communication can be read.	LAN-29
ACTIVE TEST	Enables operation check of electrical loads by sending driving signal to them.	ACS-36
ECU PART NUMBER	Displays part number of ICC unit.	—

CONSULT-II BASIC OPERATION

Refer to [GI-36, "CONSULT-II Start Procedure"](#) .

WORK SUPPORT

Work Item

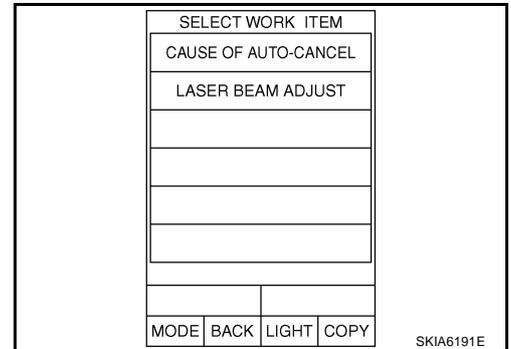
Operation	Function
CAUSE OF AUTO-CANCEL	Indicates causes of automatic cancellation of the ICC system.
LASER BEAM ADJUST	Outputs laser beam, calculates dislocation of the beam, and indicates adjustment direction.

Cause of Auto-Cancel

1. Touch "WORK SUPPORT" on the "SELECT DIAG MODE" screen. Refer to [ACS-33, "CONSULT-II BASIC OPERATION"](#) .
2. Touch "CAUSE OF AUTO-CANCEL" on the "SELECT WORK ITEM" screen.
3. Cause of automatic cancellation screen will be shown.

NOTE:

Last five cancels (system cancel) causes are displayed.



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Display Item List

Cause of cancellation	Description
OPERATING WIPER	Windshield wipers were operated at HI or LO speed operation. (Or at INT according to the windshield wipers speed.)
OPERATING ABS	ABS function was operated.
OPERATING TCS	TCS function was operated.
OPERATING VDC	VDC function was operated.
OPE SW VOLT CIRC	Outside the standard control switch input voltage was detected.
ECM CIRCUIT	ECM did not permit ICC operation.
LASER SUN BEAM	Intense light such as sunlight entered ICC sensor light sensing part.
LASER TEMP	Temperature around ICC sensor became low.
OP SW DOUBLE TOUCH	ICC steering switches were pressed at the same time.
WHL SPD ELEC NOISE	Wheel speed sensor signal caught electromagnetic noise.
VDC/TCS OFF SW	VDC OFF switch was pressed.
WHEEL SPD UNMATCH	Wheel speed became different from AT vehicle speed.
TIRE SLIP	Wheel slipped.
PKB SW ON	Parking brake is applied.
IGN LOW VOLT	ICC unit power supply voltage became low.
NO RECORD	—

Laser Beam Adjust

For details, refer to [ACS-14, "LASER BEAM AIMING ADJUSTMENT"](#) .

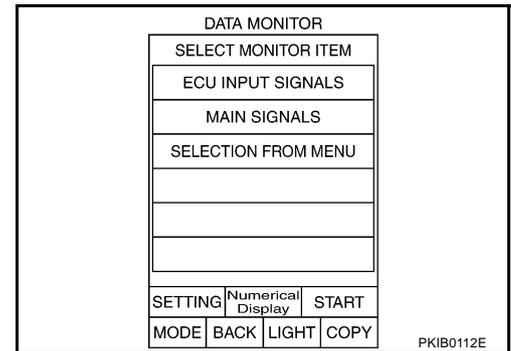
SELF-DIAG RESULTS

For details, refer to [ACS-43, "Diagnostic Trouble Code \(DTC\) Chart"](#) .

DATA MONITOR

Operation Procedure

1. Touch "DATA MONITOR" on "SELECT DIAG MODE" screen.
Refer to [ACS-33, "CONSULT-II BASIC OPERATION"](#) .
2. Touch any of "ECU INPUT SIGNALS", "MAIN SIGNALS" and "SELECTION FROM MENU" on "SELECT MONITOR ITEM" screen.
3. Touch "START".
4. Display the data monitor.
5. If necessary, touch "COPY" in turn, and print data.



Monitored Item

×: Applicable

Monitored Item [unit]	ECU INPUT SIGNALS	MAIN SIGNALS	SELECTION FROM MENU	Description
VHCL SPEED SE [km/h] or [mph]	×	×	×	Indicates vehicle speed calculated from wheel sensor by ICC unit through CAN communication (VDC/TCS/ABS control unit transmits wheel speed sensor signal through CAN communication).
SET VHCL SPD [km/h] or [mph]		×	×	Indicates set vehicle speed memorized in ICC unit.
THRTL OPENING [%]	×	×	×	Indicates throttle angle read by ICC unit through CAN communication (ECM transmits throttle angle through CAN communication).

TROUBLE DIAGNOSIS - GENERAL DESCRIPTION

[ICC]

Monitored Item [unit]	ECU INPUT SIGNALS	MAIN SIGNALS	SELECTION FROM MENU	Description
ENGINE RPM [rpm]	×		×	Indicates engine speed read by ICC unit through CAN communication (ECM transmits engine speed through CAN communication).
DISTANCE ADJ [SHOR/MID/LONG]	×	×	×	Indicates set distance memorized in ICC unit.
WIPER SW [OFF/LOW/HIGH]	×		×	Indicates wiper [OFF/LOW/HIGH] status.
MAIN SW [ON/OFF]	×	×	×	Indicates [ON/OFF] status as judged from steering switch signal (ECM transmits steering switch signal through CAN communication).
SET/COAST SW [ON/OFF]	×	×	×	Indicates [ON/OFF] status as judged from steering switch signal (ECM transmits steering switch signal through CAN communication).
CANCEL SW [ON/OFF]	×	×	×	Indicates [ON/OFF] status as judged from steering switch signal (ECM transmits steering switch signal through CAN communication).
RESUME/ACC SW [ON/OFF]	×	×	×	Indicates [ON/OFF] status as judged from steering switch signal (ECM transmits steering switch signal through CAN communication).
CRUISE OPE [ON/OFF]		×	×	Indicates whether controlling or not (ON means "controlling").
BRAKE SW [ON/OFF]	×	×	×	Indicates [ON/OFF] status as judged from ICC brake switch signal.
STOP LAMP SW [ON/OFF]	×	×	×	Indicates [ON/OFF] status as judged from stop lamp switch signal.
RELEASE SW NO [ON/OFF]	×		×	Indicates [ON/OFF] status as judged from release switch signal. ON when brake is depressed. OFF when brake is not depressed.
RELEASE SW NC [ON/OFF]	×		×	Indicates [ON/OFF] status as judged from release switch signal. ON when brake is not depressed. OFF when brake is depressed.
IDLE SW [ON/OFF]	×		×	Indicates [ON/OFF] status of idle switch read by ICC unit through CAN communication (ECM transmits ON/OFF status through CAN communication).
GEAR [1, 2, 3, 4, 5]	×		×	Indicates AT gear position read by ICC unit through CAN communication (TCM transmits gear position through CAN communication).
BUZZER O/P [ON/OFF]			×	Indicates [ON/OFF] status of ICC warning chime output.
ICC WARNING			×	NOTE: This item is displayed, but cannot monitoring.
VHCL SPD AT [km/h] or [mph]			×	Indicates vehicle speed calculated from AT vehicle speed sensor by ICC unit through CAN communication (TCM transmits AT vehicle speed sensor signal through CAN communication).
PRESS SENS [bar]	×	×	×	Indicates brake fluid pressure value calculated from signal voltage of pressure sensor.
PRESS SENS 2	×		×	NOTE: This item is displayed, but cannot monitoring.
D RANGE SW [ON/OFF]	×		×	Indicates [ON/OFF] status of "D" position read by ICC unit through CAN communication (TCM transmits ON/OFF condition of "D" position through CAN communication).
AT OD OFF [ON/OFF]			×	Indicates [ON/OFF] status of OD cancel output under control.

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TROUBLE DIAGNOSIS - GENERAL DESCRIPTION

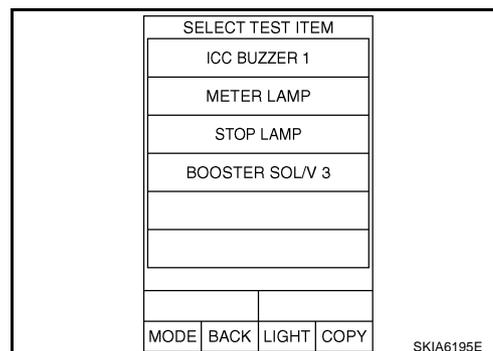
[ICC]

Monitored Item [unit]	ECU INPUT SIGNALS	MAIN SIGNALS	SELECTION FROM MENU	Description
NP RANGE SW [ON/OFF]	×		×	Indicates PNP switch signal read by ICC unit through CAN communication (TCM transmits PNP switch signal through CAN communication).
DISTANCE			×	NOTE: This item is displayed, but cannot monitoring.
RELATIVE SPD			×	NOTE: This item is displayed, but cannot monitoring.
STP LMP DRIVE [ON/OFF]		×	×	Indicates [ON/OFF] status of brake hold relay drive output.
TURN SIGNAL [OFF/LH/RH LH/RH]	×		×	Indicates turn signal [OFF/LH/RH LH/RH] status.

ACTIVE TEST

CAUTION:

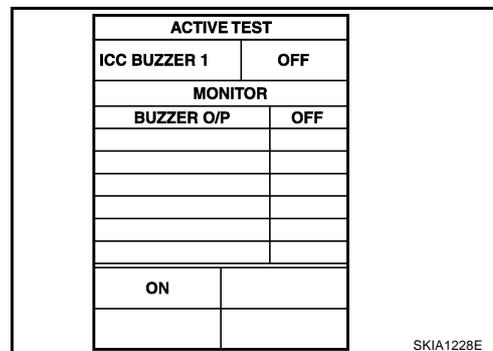
- Never perform the active test while driving.
 - “ACTIVE TEST” cannot be started while ICC system warning lamp illuminates.
1. Touch “ACTIVE TEST” on “SELECT DIAG MODE” screen. Refer to [ACS-33, "CONSULT-II BASIC OPERATION"](#).
 2. Touch any of “ICC BUZZER 1”, “METER LAMP”, “STOP LAMP” and “BOOSTER SOL/V 3” on "SELECT TEST ITEM" screen.
 3. Touch necessary item and “START”.
 4. “ACTIVE TEST” screen will be shown.



ICC BUZZER 1

Touch “ON” and “OFF” to check if ICC warning chime operates as in the following chart.

BUZZER O/P	ON	OFF
Buzzer sound	Beep	Not activated



METER LAMP

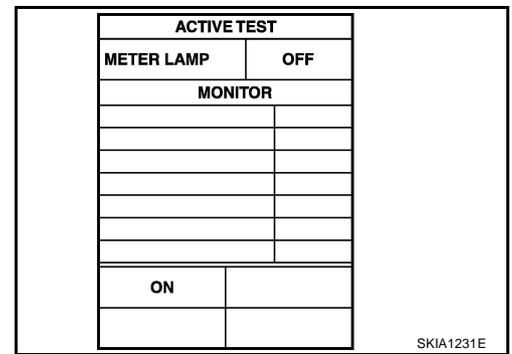
- Start engine.

TROUBLE DIAGNOSIS - GENERAL DESCRIPTION

[ICC]

- Touch "ON" and "OFF" to check if ICC system display operates as in the following chart.

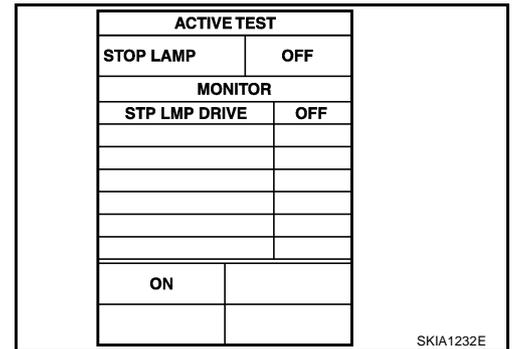
METER LAMP	ON	OFF
ICC system display	Full illumination	OFF



STOP LAMP

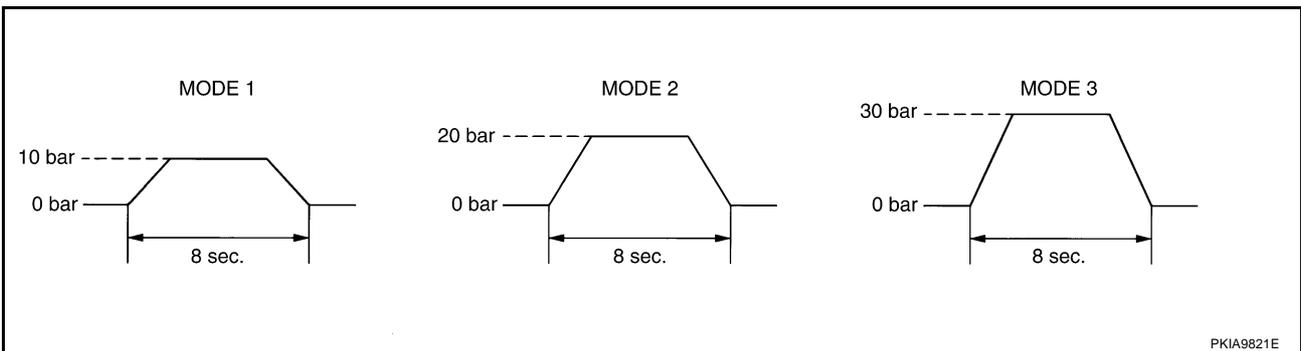
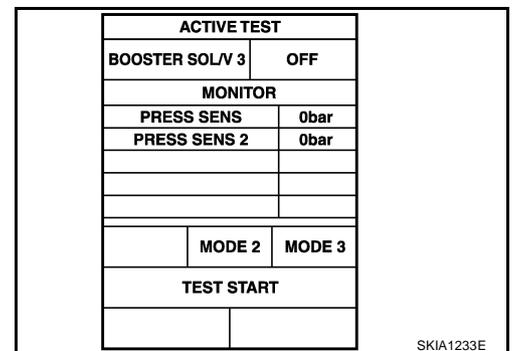
Touch "ON" and "OFF" to check if stop lamp operates as in the following chart.

STP LMP DRIVE	ON	OFF
Stop lamp	Lamp ON	Lamp OFF



BOOSTER SOL/V 3

- Touch any of "MODE 1", "MODE 2", "MODE 3" to check if following operation condition is caused by operating monitor and brake pedal.
- "START" is displayed 10 seconds after operation start. (Active test is completed.)



