

# SECTION ACS

## AUTO CRUISE CONTROL SYSTEM

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**PRECAUTIONS**

PFP:00001

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

EKS004FC

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

**WARNING:**

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

**Precautions for ICC System Service**

EKS004FD

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

**Wiring Diagrams and Trouble Diagnosis**

EKS004FE

When you read wiring diagrams, refer to the followings:

- Refer to [GI-14, "How to Read Wiring Diagrams"](#) in GI section
- Refer to [PG-3, "POWER SUPPLY ROUTING"](#) for power distribution circuit in PG section

When you perform trouble diagnosis, refer to the followings:

- Refer to [GI-11, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES"](#) in GI section
- Refer to [GI-24, "How to Perform Efficient Diagnosis for an Electrical Incident"](#) in GI section

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# PREPARATION


[ICC]

## PREPARATION

PFP:00002

### Special Service Tool

EKS004FF

Tool number Tool name	Description
KV99110100 ICC target board 	Laser beam aiming adjustment

DESCRIPTION

PDF:00000

Outline

EKS004FG

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.

With ICC, the same speed as other vehicles can be maintained without the constant need to adjust the operating speed as with a normal cruise control system.

The system is intended to enhance the operation of the vehicle when following another vehicle 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.

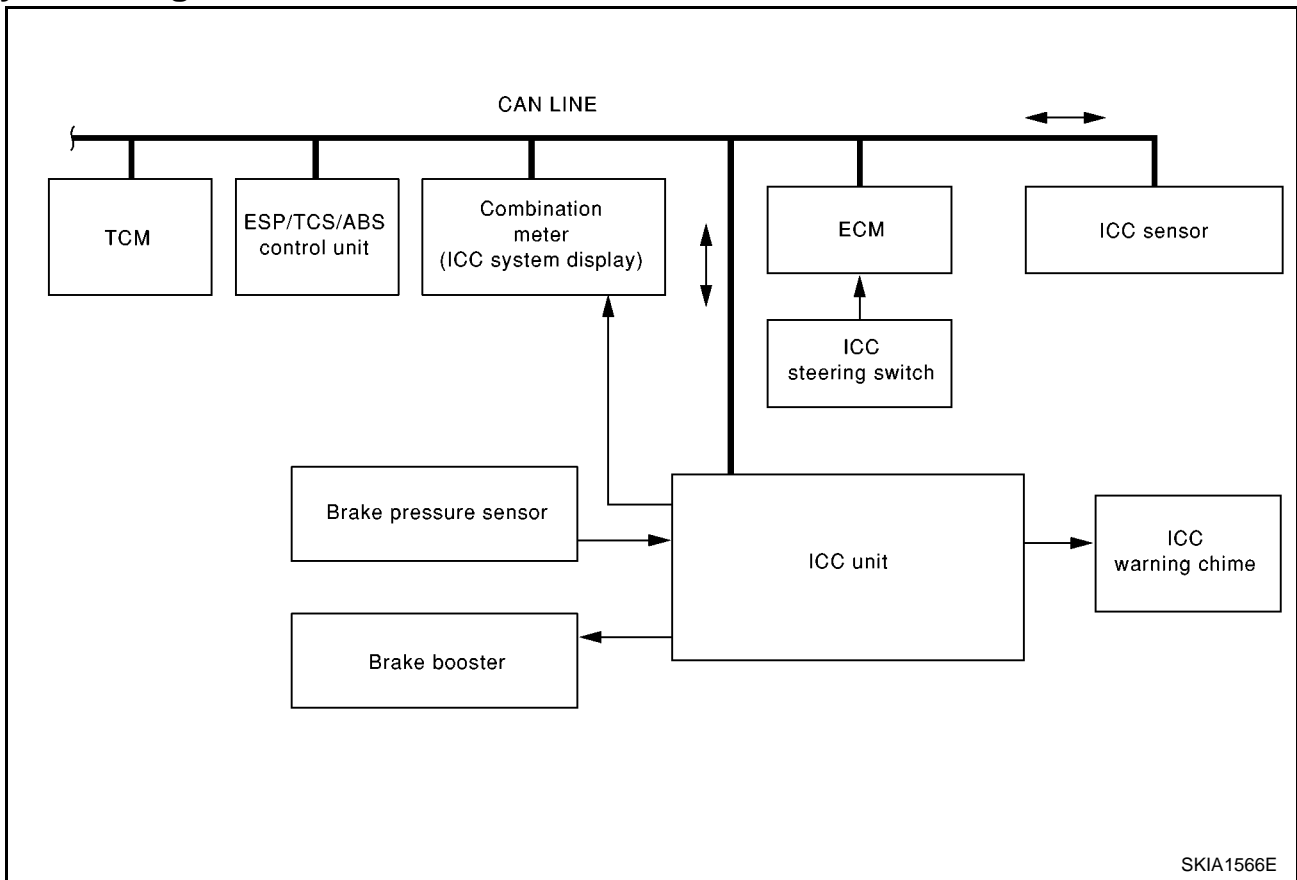
The system automatically controls the throttle and applies the brakes (up to 25% of vehicle braking power) if necessary.

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

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

System Diagram

EKS004FH



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Components Description

EKS004FI

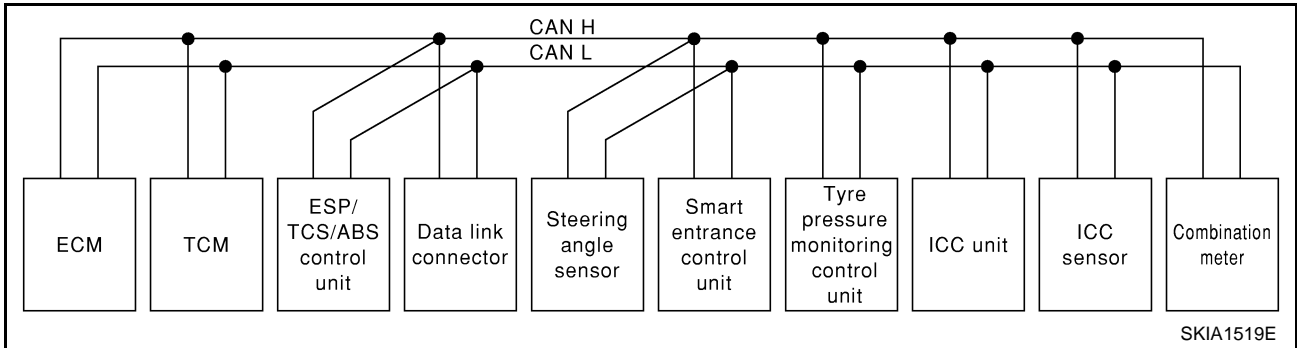
Component	Description
ICC unit	Operates throttle control actuator and brake booster based on that sensor signals and CAN communication data, then controls vehicle distance.
ICC sensor	Irradiate laser beam, and receives reflected laser beam to measure distance from preceding vehicle.
ECM	Transmits throttle position signal and ICC steering switch signal to ICC unit.
ESP/TCS/ABS control unit	Transmits wheel speed signal to ICC unit.
Brake pressure sensor	Detects fluid pressure in master cylinder.
Brake booster	Adjusts brake fluid pressure, based on command from ICC unit.

**CAN Communication**

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 FOR LHD MODELS WITH TYRE PRESSURE MONITORING SYSTEM**

**System diagram**



**Input/output signal chart**

T: Transmit R: Receive

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

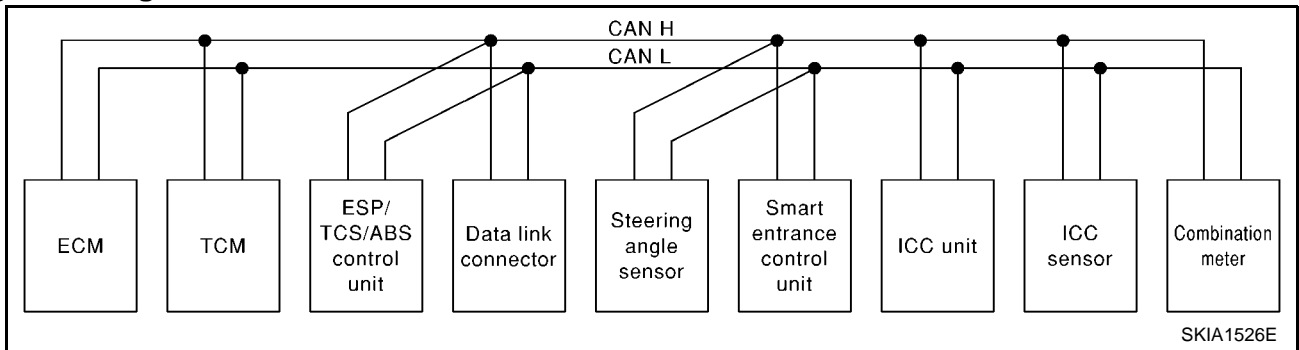
# DESCRIPTION

[ICC]

Signals	ECM	TCM	ESP/ TCS / ABS control unit	Steer- ing angle sensor	Smart entranc e control unit	Tyre pressure monit- oring control unit	ICC unit	ICC sensor	Combi- nation meter
MI signal	T								R
Current gear position signal		T							R
Engine coolant temperature signal	T						R		R
Fuel consumption signal	T								R
Vehicle speed signal			T						R
	R								T
Seat belt reminder signal					R				T
Headlamp switch signal					T				R
Flashing indicator signal					T				R
Engine cooling fan speed signal	T				R				
Child lock indicator signal					T				R
Door switches state signal					T				R
Key ID signal	R				T				
	T				R				
A/C compressor signal	T				R				
Tire pressure signal						T			R

## CAN COMMUNICATION UNIT FOR LHD MODELS WITHOUT TYRE PRESSURE MONITORING SYSTEM

### System diagram



### Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ESP/ TCS / ABS control unit	Steering angle sensor	Smart entrance control unit	ICC unit	ICC sensor	Combina- tion meter
Engine speed signal	T	R	R			R		R
Accelerator pedal position signal	T	R	R			R		
Closed throttle position signal	T					R		
ICC steering switch signal	T					R		
Shift pattern signal		T				R		
Parking brake switch signal			T			R		
ICC system display signal						T		R

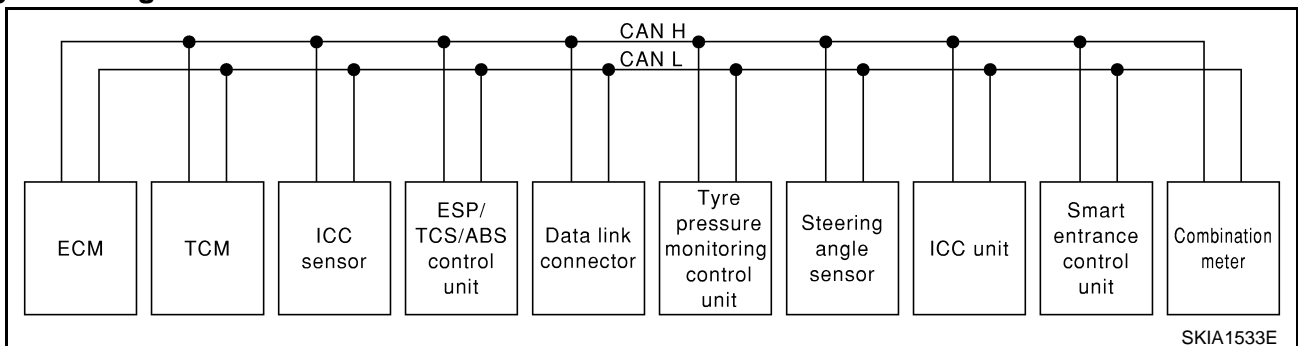
# DESCRIPTION

[ICC]

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

## CAN COMMUNICATION UNIT FOR RHD MODELS WITH TYRE PRESSURE MONITORING SYSTEM

### System diagram





# DESCRIPTION

**[ICC]**

## Input/output signal chart

T: Transmit R: Receive

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

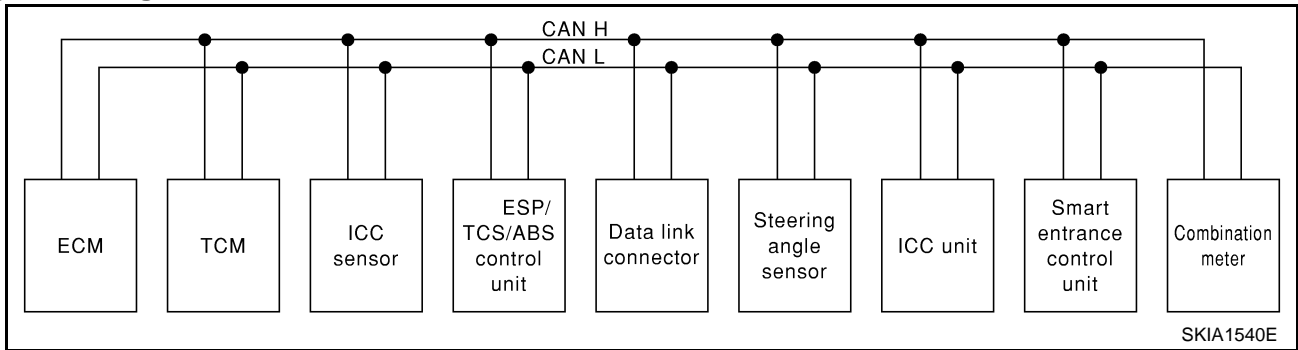
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# DESCRIPTION

[ICC]

## CAN COMMUNICATION UNIT FOR RHD MODELS WITHOUT TYRE PRESSURE MONITORING SYSTEM

### System diagram



### Input/output signal chart

T: Transmit R: Receive

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

# DESCRIPTION

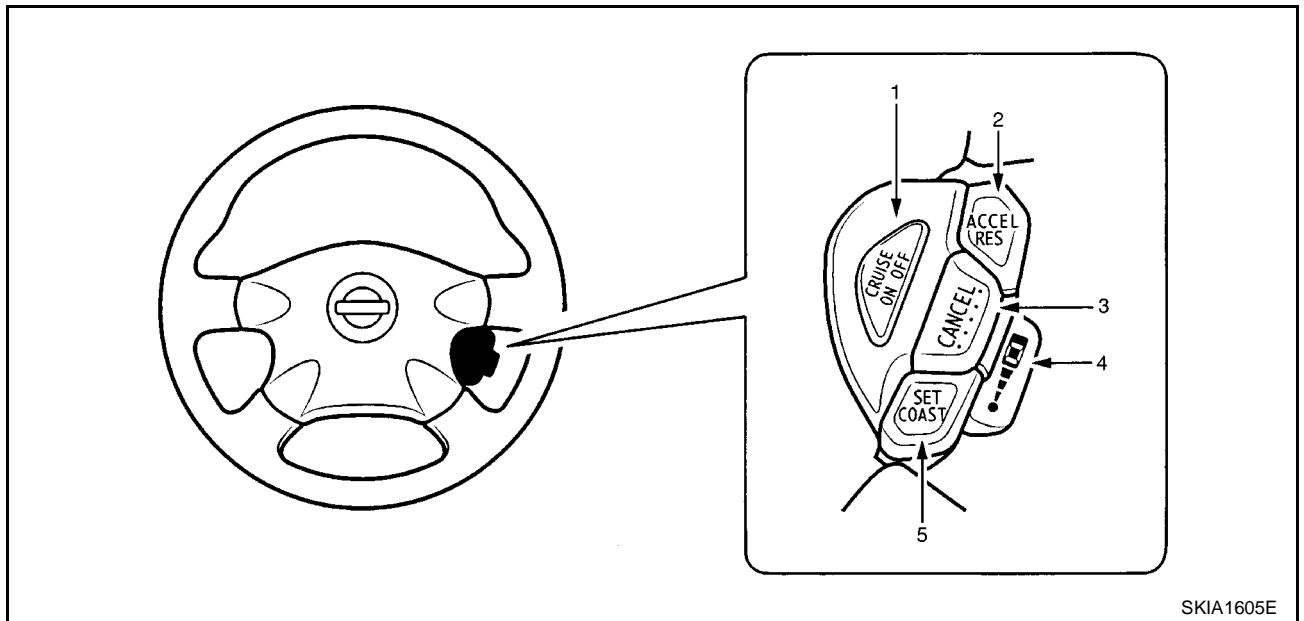
**[ICC]**

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

## Switch Operation

EKS004FK

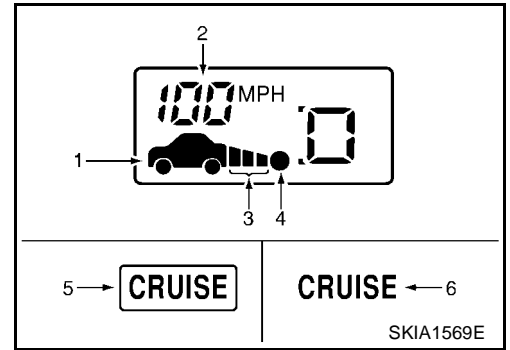
The system is operated by a master ON/OFF switch and four control switches, all mounted on the steering wheel.



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

ICC System Display

EKS004FL



No.	Component	Description
1	Vehicle ahead detection indicator	Indicates whether it detects a vehicle ahead.
2	Set vehicle speed indicator	Indicates the set vehicle speed.
3	Set distance indicator	Display the selected distance between vehicles set with the DISTANCE switch.
4	Own vehicle indicator	Indicates the base vehicle.
5	ON/OFF switch indicator lamp (Green)	Indicates that the ON/OFF switch is ON.
6	Intelligent cruise control system warning lamp (Yellow)	The light comes on if there is a malfunction in the ICC system.

## ACTION TEST

PFP:00000

### ICC system running test ICC SYSTEM SET CHECKING

EKS004FM

1. Turn on the ON/OFF switch.
2. Drive the vehicle between 40km/h(25MPH) and 160km/h(100MPH).
3. Push the COAST/SET switch.
4. Confirm that the desired speed is set as hand is released from the COAST/SET switch.

**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.
- The set vehicle speed is displayed on the ICC system indicator in the combination meters.

### CHECK FOR INCREASE OF THE CRUISING SPEED

1. Set the ICC at desired speed.
2. Check if the set speed increases by 1km/h(1MPH) as COAST/SET switch is pushed.

**NOTE:**

The maximum set speed of the ICC system is 160km/h(100MPH).

### CHECK FOR DECREASE OF THE CRUISING SPEED

1. Set the ICC at desired speed.
2. Check if the set speed decreases by 1km/h(1MPH) as COAST/SET switch is pushed.

**NOTE:**

- ICC system is automatically turned off when the driving speed lowers to 32km/h(20MPH) due to the deceleration of the vehicle ahead.
- The lowest set speed is 40km/h(25MPH).

### CHECK FOR THE CANCELLATION OF ICC SYSTEM (NORMAL DRIVING CONDITION) IN THE FOLLOWING CASES:

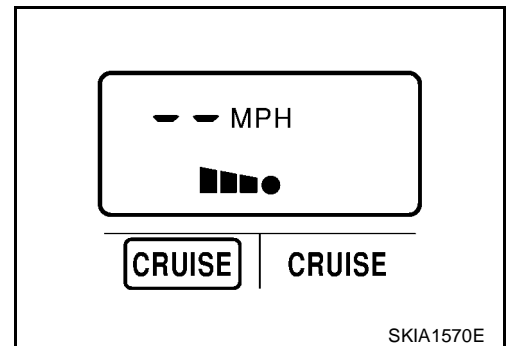
1. When the brake pedal is depressed after the system is turned on.
2. When the select lever is shifted into other than “D” including manual shift.
3. When the ON/OFF switch is turned off.
4. When CANCEL switch is operated.

### CHECK FOR RESTORING THE SPEED THAT IS SET BY ICC SYSTEM BEFORE ICC CANCELLATION

1. Cancel the system by depressing the foot brake. Then, check that the speed before cancellation is restored when pressing ACCEL/RES switch with 40km/h(25MPH) or above.
2. Cancel the system by shifting the select lever into other than “D”, Then, check if the speed set before the cancellation is restored when ACCEL/ RES switch is pressed.
3. Check if the speed previously set is restored when ACCEL/RES switch is operated with driving 40km/h(25MPH), after canceling the ICC by operating the CANCEL switch.

### CHECK FOR ON/OFF SWITCH

1. Start the engine. Then, check the following operations are carried out correctly.
2. Intelligent Cruise Control (ICC) system is displayed in between the tachometer and speedometer illuminates when ON/OFF-switch is ON and ready for operation. The illumination goes off when ON/OFF switch is turned to OFF.
3. “CRUISE” illumination and “ICC” system illumination go off when the key switch is turned to OFF while ON/OFF switch is ON (“CRUISE” illumination is ON and ICC system is ready for operation).



SKIA1570E

## CHECK FOR ACCEL/RES, COAST/SET, CANCEL SWITCHES




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

## CHECK FOR DISTANCE SWITCH

1. Start the engine.
2. Turn on the ON/OFF switch.
3. Press the DISTANCE switch.
4. Check if the set distance indicator changes display in order of:  
(long)→(medium)→(short).

### NOTE:

The set distance indicator shows 'long' immediately after the engine starts.

Distance	Display	Approximate distance at 60 MPH (96 km/h) [ft (m)]
Long		195 (60)
Middle		150 (45)
Short		105 (32)

SKIA1571E

## LASER BEAM AIMING ADJUSTMENT

PFP:00026

### Outline

EKS004FN

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

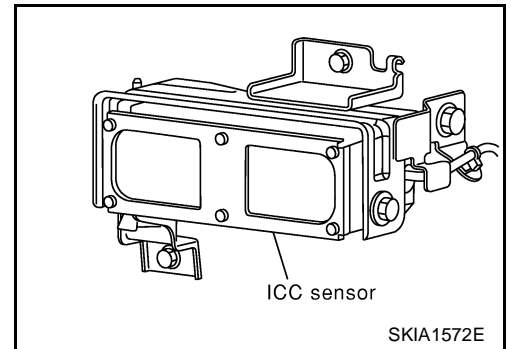
#### CAUTION:

- 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).

### Preparation

EKS004FO

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



EKS004FP

### Outline of Adjustment Procedure

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

### Setting the ICC Target Board

EKS004FQ

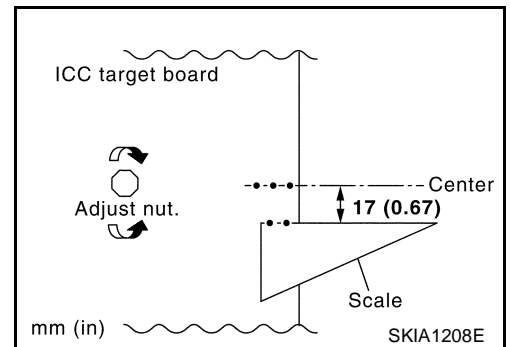
Accurate ICC target board setting is required for the laser beam aiming adjustment.

