

SECTION **WT**
ROAD WHEELS & TIRES

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PRECAUTIONS

PRECAUTIONS

PFP:00001

Precautions for Battery Service

AES000DR

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

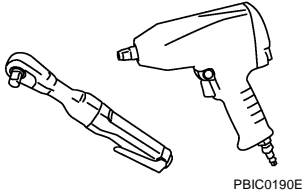
PREPARATION

PREPARATION

PFP:00002

Commercial Service Tools

AES0004L

Tool name	Description
<p data-bbox="165 400 272 427">Power tool</p>  <p data-bbox="836 506 906 519">PBIC0190E</p>	<p data-bbox="979 400 1198 427">Removing wheel nuts</p>

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NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

PFP:00003

NVH Troubleshooting Chart

AES0004M

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

Symptom		Possible cause and SUSPECTED PARTS														Reference page				
		Improper installation, looseness	Out-of-round	Imbalance	Incorrect tire pressure	Uneven tire wear	Deformation or damage	Non-uniformity	Incorrect tire size	PROPELLER SHAFT	DIFFERENTIAL	FRONT AXLE AND FRONT SUSPENSION	REAR AXLE AND REAR SUSPENSION	TIRES	ROAD WHEEL	DRIVE SHAFT	BRAKE	STEERING		
Noise	TIRES	×	×	×	×	×	×	×		×	×	×	×		×	×	×	×	FAX-4,FSU-5	
		×	×	×	×	×	×		×	×		×	×		×	×	×	×	WT-5	
					×				×	×		×	×							—
		×	×	×	×	×	×	×	×			×	×		×					—
	ROAD WHEEL	×	×	×			×			×	×	×	×	×						—
		×	×	×			×			×	×	×	×	×						—
		×	×	×			×					×	×	×						—
		×	×	×			×					×	×	×	×					—
Shake	TIRES	×	×	×	×	×	×		×	×	×	×		×	×	×	×	×	NVH in PR section.	
																			NVH in RFD section.	
					×							×	×							NVH in FAX and FSU sections.
		×	×	×	×	×	×		×			×	×		×					NVH in RAX and RSU sections.
Vibration	TIRES				×				×	×									Refer to TIRES in this chart.	
																			Refer to ROAD WHEEL in this chart.	
																				NVH in RAX section.
																				NVH in BR section.
Shimmy	TIRES	×	×	×	×	×	×	×	×			×	×		×		×	×	NVH in PS section.	
Judder	TIRES	×	×	×	×	×	×		×			×	×		×		×	×		
Poor quality ride or handling	TIRES	×	×	×	×	×	×		×			×	×		×					
Poor quality ride or handling	ROAD WHEEL	×	×	×				×				×	×	×						

×: Applicable

ROAD WHEEL

ROAD WHEEL

PFP:40300

Inspection

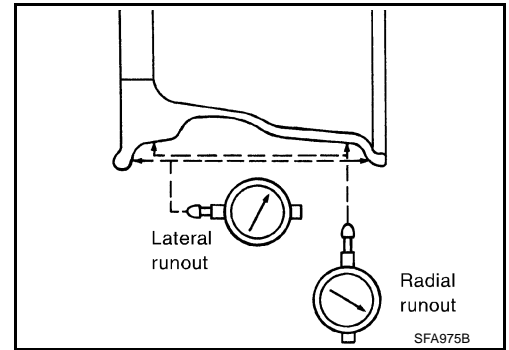
ALUMINUM WHEEL

AES000DH

1. Check tires for wear and improper inflation.
2. Check wheels for deformation, cracks and other damage. If deformed, remove wheel and check wheel runout.
 - a. Remove tire from aluminum wheel and mount on a tire balance machine.
 - b. Set dial indicator as shown in the illustration.

