

**DATSUN 280Z  
MODEL S30 SERIES**

**SECTION WT**

**WHEEL AND TIRE**

**WT**

**WHEEL AND TIRE ..... WT- 2**  
**TROUBLE DIAGNOSES AND ..... WT- 5**  
**CORRECTIONS**



**NISSAN MOTOR CO., LTD.**  
**TOKYO, JAPAN**

# WHEEL AND TIRE

## CONTENTS

DESCRIPTION .....	WT-2	RADIAL TIRE .....	WT-3
MAINTENANCE AND SERVICE .....	WT-2	TIRE ROTATION .....	WT-3
TIRE INFLATION .....	WT-2	INSPECTION .....	WT-3
TUBELESS TIRE REPAIR .....	WT-2	WHEEL BALANCE .....	WT-3
WHEEL REPAIR .....	WT-3	WHEEL AND TIRE .....	WT-4
WEAR .....	WT-3		

## DESCRIPTION

This model series cars have 14-inch diameter wheels with four bolts securing on 114.3 mm (4.50 in) bolt circle. The wheel size for tires is a 5J-14 with at 15 mm (0.95 in) offset.

### Tire size

Tire size	Wheel size
195/70 HR14 (Steel radial with tube)	5J-14
175HR-14 (Tubeless)	

### Tire pressure

	175HR-14 195/70HR14
Under 160 km/h (100 MPH)	2.0 kg/cm <sup>2</sup> (28 psi)
Over 160 km/h (100 MPH)	2.3 kg/cm <sup>2</sup> (32 psi)

Note: The tire inflation pressures should be measured under tire cold condition.

## MAINTENANCE AND SERVICE

### TIRE INFLATION

Correct tire pressure is very important to ease of steering and riding comfort. This also reduces driving sound to a minimum, resulting in longer tire life; that is, overinflation or underinflation promotes the wear at

center tread or shoulder of tire.

If all tires are inspected frequently and given correct pressure, it is possible to detect sharp material in the tread. Also, the above check avoids abnormal wear inviting serious damage. If tires indicate abnormal or uneven wear, the cause of damage should be detected and eliminated.

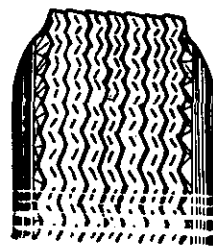
After inflating tires, leakage in valve should be checked. Without valve caps, leakage will occur due to dirt and water, resulting in underinflation. Accordingly, whenever tire pressure is checked, be sure to tighten valve caps firmly by hand.

soapy solution to tire or submerge tire and wheel in the water, after inflating tire to specified pressure. Special inspection for leaks should be carried out around the valve, wheel rim and along the tread. Exercise care to bead and rim where leakage occurs. Wipe out water from area which leaks air bubbles and then mark the place with chalk.

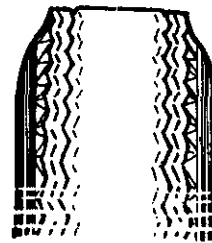
After removing the materials which caused puncture, seal the point to avoid damage to the tire due to entrance of dirt and water. When repairing the punctured tire, use the tire repair kits which are furnished from tire dealers, following the instructions provided with the kits. In case that a puncture becomes large or there is any other damage to the tire fabric, the repair must be carried out by authorized tire dealers.

### TUBELESS TIRE REPAIR

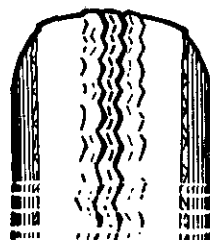
In order to inspect a leak, apply



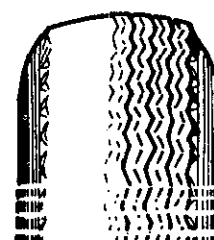
Toe-in or toe-out wear



Overinflation wear



Underinflation wear



Uneven wear

WT004

Fig. WT-1 Abnormal tire wear

# Wheel and Tire

## WHEEL REPAIR

Inspect wheel rim flange for bend or dents. If the above deterioration is detected, repair should be made to secure complete sealing. The flange should be cleaned by a wire brush when rust is found on the flange. Furthermore, if excessive pitting occurs on the rim, eliminate it with a file.