#### CAUTION:

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

### ADJUSTING HEIGHT OF THE TARGET

1. Attach a triangle scale as shown in the figure.



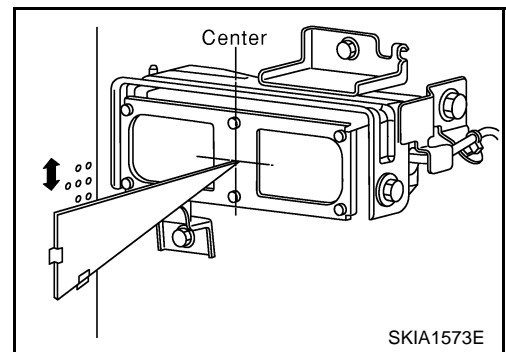
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# LASER BEAM AIMING ADJUSTMENT

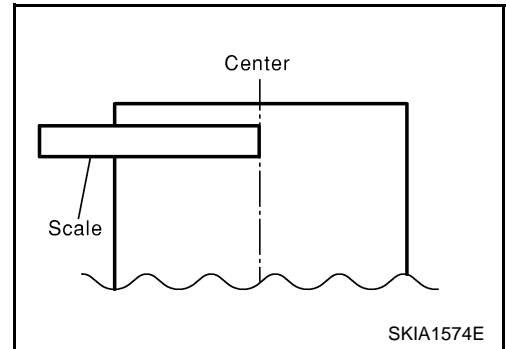
[ICC]

- Adjust the height of the target stand so that the point of the triangle aims the center of the ICC sensor.

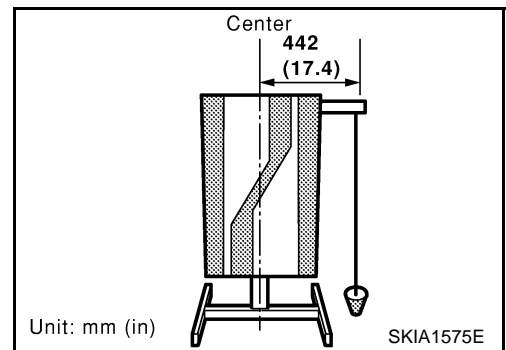


## ADJUSTING THE RIGHT-LEFT POSITION OF THE TARGET

- Attach a scale (at least 500mm[20in] or longer) or stick as shown in the figure.

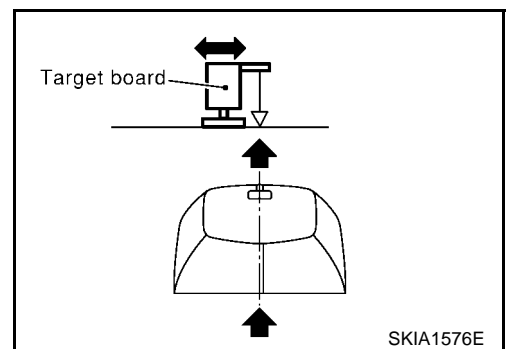


- Suspend a thread with weight on the tip of the thread to 442mm (17.4in) left side of the target board from the center of the target board on top.



## SETTING THE TARGET

- Suspend a thread with weight on tip to splice the center of the front and back bumpers. Then, mark the center point on the ground as each weight points.
- Link the front and back bumpers' center points marked on the ground, and mark a point 5m ahead of the vehicle, 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 weight come on the top of the marked point (5m ahead of the vehicle) 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 defogger pattern) and the center of the front wind shield (the setting part of the room mirror) align with the weight suspended from the board.



- Remove the thread suspended to the left side of board and suspend a thread with weight on tip on the center of the target board. Then mark the point of weight on the ground.



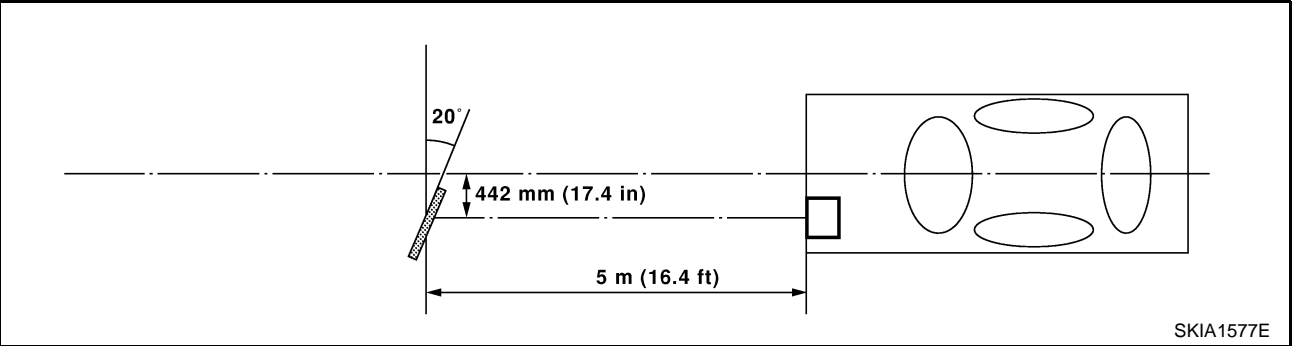
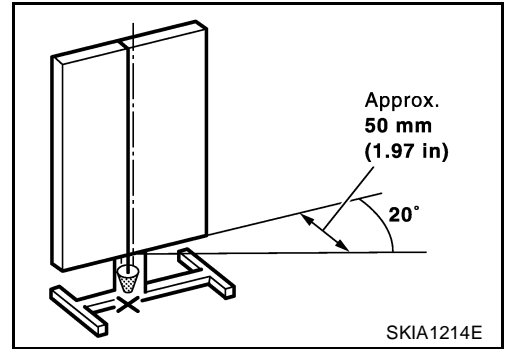
# LASER BEAM AIMING ADJUSTMENT

[ICC]

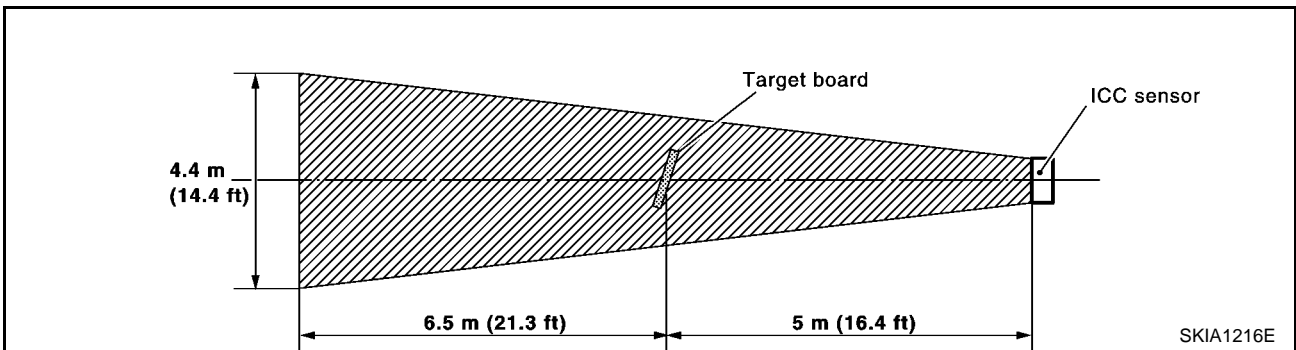
5. Pivot the edge of the target board 20-degree to either side.

**NOTE:**

50mm(1.97in) shift rates the 20-degree movement.



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



**NOTE:**

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

## Aiming Adjustment

EKS004FR

**CAUTION:**

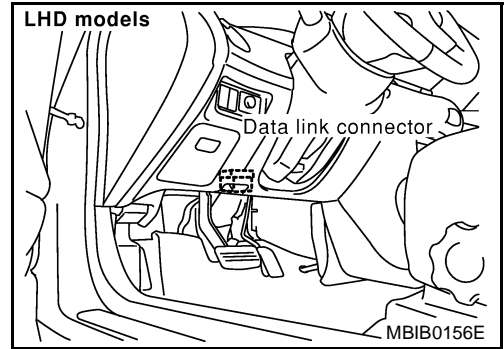
Complete all necessary work for laser beam adjustment until the adjustment completes as shown in the procedure. If the procedure does not complete, the ICC system is not.

1. Install sensor cover.
2. Turn ignition switch OFF.

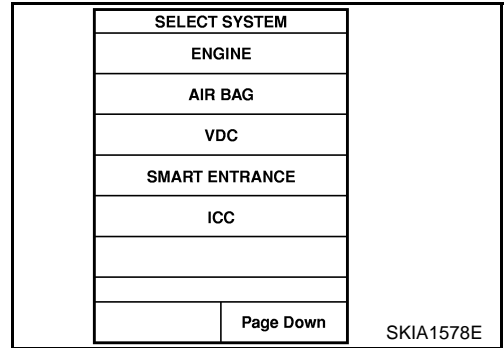
# LASER BEAM AIMING ADJUSTMENT

[ICC]

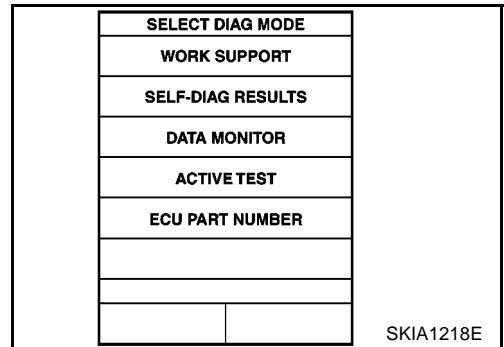
3. Connect CONSULT-II on the data link connector. Then, start the engine, wait for at least 10 sec., and touch "START".



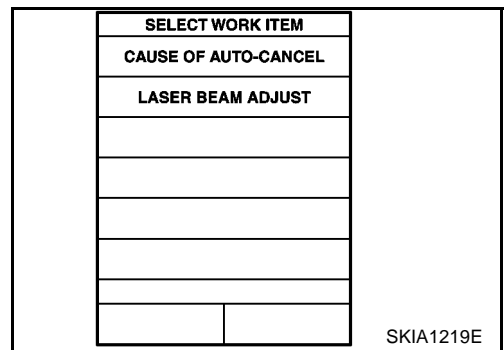
4. Touch "ICC".



5. Touch "WORK SUPPORT".



6. Touch "LASER BEAM ADJUST".



# LASER BEAM AIMING ADJUSTMENT

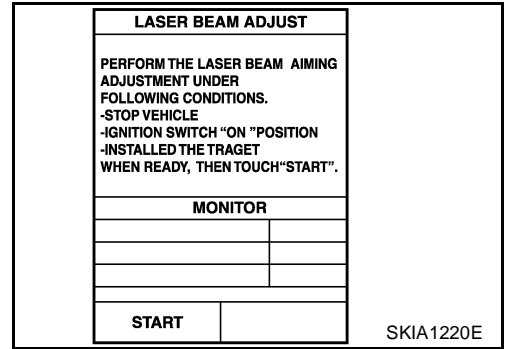
[ICC]

7. Touch "START".

**CAUTION:**

If the adjustment screen does not appear on CONSULT-II 10 sec. 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.
- Deformation of vehicle or the surrounding equipment unit, bracket, or the surrounding equipment is causing inappropriate installation of sensor and aiming may be set out of the adjustable range.
- The area is not suitable for the adjustment work.
- ICC sensor is not clean.



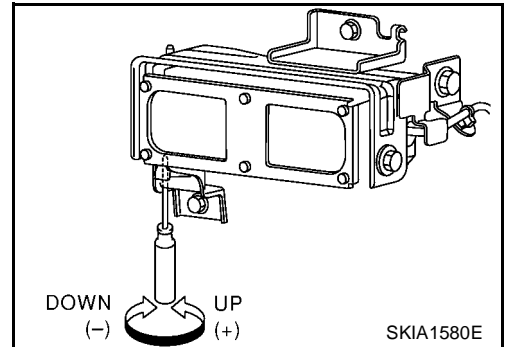
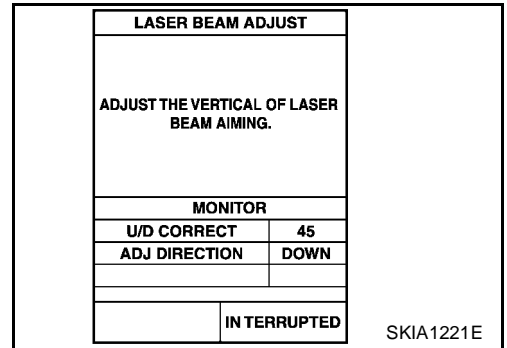
8. After the CONSULT-II displays "ADJUST THE VERTICAL OF LASER" turn the up-down direction adjustment screw until "U/D CORRECT" value is set in the range of  $\pm 4$ .

**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:**

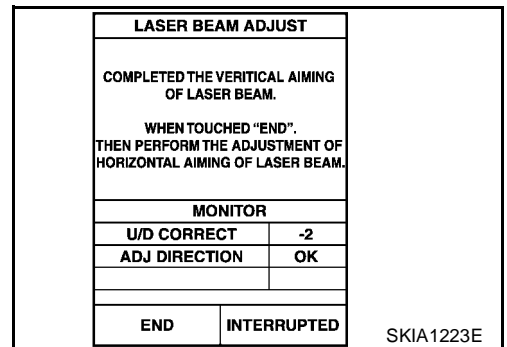
Turning the screw to the right lifts the aiming up and to the left lowers the aiming down.



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



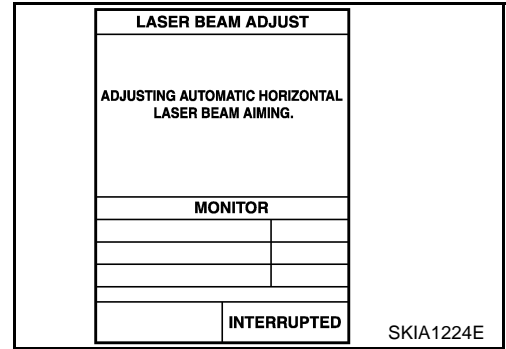
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ACS

# LASER BEAM AIMING ADJUSTMENT

[ICC]

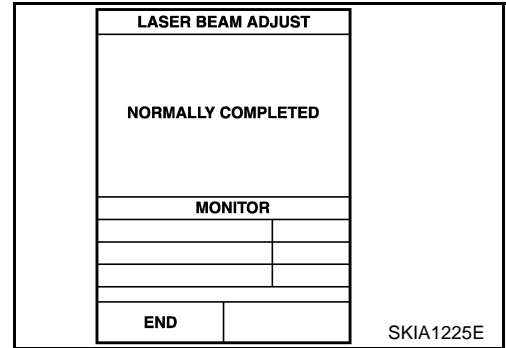
10. Confirm that "ADJUSTING AUTOMATIC HORIZONTAL LASER BEAM AIMING" is on screen and wait for a while (maximum: 10sec).



11. 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-13, "ICC system running test"](#)

# ELECTRICAL UNITS LOCATION

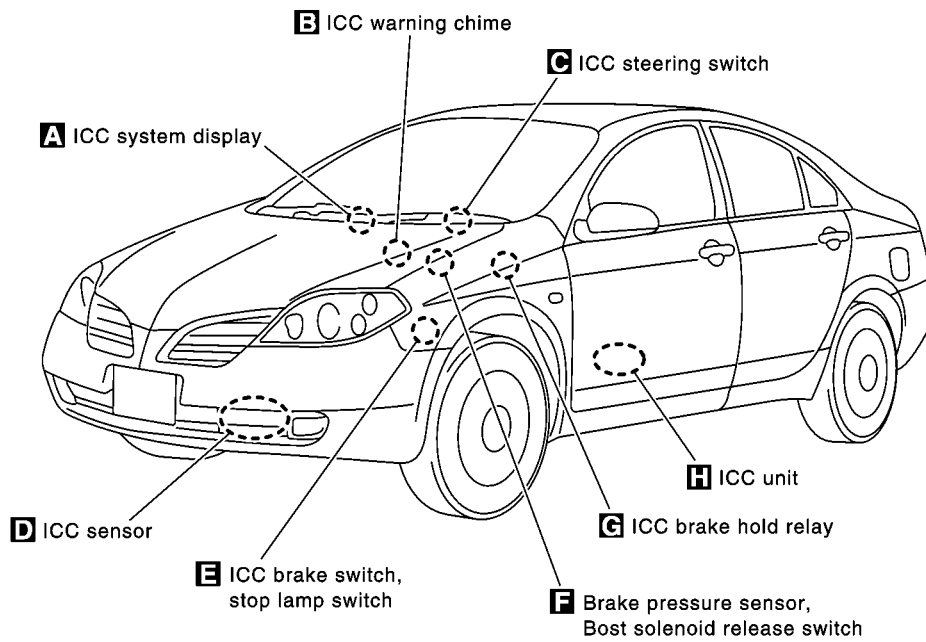
[ICC]

## ELECTRICAL UNITS LOCATION

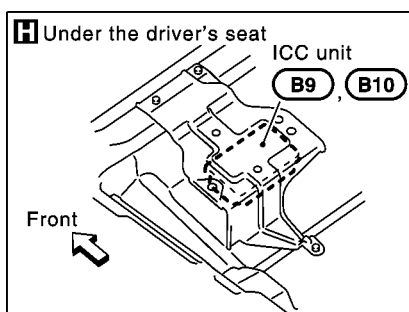
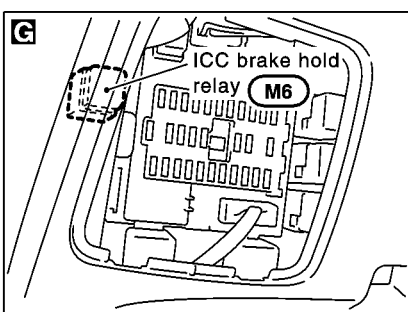
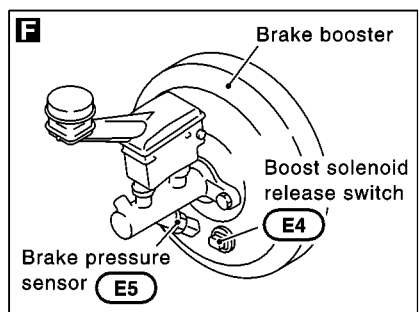
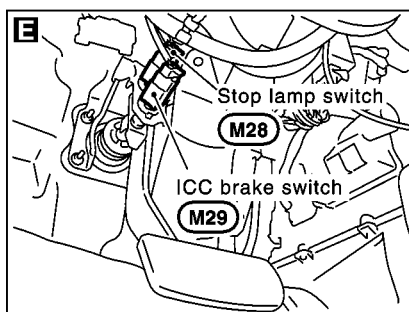
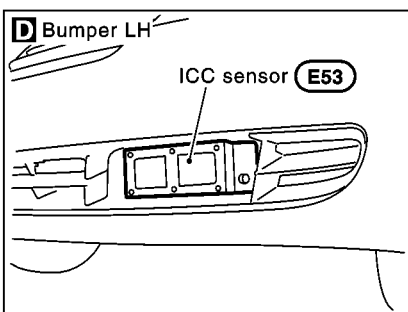
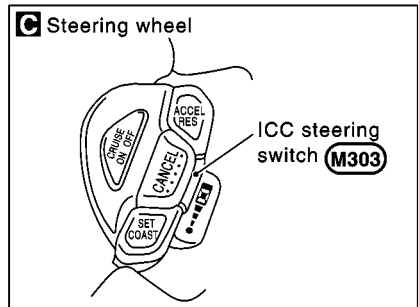
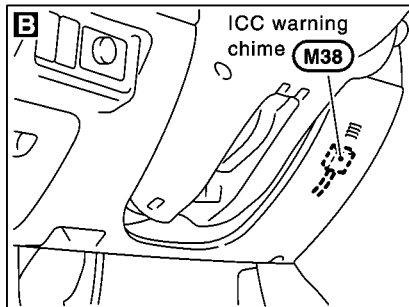
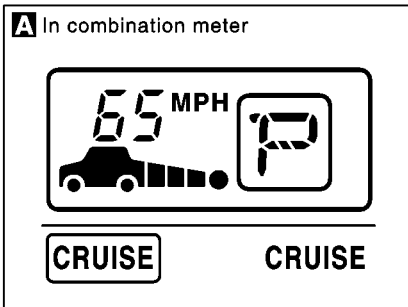
PPF:25230

### Component Parts and Harness Connector Location

EKS004FS



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SKIA1581E

# WIRING DIAGRAM

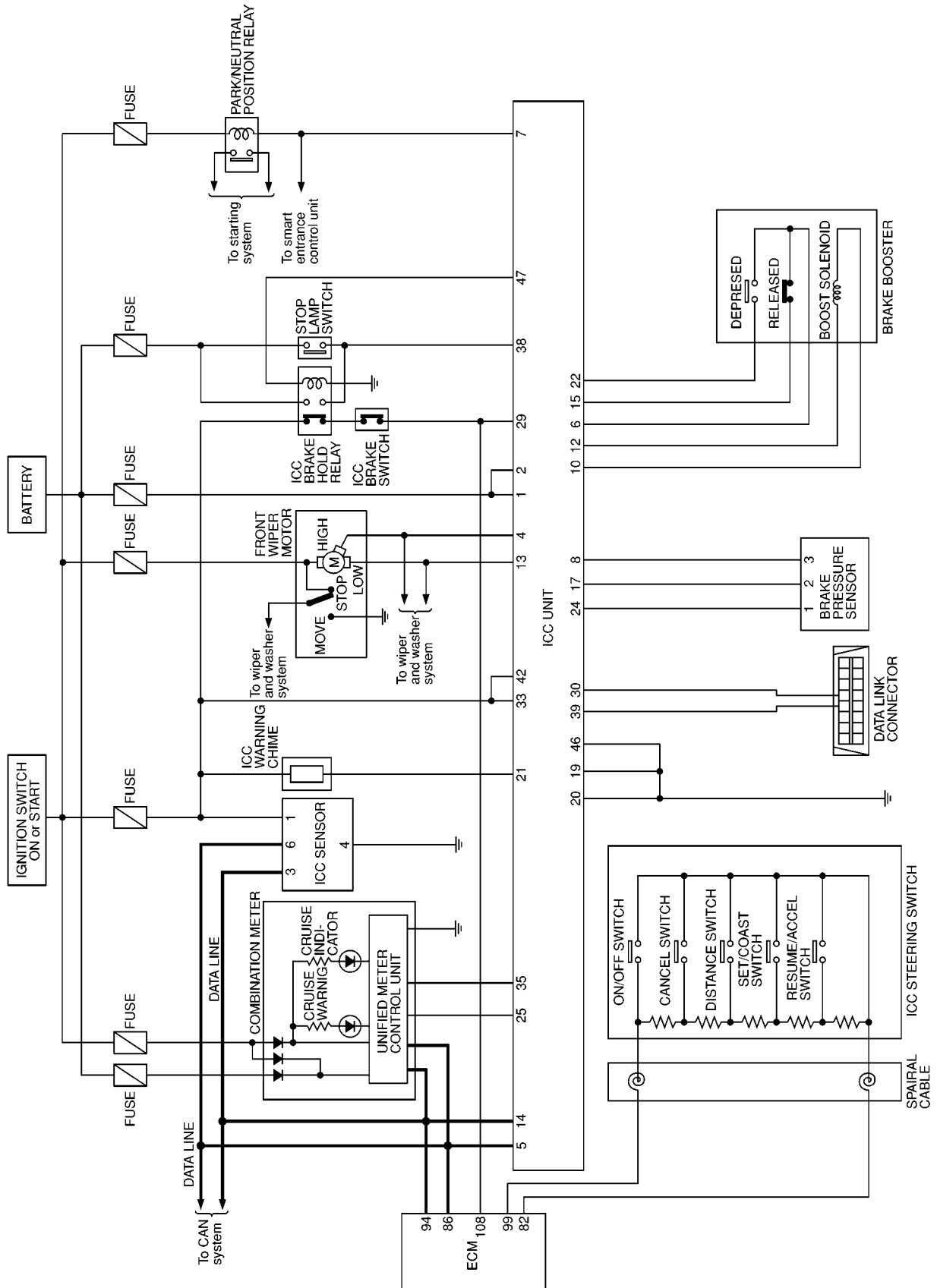
[ICC]

