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PRECAUTIONS

Precautions

CAUTION:

- When installing each rubber part, final tightening must be carried out under unladen condition* with tires on ground.
  *: Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.
- After installing removed suspension parts, check the wheel alignment.
- Do not jack up at lower links.

Observe the following precautions when disassembling and servicing drive shaft.

- Perform work in a location which is as dust-free as possible.
- Before disassembling and servicing, clean the outside of parts.
- Prevention of the entry of foreign objects must be taken into account during disassembly of the service location.
- Disassembled parts must be carefully reassembled in the correct order. If work is interrupted, a clean cover must be placed over parts.
- Paper shop cloths must be used. Fabric shop cloths must not be used because of the danger of lint adhering to parts.
- Disassembled parts (except for rubber parts) should be cleaned with kerosene which shall be removed by blowing with air or wiping with paper shop cloths.
### Special Service Tools

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

<table>
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<tr>
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<th>Description</th>
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### Commercial Service Tools

<table>
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<tr>
<th>Tool name</th>
<th>Description</th>
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<td>Power tool</td>
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2006 Maxima
# Noise, Vibration, and Harshness (NVH) Troubleshooting

## NVH Troubleshooting Chart

Use the chart below to help you find the cause of the symptom. If necessary, repair or replace these parts.

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<th>Noise, Vibration</th>
<th>Shake</th>
<th>Vibration</th>
<th>Shimmy</th>
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<td>AXLE</td>
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### Possible cause and Suspected Parts

<table>
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<tr>
<th>Suspected Parts</th>
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<tr>
<td>Excessive joint angle</td>
</tr>
<tr>
<td>Joint sliding resistance</td>
</tr>
<tr>
<td>Imbalance</td>
</tr>
<tr>
<td>Improper installation, looseness</td>
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<tr>
<td>Parts interference</td>
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<tr>
<td>Wheel bearing damage</td>
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<tr>
<td>Drive Shaft</td>
</tr>
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<td>Axle</td>
</tr>
<tr>
<td>Suspension</td>
</tr>
<tr>
<td>Tires</td>
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### Possible Causes

- Excessive joint angle
- Joint sliding resistance
- Imbalance
- Improper installation, looseness
- Parts interference
- Wheel bearing damage

### Symptom Cross-Reference

- **Drive Shaft**: Noise, Vibration, Shake, Vibration, Shimmy, Shudder, Poor quality ride or handling
- **Axle**: Noise, Shake, Vibration, Shimmy, Shudder, Poor quality ride or handling

### Applicable Indication

- `×` indicates applicable

---

Note: This chart is a part of the 2006 Maxima model's noise, vibration, and harshness troubleshooting guide.
WHEEL HUB AND KNUCKLE

On-vehicle Service

Check front axle and front suspension parts for excessive play, cracks, wear or other damage.
- Shake each front wheel to check for excessive play.
- Make sure that cotter pin is inserted.
- Retighten all axle and suspension nuts and bolts to the specification. Refer to FAX-6, "Removal and Installation" for front axle, and FSU-5, "Components" for front suspension.

FRONT WHEEL BEARING

- Check that wheel bearings operate smoothly.
- Check axial end play.

Axial end play : 0.07 mm (0.0030 in) or less

If out of specification or wheel bearing does not turn smoothly, replace wheel bearing assembly. Refer to FAX-6, "Removal and Installation".
Removal and Installation

SEC. 400

1. Drive shaft
2. Sensor rotor
3. Snap ring
4. Knuckle
5. Wheel sensor
6. Baffle plate
7. Wheel bearing assembly
8. Hub bolt
9. Wheel hub
10. Wheel bearing lock nut
11. Cotter pin

⇐ Front

WDIA0117E
REMOVAL

1. Remove wheel and tire. Refer to WT-6, "Rotation".
2. Remove the underbody splash shield.
3. Remove the front wheel sensor and reposition aside. Refer to BRC-41, "Removal and Installation" (TCS/ABS), BRC-94, "Removal and Installation" (VDC/TCS/ABS).

   **CAUTION:**
   Before removing the front axle assembly, remove the wheel sensor from the assembly. Then move it away from the front axle assembly area. Failure to do so may result in damage to the sensor wires and the wheel sensor becoming inoperative.