## WEAR

### Misalignment

When the front wheels align in excessive toe-in or toe-out condition, tires scrape the tread rubber off. The wear of tread appears feathered edge.

### Center

This wear is caused by overinflation of the tire. The inflation pressure must be kept within the specified limit.

### Shoulder

The wear may be caused by underinflation, incorrect wheel camber, or continuous high speed driving on curves. In general, the former two are common. Because underinflation wear appears on both sides of tread, and on the other hand, camber wear appears only on one tread side. To prevent cornering tread wear, the driver must operate car slowing down on curves.

### Uneven

Uneven wear is caused by incorrect camber or caster, malfunctioning suspension, unbalanced wheel, out-of-round brake drum, or other mechanical conditions. To repair this abnormal wear, correct the above faulty parts.

## RADIAL TIRE

Tires of radial ply construction will revolve with less camber power and with greater cornering power on turns. Since this tends to cause local or rapid wear on the treads with excessive toe-in, exercise special care for front wheel alignment during the life of tires.

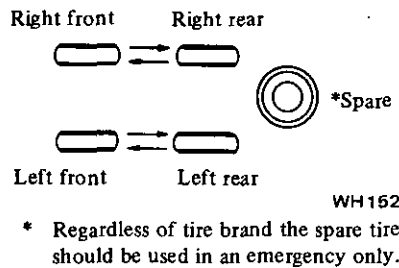
### Notes:

- Radial ply tires should not be mixed with ordinary tires since their characteristics differ from those of ordinary tires.
- The same brand radial ply tires should be installed on all wheels.
- The tubes designed for radial tire should be used exclusively.
- Snow chain should not be fitted because it damages side wall.

## TIRE ROTATION

Tires wear unevenly and become unbalanced in accordance with running distance. This may cause tire noise which is attributed to rear axle gears, bearing, etc. Meanwhile, the front tires tend to wear unevenly because of improperly aligned front wheel.

Accordingly, to equalize tire wear, it is necessary to rotate tires periodically as recommended in the "Periodic Maintenance". See Figure WT-2.



\* Regardless of tire brand the spare tire should be used in an emergency only.

Fig. WT-2 Tire rotation

The tires are provided with "tread wear indicator" at six places around tire circumference, indicating 1.6 mm (0.063 in) tread depth. When the tires wear and then the marks appear, replace them with new ones.

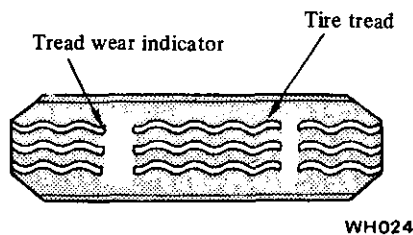


Fig. WT-3 Tread wear indicator

To change tire with wheel using a jack in the safe manner, observe the following procedures:

- Apply parking brake and block front wheels when rear wheel is being changed.
- Remove wheel cap and loosen wheel nuts.
- Place jack at jacking point instructed under "General Information" and raise car until wheel clears ground.
- Remove wheel nuts and wheel from drum.
- To install wheel, reverse the above steps. Tighten wheel nuts in criss-cross fashion to 8.0 to 9.0 kg-m (58 to 65 ft-lb).

**Note:** Never get under the car while it is supported only by the jack. Always use safety stands to support the side member of body construction when you must get under the car.

## INSPECTION

### WHEEL BALANCE

The wheel and tire assembly should be kept on static and dynamic balancing. The above balance is very important to drive the car at high speeds. Consequently, wheel and tire assembly should be rebalanced after puncture is repaired.

The balance of wheel and tire assembly changes as the uneven tire wear. Severe acceleration and braking, or fast cornering makes wear, resulting in unbalance. The symptom of unbalance appears as tramp, car shake or steering problem.

