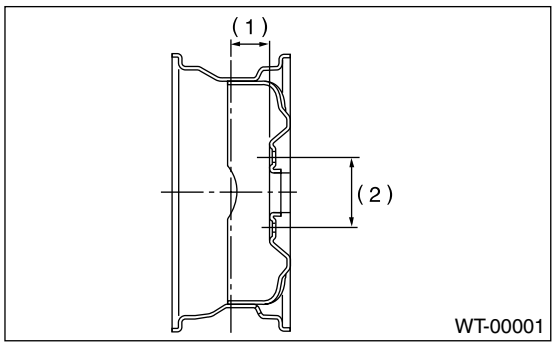
WHEEL AND TIRE SYSTEM

WT

1. General Description

A: SPECIFICATIONS



(1) Offset
(2) P.C.D.

	Grade	Tire size	Rim size	Rim offset mm (in)	P.C.D. mm (in)
Front and rear	2.0X	205/70 R15	15 × 6J (Steel)	48 (1.89)	100 (3.94)
			15 × 6JJ (Aluminum)		
	2.0XT	215/60 R16	16 × 6 1/2JJ (Aluminum)		
	2.5X (Saudi Arabia)		16 × 6 1/2J (Steel)		
			16 × 6 1/2JJ (Aluminum)		
	2.5X (Australia)	P215/60 R16	16 × 6 1/2J (Steel)		
			16 × 6 1/2JJ (Aluminum)		

	Grade	Tire size	Tire inflation pressure kPa (kg/cm^2, psi)	
			Light load	Full load
Front and rear	2.0X	205/70 R15	Fr: 200 (2.0, 29) Rr: 190 (1.9, 28)	Fr: 200 (2.0, 29) Rr: 250 (2.5, 36)
	2.0XT, 2.5X	215/60 R16		
	2.5X (Australia)	P215/60 R16		

NOTE:
• The vihecle is equipped with spare tire as same size as front and rear tire.
• At trailer towing, rear inflation pressure is 280 kPa (2.8 kg/cm^2, 41 psi).

1. SERVICE DATA

Item	Axial runout	Radial runout
Steel wheel	1.5 mm (0.059 in)	
Aluminum wheel	1.0 mm (0.039 in)	

2. ADJUSTING PARTS

Wheel balancing	Standard	Service limit
Dynamic unbalance	Less than 5 g (0.18 oz)	

Balance weight part number (For steel wheel)	Weight
28101TC000	5 g (0.18 oz)
28101SA060	10 g (0.35 oz)
28101SA070	15 g (0.53 oz)
28101SA080	20 g (0.71 oz)
28101SA090	25 g (0.88 oz)
723141340	30 g (1.06 oz)
723141350	35 g (1.23 oz)
723141360	40 g (1.41 oz)
723141370	45 g (1.59 oz)
723241380	50 g (1.76 oz)
723241580	55 g (1.94 oz)
723241590	60 g (2.12 oz)

Balance weight part number (For aluminum wheel)	Weight
28101SA000	5 g (0.18 oz)
28101SA010	10 g (0.35 oz)
28101SA020	15 g (0.53 oz)
28101SA030	20 g (0.71 oz)
28101SA040	25 g (0.88 oz)
23141GA512	30 g (1.06 oz)
23141GA522	35 g (1.23 oz)
23141GA532	40 g (1.41 oz)
23141GA542	45 g (1.59 oz)
23141GA552	50 g (1.76 oz)
—	55 g (1.94 oz)
23141GA572	60 g (2.12 oz)

B: PREPARATION TOOL

1. GENERAL PURPOSE TOOLS

TOOL NAME	REMARKS
Air pressure gauge	Used for measuring tire air pressure.
Dial gauge	Used for measuring wheel runout.

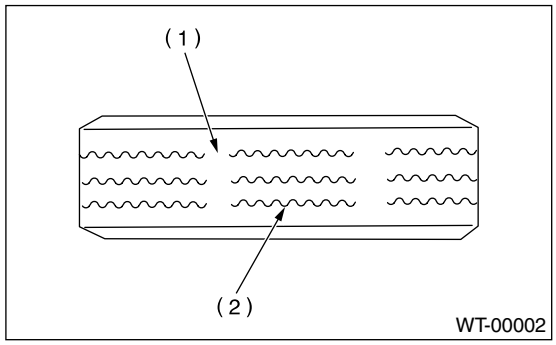
2. Tire

A: INSPECTION

1) Take stone, glass, nail etc. off the tread groove.
2) Replace the tire:

CAUTION:
When replacing a tire, make sure to use only the same size, construction and load range as originally installed.

(1) When large crack on the side wall, damage or crack on tread is found.
(2) When the “tread wear indicator” appears as a solid band across the tread.

