# SERVICE MANUAL

DATSUN 240Z SPORTS
MODEL S30 SERIES
**CHASSIS & BODY**



NISSAN

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

## SECTION WT

# WHEEL AND TIRE

WT

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# WHEEL AND TIRE

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## DESCRIPTION

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

**Tire size**

| Model | Tire size | Disc wheel |
|---|---|---|
| HLS30-U<br>HLS30Q<br>HS30Q | 175 HR-14 (Tubeless) | 14-5J |
| HLS30<br>HS30-U | 6.45 H14-4PR (Tubeless)<br>*165 HR-14 (Tubeless)<br>*6.95 H14-4PR (Tubeless) | 14-5J |

**Tire pressure** (To be measured when tires are cold.)

| | 175 HR-14<br>165 HR-14 | 6.45 H14<br>6.95 H14 |
|---|---|---|
| Under 160 km/h (100 MPH) | 2.0 kg/cm$^2$ (28 lb/sq in) | 1.7 kg/cm$^2$ (24 lb/sq in) |
| Over 160 km/h (100 MPH) | 2.3 kg/cm$^2$ (32 lb/sq in) | 2.3 kg/cm$^2$ (32 lb/sq in) |

**Note: a. The tire inflation pressures should be measured under tire cold condition.**
**b. Mark * in tire size column means optional equipment.**

## 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 trouble. If tires indicate abnormal or uneven wear, the cause of trouble 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.

### Tubeless tire repair

In order to inspect a leak, apply 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.

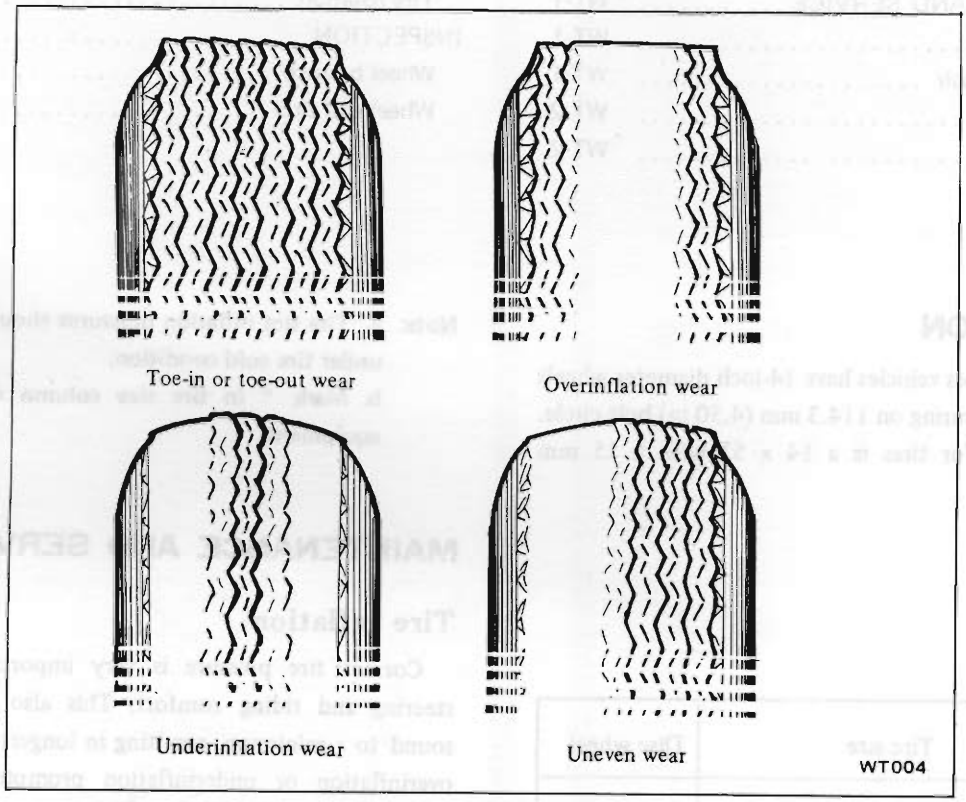



*Fig. WT-1 Abnormal tire wear*

## 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 defective 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.

**Note: a. Radial ply tires should not be mixed with ordinary tires since their characteristics differ from those of ordinary tires.**
**b. The same brand radial ply tires should be installed on all wheels.**
**c. The tubes designed for radial tire should be used exclusively.**
**d. 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 every 10,000 km (6,000 miles) of operation.

