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1999 NISSAN Patrol LWB OEM Service and Repair Workshop Manual

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22. REPLACE SENSOR ROTOR

 With CONSULT

1. Replace the rear left sensor rotor. Refer to [REAR SENSOR ROTOR : Removal & Installation](#).
2. Erase self-diagnosis result for “ABS”.
3. Power switch OFF (Auto ACC function ON).
4. Get out of the vehicle, close all doors (other than hood assembly), check that the combination meter is OFF, and wait for 1 minute or more without opening these doors.

CAUTION:
Never operate the vehicle.

5. Set the vehicle to READY.
6. Drive the vehicle at approximately 50 km/h (31 MPH) or more for approximately 2 minutes.



NOTE:
Vehicle must be driven after repair or replacement to erase the previous DTCs.

7. Stop the vehicle.
8. Power switch OFF (Auto ACC function ON).
9. Get out of the vehicle, close all doors (other than hood assembly), check that the combination meter is OFF, and wait for 1 minute or more without opening these doors.

CAUTION:
Never operate the vehicle.

10. Power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

11. Perform self-diagnosis for “ABS”.

Is DTC “C1065-07” detected?

YES>>

Replace the ABS actuator and electric unit (control unit). Refer to [ABS ACTUATOR AND ELECTRIC UNIT \(CONTROL UNIT\) : Removal & Installation](#).

NO>>

INSPECTION END

DTC DETECTION LOGIC

DTC No.		CONSULT screen terms	DTC detection condition	
C1065	09	Rear left wheel sensor	Diagnosis condition	<ul style="list-style-type: none"> Power switch is ON. When rear left wheel sensor power supply voltage is normal. When the vehicle speed is 10 km/h (6.2 MPH) – 60 km/h (37 MPH).
			Signal (terminal)	Rear left wheel sensor signal
			Threshold	When a noise is detected in rear left wheel sensor.
			Diagnosis delay time	1 second or less

POSSIBLE CAUSE



NOTE:

Confirm if DTC is PAST or CRNT. If DTC is CRNT, proceed with Diagnosis Procedure. If DTC is PAST, clear DTC. Do not replace the ABS actuator and electric unit (control unit) for a PAST DTC.

PAST DTC	CRNT DTC
<ul style="list-style-type: none"> Harness or connector Rear left wheel sensor Rear left sensor rotor Rear left tire size ABS actuator and electric unit (control unit) power supply system Fuse Fusible link 12V battery 	<ul style="list-style-type: none"> Vehicle was not driven after previous repair Harness or connector Rear left wheel sensor Rear left sensor rotor Rear left tire size ABS actuator and electric unit (control unit) ABS actuator and electric unit (control unit) power supply system Fuse Fusible link 12V battery

FAIL-SAFE

The following functions are suspended.

- 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
- Cooperative regenerative brake function
- Electric parking brake function

Sample

1. PRECONDITIONING

If “Confirmation Procedure” has been previously conducted, always power switch OFF, get out of the vehicle, close all doors (other than hood assembly), check that the combination meter is OFF, and wait for 1 minute or more without opening these doors before conducting the next test.

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[GO TO 2](#)

2. CHECK DTC DETECTION

 With CONSULT

1. Power switch OFF (Auto ACC is ON).
2. Get out of the vehicle, close all doors (other than hood assembly), check that the combination meter is OFF, and wait for 1 minute or more without opening these doors.

CAUTION:
Never operate the vehicle.

3. Power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

4. Perform self-diagnosis for “ABS”.

Is DTC “C1065-09” detected?

YES-1>>

“CRNT” is displayed: Refer to [DTC Diagnosis Procedure](#).

YES-2>>

“PAST” is displayed: INSPECTION END (Erase the memory of self-diagnosis results.)

NO-1>>

To check malfunction symptom before repair: Refer to [Intermittent Incident](#).

NO-2>>

Confirmation after repair: INSPECTION END

CAUTION:

Never check between wheel sensor harness connector terminals.

1. CHECK WHEEL HUB ASSEMBLY

Check that there is no excessive looseness in rear left wheel hub assembly. Refer to [REAR WHEEL HUB : Periodic Maintenance Operation](#).

Is the inspection result normal?

YES>>

[GO TO 2.](#)

NO>>

Repair or replace the rear left wheel hub assembly. Refer to [REAR WHEEL HUB : Removal & Installation](#). [GO TO 2.](#)

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

Check the ABS actuator and electric unit (control unit) power supply and ground circuit. Refer to [Diagnosis Procedure](#).

Is the inspection result normal?

YES>>

[GO TO 3.](#)

NO>>

Repair / replace harness, connector, terminal, fuse, or fusible link.

3. CHECK TIRE

1. Power switch OFF.
2. Check the rear left tire air pressure, wear and size. Refer to [TIRE AIR PRESSURE : Service Data](#).

Is the inspection result normal?

YES>>

[GO TO 6.](#)

NO>>

Adjust air pressure or replace rear left tire. [GO TO 4.](#)

4. CHECK DATA MONITOR (1)

 With CONSULT

1. Erase self-diagnosis result for "ABS".
2. Power switch OFF (Auto ACC function ON).
3. Get out of the vehicle, close all doors (other than hood assembly), check that the combination meter is OFF, and wait for 1 minute or more without opening these doors.

CAUTION:

Never operate the vehicle.

4. Set the vehicle to READY.

5. Select “ABS” and “Data monitor”, check “Front left wheel speed”, “Front right wheel speed“, “Rear left wheel speed“, and “Rear right wheel speed“.



NOTE:

Set the “Data monitor” recording speed to “10 msec”.

6. Read a value (wheel speed) of all wheel sensor.



NOTE:

Vehicle must be driven after repair or replacement to erase the previous DTCs.