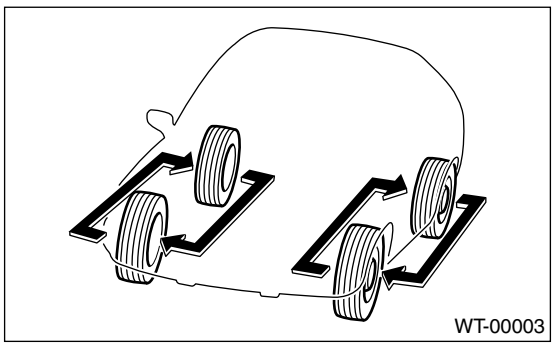


(1) Tread wear indicator
(2) Tire tread

3) When a crack on tire valve is found, replace the tire valve.

1. TIRE ROTATION

Rotate tires periodically (10,000 km/6,200 miles) as shown in the figure, in order to prevent them from uneven wear and to prolong their life.



3. Steel Wheel

A: REMOVAL

1) Apply parking brake, and position the select lever to “P” or “LOW”.
2) Set shop jacks or a lift to the specified point, and support the vehicle with its wheels slightly contacting the floor.
3) Loosen the wheel nuts.
4) Raise the vehicle until its wheels take off the ground using a jack or a lift.
5) Remove the wheel nuts and wheels.

NOTE:
• While removing the wheels, prevent hub bolts from damage.
• Place the wheels with their outer sides facing upward to prevent wheels from damage.

B: INSTALLATION

1) Remove dirt on the mating surface of wheel and brake rotor.
2) Attach the wheel to hub by aligning the wheel bolt hole with hub bolt.
3) Temporarily attach the wheel nuts to hub bolts. (In the case of aluminum wheel, use SUBARU genuine wheel nut for aluminum wheel.)
4) Manually tighten the nuts making sure the wheel hub hole is aligned correctly to guide portion of hub.
5) Tighten the wheel nuts in a diagonal selection to specified torque. Use a wheel nut wrench.

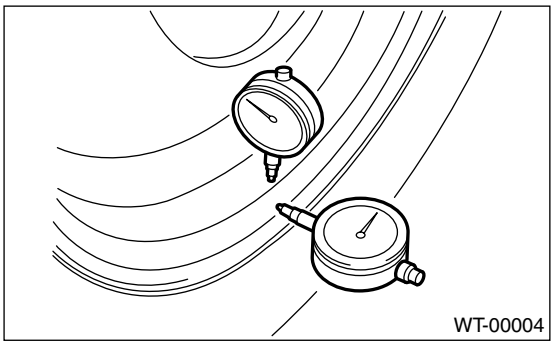
Wheel nut tightening torque:
90 N·m (9.1 kgf-m, 65.7 ft-lb)

CAUTION:
• Tighten the wheel nuts in two or three steps by gradually increasing the torque and working diagonally, until the specified torque is reached. For drum brake models, excess tightening of wheel nuts may cause wheels to “judder”.
• Do not depress the wrench with foot; Always use both hands when tightening.
• Make sure the bolt, nut and nut seating surface of the wheel are free from oils.

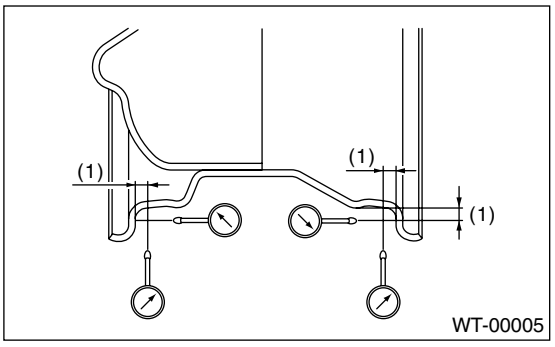
6) If a wheel is removed for replacement or for repair of a puncture, retighten the wheel nuts to the specified torque after running 1,000 km (600 miles).

C: INSPECTION

1) Deformation or damage on the rim can cause air leakage. Check the rim flange for deformation, crack, or damage, and repair or replace as necessary.
2) Jack-up the vehicle until wheels clear the floor.
3) Slowly rotate the wheel to check rim “runout” using a dial gauge.



Axial runout limit	Radial runout limit
1.5 mm (0.059 in)	



(1) Approx. 7 mm (0.28 in)

4) If the rim runout exceeds specifications, remove the tire from rim and check runout while attaching dial gauge to positions shown in the figure.
5) If measured runout still exceeds specifications, replace the wheel.

