

# SERVICE BULLETIN

No. 112

## **Service Life for Passenger Car, Light Truck and Full-size Spare Tires**

Tires are designed and built to provide many thousands of miles of excellent service. For continued, safe use throughout the service life of the tire, consumers must properly maintain their tires and have them regularly inspected for signs of damage and abuse that can result in tire disablement. The end of the service life of a tire is affected by many factors that are independent of the chronological age of the tire. The following information and recommendations are provided to assist the public in maximizing tire service life and to define conditions and practices affecting the service life of a tire.

### **Service Life is Not Determined by Chronological Age**

The useful life of a tire is a function of service and storage conditions. For each individual tire, this service life is determined by many elements such as temperature, storage conditions, and conditions of use (e.g., load, speed, inflation pressure, impacts and road hazard damage) to which a tire is subjected throughout its life. Since service and storage conditions vary widely, accurately predicting the service life of any specific tire based on calendar age is not possible.

### **Tire Service Life Recommendation**

Cooper Tire is not aware of scientific or technical data that establishes or identifies a specific minimum or maximum service life for passenger and light truck tires. However, Cooper recognizes a consumer benefit from a more uniform, global industry-wide approach to the tire service life issue. Accordingly, Cooper recommends that all tires, including full-size spares, that are 10 or more years from their date of manufacture, be replaced with new tires. Tires 10 or more years old should be replaced even if the tires appear to be undamaged and have not reached their tread wear limits. Most tires will need replacement before 10 years due to service conditions. This may be necessary even if the tire has not yet reached its tread wear limits.

Under no circumstances should a “maximum” service life recommendation for a tire be considered as an “expected” service life. Tires must be removed from service for several reasons, including tread worn down to minimum depth, signs of damage (cuts, cracks,

bulges, impact damage, vibration, etc.) or signs of abuse (under inflation, overloading, improper repair, etc.).

In some cases a vehicle manufacturer may make a recommendation for tire replacement earlier than 10 years for their products based upon their understanding of the specific vehicle characteristics and application. If so, the consumer should follow those vehicle manufacturer's specific recommendations for their vehicle.

### **Determining the Age of a Tire**

A tire's date of manufacture is located on each tire. A consumer can determine the date of manufacture by examining the series of letters and numbers called the Tire Identification Number (TIN) which follow the letters "DOT" on the tire sidewall.

For tires manufactured after the year 1999, the last four numbers of the TIN identify the week and year in which the tire was manufactured. The first two numbers identify the week and the last two numbers identify the year of manufacture. Thus, a TIN ending with "3005" indicates that the tire was made during the 30th week of 2005 and would appear as DOTXXXXXXXX3005 on the sidewall of the tire.

For tires manufactured prior to 2000, three numbers instead of four indicate the date of manufacture. The first two numbers reflect the week and the last digit reflects the year of manufacture. Thus, a TIN ending in 308 indicates that the tire was made in the 30th week of 1998 (or possibly 1988) and would appear as DOTXXXXXXXX308 on the sidewall of the tire.

### **The Consumer Plays the Primary Role in Tire Maintenance**

Consumers have the primary responsibility for the regular care and maintenance of their tires. Tires should be inspected at least once per month. The regular inspection should focus on proper inflation pressure, tread wear and tire/wheel damage as detailed below. Having tread depth above the legal limit does not determine the service life of a tire. Tires must be properly maintained and routinely inspected for continued safe and proper use — even when tread depth remains. Tires may need to be taken out of service even when tread depth above the legal limit remains. Regular inspection becomes particularly important the longer a tire remains in use.

This monthly inspection should be supplemented by periodic rotation, balancing and alignment services. Inspection should occur whether or not the vehicle is equipped with a tire pressure monitoring system.

## **Recommended Maintenance Practices to Maximize Tire Service Life**

### **Good maintenance practices include the following:**

- Consumers should check tire pressure regularly (at least monthly, and before all long trips) and re-inflate tires to the pressure specified on the vehicle's placard or manual. Pressure should be checked when tires are "cold"; in other words, before they have been driven. Driving, even for a short distance, causes tires to heat up and air pressure to increase. If the consumer notes regular loss of tire pressure, the consumer should have the tire(s) immediately inspected by a tire service professional. Routine tire pressure checks and re-inflation of tires to placard pressure must be made — even if the vehicle is equipped with a tire pressure monitoring system.
- Consumers should inspect their tires for cuts, cracks, splits, irregular wear, vibrations, or bulges in the tread and sidewall areas. These conditions may indicate a separation within the tire body. If any of these abnormal conditions are observed or suspected, the consumer should have the tire immediately inspected by a tire service professional. It may be necessary to remove the tire from the wheel for a complete inspection. Cooper recommends that the consumer arrange for this inspection whenever the tires are scheduled to be rotated.
- After striking or impacting anything unusual in the roadway, a tire service professional should demount the tire and conduct a visual and tactile inspection of the tire for damage. This is necessary because a tire may not have visible signs of damage on its outer surface.
- Tires should be inspected for adequate tread depth. When the tire is worn to the level of the built-in indicators at 2/32nd inch (1.6 millimeters); or, if at any location on the tire the tread groove depth is less than 2/32nd inch; or, if the tire cord, steel or fabric is exposed, the tire is dangerously worn and must be replaced immediately.
- Tires should be inspected for uneven wear. Wear on one side of the tread or flat spots in the tread may indicate a problem with the tire or vehicle. Consult with a tire service professional.
- Rims, valves, valve stems, valve caps and lug nuts should also be inspected regularly. Bent or cracked valve stems or rims, or missing lug nuts or valve caps must be replaced.
- The spare tire should be maintained and inspected in the same manner and with the same frequency as all other tires on the vehicle.

### **Storage, Rotation, and Other Conditions That May Affect Tire Service Life**

Tires should always be stored in a dry, cool, well-ventilated place. Avoid storing tires in areas that are exposed to wetness, petroleum or petroleum-based products, extreme temperatures, direct sunlight, and/or other sources of ozone, such as electric motors. Storage areas should also be clean and free of grease, gasoline or any corrosive chemicals which can deteriorate rubber.

If a vehicle is fitted with a matching full-size spare tire the consumer should follow the vehicle manufacturer's recommendation for rotating the spare tire. In the absence of a manufacturer's recommendation, Cooper recommends a five tire rotation, including the spare tire. When any spare tire is placed into service, its inflation pressure must be checked.

Besides monthly inspection of their tires' visual condition, consumers must also be aware of any change in dynamic performance such as increased air loss, noise or vibration. These conditions could be caused by internal damage to the tire and may require that the tire be removed from service immediately to prevent a tire disablement. Cooper recommends that consumers consult a tire service professional if any dynamic performance issues are noted.

### **Additional Information**

Tire care and service manuals and DOT code information are available from the Rubber Manufacturers' Association (RMA) on its website, [www.rma.org](http://www.rma.org); and, additional tire care information and safety information are available on Cooper Tire's website at [www.Coopertire.com](http://www.Coopertire.com).

You can order additional copies of this Service Bulletin through the Consumer Relations Department, Cooper Tire & Rubber Company, Findlay, Ohio 45840 or call 1-800-854-6288. If you wholesale tires to other dealers (sub-dealers), each should receive a copy of this Service Bulletin.