## WIRING DIAGRAM

PFP:00000

### Schematic

EKS004FT



MKWA0043E

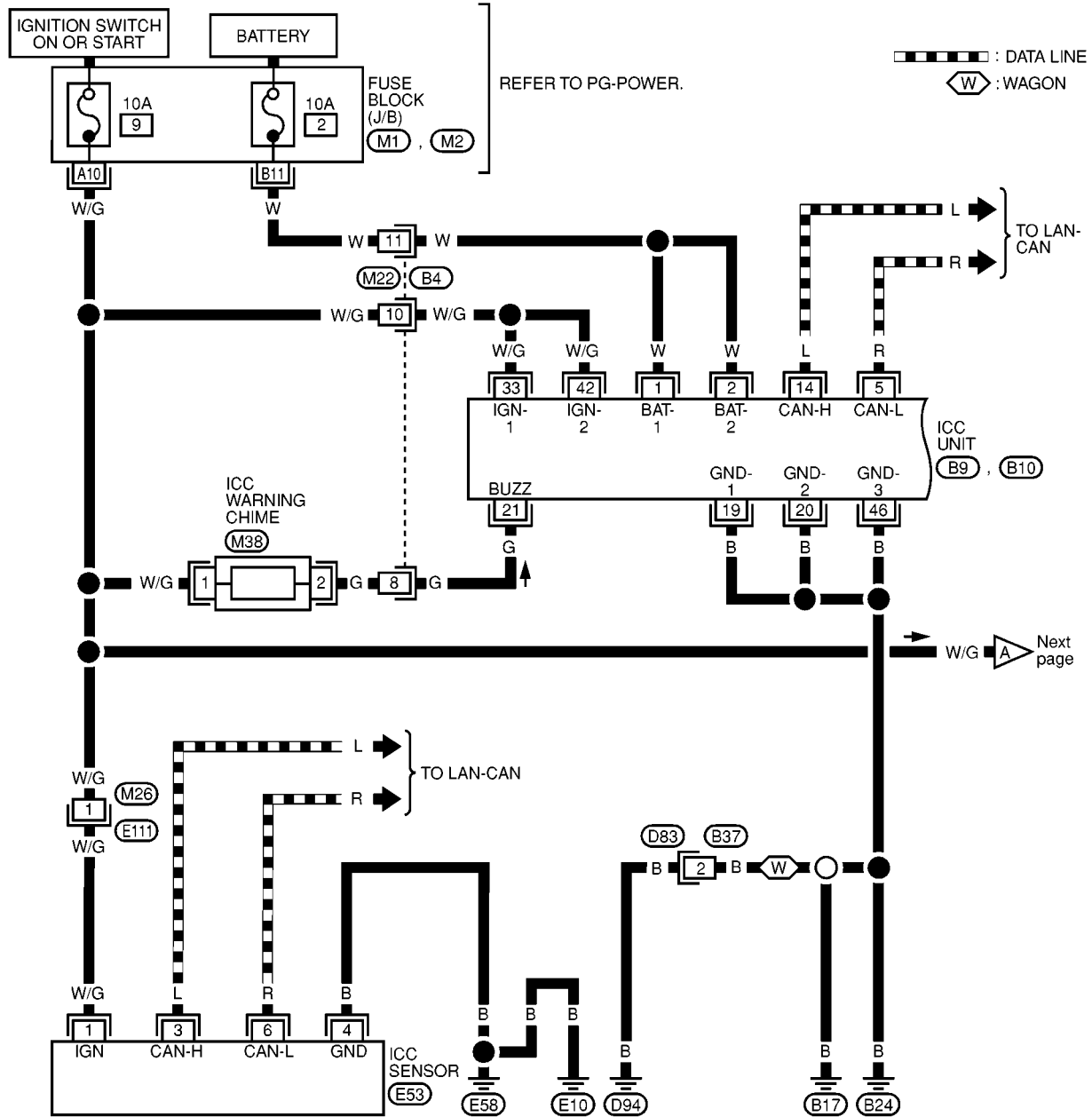
# WIRING DIAGRAM

[ICC]

## Wiring Diagram — ICC —

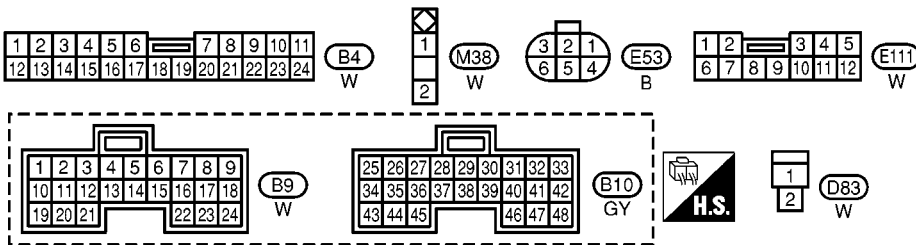
EKS004FU

### ACS-ICC-01



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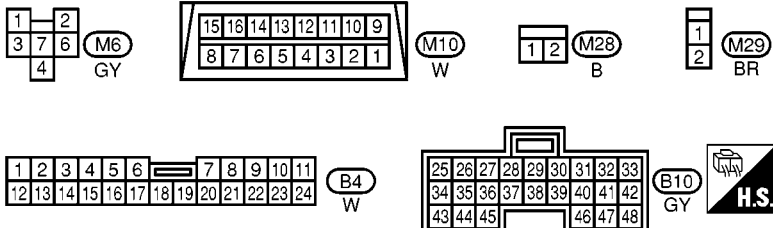
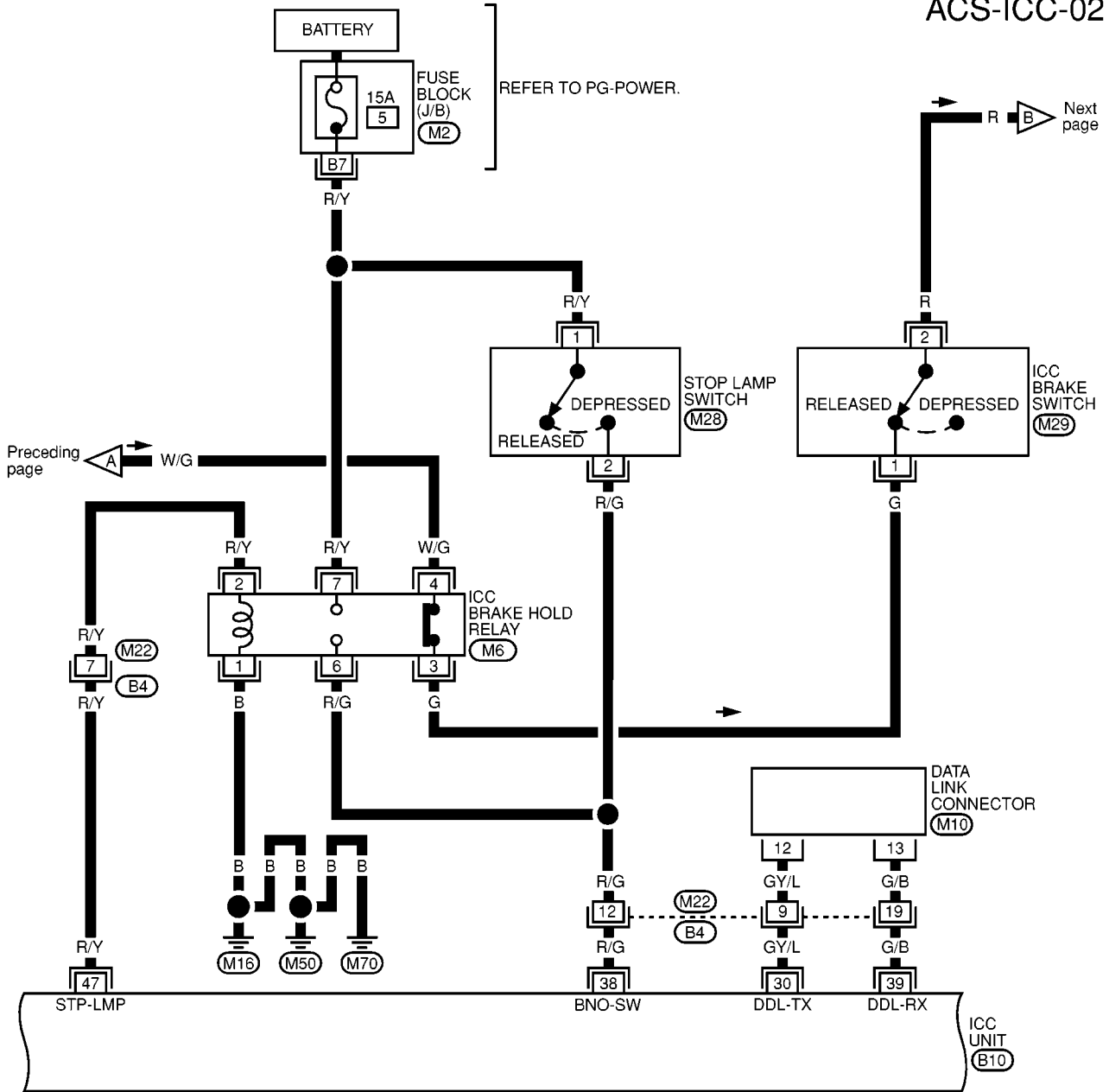


MKWA0051E

# WIRING DIAGRAM

[ICC]

ACS-ICC-02



REFER TO THE FOLLOWING.  
**(M2)** - FUSE BLOCK-  
 JUNCTION BOX (J/B)

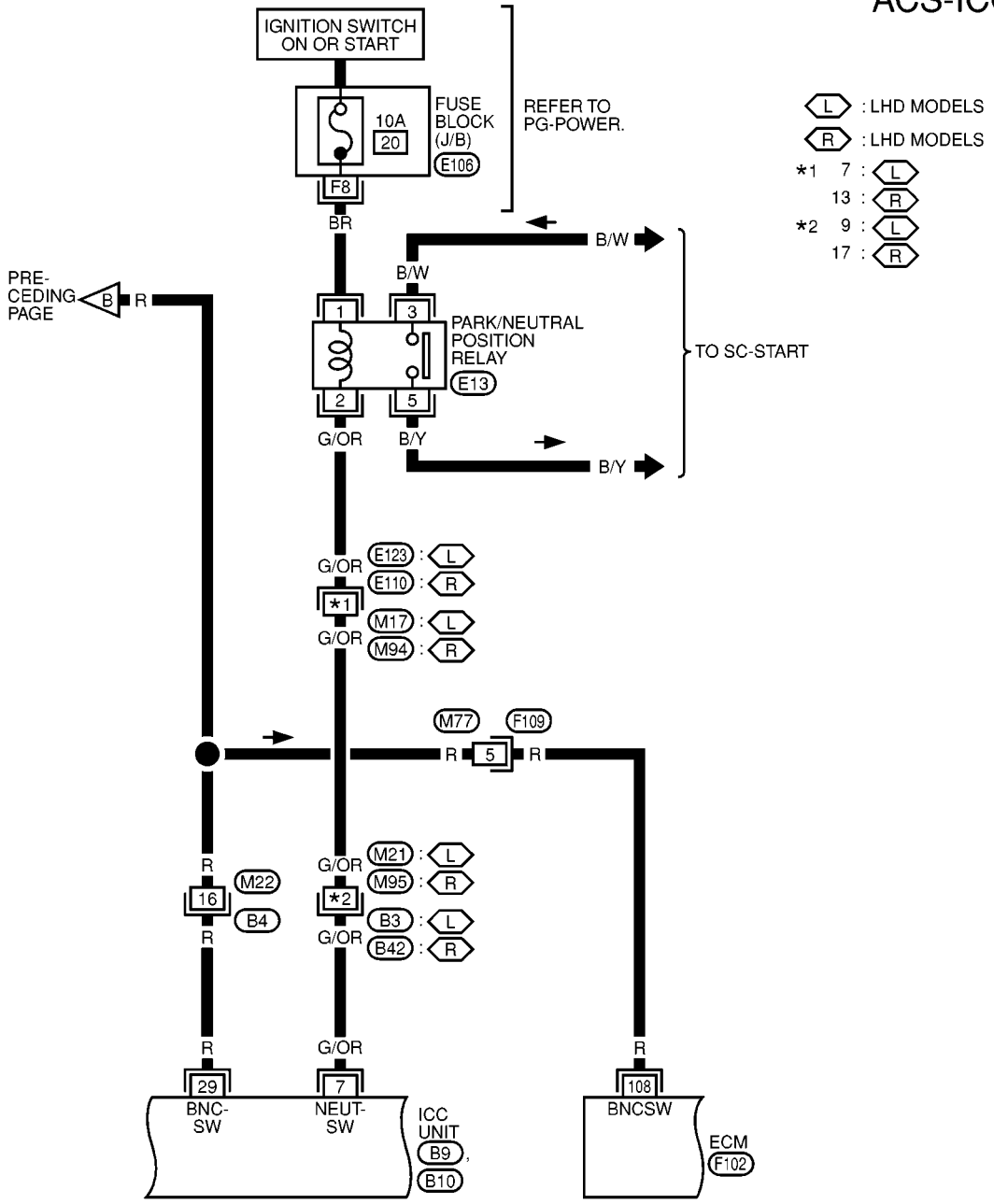
MKWA0052E



# WIRING DIAGRAM

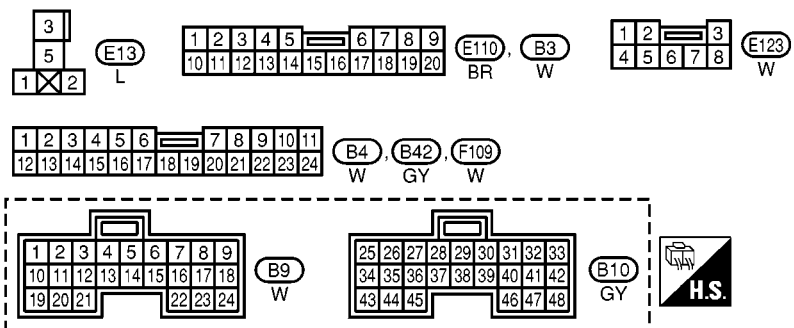
[ICC]

ACS-ICC-03



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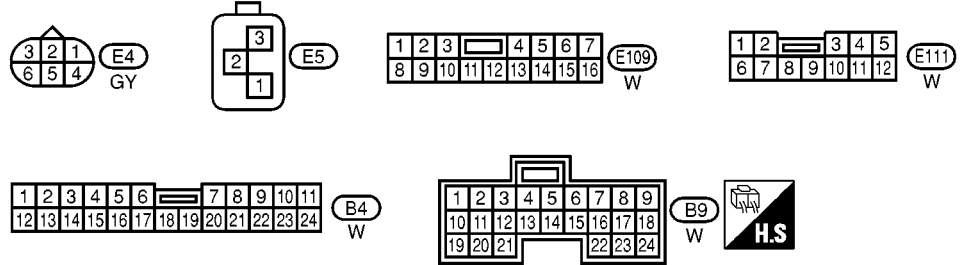
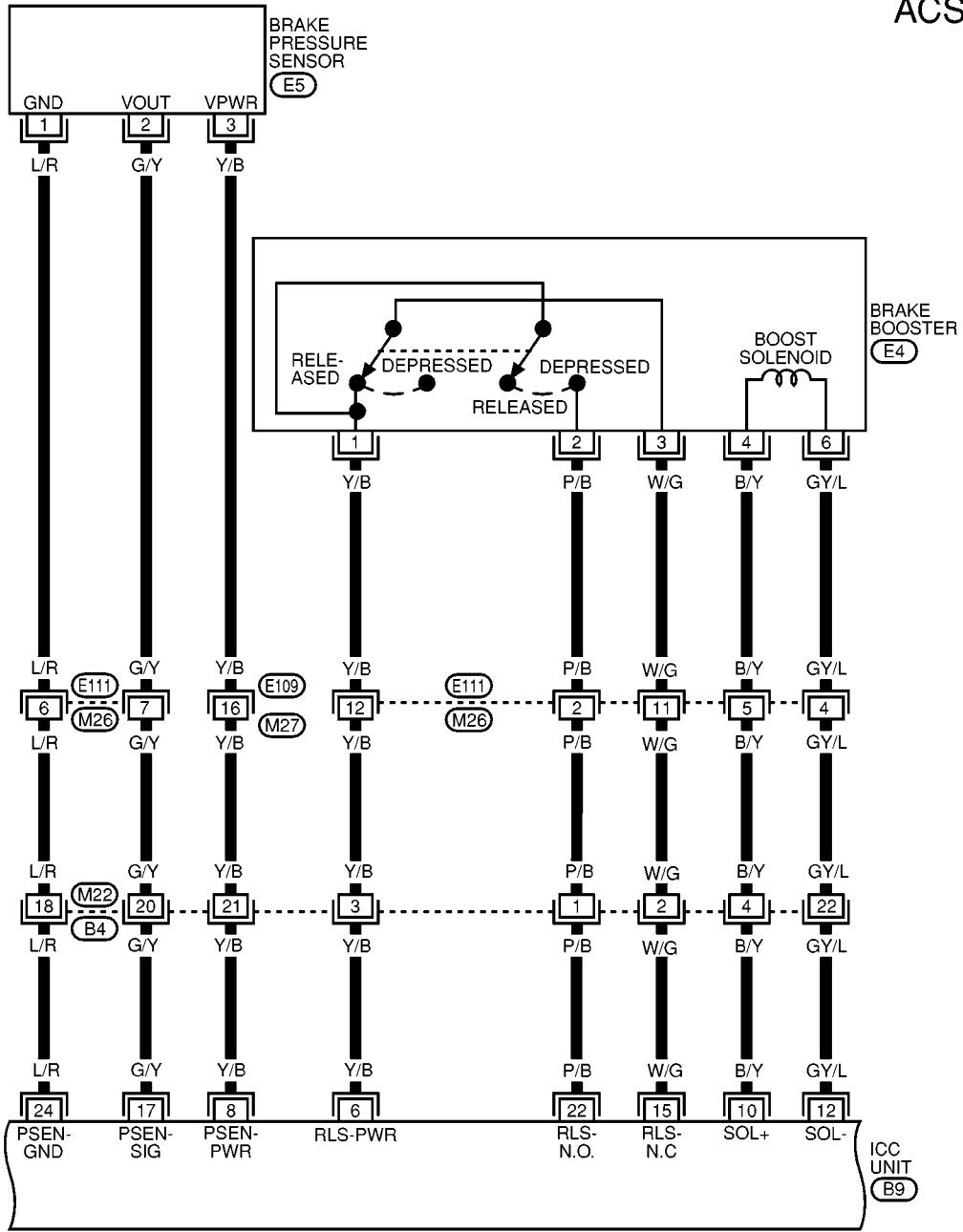


REFER TO THE FOLLOWING.  
 (E106) - FUSE BLOCK-JUNCTION BOX (J/B)  
 (F102) - ELECTRICAL UNITS

# WIRING DIAGRAM

[ICC]

ACS-ICC-04

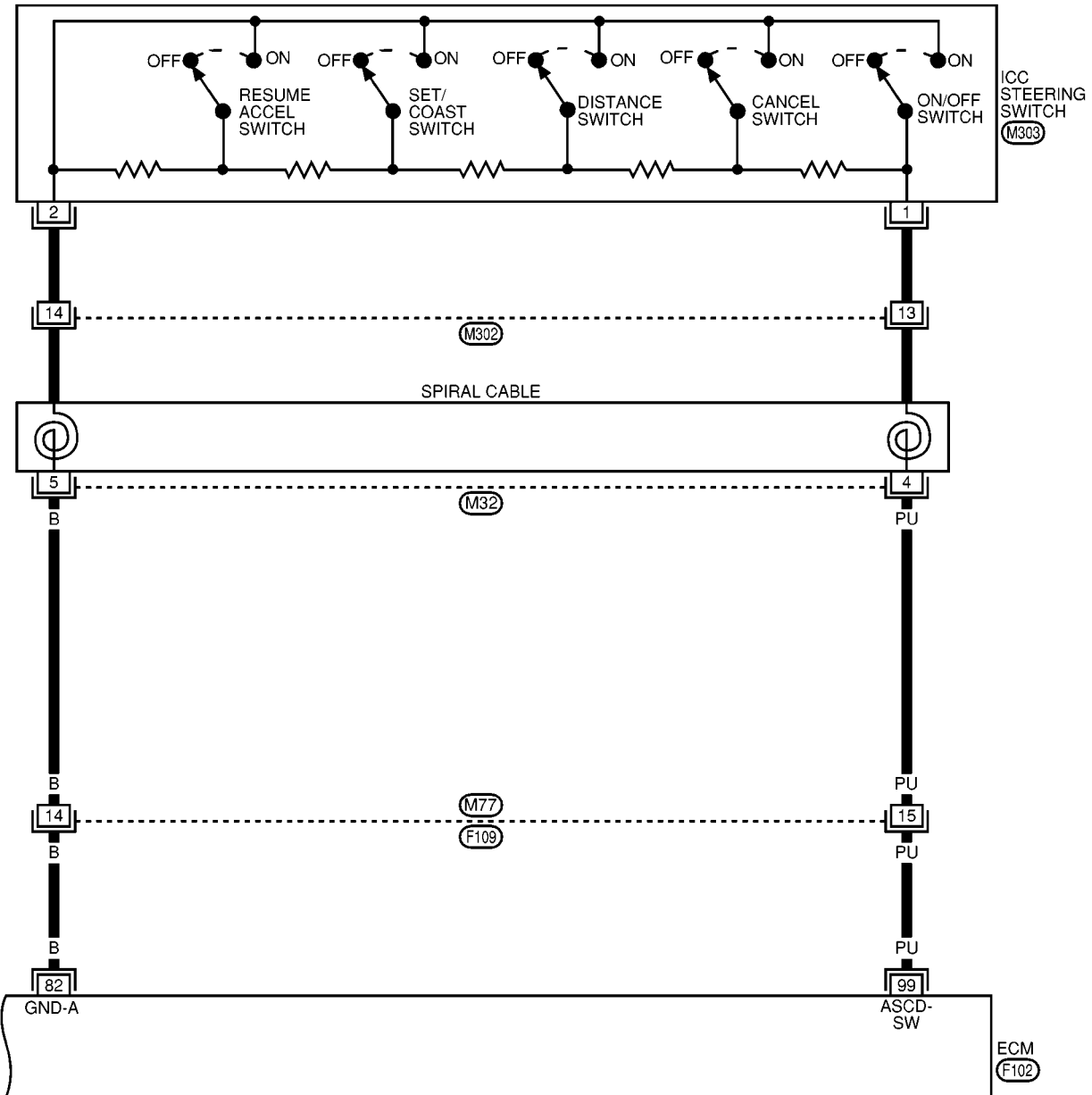


MKWA0054E

# WIRING DIAGRAM

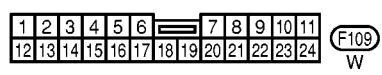
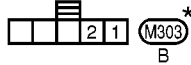
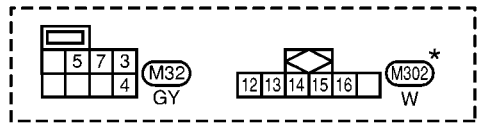
[ICC]

