SECTION ACS
AUTO CRUISE CONTROL SYSTEM

CONTENTS

ASCD

ICC

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

PFP:18930

Description

NKS004CB

Regarding the information for ASCD system, refer to EC-36, "AUTOMATIC SPEED CONTROL DEVICE (ASCD)" (VQ35DE), EC-738, "AUTOMATIC SPEED CONTROL DEVICE (ASCD)" (VK45DE).

PRECAUTIONS

PFP:00001

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

NKS004CC

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

WARNING:

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

Precautions for ICC System Service

NKS004CD

- Do not look straight into the laser beam discharger when adjusting laser beam aiming.
- Turn the MAIN switch OFF in conditions similar to driving, such as free rollers or a chassis dynamometer.
- Do not use the ICC sensor integrated unit removing from vehicle. Never disassemble and remodel.
- Erase DTC when replacing parts of ICC system, then check the operation of ICC system after adjusting laser beam aiming if necessary.

PREPARATION

PFP:00002

Special Service Tools

NKS004CE

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

Tool number (Kent - Moore No.) Tool name	Description
KV99110100 (J-45718) ICC target board  PKIA0358J	Uses for laser beam aiming adjustment

DESCRIPTION

PFP:00000

Outline

NKS004CF

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

VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE

Vehicle-to-vehicle distance control mode, the driver can maintain the same speed as other vehicles without the constant need to adjust the set speed as the driver would with a normal cruise control system.
The system is intended to enhance the operation of the vehicle when following the vehicle traveling in the same lane and direction.
If the ICC sensor integrated unit 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.

CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE

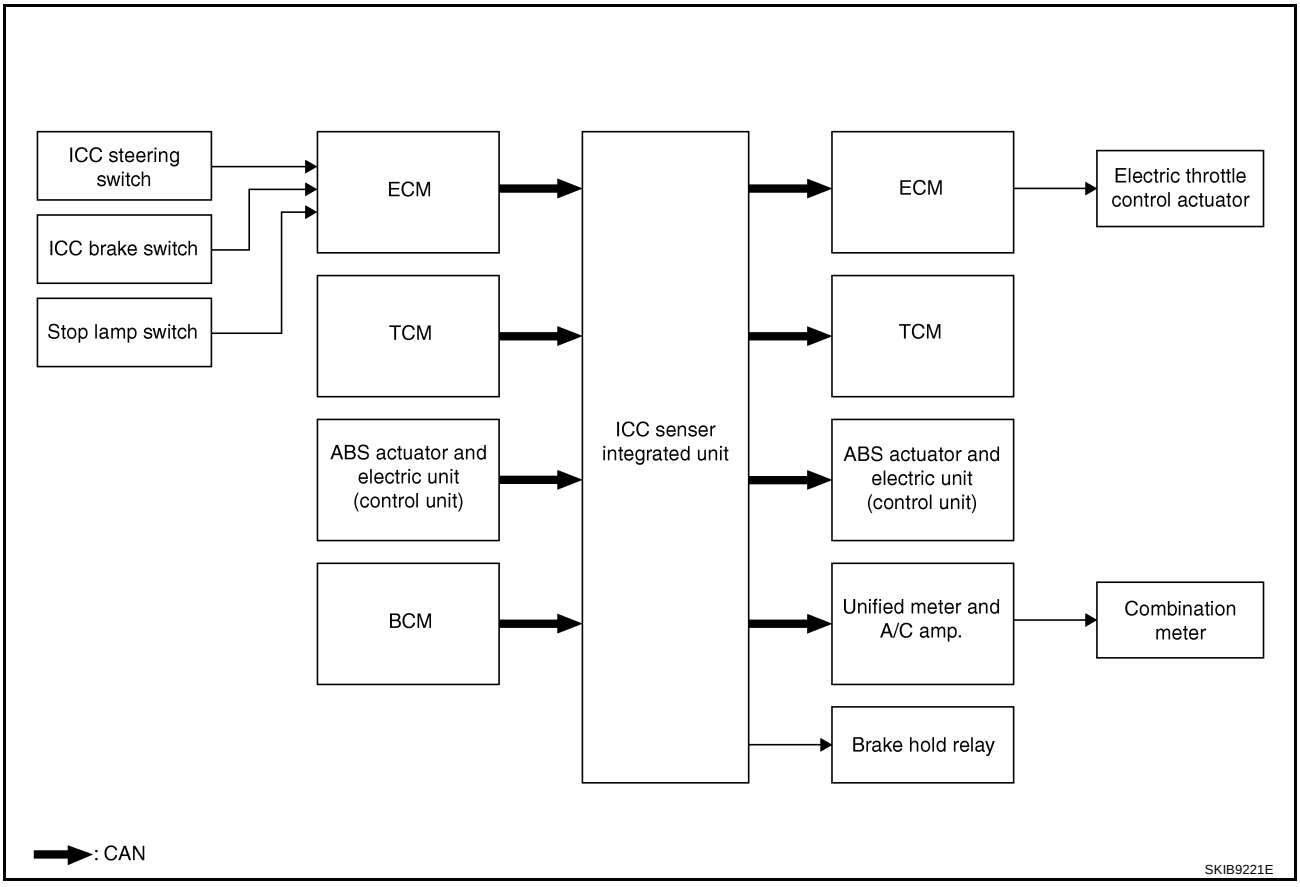
Conventional (fixed speed) cruise control mode is cruising at preset speeds.
Refer to Owner's Manual for Intelligent Cruise Control System operating instructions.

BRAKE ASSIST (WITH PREVIEW FUNCTION)

When the force applied to brake pedal exceeds a certain level, the Brake Assist is activated and generates a greater braking force than that of a conventional brake booster even with light pedal force.
When the Preview Function identifies the need to apply the sudden brake by sensing the vehicle ahead in the same lane and the distance and relative speed from it, it applies the brake pre-pressure before driver depresses the brake pedal and improves brake response by reducing its free play.
Refer to Owner's Manual for BRAKE ASSIST (WITH PREVIEW FUNCTION) operating instructions.

Functional Diagram

NKS004F8



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

- Items of input signal to be checked with “DATA MONITOR”.

Signal name	CAN	Transmission unit	Monitored Item [unit]	Description
Accelerator pedal position signal	×	ECM	THRTL OPENING [%]	ICC sensor integrated unit receives accelerator pedal position signal from ECM with CAN communication.
ICC steering switch signal	×		MAIN SW [ON/OFF]	ICC sensor integrated unit receives ICC steering switch signal from ECM with CAN communication.
	×		SET/COAST SW [ON/OFF]	
	×		CANCEL SW [ON/OFF]	
	×		RESUME/ACC SW [ON/OFF]	
	×		DISTANCE SW [ON/OFF]	
ICC brake switch signal	×		BRAKE SW [ON/OFF]	ICC sensor integrated unit receives ICC brake switch signal from ECM with CAN communication.
Stop lamp switch signal	×		STOP LAMP SW [ON/OFF]	ICC sensor integrated unit receives stop lamp switch signal from ECM with CAN communication.
Closed throttle position signal	×		IDLE SW [ON/OFF]	ICC sensor integrated unit receives closed throttle position signal from ECM with CAN communication.
Engine speed signal	×		ENGINE RPM [rpm]	ICC sensor integrated unit receives engine speed signal from ECM with CAN communication.

Signal name	CAN	Transmission unit	Monitored Item [unit]	Description
Shift position signal	×	TCM	D RANGE SW [ON/OFF]	ICC sensor integrated unit receives shift position signal from TCM with CAN communication.
	×		NP RANGE SW [ON/OFF]	ICC sensor integrated unit receives shift position signal from TCM with CAN communication.
Output shaft revolution signal	×		VHCL SPD AT [km/h] or [mph]	ICC sensor integrated unit receives A/T vehicle speed sensor signal (output shaft revolution signal) from TCM with CAN communication.
Current gear position signal	×		GEAR [1, 2, 3, 4, 5]	ICC sensor integrated unit receives current gear position signal from TCM with CAN communication.
Vehicle speed signal	×	ABS actuator and electric unit (control unit)	VHCL SPEED SE [km/h] or [mph]	ICC sensor integrated unit receives vehicle speed signal (wheel speed) from ABS actuator and electric unit (control unit) with CAN communication.
Front wiper request signal	×	BCM	WIPER SW [OFF/LOW/HIGH]	ICC sensor integrated unit receives front wiper request signal from BCM with CAN communication.

- Items of output signal to be checked with “DATA MONITOR”.

Signal name	CAN	Reception unit	Monitored Item [unit]	Description
Meter display signal	×	Combination meter (through unified meter and A/C amp.)	CRUISE LAMP [ON/OFF]	ICC sensor integrated unit transmits meter display signal to combination meter (through unified meter and A/C amp.) with CAN communication.
	×		OWN VHCL [ON/OFF]	
	×		VHCL AHEAD [ON/OFF]	
	×		SET DISP IND [ON/OFF]	
ICC system warning lamp signal	×		ICC WARNING [ON/OFF]	ICC sensor integrated unit transmits ICC system warning lamp signal to combination meter (through unified meter and A/C amp.) with CAN communication.
Buzzer output signal	×		BUZZER O/P [ON/OFF]	ICC sensor integrated unit transmits buzzer output signal to combination meter (through unified meter and A/C amp.) with CAN communication.
ICC brake hold relay drive signal		ICC brake hold relay	STP LMP DRIVE [ON/OFF]	ICC sensor integrated unit outputs stop lamp drive output signal to ICC brake hold relay.

- Items of output signal to be checked with “ACTIVE TEST”.

Signal name	CAN	Reception unit	Test Item	Description
Buzzer output signal	×	Combination meter (through unified meter and A/C amp.)	ICC BUZZER	Able to beep the ICC warning chime with a driving signal from ICC sensor integrated unit.
● Meter display signal ● ICC system warning lamp signal	×		METER LAMP	Able to illuminate the ICC system warning lamp and the MAIN switch indicator lamp with a driving signal from the ICC sensor integrated unit.
ICC brake hold relay drive signal		ICC brake hold relay	STOP LAMP	Able to turn ON the ICC brake hold relay with a driving signal from the ICC sensor integrated unit.

Components Description

NKS004CH

Component	Vehicle-to-vehicle distance control mode	Conventional (fixed speed) cruise control mode	Brake assist (with pre-view function)	Description
ICC sensor integrated unit	×	×	×	● Controls vehicle distance by operating electric throttle control actuator based on that sensor signals and CAN communication data. ● Controls vehicle distance by transmitting deceleration degree commandment value signal to ABS actuator and electric unit (control unit) when deceleration with brake is needed. ● Irradiates laser beam, and receives reflected laser beam to measure distance from preceding vehicle.
ECM	×	×	×	Transmits accelerator pedal position signal, ICC brake switch signal, stop lamp switch signal and ICC steering switch signal to ICC sensor integrated unit through CAN communication.
ABS actuator and electric unit (control unit)	×	×	×	● Transmits vehicle speed signal (wheel speed) and stop lamp switch signal to ICC sensor integrated unit through CAN communication. ● Receives deceleration degree commandment value signal from ICC sensor integrated unit, and controls brake fluid pressure with the ABS motor.
BCM	×			Transmits front wiper request signal to ICC sensor integrated unit through CAN communication.
TCM	×	×		Transmits gear position signal and output shaft revolution signal to ICC sensor integrated unit through CAN communication.
Unified meter and A/C amp.	×	×	×	Receives meter display signal, ICC warning lamp signal and buzzer output signal from ICC sensor integrated unit through CAN communication.
ICC brake switch	×	×	×	Transmits operating signal to ECM when depressing brake pedal. ICC sensor integrated unit cancels cruise system at driver's brake operation.
Stop lamp switch	×	×	×	Transmits operating signal to ECM and ABS actuator and electric unit (control unit) when depressing brake pedal. ICC sensor integrated unit cancels cruise system at driver's brake operation.

CAN Communication

NKS004CI

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

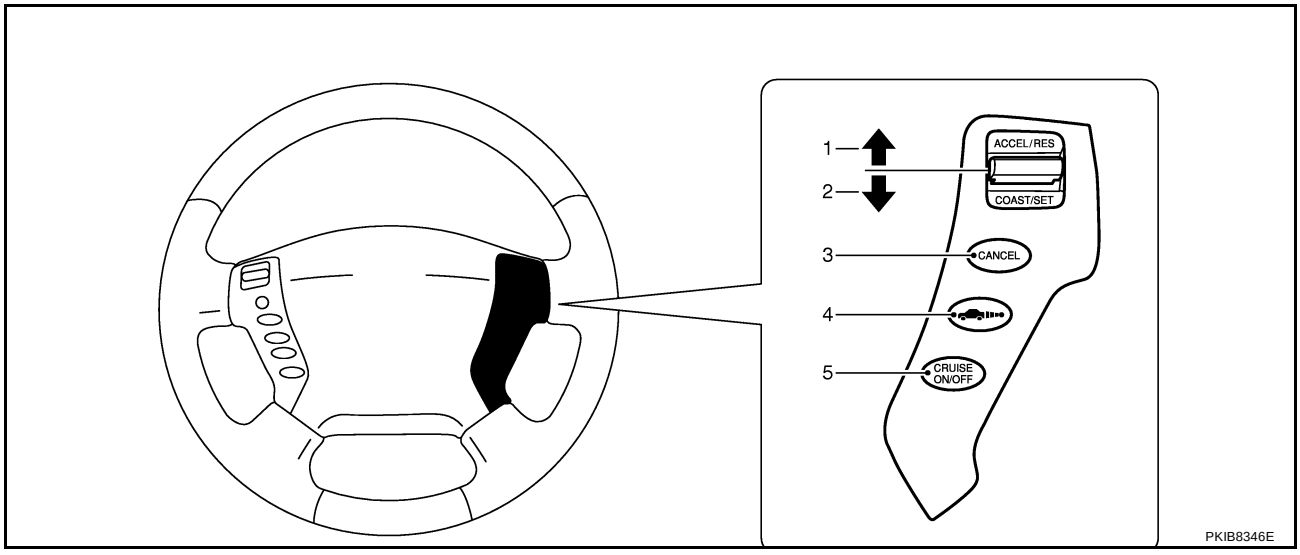
CAN COMMUNICATION UNIT

Refer to LAN-52, "CAN Communication Signal Chart" .

Switch Operation

NKS004CJ

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



IN VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE

No.	Switch name	Description
1	RESUME/ACCELERATE switch	Resumes set speed or increases speed incrementally.
2	SET/COAST switch	Sets desired cruise speed, reduces speed incrementally.
3	CANCEL switch	Deactivates system without erasing set speed.
4	DISTANCE switch	Changes the following distance from: Long, Middle, Short.
5	MAIN switch	Master switch to activate the system (press for less than 1.5 seconds)

IN CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE

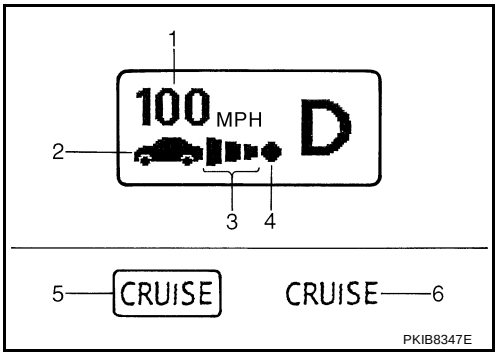
No.	Switch name	Description
1	RESUME/ACCELERATE switch	Resumes set speed or increases speed incrementally.
2	SET/COAST switch	Sets desired cruise speed, reduces speed incrementally.
3	CANCEL switch	Deactivates system without erasing set speed.
4	DISTANCE switch	Ineffective in this mode
5	MAIN switch	Master switch to activate the system (press for more than 1.5 seconds)

ICC System Display

NKS004CK

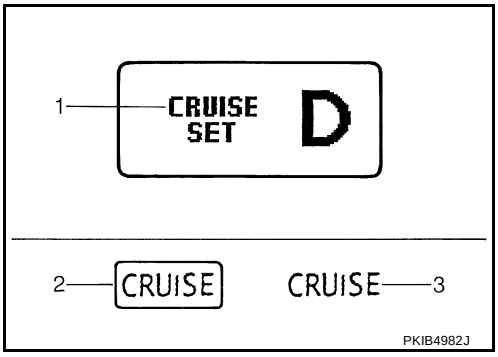
The status of ICC system is displayed by dot matrix LCD, MAIN switch indicator lamp and ICC system warning lamp on the combination meter.

IN VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE



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

IN CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE



No.	Display items	Description
1	Set switch indicator	Indicates that the set conventional (fixed speed) cruise control mode is controlled.
2	MAIN switch indicator lamp (Green)	Indicates that the MAIN switch is ON.
3	Intelligent cruise control system warning lamp (Orange)	The light comes on if there is a malfunction in the ICC system.

ACTION TEST

PFP:00000

ICC System Running Test

NKS004CL

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

VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE

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

Set Checking

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

NOTE:
The set vehicle speed is displayed on the dot matrix LCD in the combination meter.

Check For Increase Of Cruising Speed

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

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

Check For Decrease Of Cruising Speed

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

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

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

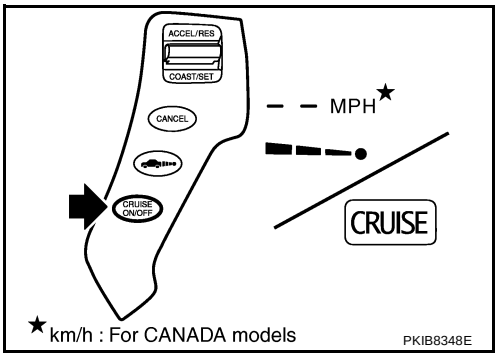
1. When the brake pedal is depressed after the system is turned ON.
2. When the selector lever is shifted to the “N” (Neutral) position.
3. When the MAIN switch is turned OFF.
4. When CANCEL switch is operated.

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

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

Check For MAIN Switch

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



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

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

Check For Distance Switch

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

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

Distance	Display	Approximate distance at 100 km/h (60 MPH) [m (ft)]
Long	96 km/h	60 (195)
Middle	96 km/h	40 (130)
Short	96 km/h	30 (90)

SKIB8746E

CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE

Set Checking

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

NOTE:
The set vehicle speed is not displayed on the dot matrix LCD in the combination meter.

Check For Increase Of Cruising Speed

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

NOTE:

- If the RESUME/ACCELERATE switch is kept pushing up during cruise control driving, the vehicle speed increases until the switch is released.
- The maximum set speed is 144 km/h (90 MPH).

Check For Decrease Of Cruising Speed

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

NOTE:

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

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

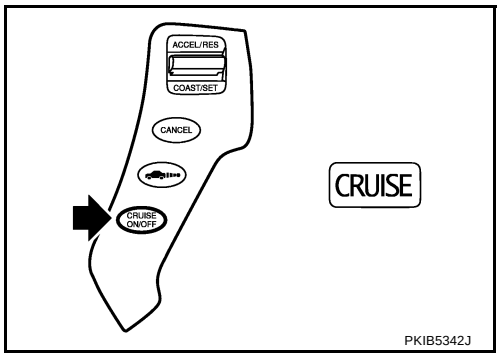
Refer to ACS-12, "Check For Cancellation Of Vehicle-To-Vehicle Distance Control Mode (Normal Driving Condition) In The Following Cases:" .

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

Refer to ACS-12, "Check For Restoring Speed That Is Set By Vehicle-To-Vehicle Distance Control Mode Before Cancellation" .