4. Remove wheel bearing lock nut, using power tool.
5. Remove brake caliper assembly and rotor using power tool. Refer to BR-25, "Removal and Installation of Caliper Assembly and Disc Rotor".
   - Brake hose need not be disconnected from brake caliper. In this case, suspend caliper assembly with wire so as not to stretch brake hose. Be careful not to depress brake pedal, or piston will pop out.
   - Make sure brake hose is not twisted.

6. Separate tie rod from knuckle using Tool.
   - **Tool number**: HT72520000 (J-25730-A)
   **CAUTION:**
   Install stud nut on stud bolt to prevent damage to stud bolt.

7. Separate drive shaft from knuckle by lightly tapping the end with a suitable tool and wood block. If it is hard to separate, use a suitable puller.
   **CAUTION:**
   Cover boots with shop towel so as not to damage them when removing drive shaft.

8. Remove lower shock absorber (strut) bolts.

9. Loosen lower ball joint nut.
10. Separate knuckle from lower ball joint stud using Tool.

   Tool number : HT72520000 (J-25730-A)

11. Remove knuckle from transverse link.

INSPECTION AFTER REMOVAL
Wheel Hub
- Check wheel hub for cracks by a magnetic exploration or dying test, and replace if cracked.

Knuckle
- Check for deformity, cracks (by magnetic exploration or dying test) and damage on steering knuckle, replace if necessary.

Snap Ring
- Check for wear and damage on snap ring, replace if necessary.

INSTALLATION
Installation is in the reverse order of removal.
- Tighten front suspension and power steering components to specification. Refer to FSU-5, "Components" for front suspension, and PS-19, "Removal and Installation" for power steering.

Disassembly and Assembly
DISASSEMBLY
CAUTION:
- When removing wheel hub or wheel bearing from knuckle, replace wheel bearing assembly (outer race, inner races and grease seals) with a new one.
- When replacing wheel bearing, replace complete wheel bearing assembly (inner races and outer race).

1. Press out wheel hub from knuckle, using a suitable tool.

2. Remove snap rings.
3. Press out wheel bearing from knuckle.

ASSEMBLY
1. Install inner snap ring into groove of knuckle.
2. Press new wheel bearing assembly into knuckle until it contacts snap ring using suitable tool.
   
   Maximum load “P” : 50 kN (5.1 ton, 5.6 US ton, 5.02 Imp ton)

   CAUTION:
   ● Do not press inner race of wheel bearing assembly.
   ● Do not apply oil or grease to mating surfaces of wheel bearing outer race and knuckle.

3. Install outer snap ring into groove of knuckle using suitable tool.
4. Press wheel hub into knuckle using suitable tool.
   
   Maximum load “P” : 50 kN (5.1 ton, 5.6 US ton, 5.02 Imp ton)

5. Check bearing operation.
   a. Add load “P” with press.
   
   Load “P” : 35 - 50 kN (3.6 - 5.1 ton, 3.9 - 5.6 US ton, 3.51 - 5.02 Imp ton)
b. Spin knuckle several turns in both directions.
c. Make sure that wheel bearings operate smoothly.
FRONT DRIVE SHAFT

Removal and Installation

CAUTION:
- Circular clips should be properly meshed with the differential side gear (transaxle side). Check that the circular clips are properly seated after installation and that the drive shaft will not come out. Always use a new circular clip for installation.
- Use a suitable cloth or protector over the boots to prevent damage to the boots during removal and installation.

REMOVAL
1. Remove the wheel and tire. Refer to WT-6, "Rotation".
2. Remove brake caliper assembly and disc rotor. Refer to BR-25, "Removal and Installation of Caliper Assembly and Disc Rotor".

CAUTION:
- Do not twist or stretch the brake hose when removing components.
- Discard the cotter pin and use a new cotter pin for installation.

NOTE:
The brake caliper does not need to be disconnected.

3. Remove the cotter pin, and the wheel bearing lock nut using power tool.
4. Remove the underbody splash shield.
5. Remove the lower ball joint cotter pin and nut using power tool.

CAUTION:
- Discard the cotter pin and use a new cotter pin for installation.
6. Disconnect the lower ball joint from the steering knuckle using Tool as shown.

