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1996 NISSAN Almera / Pulsar 5 Doors OEM Service and Repair Workshop Manual

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PRECAUTION FOR BRAKE CONTROL SYSTEM : Precautions

RDE-001970420

- Always perform a pre-driving check to drive the vehicle.
- Always check speed and safety while driving the vehicle.
- To operate CONSULT while driving, more than one person is required to be in the vehicle to avoid interference to driving and ensure safety.
- Slight vibrations are felt on the brake pedal and the operation noises occur, when VDC function, TCS function, ABS function, EBD function, hill start assist function, brake limited slip differential (BLSD) function, brake assist function, brake force distribution function, or cooperative regenerative brake function. This is not a malfunction because it is caused by VDC function, TCS function, ABS function, EBD function, hill start assist function, brake limited slip differential (BLSD) function, brake assist function, brake force distribution function, or cooperative regenerative brake function that is normally operated.
- When set the vehicle to READY or when starting vehicle just after set the vehicle to READY, brake pedal may vibrate or motor operating noise may be heard from engine room. This is normal condition.
- Brake stopping distance may become longer than models without ABS function depending on the road conditions, when ABS function is operated on slippery road like rough road, gravel road or snowy road.
- When a malfunction is indicated, always collect information from the customer about conditions of occurrence, estimate cause, and perform operation. Check brake booster operation, brake fluid level, and brake fluid leakage, as well as electrical system.
- The optimum performance is achieved by control for VDC function, TCS function, ABS function, EBD function, hill start assist function, brake limited slip differential (BLSD) function, brake assist function, brake force distribution function, and cooperative regenerative brake function, when all of brakes, suspensions and tires installed on the vehicle are the specified size and parts. Brake performance and controllability may be negatively affected when other parts than the specified are installed.
- Brake stopping distance may become longer and steering stability may be negatively affected, when tires in different size and combination or other parts than the specified are used.
- When a radio (including wiring), antenna and antenna lead line are located near ABS actuator and electric unit (control unit), a malfunction or improper operation may occur for the control of VDC function, TCS function, ABS function, EBD function, hill start assist function, brake limited slip differential (BLSD) function, brake assist function, brake force distribution function, and cooperative regenerative brake function.
- When the following items are replaced by other parts than genuine parts or modified, ABS warning lamp, brake warning lamp and VDC warning lamp may turn ON, and the control may not operate normally for VDC function, TCS function, ABS function, EBD function, hill start assist function, brake limited slip differential (BLSD) function, brake assist function, brake force distribution function, and cooperative regenerative brake function.
 - Suspension component parts (shock absorber, spring, bushing and others)
 - Tire and wheel (other than the specified size)
 - Brake component parts (brake pad, disc rotor, brake caliper and others)
 - Body reinforcement component parts (rollover bar, tower bar and others)
- When suspension, tire and brake related parts are excessively worn or deteriorated and the vehicle is driven, ABS warning lamp, brake warning lamp and VDC warning lamp may turn ON, and the control may not operate normally for VDC function, TCS function, ABS function, EBD function, hill start assist function, brake limited slip differential (BLSD) function, brake assist function, brake force distribution function, and cooperative regenerative brake function.
- ABS warning lamp, brake warning lamp and VDC warning lamp may turn ON, when only front wheel or rear wheel is rotated using a free roller. This is not a malfunction, because it is caused by wheel speed difference between wheel that is rotated and wheel that is not rotated. In this case, perform self-diagnosis, check self-diagnosis results, and erase memory.
- When power supply voltage is not normal, ABS warning lamp, brake warning lamp and VDC warning lamp turn ON. ABS actuator and electric unit (control unit) stops control for VDC function, TCS function, ABS function, EBD function, hill start assist function, brake limited slip differential (BLSD) function, brake assist function, brake force distribution function, and cooperative regenerative brake function. Ordinary brake operates. After power supply returns to normal, ABS warning lamp, brake warning lamp and VDC warning lamp turn OFF. The control becomes operative for VDC function, TCS function, ABS function, EBD function, hill start assist function, brake limited slip differential (BLSD) function, brake assist function, brake force distribution function, and cooperative regenerative brake function.

- Brake pedal vibrates and operation sound occurs during sudden acceleration and cornering, when VDC function, TCS function, brake limited slip differential (BLSD) function, brake assist function, brake force distribution function, and cooperative regenerative brake function are operated. This is not a malfunction because it is caused by VDC function, TCS function, brake limited slip differential (BLSD) function, brake assist function, brake force distribution function, and cooperative regenerative brake function that is operated normally.
- VDC warning lamp may turn ON and VDC function, TCS function, brake limited slip differential (BLSD) function, brake assist function, brake force distribution function, and cooperative regenerative brake function may not normally operate, when driving on a special road that is extremely slanted (bank in a circuit course). This is not a malfunction if the status returns to normal for VDC function, TCS function, brake limited slip differential (BLSD) function, brake assist function, brake force distribution function, and cooperative regenerative brake function after set the vehicle to READY again. In this case, perform self-diagnosis, check self-diagnosis results, and erase memory.
- A malfunction in yaw rate/side/decel G sensor system may be detected when the vehicle sharply turns during a spin turn, acceleration turn or drift driving while VDC function and TCS function are OFF (VDC OFF indicator lamp is in ON status). This is not a malfunction if the status returns to normal for VDC function and TCS function after set the vehicle to READY again. In this case, perform self-diagnosis, check self-diagnosis results, and erase memory.