Check For MAIN Switch

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



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

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

LASER BEAM AIMING ADJUSTMENT

PFP:00026

Outline

NKS004CM

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

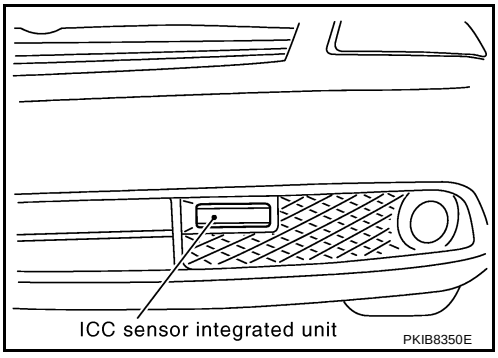
CAUTION:

- **Adjust laser beam aiming at a horizontal place as far as 12 m (39 ft) forward the vehicle can be seen.**
- **Adjust laser beam aiming 5 seconds after starting engine.**
- **Never view ICC sensor integrated unit body window directly during laser beam aiming adjustment.**
- **Follow the CONSULT-II when adjusting the laser beam aiming (laser beam aiming adjustment cannot be operated without CONSULT-II).**
- **Never ride on vehicle during laser beam aiming adjustment.**
- **Idle and turn headlamps OFF during laser beam aiming adjustment.**

Preparation

NKS004CN

- Adjust the tire pressure to the specified value.
- See that there is no load in the vehicle.
- Coolant, engine oil filled up to correct level and full fuel tank.
- Shift the gear into “P” position and release the parking brake.
- Clean the ICC sensor integrated unit with a soft cloth.
- Remove the front bumper grille. Refer to EI-13, "Removal and Installation of Front Bumper Grille" .



Outline of Adjustment Procedure

NKS004CO

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

Setting the ICC Target Board

NKS004CP

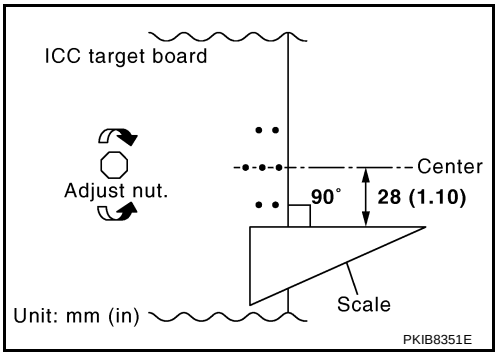
Accurate ICC target board setting is required for the laser beam aiming adjustment.

CAUTION:

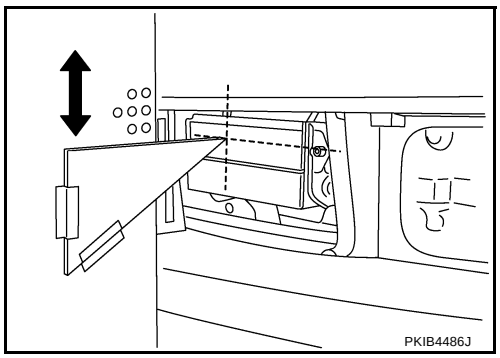
ICC system does not function normally if laser beam aiming is not accurate.

ADJUSTING HEIGHT OF THE TARGET

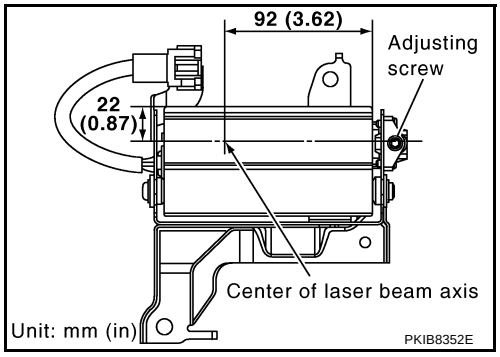
1. Attach a triangle scale at 28 mm (1.10 in) below the center.



2. Adjust the height of the target board with aligning the upside tip of the triangle scale with the center of laser beam axis.

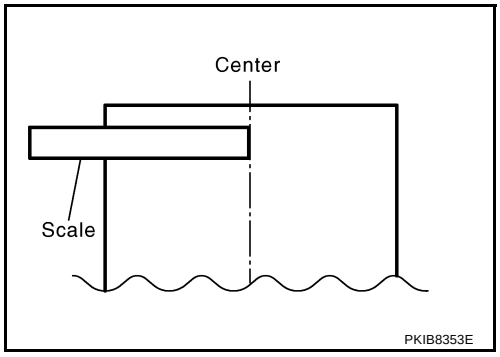


NOTE:
The center of laser beam axis is located at 92 mm (3.62 in) from the right edge and 22 mm (0.87 in) from the top of the ICC sensor integrated unit from a front view of vehicle.

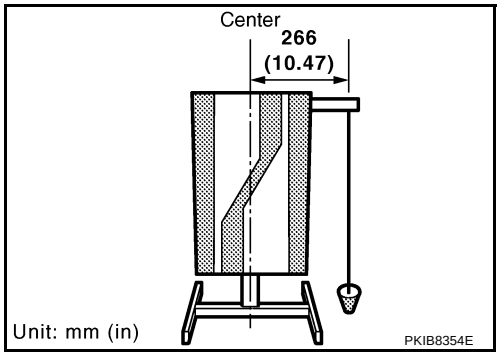


ADJUSTING THE RIGHT-LEFT POSITION OF THE TARGET

1. Attach a scale [at least 350 mm (14 in) or longer] or stick as shown in the figure.



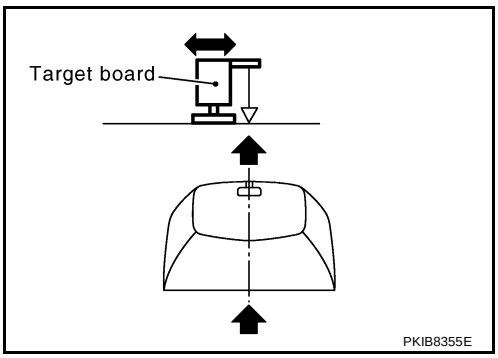
2. Suspend a thread with weight on the tip of the thread to 266 mm (10.47 in) right side of the target board from the center of the target board on top.



SETTING THE TARGET

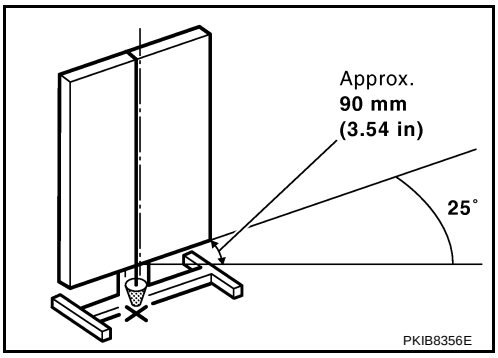
1. Suspend a thread with weight on tip to splice the center of the front and rear bumpers. Then, mark the center point on the ground as each weight points.
2. Link the front and rear bumpers center points marked on the ground, and mark a point 3.9 m (12.8 ft) ahead of the front bumper, on the extended 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 [3.9 m (12.8 ft) ahead of the front bumper] and face to the vehicle.

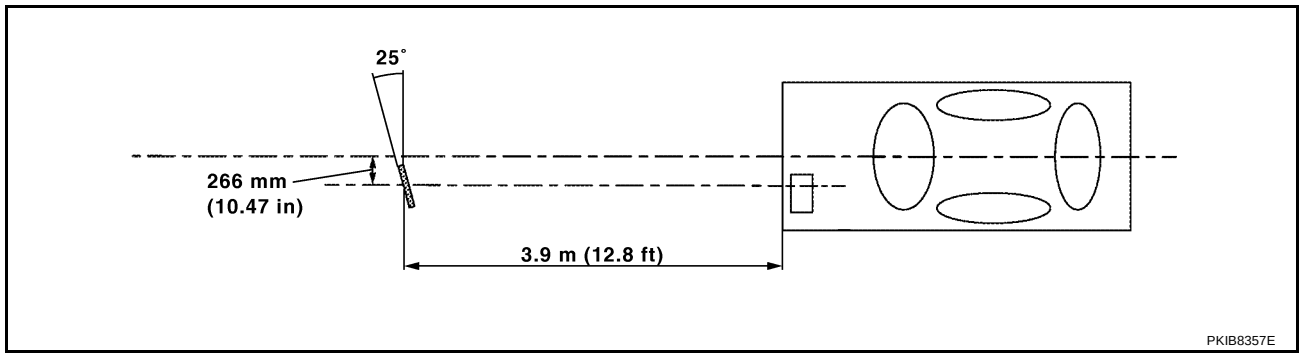
3. Adjust the position of the target board so that the extended line that links the center of the rear window glass (the center of the rear window defogger pattern) and the center of the windshield (the setting part of the room mirror) align with the weight suspended from the board.
4. Remove the thread suspended to the right 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.



5. Pivot the edge of the target board 25° to either side.

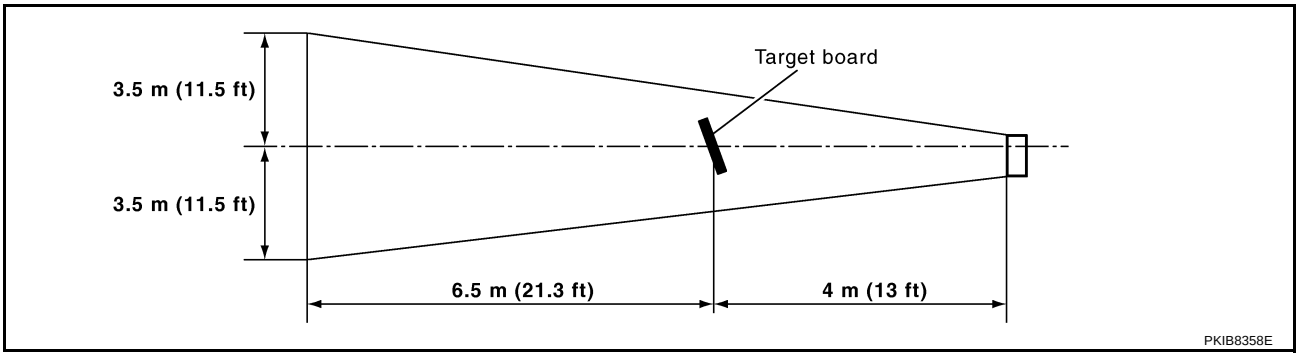
NOTE:
Approx. 90 mm (3.54 in) shift rates the 25° movement.





NOTE:
The distance between center of laser beam axis and target board is 4 m (13 ft).

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



NOTE:
In case the space shown in the figure is not available, make a space by covering the side of the target board with a 1400 mm (4.6 ft)-size frosted black board or black cloth.

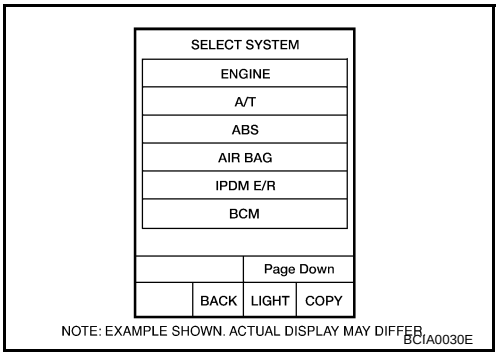
Aiming Adjustment

NKS004CQ

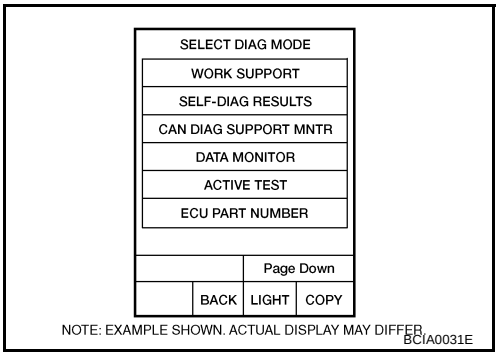
CAUTION:

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

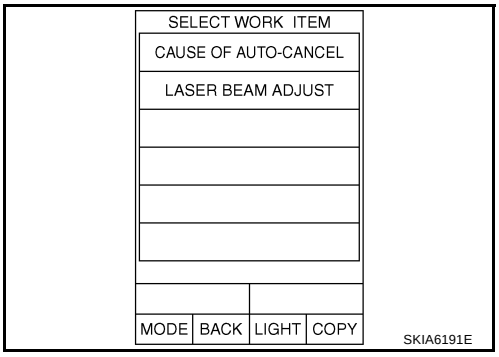
1. Connect CONSULT-II and CONSULT-II CONVERTER, and then touch “ICC” on “SELECT SYSTEM” screen.
   If “ICC” is not indicated, go to GI-39, "CONSULT-II Data Link Connector (DLC) Circuit" .



2. Touch “WORK SUPPORT”.



3. Touch “LASER BEAM ADJUST”.

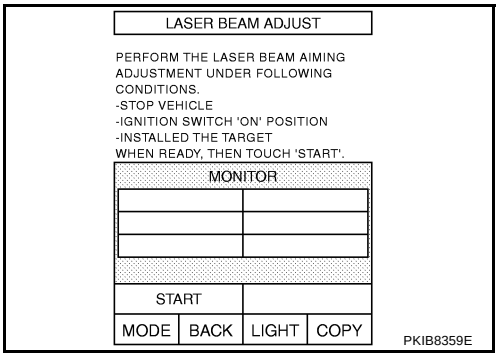


4. Touch “START”.

   CAUTION:

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

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



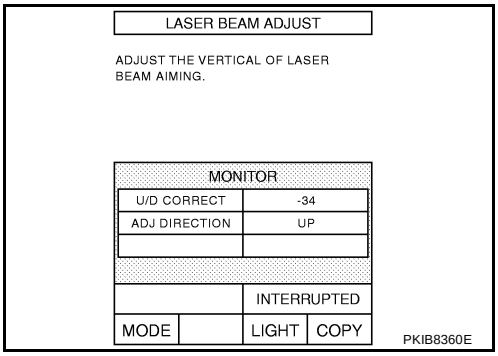
5. After the CONSULT-II displays “ADJUST THE VERTICAL OF LASER BEAM AIMING” turn the up-down direction adjusting screw until “U/D CORRECT” value is set in the range of ±4.

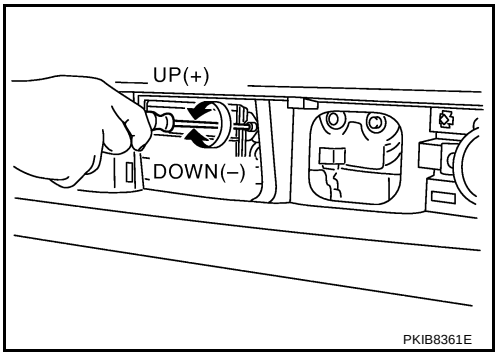
CAUTION:

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

NOTE:

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

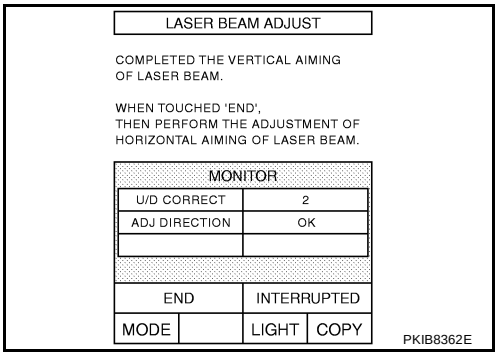




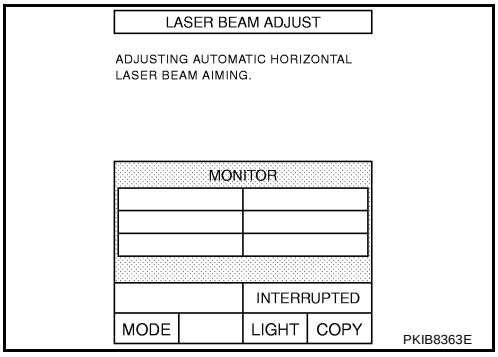
6. When “U/D CORRECT” value indicates ±4, confirm that the margin of value remains within ±4 at least for 2 seconds with no equipment or hand touching the ICC sensor integrated unit.
When “COMPLETED THE VERTICAL AIMING OF LASER BEAM” appears on screen, touch “END”.

CAUTION:

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



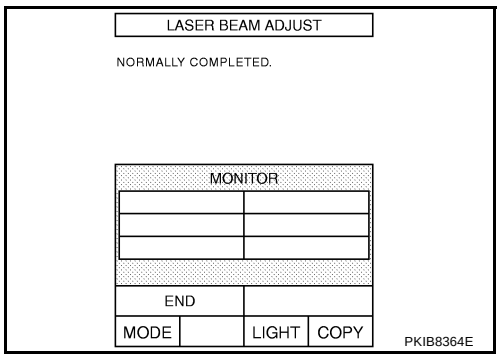
7. Confirm that “ADJUSTING AUTOMATIC HORIZONTAL LASER BEAM AIMING” is on screen and wait for a while (maximum: 10 seconds).



8. 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

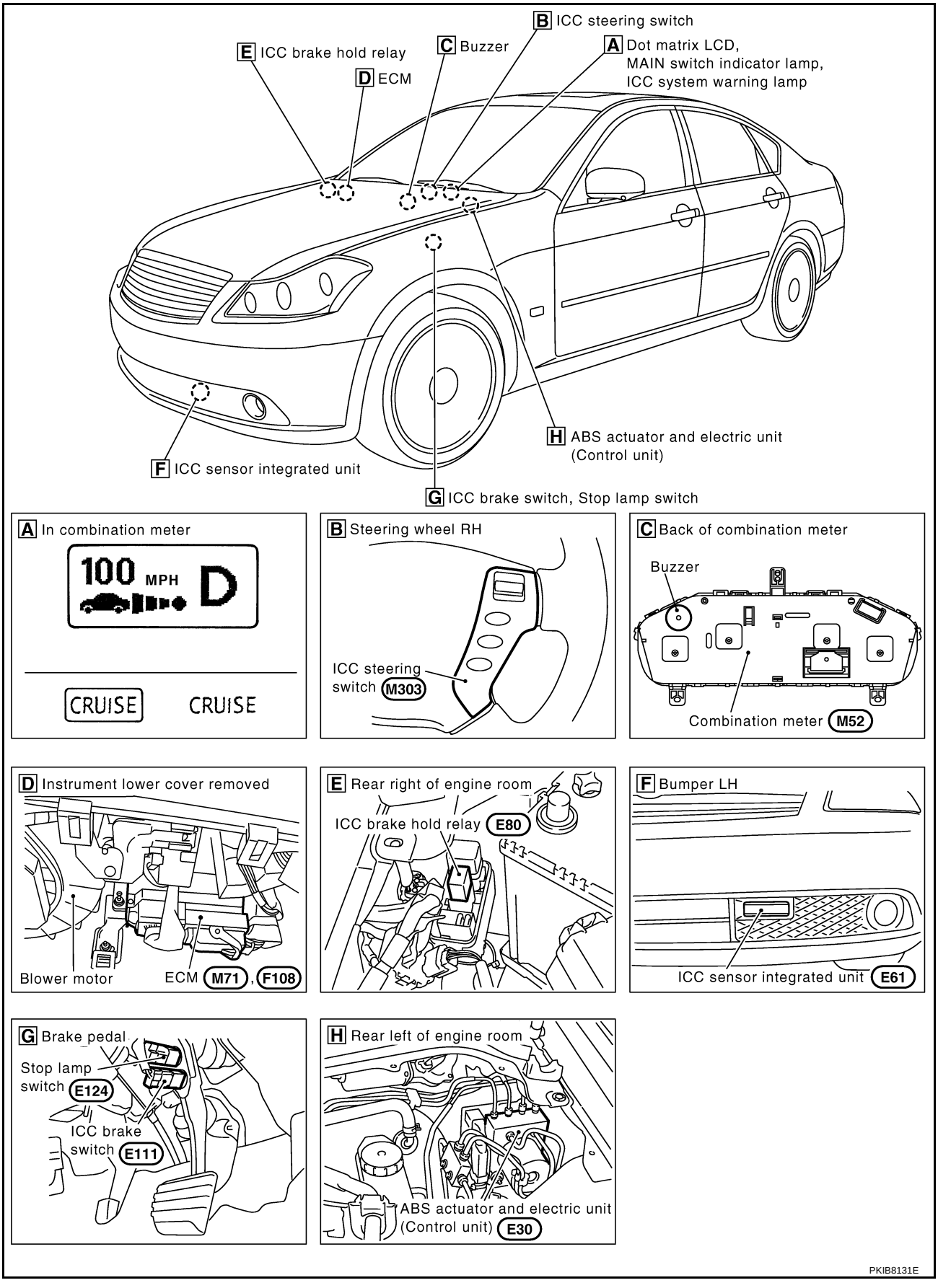
Test the ICC system operation by ICC system running test. Refer to ACS-12, "ICC System Running Test" .

ELECTRICAL UNITS LOCATION

PFP:25230

Component Parts and Harness Connector Location

NKS004CR

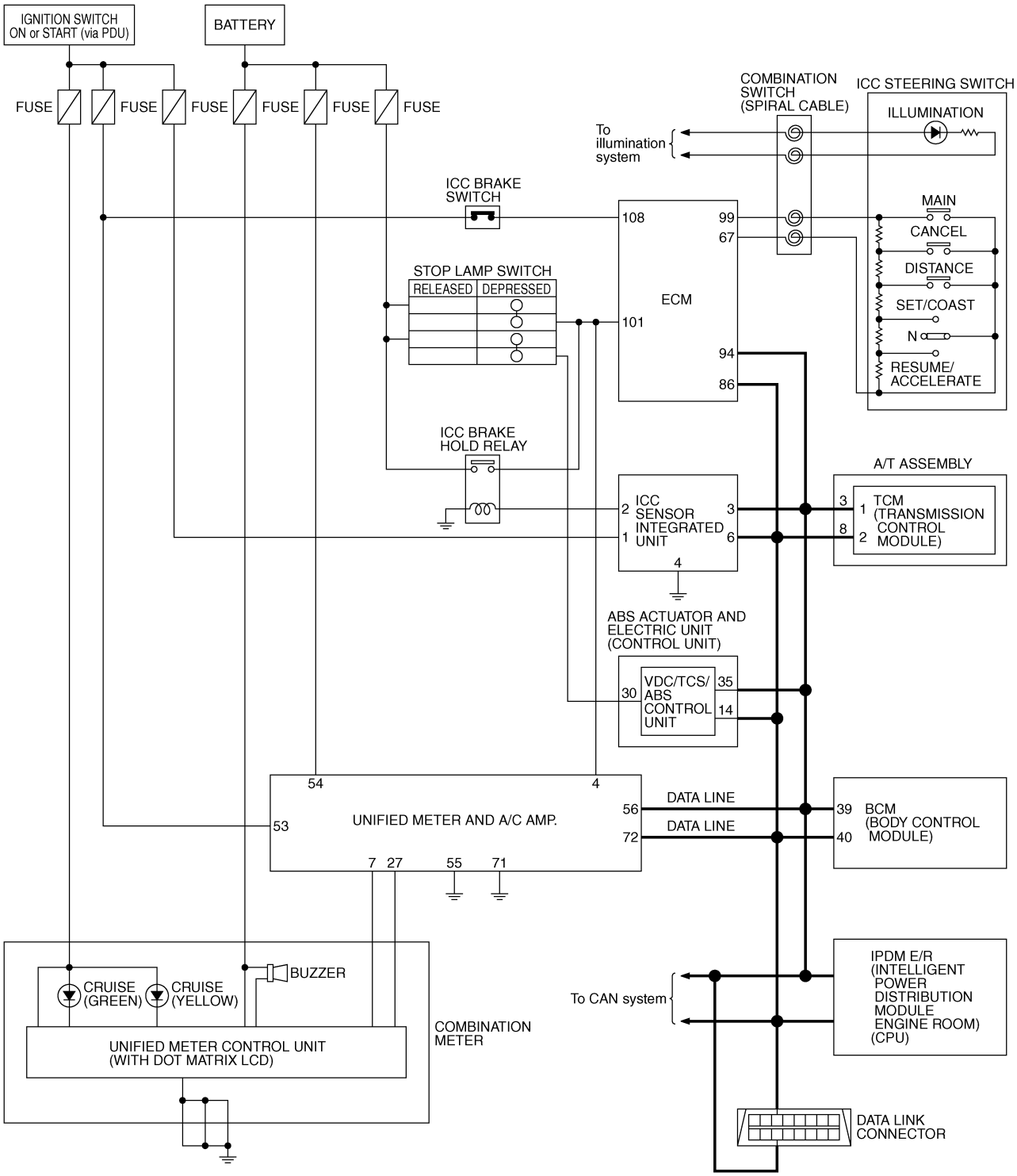


WIRING DIAGRAM

PFP:00000

Schematic

NKS004CS

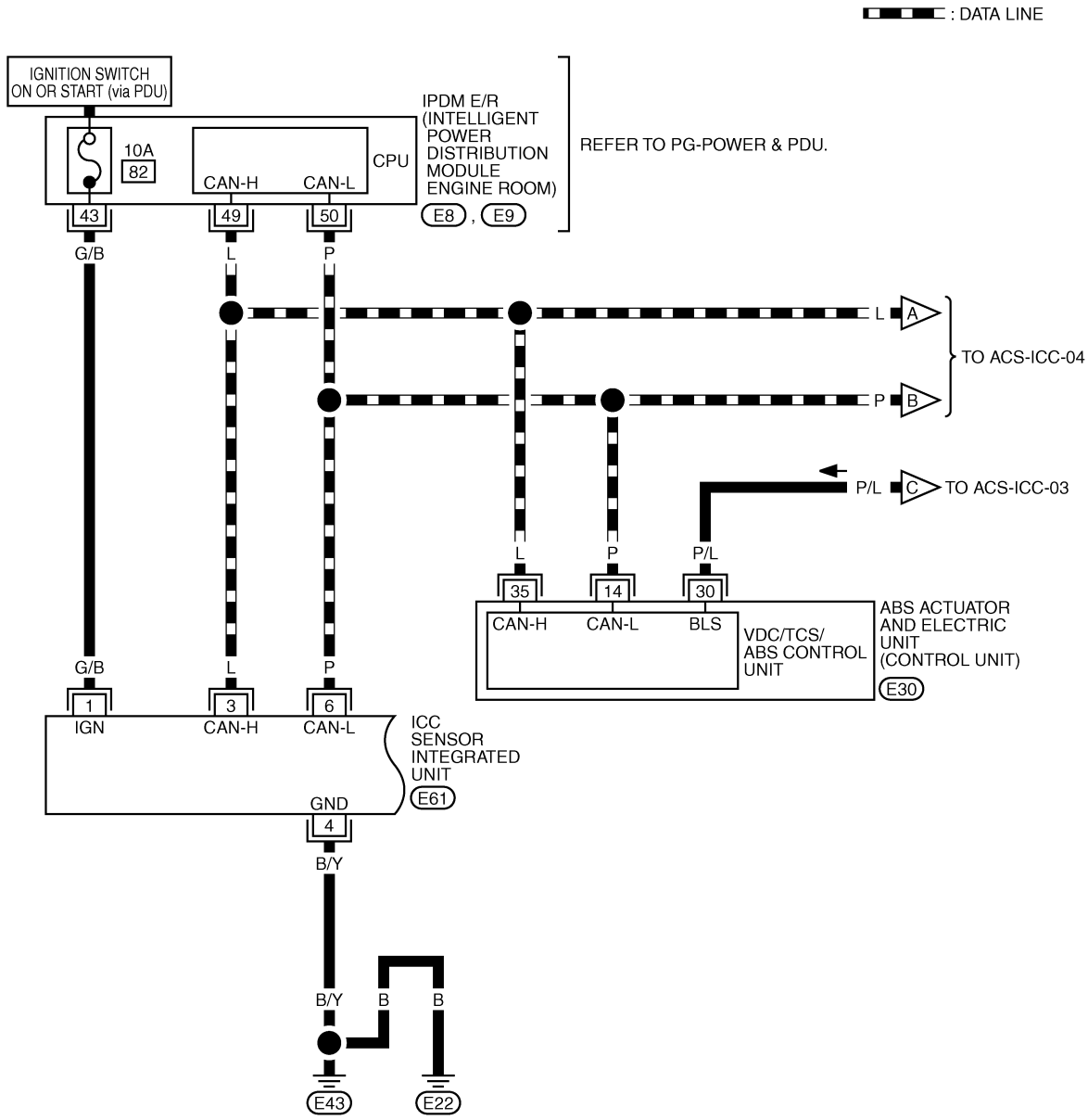


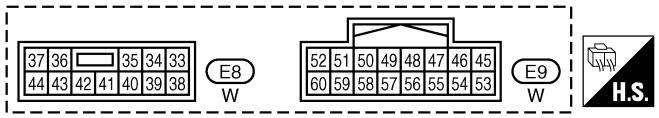
TKWT3224E

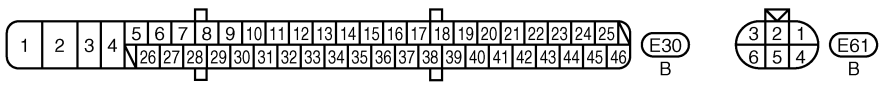
Wiring Diagram — ICC —

NKS004CT

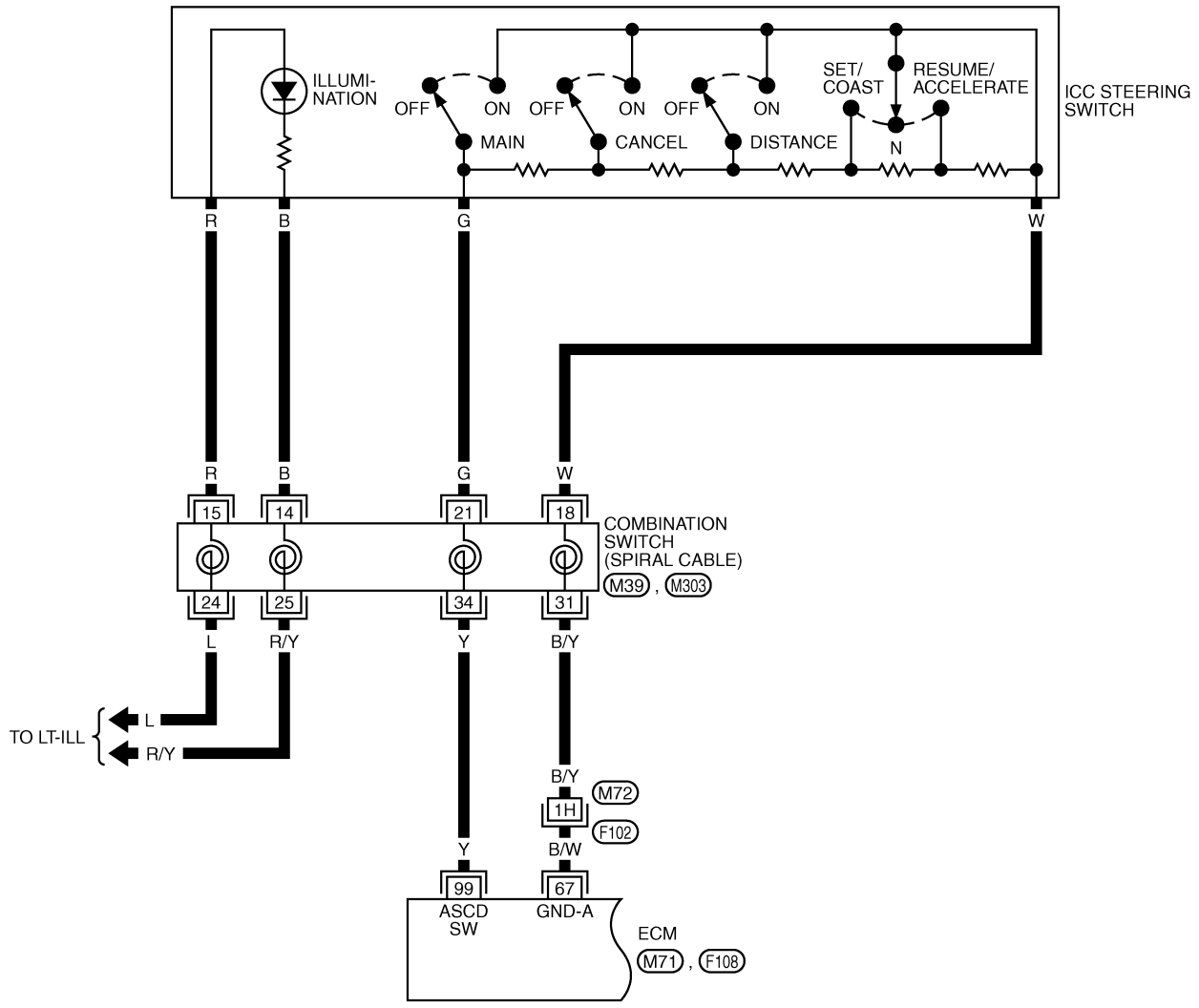
ACS-ICC-01

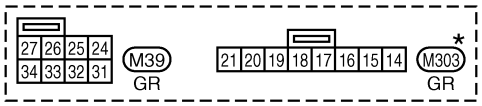






TKWT5302E

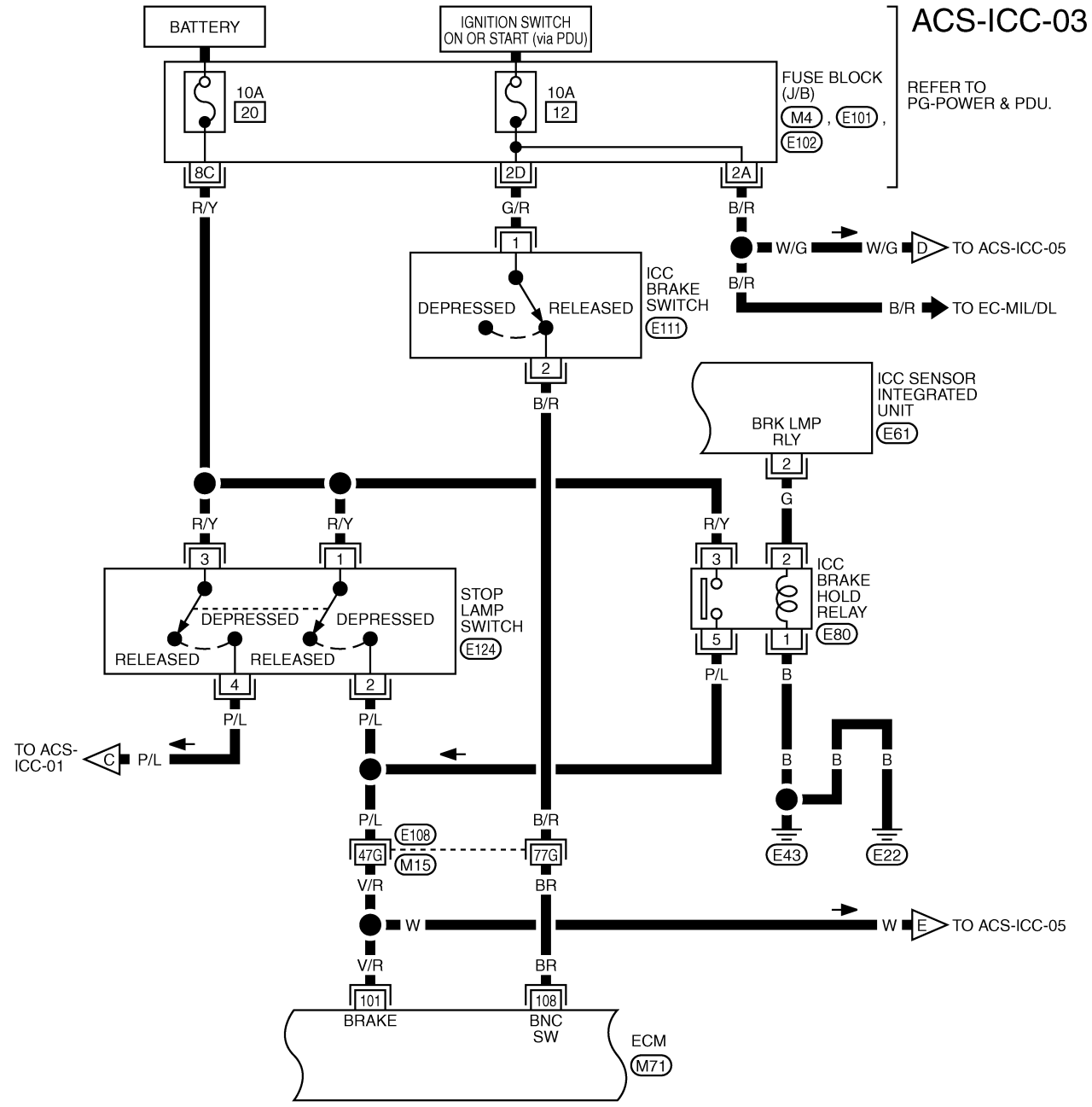




*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

REFER TO THE FOLLOWING.
F102 -SUPER MULTIPLE JUNCTION (SMJ)
M71 , F108 -ELECTRICAL UNITS

TKWT3226E



REFER TO THE FOLLOWING.

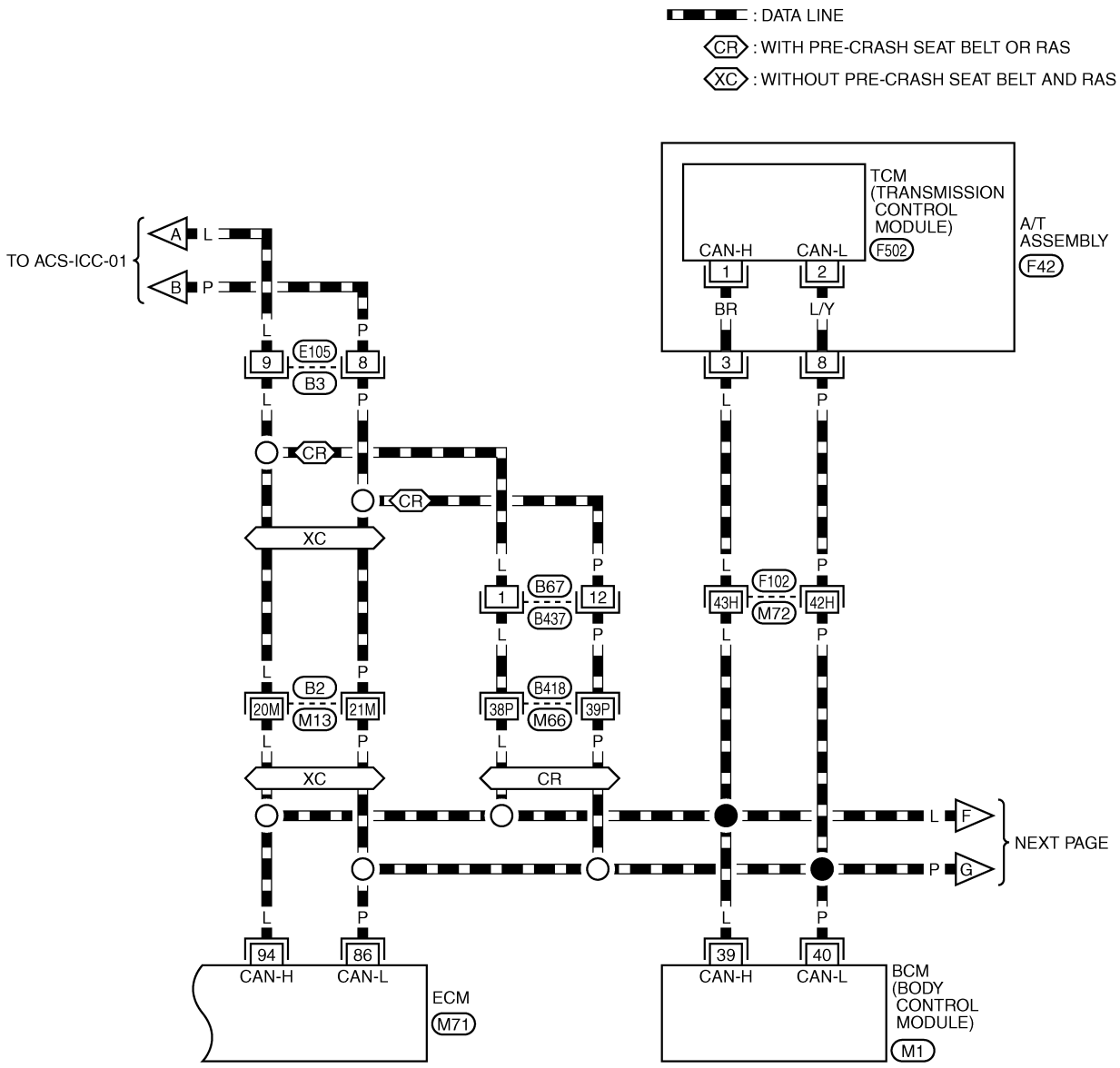
E108 -SUPER MULTIPLE JUNCTION (SMJ)