Wheel runout (Dial indicator value):

Refer to [WT-8, "SERVICE DATA"](#)



STEEL WHEEL

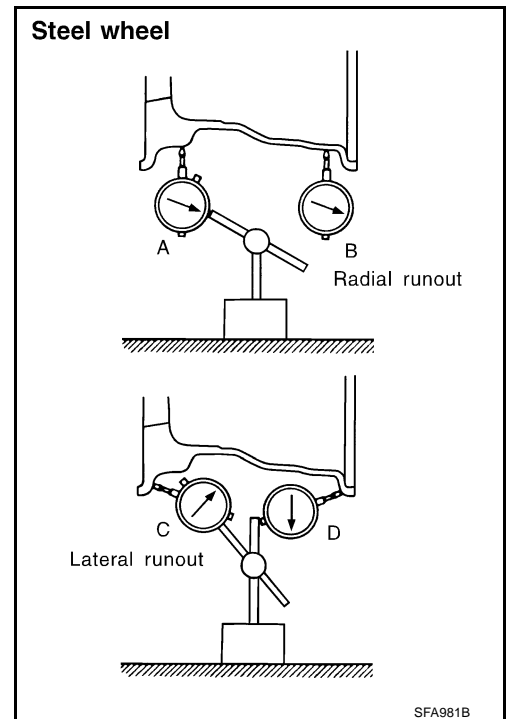
1. Check tires for wear and improper inflation.
2. Check wheels for deformation, cracks and other damage. If deformed, remove wheel and check wheel runout.
 - a. Remove tire from steel wheel and mount wheel on a tire balance machine.
 - b. Set two dial indicators as shown in the illustration.
 - c. Set each dial indicator to 0.
 - d. Rotate wheel and check dial indicators at several points around the circumference of the wheel.
 - e. Calculate runout at each point as shown below.

$$\text{Radial runout} = (A+B)/2$$

$$\text{Lateral runout} = (C+D)/2$$

- f. Select maximum positive runout value and the maximum negative value. Add the two values to determine total runout. In case a positive or negative value is not available, use the maximum value (negative or positive) for total runout. If the total runout value exceeds the limit, replace steel wheel.

Wheel runout : Refer to [WT-8, "SERVICE DATA"](#)



ROAD WHEEL TIRE ASSEMBLY

ROAD WHEEL TIRE ASSEMBLY

PFP:40300

Balancing Wheels (Bonding Weight Type) REMOVAL

AES000DL

1. Remove inner and outer balance weights from the road wheel.

CAUTION:

Be careful not to scratch the road wheel during removal.

2. Using releasing agent, remove double-faced adhesive tape from the road wheel.

CAUTION:

- **Be careful not to scratch the road wheel during removal.**
- **After removing double-faced adhesive tape, wipe clean traces of releasing agent from the road wheel.**

WHEEL BALANCE ADJUSTMENT

- If a tire balance machine has adhesion balance weight mode settings and drive-in weight mode setting, select and adjust a drive-in weight mode suitable for road wheels.

1. Set road wheel on wheel balancer using the center hole as a guide. Start the tire balance machine.
2. When inner and outer unbalance values are shown on the wheel balancer indicator, multiply outer unbalance value by $5/3$ to determine balance weight that should be used. Select the outer balance weight with a value closest to the calculated value above and install it to the designated outer position of, or at the designated angle in relation to the road wheel.

CAUTION:

- **Do not install the inner balance weight before installing the outer balance weight.**
- **Before installing the balance weight, be sure to clean the mating surface of the road wheel.**

Indicated unbalance value $\times 5/3$ = balance weight to be installed

Calculation example:

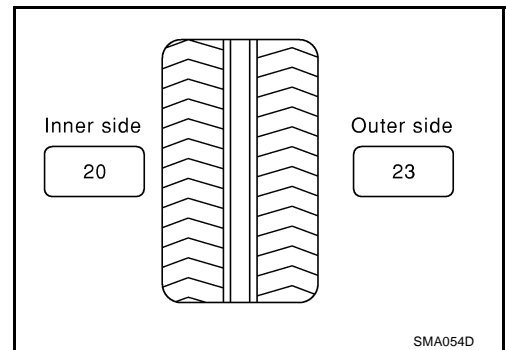
$23 \text{ g (0.81 oz)} \times 5/3 = 38.33 \text{ g (1.35 oz)} = 40 \text{ g (1.41 oz)}$ balance weight (closer to calculated balance weight value)

Note that balance weight value must be closer to the calculated balance weight value.