Self-Diagnostic Function WITH CONSULT-II

1. Go to operation check after asking the customer for symptom information. Refer to [ACS-11, "ACTION TEST"](#) .
2. Stop vehicle, turn ignition switch OFF, then connect CONSULT-II and CONSULT-II CONVERTER to data link connector.
3. With engine started, touch "START (NISSAN BASED VHCL)", "ICC", "SELF-DIAG RESULTS" on CONSULT-II screen in this order.

CAUTION:

If "ICC" cannot be shown after several attempts, the ICC unit may have had malfunction. Repair or replace it. Refer to [GI-37, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#) .

4. Self-diagnostic result appears on screen. If "NO DTC ..." is shown, check ICC system warning lamp. If any malfunction is indicated, GO TO step 5.
5. According to [ACS-43, "Diagnostic Trouble Code \(DTC\) Chart"](#) , perform appropriate check, and repair or replace malfunctioning part as necessary.
6. Turn ignition switch OFF.
7. Start engine and touch "START (NISSAN BASED VHCL)", "ICC", "SELF-DIAG RESULT", and "ERASE" on CONSULT-II display in turn to erase the memory.

CAUTION:

If the memory does not erase, go to 5.

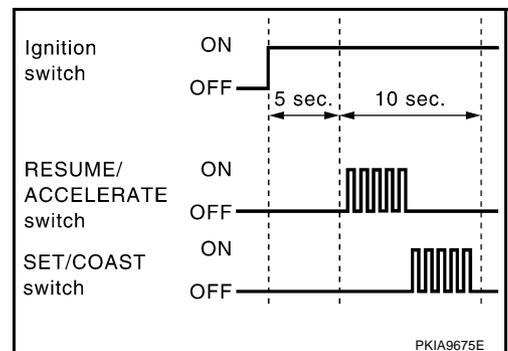
8. Perform ICC system running test (drive vehicle with ICC system ON), and make sure that ICC system warning lamp does not illuminate.

WITHOUT CONSULT-II

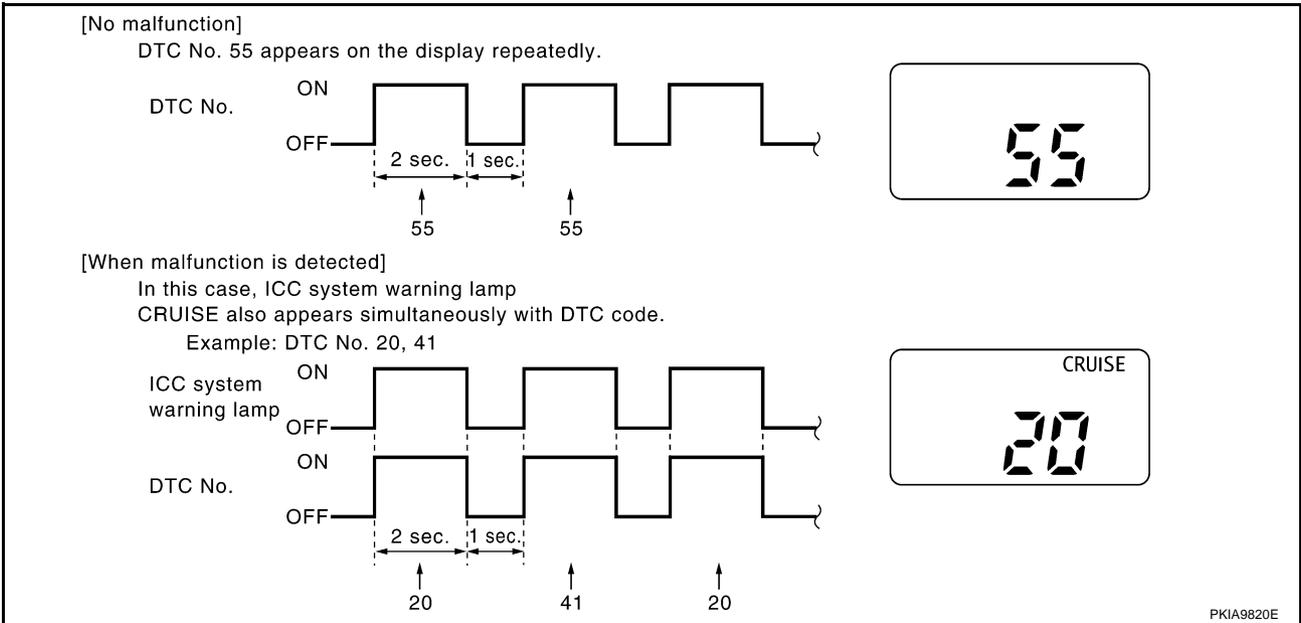
1. Go to operation check after asking the customer for symptom information. Refer to [ACS-11, "ACTION TEST"](#) .
2. Stop the vehicle to start the self-diagnosis.
3. Turn ignition switch OFF.
4. From 5 seconds through 15 seconds after turning ignition switch ON, press RESUME/ACCELERATE switch 5 times, and SET/COAST switch 5 times to start self-diagnosis.

CAUTION:

- Never start engine.
- Never turn the MAIN switch ON.
- When operation above is not completed from 5 seconds through 15 seconds, start again from above go to 3.
- If self-diagnosis mode cannot be started after several attempts, the ICC unit may have had malfunction. Repair or replace it. Refer to [ACS-40, "SELF-DIAGNOSIS BY ICC SYSTEM DISPLAY WILL NOT RUN"](#) .



5. When self-diagnosis mode is started, DTC are shown on set vehicle speed indicator.



CAUTION:

- DTC will disappear after 5 minutes.
- When more than one malfunction is detected, a maximum of 3 code numbers can be stored; the latest malfunction will be displayed first.

6. Check [ACS-43, "Diagnostic Trouble Code \(DTC\) Chart"](#) , and repair or replace if necessary.
7. After repair, erase DTC stored in the ICC unit.
8. DTC 55 will be shown.
9. Turn ignition switch OFF to exit the diagnosis.
10. Perform ICC system running test (drive vehicle with ICC system ON), and make sure that ICC system warning lamp (Orange) does not illuminate.

Self-Diagnostic Erasing Method

1. Stop vehicle and turn ignition switch OFF.
2. Turn ignition switch ON and start self-diagnosis.
3. During self-diagnosis mode, press CANCEL switch 5 times, and DISTANCE switch 5 times in this order.

CAUTION:

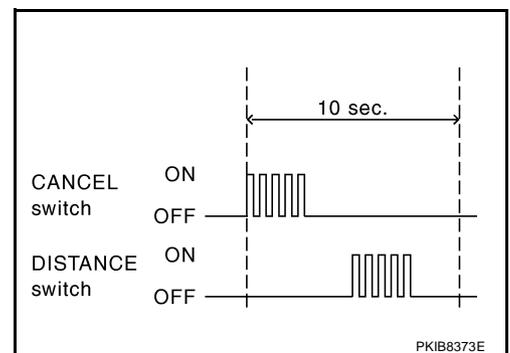
- Press them within 10 seconds after pressing CANCEL switch at first.
- When operation is not completed within 10 seconds, start again from step 2 above.

4. DTC 55 will be shown.

CAUTION:

DTC of an existing malfunction will not be erased.

5. Turn ignition switch OFF to exit the diagnosis.
6. Perform ICC system running test (drive vehicle with ICC system ON), and make sure that ICC system warning lamp (Orange) does not illuminate.

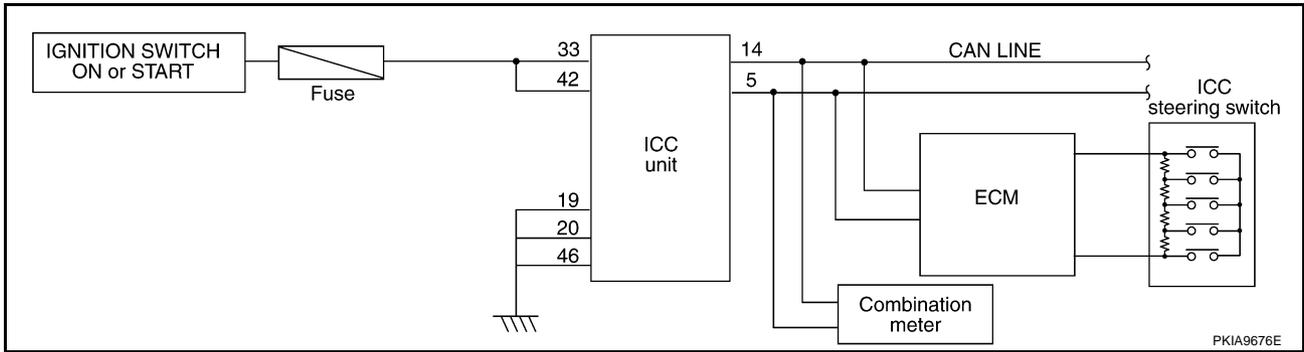


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SELF-DIAGNOSIS BY ICC SYSTEM DISPLAY WILL NOT RUN



Possible Irregular Condition

Open or short lines	symptoms	Malfunction causes			
ICC unit power supply malfunction	No voltage supply from ignition switch	Fuse blown. Harness open. Harness shorted.			
	Ground cable not connected	Harness open. Harness shorted.			
ICC steering switch malfunction	No signal transmitted	Harness open. Harness shorted. Spiral cable open. Spiral cable shorted. ICC steering switch or ECM malfunction.			
		CAN communication system malfunction	Signal not transmitted	Harness open. Harness shorted. CAN communication malfunction.	
			Combination meter system malfunction	Indication not possible	ICC system display malfunction ICC system display segments disappear.
				ICC unit malfunction	ICC unit internal malfunction.

1. CHECK FUSES

Check if any of the fuses is blown.

Unit	Power source	Fuse NO.
ICC unit	Ignition switch ON or START	1
		77

OK or NG

OK >> GO TO 2.

NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2. CHECK ICC SYSTEM DISPLAY

1. Turn ignition switch ON.
2. Check if all displays illuminate.

Do all displays illuminate?

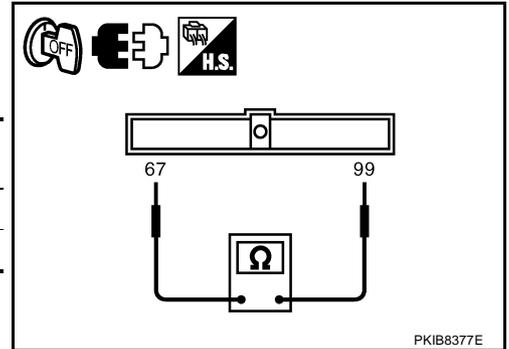
YES >> GO TO 3.

NO >> GO TO 6.

3. CHECK HARNESS BETWEEN ECM AND ICC STEERING SWITCH

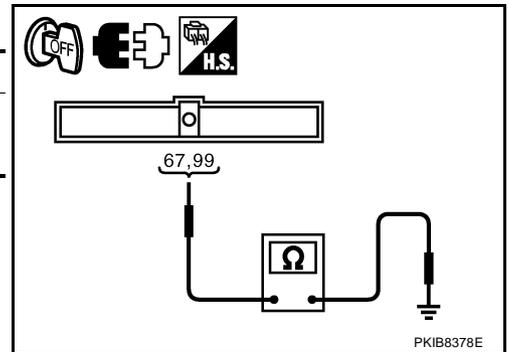
1. Turn ignition switch OFF.
2. Disconnect ECM connector, and check terminals for bend and looseness.
3. Check continuity between ECM harness connector terminals.

ECM connector	Terminal		Condition	Resistance (Approx.)
F101	67	99	When MAIN switch pressed	0 Ω
			When MAIN switch released	5.5 kΩ



4. Check continuity between ECM harness connector and ground.

ECM connector	Terminal	Ground	Continuity
F101	67		
	99		



OK or NG

- OK >> GO TO 5.
- NG >> GO TO 4.

4. CHECK ICC STEERING SWITCH

Check ICC steering switch. Refer to [ACS-77, "ICC Steering Switch"](#).

OK or NG

- OK >> 1. Repair or replace harness between ECM and ICC steering switch.
2. Perform self-diagnosis mode for ICC system.
- NG >> 1. Replace ICC steering switch.
2. Perform self-diagnosis mode for ICC system.

5. CHECK SELF-DIAGNOSIS

1. Connect ECM connector.
2. Turn ignition switch ON.
3. Perform self-diagnosis mode for ICC system.

OK or NG

- OK >> INSPECTION END
- NG >> GO TO 6.

6. CHECK CONNECTOR FOR ICC UNIT

1. Turn ignition switch OFF.
2. Disconnect ICC unit connector, and check terminals for bend and looseness.
3. Connect ICC unit connector.
4. Turn ignition switch ON.
5. Check if all displays illuminate.

Do all displays illuminate?

- YES >> Perform self-diagnosis again.
- NO >> GO TO 7.

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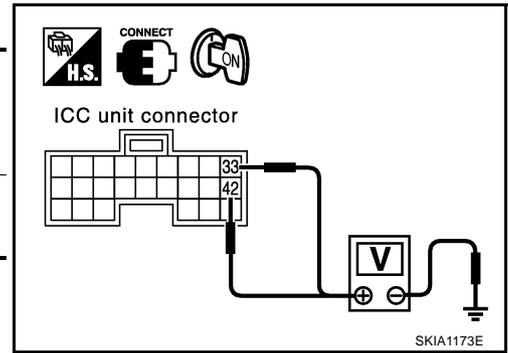
7. CHECK POWER SUPPLY CIRCUIT FOR ICC UNIT

Check voltage between ICC unit harness connector and ground.

Terminals		(-)	Voltage (Approx.)
(+)			
ICC unit connector	Terminal	Ground	Battery voltage
B244	33		
	42		

OK or NG

- OK >> GO TO 8.
- NG >> Repair ICC unit power supply harness.



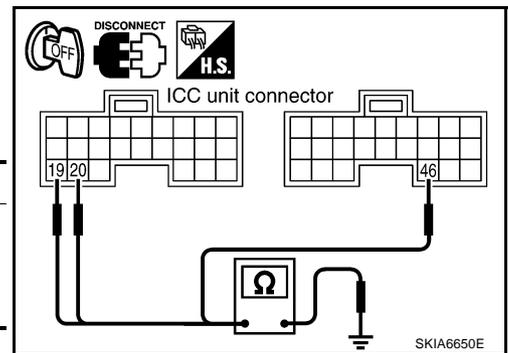
8. CHECK GROUND CIRCUIT FOR ICC UNIT

1. Turn ignition switch OFF.
2. Disconnect ICC unit connector.
3. Check continuity between ICC unit harness connector and ground.