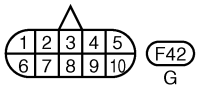
M4 , E101 , E102 -FUSE BLOCK-JUNCTION BOX (J/B)

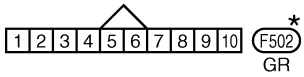
M71 -ELECTRICAL UNITS

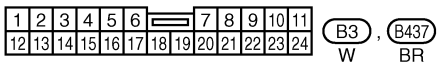
TKWT5303E

ACS-ICC-04







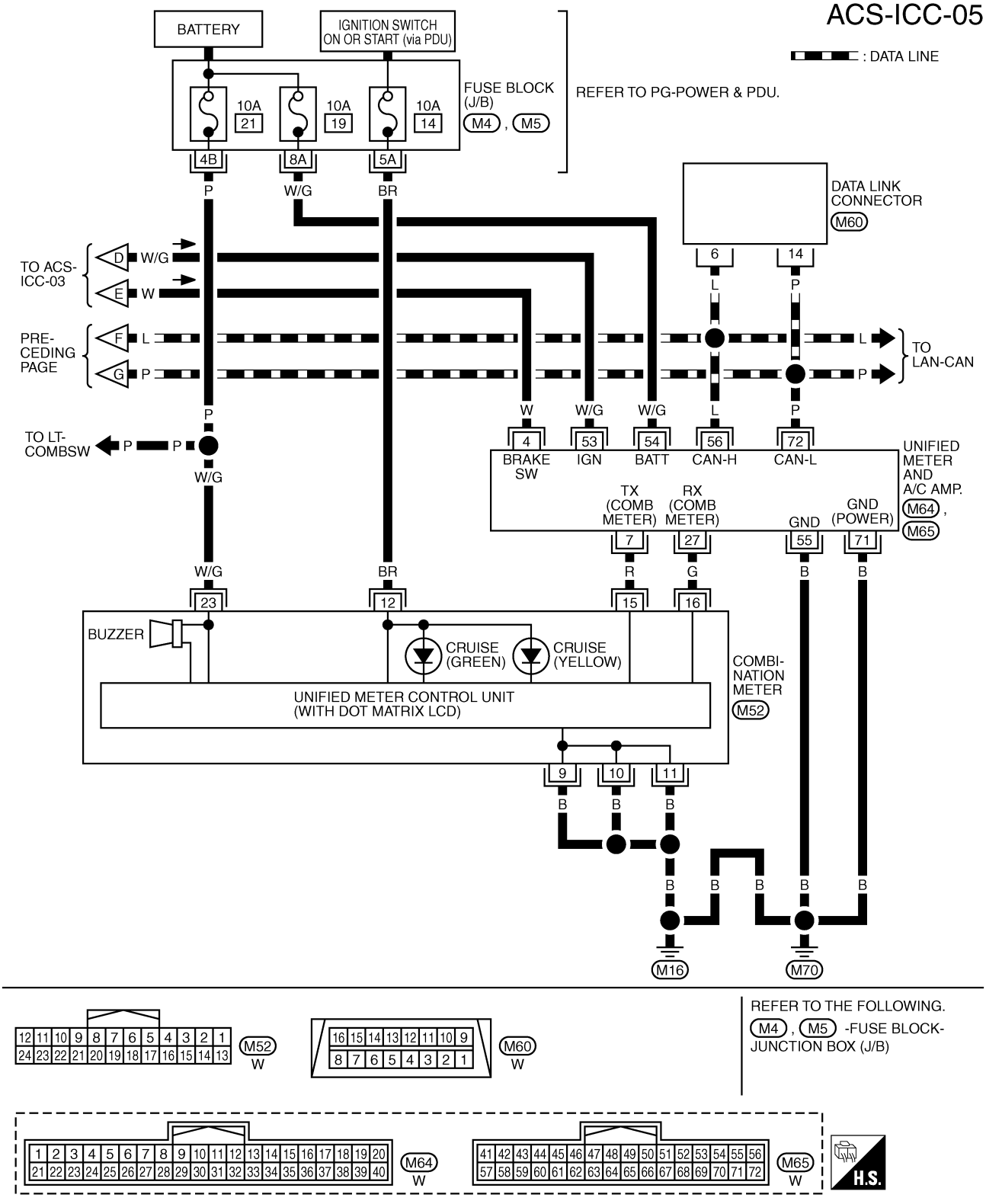


★: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

REFER TO THE FOLLOWING.
F102 , B2 , B418 -SUPER MULTIPLE JUNCTION (SMJ)
M1 , M71 -ELECTRICAL UNITS

TKWT5304E

ACS-ICC-05



TKWT5099E

TERMINALS AND REFERENCE VALUE

PFP:00000

Terminals and Reference Value for ICC Sensor Integrated Unit

NKS004CU

Terminals (Wire color)		Item	Condition		Voltage (V)
+	–		Ignition switch	Operation	
1 (G/B)	Ground	Ignition switch ON or START	ON	—	Battery voltage
2 (G)		Stop lamp drive output signal	ON	At “STOP LAMP” test on “ACTIVE TEST”	Approx.12
				—	Approx. 0
3 (L)		CAN–H	—	—	—
4 (B/Y)		Ground	ON	—	Approx. 0
6 (P)		CAN–L	—	—	—

TROUBLE DIAGNOSIS - GENERAL DESCRIPTION

PFP:00000

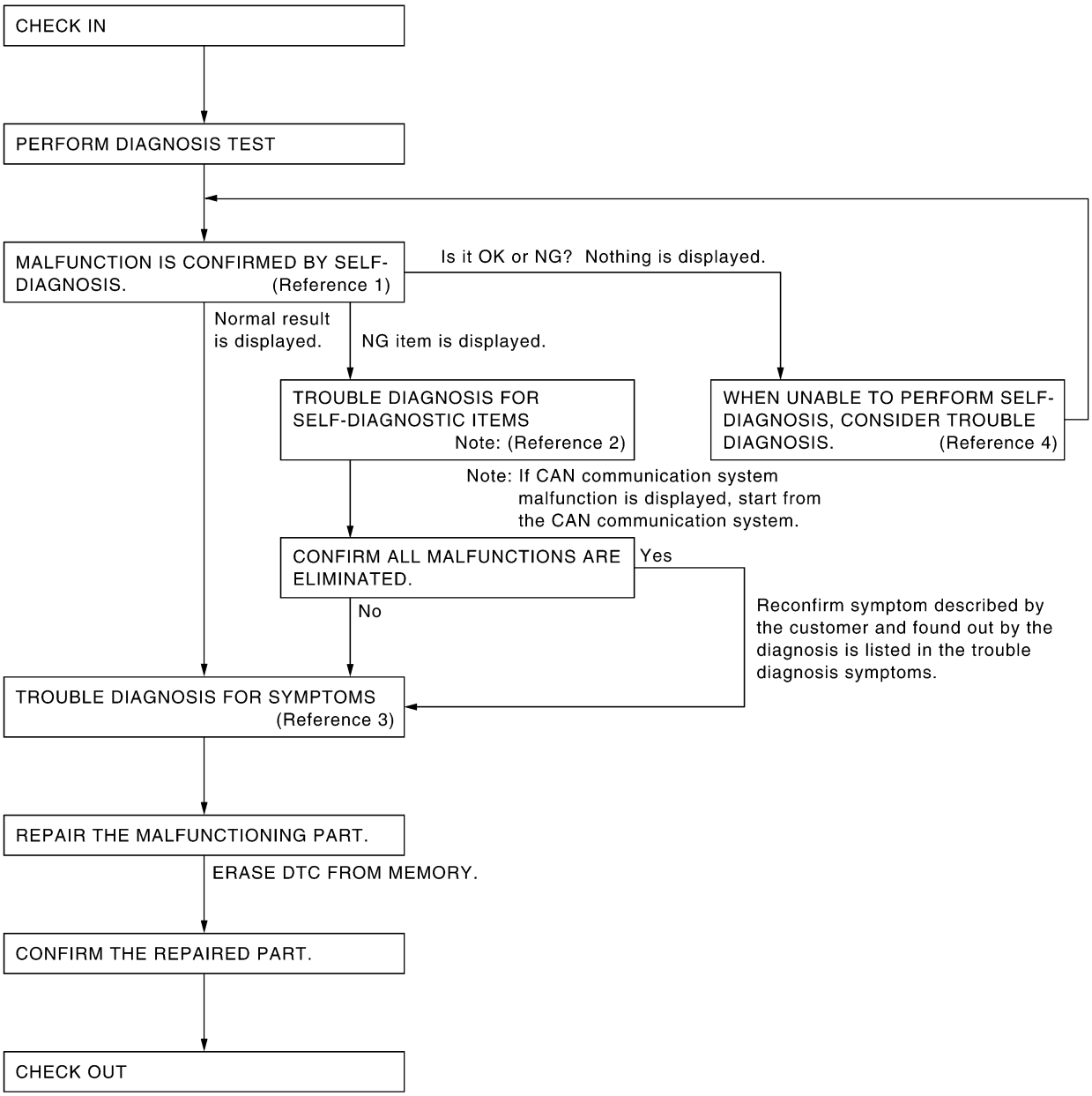
Fail-Safe Function

NKS004CV

When a malfunction occurs in ICC system, a chime sounds a beep, the system is released and ICC system warning lamp in combination meter illuminates. System setting is not accepted when malfunction is detected.

Work Flow

NKS004CW



SKIA1227E

- Reference 1··· Refer to ACS-34, "Self-Diagnostic Function" .
- Reference 2··· Refer to ACS-40, "Diagnostic Trouble Code (DTC) Chart" .
- Reference 3··· Refer to ACS-62, "Symptom Chart" .
- Reference 4··· Refer to GI-39, "CONSULT-II Data Link Connector (DLC) Circuit" /ACS-36, "SELF-DIAGNOSIS BY DOT MATRIX LCD WILL NOT RUN" .

CONSULT-II Function (ICC)

NKS004CX

DESCRIPTION

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

Test mode	Function	Reference page
WORK SUPPORT	● Monitors aiming direction to facilitate laser beam aiming operation. ● Indicates causes of automatic cancellation of the ICC system.	ACS-30
SELF-DIAGNOSTIC RESULTS	Displays malfunctioning system memorized in ICC sensor integrated unit.	ACS-31
DATA MONITOR	Displays real-time input/output data of ICC sensor integrated unit.	ACS-31
CAN DIAG SUPPORT MNTR	The results of transmit/receive diagnosis of CAN communication can be read.	LAN-44
ACTIVE TEST	Enables operation check of electrical loads by sending driving signal to them.	ACS-33
ECU PART NUMBER	Displays part number of ICC sensor integrated unit.	—

CONSULT-II BASIC OPERATION

Refer to GI-38, "CONSULT-II Start Procedure" .

WORK SUPPORT

Work Item

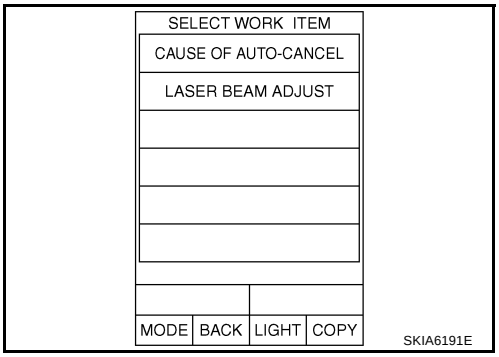
Work item	Function
CAUSE OF AUTO-CANCEL	Indicates causes of automatic cancellation of the ICC system.
LASER BEAM ADJUST	Outputs laser beam, calculates dislocation of the beam, and indicates adjustment direction.

Cause of Auto-Cancel

1. Touch “WORK SUPPORT” on the “SELECT DIAG MODE” screen.
2. Touch “CAUSE OF AUTO-CANCEL” on the “SELECT WORK ITEM” screen.
3. Cause of automatic cancellation screen will be shown.

NOTE:

- Last five cancel (system cancel) causes are displayed.
- “CAUSE OF AUTO-CANCEL” displays times of ignition switch ON/OFF up to 254 maximum. 254 is kept though the number exceeds 254. The number returns to 0 when detecting the same cancellation causes.



Display Item List

Cause of cancellation	Description
OPERATING WIPER	Windshield wipers were operated at HI or LO speed operation.
OPERATING ABS	ABS function was operated.
OPERATING TCS	TCS function was operated.
OPERATING VDC	VDC function was operated.
OPE SW VOLT CIRC	Outside the standard control switch input voltage was detected.
ECM CIRCUIT	ECM did not permit ICC operation.
LASER SUN BEAM	Intense light such as sunlight entered ICC sensor integrated unit light sensing part.
LASER TEMP	Temperature around ICC sensor integrated unit became low.
OP SW DOUBLE TOUCH	ICC steering switches were pressed at the same time.
WHL SPD ELEC NOISE	Wheel speed sensor signal caught electromagnetic noise.
VDC/TCS OFF SW	VDC OFF switch was pressed.
WHEEL SPD UNMATCH	Wheel speed became different from A/T vehicle speed.
TIRE SLIP	Wheel slipped.
IGN LOW VOLT	Power supply voltage became low.
SNOW MODE SW	Snow mode switch was pressed.
VHCL SPD DOWN	Vehicle speed becomes 20 MPH (32 km/h for CANADA models) and under.
VHCL SPD UNMATCH	Vehicle speed becomes unusual.
NO RECORD	—

Laser Beam Adjust

For details, refer to ACS-15, "LASER BEAM AIMING ADJUSTMENT" .

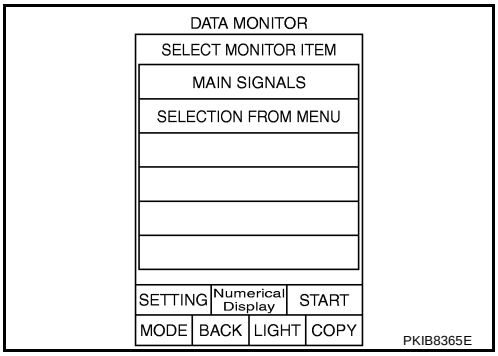
SELF-DIAGNOSTIC RESULTS

For details, refer to ACS-40, "Diagnostic Trouble Code (DTC) Chart" .

DATA MONITOR

Operation Procedure

1. Touch “DATA MONITOR” on “SELECT DIAG MODE” screen.
2. Touch any of “MAIN SIGNALS” and “SELECTION FROM MENU” on selection screen.
3. Touch “START”.
4. Display the data monitor.
5. Touch “COPY” to print data if necessary.



Monitored Item

×: Applicable

Monitored Item [unit]	MAIN SIGNALS	SELECTION FROM MENU	Description
VHCL SPEED SE [km/h] or [mph]	×	×	Indicates vehicle speed calculated from ICC sensor integrated unit through CAN communication [ABS actuator and electric unit (control unit) transmits vehicle speed signal (wheel speed) through CAN communication].
SET VHCL SPD [km/h] or [mph]	×	×	Indicates set vehicle speed memorized in ICC sensor integrated unit.
THRTL OPENING [%]	×	×	Indicates throttle position read from ICC sensor integrated unit through CAN communication (ECM transmits accelerator pedal position signal through CAN communication).

Monitored Item [unit]	MAIN SIGNALS	SELECTION FROM MENU	Description
THRTL SENSOR [deg]	×	×	**NOTE:** This item is displayed, but cannot monitor.
SET DISTANCE [SHOR/MID/LONG]	×	×	Indicates set distance memorized in ICC sensor integrated unit.
MAIN SW [ON/OFF]	×	×	Indicates [ON/OFF] status as judged from ICC steering switch signal (ECM transmits ICC steering switch signal through CAN communication).
SET/COAST SW [ON/OFF]	×	×	Indicates [ON/OFF] status as judged from ICC steering switch signal (ECM transmits ICC steering switch signal through CAN communication).
CANCEL SW [ON/OFF]	×	×	Indicates [ON/OFF] status as judged from ICC steering switch signal (ECM transmits ICC steering switch signal through CAN communication).
RESUME/ACC SW [ON/OFF]	×	×	Indicates [ON/OFF] status as judged from ICC steering switch signal (ECM transmits ICC steering switch signal through CAN communication).
DISTANCE SW [ON/OFF]		×	Indicates [ON/OFF] status as judged from ICC steering switch signal (ECM transmits ICC steering switch signal through CAN communication).
CRUISE OPE [ON/OFF]	×	×	Indicates whether controlling or not (ON means “controlling”).
BRAKE SW [ON/OFF]	×	×	Indicates [ON/OFF] status as judged from ICC brake switch signal (ECM transmits ICC brake switch signal through CAN communication).
STOP LAMP SW [ON/OFF]	×	×	Indicates [ON/OFF] status as judged from stop lamp switch signal (ECM transmits stop lamp switch signal through CAN communication).
CRUISE LAMP [ON/OFF]	×	×	Indicates [ON/OFF] status of MAIN switch indicator lamp output.
CLUTCH SW SIG [ON/OFF]	×	×	**NOTE:** This item is displayed, but cannot monitor.
NP SW SIG [ON/OFF]	×	×	**NOTE:** This item is displayed, but cannot monitor.
STP LMP DRIVE [ON/OFF]	×	×	Indicates [ON/OFF] status of ICC brake hold relay drive output.
PWR SUP MONI [V]	×	×	Indicates IGN voltage input by ICC sensor integrated unit.
IDLE SW [ON/OFF]		×	Indicates [ON/OFF] status of idle switch read from ICC sensor integrated unit through CAN communication (ECM transmits ON/OFF status through CAN communication).
OWN VHCL [ON/OFF]		×	Indicates [ON/OFF] status of own vehicle indicator output.
VHCL AHEAD [ON/OFF]		×	Indicates [ON/OFF] status of vehicle ahead detection indicator output.
ICC WARNING [ON/OFF]		×	Indicates [ON/OFF] status of ICC system warning lamp output.
BUZZER O/P [ON/OFF]		×	Indicates [ON/OFF] status of ICC warning chime output.
ENGINE RPM [rpm]		×	Indicates engine speed read from ICC sensor integrated unit through CAN communication (ECM transmits engine speed through CAN communication).
WIPER SW [OFF/LOW/HIGH]		×	Indicates wiper [OFF/LOW/HIGH] status (BCM transmits front wiper request signal through CAN communication).
YAW RATE [deg/s]		×	**NOTE:** This item is displayed, but cannot monitor.
D RANGE SW [ON/OFF]		×	Indicates [ON/OFF] status of “D” and “M” positions read from ICC sensor integrated unit through CAN communication; ON when position “D” and “M” (TCM transmits A/T position indicator lamp signal through CAN communication).

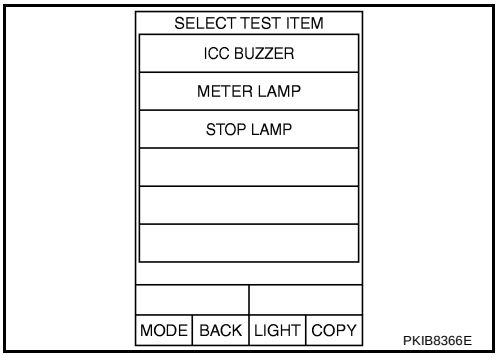
Monitored Item [unit]	MAIN SIGNALS	SELECTION FROM MENU	Description
NP RANGE SW [ON/OFF]		×	Indicates A/T position indicator lamp signal read from ICC sensor integrated unit through CAN communication (TCM transmits A/T position indicator lamp signal through CAN communication).
VHCL SPD AT [km/h] or [mph]		×	Indicates vehicle speed calculated from A/T vehicle speed sensor read from ICC sensor integrated unit through CAN communication (TCM transmits A/T vehicle speed sensor signal through CAN communication).
GEAR [1, 2, 3, 4, 5]		×	Indicates A/T gear position read from ICC sensor integrated unit through CAN communication (TCM transmits current gear position signal through CAN communication).
MODE SIG [OFF, ICC, ASCD]		×	Indicates the active mode from ICC or ASCD (conventional (fixed speed) cruise control mode).
SET DISP IND [ON/OFF]		×	Indicates [ON/OFF] status of SET switch indicator output.
DISTANCE [m]		×	Indicates the distance from the vehicle ahead.
RELATIVE SPD [m/s]		×	Indicates the relative speed of the vehicle ahead.