**CAUTION:**
Discard the cotter pin and use a new cotter pin for installation.

Tool number : HT7252000 (J-25730-A)

7. Disconnect the connecting rod from the front strut. Refer to FSU-11, "Removal and Installation".

8. Separate drive shafts from the knuckles by lightly tapping the end with a suitable tool and a wood block as shown. If it is hard to separate, use a suitable puller.

**CAUTION:**
Cover boots with shop towel so as not to damage them when removing drive shaft.

9. Remove the center support bearing bolts using power tool, and pry the righthand drive shaft out of the transaxle using a suitable tool as shown.

10. Remove the lefthand drive shaft from the transaxle.

- Remove drive shaft from transaxle using Tool and drive shaft puller or suitable tool.
- Set Tool and a drive shaft puller or suitable tool between drive shaft (slide joint side) and transaxle as shown, then remove drive shaft.

Tool number : KV40107500 ( — )
11. Remove the circular clip from the transaxle side of the drive shaft and discard.
   
   **CAUTION:**
   Always use a new circular clip for installation.

**INSPECTION AFTER REMOVAL**

- Check for halting movement or a noticeable rattle by moving a joint part vertically, horizontally and to axial direction.
- Check for crack damage and grease leak of boot.

**INSTALLATION**

**Transaxle Side**

1. On models equipped with M/T, drive a new oil seal into transaxle case. Refer to **MT-11, "SIDE OIL SEAL"**.
2. Set Tool along the inner circumference of oil seal.
   
   **Tool number** : KV38106800 (J-34297)

3. Install a new circular clip on the drive shaft.
   
   **CAUTION:**
   Always use a new circular clip for installation.

4. Insert drive shaft into transaxle. Be sure to properly align the serrations and then withdraw Tool.
   
   **Tool number** : KV38106700 (J-34296)

5. Push drive shaft, then press-fit the circular clip on the drive shaft into circular clip groove of side gear.

6. After its insertion, try to pull the flange out of the slide joint by hand. If it pulls out, the circular clip is not properly meshed with the side gear.

7. Installation of the remaining components in the reverse order of removal.

**Wheel Side**

1. Install the drive shaft into the knuckle.
2. Install the wheel bearing lock nut and tighten to specification. Refer to **FAX-6, "Removal and Installation"**.
3. Install a new cotter pin to secure the wheel bearing lock nut.
   
   **CAUTION:**
   Always use a new cotter pin for installation.

4. Installation of the remaining components in the reverse order of removal.
Disassembly and Assembly

SEC. 400

1. Dust shield
2. Sensor rotor
3. Joint assembly
4. Boot
5. Boot band
6. Circular clip
7. Drive shaft
8. Dynamic damper
9. Dynamic damper band
10. Boot
11. Boot band
12. Spider assembly
13. Snap ring
14. Slide joint housing
15. Dust shield
16. Circular clip
17. Slide joint housing with extension shaft
18. Snap ring

\( \text{Nm (kg-m, ft-lb)} \)

\( \times \) : Always replace after every disassembly

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DISASSEMBLY

Transaxle Side
1. Remove boot bands.
2. Put matching marks on slide joint housing and drive shaft, before separating the slide joint assembly.
3. Put matching marks on the spider assembly and drive shaft.

CAUTION:
Cover the drive shaft serrations with tape so as not to damage the boot.

4. Remove the snap ring, then remove the spider assembly.
5. Remove the boot using suitable tool.

CAUTION:

Wheel Side

CAUTION:
The joint on the wheel side cannot be disassembled.
1. Before separating joint assembly from the drive shaft, put matching marks on drive shaft and joint assembly.
2. Separate joint assembly from the drive shaft using a suitable tool.

CAUTION:
Do not damage the threads on the drive shaft when separating the joint.
3. Remove boot bands.
4. Remove the boot.
Support Bearing
1. Remove dust shield using a suitable tool.

2. Remove snap ring using a suitable tool.

3. Press support bearing assembly off drive shaft using a suitable tool.

4. Separate support bearing from retainer using a suitable tool.

INSPECTION AFTER DISASSEMBLY
Thoroughly clean all parts in cleaning solvent, and dry with compressed air. Check parts for evidence of deformation or other damage. Replace as necessary.

Shaft
Replace drive shaft if it is twisted or cracked.