ACS-ICC-05



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

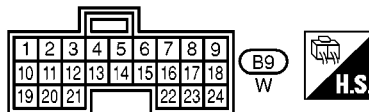
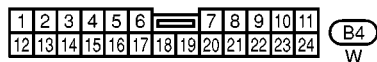
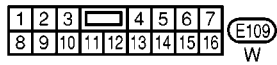
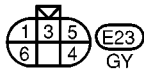
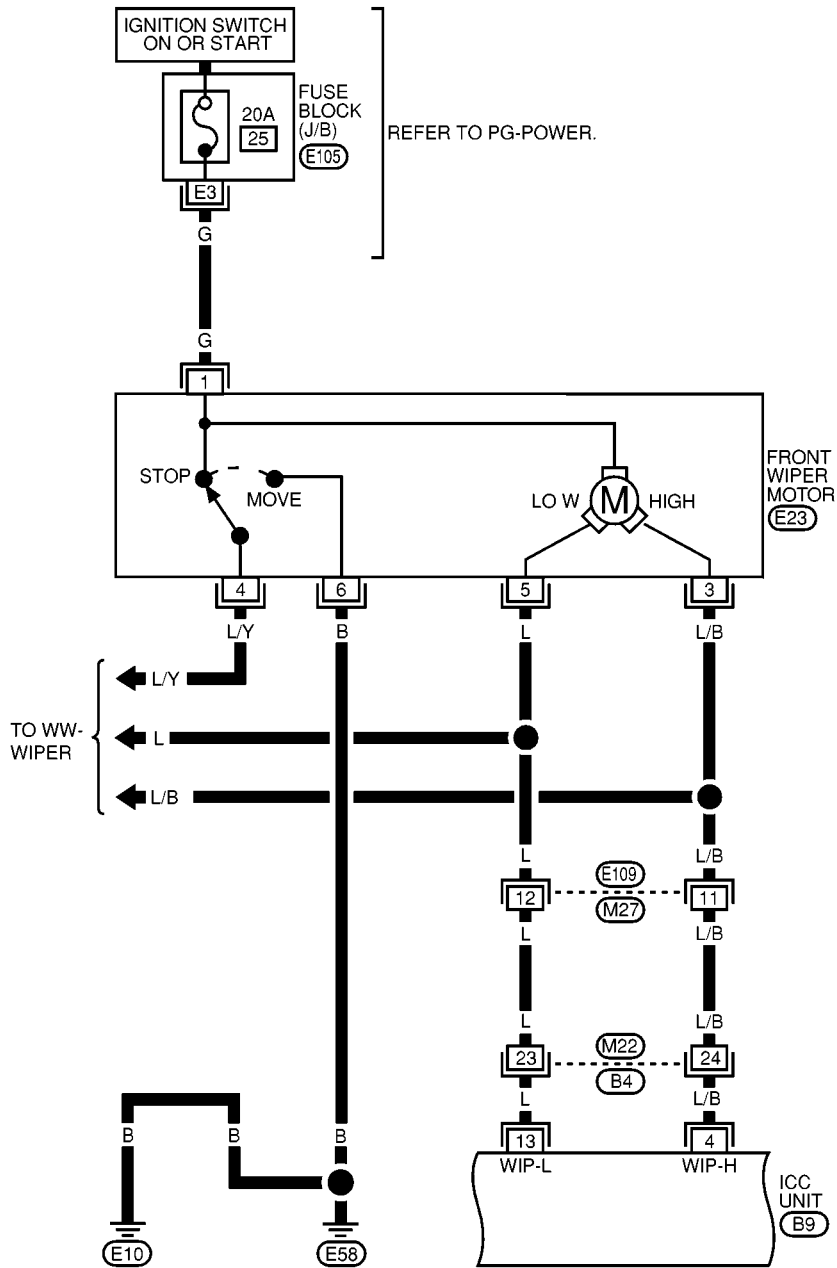
REFER TO THE FOLLOWING.  
F102 -ELECTRICAL UNITS

MKWA0055E

# WIRING DIAGRAM

[ICC]

ACS-ICC-06



REFER TO THE FOLLOWING.

(E105) - FUSE BLOCK-JUNCTION BOX (J/B)

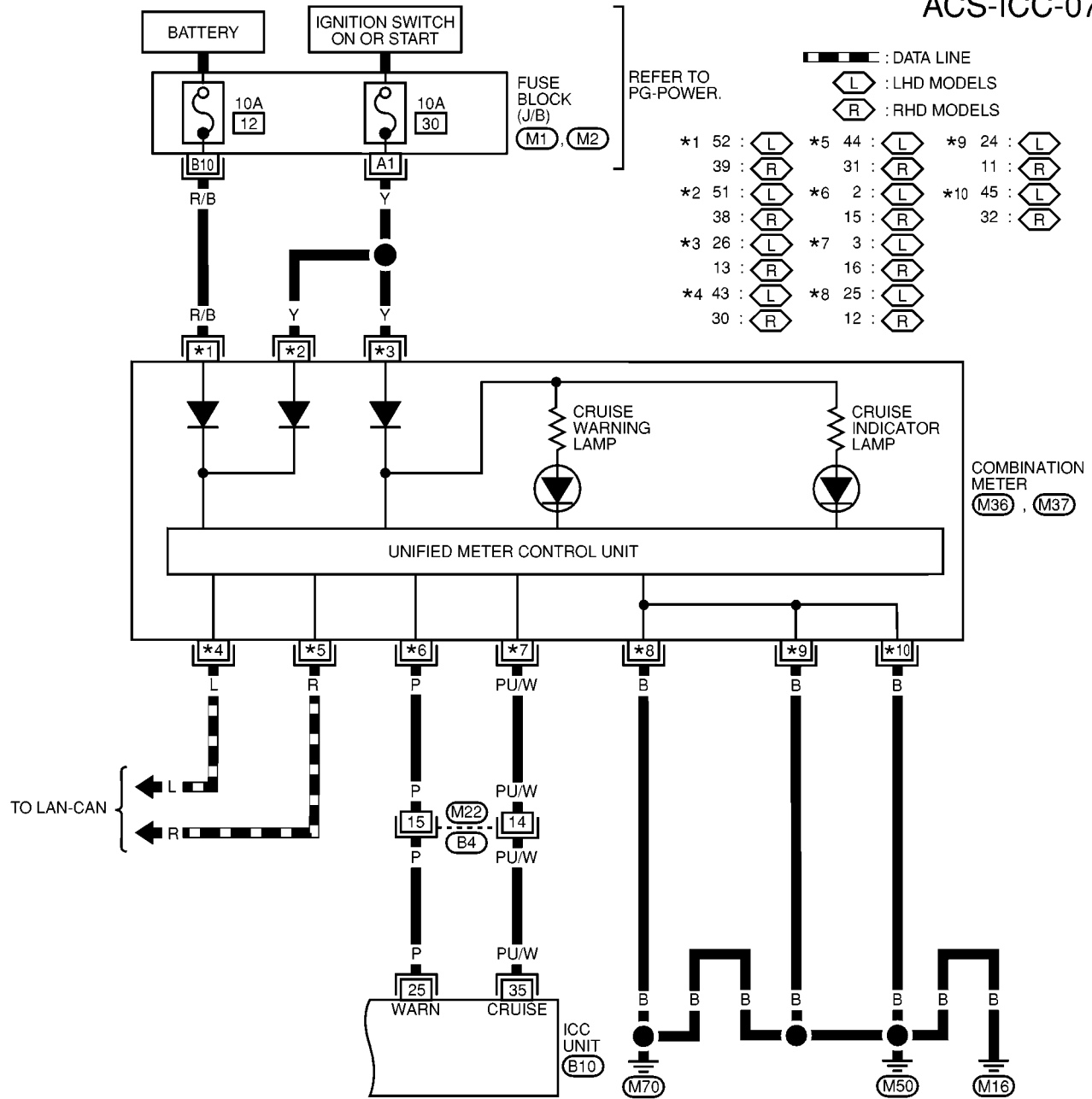
MKWA0056E

# WIRING DIAGRAM

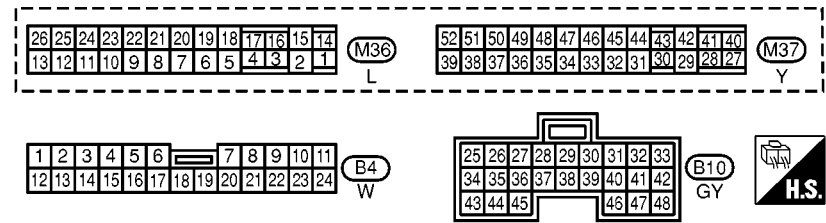
[ICC]

ACS-ICC-07

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- REFER TO PG-POWER.
- L : LHD MODELS  
R : RHD MODELS
- |   |   |  |
|---|---|--|
| *1 52 : <span style="border: 1px solid black; padding: 2px;">L</span> | *5 44 : <span style="border: 1px solid black; padding: 2px;">L</span> | *9 24 : <span style="border: 1px solid black; padding: 2px;">L</span>  |
| 39 : <span style="border: 1px solid black; padding: 2px;">R</span>    | 31 : <span style="border: 1px solid black; padding: 2px;">R</span>    | 11 : <span style="border: 1px solid black; padding: 2px;">R</span>     |
| *2 51 : <span style="border: 1px solid black; padding: 2px;">L</span> | *6 2 : <span style="border: 1px solid black; padding: 2px;">L</span>  | *10 45 : <span style="border: 1px solid black; padding: 2px;">L</span> |
| 38 : <span style="border: 1px solid black; padding: 2px;">R</span>    | 15 : <span style="border: 1px solid black; padding: 2px;">R</span>    | 32 : <span style="border: 1px solid black; padding: 2px;">R</span>     |
| *3 26 : <span style="border: 1px solid black; padding: 2px;">L</span> | *7 3 : <span style="border: 1px solid black; padding: 2px;">L</span>  |  |
| 13 : <span style="border: 1px solid black; padding: 2px;">R</span>    | 16 : <span style="border: 1px solid black; padding: 2px;">R</span>    |  |
| *4 43 : <span style="border: 1px solid black; padding: 2px;">L</span> | *8 25 : <span style="border: 1px solid black; padding: 2px;">L</span> |  |
| 30 : <span style="border: 1px solid black; padding: 2px;">R</span>    | 12 : <span style="border: 1px solid black; padding: 2px;">R</span>    |  |



REFER TO THE FOLLOWING.  
**M1** , **M2** - FUSE BLOCK-  
 JUNCTION BOX (J/B)

MKWA0057E

# TERMINALS AND REFERENCE VALUE





[ICC]

## TERMINALS AND REFERENCE VALUE

PFP:00000

### Terminals and Reference Value for ICC Unit

EKS004FV

TERMINALS (WIRE COLOR)		ITEM	CONDITION		VOLTAGE (V)	
+	-		IGNITION SWITCH	OPERATION		
1 (W) 2 (W)	Body ground	Battery power supply	OFF	—	Battery voltage (Approx. 12)	
4 (L/W)		Wiper motor HI signal	ON	Wiper HI operating	Approx. 0	
				Wiper HI not operating	Battery voltage (Approx. 12)	
5 (R)		CAN L	ON	—	Approx. 2.5V Approx. 1.5V  SKIA1242E	
6 (Y/B)		Release switch power supply	ON	—	Approx. 10	
7 (G/OR)		Park/neutral position signal	ON	Park/neutral position	Approx. 0	
				Except park/neutral position	Battery voltage (Approx. 12)	
8 (Y/B)		24 (L/R)	Brake pressure sensor power supply	ON	—	Approx. 5
10 (B/L)		Body ground	Brake booster solenoid (+) side	ON	—	Approx. 12V Approx. 5V  SKIA1243E
12 (GY/L)			Brake booster solenoid (-) side	ON	—	Approx. 12V Approx. 5V  SKIA1243E
13 (L)	Wiper motor LO signal		ON	Wiper LO operating	Approx. 0	
				Wiper LO not operating	Battery voltage (Approx. 12)	
14 (L)	CAN H	ON	—	Approx. 3.5V Approx. 2.5V  SKIA1244E		
15 (W/G)	Brake release switch (normal closed)	ON	Depress the brake pedal.	Approx. 0		
			Release the brake pedal.	Approx. 10		

# TERMINALS AND REFERENCE VALUE

**[ICC]**

TERMINALS (WIRE COLOR)		ITEM	CONDITION		VOLTAGE (V)	
+	-		IGNI- TION SWITCH	OPERATION		
17 (G)	24 (L/R)	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.	
19(B) 20(B) 46(B)	Body ground	Ground	ON	—	Approx. 0	
21(G)		ICC warning chime	ON	Activated	Approx. 0 - 12	
				Not activated	Approx. 12	
22 (P/B)		Brake release switch (normally open)	ON	Depress the brake pedal.	Approx. 10	
				Release the brake pedal.	Approx. 0	
25 (P)		ICC system warning lamp signal	ON	When warning lamp is ON	Approx. 0	
				When warning lamp is OFF	Battery voltage (Approx. 12)	
29(R)		ICC brake switch (normal closed)	ON	Selector lever: Not in "N" or "P" position	Depress the brake pedal.	Approx. 0
					Release the brake pedal.	Battery voltage (Approx. 12)
33(W /G) 42(W /G)		Ignition switch ON or START	ON	—	Battery voltage (Approx. 12)	
38 (R/G)	Stop lamp switch (normally open)	ON	Depress the brake pedal.	Battery voltage (Approx. 12)		
			Release the brake pedal.	Approx. 0		
47 (R/Y)	Stop lamp drive output signal	ON	Brake operating with ICC system	Battery voltage (Approx. 12)		
			Brake not operating with ICC sys- tem	Approx. 0		

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**ACS**

# TERMINALS AND REFERENCE VALUE

[ICC]

## Terminals and Reference Value for ICC Radar Sensor

EKS004FW

TERMINALS (WIRE COLOR)		ITEM	CONDITION		VOLTAGE (V)
+	-		IGNI- TION SWITCH	OPERATION	
1 (W/G)		Laser radar sensor power	ON	—	Battery voltage (Approx. 12)
3 (L)	Body ground	CAN H	ON	—	Approx. 3.5V Approx. 2.5V  SKIA1244E
4(B)		Ground	ON	—	Approx. 0
6 (R)		CAN L	ON	—	Approx. 12V Approx. 5V  SKIA1243E

## Terminals and Reference Value for ICC Warning Chime

EKS004FX

TERMI- NALS (WIRE COLOR)		ITEM	CONDITION		VOLTAGE(V)
			IGNI- TION SWITCH	OPERATION	
1 (W/G)		Ignition switch ON or START	ON	—	Battery voltage (Approx. 12)
2 (G)		ICC warning signal	ON	Chime output OFF	Approx. 12
				Chime output ON	Approx. 0 - 12

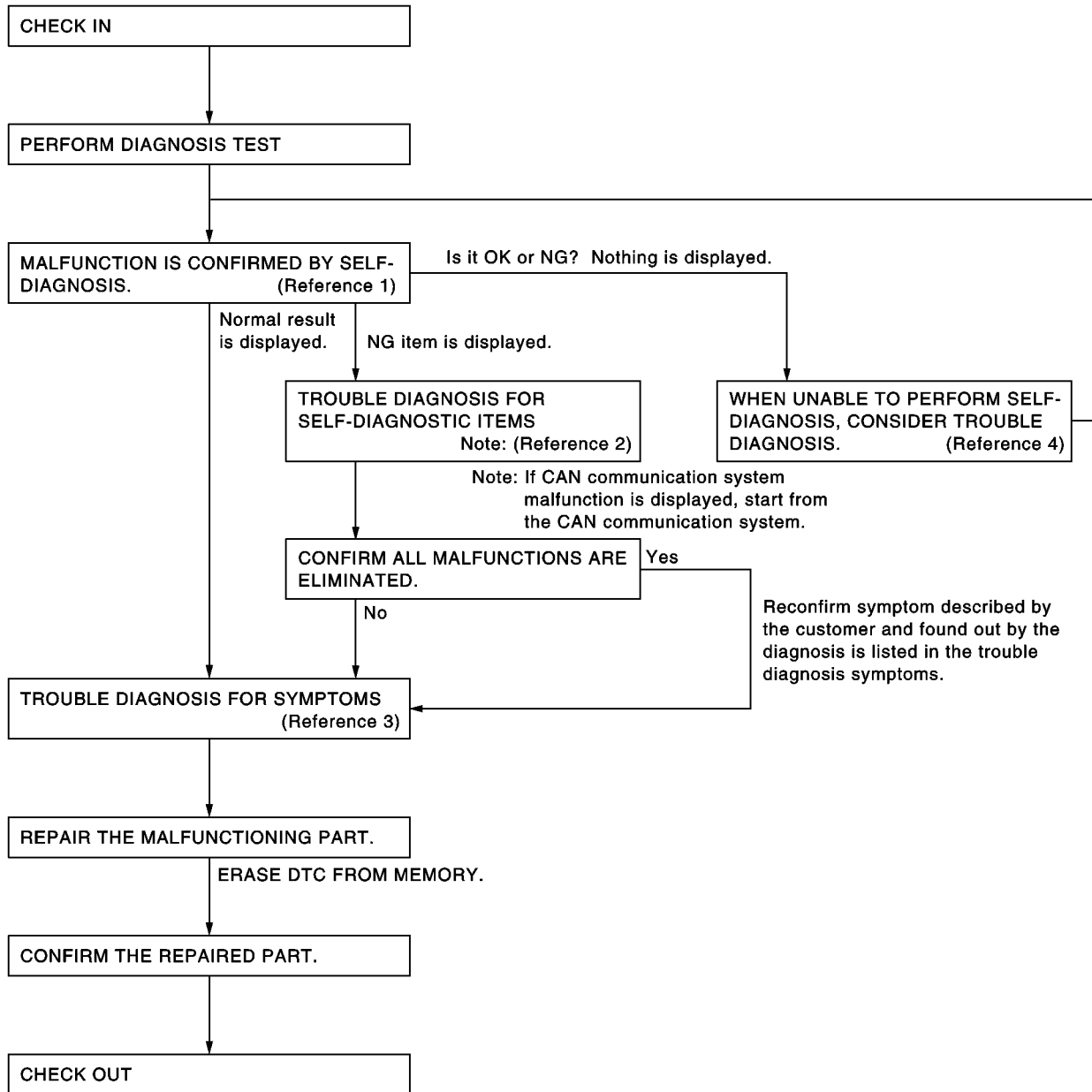


TROUBLE DIAGNOSIS — GENERAL DESCRIPTION

PFP:00004

Work Flow

EKS004FY



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SKIA1227E

- Reference 1... Refer to [ACS-39, "Self-Diagnostic Function"](#) .
- Reference 2... Refer to [ACS-44, "Diagnostic Trouble Code \(DTC\) Chart"](#) .
- Reference 3... Refer to [ACS-64, "Symptom Chart"](#) .
- Reference 4... Refer to [ACS-41, "SELF-DIAGNOSIS BY CONSULT-II WILL NOT RUN"](#) / [ACS-42, "SELF-DIAGNOSIS BY ICC SYSTEM DISPLAY WILL NOT RUN."](#) .

**CONSULT-II Function DESCRIPTION**

EKS004FZ

CONSULT-II executes following functions by combining data reception and command transmission via communication line from ICC unit.

Test mode	Function
WORK SUPPORT	<ul style="list-style-type: none"> <li>● Monitors aiming direction to facilitate laser beam aiming operation.</li> <li>● Indicates causes of automatic cancellation of the ICC system.</li> </ul>
SELF-DIAGNOSTIC RESULTS	Displays malfunctioning system memorized in ICC unit.
DATA MONITOR	Displays real-time input/output data of ICC unit.
ACTIVE TEST	Enables operation check of electrical loads by sending driving signal to them.
ECU PART NUMBER	Displays part number of ICC unit.

## WORK SUPPORT

### Work Item

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

### LASER BEAM ADJUST

For details, refer to [ACS-15, "LASER BEAM AIMING ADJUSTMENT"](#) .

### CAUSE OF AUTO-CANCEL

1. Turn ignition switch OFF.
2. Connect CONSULT-II to data link connector.
3. Turn ignition switch ON.
4. Touch "START" on the display.
5. Touch "ICC" on the selection screen.
6. Touch "WORK SUPPORT" on the selection screen.
7. Touch "CAUSE OF AUTO-CANCEL" on the selection screen.
8. Cause of automatic cancellation screen will be shown.

#### **CAUTION:**

**Last five cancel (system cancel) causes are displayed.**

## Display Item List

Cause of cancellation	Description
OPERATING WIPER	Windshield wipers were operated at HI or LO speed and the fastest position of intermittent operation.
OPERATING ABS	ABS was operated.
OPERATING TCS	TCS was operated.
OPERATING VDC	ESP was operated.
ECCS CIRCUIT	ICC system was inhibited by ECM.
CVT CIRCUIT	ICC system was inhibited by CVT.
OPE SW VOLT CIRC	Outside the standard control switch input voltage was detected.
LASER SUN BEAM	Intense light such as sunlight entered ICC sensor light sensing part.
OP SW DOUBLE TOUCH	Multiple control switches were pressed at the same time.
VDC/TCS OFF SW	ESP OFF switch was pressed.
WHEEL SPD UNMATCH	Wheel speed became different from secondary pulley revolution signal.
WHL SPD ELEC NOISE	Electronic noise on wheel speed sensor.
TIRE SLIP	Wheel slipped.
PKB SW ON	Parking brake is applied.
IGN LOW VOLT	Power supply voltage became low.
LASER TEMP	Temperature around ICC sensor became low.
NO RECORD	—

## SELF-DIAGNOSTIC RESULTS

For details, refer to [ACS-44, "Diagnostic Trouble Code \(DTC\) Chart"](#) .