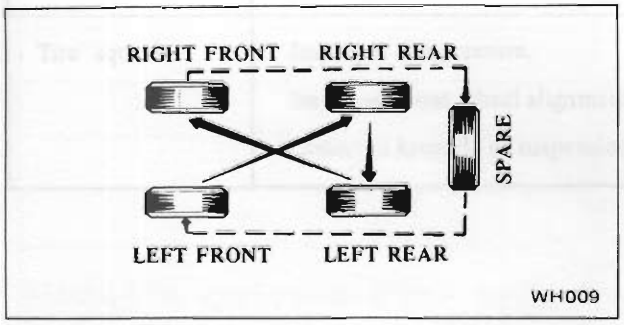



*Fig. WT-2 Tire rotation*

The tires are provided with "tread wear indicator" at six places around tire circumference, indicating 1.6 mm (0.06 in) tread depth. When the tires wear and then the marks appear, replace them with new ones.

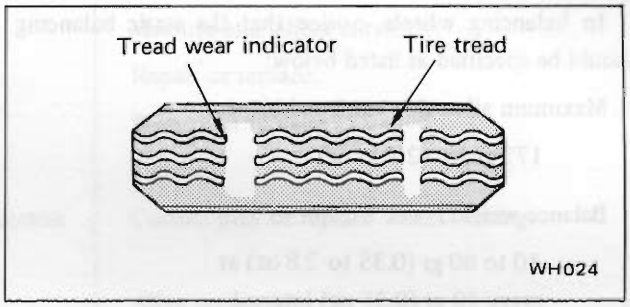



*Fig. WT-3 Tread wear indicator*

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

1. Apply parking brake and block front wheels when rear wheel is being changed.
2. Remove wheel cap and loosen wheel nuts.
3. Place jack at jacking point instructed under "General Information" and raise car until wheel clears ground.
4. Remove wheel nuts and wheel from drum.
5. 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 trouble.

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 2.8 oz) at every 10 gr (0.35 oz) interval.

To correct static unbalance, use wheel balancer. In this case, maximum balance weight (80 gr - 2.8 oz) is available at two places of outside rim flange.

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 by the use of dynamic wheel balancers. However, maximum balance weight (80 gr - 2.8 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 defects 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 diametral run-out.

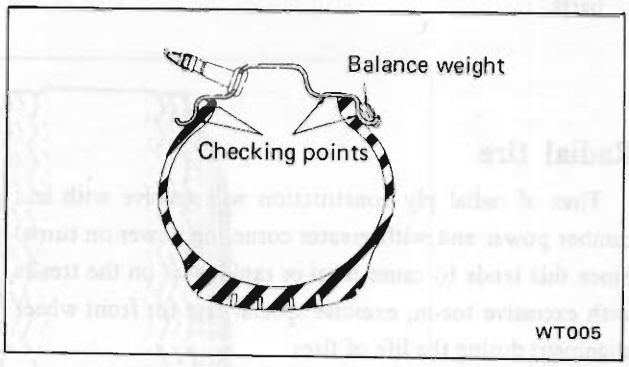



*Fig. WT-4 Wheel rim run-out checking points*

**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 troubles occur;

(1) Broken or damaged bead wire.

(2) Ply or tread separation.

(3) Worn fabric injuries on tubeless tire.

(4) Cracked or damaged side wall, etc.

# TROUBLE DIAGNOSES AND CORRECTIONS

| Troubles | Possible causes | Corrective action |
|---|---|---|
| Wheel wobbles. | Improper tire pressure. | Measure and adjust correctly. |
| | Damaged tire or distorted wheel rim. | Repair or replace. |
| | Unbalanced wheel. | Balance or replace. |
| | Loose wheel nuts. | Tighten. |
| | Worn or damaged wheel bearing, or excessive play of wheel bearing. | Correct play or replace wheel bearing. |
| | Improper front wheel alignment. | Align correctly. |
| | Worn or damaged ball joint. | Replace. |
| | Excessive steering linkage play or worn steering linkage. | Adjust or replace. |
| | Loose steering linkage connection. | Tighten the nuts to the rated torque, or replace worn parts if any. |
| | Broken suspension spring. | Replace. |
| | Defective shock absorber. | Replace. |
| Unevenly or excessively worn tire. | Improper tire rotation. | Conduct tire rotation periodically. [Standard; every 10,000 km (6,000 miles)]. |
| | Improper tire pressure. | Measure and adjust correctly. |
| | Unbalanced wheel. | Balance or replace. |
| | Improperly adjusted brake. | Adjust correctly. |
| | Improper wheel alignment. | Align correctly. |
| | Excessively distorted or improperly installed suspension link. | Repair or replace if necessary, or reinstall correctly. |
| | High speed on curves. | Reduce speed. |
| | Sudden start and improper speed due to rapid acceleration or improper brake application. | Follow correct and proper driving manner. |
| Tire squeals. | Improper tire pressure. | Measure and adjust correctly. |
| | Improper front wheel alignment. | Align correctly. |
| | Distorted knuckle or suspension link. | Repair or replace if necessary. |

# SERVICE JOURNAL OR BULLETIN REFERENCE

| DATE | JOURNAL or BULLETIN No. | PAGE No. | SUBJECT |
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