ACTIVE TEST

CAUTION:

- **Never perform the active test while driving.**
- **“ACTIVE TEST” cannot be started while ICC system warning lamp illuminates.**

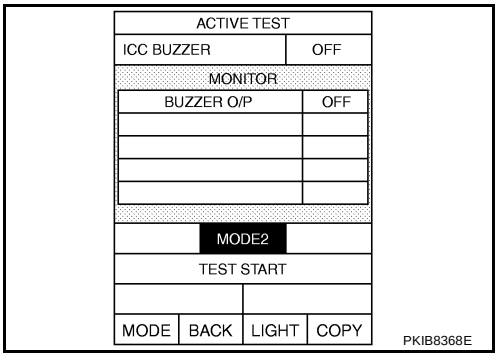
1. Touch “ACTIVE TEST” on “SELECT DIAG MODE” screen.
2. Touch any of “ICC BUZZER”, “METER LAMP” and “STOP LAMP” on selection screen.
3. Touch necessary item and “START”.
4. “ACTIVE TEST” screen will be shown.



ICC BUZZER

Touch “TEST START” and “RESET” in “MODE2” to check if ICC warning chime operates as in the following chart.

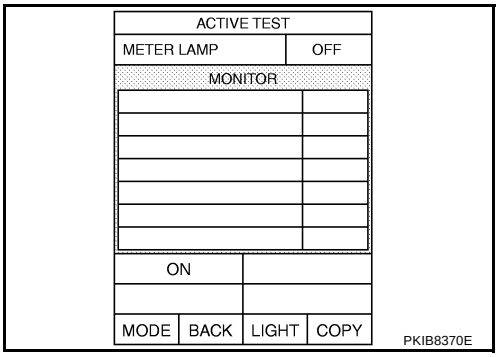
BUZZER O/P	ON	OFF
Buzzer sound	Beep	Not activated



METER LAMP

- Start engine.
- Touch “ON” and “OFF” to check if MAIN switch indicator lamp and ICC system warning lamp illuminate as in the following chart.

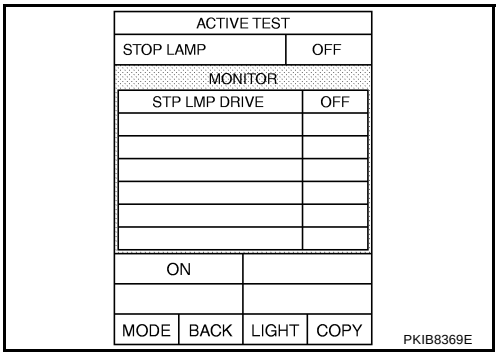
METER LAMP	ON	OFF
● ICC system warning lamp ● MAIN switch indicator lamp	Illuminated	OFF



STOP LAMP

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

STP LMP DRIVE	ON	OFF
Stop lamp	Turn ON	OFF



Self-Diagnostic Function

NKS004CY

WITH CONSULT-II

1. Go to operation check after asking the customer for symptom information. Refer to ACS-12, "ACTION TEST" .
2. Stop vehicle, turn ignition switch OFF, then connect CONSULT-II and CONSULT-II CONVERTER to data link connector.
3. With engine started, touch “START (NISSAN BASED VHCL)”, “ICC”, “SELF-DIAG RESULTS” on CONSULT-II screen in this order.

   CAUTION:
   If “ICC” cannot be shown after several attempts, the ICC sensor integrated unit may have had malfunction. Repair or replace it. Refer to GI-39, "CONSULT-II Data Link Connector (DLC) Circuit" .
4. “DTC RESULTS” and “TIME” are indicated on “SELF-DIAG RESULTS”. “TIME” is used as a reference data of diagnosis. It shows when malfunction is detected.

   NOTE:
   “TIME” shows the following.
   - 0: malfunction is detected at present (from malfunction detection to ignition switch OFF).

   CAN communication ([U1000], [U1010])
   - 1 ~ 39: Displays when it is normal at present and finds malfunction in the past. It increases like 0→1→2...38→39 after returning to the normal condition whenever IGN OFF→ON. If it is over 39, it is fixed to 39 until the self-diagnostic results are erased. It returns to 0 when malfunction is detected again in the process.

   Other than CAN communication (other than [U1000], [U1010])
   - 1 ~ 49: Displays when it is normal at present and finds malfunction in the past. It increases like 0→1→2...48→49 after returning to the normal condition whenever IGN OFF→ON. If it is over 49, it is fixed to 49 until the self-diagnostic results are erased. It returns to 0 when malfunction is detected again in the process.

   If “NO DTC...” is shown, check ICC system warning lamp. If any malfunction is indicated, GO TO step 5.
5. According to ACS-40, "Diagnostic Trouble Code (DTC) Chart" , perform appropriate check, and repair or replace malfunctioning part as necessary.
6. Turn ignition switch OFF.

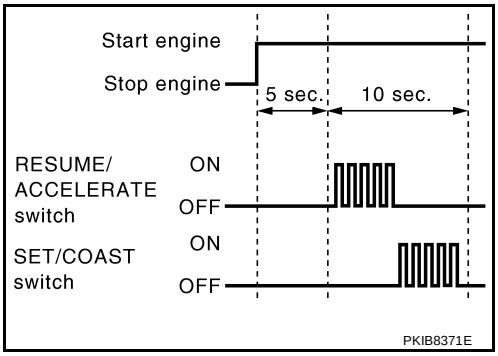
7. Start engine and touch “START (NISSAN BASED VHCL)”, “ICC”, “SELF-DIAG RESULTS” and “ERASE” on CONSULT-II display in turn to erase the memory.

CAUTION:
If the memory does not erase, go to 5.

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

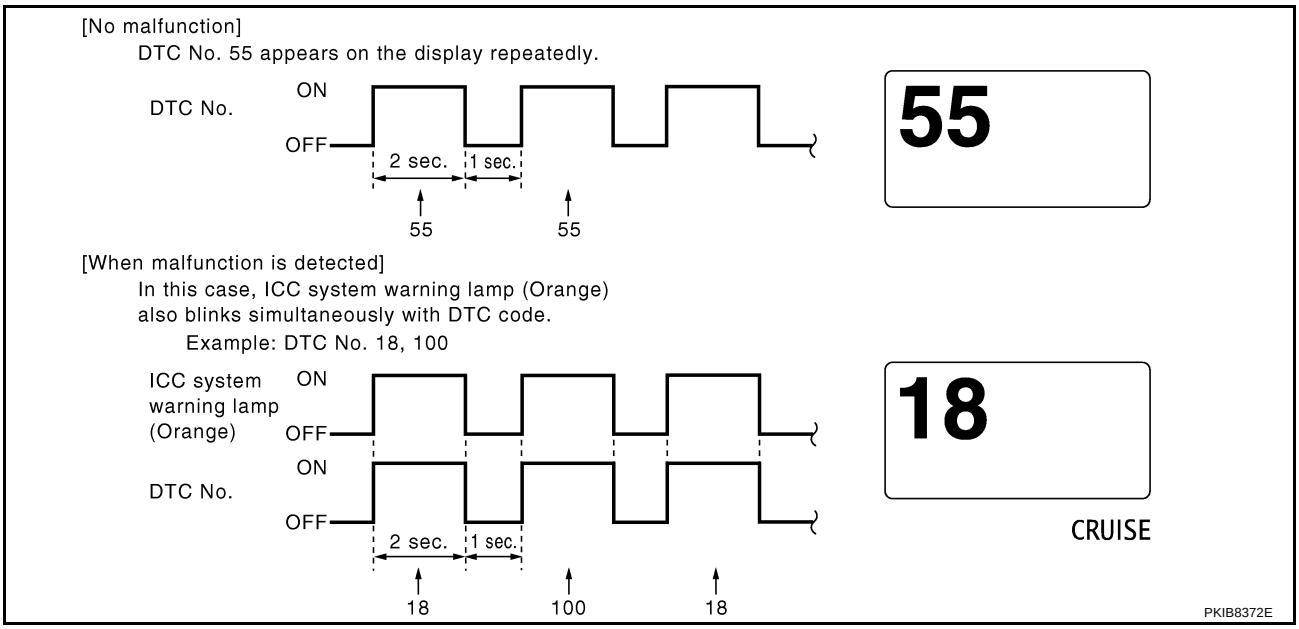
WITHOUT CONSULT-II

1. Go to operation check after asking the customer for symptom information. Refer to ACS-12, "ACTION TEST" .
2. Stop the vehicle and turn ignition switch OFF.
3. Start engine.
4. From 5 seconds through 15 seconds after start engine, press RESUME/ACCELERATE switch 5 times, and SET/COAST switch 5 times.



CAUTION:
- **Never turn the MAIN switch ON.**
- **When operation above is not completed from 5 seconds through 15 seconds, start again from above go to 3.**
- **If self-diagnosis mode cannot be started after several attempts, the ICC sensor integrated unit may have had malfunction. Repair or replace it. Refer to ACS-36, "SELF-DIAGNOSIS BY DOT MATRIX LCD WILL NOT RUN" .**

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



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

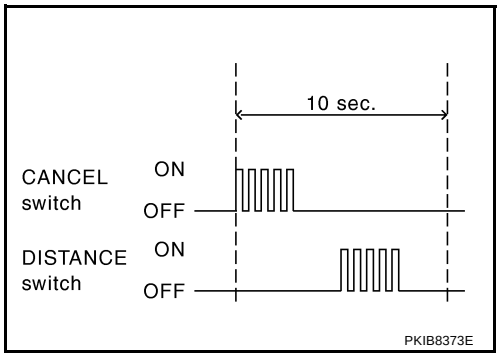
6. Check ACS-40, "Diagnostic Trouble Code (DTC) Chart" , and repair or replace if necessary.
7. After repair, erase DTC stored in the ICC sensor integrated unit.
8. DTC 55 will be shown.
9. Turn ignition switch OFF to exit the diagnosis.
10. Perform ICC system running test (drive vehicle with ICC system ON), and make sure that ICC system warning lamp (Orange) does not illuminate.

Self-Diagnostic Erasing Method

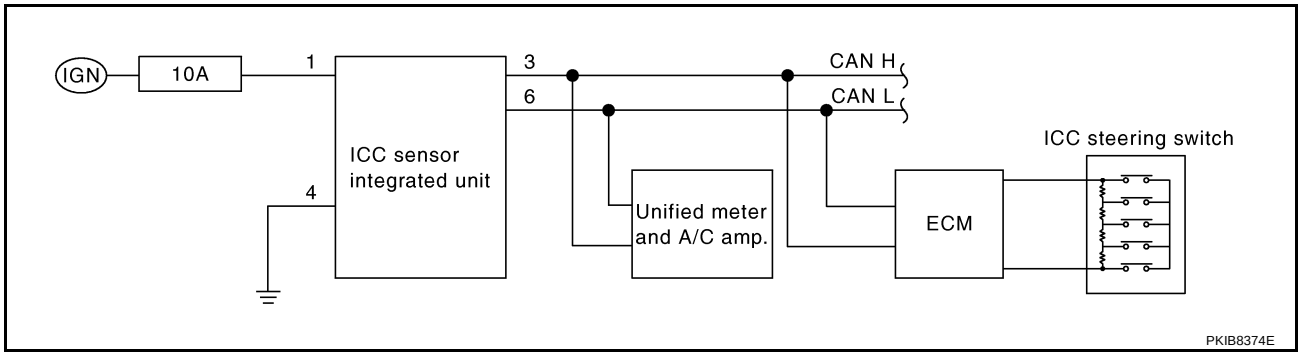
1. Stop the vehicle and turn ignition switch OFF.
2. Start engine and start self-diagnosis.
3. During self-diagnosis mode, press CANCEL switch 5 times, and DISTANCE switch 5 times in this order.

   CAUTION:
   - **Press them within 10 seconds after pressing CANCEL switch at first.**
   - **When operation is not completed within 10 seconds, start again from step 2 above.**
4. DTC 55 will be shown.

   CAUTION:
   DTC of an existing malfunction will not be erased.
5. Turn ignition switch OFF to exit the diagnosis.
6. Perform ICC system running test (drive vehicle with ICC system ON), and make sure that ICC system warning lamp (Orange) does not illuminate.



SELF-DIAGNOSIS BY DOT MATRIX LCD WILL NOT RUN



Possible Irregular Condition

Open or short lines	Symptoms	Malfunction causes
ICC sensor integrated unit power supply malfunction	No voltage supply from ignition switch	Fuse blown.
		Harness open.
		Harness shorted.
	Ground cable not connected	Harness open.
		Harness shorted.
ICC steering switch malfunction	No signal transmitted	Harness open.
		Harness shorted.
		Spiral cable open.
		Spiral cable shorted.
		ICC steering switch or ECM malfunction.
CAN communication system malfunction	Signal not transmitted	Harness open.
		Harness shorted.
		CAN communication malfunction.
Combination meter system malfunction	Indication not possible	Combination meter malfunction.
		Unified meter and A/C amp. malfunction.
		Dot matrix LCD malfunction.
ICC sensor integrated unit malfunction		ICC sensor integrated unit internal malfunction.

1. CHECK FUSE

Check if the fuse is blown.

Unit	Power source	Fuse No.
ICC sensor integrated unit	Ignition switch ON or START	82

OK or NG

OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2. CHECK ICC SYSTEM DISPLAY

Check if dot matrix LCD in the combination meter illuminates. Refer to DI-17, "Self-Diagnosis Mode of Combination Meter" .

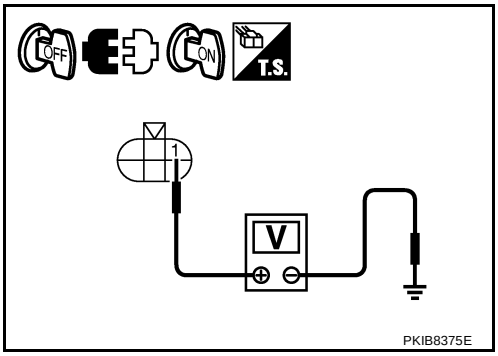
OK or NG

OK >> GO TO 3.
NG >> Check combination meter. Refer to DI-18, "HOW TO PERFORM TROUBLE DIAGNOSIS" .

3. CHECK POWER SUPPLY CIRCUIT FOR ICC SENSOR INTEGRATED UNIT

1. Turn ignition switch OFF.
2. Disconnect ICC sensor integrated unit connector.
3. Turn ignition switch ON.
4. Check voltage between ICC sensor integrated unit harness connector and ground.

Terminals			Voltage (Approx.)
(+)		(–)	
ICC sensor integrated unit connector	Terminal		
E61	1	Ground	Battery voltage



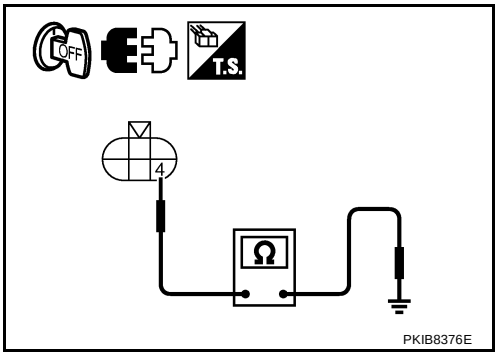
OK or NG

OK >> GO TO 4.
NG >> Repair or replace ICC sensor integrated unit power supply harness.

4. CHECK GROUND CIRCUIT FOR ICC SENSOR INTEGRATED UNIT

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

ICC sensor integrated unit connector	Terminal	Ground	Continuity
E61	4		Yes



OK or NG

OK >> GO TO 5.
NG >> Repair or replace ICC sensor integrated unit ground harness.

5. CHECK CONNECTOR FOR ICC SENSOR INTEGRATED UNIT

1. Check terminals for bend and looseness.
2. Securely connect ICC sensor integrated unit connector again.
3. Perform self-diagnosis without CONSULT-II. Refer toACS-35, "WITHOUT CONSULT-II" .

Can self-diagnosis be performed?

YES >> Check connector. (Check connector housing for disconnected, loose, bent, and collapsed terminals. If any malfunction is detected, repair applicable part.)
NO >> GO TO 6.

6. CHECK ICC STEERING SWITCH

Check ICC steering switch. Refer to ACS-69, "ICC Steering Switch" .

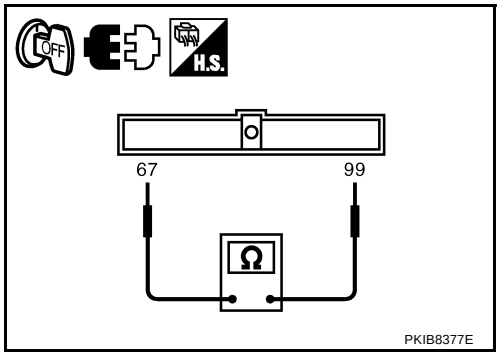
OK or NG

OK >> GO TO 7.
NG >> Replace ICC steering switch.

7. CHECK HARNESS BETWEEN ECM AND ICC STEERING SWITCH

1. Turn ignition switch OFF.
2. Disconnect ECM connector.
3. Check resistance between ECM harness connector.

ECM connector	Terminal	ECM connector	Terminal	Condition	Resistance (Approx.)
F108	67	M71	99	When MAIN switch pressed	0 Ω
				When MAIN switch released	5.5 kΩ

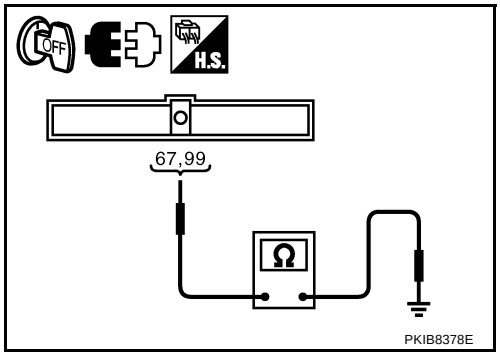


4. Check continuity between ECM harness connector and ground.

ECM connector	Terminal	Ground	Continuity
F108	67		No
M71	99		No

OK or NG

OK >> GO TO 8.
NG >> Repair or replace harness between ECM and ICC steering switch.



8. CHECK CONNECTOR FOR ECM

1. Check terminals for bend and looseness.
2. Securely connect ECM connector again.
3. Perform self-diagnosis without CONSULT-II. Refer to ACS-35, "WITHOUT CONSULT-II" .

Can self-diagnosis be performed?

YES >> Check connector. (Check connector housing for disconnected, loose, bent, and collapsed terminals. If any malfunction is detected, repair applicable part.)
NO >> GO TO 9.

9. CHECK CAN COMMUNICATION

1. Perform self-diagnosis with CONSULT-II.
2. Check if “DTC 100 CAN COMM CIRCUIT” is indicated in self-diagnosis item in the display.

Is it indicated?