## DATA MONITOR

1. Turn ignition switch OFF.
2. Connect CONSULT-II to data link connector.
3. Turn ignition switch ON.
4. Touch "START" on the display.
5. Touch "ICC" on the selection screen.
6. Touch "DATA MONITOR" on the selection screen.
7. Touch any of "ECU INPUT SIGNALS", "MAIN SIGNALS", "CAN DIAG SUPPORT MNTR", and "SELECTION FROM MENU" on selection screen.
8. Touch "SETTING".
9. Display the data monitor.
10. If necessary, touch "PRINT" in turn, and print data.

## Monitored Item

x:Applicable

Monitored Item [unit]	MAIN SIGNALS	ECU INPUT SIGNALS	CAN DIAG SUPPORT MNTR	SELECTION FROM MENU	Description
VHCL SPEED SE [km/h] or [mph]	x	x		x	Indicates vehicle speed read by ICC unit via CAN communication (EPS/TCS/ABS control unit transmits wheel speed via CAN communication).
SET VHCL SPD [km/h] or [mph]	x			x	Indicates set vehicle speed memorized in ICC unit.
THRTL OPENING [%]	x	x		x	Indicates throttle angle read by ICC unit via CAN communication (ECM transmits throttle angle via CAN communication).

# TROUBLE DIAGNOSIS — GENERAL DESCRIPTION

[ICC]

Monitored Item [unit]	MAIN SIG- NALS	ECU INPUT SIGNALS	CAN DIAG SUPPORT MNTR	SELEC- TION FROM MENU	Description
ENGINE RPM [rpm]		×		×	Indicates engine speed read by ICC unit via CAN communication (ECM transmits engine speed via CAN communication).
DISTANCE ADJ [SHORT/MID/LONG]	×	×		×	Indicates set distance memorized in ICC unit.
WIPERSW [OFF/LOW/HIGH]		×		×	Indicates wiper [OFF/LOW/HIGH] status.
MAIN SW [ON/OFF]	×	×		×	Indicates [ON/OFF] status as judged from control switch signal (ECM transmits switch signal via CAN communication).
CANSEL SW [ON/OFF]	×	×		×	Indicates [ON/OFF] status as judged from control switch signal (ECM transmits switch signal via CAN communication).
SET/COAST SW [ON/OFF]	×	×		×	Indicates [ON/OFF] status as judged from control switch signal (ECM transmits switch signal via CAN communication).
RESUME/ACC SW [ON/OFF]	×	×		×	Indicates [ON/OFF] status as judged from control switch signal (ECM transmits switch signal via 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. OFF when brake is depressed. ON when brake is not depressed.
IDLE SW [ON/OFF]		×		×	Indicates [ON/OFF] status of idle switch read by ICC unit via CAN communication (ECM transmits ON/OFF status via CAN communication).
BUZZER O/P (ON/OFF)				×	Indicates [ON/OFF] status of ICC waning chime output.
CRUISE LAMP [ON/OFF]	×			×	Indicates [ON/OFF] status of ON/OFF switch indicator lamp.
ICC WARNING [ON/OFF]				×	Indicates [ON/OFF] status of ICC system warning lamp.
VHCL SPD AT [km/h] or [mph]				×	Indicates vehicle speed calculated from primary or secondary pulley revolution sensor by ICC unit via CAN communication (TCM transmits revolution sensor signal via CAN communication).
PRESS SENS [bar]	×	×		×	Indicates brake fluid pressure value calculated from signal voltage of pressure sensor.
STP LMP DRIVE [ON/OFF]	×			×	Indicates [ON/OFF] status of brake hold relay drive output.

# TROUBLE DIAGNOSIS — GENERAL DESCRIPTION

[ICC]

Monitored Item [unit]	MAIN SIGNALS	ECU INPUT SIGNALS	CAN DIAG SUPPORT MNTR	SELECTION FROM MENU	Description
NP RANGE SW (ON /OFF)		×		×	Indicates [ON/OFF] status of PNP switch.
D RANGE SW [ON/OFF]		×		×	Indicates [ON/OFF] status of “D” position read by ICC unit via CAN communication (TCM transmits ON/OFF condition of “D” position via CAN communication).
CAN CIRC 1 [OK/UNKWN]			×		Indicates [OK/UNKWN] status of CAN communication signal.
CAN CIRC 2 [OK/UNKWN]			×		Indicates [OK/UNKWN] status of CAN communication signal.
CAN CIRC 3 [OK/UNKWN]			×		Indicates [OK/UNKWN] status of CAN communication signal.
CAN CIRC 4 [OK/UNKWN]			×		Indicates [OK/UNKWN] status of CAN communication signal.
CAN CIRC 5 [OK/UNKWN]			×		UNKWN fixed display
CAN CIRC 6 [OK/UNKWN]			×		UNKWN fixed display
CAN CIRC 7 [OK/UNKWN]			×		Indicates [OK/UNKWN] status of CAN communication signal.
CAN CIRC 8 [OK/UNKWN]			×		Indicates [OK/UNKWN] status of CAN communication signal.
CAN CIRC 9 [OK/UNKWN]			×		UNKWN fixed display
CAN CIRC 10 [OK/UNKWN]			×		Indicates [OK/UNKWN] status of CAN communication signal.
CAN CIRC 11 [OK/UNKWN]			×		Indicates [OK/UNKWN] status of CAN communication signal.
CAN CIRC 12 [OK/UNKWN]			×		UNKWN fixed display
CAN CIRC 13 [OK/UNKWN]			×		UNKWN fixed display
CAN CIRC 14 [OK/UNKWN]			×		UNKWN fixed display
CAN CIRC 15 [OK/UNKWN]			×		UNKWN fixed display
CAN COMM[OK/NG]			×		Indicates [OK/NG] status of CAN communication signal.

## ACTIVE TEST

### Caution

- Do not perform the active test while driving.
  - Active test cannot be started while ICC system warning indicator illuminates.
1. Turn ignition switch OFF.
  2. Connect CONSULT-II to data link connector and start engine.
  3. Touch “START”, “ICC”, and “ACTIVE TEST” on CONSULT-II display in turn.
  4. Touch necessary test item.
  5. Touch “START”.
  6. Active test screen will be shown.

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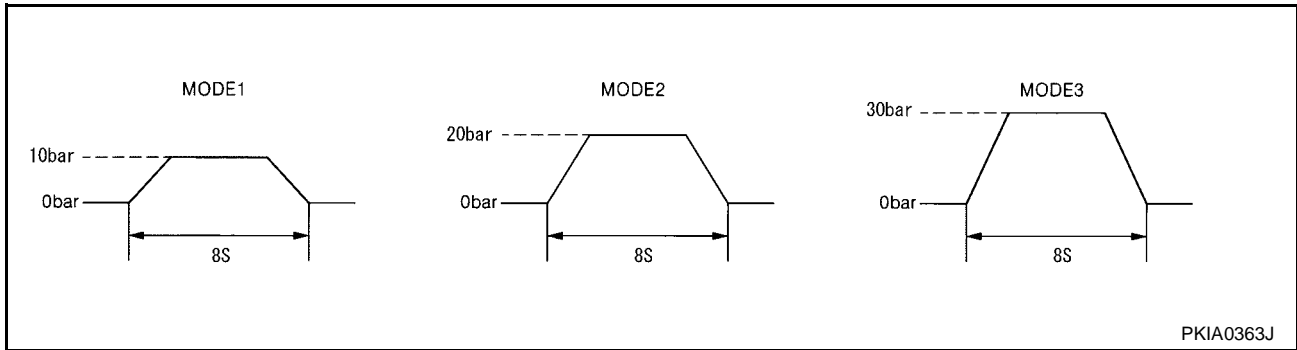


## BOOSTER SOL/V 3

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

<b>ACTIVE TEST</b>	
BOOSTER SOL/V 3	OFF
<b>MONITOR</b>	
PRESS SENS	0bar
PRESS SENS 2	0bar
MODE 2	MODE 3
<b>TEST START</b>	

SKIA1233E



## Self-Diagnostic Function WITH CONSULT-II

EKS004G0

1. Go to operation check after asking the customer for symptom information. Refer to [ACS-13, "ACTION TEST"](#).
2. Stop vehicle, turn ignition switch OFF, then connect CONSULT-II connector to data link connector.
3. With engine started, touch “START”, “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 [ACS-41, "SELF-DIAGNOSIS BY CONSULT-II WILL NOT RUN"](#).**

4. Self-diagnostic result appears on screen. If “NO DTC ...” is shown, check ICC warning lamp. If any malfunction is indicated, GO TO step 5.
5. According to [ACS-44, "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”, “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 warning lamp does not illuminate.

## WITHOUT CONSULT-II

1. Go to operation check after asking the customer for symptom information. Refer to [ACS-13, "ACTION TEST"](#).
2. Stop the vehicle to start the self-diagnosis.
3. Turn ignition switch OFF.

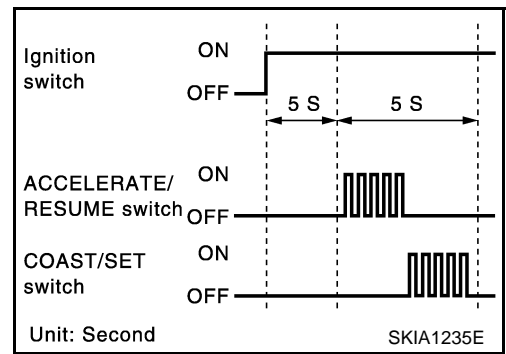
# TROUBLE DIAGNOSIS — GENERAL DESCRIPTION

[ICC]

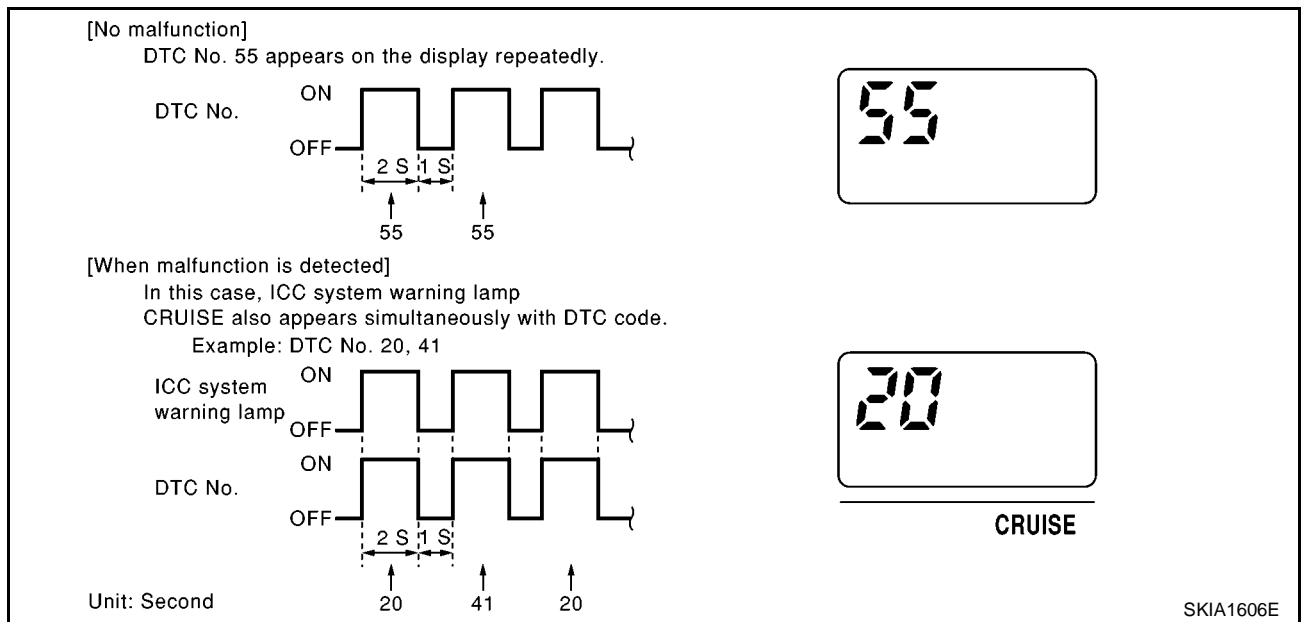
- Turn ignition switch ON, and within 5 to 10 seconds, press ACCELERATE/RESUME switch 5 times. Then press COAST/SET switch 5 times to start self-diagnosis.

**CAUTION:**

- Do not start the engine.
- Do not turn the ON/OFF switch ON.
- When operation above is not completed within 5 to 10 seconds, start again from above go to 3.
- If self-diagnosis mode cannot be start after several attempts, the ICC unit may have had malfunction. Repair or replace it. Refer to [ACS-42, "SELF-DIAGNOSIS BY ICC SYSTEM DISPLAY WILL NOT RUN."](#)



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



**CAUTION:**

- DTCs will disappear after 5 minutes.
  - When more than one malfunctions are detected, a maximum of 3 code numbers can be stored; the latest malfunction will be displayed first.
- Check [ACS-44, "Diagnostic Trouble Code \(DTC\) Chart"](#), and repair or replace if necessary.
  - After repair, erase DTCs stored in the ICC unit.
  - DTC 55 will be shown.
  - Turn ignition switch OFF to exit the diagnosis.
  - Perform ICC system running test (drive vehicle with ICC system ON), and make sure that ICC warning lamp does not illuminate.

### Self-Diagnostic Erasing Method

- Stop the vehicle and turn the ignition switch OFF.
- Turn ignition switch ON and start self-diagnosis.
- 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 above go to 2.
- DTC 55 will be shown.

**CAUTION:**

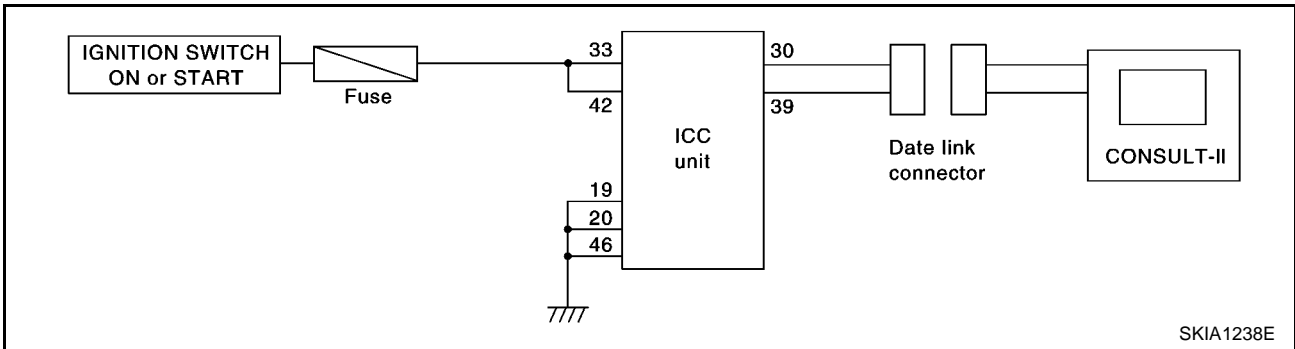
DTCs of an existing malfunction will not be erased.

- 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.

## SELF-DIAGNOSIS BY CONSULT-II WILL NOT RUN



### Possible Irregular Condition

Open or short lines	Trouble phenomenon	Malfunction causes
ICC unit power supply malfunction	No voltage supply from ignition switch	Ignition relay malfunctioned
		Fuse blown
		Harness open
	Ground cable not connected	Harness open
Harness shorted		
CONSULT-II malfunction	Signal not transmitted to data link connector	Harness open
		Harness shorted
ICC unit malfunction	CONSULT-II malfunction	

## 1. CHECK CONSULT-II SYSTEM

- Can CONSULT-II call other systems?

Yes or No

- Yes >> GO TO 2.  
 No >> ● Check CONSULT-II body.  
 ● Check battery and harness.

## 2. CHECK POWER SUPPLY FOR ICC UNIT

- Is ICC unit turned ON?

Yes or No

- Yes >> GO TO 3.  
 No >> Check power supply system, and repair if necessary.

## 3. CHECK HARNESS FOR DATA LINK CONNECTOR

- Is continuity between ICC unit and data link connector normal?

Yes or No

- Yes >> GO TO 4.  
 No >> Harness repair

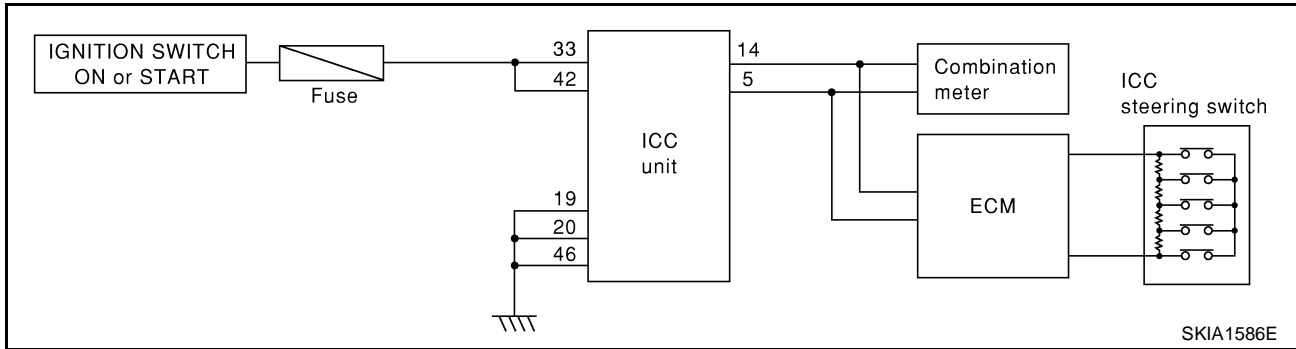
## 4. SELF-DIAGNOSIS CHECK

- Disconnect ICC unit connector, and check terminals for bend and looseness. Securely connect it again.
- Enter self-diagnosis mode?

Yes or No

- Yes >> Inspection is completed.  
 No >> ICC unit replacement

### SELF-DIAGNOSIS BY ICC SYSTEM DISPLAY WILL NOT RUN.



### Possible Irregular Condition

Open or short lines	Trouble phenomenon	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 Switch or ICC unit malfunction		
		CAN communication system malfunction	Signal not transmitted	Harness open Harness shorted CAN communication outside the standard
				Combination meter system malfunction
		ICC unit malfunction		

## 1. CHECK ICC SYSTEM DISPLAY

- When ignition switch is ON, do all displays illuminate?

Yes or No

- Yes >> GO TO 2.  
 No >> GO TO 5.

**2. CHECK ICC STEERING SWITCH**

- Check ICC steering switch. Refer to [ACS-72, "ICC Steering Switch"](#) .

OK or NG

- OK >> GO TO 3.  
NG >> Replace ICC steering.

**3. CHECK HARNESS BETWEEN ECM AND ICC STEERING SWITCH**

- Check harness and spiral cable between ECM and ICC steering switch for open or short circuit.

OK or NG

- OK >> GO TO 4.  
NG >> Replace ICC steering.

**4. CHECK SELF-DIAGNOSIS**

- Disconnect connector of ECM, and check terminals for bend and looseness. Securely connect it again.
- Enter self-diagnosis mode for ICC system?

Yes or No

- Yes >> Inspection is completed.  
No >> GO TO 5.

**5. CHECK POWER SUPPLY FOR ICC UNIT**

- Check ICC unit power supply, and repair if necessary.
- When ignition switch is ON, do all displays illuminate?

Yes or No

- Yes >> Perform self-diagnosis again.  
No >> GO TO 6.

**6. CHECK CONNECTOR FOR ICC UNIT**

- Disconnect connector of ICC unit, and check terminals for bend and looseness. Securely connect it again.
- When ignition switch is ON, do all displays illuminate?

Yes or No

- Yes >> Perform self-diagnosis again.  
No >> GO TO 7.