Note the difference at 50 km/h (31 MPH) between the wheel speed detected by rear left wheel sensor and the maximum/minimum wheel speed detected by the other rear left wheel sensor, is the difference within 5%, respectively?

YES>>

[GO TO 5.](#)

NO>>

[GO TO 6.](#)

5. PERFORM SELF-DIAGNOSIS (1)

 With CONSULT

1. Stop the vehicle.
2. Power switch OFF (Auto ACC function ON).
3. Get out of the vehicle, close all doors (other than hood assembly), check that the combination meter is OFF, and wait for 1 minute or more without opening these doors.

CAUTION:

Never operate the vehicle.

4. Never operate the vehicle.

CAUTION:

Never set the vehicle to READY.

5. Perform self-diagnosis for “ABS”.

Is DTC “C1065-09” detected?

YES>>

[GO TO 6.](#)

NO>>

INSPECTION END

6. CHECK WHEEL SENSOR AND SENSOR ROTOR

1. Disconnect 12V battery negative terminal.
2. Disconnect rear left wheel sensor harness connector.
3. Remove dust and foreign matter adhered to the rear left wheel sensor and rear left sensor rotor with a vacuum dust collector through the rear left wheel sensor mounting hole.

CAUTION:

Install rear left wheel sensor with no backlash and float, and tighten the mounting bolt to the specified torque. Refer to [REAR WHEEL SENSOR : Exploded View](#).

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[GO TO 7.](#)

7. CHECK WHEEL SENSOR

Check the rear left wheel sensor for damage.

Is the inspection result normal?

YES>>

[GO TO 11.](#)

NO>>

[GO TO 8.](#)

8. CHECK WHEEL SENSOR OUTPUT SIGNAL

1. Disconnect 12V battery negative terminal.
2. Disconnect ABS actuator and electric unit (control unit) harness connector.
3. Disconnect rear left wheel sensor harness connector.
4. Connect ABS active wheel sensor tester (SST: J-45741-A) to rear left wheel sensor using appropriate adapter.
5. Turn the ABS active wheel sensor tester power switch ON.



NOTE:

The green POWER indicator should illuminate. If the POWER indicator does not illuminate, replace the battery in the ABS active wheel sensor tester before proceeding.

6. Spin the wheel of the vehicle by hand and observe the red SENSOR indicator on the ABS active wheel sensor tester. The red SENSOR indicator should flash ON and OFF to indicate an output signal.



NOTE:

If the red SENSOR indicator illuminates but does not flash, reverse the polarity of the tester leads and retest.

Does the ABS active wheel sensor tester detect a signal?

YES>>

Replace the ABS actuator and electric unit (control unit). Refer to [Removal and Installation](#).

NO>>

[GO TO 9.](#)

9. REPLACE WHEEL SENSOR (1)

 With CONSULT

1. Replace the rear left wheel sensor. Refer to [REAR WHEEL SENSOR : Removal & Installation](#).
2. Connect 12V battery negative terminal.
3. Erase self-diagnosis result for “ABS”.
4. Power switch OFF (Auto ACC function ON).
5. Get out of the vehicle, close all doors (other than hood assembly), check that the combination meter is OFF, and wait for 1 minute or more without opening these doors.

CAUTION:
Never operate the vehicle.

6. Set the vehicle to READY.
7. Select “ABS” and “Data monitor”, check “Front left wheel speed”, “Front right wheel speed”, “Rear left wheel speed”, and “Rear right wheel speed”.



NOTE:
Set the “Data monitor” recording speed to “10 msec”.

8. Read a value (wheel speed) of all wheel sensor.



NOTE:
Vehicle must be driven after repair or replacement to erase the previous DTCs.

Note the difference at 50 km/h (31 MPH) between the wheel speed detected by rear left wheel sensor and the maximum/minimum wheel speed detected by the other rear left wheel sensor, is the difference within 5%, respectively?

YES>>

[GO TO 10.](#)

NO>>

[GO TO 22.](#)

10. PERFORM SELF-DIAGNOSIS (2)

 With CONSULT

1. Stop the vehicle.
2. Power switch OFF (Auto ACC function ON).
3. Get out of the vehicle, close all doors (other than hood assembly), check that the combination meter is OFF, and wait for 1 minute or more without opening these doors.

CAUTION:
Never operate the vehicle.

4. Power switch ON without depressing the brake pedal.

CAUTION:

Never set the vehicle to READY.

5. Perform self-diagnosis for “ABS”.

Is DTC “C1065-09” detected?

YES>>

[GO TO 22.](#)

NO>>

INSPECTION END

11. CHECK CONNECTOR

1. Disconnect 12V battery negative terminal.
2. Check the ABS actuator and electric unit (control unit) harness connector for disconnection or looseness.
3. Check the rear left wheel sensor harness connector for disconnection or looseness.

Is the inspection result normal?

YES>>

[GO TO 14.](#)

NO>>

Repair / replace harness or connector, securely lock the connector. [GO TO 12.](#)

12. CHECK DATA MONITOR (2)

 With CONSULT

1. Connect 12V battery negative terminal.
2. Erase self-diagnosis result for “ABS”.
3. Power switch OFF (Auto ACC function ON).
4. Get out of the vehicle, close all doors (other than hood assembly), check that the combination meter is OFF, and wait for 1 minute or more without opening these doors.

CAUTION:
Never operate the vehicle.

5. Set the vehicle to READY.
6. Select “ABS” and “Data monitor”, check “Front left wheel speed”, “Front right wheel speed“, “Rear left wheel speed“, and “Rear right wheel speed“.



NOTE:
Set the “Data monitor” recording speed to “10 msec”.

7. Read a value (wheel speed) of all wheel sensor.



NOTE:
Vehicle must be driven after repair or replacement to erase the previous DTCs.