ICC unit connector	Terminal	Ground	Continuity
B243	19		Ground
	20		
B244	46		

OK or NG

- OK >> GO TO 9.
- NG >> Repair ICC unit ground harness.



9. CHECK DISPLAYS

1. Connect ICC unit connector.
2. Turn ignition switch ON.
3. Check if all displays illuminate.

Do all displays illuminate?

- YES >> Perform self-diagnosis again.
- NO >> GO TO 10.

10. CHECK CAN COMMUNICATION

Perform self-diagnosis with CONSULT-II, and check CAN communication system for malfunction.

OK or NG

- OK >> Replace combination meter.
- NG >> CAN communication inspection. Refer to [ACS-45, "DTC 20 CAN COMM CIRCUIT"](#).

TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS

[ICC]

TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS

PFP:00000

Diagnostic Trouble Code (DTC) Chart

NKS001KE

x: Applicable

DTC No.	CONSULT-II screen terms	ICC system warning lamp	Fail-safe			Malfunctions detected where...	Reference page
			Vehicle-to-vehicle distance control mode	Conventional (fixed speed) cruise control mode	Brake assist (with preview function)		
11	CONTROL UNIT	x	x	x	x	<ul style="list-style-type: none"> ● ICC unit internal malfunction. 	ACS-44
20	CAN COMM CIRCUIT	x	x	x	x	<ul style="list-style-type: none"> ● ICC unit detected CAN communication malfunction. 	ACS-45
31	POWER SUPPLY CIR	x	x	x	x	<ul style="list-style-type: none"> ● ICC unit power supply voltage is excessively low (less than 8 V). 	ACS-45
34	POWER SUPPLY CIR2	x	x	x	x	<ul style="list-style-type: none"> ● ICC unit power supply voltage is excessively high (more than 19 V). 	ACS-45
41	VHCL SPEED SE CIRC	x	x	x	x	<ul style="list-style-type: none"> ● Wheel sensor malfunction. ● VDC/TCS/ABS control unit malfunction. ● AT vehicle speed sensor malfunction. ● TCM malfunction. 	ACS-46
43	ABS/TCS/VDC CIRC	x	x	x	x	<ul style="list-style-type: none"> ● VDC/TCS/ABS system malfunction. 	ACS-47
45	BRAKE SW/STOP L SW	x	x	x	x	<ul style="list-style-type: none"> ● Brake and stop lamp switch harness is open or shorted. ● Brake and stop lamp switch is ON or stuck to OFF. ● Brake and stop lamp switch is stuck to ON. 	ACS-47
46	OPERATION SW CIRC	x	x	x		<ul style="list-style-type: none"> ● ICC steering switch harness or spiral cable is open or shorted. ● ICC steering switch malfunction. 	ACS-49
55	NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED.					<ul style="list-style-type: none"> ● No malfunction item has been detected. 	—
61	PRESS SEN CIRCUIT	x	x		x	<ul style="list-style-type: none"> ● Brake pressure sensor harness is open or shorted. ● Brake pressure sensor malfunction. ● Brake pressure sensor input circuit malfunction. 	ACS-51
62	BOOSTER SOL/V CIRCUIT	x	x		x	<ul style="list-style-type: none"> ● Solenoid harness is open or shorted. ● Solenoid is open. ● Solenoid drive circuit malfunction. 	ACS-53
63	RELEASE SW CIRCUIT	x	x	x	x	<ul style="list-style-type: none"> ● Release switch harness is open or shorted. ● Release switch malfunction. ● Release switch input circuit malfunction. 	ACS-54
65	PRESSURE CONTROL	x	x		x	<ul style="list-style-type: none"> ● Booster malfunction. 	ACS-55

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TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS

[ICC]

DTC No.	CONSULT-II screen terms	ICC system warning lamp	Fail-safe			Malfunctions detected where...	Reference page
			Vehicle-to-vehicle distance control mode	Conventional (fixed speed) cruise control mode	Brake assist (with preview function)		
74	LASER BEAM OFF CNTR	×	×		×	<ul style="list-style-type: none"> ● Laser beam of ICC sensor is off the aiming point. 	ACS-56
90	STOP LAMP RLY FIX	×	×		×	<ul style="list-style-type: none"> ● Normally open terminal of stop lamp relay is stuck. 	ACS-56
92	ECM CIRCUIT	×	×	×	×	<ul style="list-style-type: none"> ● ECM malfunction. ● Accelerator pedal position sensor malfunction. ● ICC unit malfunction. 	ACS-62
96	NP RANGE	×	×	×		<ul style="list-style-type: none"> ● Park/neutral position switch harness is open or shorted. ● Park/neutral position switch malfunction. ● TCM malfunction. 	ACS-63
97	AT CIRCUIT	×	×	×		<ul style="list-style-type: none"> ● TCM malfunction. 	ACS-65
98	GEAR POSITION	×	×	×		<ul style="list-style-type: none"> ● TCM malfunction. ● AT turbine revolution sensor malfunction. ● AT vehicle speed sensor malfunction. 	ACS-65
102	RADAR STAIN	×	×		×	<ul style="list-style-type: none"> ● ICC sensor body window has contamination. 	ACS-66
103	LASER SENSOR FAIL	×	×		×	<ul style="list-style-type: none"> ● ICC sensor internal malfunction. 	ACS-66
104	LASER AIMING INCMP	×	×		×	<ul style="list-style-type: none"> ● Laser beam aiming of ICC sensor is not adjusted. 	ACS-67
107	LASER COMM FAIL	×	×		×	<ul style="list-style-type: none"> ● CAN data received by ICC sensor is strange (from ICC unit, combination meter or ECM). 	ACS-67
109	LASER HIGH TEMP	×	×		×	<ul style="list-style-type: none"> ● Temperature around ICC sensor is excessively high. 	ACS-67

DTC 11 CONTROL UNIT

NKS001KF

1. PERFORM ICC UNIT SELF-DIAGNOSIS

1. Perform self-diagnosis.
2. Check if any item other than "DTC 11 CONTROL UNIT" is indicated on self-diagnosis display.
Is any indicated?

YES >> 1. Repair or replace applicable item.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> 1. Replace ICC unit.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 20 CAN COMM CIRCUIT

NKS001KG

1. CHECK CAN COMMUNICATION

With CONSULT-II

1. Perform self-diagnosis.
2. Print self-diagnostic result.

>> After printing self-diagnostic result, go to "CAN system". Refer to [LAN-17, "Precautions When Using CONSULT-II"](#) .

DTC 31 POWER SUPPLY CIR, DTC 34 POWER SUPPLY CIR 2

NKS001KH

1. CHECK CONNECTOR FOR ICC UNIT

1. Turn ignition switch OFF.
2. Disconnect ICC unit connector, and connect it securely again.
3. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

Is malfunction indicated?

YES >> GO TO 2.

NO >> Poor connector connection

1. Check connector. (Check connector housing for disconnected, loose, bent, and collapsed terminals. If any malfunction is detected, repair applicable part.)
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

2. CHECK POWER SUPPLY CIRCUIT FOR ICC UNIT

1. Turn ignition switch ON.
2. Check voltage between ICC unit harness connector and ground.

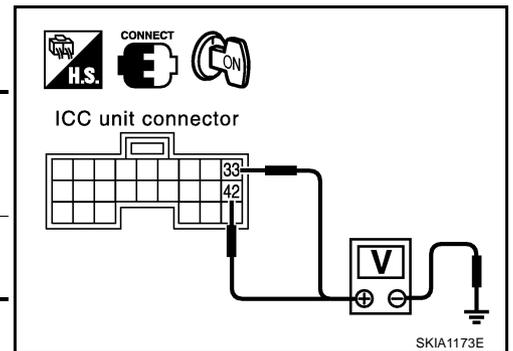
Terminals		Voltage (Approx.)
(+)	(-)	
ICC unit connector	Terminal	
B244	33	Battery voltage
	42	

OK or NG

OK >> GO TO 3.

NG >> 1. Repair ICC unit power supply harness or fuse.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

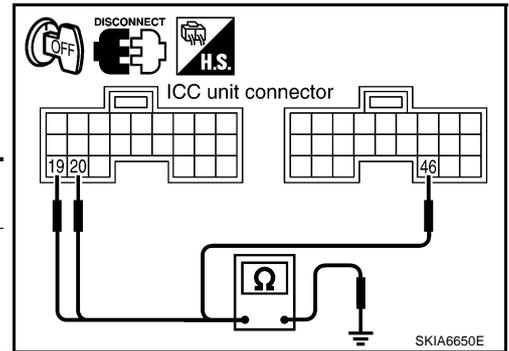


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3. CHECK GROUND CIRCUIT FOR ICC UNIT

1. Turn ignition switch OFF.
2. Disconnect ICC unit connector.
3. Check continuity between ICC unit harness connector and ground.



ICC unit con- nector	Terminal	Ground	Continuity
B243	19		Ground
	20		
B244	46		

OK or NG

- OK >> 1. Replace ICC unit.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NG >> 1. Repair ICC unit ground harness.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 41 VHCL SPEED SE CIRC

NKS001K1

1. PERFORM ICC UNIT SELF-DIAGNOSIS

1. Perform self-diagnosis.
2. Check if "DTC 43 ABS/TCS/VDC CIRC" or "DTC 20 CAN COMM CIRCUIT" other than "DTC 41 VHCL SPEED SE CIRC" is indicated in self-diagnosis item in the display.

Is any indicated?

- YES >> 1. Repair or replace applicable item.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NO >> GO TO 2.

2. CHECK AT VEHICLE SPEED SENSOR

Ⓜ With CONSULT-II

With "ICC" "DATA MONITOR", check if "VHCL SPD AT" operates normally. Refer to [ACS-34, "DATA MONI-TOR"](#).

OK or NG

- OK >> 1. Replace ICC unit.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NG >> 1. Perform "A/T" self-diagnosis.
 2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 43 ABS/TCS/VDC CIRC

NKS001KJ

1. PERFORM ICC UNIT SELF-DIAGNOSIS**With CONSULT-II**

1. Perform self-diagnosis.
2. Check if "DTC 20 CAN COMM CIRCUIT" other than "DTC 43 ABS/TCS/VDC CIRC" is indicated in self-diagnosis item in the display.

Is it indicated?

- YES >> 1. Repair or replace applicable item.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NO >> GO TO 2.

2. PERFORM VDC/TCS/ABS CONTROL UNIT SELF-DIAGNOSIS**With CONSULT-II**

1. Perform self-diagnosis of VDC/TCS/ABS control unit. Refer to [BRC-10, "TROUBLE DIAGNOSIS"](#).
2. Check if malfunction is indicated.

Is malfunction indicated?

- YES >> 1. Repair or replace applicable item.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NO >> 1. Replace ICC unit.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 45 BRAKE SW/STOP L SW

NKS001KK

1. CHECK CONNECTOR FOR ICC UNIT

1. Turn ignition switch OFF.
2. Disconnect ICC unit connector, and connect it securely again.
3. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

Is malfunction indicated?

- YES >> GO TO 2.
- NO >> Poor connector connection
1. Check connector. (Check connector housing for disconnected, loose, bent, and collapsed terminals. If any malfunction is detected, repair applicable part.)
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

2. CHECK STOP LAMP SWITCH AND ICC BRAKE SWITCH**With CONSULT-II**

With "ICC" "DATA MONITOR", check if "STOP LAMP SW" and "BRAKE SW" are operated normally. Refer to [ACS-34, "DATA MONITOR"](#).

OK or NG

- OK >> 1. Replace ICC unit.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NG >> ● BRAKE SW: GO TO 3.
 ● STOP LAMP SW: GO TO 5.

3. CHECK BRAKE SWITCH INSTALLATION AND ADJUSTMENT

Check ICC brake switch for proper installation, and adjust the switch if necessary. Refer to [BR-6, "BRAKE PEDAL"](#) .

OK or NG

OK >> GO TO 4.

NG >> After adjustment, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

4. CHECK ICC BRAKE SWITCH

Check ICC brake switch. Refer to [ACS-78, "ICC Brake Switch and Stop Lamp Switch"](#) .

OK or NG

OK >> 1. Replace ICC unit.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NG >> 1. Replace ICC brake switch.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

5. CHECK STOP LAMP ILLUMINATION

Check stop lamp illumination.

OK or NG

OK >> GO TO 6.

NG >> 1. Check stop lamp circuit.

2. After repairing, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

6. CHECK ICC BRAKE HOLD RELAY

1. Turn ignition switch OFF.

2. Remove ICC brake hold relay.

3. Check ICC brake hold relay. Refer to [ACS-78, "ICC BRAKE HOLD RELAY"](#)

OK or NG

OK >> GO TO 7.

NG >> 1. Replace brake hold relay.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

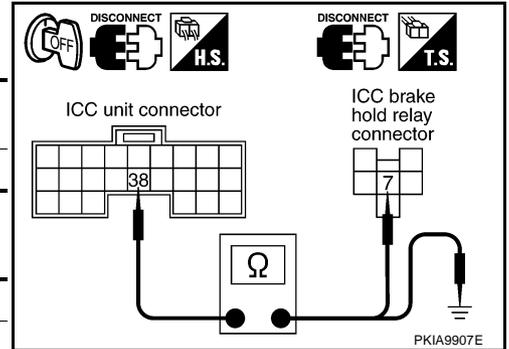
7. CHECK ICC BRAKE HOLD RELAY CIRCUIT

1. Disconnect ICC unit connector and stop lamp switch connector.
2. Check continuity between ICC unit harness connector and ICC brake hold relay harness connector.

ICC unit connector	Terminal	ICC brake hold relay connector	Terminal	Continuity
B244	38	E38	7	Yes

3. Check continuity between ICC unit harness connector and ground.

ICC unit connector	Terminal	Ground	Continuity
B244	38		No



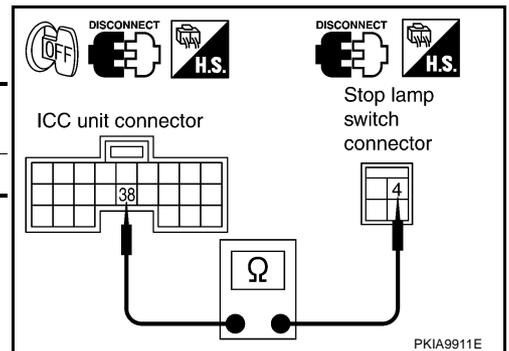
OK or NG

- OK >> GO TO 8.
- NG >> 1. Repair harness between ICC unit and ICC brake hold relay.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

8. CHECK STOP LAMP SWITCH CIRCUIT

Check continuity between ICC unit harness connector and stop lamp switch harness connector.

