Checking Tires

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General

Tires should be checked for correct pressure, wear, cuts, grease deposits, fabric breaks and foreign bodies frequently, in any case during maintenance inspections and before starting on longer trips.

Tire Pressure

To increase the life of tires and to insure the best riding qualities of Porsche sports cars, it is important that the prescribed tire pressure be maintained at all times. The tire pressure should therefore be checked regularly, at least, however, once a weak and above all before starting on a long trip, use an accurate pressure gauge for this purpose. A gradual loss of air is normal and is due to the presence of acids in the air which attack the walls of the tube and allow air to seep through the walls of the tube. Pressure should be checked when the tire is cool. If the tire is checked after the tire pressure has increased due to heating up after a speed run, it must on no account be decreased, as otherwise the pressure will be too low after the tire has cooled down.

Note

Tire pressure gauges should be checked after they have been used for a longer period to make sure that they indicate correctly. Worn out gauges (varying $^1/_{10}$ in accuracy) cause over- od under-pressure which results in abnormal tire wear and life span. It is therefore important that the gauge is checked periodically for accurate indication of the pressure.

The effectiveness of the valve can easily be checked by moistening the finger and placing it lightly over the valve opening. The appearance of small bobbles indicate that the valve is not seating properly. If necessary, replace the valve.

Abnormal Wear

Some causes for abnormal wear are:

Tire pressure too low or too high
Bad driving habits
Overloading vehicle
Bad roads
Improper wheel alignment

Pressure too low

Heavy wear occurs on the side of the tread due to increased friction of the soft tire against the road. The resultant overheating affects the fabric structure of the tire. Damage to the fabric will appear first as two black parallel lines inside the casing (at an angle to the direction of rotation). This means that the cords of the fabric are beginning to separate from each other. Continuing to drive under this condition will eventually cause rupture of the fabric and render the tire completely unserviceable.

If the tire pressure is too low, the entire load is placed on the shoulders of the tread and extreme friction then results in rapid wear of the center of the tread.

Pressure too high

This results not only in hard riding qualities, but also in excessive spring action, and rapid wear on the center of the tread.

Driving habits

Average driving speeds have greatly increased during recent years, and tire damage and wear have increased proportionally. Such damage and wear are caused by higher tire temperature due to friction and to violent variations of load due to road shock and by taking curves at high speed, as well as by the heavier braking actions. Heavy brake application increases tire wear, due to the grinding action of the tire against the road surface. This is particularly true if the brakes are applied hard enough to skid the wheels. Wear and damage are also increased if braking action is uneven due to faulty or defective brake shoes, linings and drums.

Overloading the car

The weight of the car is supported by the air in the tires. The compressability of the air gives a cushioning effect to small bumps and absorbs road shocks. Tire pressure, air volume and weight are directly related.

Each tire size is designed to support a given normal load and is constructed to sustain that load according to a specified air pressure and to sustain overload for short periods of time. Heavy overloading over a longer period may result in serious damage of the tire. This