**7. 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-46, "DTC 20 CAN COMM CIRCUIT"](#) .

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# TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS

[ICC]

## TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS

PFP:00000

### Diagnostic Trouble Code (DTC) Chart

EKS004G1

x:Applicable

DTC No.	CONSULT-II screen terms	ICC system warning lamp	Fail-safe	Malfunctions detected where...	Reference page
11	CONTROL UNIT	×	×	<ul style="list-style-type: none"> <li>● ICC unit internal malfunction</li> </ul>	<a href="#">ACS-45</a>
20	CAN COMM CIRCUIT	×	×	<ul style="list-style-type: none"> <li>● ICC unit detected CAN communication malfunction.</li> </ul>	<a href="#">ACS-46</a>
31	POWER SUPPLY CIR1	×	×	<ul style="list-style-type: none"> <li>● ICC unit power supply voltage is excessively low.</li> </ul>	<a href="#">ACS-46</a>
34	POWER SUPPLY CIR2	×	×	<ul style="list-style-type: none"> <li>● ICC unit power supply voltage is excessively high.</li> </ul>	<a href="#">ACS-46</a>
41	VHCL SPEED SE CIRC	×	×	<ul style="list-style-type: none"> <li>● Wheel speed sensor malfunction.</li> <li>● ESP/TCS/ABS control unit malfunction</li> <li>● Secondary pulley revolution sensor malfunction</li> <li>● TCM malfunction</li> </ul>	<a href="#">ACS-47</a>
43	ABS/TCS/VDC CIRC	×	×	<ul style="list-style-type: none"> <li>● ESP/TCS/VDC system malfunction</li> </ul>	<a href="#">ACS-48</a>
45	BRAKE SW/ STOP L SW	×	×	<ul style="list-style-type: none"> <li>● Brake and stop lamp switch harness is open or shorted.</li> <li>● Brake and stop lamp switch is ON or stuck to OFF.</li> <li>● Brake and stop lamp switch is stuck to ON.</li> </ul>	<a href="#">ACS-48</a>
46	OPERATION SW CIRC	×	×	<ul style="list-style-type: none"> <li>● ICC steering switch harness or spiral cable is open or shorted.</li> <li>● ICC steering switch malfunction</li> </ul>	<a href="#">ACS-50</a>
61	PRESS SEN CIRCUIT	×	×	<ul style="list-style-type: none"> <li>● Brake pressure sensor harness is open or shorted.</li> <li>● Brake pressure sensor malfunction</li> <li>● Brake pressure sensor input circuit malfunction</li> </ul>	<a href="#">ACS-51</a>
62	BOOSTER SOL/V CIRCUIT	×	×	<ul style="list-style-type: none"> <li>● Solenoid harness is open or shorted.</li> <li>● Solenoid is open.</li> <li>● Solenoid drive circuit malfunction</li> </ul>	<a href="#">ACS-52</a>
63	RELEASE SW CIRCUIT	×	×	<ul style="list-style-type: none"> <li>● Release switch harness is open or shorted.</li> <li>● Release switch malfunction</li> <li>● Release switch input circuit malfunction</li> </ul>	<a href="#">ACS-53</a>
65	PRESSURE CONTROL	×	×	<ul style="list-style-type: none"> <li>● Booster malfunction</li> </ul>	<a href="#">ACS-54</a>
74	LASER BEAM OFF CNTR	×	×	<ul style="list-style-type: none"> <li>● Laser beam of ICC sensor is off the aiming point.</li> </ul>	<a href="#">ACS-55</a>
90	STOP LAMP RLY FIX	×	×	<ul style="list-style-type: none"> <li>● Normally open terminal of stop lamp relay is stuck.</li> </ul>	<a href="#">ACS-55</a>

# TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS

[ICC]

DTC No.	CONSULT-II screen terms	ICC system warning lamp	Fail-safe	Malfunctions detected where...	Reference page
92	ECM CIRCUIT	×	×	<ul style="list-style-type: none"> <li>● ECM malfunction</li> <li>● Accelerator pedal position sensor malfunction</li> <li>● ICC unit malfunction</li> </ul>	<a href="#">ACS-60</a>
96	NP RANGE	×	×	<ul style="list-style-type: none"> <li>● Park/neutral position switch harness is open or shorted.</li> <li>● Park/neutral position switch malfunction</li> <li>● TCM malfunction</li> </ul>	<a href="#">ACS-61</a>
102	RADAR STAIN	×	×	<ul style="list-style-type: none"> <li>● Sensor cover or ICC sensor body window has contamination.</li> </ul>	<a href="#">ACS-62</a>
103	LASER SENSOR FAIL	×	×	<ul style="list-style-type: none"> <li>● ICC sensor internal malfunction</li> </ul>	<a href="#">ACS-62</a>
104	LASER AIMING INCMP	×	×	<ul style="list-style-type: none"> <li>● Laser beam aiming of ICC sensor is not adjusted.</li> </ul>	<a href="#">ACS-63</a>
107	LASER COMM FAIL	×	×	<ul style="list-style-type: none"> <li>● CAN data received by ICC sensor is strange (from ICC unit, combination meter or ECM).</li> </ul>	<a href="#">ACS-63</a>
109	LASER HIGH TEMP	×	×	<ul style="list-style-type: none"> <li>● Temperature around ICC sensor is excessively high.</li> </ul>	<a href="#">ACS-63</a>

## DTC 11 CONTROL UNIT

EKS004G2

### 1. DIAGNOSTIC CHECK

1. Are any items other than "DTC 11 CONTROL UNIT" indicated on self-diagnosis display?

Yes or No

- Yes >> Repair or replace applicable item. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- No >> Replace ICC unit. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

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## DTC 20 CAN COMM CIRCUIT

EKS004G3

### 1. CHECK CAN COMMUNICATION

 **With CONSULT-II**

1. Perform self-diagnosis.
2. Print self-diagnostic result.
3. Check "CAN DIAG SUPPORT MNTR" on data monitor.

#### CAN DIAG SUPPORT MNTR

Normal	Outside the standard (example)
CAN COMM: OK	CAN COMM: OK
CAN CIRC1: OK	CAN CIRC1: UNKWN
CAN CIRC2: OK	CAN CIRC2: UNKWN
CAN CIRC3: OK	CAN CIRC3: UNKWN
CAN CIRC4: OK	CAN CIRC4: UNKWN
CAN CIRC5: UNKWN	CAN CIRC5: UNKWN
CAN CIRC6: UNKWN	CAN CIRC6: UNKWN
CAN CIRC7: OK	CAN CIRC7: UNKWN
CAN CIRC8: OK	CAN CIRC8: UNKWN
CAN CIRC9: UNKWN	CAN CIRC9: UNKWN
CAN CIRC10: OK	CAN CIRC10: UNKWN
CAN CIRC11: OK	CAN CIRC11: UNKWN
CAN CIRC12: UNKWN	CAN CIRC12: UNKWN
CAN CIRC13: UNKWN	CAN CIRC13: UNKWN
CAN CIRC14: UNKWN	CAN CIRC14: UNKWN
CAN CIRC15: UNKWN	CAN CIRC15: UNKWN

- >> ● After printing monitor items, go to corresponding "CAN system".
- Refer to [ACS-6, "CAN Communication"](#) .
  - Refer to [LAN-15, "CAN Communication Unit For LHD Models without Tyre Pressure Monitoring System"](#) .
  - Refer to [LAN-22, "CAN Communication Unit For RHD Models with Tyre Pressure Monitoring System"](#) .
  - Refer to [LAN-29, "CAN Communication Unit For RHD Models without Tyre Pressure Monitoring System"](#) .

## DTC 31 POWER SUPPLY CIR 1, DTC 34 POWER SUPPLY CIR 2

EKS004G4

### 1. CHECK CONNECTOR ICC UNIT

1. Turn ignition switch OFF.
2. Disconnect ICC unit connector, and connect it securely again. Then erase DTC. After that perform self-diagnosis of ICC system again.

#### OK or NG

- NG >> GO TO 2.
- OK >> ● Poor connector connection
- Check connector. (Check connector housing for disconnected, loose, bent, and collapsed terminals. If any malfunction is detected, repair applicable part.) After repair, erase DTC, and perform ICC running test. Then perform self-diagnosis of ICC system again.

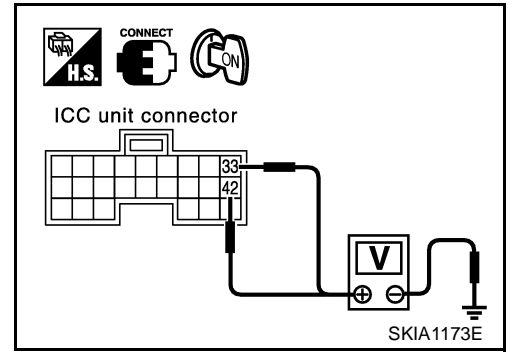
## 2. CHECK POWER SUPPLY CIRCUIT FOR ICC UNIT

1. Turn ignition switch ON.
2. Check voltage between ICC unit harness connector B10 terminal 33 (W/G), 42 (W/G) and ground.

**Battery voltage should exist (more than approx.10V).**

OK or NG

- OK >> GO TO 3.
- NG >> ● Repair ICC unit power supply harness.
- After repair, erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.



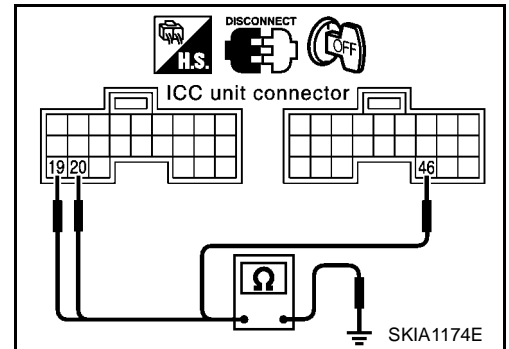
## 3. CHECK GROUND CIRCUIT FOR ICC UNIT

1. Turn ignition switch OFF.
2. Disconnect ICC unit connector.
3. Check continuity between ICC unit harness connector B9 terminal 19 (B), 20 (B), B10 terminal 46 (B) and ground.

**Continuity should exist.**

OK or NG

- OK >> After replacing ICC unit, erase DTC, and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NG >> ● Repair ICC unit ground harness.
- After repair, erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.



## DTC 41 VHCL SPEED SE CIRC

EKS004G5

### 1. ICC UNIT SELF-DIAGNOSIS CHECK

1. Perform self-diagnosis. Is "DTC 43 ABS/TCS/VDC CIRC" or "DTC 20 COMM CIRCUIT" indicated in self-diagnosis item display?

Yes or No

- Yes >> Refer to [ACS-48, "DTC 43 ABS/TCS/VDC CIRC"](#) or [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#).
- No >> GO TO 2

### 2. CHECK AT VEHICLE SPEED SENSOR

Ⓟ **With CONSULT-II**

- With data monitor, check "VHCL SPD AT" operate normally. Refer to [ACS-35, "DATA MONITOR"](#)

OK or NG

- OK >> Replace ICC unit. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NG >> ● Check TCM.
- After repair, erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.

**DTC 43 ABS/TCS/VDC CIRC**

EKS004G7

**1. DIAGNOSIS CHECK 1****With CONSULT-II**

- Perform self-diagnosis. Is "CAN COMM CIRCUIT" indicated?

Yes or No

- Yes >> Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) .  
 No >> GO TO 2.

**2. DIAGNOSIS CHECK 2****With CONSULT-II**

- Perform self-diagnosis of ESP/TCS/ABS control unit. Is malfunction indicated?

Yes or No

- Yes >> Repair or replace applicable item. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.  
 No >> Replace ICC unit. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

**DTC 45 BRAKE SW/STOP L SW**

EKS004G8

**1. CHECK CONNECTOR FOR ICC UNIT**

1. Turn ignition switch OFF.
2. Disconnect ICC unit connector, and connect it securely again. Then erase DTC. After that, perform self-diagnosis of ICC system again.

OK or NG

- OK >> ● Poor connector connection  
 ● Check connector. (Check connector housing for disconnected, loose, bent, and collapsed terminals. If any malfunction is detected, repair applicable part.) After repair, erase DTC, and perform ICC system running test. Then perform self-diagnosis of ICC system again.  
 NG >> GO TO 2.

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

- With data monitor, check if "STOP LAMP SW" and "BRAKE SW" are operated normally. Refer to [ACS-35, "DATA MONITOR"](#) .

OK or NG

- OK >> Replace ICC unit. 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. BRAKE SWITCH INSTALLATION AND ADJUSTMENT INSPECTION**

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

OK or NG

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



## 4. CHECK ICC BRAKE SWITCH

- Check ICC brake switch. Refer to [ACS-72, "ICC Brake Switch and Stop Lamp Switch"](#) .

OK or NG

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

- NG >> ● Check stop lamp circuit.
- After repair, erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.
- OK >> GO TO 6.

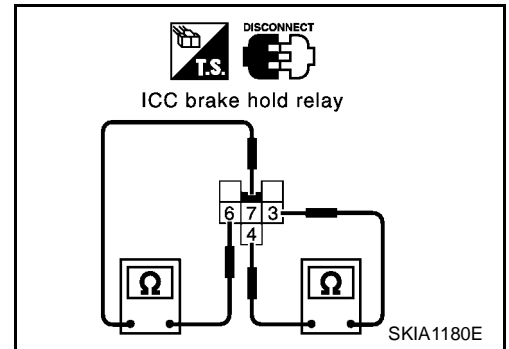
## 6. CHECK ICC BRAKE HOLD RELAY

1. Turn ignition switch OFF.
2. Check continuity between ICC brake hold relay.

- 6 - 7      Continuity should not exist.**
- 3 - 4      Continuity should exist.**

OK or NG

- NG >> Replace brake hold relay. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- OK >> GO TO 7.



## 7. CHECK ICC BRAKE HOLD RELAY CIRCUIT

1. Disconnect connectors of ICC unit and ICC brake hold relay.
2. Check continuity between ICC unit harness connector B10 terminal 38 (R/G) and ICC brake hold relay terminal 6 (R/G).

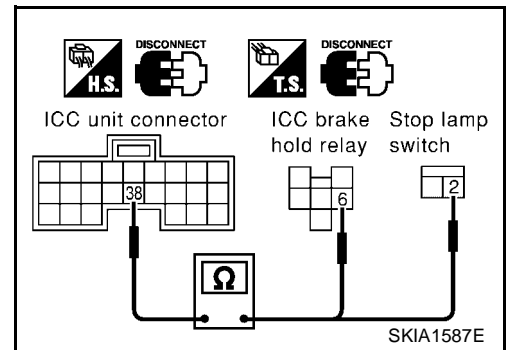
**Continuity should exist.**

3. Check continuity between ICC unit harness connector B10 terminal 38 (R/G) and stop lamp switch terminal 2 (R/G).

**Continuity should exist.**

OK or NG

- NG >> ● Repair harness between ICC unit and ICC brake hold relay.
- After repair, erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.
- OK >> Replace ICC unit. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.



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## DTC 46 OPERATION SW CIRC

EKS004G9

### 1. CHECK CONNECTOR FOR ECM

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1. Turn ignition switch OFF.
2. Disconnect ECM connector, and connect it securely again. Then erase DTC. After that, perform self-diagnosis of ICC system again.

#### OK or NG

- OK >> ● Poor connector connection
- Check connector. (Check connector housing for disconnected, loose, bent, and collapsed terminals. If any malfunction is detected, repair applicable part.) After repair, erase DTC, and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NG >> GO TO 2.

### 2. CHECK ICC STEERING SWITCH

---

- Check ICC steering switch, refer to [ACS-72, "ICC Steering Switch"](#) .

#### OK or NG

NG >> Replace ICC steering switch. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

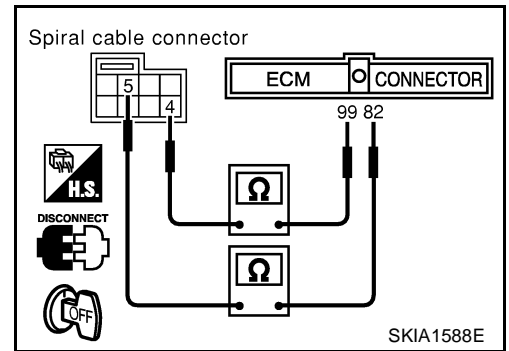
OK >> GO TO 3.

## 3. CHECK ICC STEERING SWITCH SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect connectors of ECM and spiral cable.
3. Check continuity between ECM harness connector F102 terminal 82 (B), 99 (PU) and spiral cable terminal 5 (B), 4 (PU).

**82 - 5, 99 - 4**

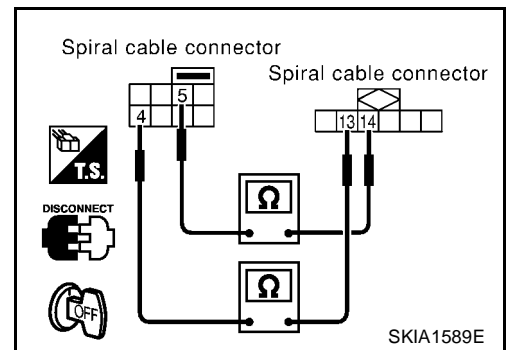
**Continuity should exist.**



4. Check continuity between spiral cable (on vehicle) harness connector M32 terminal 4, 5 and spiral cable (on switch) harness connector M302 terminal 13, 14.

**4 - 13, 5 - 14**

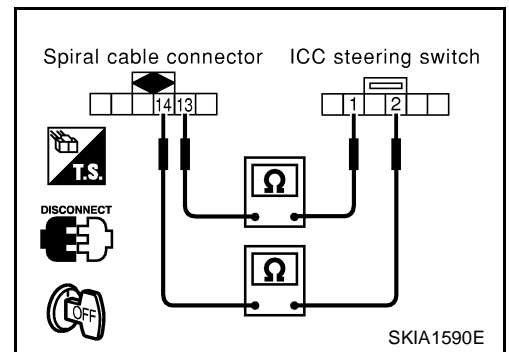
**Continuity should exist.**



5. Check continuity between spiral cable harness connector M302 terminal 13, 14 and ICC steering switch harness connector M303 terminal 1, 2.

**13 - 1, 14 - 2**

**Continuity should exist.**



### OK or NG

- NG >> ● Repair harness between ICC unit and spiral cable.
- After repair, erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.
- OK >> Replace ECM. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

## DTC 61 PRESS SEN CIRCUIT

EKS004GA

### 1. CHECK CONNECTOR BRAKE PRESSURE SENSOR AND ICC UNIT

1. Turn ignition switch OFF.
2. Disconnect connectors of brake pressure sensor and ICC unit, and connect them securely again. Then erase DTC. After that, perform self-diagnosis of ICC system again.

### OK or NG

- OK >> ● Poor connector connection
- Check connector. (Check connector housing for disconnected, loose, bent, and collapsed terminals. If any malfunction is detected, repair applicable part.) After repair, Erase DTC, and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NG >> GO TO 2.

## 2. CHECK HARNESS BETWEEN BRAKE PRESSURE SENSOR AND ICC UNIT

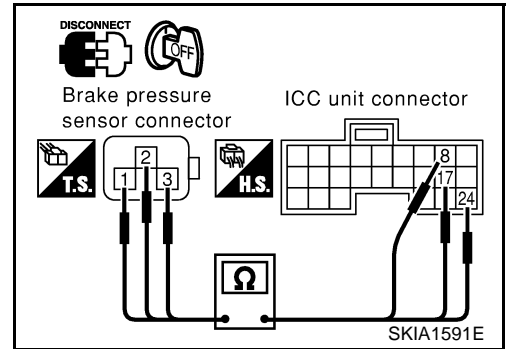
1. Turn ignition switch OFF.
2. Disconnect connectors of ICC unit and brake pressure sensor.
3. Check continuity between ICC unit harness connector B9 terminal 8 (Y/B), 17 (G/Y), 24 (L/R) and brake pressure sensor harness connector E5 terminal 3 (Y/B), 2 (G/Y), 1 (L/R).

**8 - 3, 17 - 2, 24 - 1**      **Continuity should exist.**

OK or NG

- NG >> ● Repair harness between brake pressure sensor and ICC unit
- After repair, erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.

OK >> GO TO 3.



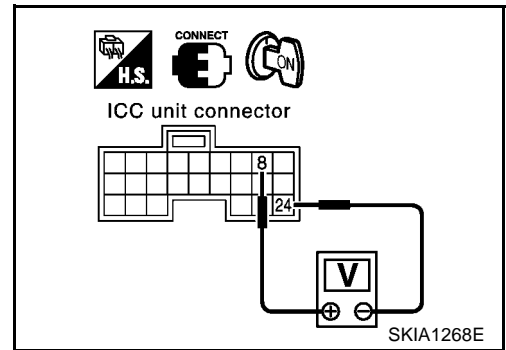
## 3. CHECK POWER SUPPLY CIRCUIT FOR BRAKE PRESSURE SENSOR

1. Connect ICC unit.
2. Turn ignition switch ON.
3. Check voltage between ICC unit harness connector B9 terminal 8 (Y/B) and 24 (L/R).

**8 (+) - 24 (-)**      **Approx. 5V**

OK or NG

- NG >> Replace ICC unit. Erase DTC and perform driving check. Then perform self-diagnosis of ICC system again.
- OK >> ● Brake pressure sensor malfunction
- Replace master cylinder assembly. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.



## DTC 62 BOOSTER SOL/V CIRCUIT

EKS004GB

### 1. CHECK SOLENOID/RELEASE SWITCH AND ICC UNIT CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect connectors of brake booster solenoid/release and ICC unit, and connect them securely again. Then erase DTC. After that perform self-diagnosis of ICC system again.

OK or NG

- OK >> ● Poor connector connection
- Check connector. (Check connector housing for disconnected, loose, bent, and collapsed terminals. If any malfunction is detected, repair applicable part.) After repair, erase DTC, and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NG >> GO TO 2.

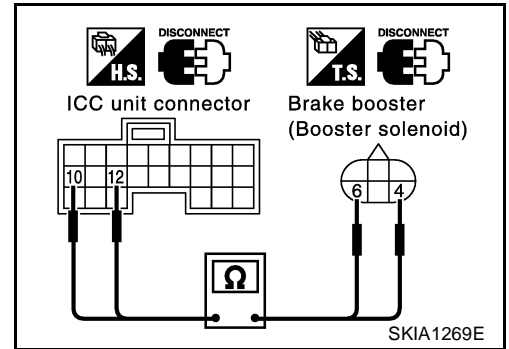
## 2. CHECK HARNESS BETWEEN SOLENOID/RELEASE SWITCH AND ICC UNIT

1. Turn ignition switch OFF.
2. Disconnect ICC unit connector and brake booster solenoid release switch connector.
3. Check continuity between ICC unit harness connector B9 terminal 10 (B/Y), 12 (GY/L) and brake booster harness connector E4 terminal 4 (B/Y), 6 (GY/L).

**10 - 4, 12 - 6                      Continuity should exist.**

OK or NG

- NG    >> ● Repair harness between brake booster solenoid/release switch and ICC unit
- After repair, Erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.
- OK    >> GO TO 3.



## 3. CHECK BOOSTER SOLENOID

- Check booster solenoid. Refer to [ACS-72, "Booster Solenoid"](#) .

OK or NG

- NG    >> ● Replace Booster solenoid
- Replace booster solenoid. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- OK    >> Replace ICC unit. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

## DTC 63 RELEASE SW CIRCUIT

EKS004GC

### 1. CHECK SOLENOID/RELEASE SWITCH AND ICC UNIT CHECK CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect brake booster solenoid/release switch connector and ICC unit connector, and connect them securely again. Then erase DTC. After that, perform self-diagnosis of ICC system again.

OK or NG

- OK    >> ● Poor connector connection
- Check connector. (Check connector housing for disconnected, loose, bent, and collapsed terminals. If any malfunction is detected, repair applicable part.) After repair, erase DTC, and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NG    >> GO TO 2.

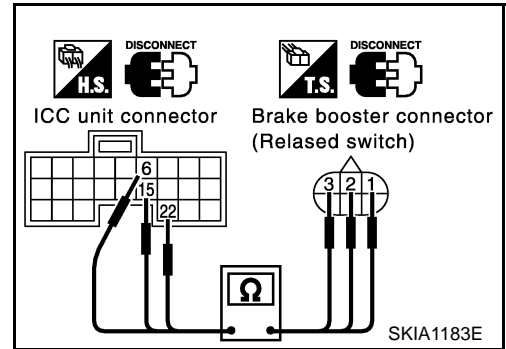
## 2. CHECK HARNESS SOLENOID/RELEASE SWITCH AND ICC UNIT

1. Turn ignition switch OFF.
2. Disconnect brake booster solenoid/release switch connector and ICC unit connector.
3. Check continuity between ICC unit harness connector B9 terminal 6 (Y/B), 15 (W/G), 22 (P/B) and Brake booster harness connector E81 terminal 1 (Y/B), 3 (W/G), 2 (P/B).

**6 - 1, 15 - 3, 22 - 2      Continuity should exist.**

OK or NG

- NG    >> ● Repair harness between brake booster solenoid/release switch and ICC unit
- After repair, Erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.
- OK    >> GO TO 3.



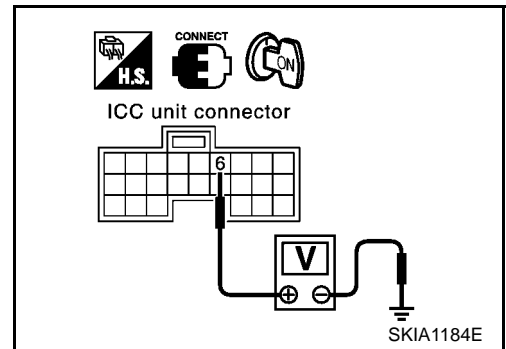
## 3. CHECK RELEASE SWITCH POWER SUPPLY CIRCUIT

- Check voltage between ICC unit harness connector B9 terminal 6 (Y/B) and ground.