ICC unit connector	Terminal	Stop lamp switch connector	Terminal	Continuity
B244	38	M402	4	Yes



OK or NG

- OK >> 1. Replace ICC unit.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NG >> 1. Repair harness between ICC unit and stop lamp switch.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 46 OPERATION SW CIRC

NKS001KL

1. CHECK CONNECTOR FOR ECM

1. Turn ignition switch OFF.
2. Disconnect ECM connector, and connect it securely again.
3. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

Is malfunction indicated?

- YES >> GO TO 2.
- NO >> Poor connector connection
 1. Check connector. (Check connector housing for disconnected, loose, bent, and collapsed terminals. If any malfunction is detected, repair applicable part.)
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

2. CHECK ICC STEERING SWITCH

Check ICC steering switch. Refer to [ACS-77, "ICC Steering Switch"](#) .

OK or NG

OK >> GO TO 3.

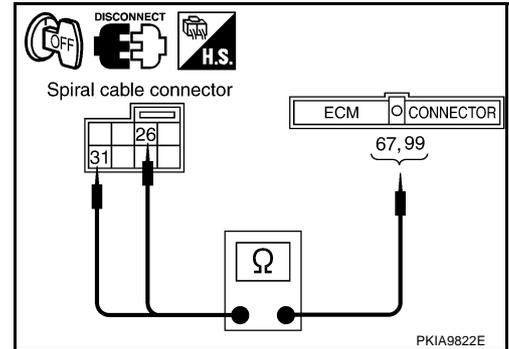
NG >> 1. Replace ICC steering switch.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

3. CHECK HARNESS BETWEEN SPIRAL CABLE AND ECM

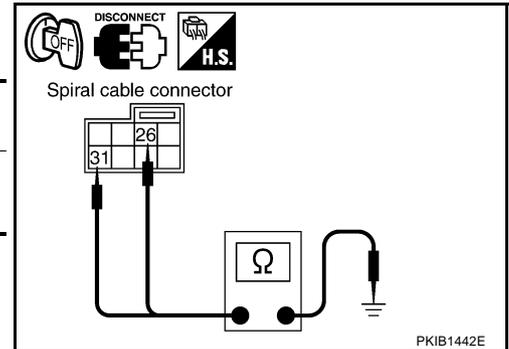
1. Turn ignition switch OFF.
2. Disconnect ECM connector and spiral cable connector.
3. Check continuity between spiral cable harness connector and ECM harness connector.

Spiral cable connector	Terminal	ECM connector	Terminal	Continuity
M53	31	F101	67	Yes
	26		99	



4. Check continuity between spiral cable harness connector and ground.

Spiral cable connector	Terminal	Ground	Continuity
M53	31	Ground	No
	26		



OK or NG

OK >> GO TO 4.

NG >> 1. Repair harness between spiral cable and ECM.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

4. CHECK COMBINATION SWITCH (SPIRAL CABLE)

Check continuity between spiral cable (on vehicle) and spiral cable (on switch).

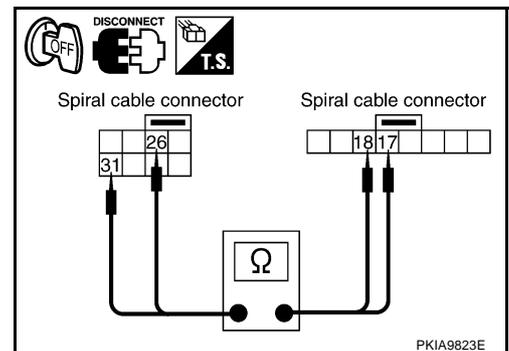
Terminal	Terminal	Continuity
26	18	Yes
31	17	

OK or NG

OK >> GO TO 5.

NG >> 1. Replace spiral cable.

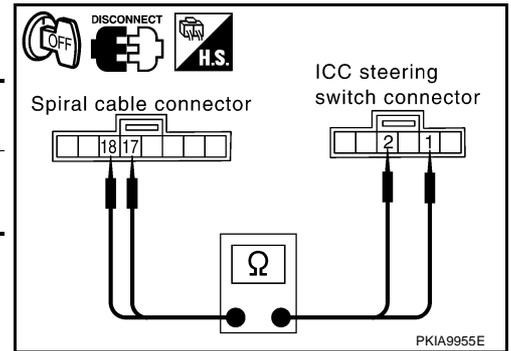
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.



5. CHECK HARNESS BETWEEN SPIRAL CABLE AND ICC STEERING SWITCH

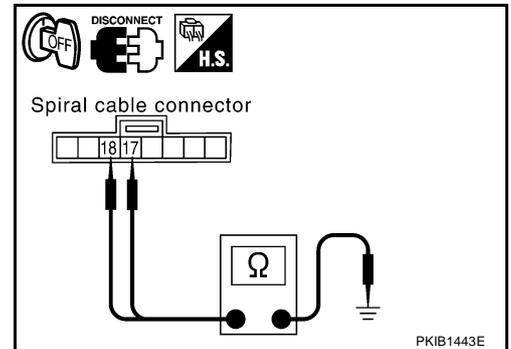
1. Check continuity between spiral cable harness connector and ICC steering switch harness connector.

Spiral cable connector	Terminal	ICC steering switch connector	Terminal	Continuity
M441	18	M443	1	Yes
	17		2	



2. Check continuity between spiral cable harness connector and ground.

Spiral cable connector	Terminal	Ground	Continuity
M441	18	Ground	No
	17		



OK or NG

- OK** >> 1. Perform ECM self-diagnosis.
 2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NG** >> 1. Replace driver air bag module.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 61 PRESS SEN CIRCUIT

NKS001KM

1. CHECK BRAKE PRESSURE SENSOR AND ICC UNIT CONNECTORS

1. Turn ignition switch OFF.
2. Disconnect brake pressure sensor connector and ICC unit connector, and connect them securely again.
3. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

Is malfunction indicated?

- YES** >> GO TO 2.
- NO** >> Poor connector connection
1. Check connector. (Check connector housing for disconnected, loose, bent, and collapsed terminals. If any malfunction is detected, repair applicable part.)
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

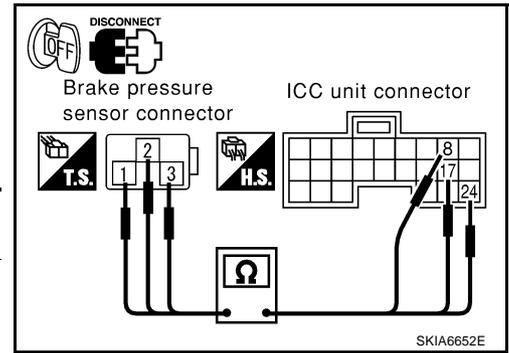
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2. CHECK HARNESS BETWEEN BRAKE PRESSURE SENSOR AND ICC UNIT

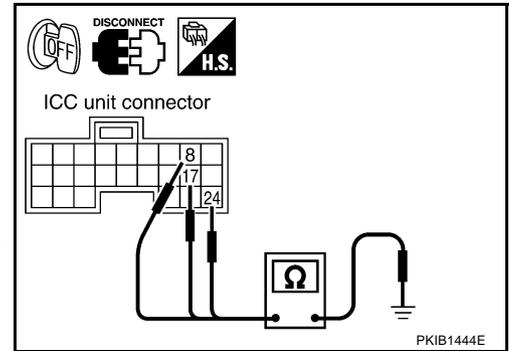
1. Turn ignition switch OFF.
2. Disconnect ICC unit connector and brake pressure sensor connector.
3. Check continuity between brake pressure sensor harness connector and ICC unit harness connector.

Brake pressure sensor connector	Terminal	ICC unit connector	Terminal	Continuity
E82	1	B243	24	Yes
	2		17	
	3		8	



4. Check continuity between ICC unit harness connector and ground.

ICC unit connector	Terminal	Ground	Continuity
B243	8	Ground	No
	17		
	24		



OK or NG

OK >> GO TO 3.

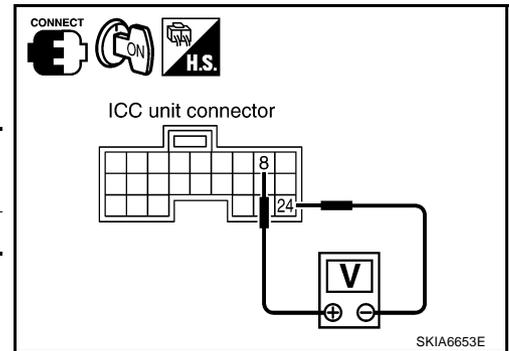
NG >> 1. Repair harness between brake pressure sensor and ICC unit.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

3. CHECK POWER SUPPLY CIRCUIT FOR BRAKE PRESSURE SENSOR

1. Connect ICC unit connector.
2. Turn ignition switch ON.
3. Check voltage between ICC unit connector terminals.

ICC unit connector	Terminal		Voltage (Approx.)
	(+)	(-)	
B243	8	24	5 V



OK or NG

OK >> 1. Replace brake pressure sensor. Refer to [BR-13](#), "[BRAKE MASTER CYLINDER](#)".

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NG >> 1. Replace ICC unit.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 62 BOOSTER SOL/V CIRCUIT

1. CHECK ICC UNIT AND BRAKE BOOSTER CONNECTORS

1. Turn ignition switch OFF.
2. Disconnect ICC unit connector and brake booster connector, and connect them securely again.
3. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

Is malfunction indicated?

YES >> GO TO 2.

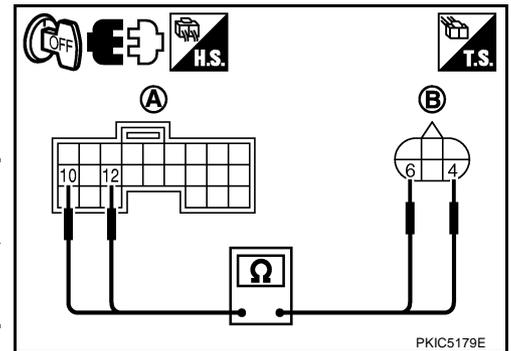
NO >> Poor connector connection

1. Check connector. (Check connector housing for disconnected, loose, bent, and collapsed terminals. If any malfunction is detected, repair applicable part.)
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

2. CHECK HARNESS BETWEEN ICC UNIT AND BRAKE BOOSTER

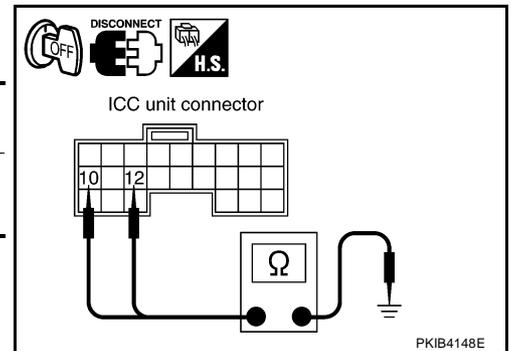
1. Turn ignition switch OFF.
2. Disconnect ICC unit connector and brake booster connector.
3. Check continuity between ICC unit harness connector (A) and brake booster harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
B243	10	E81	4	Yes
	12		6	



4. Check continuity between ICC unit harness connector and ground.

ICC unit connector	Terminal	Ground	Continuity
B243	10		
	12		



OK or NG

OK >> GO TO 3.

NG >> 1. Repair harness between ICC unit and brake booster.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

3. CHECK BOOSTER SOLENOID

Check booster solenoid. Refer to [ACS-77, "Booster Solenoid"](#) .

OK or NG

OK >> 1. Replace ICC unit.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NG >> Booster solenoid malfunction

1. Replace brake booster.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 63 RELEASE SW CIRCUIT

1. CHECK ICC UNIT AND BRAKE BOOSTER CONNECTORS

1. Turn ignition switch OFF.
2. Disconnect ICC unit connector and brake booster connector, and connect them securely again.
3. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

Is malfunction indicated?

YES >> GO TO 2.

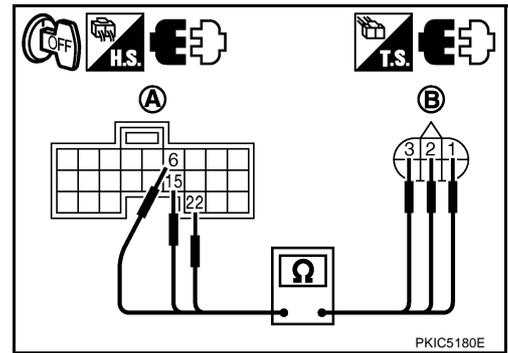
NO >> Poor connector connection

1. Check connector. (Check connector housing for disconnected, loose, bent, and collapsed terminals. If any malfunction is detected, repair applicable part.)
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

2. CHECK HARNESS BETWEEN ICC UNIT AND BRAKE BOOSTER

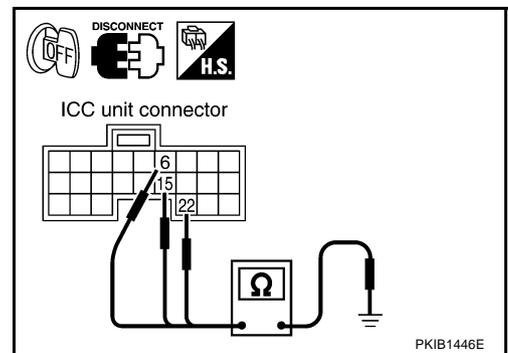
1. Turn ignition switch OFF.
2. Disconnect ICC unit connector and brake booster connector.
3. Check continuity between ICC unit harness connector (A) and brake booster harness connector (B).

A		B		Continuity
ICC unit connector	Terminal	Brake booster connector	Terminal	
B243	6	E81	1	Yes
	15		3	
	22		2	



4. Check continuity between ICC unit harness connector and ground.

ICC unit connector	Terminal	Ground	Continuity
B243	6		No
	15		
	22		



OK or NG

OK >> GO TO 3.

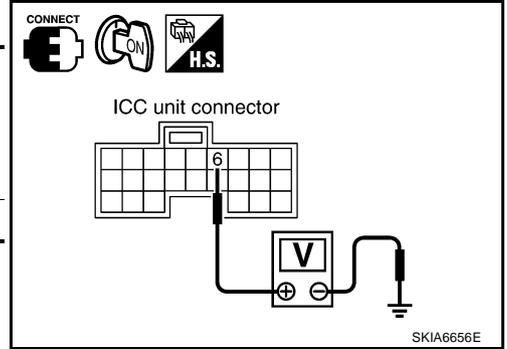
NG >> 1. Repair harness between brake booster and ICC unit.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

3. CHECK RELEASE SWITCH POWER SUPPLY CIRCUIT

1. Connect ICC unit connector.
2. Turn ignition switch ON.
3. Check voltage between ICC unit harness connector and ground.