YES >> 1. CAN communication inspection. Refer to ACS-61, "DTC 100 CAN COMM CIRCUIT" .
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> 1. Perform “ENGINE” self-diagnosis. Refer to EC-123, "CONSULT-II Function (ENGINE)" (for VQ35DE) or EC-826, "CONSULT-II Function (ENGINE)" (VK45DE).
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS

PFP:25962

Diagnostic Trouble Code (DTC) Chart

NKS004CZ

×: Applicable

DTC No.	CONSULT-II screen terms	ICC system warning lamp	Fail-safe			Malfunctions detected where...	Reference page
			Vehicle-to-vehicle distance control mode	Conventional (fixed speed) cruise control mode	Brake assist (with preview function)		
0	CONTROL UNIT [C1A00]	×	×	×	×	● ICC sensor integrated unit internal malfunction.	ACS-42
1	POWER SUPPLY CIR [C1A01]	×	×	×	×	● ICC sensor integrated unit power supply voltage is excessively low (less than 8V).	ACS-42
2	POWER SUPPLY CIR 2 [C1A02]	×	×	×	×	● ICC sensor integrated unit power supply voltage is excessively high (more than 19V).	ACS-42
3	VHCL SPEED SE CIRC [C1A03]	×	×	×	×	● Wheel sensor malfunction. ● ABS actuator and electric unit (control unit) malfunction. ● A/T vehicle speed sensor malfunction. ● TCM malfunction. ● ICC sensor integrated unit malfunction.	ACS-43
4	ABS/TCS/VDC CIRC [C1A04]	×	×	×	×	● VDC/TCS/ABS system malfunction.	ACS-43
5	BRAKE SW/STOP L SW [C1A05]	×	×	×	×	● Stop lamp switch harness is open or shorted. ● Stop lamp switch is stuck to OFF. ● ICC brake switch or stop lamp switch is stuck to ON. ● ECM malfunction. ● ABS actuator and electric unit (control unit) malfunction.	ACS-44
6	OPERATION SW CIRC [C1A06]	×	×	×		● ICC steering switch harness or spiral cable is open or shorted. ● ICC steering switch malfunction.	ACS-48
12	LASER BEAM OFFCNTR [C1A12]	×	×		×	● Laser beam of ICC sensor integrated unit is off the aiming point.	ACS-49
13	STOP LAMP RLY FIX [C1A13]	×	×		×	● Normally open terminal of ICC brake hold relay is stuck. ● Improper installation of ICC brake switch or stop lamp switch. ● ICC brake switch malfunction. ● ECM malfunction. ● ABS actuator and electric unit (control unit) malfunction.	ACS-50

DTC No.	CONSULT-II screen terms	ICC system warning lamp	Fail-safe			Malfunctions detected where...	Reference page
			Vehicle-to-vehicle distance control mode	Conventional (fixed speed) cruise control mode	Brake assist (with preview function)		
14	ECM CIRCUIT [C1A14]	×	×	×	×	● ECM malfunction. ● Accelerator pedal position sensor malfunction. ● ICC sensor integrated unit malfunction.	ACS-56
15	GEAR POSITION [C1A15]	×	×	×		● TCM malfunction. ● A/T turbine revolution sensor malfunction. ● A/T vehicle speed sensor malfunction.	ACS-57
16	RADAR STAIN [C1A16]	×	×		×	● ICC sensor integrated unit body window has contamination.	ACS-58
18	LASER AIMING INCMP [C1A18]	×	×		×	● Laser beam aiming of ICC sensor integrated unit is not adjusted.	ACS-58
21	UNIT HIGH TEMP [C1A21]	×	×		×	● Temperature around ICC sensor integrated unit is excessively high.	ACS-58
24	NP RANGE [C1A24]	×	×	×		● Park/neutral position switch malfunction. ● TCM malfunction.	ACS-59
25	SHIFT RANGE IND [C1A25]	×	×	×		● TCM malfunction.	ACS-59
26	ECD MODE MALF [C1A26]	×	×	×		● ABS actuator and electric unit (control unit) malfunction. ● ICC sensor integrated unit malfunction.	ACS-60
27	ECD PWR SUPLY CIR [C1A27]	×	×	×	×	● ABS actuator and electric unit (control unit) power supply voltage is excessively low. ● ABS actuator and electric unit (control unit) malfunction.	ACS-60
55	NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED.					● No malfunction item has been detected.	—
100	CAN COMM CIRCUIT [U1000]	×	×	×	×	● ICC sensor integrated unit detects CAN communication malfunction.	ACS-61
110	CONTROL UNIT (CAN) [U1010]	×	×	×	×	● ICC sensor integrated unit detects malfunction by CAN initial diagnosis.	ACS-61

DTC 0 CONTROL UNIT

NKS004D0

1. PERFORM ICC SENSOR INTEGRATED UNIT SELF-DIAGNOSIS

1. Perform self-diagnosis.
2. Check if any item other than “CONTROL UNIT [C1A00]” (DTC 0) is indicated on self-diagnosis display.

Is any indicated?

YES >> 1. Repair or replace applicable item. Refer to ACS-40, "Diagnostic Trouble Code (DTC) Chart" .
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

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

DTC 1 POWER SUPPLY CIR, DTC 2 POWER SUPPLY CIR 2

NKS004D1

1. CHECK CONNECTOR ICC SENSOR INTEGRATED UNIT

1. Turn ignition switch OFF.
2. Disconnect ICC sensor integrated unit connector, and connect it securely again.
3. Erase DTC and perform ICC running test. Then perform self-diagnosis of ICC system again.
4. Check if “POWER SUPPLY CIR [C1A01]” (DTC 1) or “ POWER SUPPLY CIR 2 [C1A02]” (DTC 2) is indicated in self-diagnosis item in the display.

Is malfunction indicated?

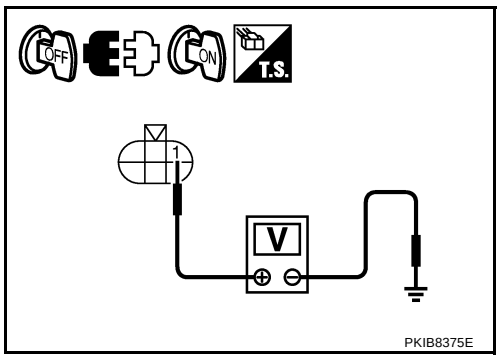
YES >> GO TO 2.

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

2. CHECK POWER SUPPLY CIRCUIT FOR ICC SENSOR INTEGRATED UNIT

1. Turn ignition switch OFF.
2. Disconnect ICC sensor integrated unit connector.
3. Turn ignition switch ON.
4. Check voltage between ICC sensor integrated unit harness connector and ground.

Terminals			Voltage (Approx.)
(+)		(–)	
ICC sensor integrated unit connector	Terminal		
E61	1	Ground	Battery voltage



OK or NG

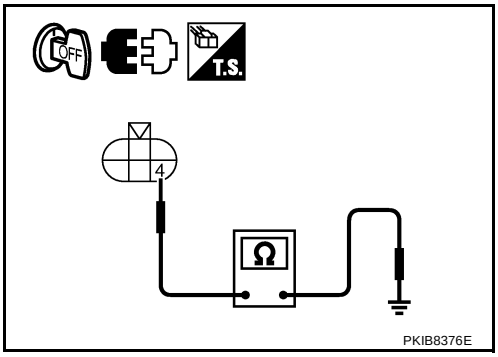
OK >> GO TO 3.

NG >> 1. Repair or replace ICC sensor integrated unit power supply harness or fuse.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

3. CHECK GROUND CIRCUIT FOR ICC SENSOR INTEGRATED UNIT

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

ICC sensor integrated unit connector	Terminal	Ground	Continuity
E61	4		Yes



OK or NG

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

NG >> 1. Repair or replace ICC sensor integrated unit ground harness.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 3 VHCL SPEED SE CIRC

NKS004D2

1. PERFORM ICC SENSOR INTEGRATED UNIT SELF-DIAGNOSIS

1. Perform self-diagnosis.
2. Check if “ABS/TCS/VDC CIRC [C1A04]” (DTC 4) or “CAN COMM CIRCUIT [U1000]” (DTC 100) other than “VHCL SPEED SE CIRC [C1A03]” (DTC 3) is indicated in self-diagnosis item in the display.

Is any indicated?

YES >> 1. Repair or replace applicable item. Refer to ACS-40, "Diagnostic Trouble Code (DTC) Chart" .
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> GO TO 2.

2. CHECK A/T VEHICLE SPEED SENSOR

With CONSULT-II

With “ICC” “DATA MONITOR”, check if “VHCL SPD AT” operates normally.

OK or NG

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

NG >> 1. Perform “A/T” self-diagnosis. Refer to AT-90, "CONSULT-II Function (A/T)" .
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 4 ABS/TCS/VDC CIRC

NKS004D3

1. PERFORM ICC SENSOR INTEGRATED UNIT SELF-DIAGNOSIS

1. Perform self-diagnosis.
2. Check if “CAN COMM CIRCUIT [U1000]” (DTC100) other than “ABS/TCS/VDC CIRC [C1A04]” (DTC 4) is indicated in self-diagnosis item in the display.

Is it indicated?

YES >> 1. CAN communication inspection. Refer to ACS-61, "DTC 100 CAN COMM CIRCUIT" .
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> GO TO 2.

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

With CONSULT-II

1. Perform “ABS” self-diagnosis. Refer to BRC-23, "CONSULT-II Functions (ABS)" .
2. Check if malfunction is indicated.

Is malfunction indicated?

YES >> 1. Repair or replace applicable item.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

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

DTC 5 BRAKE SW/STOP L SW

NKS004D4

1. PERFORM ICC SENSOR INTEGRATED UNIT SELF-DIAGNOSIS

1. Perform self-diagnosis.
2. Check if “CAN COMM CIRCUIT [U1000]” (DTC 100) other than “BRAKE SW/STOP L SW [C1A05]” (DTC 5) is indicated in self-diagnosis item in the display.

Is it indicated?

YES >> 1. CAN communication inspection. Refer to ACS-61, "DTC 100 CAN COMM CIRCUIT" .
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> GO TO 2.

2. CHECK ICC BRAKE SWITCH WITH ICC DATA MONITOR

With CONSULT-II

With “ICC” “DATA MONITOR”, check if “BRAKE SW” operates normally.

OK or NG

OK >> GO TO 3.
NG >> GO TO 6.

3. CHECK STOP LAMP SWITCH WITH ABS DATA MONITOR

With CONSULT-II

With “ABS” “DATA MONITOR”, check if “STOP LAMP SW” operates normally.

OK or NG

OK >> GO TO 4.
NG >> GO TO 11.

4. PERFORM ECM SELF-DIAGNOSIS

With CONSULT-II

1. Perform “ENGINE” self-diagnosis. Refer to EC-123, "CONSULT-II Function (ENGINE)" (for VQ35DE) or EC-826, "CONSULT-II Function (ENGINE)" (for VK45DE).
2. Check if malfunction is indicated.

Is malfunction indicated?

YES >> 1. Repair or replace applicable item.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> GO TO 5.

5. PERFORM ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS

With CONSULT-II

1. Perform “ABS” self-diagnosis. Refer to BRC-23, "CONSULT-II Functions (ABS)" .
2. Check if malfunction is indicated.

Is malfunction indicated?

YES >> 1. Repair or replace applicable item.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

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

6. CHECK ICC BRAKE SWITCH INSTALLATION AND ADJUSTMENT

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

OK or NG

OK >> GO TO 7.
NG >> 1. Adjust ICC brake switch.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

7. CHECK ICC BRAKE SWITCH

Check ICC brake switch. Refer to ACS-69, "ICC Brake Switch and Stop Lamp Switch" .

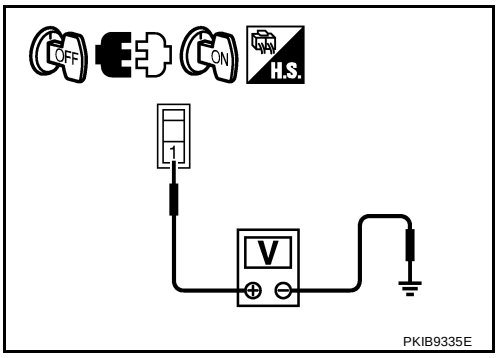
OK or NG

OK >> GO TO 8.
NG >> 1. Replace ICC brake switch.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

8. CHECK ICC BRAKE SWITCH POWER SUPPLY CIRCUIT

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

Terminals			Voltage (Approx.)
(+)		(–)	
ICC brake switch connector	Terminal		
E111	1	Ground	Battery voltage

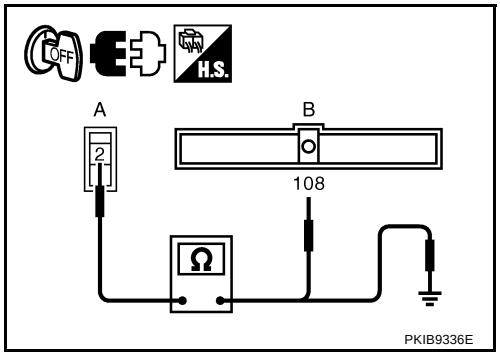


OK or NG

OK >> GO TO 9.
NG >> 1. Repair or replace harness or fuse.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

9. CHECK HARNESS BETWEEN ICC BRAKE SWITCH AND ECM

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



A		B		Continuity
Connector	Terminal	Connector	Terminal	
E111	2	M71	108	Yes

4. Check continuity between ICC brake switch harness connector (A) and ground.

A		Ground	Continuity
Connector	Terminal		
E111	2		No

OK or NG

OK >> GO TO 10.
NG >> 1. Repair or replace harness between ICC brake switch and ECM.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

10. PERFORM ECM SELF-DIAGNOSIS

With CONSULT-II

1. Perform “ENGINE” self-diagnosis. Refer to EC-123, "CONSULT-II Function (ENGINE)" (for VQ35DE) or EC-826, "CONSULT-II Function (ENGINE)" (for VK45DE).
2. Check if malfunction is indicated.

Is malfunction indicated?

YES >> 1. Repair or replace applicable item.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
NO >> 1. Replace ICC sensor integrated unit, and adjust laser beam aiming.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

11. CHECK STOP LAMP SWITCH INSTALLATION AND ADJUSTMENT

Check stop lamp switch for proper installation, and adjust the switch if necessary. Refer to BR-6, "BRAKE PEDAL" .

OK or NG

OK >> GO TO 12.
NG >> 1. Adjust stop lamp switch.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

12. CHECK STOP LAMP SWITCH

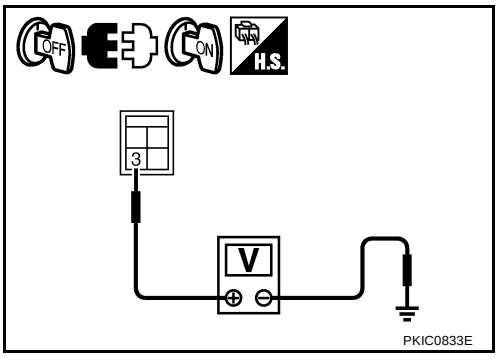
Check stop lamp switch. Refer to ACS-69, "ICC Brake Switch and Stop Lamp Switch" .

OK or NG

OK >> GO TO 13.
NG >> 1. Replace stop lamp switch.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

13. CHECK STOP LAMP SWITCH POWER SUPPLY CIRCUIT

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



Terminals			Voltage (Approx.)
(+)		(–)	
Stop lamp switch connector	Terminal		
E124	3	Ground	Battery voltage

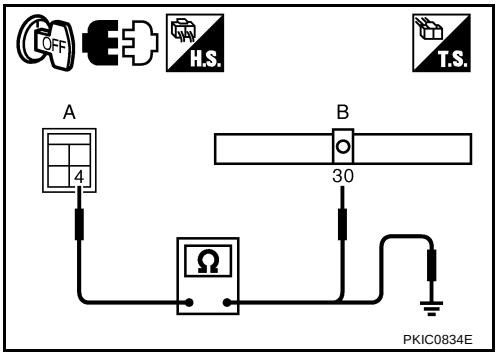
OK or NG

OK >> GO TO 14.

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

14. CHECK HARNESS BETWEEN STOP LAMP SWITCH AND ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

1. Turn ignition switch OFF.
2. Disconnect ABS actuator and electric unit (control unit) connector.
3. Check continuity between stop lamp switch harness connector (A) and ABS actuator and electric unit (control unit) harness connector (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
E124	4	E30	30	Yes

4. Check continuity between stop lamp switch harness connector (A) and ground.

A		Ground	Continuity
Connector	Terminal		
E124	4		No

OK or NG

OK >> 1. Perform “ABS” self-diagnosis. Refer to BRC-23, "CONSULT-II Functions (ABS)" .
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NG >> 1. Repair or replace harness between stop lamp switch and ABS actuator and electric unit (control unit).
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 6 OPERATION SW CIRC

NKS004D5

1. PERFORM ICC SENSOR INTEGRATED UNIT SELF-DIAGNOSIS

1. Perform self-diagnosis.
2. Check if “CAN COMM CIRCUIT [U1000]” (DTC 100) other than “OPERATION SW CIRC [C1A06]” (DTC 6) is indicated in self-diagnosis item in the display.

Is it indicated?

YES >> 1. CAN communication inspection. Refer to ACS-61, "DTC 100 CAN COMM CIRCUIT" .
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> GO TO 2.

2. CHECK CONNECTOR FOR ECM

1. Turn ignition switch OFF.
2. Disconnect ECM connector, and connect it securely again.
3. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
4. Check if “OPERATION SW CIRC [C1A06]” (DTC 6) is indicated in self-diagnosis item in the display.

Is it indicated?

YES >> GO TO 3.
NO >> Poor connector connection
1. Check connector. (Check connector housing for disconnected, loose, bent, and collapsed terminals. If any malfunction is detected, repair applicable part.)
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

3. CHECK ICC STEERING SWITCH

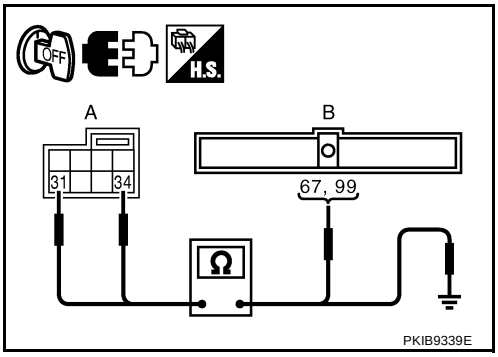
1. Turn ignition switch OFF.
2. Check ICC steering switch. Refer to ACS-69, "ICC Steering Switch" .

OK or NG

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

4. CHECK ICC STEERING SWITCH SIGNAL CIRCUIT

1. Disconnect spiral cable connector and ECM connector.
2. Check continuity between spiral cable harness connector (A) and ECM harness connector (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M39	31	F108	67	Yes
	34	M71	99	

3. Check continuity between spiral cable harness connector (A) and ground.

A		Ground	Continuity
Connector	Terminal		
M39	31		No
	34		

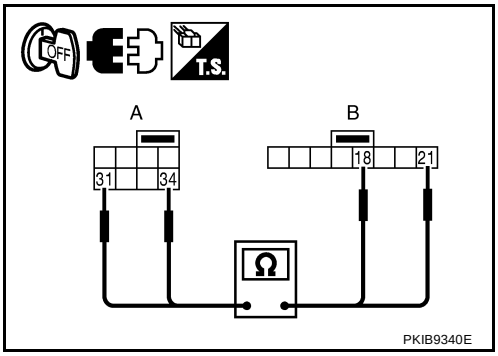
OK or NG

OK >> GO TO 5.

NG >> 1. Repair or replace harness between spiral cable and ECM.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

5. CHECK COMBINATION SWITCH (SPIRAL CABLE)

Check continuity between spiral cable terminals.



A	B	Continuity
Terminal	Terminal	
31	18	Yes
34	21	

OK or NG

OK >> 1. Perform “ENGINE” self-diagnosis. Refer to EC-123, "CONSULT-II Function (ENGINE)" (for VQ35DE) or EC-826, "CONSULT-II Function (ENGINE)" (for VK45DE).
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NG >> 1. Replace spiral cable.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 12 LASER BEAM OFFCNTR

NKS004D6

1. ADJUST LASER BEAM AIMING

1. Adjust laser beam aiming. Refer to ACS-15, "LASER BEAM AIMING ADJUSTMENT"
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
3. Check if “LASER BEAM OFFCNTR [C1A12]” (DTC 12) is indicated in self-diagnosis item in the display.

Is it indicated?