**Approx. 10V**

OK or NG

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



## 4. CHECK RELEASE SWITCH

- Check release switch. Refer to [ACS-73, "Release Switch"](#).

OK or NG

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

## DTC 65 PRESSURE CONTROL

EKS004GD

### 1. OPERATION CHECK

- Check foot brake pedal operates normally.

OK or NG

- NG    >> ● Check brake circuit.
- After repair, Erase DTC, and perform active test (BOOSTER SOL/V3) with CONSULT-II. Then perform self-diagnosis of ICC system again.
- OK    >> GO TO 2.

**2. CHECK BOOSTER SOLENOID**

- Check booster solenoid. Refer to [ACS-72, "Booster Solenoid"](#) .

OK or NG

- NG >> ● Solenoid malfunction
- Replace booster. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- OK >> GO TO 3.

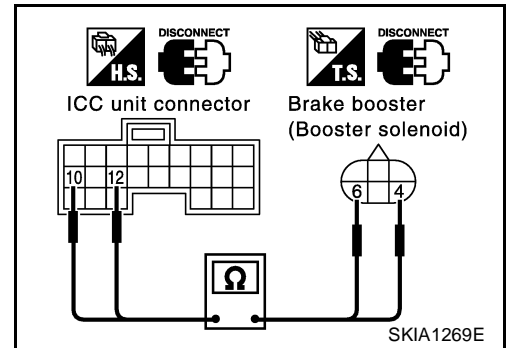
**3. CHECK HARNESS BETWEEN SOLENOID/RELEASE SWITCH AND ICC UNIT**

1. Turn ignition switch OFF.
2. Disconnect ICC unit connector and brake booster solenoid/release switch connector.
3. Check continuity between ICC unit harness connector B9 terminal 10 (B/Y), 12 (GY/L) and brake booster solenoid/release harness connector E4 terminal 4 (B/Y), 6 (GY/L).

**10 - 4, 12 - 6                      Continuity should exist.**

OK or NG

- NG >> ● Repair harness between brake booster solenoid/release switch and ICC unit
- After repair, Erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.
- OK >> Replace ICC unit. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.



**DTC 74 LASER BEAM OFF CNTR**

EKS004GE

**1. DIAGNOSTIC CHECK**

1. Adjust laser beam aiming. Then erase DTC, and perform ICC system ICC system running test.
2. After that, perform self-diagnosis of ICC system. Is DTC 74 LASER BEAM OFF CNTR indicated?

Yes or No

- Yes >> ● Replace ICC sensor, and adjust laser beam aiming.
- After that, Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- No >> Inspection is completed.

**DTC 90 STOP LAMP RLY FIX**

EKS004GJ

**1. CHECK CONNECTOR FOR ICC UNIT**

1. Turn ignition switch OFF.
2. Disconnect ICC unit connector, and connect it securely again. Then erase DTC. After that, perform self-diagnosis of ICC system again.

OK or NG

- OK >> ● Poor connector connection
- Check connector. (Check connector housing for disconnected, loose, bent, and collapsed terminals. If any malfunction is detected, repair applicable part.) After repair, erase DTC, and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- NG >> GO TO 2.

## 2. CHECK STOP LAMP SWITCH, AND ICC BRAKE SWITCH

**④ With CONSULT-II**

- With data monitor, check that “STOP LAMP SW” and “BRAKE SW” operate normally. Refer to [ACS-35, "DATA MONITOR"](#)

OK or NG

- NG >> ● BRAKE SW: GO TO 3.  
           ● STOP LAMP SW: GO TO 8.
- OK >> GO TO 11.

## 3. BRAKE SWITCH INSTALLATION AND ADJUSTMENT INSPECTION

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

OK or NG

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

## 4. CHECK ICC BRAKE SWITCH AND STOP LAMP SWITCH

- Check ICC brake switch and stop lamp switch. Refer to [ACS-72, "ICC Brake Switch and Stop Lamp Switch"](#)

OK or NG

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

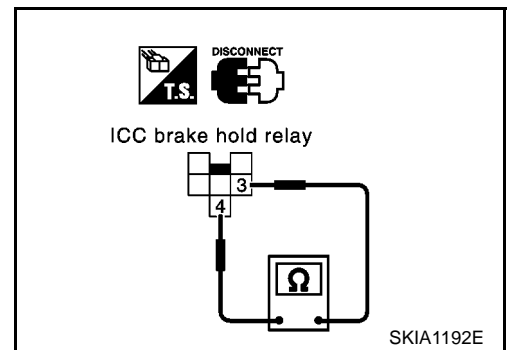
## 5. CHECK ICC BRAKE HOLD RELAY

- Disconnect ICC brake hold relay M6, and check continuity between ICC brake hold relay harness connector terminal 3 and terminal 4.

**Continuity should exist.**

OK or NG

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





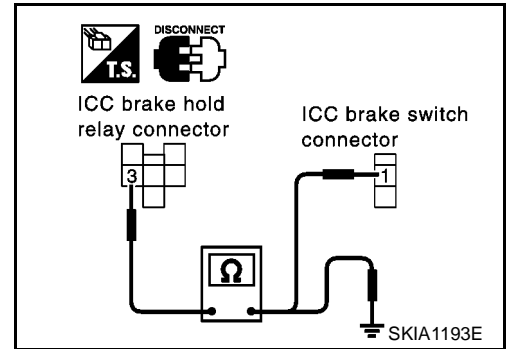
## 6. CHECK HARNESS THROUGH ICC BRAKE HOLD RELAY, ICC BRAKE SWITCH, ICC UNIT

1. Disconnect ICC brake hold relay M6, ICC brake switch M29, ECM F102 and ICC unit harness connector B10.
2. Check continuity between ICC brake hold relay M6 terminal 3 (G) and ICC brake switch M29 terminal 1 (G).

Continuity should exist.

3. Check continuity between ICC brake hold relay M6 terminal 3 (G) and ground.

Continuity should not exist.

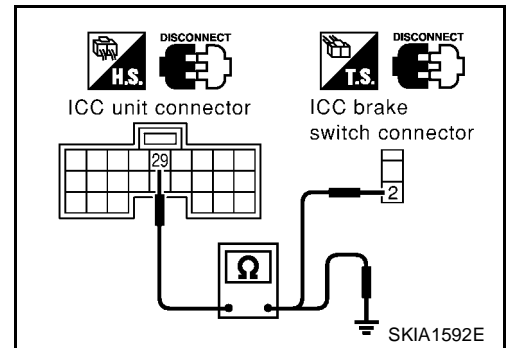


4. Check continuity between ICC brake switch harness connector M29 terminal 2 (R) and ICC unit harness connector B10 terminal 29(R).

Continuity should exist.

5. Check continuity between ICC unit harness connector B10 terminal 29 (R) and ground.

Continuity should not exist.



OK or NG

- NG >> ● Repair harness between ICC brake hold relay and ICC brake switch
- Repair harness between ICC brake switch and ICC unit
  - After repair, erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.

OK >> GO TO 7.

## 7. CHECK ICC BRAKE HOLD RELAY POWER SUPPLY CIRCUIT

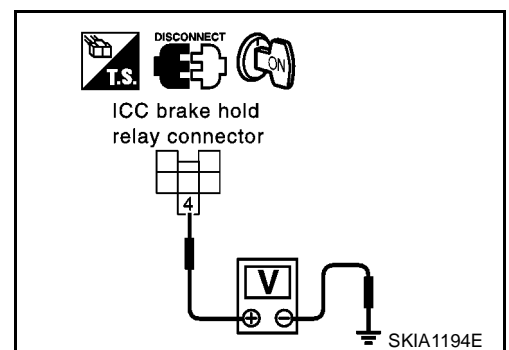
1. Turn ignition switch ON.
2. Check voltage between ICC brake hold relay M6 terminal 4 (W/G) and ground.

Approx. 12V

OK or NG

- NG >> ● Malfunction of fuse, or ICC brake hold relay power supply system harness
- After repair, erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.

OK >> Replace ICC unit. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.



## 8. CHECK BRAKE LAMP ILLUMINATION

1. Disconnect ICC brake hold relay connector.
2. Check stop lamp circuit.

OK or NG

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

OK >> GO TO 9.



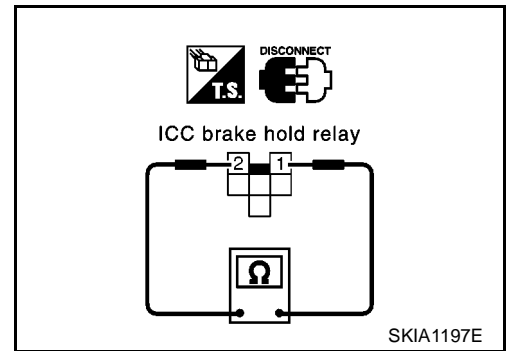
## 12. CHECK ICC BRAKE HOLD RELAY

- Check continuity between ICC brake hold relay terminal 1 and terminal 2.

**Continuity should exist.**

OK or NG

- NG >> Replace ICC brake hold relay. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- OK >> GO TO 13.



## 13. CHECK ICC UNIT STANDARD VOLTAGE

**With CONSULT-II**

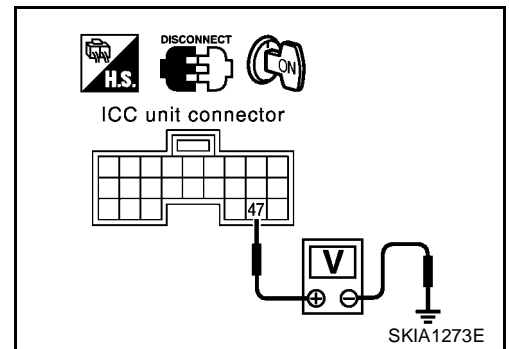
- Connect connectors of ICC unit and stop lamp switch.
- Active test (STOP LAMP: STP LMP DRIVE ON) with CONSULT-II, check voltage between ICC unit harness connector B10 terminal 47 (R/Y) and ground.

**47 - Ground**

**Approx. 12V (during active test)**

OK or NG

- NG >> Replace ICC unit. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- OK >> GO TO 14.



## 14. CHECK ICC BRAKE HOLD RELAY POWER SUPPLY CIRCUIT

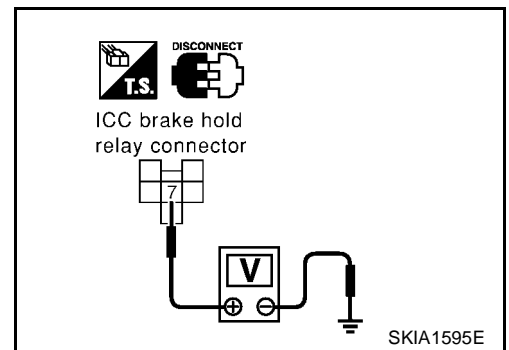
- Check voltage between ICC brake hold relay M6 terminal 7 (R/Y) and ground.

**7 - Ground**

**Approx. 12V**

OK or NG

- NG >> ● Malfunctions of fuse or ICC brake hold relay power supply harness
- After repair, erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.
- OK >> GO TO 15.



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## 2. DIAGNOSIS CHECK 2

- Perform ECM self-diagnosis.

>> Perform the trouble shooting corresponding DTC.

### DTC 96 NP RANGE

EKS004GM

#### 1. CHECK CONNECTOR ICC UNIT

1. Turn ignition switch OFF.
2. Disconnect connector of ICC unit, and connect them securely again. Then erase DTC. After that, perform self-diagnosis of ICC system again.

##### OK or NG

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

NG >> GO TO 2.

#### 2. CHECK NP RANGE SWITCH SIGNAL

##### Ⓟ With CONSULT-II

- With data monitor, check that "NP RANGE SW" operate normally. Refer to [ACS-35, "DATA MONITOR"](#)

##### OK or NG

NG >> GO TO 3.

OK >> GO TO 5.

#### 3. CHECK PARK/NEUTRAL POSITION RELAY

- Check park/neutral position relay operate normally.

##### OK or NG

- NG >> ● Park/neutral position relay malfunction.
- Replace park/neutral position relay, erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.

OK >> GO TO 4.

#### 4. CHECK HARNESS BETWEEN PARK/NEUTRAL POSITION RELAY AND ICC UNIT

1. Turn ignition switch OFF.
2. Disconnect ICC unit connector and park/neutral position relay connector.
3. Check continuity between ICC unit harness connector B9 terminal 7 (G/OR) and park/neutral position relay harness connector E13 terminal 2 (G/OR).

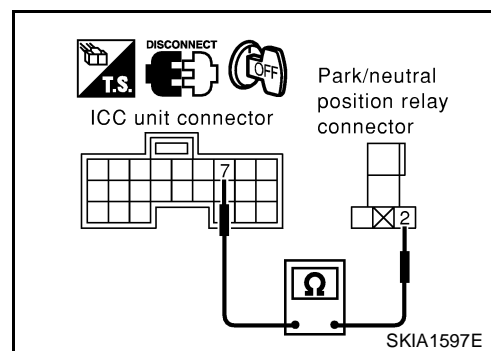
7 - 2

Continuity should exist.

##### OK or NG

- NG >> ● Repair harness between brake park/neutral position relay and ICC unit
- After repair, Erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.

OK >> Replace ICC unit. 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 data monitor with CONSULT-II, check shift operates normally.

#### OK or NG

- NG >> ● Perform TCM diagnosis.
- After repair, Erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.
- OK >> ● Check harness between park/neutral position switch and smart entrance control unit.
- After repair, Erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.

## DTC 102 RADAR STAIN

EKS004GN

### 1. VISUAL INSPECTION 1

- Check that there is no contamination and foreign material on sensor cover or ICC sensor body window.

#### OK or NG

- NG >> ● If any, remove them.
- After that, Erase DTC, Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- OK >> GO TO 3.

### 2. VISUAL INSPECTION 2

- Check sensor cover or ICC sensor body window for cracks.

#### OK or NG

- NG >> ● Replace sensor cover or ICC sensor, and adjust laser beam.
- After that, Erase DTC, Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- OK >> GO TO 3.

### 3. ASKING COMPLAINTS

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

#### Yes or No

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

## DTC 103 LASER SENSOR FAIL

EKS004GO

### 1. DIAGNOSTIC CHECK

- Are "DTC 11 CONTROL UNIT" or "DTC 20 CAN COMM CIRCUIT" item indicated in self-diagnosis display item?

#### Yes or No

- Yes >> Go to applicable item inspection. Refer to [ACS-45, "DTC 11 CONTROL UNIT"](#) , and [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) .
- No >> ● Replace ICC sensor, and adjust laser beam aiming.
- After that, Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

**DTC 104 LASER AIMING INCOMP**

EKS004GP

**1. DIAGNOSTIC CHECK**

1. Adjust laser beam aiming. Erase DTC, and perform.
2. After that, perform self-diagnosis of ICC system. Is “DTC 104 LASER AIMING INCOMP” indicated?

Yes or No

- Yes >> ● Replace ICC sensor, and adjust laser beam aiming.  
 ● After that, Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- No >> Inspection is completed.

**DTC 107 LASER COMM FAIL**

EKS004GQ

**1. DIAGNOSTIC CHECK**

- Is “DTC 11 CONTROL UNIT” or “DTC 20 CAN COMM CIRCUIT” items other than “DTC 107 LASER COMM FAIL” indicated in the self-diagnosis display item?

Yes or No

- Yes >> Go to applicable item inspection. Refer to [ACS-45, "DTC 11 CONTROL UNIT"](#) , and [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) .
- No >> ● Replace ICC sensor. Adjust laser beam aiming.  
 ● After that, Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

**DTC 109 LASER HIGH TEMP**

EKS004GR

**1. CHECK SYMPTOM**

- Is cooling system malfunctioning?

Yes or No

- Yes >> ● Repair cooling system.  
 ● After that, Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
- No >> ● Replace ICC sensor, and adjust laser beam aiming.  
 ● After repair, Erase DTC. Then perform ICC system running test, and perform self-diagnosis of ICC unit.

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ACS

# TROUBLE DIAGNOSIS FOR SYMPTOMS

[ICC]

## TROUBLE DIAGNOSIS FOR SYMPTOMS

PF0:00007

### Symptom Chart

EKS004GS

	Symptoms	Reference page
Operation	Cruise ON/OFF does not switch ON.	Symptom 1 <a href="#">ACS-65</a>
	Cruise ON/OFF does not switch OFF.	Symptom 1 <a href="#">ACS-65</a>
	Cruise does not function for setting (powering functions).	Symptom 2 <a href="#">ACS-66</a>
	CANCEL switch does not function.	Symptom 3 <a href="#">ACS-67</a>
	Resume does not function.	Symptom 3 <a href="#">ACS-67</a>
	The set speed does not increase.	Symptom 3 <a href="#">ACS-67</a>
	The set distance to the vehicle ahead cannot be changed.	Symptom 3 <a href="#">ACS-67</a>
	The ICC is not cancelled when the gear is in other than D.	Symptom 4 <a href="#">ACS-68</a>
Display/Chime	The ICC system display does not appear.	Check combination meter.
	Chime does not function.	Symptom 5 <a href="#">ACS-68</a>
	Chime does not stop.	Symptom 6 <a href="#">ACS-70</a>
Control	Driving force is hunting.	Symptom 7 <a href="#">ACS-70</a>
Function to detect the vehicle ahead	The system frequently cannot detect the vehicle ahead.	Symptom 8 <a href="#">ACS-70</a>
	The distance to detect the vehicle ahead is short.	Symptom 8 <a href="#">ACS-70</a>
	The system misidentifies a vehicle even though there is no vehicle ahead.	<ul style="list-style-type: none"> <li>Refer to <a href="#">ACS-15, "LASER BEAM AIMING ADJUSTMENT"</a></li> <li>Refer to <a href="#">ACS-13, "ICC system running test"</a></li> </ul>
	The system misidentifies a vehicle in the next lane.	<ul style="list-style-type: none"> <li>Refer to <a href="#">ACS-15, "LASER BEAM AIMING ADJUSTMENT"</a></li> <li>Refer to <a href="#">ACS-13, "ICC system running test"</a></li> </ul>
	The system does not detect a vehicle at all.	Symptom 9 <a href="#">ACS-71</a>



## Symptom 1: Cruise ON/OFF Does Not Switch ON. (The ICC System Display in the Combination Meter Does Not Illuminate.) Cruise ON/OFF Does Not Switch OFF. (The ICC System Display in the Combination Meter Remains Powered.)

EKS004GT

### 1. CHECK ON/OFF SWITCH

**With CONSULT-II**

- With data monitor, check that "MAIN SW" operates normally. Refer to [ACS-35, "DATA MONITOR"](#).

OK or NG

- OK >> GO TO 2.
- NG >> GO TO 5.

### 2. CHECK CONNECTOR ICC UNIT

1. Turn ignition switch OFF.
2. Disconnect and check ICC unit connector.

OK or NG

- NG >> ● Connector malfunction
  - After repair, erase DTC, and perform ICC system running test. Then perform self-diagnosis of system.
- OK >> GO TO 3.

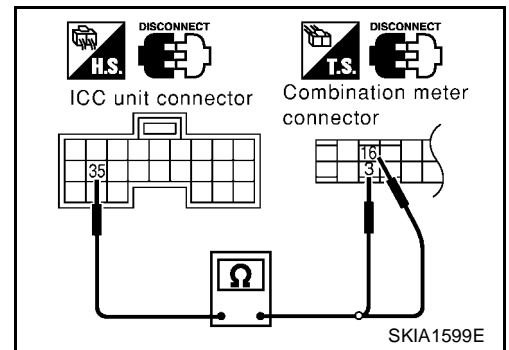
### 3. CHECK HARNESS BETWEEN COMBINATION METER AND ICC UNIT

1. Disconnect connectors of combination meter and ICC unit.
2. Check continuity between combination meter harness connector M36 terminal 3 (PU/W)/LHD models or 16 (PU/W)/RHD models and ICC unit harness connector B10 terminal 35 (PU/W).

**3/LHD or 16/RHD - 35      Continuity should exist.**

OK or NG

- NG >> ● Repair harness between combination meter and ICC unit
  - After repair, erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.
- OK >> GO TO 4.



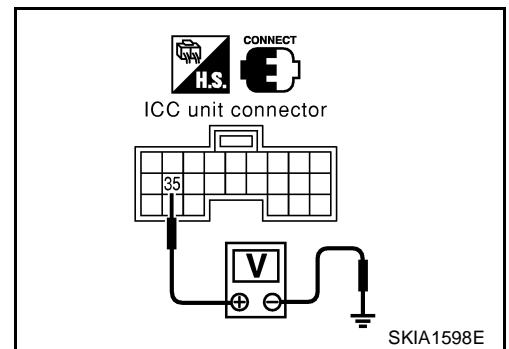
### 4. CHECK ICC UNIT REFERENCE SIGNAL

1. Connect ICC unit connector.
2. Check voltage between ICC unit harness connector B10 terminal 35 (PU/W) and ground.

**35 - Ground      Approx. 0V (ON/OFF switch ON)  
Battery voltage (ON/OFF switch OFF)**

OK or NG

- NG >> Replace ICC unit, erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.
- OK >> Replace combination meter, erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.



## 5. DIAGNOSIS CHECK

### ④ With CONSULT-II

- Perform self-diagnosis with CONSULT-II. Is "CAN COMM CIRCUIT" indicated?

Yes or No

- Yes >> Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#) .  
 No >> Refer to [ACS-50, "DTC 46 OPERATION SW CIRC"](#) .

### Symptom 2: The ICC System Cannot Be Set (ON/OFF Switch Turns on/off). EKS004GU

The ICC cannot be set in the following cases.

- When the vehicle speed is not in range of approx. 25 MPH (40 km/h) to 100 MPH (160 km/h).
- When the CVT shift lever is in gears other than "D".
- While the brake is in operation.

## 1. CHECK OF CAUSE OF AUTOMATIC CANCELLATION

### ④ With CONSULT-II

- With "CAUSE OF AUTO-CANCEL" in work support, check if any cause of cancellation exists. Refer to [ACS-34, "CAUSE OF AUTO-CANCEL"](#) .

- A: "CVT CIRCUIT"**                      **B: "OPE SW VOLT CIRC"**  
**C: " VHCL SPD UNMATCH"**            **D: "IGN LOW VOLT"**  
**E: "ECCS CIRCUIT"**

OK or NG

- NG >> ● For causes A, B, C, D or E go to specified diagnosis.  
 A: GO TO 4.  
 B: Refer to [ACS-50, "DTC 46 OPERATION SW CIRC"](#) .  
 C: Refer to [ACS-47, "DTC 41 VHCL SPEED SE CIRC"](#) .  
 D: Refer to [ACS-46, "DTC 31 POWER SUPPLY CIR 1, DTC 34 POWER SUPPLY CIR 2"](#) .  
 E: Refer to [ACS-60, "DTC 92 ECM CIRCUIT"](#) .

OK >> GO TO 2.