Terminals		Voltage (Approx.)
(+)	(-)	
ICC unit connector	Terminal	
B243	6	Ground
		10 V



OK or NG

- OK >> GO TO 4.
- NG >> 1. Replace ICC unit.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

4. CHECK RELEASE SWITCH

1. Turn ignition switch OFF.
2. Check release switch. Refer to [ACS-77, "Release Switch"](#).

OK or NG

- OK >> 1. Replace ICC unit.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NG >> Release switch malfunction
 1. Replace brake booster.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 65 PRESSURE CONTROL

NKS001KP

1. OPERATION CHECK

Check foot brake pedal operates normally.

OK or NG

- OK >> GO TO 2.
- NG >> 1. Check brake circuit.
2. After repairing, erase DTC and perform "ACTIVE TEST" (BOOSTER SOL/V3) with CONSULT-II. Then perform self-diagnosis of ICC system again.

2. CHECK BOOSTER SOLENOID

Check booster solenoid. Refer to [ACS-77, "Booster Solenoid"](#).

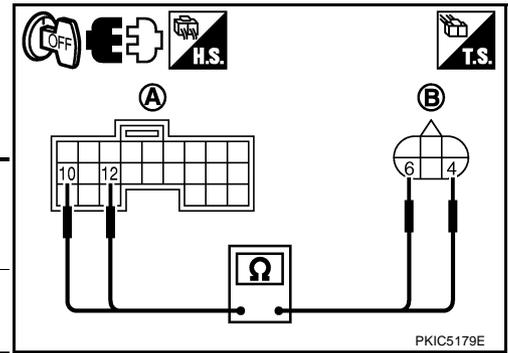
OK or NG

- OK >> GO TO 3.
- NG >> Booster solenoid malfunction
 1. Replace brake booster.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

3. CHECK HARNESS BETWEEN ICC UNIT AND BRAKE BOOSTER

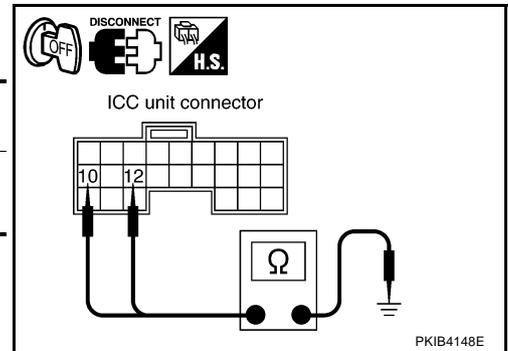
1. Turn ignition switch OFF.
2. Disconnect ICC unit connector and brake booster connector.
3. Check continuity between ICC unit harness connector (A) and brake booster harness connector (B).

A		B		Continuity
ICC unit connector	Terminal	Brake booster connector	Terminal	
B243	10	E81	4	Yes
	12		6	



4. Check continuity between ICC unit harness connector and ground.

ICC unit connector	Terminal	Ground	Continuity
B243	10		
	12		



OK or NG

- OK** >> 1. Replace ICC unit.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NG** >> 1. Repair harness between brake booster and ICC unit.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 74 LASER BEAM OFF CNTR

NKS001KQ

1. ADJUST LASER BEAM AIMING

1. Adjust laser beam aiming. Then erase DTC, and perform ICC system running test.
2. Perform self-diagnosis of ICC system.
3. Check if "DTC 74 LASER BEAM OFF CNTR" is indicated.

Is it indicated?

- YES** >> 1. Replace ICC sensor, and adjust laser beam aiming.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NO** >> INSPECTION END

DTC 90 STOP LAMP RLY FIX

NKS001KR

1. CHECK CONNECTOR FOR ICC UNIT

1. Turn ignition switch OFF.
2. Disconnect ICC unit connector, and connect it securely again.
3. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

Is malfunction indicated?

- YES** >> GO TO 2.
- NO** >> Poor connector connection
1. Check connector (Check connector housing for disconnected, loose, bent, and collapsed terminals. If any malfunction is detected, repair applicable part).
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

2. CHECK STOP LAMP SWITCH AND ICC BRAKE SWITCH

④ With CONSULT-II

With "ICC" "DATA MONITOR", check that "STOP LAMP SW" and "BRAKE SW" operate normally. Refer to [ACS-34, "DATA MONITOR"](#).

OK or NG

- OK >> GO TO 12.
- NG >> ● BRAKE SW: GO TO 3.
● STOP LAMP SW: GO TO 9.

3. CHECK BRAKE SWITCH INSTALLATION AND ADJUSTMENT

Check ICC brake switch for proper installation, and adjust the switch if necessary. Refer to [BR-6, "BRAKE PEDAL"](#).

OK or NG

- OK >> GO TO 4.
- NG >> After adjustment, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

4. CHECK ICC BRAKE SWITCH AND STOP LAMP SWITCH

Check ICC brake switch and stop lamp switch. Refer to [ACS-78, "ICC Brake Switch and Stop Lamp Switch"](#).

OK or NG

- OK >> GO TO 5.
- NG >> 1. Replace ICC brake switch.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

5. CHECK ICC BRAKE HOLD RELAY

1. Turn ignition switch OFF.
2. Disconnect ICC brake hold relay.
3. Check ICC brake hold relay. Refer to [ACS-78, "ICC BRAKE HOLD RELAY"](#).

OK or NG

- OK >> GO TO 6.
- NG >> 1. Replace ICC brake hold relay.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

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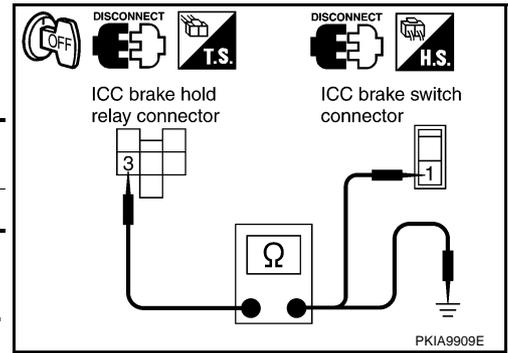
6. CHECK HARNESS BETWEEN ICC BRAKE HOLD RELAY AND ICC BRAKE SWITCH

1. Disconnect ICC brake switch connector and ICC unit connector.
2. Check continuity between ICC brake hold relay harness connector and ICC brake switch harness connector.

ICC brake hold relay connector	Terminal	ICC brake switch connector	Terminal	Continuity
E38	3	M404	1	Yes

3. Check continuity between ICC brake hold relay harness connector and ground.

ICC brake hold relay connector	Terminal	Ground	Continuity
E38	3		No



OK or NG

OK >> GO TO 7.

NG >> 1. Repair harness between ICC brake hold relay and ICC brake switch.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

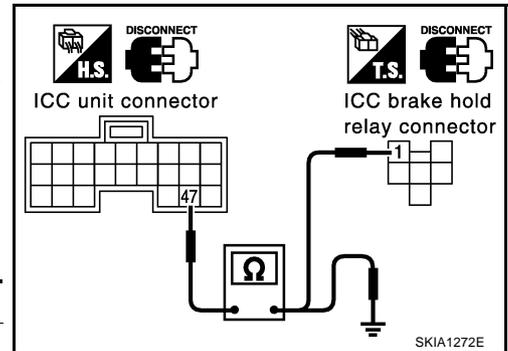
7. CHECK HARNESS BETWEEN ICC UNIT AND ICC BRAKE HOLD RELAY

1. Check continuity between ICC unit harness connector and ICC brake hold relay harness connector.

ICC unit connector	Terminal	ICC brake hold relay connector	Terminal	Continuity
B244	47	E38	1	Yes

2. Check continuity between ICC unit harness connector and ground.

ICC unit connector	Terminal	Ground	Continuity
B244	47		No



OK or NG

OK >> GO TO 8.

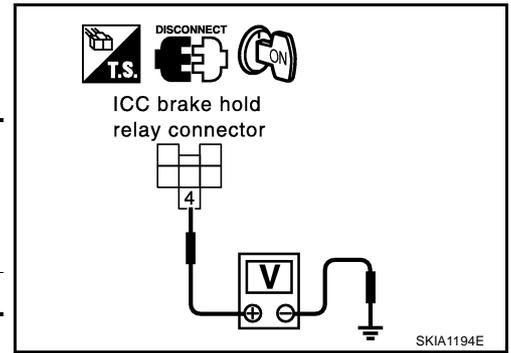
NG >> 1. Repair harness between ICC unit and ICC brake hold relay.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

8. CHECK ICC BRAKE HOLD RELAY POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between ICC brake hold relay harness connector and ground.

Terminals		Voltage (Approx.)
(+)	(-)	
ICC brake hold relay connector	Terminal	
E38	4	Battery voltage



OK or NG

- OK** >> 1. Replace ICC unit.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NG** >> 1. Repair or replace harness or fuse.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

9. CHECK BRAKE LAMP ILLUMINATION

1. Turn ignition switch OFF.
2. Disconnect ICC brake hold relay connector.
3. Check stop lamp circuit.

OK or NG

- OK** >> GO TO 10.
- NG** >> After repairing, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

10. CHECK ICC BRAKE HOLD RELAY CIRCUIT

1. Connect ICC brake hold relay connector.
2. Disconnect stop lamp switch connector.
3. When brake pedal is not depressed, make sure that stop lamp does not illuminate.

OK or NG

- OK** >> 1. Replace ICC unit.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NG** >> GO TO 11.

11. CHECK ICC BRAKE HOLD RELAY

1. Disconnect ICC brake hold relay.
2. Check ICC brake hold relay. Refer to [ACS-78, "ICC BRAKE HOLD RELAY"](#) .

OK or NG

- OK** >> 1. Replace ICC unit.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NG** >> 1. Replace ICC brake hold relay.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

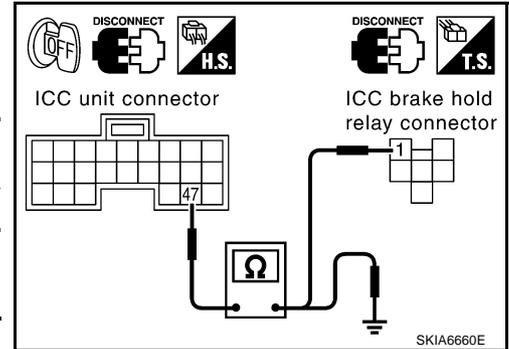
12. CHECK HARNESS BETWEEN ICC UNIT AND ICC BRAKE HOLD RELAY

1. Turn ignition switch OFF.
2. Disconnect ICC unit connector and ICC brake hold relay.
3. Check continuity between ICC unit harness connector and ICC brake hold relay harness connector.

ICC unit connector	Terminal	ICC brake hold relay connector	Terminal	Continuity
B244	47	E38	1	Yes

4. Check continuity between ICC unit harness connector and ground.

ICC unit connector	Terminal	Ground	Continuity
B244	47		No



OK or NG

OK >> GO TO 13.

NG >> 1. Repair harness between ICC unit and ICC brake hold relay.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

13. CHECK ICC BRAKE HOLD RELAY GROUND CIRCUIT

Check continuity between ICC brake hold relay harness connector and ground.

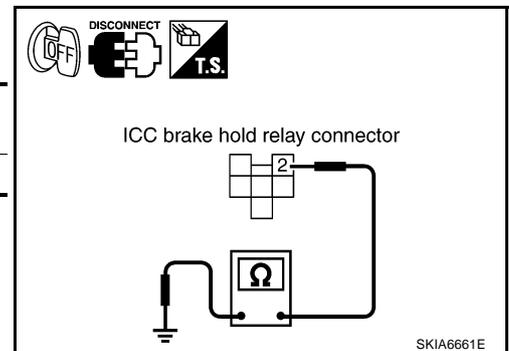
ICC brake hold relay connector	Terminal	Ground	Continuity
E38	2		Yes

OK or NG

OK >> GO TO 14.

NG >> 1. Repair harness between ICC brake hold relay and ground.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.



14. CHECK ICC BRAKE HOLD RELAY

Check ICC brake hold relay. Refer to [ACS-78, "ICC BRAKE HOLD RELAY"](#) .

OK or NG

OK >> GO TO 15.

NG >> 1. Replace ICC brake hold relay.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

15. CHECK ICC UNIT STANDARD VOLTAGE

With CONSULT-II

1. Connect ICC unit connector and stop lamp switch connector.
2. Perform "ACTIVE TEST" ("STOP LAMP": "STP LMP DRIVE ON") with CONSULT-II, and check voltage between ICC unit harness connector and ground.

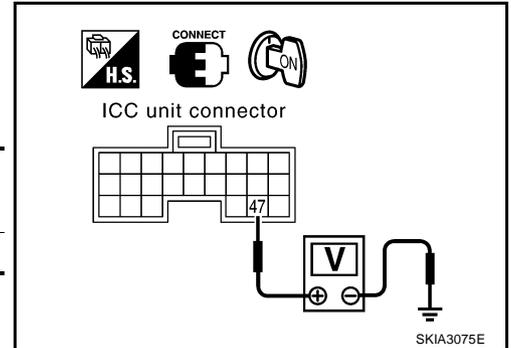
ICC unit connector	Terminal	(-)	Condition	Voltage (Approx.)
	(+)			
B244	47	Ground	During "ACTIVE TEST"	12 V

OK or NG

OK >> GO TO 16.

NG >> 1. Replace ICC unit.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.



16. CHECK ICC BRAKE HOLD RELAY POWER SUPPLY CIRCUIT

Check voltage between ICC brake hold relay harness connector and ground.

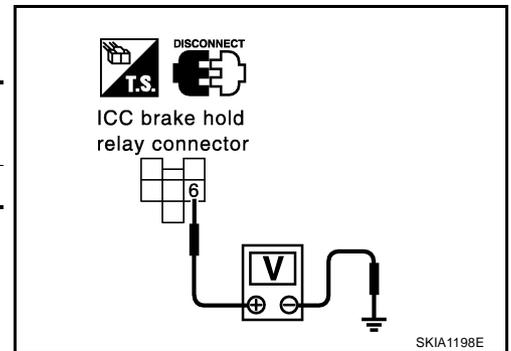
ICC brake hold relay connector	Terminal	(-)	Voltage (Approx.)
	(+)		
E38	6	Ground	Battery voltage

OK or NG

OK >> GO TO 17.

NG >> 1. Repair or replace harness or fuse.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.



17. CHECK HARNESS BETWEEN ICC UNIT AND ICC BRAKE HOLD RELAY

1. Disconnect ICC unit and ICC brake hold relay connector.
2. Check continuity between ICC unit harness connector and ICC brake hold relay harness connector.