In balancing wheels, notice that the static balancing should be specified as listed below:

Maximum allowable static unbalance: 177 gr-cm (2.5 in-oz)  
Balance weight:  
10 to 80 gr (0.35 to 2.82 oz) at every 10 gr (0.35 oz) interval

To correct static unbalance, use wheel balancer. In this case, maximum balance weight (80 gr, 2.82 oz) is available at two places of outside rim flange.

## Wheel and Tire

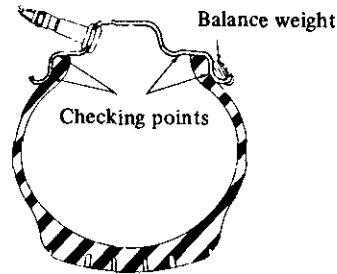
When dynamic balance is required, the specified values such as maximum allowable dynamic unbalance and balance weights, are the same as static balancing ones. Furthermore, testing and correcting dynamic unbalance are carried out by the use of dynamic wheel balancers. However, maximum balance weight (80 gr, 2.82 oz) is available at two places each of outside and inside rim flange respectively.

### WHEEL AND TIRE

In order to ensure satisfactory steering condition as well as maximum tire life, proceed as follows:

1. Check wheel rim, especially, rim flange and bead seat for rust, distortion, cracks or other damage which

might cause air leaks. Function of tubeless tire depends on a good seal between tire bead and wheel rim. Thoroughly remove rust, dust, oxidized rubber or sand from wheel rim with wire brush, emery cloth or paper. Use dial gauge to examine wheel rim for lateral and diametrical run-out.



WT005

*Fig. WT-4 Wheel rim run-out checking points*

**Note:** In replacing tire, take extra care not to damage tire bead, rim flange and bead seat.

Therefore, do not use tire irons to force beads away from wheel rim flange; that is, always use tire replacement device whenever tire is removed.

2. Discard when any of the following conditions occur;

- (1) Broken or damaged bead wire.
- (2) Ply or tread separation.
- (3) Worn fabric injuries on tubeless tire.
- (4) Cracked or damaged sidewall, etc.

## TROUBLE DIAGNOSES AND CORRECTIONS

Condition	Probable cause	Corrective action
<p>Wheel wobbles.</p>	<p>Improper tire pressure.                      Damaged tire or distorted wheel rim.                      Unbalanced wheel.                      Loose wheel nuts.                      Worn or damaged wheel bearing, or excessive play of wheel bearing.                      Improper front wheel alignment.                      Worn or damaged ball joint.                      Excessive steering linkage play or worn steering linkage.                      Loose steering linkage connection.                        Broken suspension spring.                      Faulty shock absorber.</p>	<p>Measure and adjust correctly.                      Repair or replace.                      Balance or replace.                      Tighten.                      Correct play or replace wheel bearing.                        Align correctly.                      Replace.                      Adjust or replace.                        Tighten the nuts to the rated torque, or replace worn parts if any.                        Replace.                      Replace.</p>
<p>Unevenly or excessively worn tire.</p>	<p>Improper tire rotation.                        Improper tire pressure.                      Unbalanced wheel.                      Improperly adjusted brake.                      Improper wheel alignment.                      Excessively distorted or improperly installed suspension link.                      High speed on curves.                      Sudden start and improper speed due to rapid acceleration or improper brake application.</p>	<p>Conduct tire rotation periodically.                        Measure and adjust correctly.                      Balance or replace.                      Adjust correctly.                      Align correctly.                      Repair or replace if necessary, or reinstall correctly.                      Reduce speed.                      Follow correct and proper driving manner.</p>
<p>Tire squeals.</p>	<p>Improper tire pressure.                      Improper front wheel alignment.                      Distorted knuckle or suspension link.</p>	<p>Measure and adjust correctly.                      Align correctly.                      Repair or replace if necessary.</p>



509 Debby Lane  
Adamsville, AL 35005  
<http://www.zcarcreations.com>  
[cborden@zcarcreations.com](mailto:cborden@zcarcreations.com)

## **NISSAN FACTORY SERVICE MANUAL CDROM END-USER LICENSE AGREEMENT**

**NOTICE TO USER:** THIS IS A CONTRACT. BY PURCHASING AND USING THE SERVICE MANUAL ON CDROM, YOU ACCEPT ALL THE TERMS AND CONDITIONS OF THIS AGREEMENT.