Sample

PRECAUTIONS CONCERNING ON-BOARD SERVICING OF EV SYSTEMS : Precautions

RDE-002027036

CAUTION:

When hood is opened, power supply (charge) to 12V battery is stopped even during power switch ON state. Therefore, never leave hood opened for long time with power switch ON, when servicing vehicle.

Also, lock hood unless necessary to prevent 12V battery voltage from dropping.



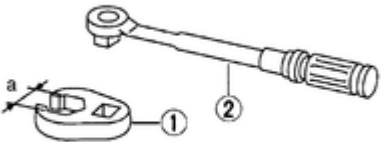

NOTE:

During READY state, power is supplied (charged) to 12V battery even if hood is opened.

Sample

COMMERCIAL SERVICE TOOLS OR/AND REPAIR PART : Preparation

RDE-001824938

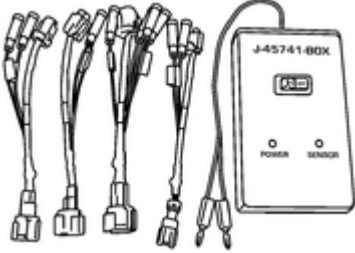
Tool name		Description
1. Flare nut crowfoot 2. Torque wrench	 <p data-bbox="550 414 900 472">NISA0000000014929187-01-S-NT360</p>	Tightening brake tube flare nuts a: 10 mm (0.39 in)/12 mm (0.47 in)
Power tool	 <p data-bbox="576 786 900 844">NISA0000000014929187-02-PIIB1407E</p>	Loosening nuts, screws and bolts

Sample

SPECIAL SERVICE TOOL : Preparation

RDE-001824936

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

Tool number (TechMate No.) Tool name		Description
KV991J0080 (J-45741) ABS active wheel sensor tester	 <p data-bbox="580 568 906 629">NISA0000000014929186-01- WFIA0101E</p>	Checking operation of ABS active wheel sensors

Sample

Wiring Diagram

Click link to [Wiring Diagram](#).

Sample

CAUTION:

When the following operations are performed, always use CONSULT, for performing “SYSTEM MODE CHANGE” of “Work support”.


×: Required —: not required

Procedure	System mode change
Removing/installing ABS actuator and electric unit (control unit)	—
Replacing ABS actuator and electric unit (control unit)	—
Removing/installing rear brake pad (When not pressing piston of rear brake caliper assembly)	—
Replacing rear brake caliper assembly	—
Removing/installing parking brake switch	—
Replacing parking brake switch	—
When the system mode needs to be changed from “On” to “Off”	○

CAUTION:

When performing the following operations, always use CONSULT. (It cannot be performed by any means other than CONSULT.)

1. CHANGE OF SYSTEM MODE

 With CONSULT

1. Select “ABS”, “Work support”, and “System mode change” according to this order.

CAUTION:

Never operate the parking brake switch.

2. Touch “Off”.

>>

[GO TO 2.](#)

2. PERFORM THE SELF-DIAGNOSIS

 With CONSULT

1. Pull parking brake switch to activate electric parking brake.
2. Push parking brake switch to release electric parking brake.
3. Perform self-diagnosis for “ABS”.

Is malfunction detected?

YES>>

Check the DTC. Refer to [DTC Index](#).

NO>>

INSPECTION END

Always perform the decel G sensor calibration and side G sensor calibration before driving when the following operation is performed.

×: Required —: Not required

Procedure	<ul style="list-style-type: none"> • Decel G sensor calibration • Side G sensor calibration
Removing/ installing ABS actuator and electric unit (control unit)	×
Replacing ABS actuator and electric unit (control unit)	×
Removing/installing steering components	—
Replacing steering components	—
Removing/installing front suspension components	—
Replacing front suspension components	—
Removing/installing tire	—
Replacing tire	—
Tire rotation	—
Adjusting front wheel alignment.	—

CAUTION:

Always use CONSULT for the decel G sensor calibration. (It cannot be adjusted other than with CONSULT.)

1. CHECK THE VEHICLE STATUS

1. Steer the steering wheel to the straight-ahead position. Stop the vehicle on level surface.
2. Power switch OFF.

Is the vehicle stopped in the straight-ahead position on level surface?

YES>>

[GO TO 2.](#)

NO>>

Steer the steering wheel to the straight-ahead position. Stop the vehicle on level surface.

2. PERFORM DECEL G SENSOR CALIBRATION, SIDE G SENSOR CALIBRATION

CAUTION:

- Never allow passenger or load on the vehicle.
- Never apply vibration to the vehicle body when opening or closing door during calibration.

 With CONSULT

1. Power switch ON.

CAUTION:

Never start set the vehicle to READY.

2. Select "ABS", "Work support", "Decel G sensor calibration" in this order.
3. Select "START".
4. After approximately 10 seconds, select "END".
5. Select "ABS", "Work support", "Side G sensor calibration" in this order.
6. Select "START".
7. After approximately 10 seconds, select "END".

>>

[GO TO 3.](#)

3. CHECK DATA MONITOR

 With CONSULT

1. Drive the vehicle. Steer the steering wheel to the straight-ahead position. Stop the vehicle on level surface.
2. Select "ABS", "Data monitor", "Decel G sensor" and "Side G sensor" in this order. Check that the signal is within the specified value. Refer to [Values On The Diagnosis Tool](#).

Is the inspection result normal?

YES>>

[GO TO 4.](#)

NO>>

[GO TO 1.](#)

4. ERASE SELF-DIAGNOSIS MEMORY

 With CONSULT

1. Record or print self-diagnosis results and freeze frame data (FFD).
2. Erase self-diagnosis result for "ABS".

Are the memories erased?

YES>>

INSPECTION END

NO>>

Check the DTC. Refer to [DTC Index](#).