ICC unit connector	Terminal	ICC brake hold relay connector	Terminal	Continuity
B244	38	E38	7	Yes

3. Check continuity between ICC unit harness connector and ground.

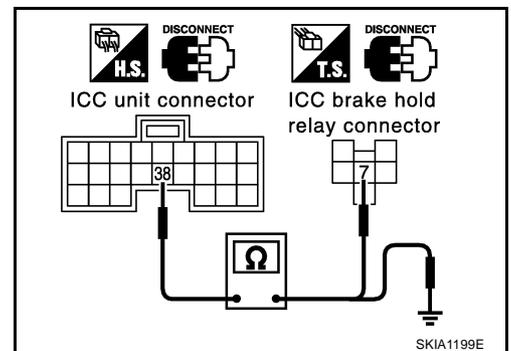
ICC unit connector	Terminal	Ground	Continuity
B244	38		No

OK or NG

OK >> GO TO 18.

NG >> 1. Repair harness between ICC unit and ICC brake hold relay.

2. Erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.



18. CHECK ICC BRAKE HOLD RELAY

With CONSULT-II

1. Connect ICC unit connector and ICC brake hold relay.
2. Disconnect stop lamp switch connector.
3. Perform "ACTIVE TEST" ("STOP LAMP") with CONSULT-II, and make sure that stop lamp is illuminated.

OK or NG

OK >> GO TO 19.

NG >> 1. Replace ICC brake hold relay.

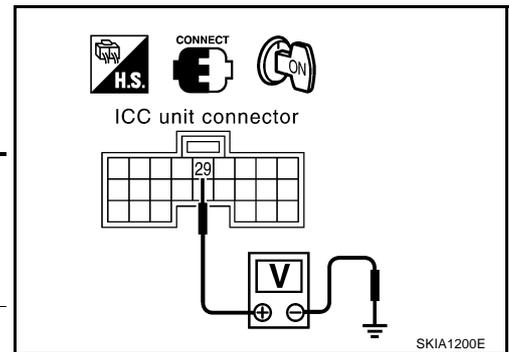
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

19. CHECK ICC UNIT STANDARD VOLTAGE

With CONSULT-II

1. Connect stop lamp switch connector.
2. Perform "ACTIVE TEST" ("STOP LAMP": "STP LMP DRIVE ON") with CONSULT-II, and check voltage between ICC unit harness connector and ground.

Terminals			Condition	Voltage (Approx.)
(+)		(-)		
ICC unit connector	Terminal			
B244	29	Ground	During "ACTIVE TEST"	0 V



OK or NG

OK >> 1. Replace ICC unit.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NG >> 1. Replace stop lamp switch.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 92 ECM CIRCUIT

NKS001KS

1. PERFORM ICC UNIT SELF-DIAGNOSIS

With CONSULT-II

1. Perform self-diagnosis.
2. Check if "DTC 20 CAN COMM CIRCUIT" other than "DTC 92 ECM CIRCUIT" is indicated in self-diagnosis item in the display.

Is it indicated?

YES >> 1. Repair or replace applicable item.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> GO TO 2.

2. PERFORM ECM SELF-DIAGNOSIS**④ With CONSULT-II**

1. Perform ECM self-diagnosis.
2. Check if malfunction is indicated.

Is malfunction indicated?

- YES >> 1. Repair or replace applicable item.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NO >> 1. Replace ICC unit.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 96 NP RANGE

NKS001KT

1. CHECK CONNECTOR FOR ICC UNIT

1. Turn ignition switch OFF.
2. Disconnect ICC unit connector, and connect it securely again.
3. Erase DTC and then perform ICC system running test. Then perform self-diagnosis of ICC system again.

Is malfunction indicated?

- YES >> GO TO 2.
- NO >> Poor connector connection
1. Check connector. (Check connector housing for disconnected, loose, bent, and collapsed terminals. If any malfunction is detected, repair applicable part.)
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

2. CHECK NP RANGE SWITCH SIGNAL**④ With CONSULT-II**

With "ICC" "DATA MONITOR", check if "NP RANGE SW" operates normally. Refer to [ACS-34, "DATA MONITOR"](#).

OK or NG

- OK >> GO TO 5.
- NG >> GO TO 3.

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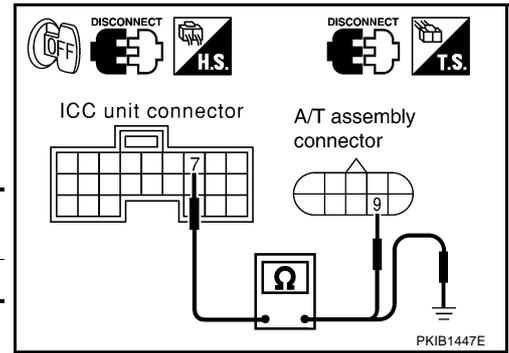
3. CHECK HARNESS BETWEEN ICC UNIT AND A/T ASSEMBLY

1. Turn ignition switch OFF.
2. Disconnect ICC unit harness connector and A/T assembly harness connector.
3. Check continuity between ICC unit harness connector and A/T assembly harness connector.

ICC unit connector	Terminal	A/T assembly connector	Terminal	Continuity
B243	7	F26	9	Yes

4. Check continuity between ICC unit harness connector and ground.

ICC unit connector	Terminal	Ground	Continuity
B243	7		No



OK or NG

OK >> GO TO 4.

NG >> 1. Repair harness between ICC unit and A/T assembly.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

4. CHECK TCM START SIGNAL CIRCUIT

Check TCM start signal. Refer to [AT-102, "DTC P0615 START SIGNAL CIRCUIT"](#) .

OK or NG

OK >> 1. Replace ICC unit.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NG >> 1. Repair or replace damaged parts.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

5. CHECK SHIFT POSITION SIGNAL

Ⓜ With CONSULT-II

With TCM diagnosis, check if shift operates normally. Refer to [AT-107, "DTC P0705 PARK/NEUTRAL POSITION SWITCH"](#) .

OK or NG

OK >> 1. Replace ICC unit.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NG >> 1. Perform TCM self-diagnosis.

2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 97 AT CIRCUIT

NKS001KU

1. CHECK A/T CIRCUIT

Ⓟ With CONSULT-II

With TCM diagnosis, check if shift operates normally. Refer to [AT-107, "DTC P0705 PARK/NEUTRAL POSITION SWITCH"](#).

OK or NG

- OK >> 1. Replace ICC unit.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NG >> 1. Perform TCM self-diagnosis.
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 98 GEAR POSITION

NKS001KV

1. PERFORM ICC UNIT SELF-DIAGNOSIS

Ⓟ With CONSULT-II

1. Perform self-diagnosis.
2. Check if "DTC 43 ABS/TCS/VDC CIRC" or "DTC 41 VHCL SPEED SE CIRC" other than "DTC 98 GEAR POSITION" is indicated in self-diagnosis item in the display.

Is any indicated?

- YES >> 1. Repair or replace applicable item.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NO >> GO TO 2.

2. CHECK VEHICLE SPEED SIGNAL

Ⓟ With CONSULT-II

With "ICC" "DATA MONITOR", check if "VHCL SPEED SE" is normal.

OK or NG

- OK >> GO TO 3.
- NG >> 1. Replace ICC unit.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

3. CHECK SHIFT GEAR POSITION

Check that gear positions are correct in A/T.

OK or NG

- OK >> GO TO 5.
- NG >> GO TO 4.

4. CHECK TCM GEAR POSITION SIGNAL

Ⓟ With CONSULT-II

With TCM "DATA MONITOR" with CONSULT-II, check if gear positions are correct.

OK or NG

- OK >> 1. Replace ICC unit.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NG >> 1. Perform TCM self-diagnosis.
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

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5. CHECK TCM TURBINE ROTATION

With CONSULT-II

With TCM diagnosis, check if turbine rpm is normal. Refer to [AT-111, "DTC P0717 TURBINE REVOLUTION SENSOR"](#) .

OK or NG

- OK >> 1. Replace ICC unit.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NG >> 1. Perform TCM self-diagnosis.
 2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 102 RADAR STAIN

NKS001KW

1. VISUAL INSPECTION 1

Check if there is no contamination and foreign material on ICC sensor body window.

OK or NG

- OK >> GO TO 2.
- NG >> 1. If any, remove them.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

2. VISUAL INSPECTION 2

Check ICC sensor body window for cracks.

OK or NG

- OK >> GO TO 3.
- NG >> 1. Replace ICC sensor, and adjust laser beam aiming.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

3. ASKING COMPLAINTS

1. Ask if there is any trace of contamination or foreign material on ICC sensor.
2. Ask if vehicle was driven in snow or ICC sensor was frosted.
3. Ask if ICC sensor was fogged temporarily. (Front window glass may have also tended to be fogged.)

Is there any symptom?

- YES >> Explain difference in displays between contamination detection result and current indication to customer, and tell them "This is not malfunction".
- NO >> 1. Replace ICC sensor, and adjust laser beam aiming.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 103 LASER SENSOR FAIL

NKS001KX

1. PERFORM ICC UNIT SELF-DIAGNOSIS

1. Perform self-diagnosis.
2. Check if "DTC 11 CONTROL UNIT" or "DTC 20 CAN COMM CIRCUIT" item other than "DTC 103 LASER SENSOR FAIL" is indicated in self-diagnosis item in the display.

Is any indicated?

- YES >> GO TO APPLICABLE ITEM INSPECTION. Refer to [ACS-44, "DTC 11 CONTROL UNIT"](#) , and [ACS-45, "DTC 20 CAN COMM CIRCUIT"](#) .
- NO >> 1. Replace ICC sensor, and adjust laser beam aiming.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

TROUBLE DIAGNOSIS FOR SYMPTOMS

[ICC]

TROUBLE DIAGNOSIS FOR SYMPTOMS

PFP:00007

Symptom Chart

NKS001L1

	Symptoms	Reference page
Operation	MAIN switch does not turn ON.	Symptom 1 ACS-69
	MAIN switch does not turn OFF.	Symptom 1 ACS-69
	Cruise does not function for setting (powering functions).	Symptom 2 ACS-69
	CANCEL switch does not function.	Symptom 3 ACS-70
	Resume does not function.	Symptom 3 ACS-70
	Set speed does not increase.	Symptom 3 ACS-70
	Set distance to the vehicle ahead cannot be changed.	Symptom 3 ACS-70
	ICC is not cancelled when the A/T selector lever is in other than "D" and "M" position.	Symptom 4 ACS-71
Display/Chime	ICC system display does not appear.	Check combination meter. Refer to DI-22, "ICC System Display Does Not Illuminate" .
	Chime does not sound.	Symptom 5 ACS-71
	Chime does not stop.	Symptom 6 ACS-75
Control	Driving force is hunting.	Symptom 7 ACS-75
Function to detect the vehicle ahead	System frequently cannot detect the vehicle ahead.	Symptom 8 ACS-75
	Distance to detect the vehicle ahead is short.	Symptom 8 ACS-75
	System misidentifies a vehicle even though there is no vehicle ahead.	<ul style="list-style-type: none"> ● Refer to ACS-14, "LASER BEAM AIMING ADJUSTMENT" . ● Refer to ACS-11, "ICC System Running Test" .
	System misidentifies a vehicle in the next lane.	<ul style="list-style-type: none"> ● Refer to ACS-14, "LASER BEAM AIMING ADJUSTMENT" . ● Refer to ACS-11, "ICC System Running Test" .
	System does not detect a vehicle at all.	Symptom 9 ACS-76

Symptom 1: MAIN Switch Does Not Turn ON*1 , MAIN Switch Does Not Turn OFF*2

NKS001L2

NOTE:

- *1: The ICC system display in the combination meter does not illuminate.
- *2: The ICC system display in the combination meter remains powered.

1. CHECK MAIN SWITCH

Ⓟ With CONSULT-II

With "ICC" "DATA MONITOR", check if "MAIN SW" operates normally.

OK or NG

- OK >> GO TO 2.
- NG >> GO TO 3.

2. CHECK CONNECTOR FOR ICC UNIT

1. Turn ignition switch OFF.
2. Disconnect ICC unit connector.
3. Check connector housing for disconnected, loose, bent, and collapsed terminals.

OK or NG

- OK >> GO TO 3.
- NG >> Poor connector connection
 1. Repair ICC unit connector.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

3. PERFORM ICC UNIT SELF-DIAGNOSIS

Ⓟ With CONSULT-II

1. Perform self-diagnosis with CONSULT-II.
2. Check if "DTC 20 CAN COMM CIRCUIT" is indicated.

Is it indicated?

- YES >> Refer to [ACS-45, "DTC 20 CAN COMM CIRCUIT"](#).
- NO >> Refer to [ACS-49, "DTC 46 OPERATION SW CIRC"](#).

Symptom 2: ICC System Cannot Be Set (MAIN Switch Turns ON/OFF)

NKS001L3

The ICC cannot be set in the following cases.

- When the vehicle speed is not in range of approx. 40 km/h (25 MPH) to 144 km/h (90 MPH).
- When the A/T selector lever is in "N" position.
- While the brake is in operation.

1. CHECK CAUSE OF AUTOMATIC CANCELLATION

Ⓟ With CONSULT-II

With "CAUSE OF AUTO-CANCEL" in "WORK SUPPORT", check if any cause of cancellation exists.

OK or NG

- OK >> Cancel with appropriate cause, and go to specified diagnosis.
 - "OPE SW VOLT CIRC": Refer to [ACS-49, "DTC 46 OPERATION SW CIRC"](#).
 - "VHCL SPD UNMATCH": Refer to [ACS-46, "DTC 41 VHCL SPEED SE CIRC"](#).
 - "IGN LOW VOLT": Refer to [ACS-45, "DTC 31 POWER SUPPLY CIR, DTC 34 POWER SUPPLY CIR 2"](#).
- NG >> GO TO 2.

2. PERFORM ICC UNIT SELF-DIAGNOSIS

④ With CONSULT-II

Perform self-diagnosis to check for malfunctioning items.

OK or NG

OK >> GO TO 3.

NG >> 1. Repair or replace applicable item.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

3. CHECK SWITCHES AND VEHICLE SPEED SIGNAL

④ With CONSULT-II

With "ICC" "DATA MONITOR", check if switches and vehicle speed signal operate normally. Refer to [ACS-34, "DATA MONITOR"](#).

- VHCL SPEED SE
- D RANGE SW
- BRAKE SW
- SET/COAST SW

OK or NG

OK >> 1. Replace ICC unit.

2. Erase DTC and Perform ICC system running test. Then perform self-diagnosis of ICC system again.

NG >> ● VHCL SPEED SE. Refer to [ACS-46, "DTC 41 VHCL SPEED SE CIRC"](#).