This End User License Agreement accompanies the Service Manual on CDROM product and related explanatory materials. Please read this Agreement carefully. By purchasing and using the Service Manual on CDROM, you are implying that you have carefully read, agree with, and will adhere to the conditions set forth in this agreement. If you do not wish to accept the terms of this End User Agreement please do not use the Service Manual on CDROM. You will not be permitted to use the Service Manual on CDROM without consenting to this end user agreement.

Upon your acceptance of this Agreement, Z Car Creations, LLC grants to you a nonexclusive license to use the Service Manual on CDROM, provided that you agree to the following:

### **USE OF SOFTWARE**

You may install the contents of the CD on a hard disk or other storage device for personal use only. Each Service Manual on CDROM comes with a single user license. Under no circumstances should the contents of the Service Manual CDROM be placed on a server for purposes of distributing or allowing access to the material over a network.

### **COPYRIGHT AND TRADEMARK RIGHTS**

The Service Manual CDROM is owned by Z Car Creations, LLC and its structure and organization, all graphics and coding are considered intellectual property of Z Car Creations, LLC. The manual content itself is property of Nissan Motors. The Service Manual on CDROM is also protected by United States Copyright Law and International Treaty provisions. This Agreement does not grant you any intellectual property or resale rights to the Service Manual CDROM.

### **RESTRICTIONS**

You agree not to modify, adapt, translate, reverse engineer, decompile or disassemble the PDF file on the Service Manual CDROM. The Service Manual on CDROM is licensed and distributed by Z Car Creations, LLC for single user utilization of its contents only. Licensed users will be permitted to use the contents of the Service Manual CDROM for multimedia presentation to an audience from a single machine using a large display or projection device but the Service Manual CDROM may not otherwise be distributed, sold to or made accessible to multiple users.

### **NO WARRANTY**

The software is being delivered to you AS IS and Z Car Creations, LLC makes no warranty as to its use or performance. Z CAR CREATIONS, LLC DOES NOT AND CANNOT WARRANT THE PERFORMANCE OR RESULTS YOU MAY OBTAIN BY USING THE SERVICE MANUAL CDROM OR DOCUMENTATION, NOR MAKES ANY WARRANTIES, EXPRESS OR IMPLIED, AS TO NONINFRINGEMENT OF THIRD-PARTY RIGHTS, MERCHANTABILITY, OR FITNESS FOR ANY PARTICULAR PURPOSE. IN NO EVENT WILL Z CAR CREATIONS, LLC BE LIABLE TO YOU FOR ANY CONSEQUENTIAL, INCIDENTAL, OR SPECIAL DAMAGES FOR ANY REASON.



509 Debby Lane  
Adamsville, AL 35005  
<http://www.zcarcreations.com>  
[cborden@zcarcreations.com](mailto:cborden@zcarcreations.com)

#### **GOVERNING LAW AND GENERAL PROVISIONS**

This Agreement will be governed by the laws of the State of Alabama, USA, excluding the application of its conflicts of law rules. This Agreement will not be governed by the United Nations Convention on Contracts for the International Sale of Goods, the application of which is expressly excluded. If any part of this Agreement is found void and unenforceable, it will not affect the validity of the balance of the Agreement, which shall remain valid and enforceable according to its terms. You agree that the Service Manual on CDROM will not be shipped, transferred or exported into any country or used in any manner prohibited by the United States Export Administration act or any other export laws, restrictions or regulations. This Agreement shall automatically terminate upon failure by you to comply with its terms. This Agreement may only be modified in writing signed by and authorized officer for Z Car Creations, LLC.

Craig Borden  
Z Car Creations, LLC  
509 Debby Lane  
Adamsville, AL 35005  
USA

**YOUR ACCEPTANCE OF THE FOREGOING AGREEMENT IS IMPLIED UPON PURCHASING AND USING THE SERVICE MANUAL CDROM.**