Example:

$37.4 = 35 \text{ g (1.23 oz)}$

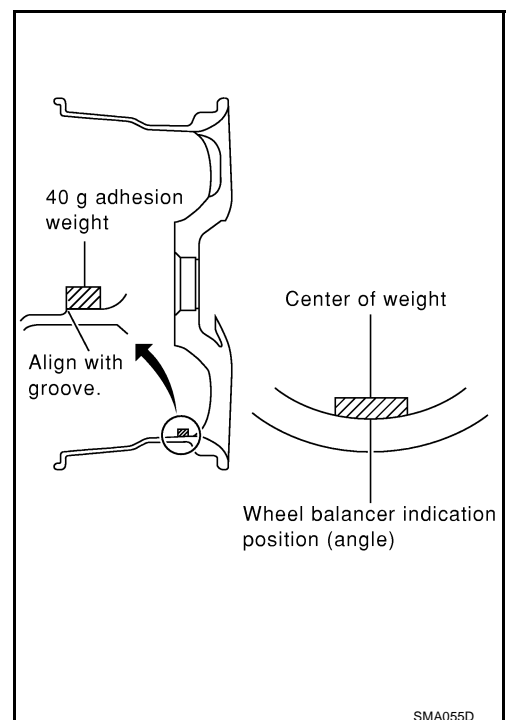
$37.5 = 40 \text{ g (1.41 oz)}$



- a. Install balance weight in the position shown in the figure at left.
- b. When installing balance weight to road wheels, set it into the grooved area on the inner wall of the road wheel as shown in the figure so that the balance weight center is aligned with the wheel balancer indication position (angle).

CAUTION:

- **Always use genuine Nissan adhesion balance weights.**
- **Balance weights are un reusable; always replace with new ones.**
- **Do not install more than three sheets of balance weight.**



ROAD WHEEL TIRE ASSEMBLY

- c. If calculated balance weight value exceeds 50 g (1.76 oz), install two balance weight sheets in line with each other (as shown in the figure).

CAUTION:

Do not install one balance weight sheet on top of another.

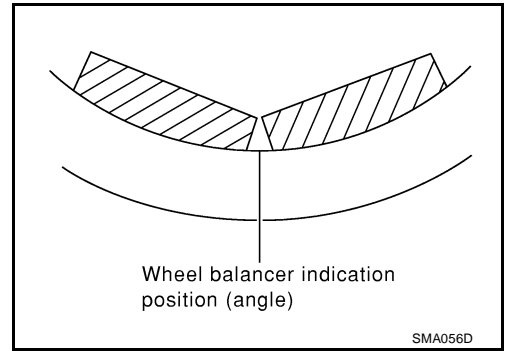
3. Start wheel balancer again.
 4. Install drive-in balance weight on inner side of road wheel in the wheel balancer indication position (angle).

CAUTION:

Do not install more than two balance weights.

5. Start wheel balancer. Make sure that inner and outer residual unbalance values are 10 g (0.35 oz) each or below.
 ● If either residual unbalance value exceeds 10 g (0.35 oz), repeat installation procedures.

Wheel balance (Maximum allowable unbalance):



Maximum allowable unbalance	Dynamic (At rim flange)	10 g (0.35 oz) (one side)
	Static (At rim flange)	20 g (0.71 oz)

Tire Rotation

AES000DJ

CAUTION:

Do not include the T-type spare tire when rotating the tires

NOTE:

Tire cannot be rotated in vehicle, as front tire are different size from rear tire and the direction of wheel rotation is fixed in each tire.

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SERVICE DATA

SERVICE DATA

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Road Wheel

AES00058

Kind of wheel		Aluminum	Steel for emergency use
Deflection limit	Lateral deflection	Less than 0.3 mm (0.012 in)	Less than 1.0mm (0.039 in)
	Vertical deflection	Less than 0.3mm (0.012 in)	Less than 1.2mm (0.047in)
Allowable quantity of residual unbalance	Dynamic (At rim flange)	Less than 10g (0.35oz) (per side)	
	Static (At rim flange)	Less than 20g (0.70oz)	

Tire

AES00059

Unit: kPa (kg/cm², psi)

Tire size	Air pressure	
	Front wheel	Rear wheel
225/50R17 94W 225/45R18 91W	240 (2.4, 35)	—
235/50R17 06W 245/45R18 96W	—	240 (2.4, 35)
T145/96D16 T155/80R17	420 (4.2, 60)	420 (4.2, 60)

Tightening Torque

AES000DK

Wheel nut	98.1 - 127 N·m (10 - 12 kg·m, 73 - 93 ft·lb)
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