## 2. SELF-DIAGNOSIS CHECK

### ④ With CONSULT-II

- Perform CONSULT-II self-diagnosis to check for malfunctioning items.

OK or NG

- NG >> After repairing or replacing malfunctioning part, erase DTC. Perform ICC system running test, and then perform self-diagnosis of ICC system again.  
 OK >> GO TO 3.

### 3. SWITCHES AND VEHICLE SPEED SIGNAL CHECK

#### With CONSULT-II

- With data monitor, check that switches and vehicle speed signal operate normally. Refer to [ACS-35, "DATA MONITOR"](#).

**A: VHCL SPEED SE**

**B: D RANGE SW**

**C: BRAKE SW**

**D: SET/COAST SW**

#### OK or NG

- OK >> After replacing ICC unit, erase DTC. Perform ICC system running test, and then perform self-diagnosis of ICC system again.
- NG >> ● A: Refer to [ACS-47, "DTC 41 VHCL SPEED SE CIRC"](#).
- B: Refer to [ACS-68, "Symptom 4: The ICC System Is Not Cancelled When the Gear Is in Other Than 'D'."](#)
- C: Refer to [ACS-48, "DTC 45 BRAKE SW/STOP L SW"](#).
- D: Refer to [ACS-50, "DTC 46 OPERATION SW CIRC"](#).

### 4. CHECK SHIFT POSITION SIGNAL

#### With CONSULT-II

- With TCM data monitor with CONSULT-II, check shift operates normally.

#### OK or NG

- NG >> ● Perform TCM diagnosis.
- After repair, Erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.
- OK >> ● Check harness between park/neutral position switch and smart entrance control unit.
- After repair, Erase DTC and perform ICC system running test. Then, perform self-diagnosis of ICC system again.

### Symptom 3: The ICC System Cannot Be Cancelled by the CANCEL Switch, RESUME or Increase the Set Vehicle Speed, or Change the Distance Setting.

EKS004GV

RESUME does not function in the following cases:

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

### 1. SWITCH CHECK

#### With CONSULT-II

- With data monitor, check that switches operate normally. "RESUME/ACC SW", "CANCEL SW", "DISTANCE ADJ". Refer to [ACS-35, "DATA MONITOR"](#)

#### OK or NG

- NG >> GO TO 2.
- OK >> After replacing ICC unit, erase DTC. Perform driving check, and then perform self-diagnosis of ICC system again.

### 2. DIAGNOSIS CHECK

#### With CONSULT-II

- Perform self-diagnosis with CONSULT-II. Is "CAN COMM CIRCUIT" indicated?

#### Yes or No

- Yes >> Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#).
- No >> Refer to [ACS-50, "DTC 46 OPERATION SW CIRC"](#).

## Symptom 4: The ICC System Is Not Cancelled When the Gear Is in Other Than 'D'.

EKS004GW

### 1. D RANGE SWITCH CHECK

#### ④ With CONSULT-II

1. With data monitor, check that "D RANGE SW" operates normally. Refer to [ACS-35, "DATA MONITOR"](#)

OK or NG

NG >> GO TO 2.

OK >> After replacing ICC unit, erase DTC. Perform ICC system running test, and then perform self-diagnosis of ICC system again.

### 2. CAN COMMUNICATION INSPECTION

#### ④ With CONSULT-II

- Perform self-diagnosis with CONSULT-II. Is "CAN COMM CIRCUIT" indicated?

Yes or No

Yes >> Refer to [ACS-46, "DTC 20 CAN COMM CIRCUIT"](#).

No >> GO TO 3.

### 3. D RANGE SWITCH CHECK

1. With TCM data monitor, check that "D" position switch operates normally.

OK or NG

NG >> After repairing or replacing malfunctioning part, erase DTC. Perform ICC system running test, and then perform self-diagnosis of ICC system again.

OK >> After replacing ICC unit, erase DTC. Perform ICC system running test, and then perform self-diagnosis of ICC system again.

## Symptom 5: Chime Does Not Sound.

EKS004GX

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 the [ACS-70, "Symptom 8: The ICC System Frequently Cannot Detect the Vehicle Ahead/The Detection Zone Is Short."](#)

### 1. CHECK ICC WARNING CHIME

#### ④ With CONSULT-II

- With active test, check that ICC warning chime operates normally.

OK or NG

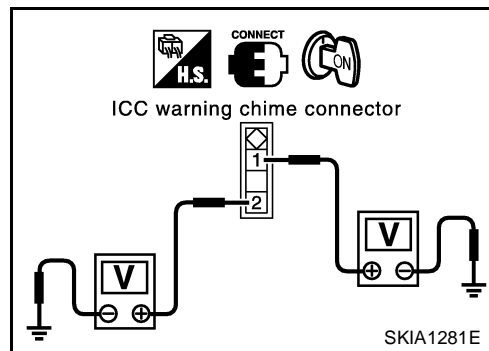
OK >> Determine preceding vehicle detection status when malfunction occurred. If chime should have sounded: after replacing ICC unit, erase DTC. Perform ICC system running test, and then perform self-diagnosis of ICC system again.

NG >> GO TO 2.

## 2. CHECK ICC WARNING CHIME SIGNAL

- Check the voltage between the ICC warning chime harness connector M38 terminals 1(W/G), 2(G) and body ground.

- 1 - Ground : Battery voltage (Ignition switch ON)**  
**: Approx. 0V (Ignition switch OFF)**
- 2 - Ground : Battery voltage (Chime output OFF)**  
**: Approx. 0V (Chime output ON)**



### OK or NG

OK >> GO TO 4.

NG >> ● If terminal 1 is NG

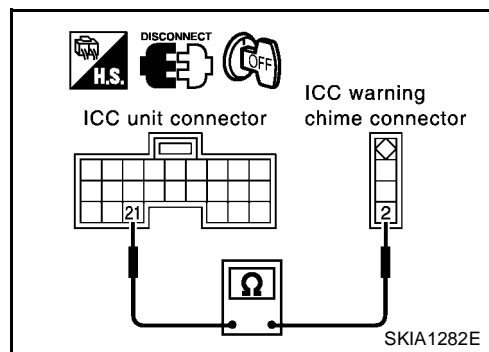
: Check corresponding harness, connector, and fuse. After repairing, erase DTC. Perform. After that, perform self-diagnosis of ICC system.

- If terminal 2 is NG : GO TO 3.

## 3. CHECK HARNESS BETWEEN ICC UNIT AND CHIME

- Turn ignition switch OFF.
- Disconnect connectors of ICC unit and ICC warning chime.
- Check for continuity between ICC unit harness connector B9 terminal 21 (G) and ICC warning chime harness connector M38 terminal 2(G).
- Check for continuity between ICC unit harness connector B9 terminal 21(G) and body ground.

- 21 - 2 : Continuity should exist.**  
**21 - Ground : Continuity should not exist.**



### OK or NG

NG >> Check harness between ICC unit and ICC warning chime. After repairing, erase DTC. Perform ICC system running test, and then perform self-diagnosis of ICC system again.

OK >> GO TO 5.

## 4. CHECK CONNECTOR ICC WARNING CHIME

- Check chime terminals (chime side and harness side) for disconnection, bend, and other irregular conditions.

### OK or NG

OK >> After replacing chime, erase DTC. Perform ICC system running test, and then perform self-diagnosis of ICC system again.

NG >> After repairing terminal and connector, erase DTC. Perform driving check, and then perform self-diagnosis of ICC system again.

## 5. CHECK CONNECTOR FOR ICC UNIT

- Check ICC unit terminals (ICC unit side and harness side) for disconnection, bend, and other irregular conditions.

### OK or NG

OK >> After replacing ICC unit, erase DTC. Perform ICC system running test, and then perform self-diagnosis of ICC system again.

NG >> After repairing terminal and connector, erase DTC. Perform ICC system running test, and then perform self-diagnosis of ICC system again.

## Symptom 6: Chime Does Not Stop.

### 1. CHECK ICC WARNING CHIME SIGNAL

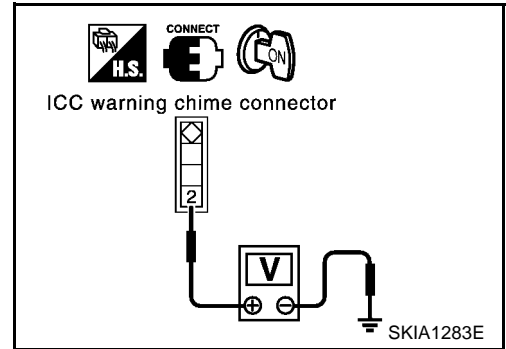
- Check voltage between ICC warning chime harness connector M38 terminal 2(G) and body ground.  
**2 - Body ground: Battery voltage (Approx. 12V) (Chime output OFF: Approx. 0V).**

**NOTE:**

With active test, turn ON and OFF chime output.

OK or NG

- OK >> After replacing chime, erase DTC. Perform ICC system running test, and then perform self-diagnosis of ICC system again.
- NG >> GO TO 2.



### 2. CHECK ICC WARNING CHIME

1. Turn ignition switch OFF.
2. Disconnect ICC warning chime.
3. Check for continuity between ICC warning chime terminal 2 and body ground.  
**Continuity should not exist.**

OK or NG

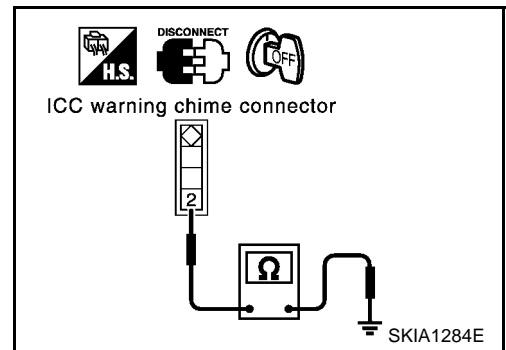
- NG >> After replacing chime, erase DTC. Perform ICC system running test, and then perform self-diagnosis of ICC system again.
- OK >> GO TO 3.

### 3. CHECK GROUND CIRCUIT FOR ICC WARNING CHIME

1. Turn ignition switch OFF.
2. Disconnect ICC unit connector.
3. Check for continuity between ICC warning chime harness connector M38 terminal 2(G) and body ground.  
**Continuity should not exist.**

OK or NG

- OK >> After replacing ICC unit, erase DTC. Perform ICC system running test, and then perform self-diagnosis of ICC system again.
- NG >> Repair harness between ICC unit and chime. After repairing, erase DTC. Perform ICC system running test, and then perform self-diagnosis of ICC system again.



## Symptom 7: Driving Force Is Hunting.

### 1. CHECK CVT

- Perform self-diagnosis of TCM. Is malfunction indicated?

Yes or No

- Yes >> After repairing applicable parts, erase DTC. Perform ICC system running test, and then perform self-diagnosis of ICC system again.
- No >> Refer to [ACS-70, "Symptom 8: The ICC System Frequently Cannot Detect the Vehicle Ahead/The Detection Zone Is Short."](#)

## Symptom 8: The ICC System Frequently Cannot Detect the Vehicle Ahead/The 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

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1. Check sensor cover or ICC sensor body window for contamination and foreign materials.
2. Check sensor cover for cracks.

### OK or NG

- NG >> If any contamination or foreign materials are found, remove or replace them. Then perform ICC system running test.
- OK >> GO TO 2.

## 2. OPERATION CHECK

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- After adjusting ICC sensor beam aiming, perform ICC system running test. Check that preceding vehicle detection performance has been improved.

### OK or NG

- OK >> Inspection is completed.
- NG >> ● Replace ICC sensor, and perform laser ICC system running test beam aiming adjustment.
- After performing above, erase DTC. Perform ICC system running test, and then perform self-diagnosis of ICC system again.

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

EKS004H1

### 1. VISUAL CHECK1

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1. With ignition switch turned ON (engine not started), check that 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.

### 2. VISUAL CHECK2

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- Check sensor cover or ICC sensor body window for contamination and foreign materials.

### OK or NG

- OK >> If any contamination or foreign materials are found, remove them. Perform ICC system running test.
- NG >> GO TO 3.

### 3. VISUAL CHECK3

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- Check sensor cover or ICC sensor body window for cracks and scratches.

### OK or NG

- NG >> ● Replace sensor cover or ICC sensor, and perform laser beam aiming adjustment.
- After performing above, erase DTC. Perform ICC system running test, and then perform self-diagnosis of ICC system again.
- OK >> GO TO 4.

### 4. ADJUST LASER BEAM AIMING

---

1. After adjusting laser beam aiming, perform ICC system running test. Check that preceding vehicle detection performance has been improved.

### OK or NG

- OK >> Inspection is completed.
- NG >> ● Replace ICC sensor, and perform laser ICC system running test beam aiming adjustment.
- After performing above, erase DTC. Perform ICC system running test, and then perform self-diagnosis of ICC system again.

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## ELECTRICAL COMPONENT INSPECTION

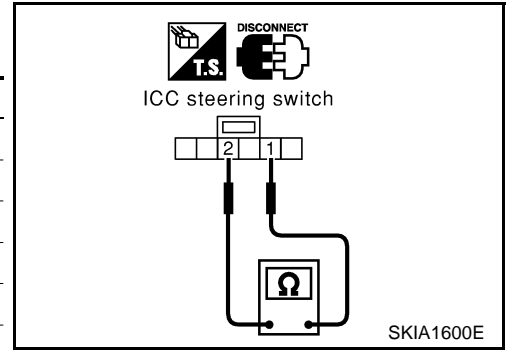
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### ICC Steering Switch

EKS004H2

1. Disconnect ICC steering switch.
2. Check resistance between M443 terminals 1 and 2 by depressing each switch.

Switch	Condition	Resistance [ $\Omega$ ]
ON/OFF	Depressed	Approx. 0
	Released	Approx. 5,456
DISTANCE	Depressed	Approx. 741
	Released	Approx. 5,456
ACCELERATE/ RESUME	Depressed	Approx. 2,586
	Released	Approx. 5,456
COAST/SET	Depressed	Approx. 1,406
	Released	Approx. 5,456
CANCEL	Depressed	Approx. 309
	Released	Approx. 5,456

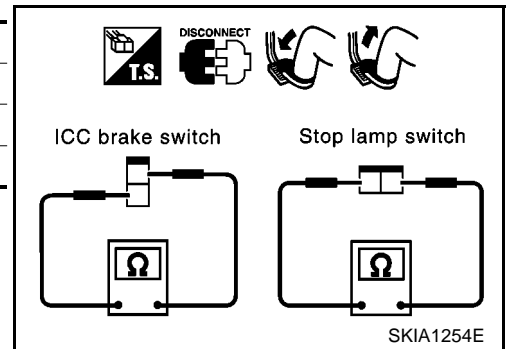


### ICC Brake Switch and Stop Lamp Switch

EKS004H3

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" .**

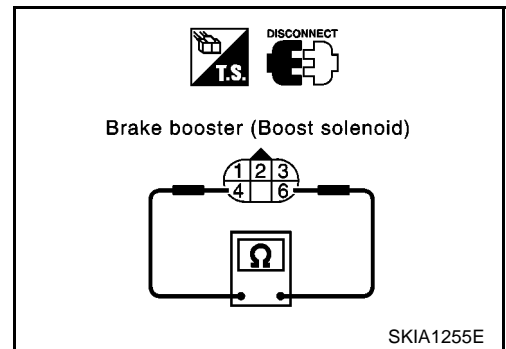


### Booster Solenoid

EKS004H4

Disconnect booster solenoid/release switch connector, and check resistance value between terminals 4 and 6.

**4 - 6 :Approx. 1.4 $\Omega$**



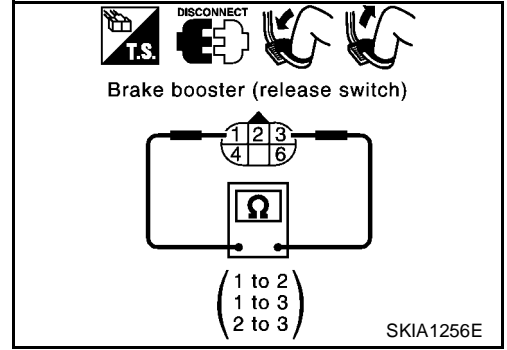


## Release Switch

Disconnect booster solenoid/release switch connector and check resistance between the 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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# REMOVAL AND INSTALLATION

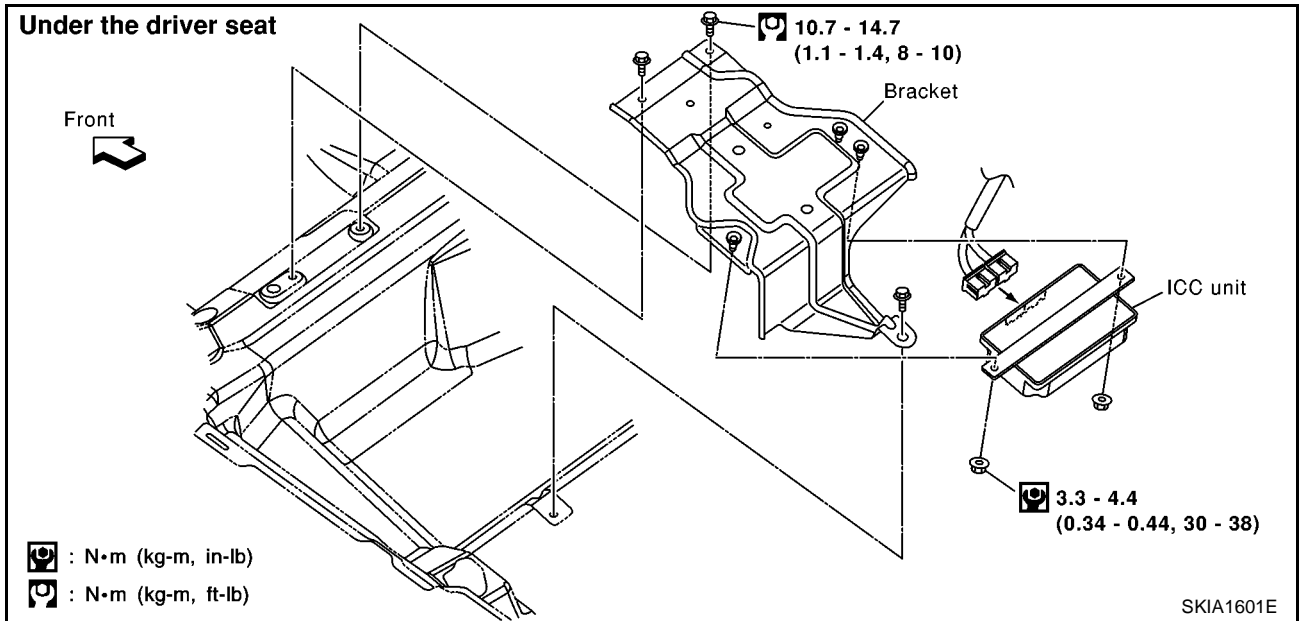
[ICC]

## REMOVAL AND INSTALLATION

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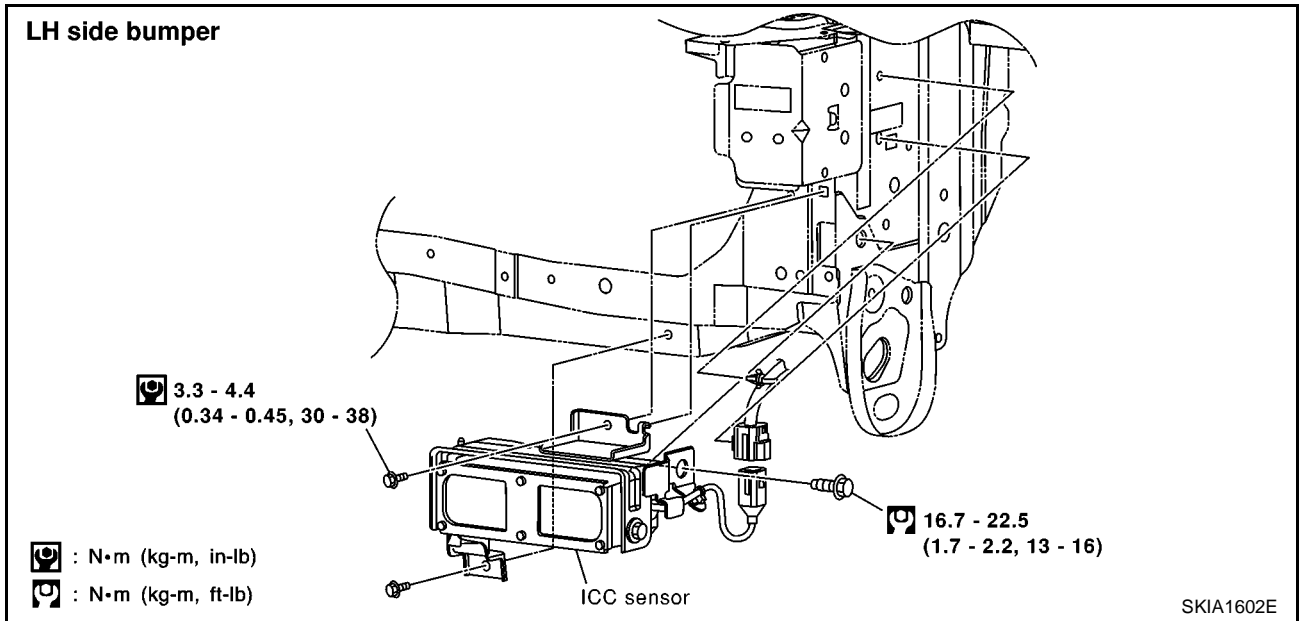
### ICC Unit

EKS004H9



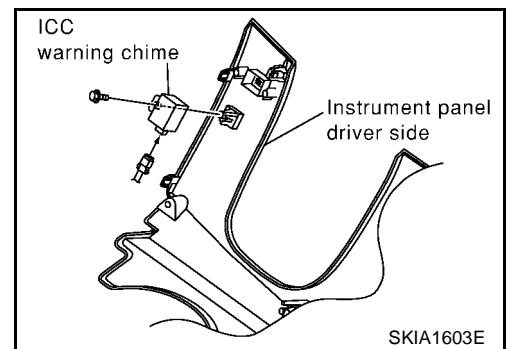
### ICC Sensor

EKS004HA



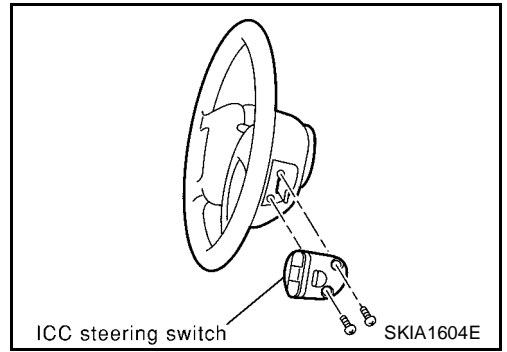
### ICC Warning Chime

EKS004HB



ICC Steering Switch

EKS004HC



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