● D RANGE SW. Refer to [ACS-71, "Symptom 4: ICC System Is Not Cancelled When the A/T Selector Lever Is in Other Than "D" and "M" Position"](#).

● BRAKE SW. Refer to [ACS-47, "DTC 45 BRAKE SW/STOP L SW"](#).

● SET/COAST SW. Refer to [ACS-49, "DTC 46 OPERATION SW CIRC"](#).

Symptom 3: ICC System Cannot Be Operated by CANCEL Switch, RESUME/ACCELERATE Switch or DISTANCE Switch

NKS001L4

RESUME does not function in the following cases.

- When MAIN switch is turned off once.
- When the vehicle speed is less than 40 km/h (25 MPH).

1. CHECK SWITCHES

④ With CONSULT-II

With "ICC" "DATA MONITOR", check if switches operate normally.

"RESUME/ACC SW", "CANCEL SW", "DISTANCE ADJ". Refer to [ACS-34, "DATA MONITOR"](#).

OK or NG

OK >> 1. Replace ICC unit.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NG >> GO TO 2.

2. PERFORM ICC UNIT SELF-DIAGNOSIS

④ With CONSULT-II

1. Perform self-diagnosis.

2. Check if "DTC 20 CAN COMM CIRCUIT" is indicated.

Is it indicated?

YES >> Refer to [ACS-45, "DTC 20 CAN COMM CIRCUIT"](#).

NO >> Refer to [ACS-49, "DTC 46 OPERATION SW CIRC"](#).

Symptom 4: ICC System Is Not Cancelled When the A/T Selector Lever Is in Other Than "D" and "M" Position

NKS001L5

A

1. CHECK D RANGE SWITCH

B

Ⓟ With CONSULT-II

With "ICC" "DATA MONITOR", check if "D RANGE SW" and "NP RANGE SW" operates normally. Refer to [ACS-34, "DATA MONITOR"](#).

OK or NG

C

OK >> 1. Replace ICC unit.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

D

NG >> GO TO 2.

2. PERFORM ICC UNIT SELF-DIAGNOSIS

E

Ⓟ With CONSULT-II

1. Perform self-diagnosis.

2. Check if "DTC 20 CAN COMM CIRCUIT" is indicated.

F

Is it indicated?

YES >> Refer to [ACS-45, "DTC 20 CAN COMM CIRCUIT"](#).

G

NO >> GO TO 3.

3. CHECK D RANGE SWITCH

H

Ⓟ With CONSULT-II

With TCM "DATA MONITOR", check if "D" position switch operates normally.

OK or NG

I

OK >> 1. Replace ICC unit.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

J

NG >> 1. Repair or replace applicable item.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

ACS

Symptom 5: Chime Does Not Sound

NKS001L6

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The chime may not sound occasionally in the following cases even if the distance from the vehicle ahead is short:

- When the speed difference from that of the vehicle ahead is small (both vehicles driving at similar speed).
- When the vehicle ahead drives at faster speed (the actual distance is increasing).
- When depressing the accelerator.
- Chime does not sound when the vehicle is not driving.
- Chime does not sound when the system does not detect any vehicle ahead. (Diagnose the conditions under which the system is detecting the vehicle ahead and when the system is malfunctioning. If there is any malfunction in detecting the vehicle ahead, check the system following; [ACS-75, "Symptom 8: ICC System Frequently Cannot Detect the Vehicle Ahead/ Detection Zone Is Short"](#).)

M

1. CHECK ICC WARNING CHIME

Ⓟ With CONSULT-II

With "ACTIVE TEST", check if ICC warning chime operates normally.

OK or NG

OK >> Determine preceding vehicle detection status when malfunction occurred. If chime should have sounded: after replacing ICC unit, erase DTC. Perform ICC system running test, and then perform self-diagnosis of ICC system again.

NG >> GO TO 2

2. CHECK ICC UNIT AND ICC WARNING CHIME CONNECTORS

1. Turn ignition switch OFF.
2. Disconnect ICC unit connector and ICC warning chime connector.
3. Check connector housing for disconnected, loose, bent, and collapsed terminals.

OK or NG

OK >> GO TO 3.

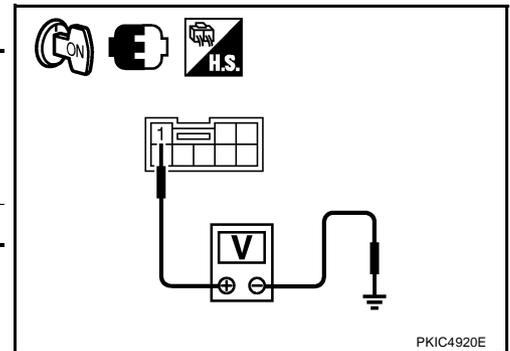
NG >> Poor connector connection

1. Repair terminal and connector.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

3. CHECK ICC WARNING CHIME SIGNAL

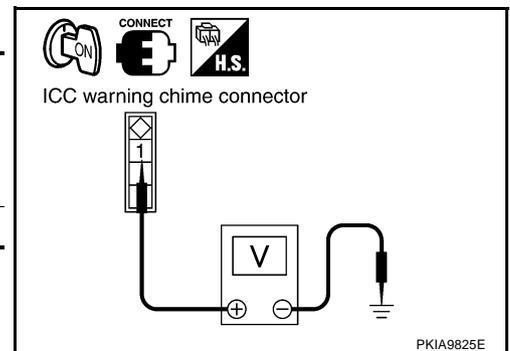
1. Connect ICC unit connector and ICC warning chime connector.
 2. Turn ignition switch ON.
 3. Check voltage between ICC warning chime harness connector and ground.
- With LDW models

Terminals		(-)	Voltage (Approx.)
(+)			
ICC warning chime connector	Terminal		
M22	1	Ground	Battery voltage



- Without LDW models

Terminals		(-)	Voltage (Approx.)
(+)			
ICC warning chime connector	Terminal		
M37	1	Ground	Battery voltage



OK or NG

OK >> GO TO 4.

NG >> 1. Repair or replace harness or fuse.

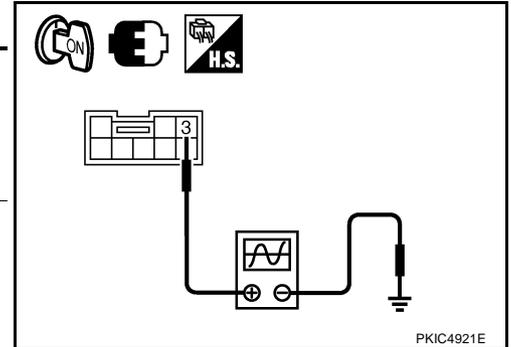
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

4. CHECK ICC WARNING CHIME SIGNAL

With CONSULT-II

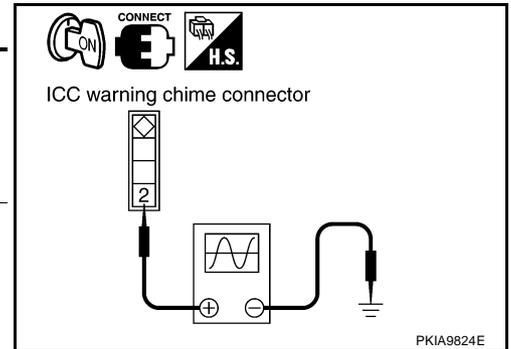
1. Select "ICC BUZZER 1" on "ACTIVE TEST" with CONSULT-II.
2. Check voltage signal between ICC warning chime harness connector and ground.
 - With LDW models

Terminals		(-)	Voltage (Approx.)
(+)			
ICC warning chime connector	Terminal		
M22	3	Ground	



- Without LDW models

Terminals		(-)	Voltage (Approx.)
(+)			
ICC warning chime connector	Terminal		
M37	2	Ground	



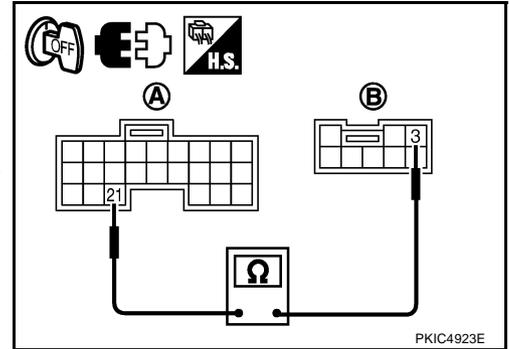
OK or NG

- OK >> 1. Replace ICC warning chime.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NG-1 >> In the case of 12 V: GO TO 5.
- NG-2 >> In the case of 0 V:
 1. Replace ICC warning chime.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

5. CHECK HARNESS BETWEEN ICC UNIT AND ICC WARNING CHIME

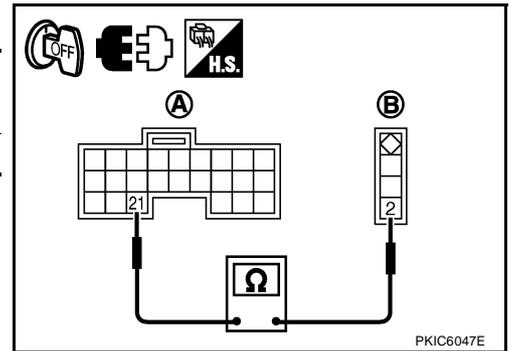
1. Turn ignition switch OFF.
2. Disconnect ICC unit connector and ICC warning chime connector.
3. Check continuity between ICC unit harness connector (A) and ICC warning chime harness connector (B).
 - With LDW models

A		B		Continuity
Connector	Terminal	Connector	Terminal	
B243	21	M22	3	Yes



- Without LDW models

A		B		Continuity
Connector	Terminal	Connector	Terminal	
B243	21	M37	2	Yes



OK or NG

- OK-1 >> With LDW models: GO TO 6
- OK-2 >> Without LDW models

1. Replace ICC warning chime.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

- NG >> 1. Repair harness between ICC unit and ICC warning chime.
- 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

6. CHECK ICC WARNING CHIME GROUND CIRCUIT

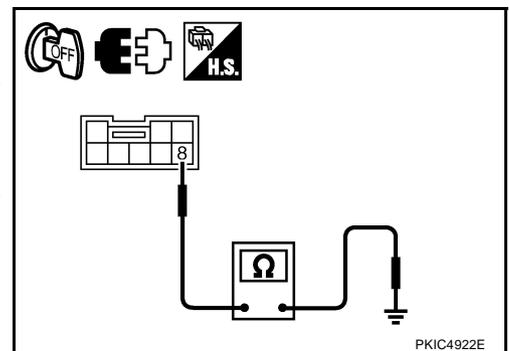
Check continuity between ICC warning chime harness connector and ground.

ICC warning chime connector	Terminal	Ground	Continuity
M22	8		No

OK or NG

- OK >> 1. Replace ICC warning chime.
- 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

- NG >> 1. Repair harness between ICC warning chime and ground.
- 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.



Symptom 6: Chime Does Not Stop

1. CHECK ICC WARNING CHIME CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect ICC unit connector.
3. Turn ignition switch ON.

Does chime sound?

- YES >> GO TO 2.
 NO >> 1. Replace ICC unit.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

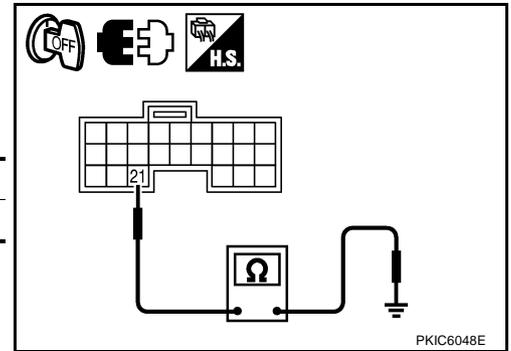
2. CHECK HARNESS BETWEEN ICC UNIT AND ICC WARNING CHIME

1. Turn ignition switch OFF.
2. Disconnect ICC warning chime connector.
3. Check continuity between ICC unit harness connector and ground.

ICC unit connector	Terminal	Ground	Continuity
B243	21		No

OK or NG

- OK >> 1. Replace ICC warning chime.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
 NG >> 1. Repair harness between ICC unit and ICC warning chime.
 2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.



Symptom 7: Driving Force Is Hunting

1. PERFORM ECM SELF-DIAGNOSIS

Perform ECM self-diagnosis.

OK or NG

- OK >>> Refer to [ACS-75, "Symptom 8: ICC System Frequently Cannot Detect the Vehicle Ahead/ Detection Zone Is Short"](#) .
 NG >>> After repairing applicable parts, erase DTC. Perform ICC system running test, and then perform self-diagnosis of ICC system again.

Symptom 8: ICC System Frequently Cannot Detect the Vehicle Ahead/ Detection Zone Is Short

The detection function may become unstable in the following cases

- When the reflector of the vehicle ahead is deficient/ not clean enough to reflect the radar.
- When driving a road with extremely sharp corners.
- When the radar cannot detect the reflector of the vehicle ahead as the vehicle ahead is passing a hill or passing the peak.

1. VISUAL CHECK

Check ICC sensor body window for contamination and foreign materials.

Is it found?

- YES >> If any contamination or foreign materials are found, remove them. Then perform ICC system running test.
 NO >> GO TO 2.

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2. ADJUST LASER BEAM AIMING

1. Adjust laser beam aiming.
2. Perform ICC system running test. Check if preceding vehicle detection performance has been improved.

Is it improved?

YES >> INSPECTION END

NO >> 1. Replace ICC sensor, and perform laser beam aiming adjustment. [ACS-14, "LASER BEAM AIMING ADJUSTMENT"](#)

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again. [ACS-11, "ICC System Running Test"](#)

Symptom 9: The System Does Not Detect the Vehicle Ahead at All

NKS001LA

1. VISUAL CHECK 1

With ignition switch turned ON (engine not started), check if all indicator lamps in ICC system display are continuously lit. (Check for a missing segment in preceding vehicle detection display.)

OK or NG

OK >> GO TO 2.

NG >> Check for combination meter. Refer to [DI-22, "ICC System Display Does Not Illuminate"](#).

2. VISUAL CHECK 2

Check ICC sensor body window for contamination and foreign materials.

Is it found?

OK >> If any contamination or foreign materials are found, remove them. Perform ICC system running test.

NG >> GO TO 3.

3. VISUAL CHECK 3

Check ICC sensor body window for cracks and scratches.

Is it found?

YES >> 1. Replace ICC sensor, and perform laser beam aiming adjustment.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> GO TO 4.

4. ADJUST LASER BEAM AIMING

1. Adjust laser beam aiming.
2. Perform ICC system running test. Check if preceding vehicle detection performance has been improved.