Joint Assembly (Transaxle Side)
- Check serration for deformation. Replace if necessary.
- Check slide joint housing and spider assembly for any damage. Replace if necessary.
Front Drive Shaft

**CAUTION:**
The slide joint housing and spider assembly must be replaced as a set, even if only one component is damaged then both must be replaced.

**Joint Assembly (Wheel Side)**
Replace joint assembly if it is deformed or damaged.

**Housing (Slide Joint)**
- Check for damage or abnormal wear on ball rolling surface.
- Check for wear on shaft bolts.
- Check for deformity on boot install part.

**Support Bearing**
Make sure wheel bearing rolls freely and is free from noise, cracks, pitting or wear.

**Assembly**

**CAUTION:**
- After drive shaft has been assembled, ensure that it moves smoothly over its entire range without binding.
- Use Genuine NISSAN Grease or equivalent after every overhaul.

**Transaxle Side**

1. Install boot and new small boot band on drive shaft.
   **CAUTION:**
   Cover drive shaft serration with tape so as not to damage boot during installation.

2. Install the spider assembly securely, making sure the marks which were made during disassembly are properly aligned.

3. Install a new snap ring using a suitable tool.

4. Pack the drive shaft joint with the specified amount of grease.
   **Drive shaft joint grease capacity**
   - M/T : 245 - 255 g (8.64 - 8.99 oz)
   - A/T : 134 - 144 g (4.73 - 5.08 oz)

5. Install the slide joint housing.

6. Make sure that the boot is properly installed on the drive shaft groove.
   - Set the boot so that it does not swell and deform when its length is “L2”.
   **Length “L2”** : 164.7 - 172.7 mm (6.48 - 6.80 in)
7. Lock the new larger and smaller boot bands securely using a suitable tool.

Wheel Side
1. Press on the wheel sensor rotor to the joint sub-assembly using a suitable tool.
   **CAUTION:**
   Always use new wheel sensor rotor.
2. Install boot and new small boot band on drive shaft.
   **CAUTION:**
   Cover drive shaft serration with tape so as not to damage boot during installation.

3. Set joint assembly onto drive shaft by lightly tapping it as shown.
   **NOTE:**
   Install joint assembly securely, ensuring marks which were made during disassembly are properly aligned.
4. Pack drive shaft joint with the specified amount of grease.
   **Joint grease capacity :** 100 - 110 g (3.53 - 3.88 oz)

5. Make sure that boot is properly installed on the drive shaft groove.
   ● Set the boot so that it does not swell and deform when the length is “L1”.
   **Length “L1” :** 163 mm (6.42 in)
   Tool number : KV40107300 ( — )

7. Measure crimped area of boot bands after installation.
   **CAUTION:**
   Secure boot band so that dimension "M" meets specification as shown.
   Dimension "M" : 1.0 – 4.0 mm (0.039 – 0.157 in)

**Dynamic Damper**
1. Use new damper bands when installing.
2. Install dynamic damper from stationary-joint side while holding it securely.
   Length “A” : 205 - 215 mm (8.07 - 8.46 in)
   Length “B” : 50 mm (1.97 in)

**Support Bearing**
1. Press bearing into retainer using a suitable tool.
2. Press drive shaft into bearing using a suitable tool.
SERVICE DATA AND SPECIFICATIONS (SDS)

Drive Shaft

<table>
<thead>
<tr>
<th>Grease capacity</th>
<th>Specification</th>
<th>Transaxle side</th>
<th>Wheel side</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>A/T</td>
<td>M/T</td>
</tr>
<tr>
<td></td>
<td></td>
<td>134 - 144 g (4.73 - 5.08 oz)</td>
<td>245 - 255 g (8.64 - 8.99 oz)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wheel side</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>100 - 110 g (3.53 - 3.88 oz)</td>
<td></td>
</tr>
<tr>
<td>Boot length</td>
<td></td>
<td>Transaxle side “Lz”</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wheel side “L1”</td>
<td></td>
</tr>
</tbody>
</table>

Wheel Bearing (Front)

| Wheel bearing axial end play limit | 0.07 mm (0.003 in) or less |
| Wheel bearing lock nut tightening torque | 236 - 313 N·m (24 - 31 kg-m, 174 - 230 ft-lb) |