YES >> 1. Replace ICC sensor integrated unit, and adjust laser beam aiming.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> INSPECTION END

DTC 13 STOP LAMP RLY FIX

NKS004D7

1. PERFORM ICC SENSOR INTEGRATED UNIT SELF-DIAGNOSIS

1. Perform self-diagnosis.
2. Check if “CAN COMM CIRCUIT [U1000]” (DTC 100) other than “STOP LAMP RLY FIX [C1A13]” (DTC 13) is indicated in self-diagnosis item in the display.

Is it indicated?

YES >> 1. CAN communication inspection. Refer to ACS-61, "DTC 100 CAN COMM CIRCUIT" .
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> GO TO 2.

2. CHECK CONNECTOR FOR ECM

1. Turn ignition switch OFF.
2. Disconnect ECM connector, and connect it securely again.
3. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
4. Check if “STOP LAMP RLY FIX [C1A13]” (DTC 13) is indicated in self-diagnosis item in the display.

Is it indicated?

YES >> GO TO 3.
NO >> Poor connector connection
1. Check connector. (Check connector housing for disconnected, loose, bent, and collapsed terminals. If any malfunction is detected, repair applicable part.)
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

3. CHECK STOP LAMP SWITCH WITH ICC DATA MONITOR

With CONSULT-II

With “ICC” “DATA MONITOR”, check if “STOP LAMP SW” operates normally.

OK or NG

OK >> GO TO 11.
NG >> GO TO 4.

4. CHECK STOP LAMP SWITCH INSTALLATION AND ADJUSTMENT

Check stop lamp switch for proper installation, and adjust the switch if necessary. Refer to BR-6, "BRAKE PEDAL" .

OK or NG

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

5. CHECK STOP LAMP SWITCH

Check stop lamp switch. Refer to ACS-69, "ICC Brake Switch and Stop Lamp Switch" .

OK or NG

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

6. CHECK STOP LAMP ILLUMINATION

1. Turn ignition switch OFF.
2. Disconnect ICC brake hold relay.
3. Connect stop lamp switch connector.
4. Check if stop lamp is turned ON when depressing brake pedal.

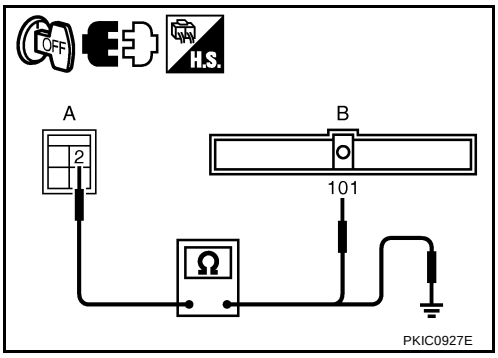
OK or NG

OK >> GO TO 7.
NG >> 1. Repair or replace stop lamp circuit.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

7. CHECK HARNESS BETWEEN STOP LAMP SWITCH AND ECM

1. Disconnect stop lamp switch connector and ECM connector.
2. Check continuity between stop lamp switch harness connector (A) and ECM harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
E124	2	M71	101	Yes



3. Check continuity between stop lamp switch harness connector (A) and ground.

A		Ground	Continuity
Connector	Terminal		
E124	2		No

OK or NG

OK >> GO TO 8.
NG >> 1. Repair or replace harness between stop lamp switch and ECM.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

8. CHECK ICC BRAKE HOLD RELAY CIRCUIT

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

OK or NG

OK >> GO TO 10.
NG >> GO TO 9.

9. CHECK ICC BRAKE HOLD RELAY

1. Disconnect ICC brake hold relay.
2. Check ICC brake hold relay. Refer to ACS-69, "ICC Brake Hold Relay" .

OK or NG

OK >> GO TO 10.
NG >> 1. Replace ICC brake hold relay.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

10. PERFORM ECM SELF-DIAGNOSIS

With CONSULT-II

1. Perform “ENGINE” self-diagnosis. Refer to EC-123, "CONSULT-II Function (ENGINE)" (for VQ35DE) or EC-826, "CONSULT-II Function (ENGINE)" (for VK45DE).
2. Check if malfunction is indicated.

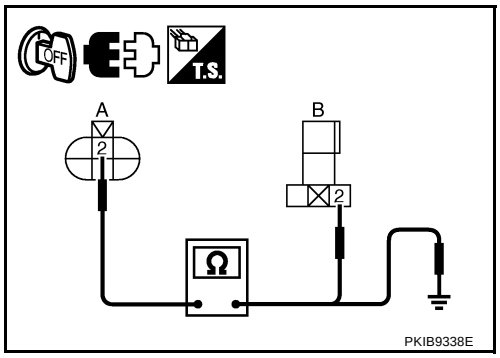
Is malfunction indicated?

YES >> 1. Repair or replace applicable item.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

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

11. CHECK HARNESS BETWEEN ICC SENSOR INTEGRATED UNIT AND ICC BRAKE HOLD RELAY

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



A		B		Continuity
Connector	Terminal	Connector	Terminal	
E61	2	E80	2	Yes

4. Check continuity between ICC sensor integrated unit harness connector (A) and ground.

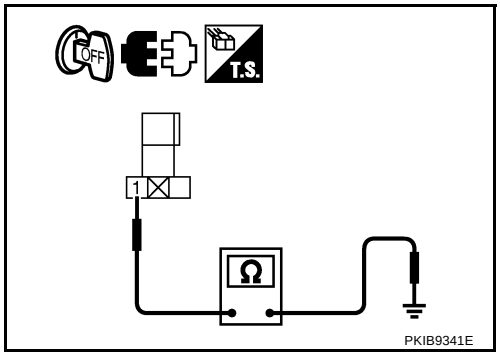
A		Ground	Continuity
Connector	Terminal		
E61	2		No

OK or NG

OK >> GO TO 12.
NG >> 1. Repair harness between ICC sensor integrated unit and ICC brake hold relay.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

12. CHECK ICC BRAKE HOLD RELAY GROUND CIRCUIT

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



ICC brake hold relay connector	Terminal	Ground	Continuity
E80	1		Yes

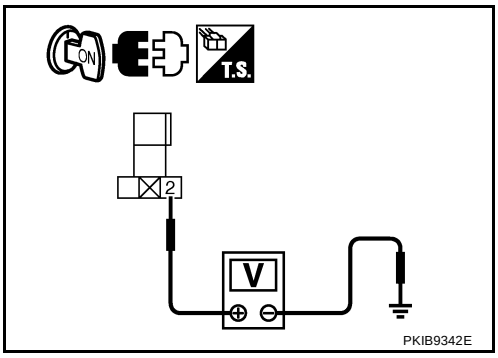
OK or NG

OK >> GO TO 13.
NG >> 1. Repair or replace harness between ICC brake hold relay and ground.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

13. CHECK ICC SENSOR INTEGRATED UNIT STANDARD VOLTAGE

With CONSULT-II

1. Connect ICC sensor integrated unit connector.
2. Turn ignition switch ON.
3. Perform “ACTIVE TEST” (“STOP LAMP”: “STP LMP DRIVE ON”) with CONSULT-II, check voltage between ICC brake hold relay harness connector and ground.



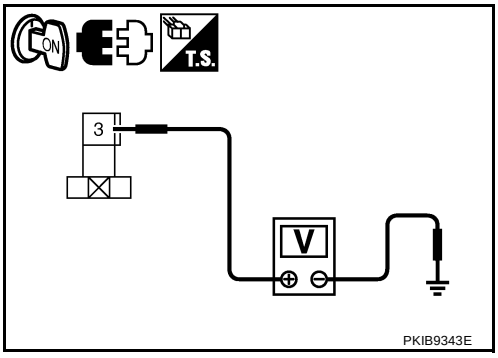
Terminals			Condition	Voltage (Approx.)
(+)		(–)		
ICC brake hold relay connector	Terminal			
E80	2	Ground	During “ACTIVE TEST”	12 V

OK or NG

OK >> GO TO 14.
NG >> 1. Replace ICC sensor integrated unit, and adjust laser beam aiming.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

14. CHECK ICC BRAKE HOLD RELAY POWER SUPPLY CIRCUIT

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



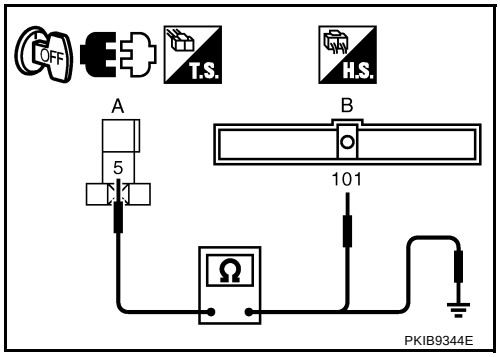
Terminals			Voltage (Approx.)
(+)		(–)	
ICC brake hold relay connector	Terminal		
E80	3	Ground	Battery voltage

OK or NG

OK >> GO TO 15.
NG >> 1. Repair or replace harness or fuse.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

15. CHECK HARNESS BETWEEN ICC BRAKE HOLD RELAY AND ECM

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



A		B		Continuity
Connector	Terminal	Connector	Terminal	
E80	5	M71	101	Yes

4. Check continuity between ICC brake hold relay harness connector (A) and ground.

A		Ground	Continuity
Connector	Terminal		
E80	5		No

OK or NG

OK >> GO TO 16.
NG >> 1. Repair harness between ICC brake hold relay and ECM.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

16. CHECK ICC BRAKE HOLD RELAY

With CONSULT-II

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

OK or NG

OK >> GO TO 17.
NG >> 1. Replace ICC brake hold relay.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

17. CHECK STOP LAMP SWITCH WITH ABS DATA MONITOR

With CONSULT-II

With “ABS” “DATA MONITOR”, check if “STOP LAMP SW” are operates normally.

OK or NG

OK >> GO TO 18.
NG >> GO TO 20.

18. PERFORM ECM SELF-DIAGNOSIS

With CONSULT-II

1. Perform “ENGINE”self-diagnosis. Refer to EC-123, "CONSULT-II Function (ENGINE)" (for VQ35DE) or EC-826, "CONSULT-II Function (ENGINE)" (for VK45DE).
2. Check if malfunction is indicated.

Is malfunction indicated?

YES >> 1. Repair or replace applicable item.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> GO TO 19.

19. PERFORM ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS

With CONSULT-II

1. Perform “ABS” self-diagnosis. Refer to BRC-23, "CONSULT-II Functions (ABS)" .
2. Check if malfunction is indicated.

Is malfunction indicated?

YES >> 1. Repair or replace applicable item.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

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

20. CHECK STOP LAMP SWITCH INSTALLATION AND ADJUSTMENT

Check stop lamp switch for proper installation, and adjust the switch if necessary. Refer to BR-6, "BRAKE PEDAL" .

OK or NG

OK >> GO TO 21.

NG >> 1. Adjust stop lamp switch.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

21. CHECK STOP LAMP SWITCH

Check stop lamp switch. Refer to ACS-69, "ICC Brake Switch and Stop Lamp Switch" .

OK or NG

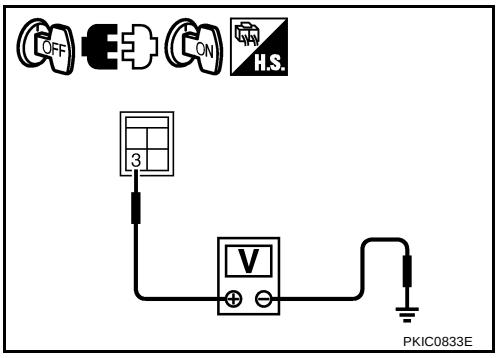
OK >> GO TO 22.

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

22. CHECK STOP LAMP SWITCH POWER SUPPLY CIRCUIT

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

Terminals			Voltage (Approx.)
(+)		(–)	
Stop lamp switch connector	Terminal		
E124	3	Ground	Battery voltage



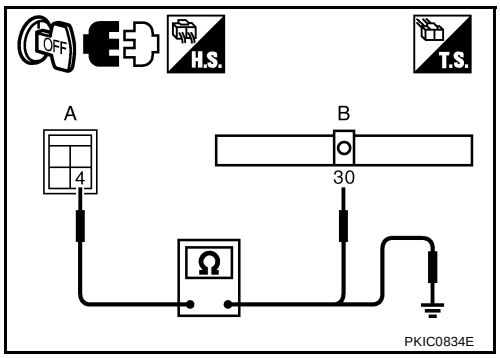
OK or NG

OK >> GO TO 23.

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

23. CHECK HARNESS BETWEEN STOP LAMP SWITCH AND ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

1. Turn ignition switch OFF.
2. Disconnect ABS actuator and electric unit (control unit) connector.
3. Check continuity between stop lamp switch harness connector (A) and ABS actuator and electric unit (control unit) harness connector (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
E124	4	E30	30	Yes

4. Check continuity between stop lamp switch harness connector (A) and ground.

A		Ground	Continuity
Connector	Terminal		
E124	4		No

OK or NG

OK >> 1. Perform “ABS” self-diagnosis. Refer to BRC-23, "CONSULT-II Functions (ABS)" .
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NG >> 1. Repair or replace harness between stop lamp switch and ABS actuator and electric unit (control unit).
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 14 ECM CIRCUIT

NKS004D8

1. PERFORM ICC SENSOR INTEGRATED UNIT SELF-DIAGNOSIS

1. Perform self-diagnosis.
2. Check if “CAN COMM CIRCUIT [U1000]” (DTC 100) other than “ECM CIRCUIT [C1A14]” (DTC 14) is indicated in self-diagnosis item in the display.

Is it indicated?

YES >> 1. CAN communication inspection. Refer to ACS-61, "DTC 100 CAN COMM CIRCUIT" .
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> GO TO 2.

2. PERFORM ECM SELF-DIAGNOSIS

With CONSULT-II

1. Perform “ENGINE” self-diagnosis. Refer to EC-123, "CONSULT-II Function (ENGINE)" (for VQ35DE) or EC-826, "CONSULT-II Function (ENGINE)" (for VK45DE).
2. Check if malfunction is indicated.

Is malfunction indicated?

YES >> 1. Repair or replace applicable item.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

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

DTC 15 GEAR POSITION

NKS004D9

1. PERFORM ICC SENSOR INTEGRATED UNIT SELF-DIAGNOSIS

1. Perform self-diagnosis.
2. Check if “VHCL SPEED SE CIRC [C1A03]” (DTC 3), “ABS/TCS/VDC CIRC [C1A04]” (DTC 4) or “CAN COMM CIRCUIT [U1000]” (DTC100) other than “GEAR POSITION [C1A15]” (DTC 15) is indicated in self-diagnosis item in the display.

Is any indicated?

YES >> 1. Repair or replace applicable item. Refer to ACS-40, "Diagnostic Trouble Code (DTC) Chart" .
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> GO TO 2.

2. CHECK VEHICLE SPEED SIGNAL

With CONSULT-II

With “ICC” “DATA MONITOR”, check if “VHCL SPEED SE” operates normally.

OK or NG

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

3. CHECK SHIFT GEAR POSITION

Check if gear positions are correct in A/T.

OK or NG

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

4. CHECK TCM GEAR POSITION SIGNAL

With CONSULT-II

With “A/T” “DATA MONITOR”, check if gear positions are correct.

OK or NG

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

NG >> 1. Perform “A/T” self-diagnosis. Refer to AT-90, "CONSULT-II Function (A/T)" .
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

5. CHECK TCM TURBINE REVOLUTION

With CONSULT-II

With TCM diagnosis, check if turbine revolution sensor is normal. Refer to AT-117, "DTC P0717 TURBINE REVOLUTION SENSOR" .

OK or NG

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

NG >> 1. Perform “A/T” self-diagnosis. Refer to AT-90, "CONSULT-II Function (A/T)" .
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 16 RADAR STAIN

NKS004DA

1. VISUAL INSPECTION 1

Check ICC sensor integrated unit body window for contamination and foreign materials.

Is it found?

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

NO >> GO TO 2.

2. VISUAL INSPECTION 2

Check ICC sensor integrated unit body window for cracks and scratches.

Is it found?

YES >> 1. Replace ICC sensor integrated unit, and adjust laser beam aiming.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> GO TO 3.

3. ASKING COMPLAINTS

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

Is there any symptom?

YES >> Explain difference in displays between contamination detection result and current indication to customer, and tell them “This is not malfunction”.

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

DTC 18 LASER AIMING INCMP

NKS004DB

1. ADJUST LASER BEAM AIMING

1. Adjust laser beam aiming. Refer to ACS-15, "LASER BEAM AIMING ADJUSTMENT" .
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
3. Check if “LASER AIMING INCMP [C1A18]” (DTC 18) is indicated in self-diagnosis item in the display.

Is it indicated?

YES >> 1. Replace ICC sensor integrated unit, and adjust laser beam aiming.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> INSPECTION END

DTC 21 UNIT HIGH TEMP

NKS004DC

1. CHECK SYMPTOM

Check if cooling system malfunctions.

Does it malfunction?

YES >> 1. Repair cooling system.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

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

DTC 24 NP RANGE

NKS004DD

1. PERFORM ICC SENSOR INTEGRATED UNIT SELF-DIAGNOSIS

1. Perform self-diagnosis.
2. Check if “CAN COMM CIRCUIT [U1000]” (DTC100) other than “NP RANGE [C1A24]” (DTC 24) is indicated in self-diagnosis item in the display.

Is it indicated?

YES >> 1. CAN communication inspection. Refer to ACS-61, "DTC 100 CAN COMM CIRCUIT" .
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> GO TO 2.

2. CHECK TCM DATA MONITOR

With CONSULT-II

With “A/T” “DATA MONITOR” check if gear positions are correct.

OK or NG

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

NG >> 1. Perform “A/T” self-diagnosis. Refer to AT-90, "CONSULT-II Function (A/T)" .
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 25 SHIFT RANGE IND

NKS004DE

1. PERFORM ICC SENSOR INTEGRATED UNIT SELF-DIAGNOSIS

1. Perform self-diagnosis.
2. Check if “CAN COMM CIRCUIT [U1000]” (DTC 100) other than “SHIFT RANGE IND [C1A25]” (DTC 25) is indicated in self-diagnosis item in the display.

Is it indicated?

YES >> 1. CAN communication inspection. Refer to ACS-61, "DTC 100 CAN COMM CIRCUIT" .
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> GO TO 2.

2. CHECK TCM DATA MONITOR

With CONSULT-II

With “A/T” “DATA MONITOR”, check if gear positions are correct.

OK or NG

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

NG >> 1. Perform “A/T” self-diagnosis. Refer to AT-90, "CONSULT-II Function (A/T)" .
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 26 ECD MODE MALF

NKS004DF

1. PERFORM ICC SENSOR INTEGRATED UNIT SELF-DIAGNOSIS

1. Perform self-diagnosis.
2. Check if “CAN COMM CIRCUIT [U1000]” (DTC 100) other than “ECD MODE MALF [C1A26]” (DTC 26) is indicated in self-diagnosis item in the display.

Is it indicated?

YES >> 1. CAN communication inspection. Refer to ACS-61, "DTC 100 CAN COMM CIRCUIT" .
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> GO TO 2.

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

With CONSULT-II

1. Perform “ABS” self-diagnosis. Refer to BRC-23, "CONSULT-II Functions (ABS)" .
2. Check if malfunction is indicated.

Is malfunction indicated?

YES >> 1. Repair or replace applicable item.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

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

DTC 27 ECD PWR SUPLY CIR

NKS004DG

1. PERFORM ICC SENSOR INTEGRATED UNIT SELF-DIAGNOSIS

1. Perform self-diagnosis.
2. Check if “CAN COMM CIRCUIT [U1000]” (DTC 100) other than “ECD PWR SUPLY CIR [C1A27]” (DTC 27) is indicated in self-diagnosis item in the display.

Is it indicated?

YES >> 1. CAN communication inspection. Refer to ACS-61, "DTC 100 CAN COMM CIRCUIT" .
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> GO TO 2.

2. CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) POWER SUPPLY CIRCUIT

With CONSULT-II

Check ABS actuator and electric unit (control unit) power supply circuit. Refer to BRC-37, "ABS Actuator and Electric Unit (Control Unit) Power Supply and Ground Circuit" .

OK or NG

OK >> 1. Perform “ABS” self-diagnosis. Refer to BRC-23, "CONSULT-II Functions (ABS)" .
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NG >> 1. Repair or replace applicable item.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

DTC 100 CAN COMM CIRCUIT

NKS004DH

1. PERFORM ICC SENSOR INTEGRATED UNIT SELF-DIAGNOSIS

With CONSULT-II

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

>> After printing self-diagnostic result, go to “CAN system”. Refer to LAN-42, "Precautions When Using CONSULT-II" .

DTC 110 CONTROL UNIT (CAN)

NKS004DI

1. PERFORM ICC SENSOR INTEGRATED UNIT SELF-DIAGNOSIS

With CONSULT-II

1. Perform self-diagnosis.
2. Print self-diagnostic result.
3. Erase DTC and perform ICC running test. Then perform self-diagnosis of ICC system again.
4. Check if “CONTROL UNIT (CAN) [U1010]” (DTC 110) is indicated in self-diagnosis item in the display.

Is malfunction indicated?

YES >> 1. Replace ICC sensor integrated unit, and adjust laser beam aiming.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> INSPECTION END

TROUBLE DIAGNOSIS FOR SYMPTOMS

PFP:00007

Symptom Chart

NKS004DJ

Symptoms		Reference page
Operation	MAIN switch does not switch ON.	Symptom 1 ACS-63
	MAIN switch does not switch OFF.	Symptom 1 ACS-63
	Cruise does not function for setting (powering functions).	Symptom 2 ACS-64
	CANCEL switch does not function.	Symptom 3 ACS-65
	Resume does not function.	Symptom 3 ACS-65
	Set speed does not increase.	Symptom 3 ACS-65
	Set distance to the vehicle ahead cannot be changed.	Symptom 3 ACS-65
	ICC is not cancelled when the A/T selector lever is in other than “D” and “M”.	Symptom 4 ACS-65
Display/Chime	Dot matrix LCD does not appear.	Check combination meter. Refer to DI-18, "Trouble Diagnosis" .
	Chime does not function.	Symptom 5 ACS-66
Control	Driving force is hunting.	Symptom 6 ACS-67
Function to detect the vehicle ahead	System frequently cannot detect the vehicle ahead.	Symptom 7 ACS-67
	Distance to detect the vehicle ahead is short.	Symptom 7 ACS-67
	System misidentifies a vehicle even though there is no vehicle ahead.	● Refer to ACS-15, "LASER BEAM AIMING ADJUSTMENT" . ● Refer to ACS-12, "ICC System Running Test" .
	System misidentifies a vehicle in the next lane.	● Refer to ACS-15, "LASER BEAM AIMING ADJUSTMENT" . ● Refer to ACS-12, "ICC System Running Test" .
	System does not detect a vehicle at all.	Symptom 8 ACS-68

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

NKS004DK

NOTE:

- *1: The MAIN switch indicator lamp in the combination meter does not illuminate.
- *2: The MAIN switch indicator lamp in the combination meter remains powered.

1. CHECK MAIN SWITCH

With CONSULT-II

With “ICC” “DATA MONITOR”, check if “MAIN SW” and “CRUISE LAMP” operate normally.

OK or NG

OK >> GO TO 2.
NG >> GO TO 4.

2. CHECK UNIFIED METER AND A/C AMP.

With CONSULT-II

With “METER A/C AMP” “DATA MONITOR”, check if “CRUISE IND” operates normally.

OK or NG

OK >> 1. Perform “METER A/C AMP”self-diagnosis. Refer toDI-18, "CONSULT-II Function (METER A/C AMP)" .
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NG >> GO TO 3.

3. CHECK CONNECTOR ICC SENSOR INTEGRATED UNIT

1. Turn ignition switch OFF.
2. Disconnect ICC sensor integrated unit connector, and connect it securely again.
3. Check if the malfunction is improved.

Is it improved?

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

NO >> GO TO 4.

4. PERFORM ICC SENSOR INTEGRATED UNIT SELF-DIAGNOSIS

With CONSULT-II

1. Perform self-diagnosis.
2. Check if “DTC 100 CAN COMM CIRCUIT” is indicated.

Is it indicated?

YES >> CAN communication inspection. Refer to ACS-61, "DTC 100 CAN COMM CIRCUIT" .
NO >> ICC steering switch inspection. Refer to ACS-48, "DTC 6 OPERATION SW CIRC" .

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

NKS004DL

The ICC system cannot be set in the following cases.

- When the vehicle speed is not in range of approx. 25 MPH (40 km/h) to 90 MPH (144 km/h).
- When the A/T selector lever is in “N”.
- When A/T mode switch is at the snow mode position.
- While the brake is in operation.
- When wiper switch is at LOW/HI position.

1. CHECK CAUSE OF AUTOMATIC CANCELLATION

With CONSULT-II

With “CAUSE OF AUTO-CANCEL” in “WORK SUPPORT” at “ICC”, check if any cause of cancellation is found.

Is any cause found?

YES >> Cancel with appropriate cause, and go to specified diagnosis.
- “OPE SW VOLT CIRC”: Refer to ACS-48, "DTC 6 OPERATION SW CIRC" .
- “VHCL SPD UNMATCH”: Refer to ACS-43, "DTC 3 VHCL SPEED SE CIRC" .
- “IGN LOW VOLT”: Refer to ACS-42, "DTC 1 POWER SUPPLY CIR, DTC 2 POWER SUPPLY CIR 2" .
- “ECM CIRCUIT”: Refer to ACS-56, "DTC 14 ECM CIRCUIT" .

NO >> GO TO 2.

2. PERFORM ICC SENSOR INTEGRATED UNIT SELF-DIAGNOSIS

With CONSULT-II

Perform self-diagnosis to check for malfunctioning items.

Is malfunction indicated?

YES >> 1. Repair or replace applicable item. Refer to ACS-40, "Diagnostic Trouble Code (DTC) Chart" .
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> GO TO 3.

3. CHECK SWITCHES AND VEHICLE SPEED SIGNAL

With CONSULT-II

With “ICC” “DATA MONITOR”, check if switches and vehicle speed signal operate normally. Refer to ACS-31, "DATA MONITOR" .

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

OK or NG

OK >> 1. Replace ICC sensor integrated unit, and adjust laser beam aiming.
2. Erase DTC and Perform ICC system running test. Then perform self-diagnosis of ICC system again.

NG >> Check items which do not function normally.
- VHCL SPEED SE. Refer to ACS-43, "DTC 3 VHCL SPEED SE CIRC" .
- D RANGE SW. Refer to ACS-65, "Symptom 4: ICC System Is Not Cancelled When the A/T Selector Lever Is In Other Than “D” and “M”"" .
- BRAKE SW. Refer to ACS-44, "DTC 5 BRAKE SW/STOP L SW" .
- SET/COAST SW. Refer to ACS-48, "DTC 6 OPERATION SW CIRC" .

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

NKS004DM

RESUME does not function in the following cases.

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

1. CHECK SWITCHES

With CONSULT-II

With “ICC” “DATA MONITOR”, check if switches operate normally.

- “RESUME/ACC SW”
- “CANCEL SW”
- “DISTANCE SW”

OK or NG

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

NG >> GO TO 2.

2. PERFORM ICC SENSOR INTEGRATED UNIT SELF-DIAGNOSIS

With CONSULT-II

1. Perform self-diagnosis.
2. Check if “DTC 100 CAN COMM CIRCUIT” is indicated.

Is it indicated?

YES >> CAN communication inspection. Refer to ACS-61, "DTC 100 CAN COMM CIRCUIT" .
NO >> ICC steering switch inspection. Refer to ACS-48, "DTC 6 OPERATION SW CIRC" .

Symptom 4: ICC System Is Not Cancelled When the A/T Selector Lever Is In Other Than “D” and “M”

NKS004DN

1. CHECK D RANGE SWITCH

With CONSULT-II

With “ICC” “DATA MONITOR”, check if “D RANGE SW” and “NP RANGE SW” operate normally.

OK or NG

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

NG >> GO TO 2.

2. PERFORM ICC SENSOR INTEGRATED UNIT SELF-DIAGNOSIS

With CONSULT-II

1. Perform self-diagnosis.
2. Check if “DTC 100 CAN COMM CIRCUIT” is indicated.

Is it indicated?

YES >> CAN communication inspection. Refer to ACS-61, "DTC 100 CAN COMM CIRCUIT" .
NO >> GO TO 3.

3. CHECK D RANGE SWITCH

With CONSULT-II

With “A/T” “DATA MONITOR”, check if “SLCT LVR POSI” operates normally.

OK or NG

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

NG >> 1. Perform “A/T” self-diagnosis. Refer to AT-90, "CONSULT-II Function (A/T)" .
2. After repairing or replacing applicable item, erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

Symptom 5: Chime Does Not Sound

NKS004DO

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 pedal.
- 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-67, "Symptom 7: ICC System Frequently Cannot Detect the Vehicle Ahead/ Detection Zone Is Short").

1. CHECK ICC WARNING CHIME

With CONSULT-II

With “ICC” “ACTIVE TEST”, check if “ICC BUZZER” operates normally.

OK or NG

OK >> 1. Determine preceding vehicle detection status when malfunction occurred. If chime should have sounded: after replacing ICC sensor integrated unit and adjust laser beam aiming.
2. Erase DTC and perform ICC system running test, and then perform self-diagnosis of ICC system again.

NG >> GO TO 2.

2. PERFORM ICC SENSOR INTEGRATED UNIT SELF-DIAGNOSIS

With CONSULT-II

1. Perform self-diagnosis.
2. Check if “DTC 100 CAN COMM CIRCUIT” is indicated.

Is it indicated?

YES >> CAN communication inspection. Refer to ACS-61, "DTC 100 CAN COMM CIRCUIT" .
NO >> GO TO 3.

3. CHECK UNIFIED METER AND A/C AMP.

With CONSULT-II

Perform “METRE A/C AMP” self-diagnosis. Refer to DI-31, "CONSULT-II Function (METER A/C AMP)" .

Is malfunction indicated?

YES >> 1. Repair or replace applicable item.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> GO TO 4.

4. CHECK CHIME OPERATION

With CONSULT-II

1. Select “BUZZER” on “BCM”.
2. With “BUZZER” “ACTIVE TEST”, check if “IGN KEY WARN ALM” and “LIGHT WARN ALM” operate normally.

Does chime sound?

YES >> 1. Replace ICC sensor integrated unit, and adjust laser beam aiming.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> 1. Replace combination meter.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

Symptom 6: Driving Force Is Hunting

NKS004DP

1. PERFORM ECM SELF-DIAGNOSIS

With CONSULT-II

Perform “ENGINE” self-diagnosis. Refer to EC-123, "CONSULT-II Function (ENGINE)" (for VQ35DE) or EC-826, "CONSULT-II Function (ENGINE)" (for VK45DE).

Is malfunction indicated?

YES >> 1. Repair or replace applicable item.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> Refer to ACS-67, "Symptom 7: ICC System Frequently Cannot Detect the Vehicle Ahead/ Detection Zone Is Short" .

Symptom 7: ICC System Frequently Cannot Detect the Vehicle Ahead/ Detection Zone Is Short

NKS004DQ

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 sensor cannot detect the reflector of the vehicle ahead as the vehicle ahead is passing a hill or passing the peak.

1. VISUAL CHECK 1

Check ICC sensor integrated unit body window for contamination and foreign materials.

Is it found?

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

NO >> GO TO 2.

2. VISUAL CHECK 2

Check ICC sensor integrated unit body window for cracks and scratches.

Is it found?

YES >> 1. Replace ICC sensor integrated unit, and adjust laser beam aiming.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.

NO >> GO TO 3.

3. ADJUST LASER BEAM AIMING

1. Adjust laser beam aiming. Refer to ACS-15, "LASER BEAM AIMING ADJUSTMENT" .
2. Perform ICC system running test. Check if preceding vehicle detection performance has been improved.

Is it improved?

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

Symptom 8: The System Does Not Detect the Vehicle Ahead at All

NKS004DR

1. CHECK DISPLAY

Check if dot matrix LCD in the combination meter illuminate. Refer to DI-17, "Self-Diagnosis Mode of Combination Meter" .

OK or NG

OK >> GO TO 2.
NG >> Check combination meter. Refer to DI-18, "HOW TO PERFORM TROUBLE DIAGNOSIS"

2. VISUAL CHECK 1

Check ICC sensor integrated unit body window for contamination and foreign materials.

Is it found?

YES >> 1. If any, remove them.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
NO >> GO TO 3.

3. VISUAL CHECK 2

Check ICC sensor integrated unit body window for cracks and scratches.

Is it found?

YES >> 1. Replace ICC sensor integrated unit, and adjust laser beam aiming.
2. Erase DTC and perform ICC system running test. Then perform self-diagnosis of ICC system again.
NO >> GO TO 4.

4. ADJUST LASER BEAM AIMING

1. Adjust laser beam aiming. Refer to ACS-15, "LASER BEAM AIMING ADJUSTMENT" .
2. Perform ICC system running test. Check if preceding vehicle detection performance has been improved.

Is it improved?

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

ELECTRICAL COMPONENT INSPECTION

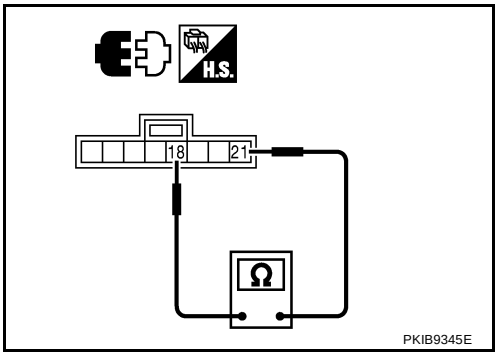
PFP:00000

ICC Steering Switch

NKS004DS

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

Terminals		Switch	Condition	Resistance [kΩ]
18	21	MAIN	Pressed	Approx. 0
			Released	Approx. 5.5
		CANCEL	Pressed	Approx. 0.3
			Released	Approx. 5.5
		DISTANCE	Pressed	Approx. 0.7
			Released	Approx. 5.5
		SET/COAST	Pressed	Approx. 1.4
			Released	Approx. 5.5
		RESUME/ACCELERATE	Pressed	Approx. 2.6
			Released	Approx. 5.5

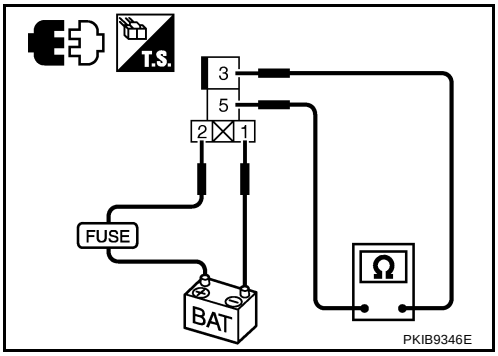


ICC Brake Hold Relay

NKS004DT

Check continuity between ICC brake hold relay terminals.

terminals		condition	Continuity
3	5	Applying battery voltage to between terminals 1 and 2	Yes
		No battery voltage	No

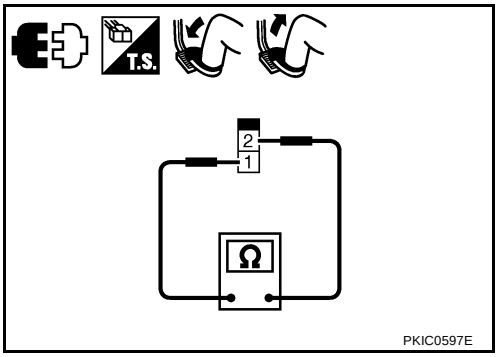


ICC Brake Switch and Stop Lamp Switch

NKS004DU

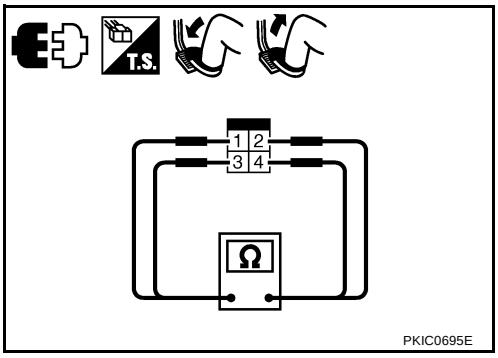
- Check continuity between ICC brake switch terminals.

terminals		Condition	Continuity
1	2	When brake pedal is depressed	No
		When brake pedal is released	Yes



- Check continuity between stop lamp switch terminals.

terminals		Condition	Continuity
1	2	When brake pedal is depressed	Yes
		When brake pedal is released	No
3	4	When brake pedal is depressed	Yes
		When brake pedal is released	No



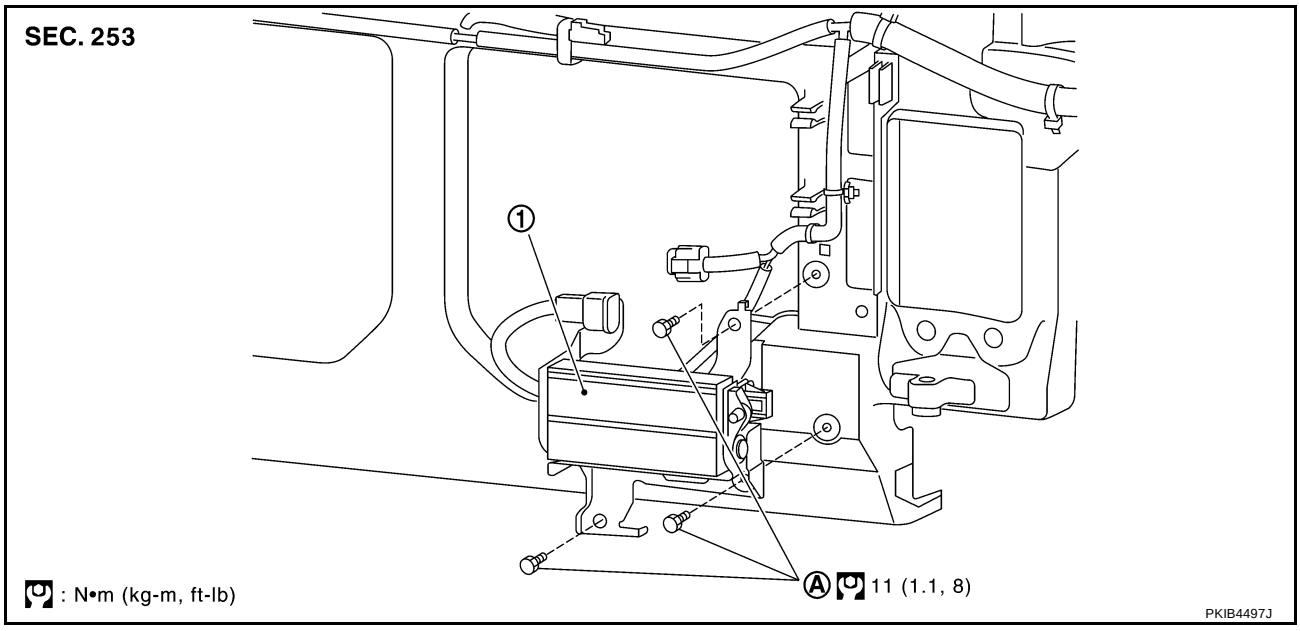
Check each switch after adjusting brake pedal, refer to BR-6, "BRAKE PEDAL" .

REMOVAL AND INSTALLATION

PFP:00000

ICC Sensor Integrated Unit

NKS004DV



1. ICC sensor integrated unit

REMOVAL

1. Remove the front bumper. Refer to EI-11, "FRONT BUMPER" .
2. Disconnect ICC sensor integrated unit connector.
3. Remove mounting bolts (A) from ICC sensor integrated unit.
4. Remove ICC sensor integrated unit (1).

INSTALLATION

Installation is the reverse order of removal.

CAUTION:

Adjust the laser beam aiming every time the ICC sensor integrated unit is removed or installed. Refer to ACS-15, "LASER BEAM AIMING ADJUSTMENT" .

ICC Steering Switch

NKS004DW

Refer to SRS-42, "DRIVER AIR BAG MODULE" .