Is it improved?

YES >> INSPECTION END

NO >> 1. Replace ICC sensor, and perform laser beam aiming adjustment.

2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

ELECTRICAL COMPONENT INSPECTION

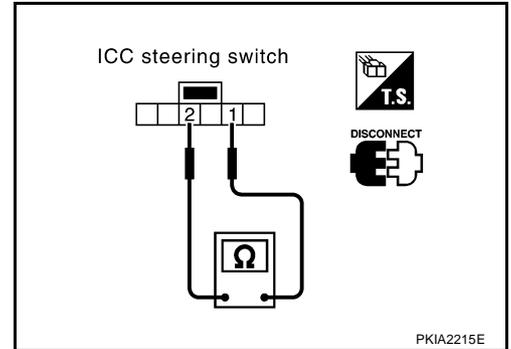
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ICC Steering Switch

NKS001LB

1. Remove ICC steering switch.
2. Check resistance between ICC steering switch terminals by pressing each switch.

Terminals		Switch	Condition	Resistance [kΩ]
1	2	MAIN	Pressed	Approx. 0
			Released	Approx. 5.5
		DISTANCE	Pressed	Approx. 0.7
			Released	Approx. 5.5
		RESUME/ACCELERATE	Pressed	Approx. 2.6
			Released	Approx. 5.5
		SET/COAST	Pressed	Approx. 1.4
			Released	Approx. 5.5
		CANCEL	Pressed	Approx. 0.3
			Released	Approx. 5.5

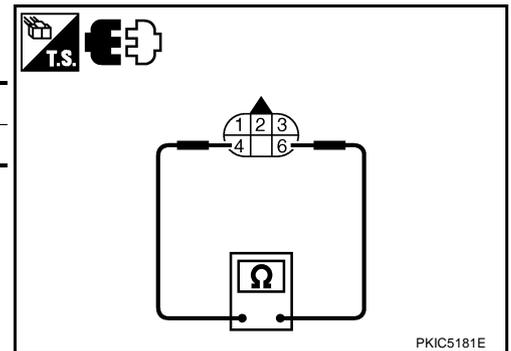


Booster Solenoid

NKS001LD

Disconnect brake booster connector, and check resistance between terminals.

Terminals		Resistance [Ω]
4	6	Approx. 1.4



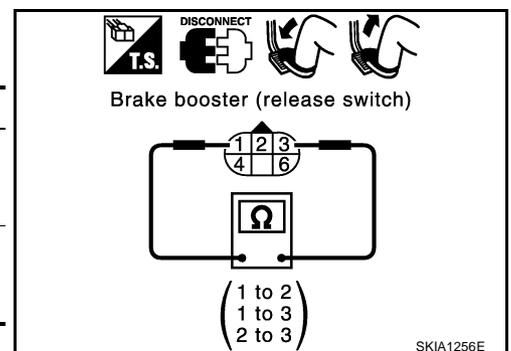
Release Switch

NKS001LE

Disconnect brake booster connector and check resistance between terminals.

Condition	1 - 3	1 - 2	2 - 3
Release the brake pedal.	Continuity should exist.	Continuity should not exist.	Continuity should not exist.
Depress the brake pedal.	Continuity should not exist. (Note)	Continuity should exist. (Note)	Continuity should not exist.

(Note): However, if pedal is depressed insufficiently, resistance value may remain unchanged.



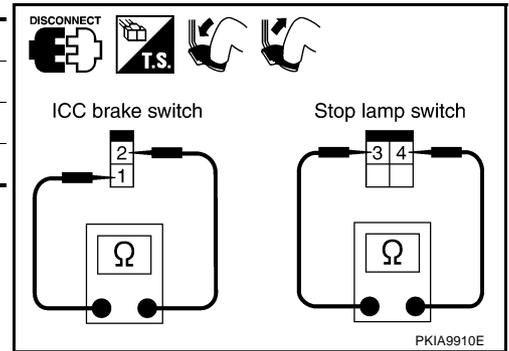
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ICC Brake Switch and Stop Lamp Switch

NKS001LC

Condition	Continuity	
	ICC brake switch	Stop lamp switch
When brake pedal is depressed	No	Yes
When brake pedal is released	Yes	No

Check each switch after adjusting brake pedal, refer to BR-6, "BRAKE PEDAL" .



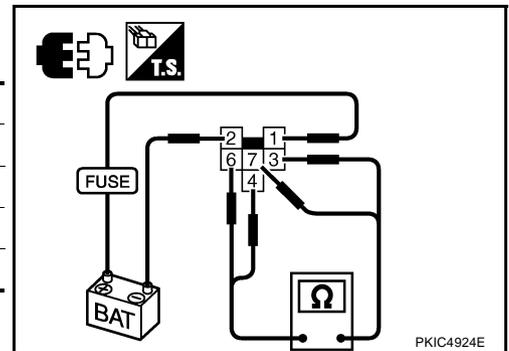
PKIA9910E

ICC BRAKE HOLD RELAY

NKS002KK

Disconnect ICC brake hold relay, and check resistance between terminals.

Terminals		Condition	Continuity
3	4	Applying battery voltage to between terminals 1 and 2.	No
6	7		Yes
3	4	No battery voltage	Yes
6	7		No



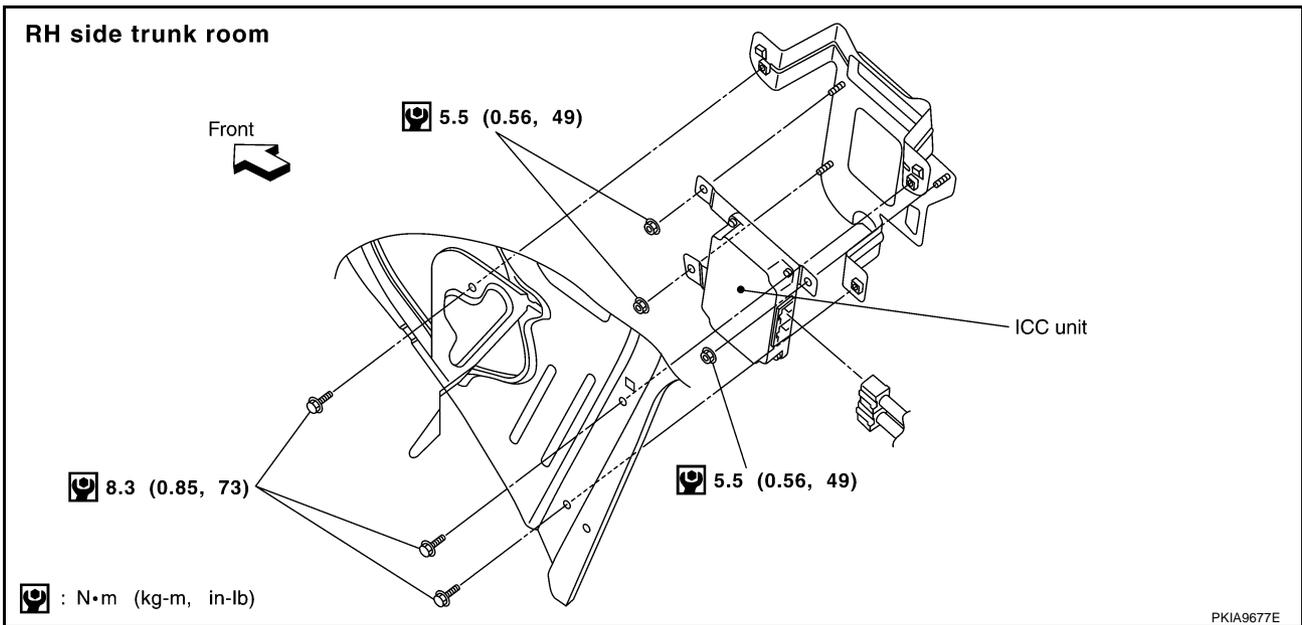
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REMOVAL AND INSTALLATION

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ICC Unit

NKS001LF



REMOVAL

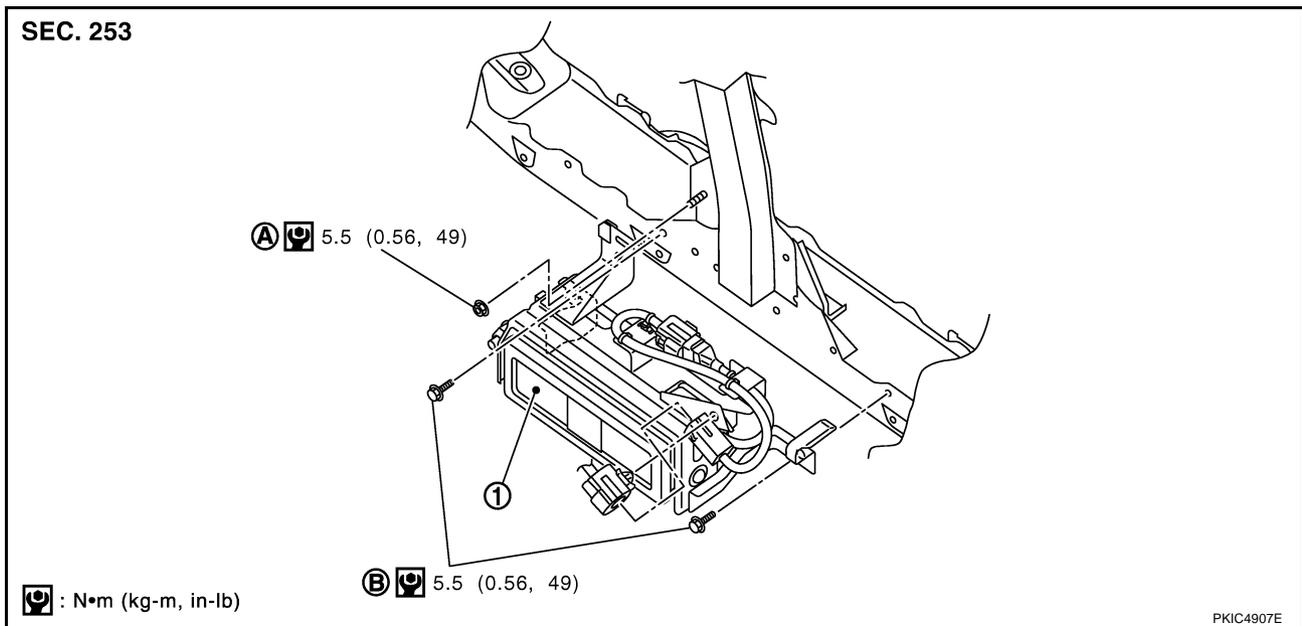
1. Remove the trunk side finisher (right). Refer to [EI-60, "TRUNK ROOM TRIM & TRUNK LID FINISHER"](#)
2. Disconnect ICC unit connector.
3. Remove mounting bolts from ICC unit assembly.

INSTALLATION

Installation is the reverse order of removal.

ICC Sensor

NKS001LG



1. ICC sensor

REMOVAL

1. Remove the front bumper. Refer to [EI-14, "FRONT BUMPER"](#)
2. Disconnect ICC sensor connector.
3. Remove mounting bolts and a nut from ICC sensor.

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INSTALLATION

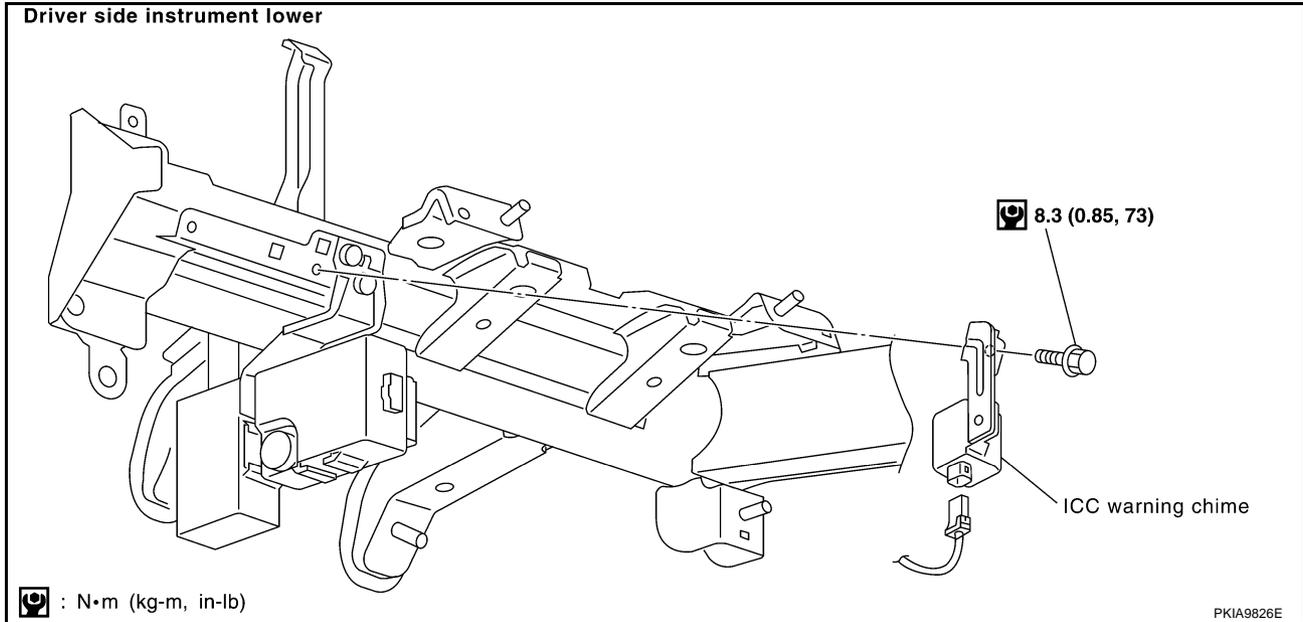
Installation is the reverse order of removal.

CAUTION:

Adjust the laser beam aiming every time the ICC sensor is removed or installed.

ICC Warning Chime (Without LDW models)

NKS001LH



REMOVAL

1. Remove instrument lower driver panel. Refer to [IP-10, "INSTRUMENT PANEL ASSEMBLY"](#)
2. Disconnect ICC warning chime connector.
3. Remove mounting bolt from ICC warning chime.

INSTALLATION

Installation is the reverse order of removal.

ICC Warning Chime (With LDW models) REMOVAL AND INSTALLATION

NKS002KJ

Refer to [DI-100, "Removal and Installation for LDW Chime"](#) .

ICC Steering Switch REMOVAL AND INSTALLATION

NKS001LI

Refer to [SRS-40, "DRIVER AIR BAG MODULE"](#) .