CHAPTER 8: TIRE

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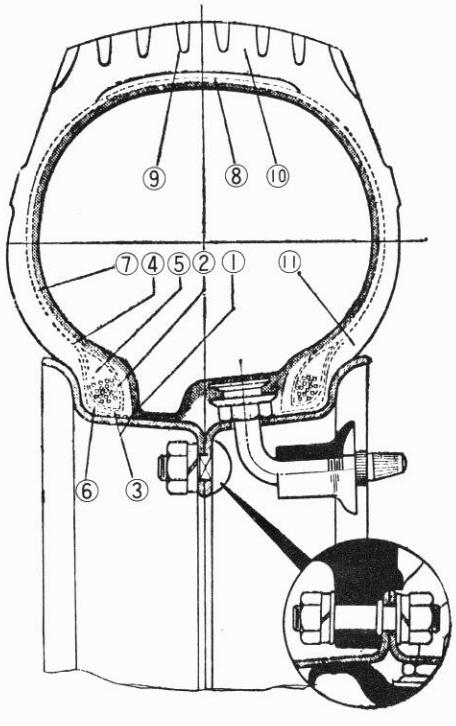
8-1: SPECIFICATIONS, CONSTRUCTION AND HANDLING PROCEDURES ON TIRES

A. SPECIFICATIONS

	Subaru 360 Sedan	Subaru 360 Custom
Tire	4.80 x 10 - 2P	4.50 x 10 - 4P
Rim	3.00D x 10	3.00D x 10
Tire Width	Approx. 121 mm (4.76 in)	Approx. 122 mm (4.84 in)
Tire Outer Diameter	Approx. 500 mm (19.6 in)	Approx. 485 mm (19.0 in)
Valve	TR-244	TR-244
Standard Air Pressure		
Front Tire	0.85-0.99 kg/cm^2 (12-14 psi)	0.9-1.0 kg/cm^2 (13-14 psi)
Rear Tire	1.7-1.85 kg/cm^2 (24-26 psi)	1.9-2.0 kg/cm^2 (27-28.5 psi)
Spare Tire	1.85 kg/cm^2 (26 psi)	2.0 kg/cm^2 (28.5 psi)

B. FUNCTION AND CONSTRUCTION



(1) Bead Toe
(2) Bead Wire
(3) Chafer
(4) Flipper
(5) Head Rubber
(6) Bead Heel
(7) Cord
(8) Breaker
(9) Croove
(10) Tread
(11) Thumb Cushion

(a) TIRE FUNCTIONS

The tire acts as a part of the springing system supporting the vehicle body and absorbs shock from the road surface for greater driving comfort. At the same time, it transmits the driving force from the engine as well as the braking force. When the vehicle swerves to one side, the tires produces a force which compensates for the centrifugal force to provide good maneuverability and high stability. Since the tires have such important functions, adequate care must be exercised in their handling and maintenance.

(b) FEATURES OF THE SUBARU TIRES

The 4.80 x 10 tires used on the Subaru is of 2-ply construction with high durability. In order to achieve good maneuverability, high stability and superior riding comfort, the following factors have been incorporated into their design. (The tires on the Custom are 4.50 x 10 - 4P.)

(1) Lightweight

(2) Low Spring Constant

(3) High Stability

(4) High Frictional Constant

(5) Durability

(c) THE CONSTRUCTION DETAILS OF SUBARU TIRES

The tire and tube can be considered as a container for air which supports the load made to bear on the tire. The core of the tire is the cord which supports the inner pressure through tensile force. Rubber is used along with the cord as an insulation to eliminate friction of the cords and also as protection from wear and tear. To absorb shocks from the outside, the breaker is incorporated between the cord and tread. A cushion layer is formed here which with the breaker serves to prevent separation through minimizing sudden changes in flexibility. The bead which is a rigid piece of steel wire helps to secure the tire in the rim. The surface which contacts the rim is protected by the chafter to prevent frictional damage to the cord. The flipper is inserted to gradually reduce the rigidity from the very hard bead to the side where more flexibility is required.

The outside surface of the tire which contacts the road surface is provided with treads for protection against wear. It has a pattern which has been functionally designed to adequately carry out the functions of the tire. The tread further provides a larger exterior surface for dissipating the internally accumulated heat.

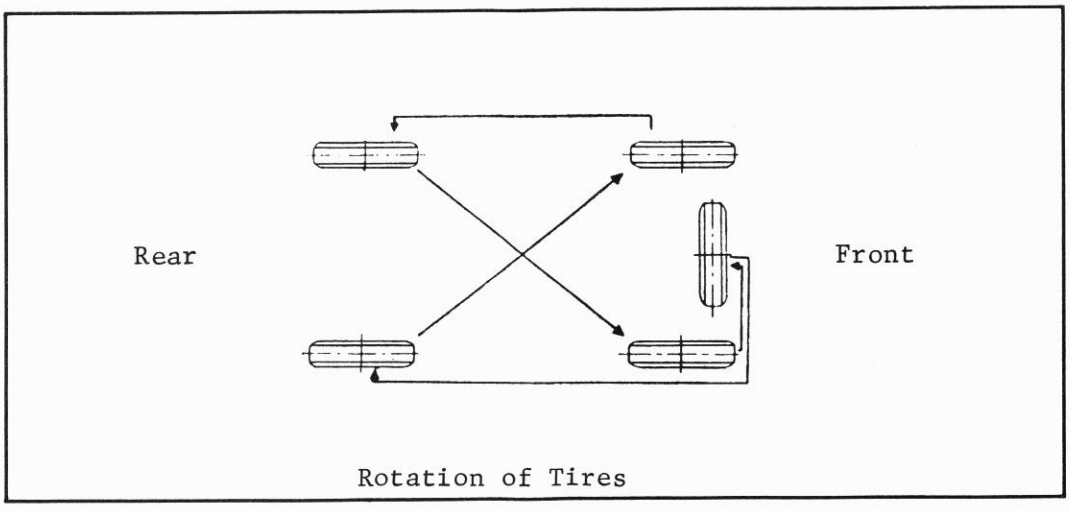
C. TIRE MAINTENANCE

(a) TIRE PRESSURE CHECK

Check and adjust the tire pressures daily. As explained previously, the compressed air in the tire supports the vehicle load, and a certain inner pressure has been set as a standard for performing this function the best. The design of the vehicle body, its suspension system and its steering system is based on tires inflated to a certain standard pressure. Therefore insufficiently or excessively inflated tires will not only shorten the tire service life but will also lower the vehicle performance and vehicle life.

(b) ROTATION OF TIRES

Due to the differences in the functions of the different wheel suspensions, in the road conditions and the everyday driving procedures, the amount of wear on the individual tire will vary to some extent. This will cause unevenness in the tire life. To obtain even wear on all tires, the tires should be rotated periodically after about every 6000 kilometers (3700 miles) of operation. See the following illustration for rotation procedure.



Rotation of Tires

(c) CLEANING THE TIRES

Clean the tires from time to time not only for neat appearance but also for early discovery of trouble. While pouring water on the tire, scrub off dirt and sand with a brush. Be sure to clean the inner side walls and inside the grooves in the tread also. Stones stuck in the grooves will cause damage to the cord. These stones can be removed with a screw driver. Remove nails and wires stuck in the tire with pliers. If these items have gone in deeply and there is a chance that they may have punctured the tube, be sure to check for air leakage after removal.