4. Aluminum Wheel

A: REMOVAL

Refer to Steel Wheel for removal procedure of aluminum wheels. <Ref. to WT-5, REMOVAL, Steel Wheel.>

B: INSTALLATION

Refer to Steel Wheel for installation procedure of aluminum wheels.<Ref. to WT-5, INSTALLATION, Steel Wheel.>

C: INSPECTION

Refer to Steel Wheel for inspection procedure of aluminum wheels. <Ref. to WT-5, INSPECTION, Steel Wheel.>

Rim runout:

Axial runout limit	Radial runout limit
1.0 mm (0.039 in)	

D: CAUTION

Aluminum wheels are easily scratched. To maintain their appearance and safety, do the following:
1) Do not damage the aluminum wheels during removal, installation, wheel balancing, etc. After removing the aluminum wheels, place them on a rubber mat, etc.
2) While the vehicle is being driven, be careful not to ride over sharp obstacles or allow the aluminum wheels to contact the shoulder of the road.
3) When installing a tire chain, be sure to install it properly not to have slack; otherwise it may hit the wheel while driving.
4) When washing the aluminum wheel, use neutral synthetic detergent and water. Avoid using the cleanser including abrasive, hard brushes or an automatic car washer.

5. Wheel Balancing

A: REPLACEMENT

1) Remove the balance weights.
2) Using dynamic balancing, measure the wheel balance.
3) Select a weight close to the value measured by dynamic balancing.

Balance weight part number (For steel wheel)	Weight
28101TC000	5 g (0.18 oz)
28101SA060	10 g (0.35 oz)
28101SA070	15 g (0.53 oz)
28101SA080	20 g (0.71 oz)
28101SA090	25 g (0.88 oz)
723141340	30 g (1.06 oz)
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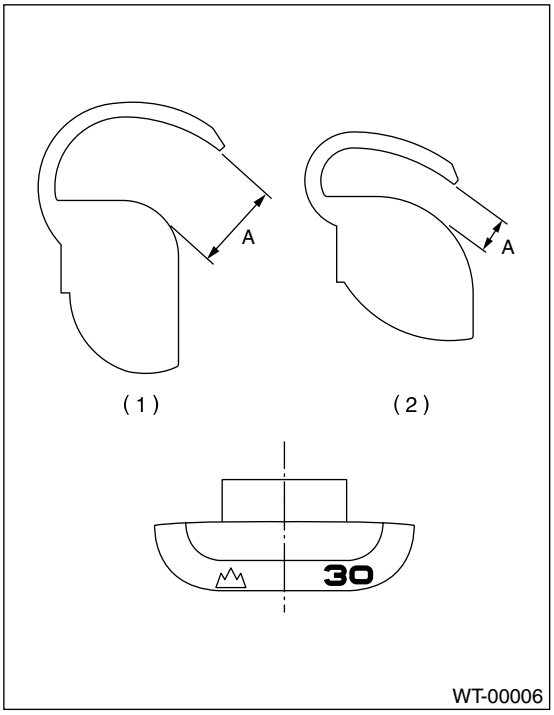
23141GA532	40 g (1.41 oz)
23141GA542	45 g (1.59 oz)
23141GA552	50 g (1.76 oz)
—	55 g (1.94 oz)
23141GA572	60 g (2.12 oz)

4) Install the selected weight to the point designated by dynamic balancing.
5) Using dynamic balancing, measure the wheel balance again. Check that the wheel balance is correctly adjusted.

B: INSPECTION

1) Proper wheel balance may be lost if the tire is repaired or if it wears. Check the tire for dynamic balance, and repair as necessary.
2) To check for dynamic balance, use a dynamic balancer. Drive in the balance weight on both the top and rear sides of the rim.
3) Some types of balancer can cause damage to the wheel. Use an appropriate balancer when adjusting the wheel balance.
4) Use genuine balance weights.

NOTE:
• 55 g (1.94 oz) weight used with the aluminum wheel is not available.
• Balance weights are available for use with any of 14- to 16-inch wheels.



(1) Weight for aluminum wheel
(2) Weight for steel wheel

Service limit: A
Weight for steel wheel;
5 g (0.18 oz) — 25 g (0.88 oz) 2.0 mm (0.08 in)
30 g (1.06 oz) or more 1.8 mm (0.07)
Weight for aluminum wheel;
5 g (0.18 oz) — 25 g (0.88 oz) 5.0 mm (0.20 in)
30 g (1.06 oz) or more 4.5 mm (0.177 in)

6. General Diagnostics Table

A: INSPECTION

Symptom	Possible cause	Remedy
Front wheel shimmy	• Worn or improperly inflated of tire.	Replace
	• Wheel is out of balance.	Adjustment
Abnormal tire wear	• Improperly inflated of tire.	Replace
Sways/pitches	• Worn or improperly inflated of tire.	Replace
Wander/pulls	• Worn or improperly inflated of tire.	Replace