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1988 NISSAN Patrol LWB OEM Service and Repair Workshop Manual

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5. CHECK TIRE

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

Is the inspection result normal?

YES>>

[GO TO 8.](#)

NO>>

Adjust air pressure or replace front left tire. [GO TO 6.](#)

6. CHECK DATA MONITOR (1)

 With CONSULT

1. Power switch OFF to ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to **READY**.

2. Power switch OFF and disconnect CONSULT from data link connector.
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. Set the vehicle to **READY**.
6. Erase self-diagnosis result for “BRAKE”.
7. Select “BRAKE” and “Data monitor”, check “Front LH wheel speed”, “Front RH wheel speed“, “Rear LH wheel speed“, and “Rear RH 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 front left wheel sensor and the maximum/minimum wheel speed detected by the other front left wheel sensor, is the difference within 5%, respectively?

YES>>

[GO TO 7.](#)

NO>>

[GO TO 8.](#)

7. PERFORM SELF-DIAGNOSIS (2)

 With CONSULT

1. Stop the vehicle.
2. Power switch OFF.
3. Power switch OFF to ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

4. Power switch OFF and disconnect CONSULT from data link connector.
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. Power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

7. Erase self-diagnosis result for “BRAKE”.
8. Power switch OFF and disconnect CONSULT from data link connector.
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 “BRAKE”.

Is DTC “B14E0-09” detected?

YES>>

[GO TO 8.](#)

NO>>

INSPECTION END

8. CHECK WHEEL SENSOR AND SENSOR ROTOR

1. Power switch OFF and disconnect CONSULT from data link connector.
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. Disconnect 12V battery negative terminal.
4. Disconnect front left wheel sensor harness connector.
5. Remove dust and foreign matter adhered to the front left wheel sensor and front left sensor rotor with a vacuum dust collector through the front left wheel sensor mounting hole.

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

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[GO TO 9.](#)

9. CHECK WHEEL SENSOR

Check the front left wheel sensor for damage.

Is the inspection result normal?

YES>>

[GO TO 13.](#)

NO>>

[GO TO 10.](#)

10. CHECK WHEEL SENSOR OUTPUT SIGNAL

1. Disconnect 12V battery negative terminal.
2. Disconnect electrically-driven intelligent brake unit harness connector.
3. Disconnect front left wheel sensor harness connector.
4. Connect ABS active wheel sensor tester (SST: J-45741-A) to front 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 electrically-driven intelligent brake unit. Refer to [ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT : Removal & Installation](#).

NO>>

[GO TO 11.](#)

11. REPLACE WHEEL SENSOR (1)

 With CONSULT

1. Replace the front left wheel sensor. Refer to [Removal and Installation](#).
2. Connect 12V battery negative terminal.
3. Power switch OFF to ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

4. Power switch OFF and disconnect CONSULT from data link connector.
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. Power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

7. Set the vehicle to READY.
8. Erase self-diagnosis result for "BRAKE".
9. Select "BRAKE" and "Data monitor", check "Front LH wheel speed", "Front RH wheel speed", "Rear LH wheel speed", and "Rear RH wheel speed".



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

10. 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 front left wheel sensor and the maximum/minimum wheel speed detected by the other front left wheel sensor, is the difference within 5%, respectively?

YES>>

[GO TO 12.](#)

NO>>

12. PERFORM SELF-DIAGNOSIS (3)

 With CONSULT

1. Stop the vehicle.
2. Power switch OFF.
3. Power switch OFF to ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

4. Power switch OFF and disconnect CONSULT from data link connector.
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. Power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

7. Erase self-diagnosis result for “BRAKE”.
8. Power switch OFF and disconnect CONSULT from data link connector.
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 “BRAKE”.

Is DTC “B14E0-09” detected?

YES>>

[GO TO 24.](#)

NO>>

INSPECTION END

13. CHECK CONNECTOR

1. Power switch OFF and disconnect CONSULT from data link connector.

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. Disconnect 12V battery negative terminal.
4. Check the electrically-driven intelligent brake unit harness connector for disconnection or looseness.
5. Check the front left wheel sensor harness connector for disconnection or looseness.

Is the inspection result normal?

YES>>

[GO TO 16.](#)

NO>>

Repair / replace harness or connector, securely lock the connector. [GO TO 14.](#)

14. CHECK DATA MONITOR (2)

 With CONSULT

1. Power switch OFF to ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

2. Power switch OFF and disconnect CONSULT from data link connector.
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. Set the vehicle to READY.
6. Erase self-diagnosis result for "BRAKE".
7. Select "BRAKE" and "Data monitor", check "Front LH wheel speed", "Front RH wheel speed", "Rear LH wheel speed", and "Rear RH 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 front left wheel sensor and the maximum/minimum wheel speed detected by the other front left wheel sensor, is the difference within 5%, respectively?

YES>>

[GO TO 15.](#)

NO>>

[GO TO 16.](#)

15. PERFORM SELF-DIAGNOSIS (4)

 With CONSULT

1. Stop the vehicle.
2. Power switch OFF.
3. Power switch OFF to ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to **READY**.

4. Power switch OFF and disconnect CONSULT from data link connector.
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. Power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to **READY**.

7. Erase self-diagnosis result for “BRAKE”.
8. Power switch OFF and disconnect CONSULT from data link connector.
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 “BRAKE”.

Is DTC “B14E0-09” detected?

YES>>

[GO TO 16.](#)

NO>>

16. CHECK TERMINAL

1. Power switch OFF and disconnect CONSULT from data link connector.
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. Disconnect 12V battery negative terminal.
4. Disconnect electrically-driven intelligent brake unit harness connector.
5. Check the electrically-driven intelligent brake unit terminals for damage or loose connection with harness connector.
6. Disconnect front left wheel sensor harness connector.
7. Check the front left wheel sensor terminals for damage or loose connection with harness connector.

Is the inspection result normal?

YES>>

[GO TO 19.](#)

NO>>

Repair / replace harness, connector, or terminal. [GO TO 17.](#)

17. CHECK DATA MONITOR (3)

 With CONSULT

1. Connect electrically-driven intelligent brake unit harness connector.
2. Connect front left wheel sensor harness connector.
3. Connect 12V battery negative terminal.
4. Power switch OFF to ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

5. Power switch OFF and disconnect CONSULT from data link connector.
6. 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.

7. Power switch ON without depressing the brake pedal.

CAUTION:
Never set the vehicle to READY.

8. Set the vehicle to READY.

9. Erase self-diagnosis result for "BRAKE".

10. Select "BRAKE" and "Data monitor", check "Front LH wheel speed", "Front RH wheel speed", "Rear LH wheel speed", and "Rear RH wheel speed".



NOTE:

Set the "Data monitor" recording speed to "10 msec".

11. 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 front left wheel sensor and the maximum/minimum wheel speed detected by the other front left wheel sensor, is the difference within 5%, respectively?

YES>>

[GO TO 18.](#)

NO>>

[GO TO 19.](#)

18. PERFORM SELF-DIAGNOSIS (5)

 With CONSULT

1. Stop the vehicle.
2. Power switch OFF.
3. Power switch OFF to ON without depressing the brake pedal.

CAUTION:

Never set the vehicle to READY.

4. Power switch OFF and disconnect CONSULT from data link connector.
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. Power switch ON without depressing the brake pedal.

CAUTION:

Never set the vehicle to READY.

7. Erase self-diagnosis result for "BRAKE".
8. Power switch OFF and disconnect CONSULT from data link connector.
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: