

MODERN TYRE SERVICE

TYRE TIPS

Safe Tyres Are Vital!

Tyres are the vehicle's only point of contact with the road. The actual area of contact between the car and the road through the tyres is small, roughly equivalent to four size eight men's shoes. Bald tyres - 'slicks' - may be fine for a race car on a dry track, but no good at all for road vehicles on a wet road surface. Tyres treads are designed to pump water from the road surface and provide maximum grip. By the time the tread is worn down to the legal limit they will be unable to perform this task efficiently and **MUST** be replaced.

Modern Tyre Service recommends that worn tyres are replaced with an equivalent new unit well before the legal minimum tread limit of 1.6mm is reached - ideally as soon as they reach **3mm**.

The Right Tyres for the Vehicle

Motor vehicle manufacturers choose the type, make, size, profile, load carrying capacities and speed ratings to match their vehicles, adjusting the tyre pressures to give the optimum grip, ride and handling characteristics. Only change the type of tyres on your vehicle on expert advice from the vehicle manufacturer, or tyre manufacturer.

Tyre Maintenance

Tread depth

Pay special attention to the amount of tread remaining on your tyres, and measure them regularly (details of minimum legal tread depths are given below). Always replace tyres before they reach the legal limit.

Pressures

The vehicle's handbook provides guidance about how to look after your tyres. It will also contain information about vehicle loading and the required adjustments to tyre pressures which should be followed for safety. Tyre pressures should always be checked and corrected (if necessary) when they are cold. It is vital that tyre pressures are maintained at the levels recommended by the manufacturer to ensure maximum tyre life, safety, the best ride and handling characteristics.

Over or under-inflating tyres are likely to seriously impair their performance and may prejudice the safe use of the vehicle. Over-inflation increases overall tyre diameter, decreases the amount of tread in contact with the road, decreases sidewall flexibility and affects road-adhesion. Under-inflation decreases overall tyre diameter, increases sidewall flexion, generates higher tyre operating temperatures and difficult vehicle handling characteristics. Running an under-inflated tyre may cause premature tyre failure. Both over and under-inflation adversely affect tyre life.

Cleaning treads

Keep tyre treads clean of stones and other foreign bodies, and check regularly for damage to the tread and side-walls. It is vitally important that any damage is checked out by a tyre expert and any necessary repairs or replacements are carried out immediately.

Tyre valves

Check tyre valves carefully. Ensure the caps are in place and that there is no evidence of cracking or damage to the valve stem.

Tyre Aging

Rubber compounds used in tyres contain anti-oxidising chemicals that help to slow down the natural aging process of untreated rubber. However, tyres do deteriorate with age, which increases the risk of tyre failure, and there are many ways in which this can be spotted:

- Cracking/crazing on the side wall of the tyre, caused by its flexing
- Distortion of tyre tread
- Deformation of the carcass of the tyre

There will also be a deterioration of the ride quality caused by vibrations through the tyre. This may signify the tyre's performance has been affected by age and should be investigated as soon as possible.

All tyres that display signs of aging should be removed and not put to further use.

Tyres that have been in storage should not be placed into use if they are over 6 years old, from their date of manufacture. When a tyre has been in use, the effects of aging are lessened to a degree, but such tyres should be replaced after 10 years.

The effects of aging can be brought about prematurely in several conditions. Tyres fitted as spare wheels or used on caravans and trailers may age prematurely. If tyres on caravans or trailers are not in regular use, then they should be inspected before every journey. Tyres used predominantly in coastal areas will age at a greater rate due to the saline conditions, and several cleaning products may also harm the chemicals in the rubber.

In most circumstances tread depth can be used as a suitable indication of when tyres should be replaced - as tyre treads generally wear out before their age affects their performance. However, the age of a tyre will affect its safety and increase the risk of failure, and you should inspect tyres for the signs of aging regularly.

The Tyre Law

Tyre pressures

Tyre pressures should be maintained at or within a very close tolerance of the recommended pressures.

Tyre tread depth and damage

When tyres become worn or damaged they must be replaced. There must, by law, be at least 1.6mm of tread depth across the centre 3/4 of the width of the tread throughout the entire circumference of the tyre. There must be no damage to the tyre body - sidewalls or tread, no bulges or cuts.

Tyre types

It is illegal to mix tyres of a different construction (cross-ply; bias belted or radial) on the same axle. Cross-ply and bias-belted tyres are seldom used on production cars, and are not widely available in the UK. Cross-ply and radial tyres should never be mixed on the same vehicle. Where a mix is necessary, radial tyres **MUST** only ever be used on the rear axle and cross-ply tyres on the front. This mix of tyres will produce 'understeer' whereas the opposite will produce 'oversteer'. (Oversteer refers to the car turning more tightly into a corner than it is steered; understeer indicates that the vehicle turns at less of an angle than it is steered). Of the two conditions, understeer is generally accepted to be easier to control.

Part-Worn Tyres

What are part-worn tyres?

'Part-worn' tyres are those which have been used previously - in other words they are 'second-hand'. Most part-worn tyres are imported, mainly coming from continental Europe.

What are the potential problems with part-worn tyres?

Part-worn tyres are usually sold with about 50 per cent or less of their original tread remaining (legal minimum is 2mm) and may have a few thousand miles more motoring in them. However, despite their remaining tread, it must be appreciated part-worn tyres are nevertheless **USED TYRES**. As such their purchase and use should be treated with a degree of healthy skepticism. In many cases, such tyres will be perfectly sound. However, it is possible that they have been bumped up and down kerbs and over other obstacles. They may have been run over or under-inflated, and may have sustained irreparable and invisible damage to their structure.

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The cost of part-worn tyres reflects their second-hand state and this no doubt contributes to their attraction to motorists. The purchase and use of part-worn, instead of new, tyres may enable some owners to afford to keep their vehicles on the road. The tyre industry continues to express concern about the sale and use of part worn tyres. However, it is important to consider the issue objectively and make a reasonable judgment about the real risks of using such tyres.

Before purchasing part-worn tyres always ask to see them inflated before they are fitted to the vehicle and check for any lumps or bulges. Part worn tyres should also be checked for signs of tyre aging as described elsewhere in this fact sheet. If they show signs of aging then you should not purchase them.

Retreaded Tyres

What is a retreaded tyre?

A retreaded tyre – also known as a remould – is made from a used tyre. Old tyres which are not sound should never be used as components for retread tyres. The essential building block for a retreaded tyre is a used tyre whose tread is worn-out but whose carcass (basic structure) is sound. Retreading involves stripping away both the remaining tread and sidewall of the used tyre. The final part of the process moulds new rubber to the old carcass.

What standards govern the production of retreaded tyres?

In the past, retread tyres have been manufactured in accordance with BS AU 44e. However, this standard did not specify a type approval test for retreaded tyres, which would guarantee a standard tyre quality.

On 1st January in 2004, ECE Regulations 108 and 109 came into effect, making it mandatory for retreaded tyres to be subject to a type approval test. This ensures that retread manufacturers must meet a specified basic standard in terms of the tyres' suitability for retreading prior to the process, and their performance after it. It is now illegal to sell retreaded tyres that do not have the "e" mark.

Are there any problems with retreaded tyres?

In the majority of cases, retreaded tyres perform satisfactorily provided the manufacturer's guidance about maximum vehicle loadings and maximum speeds is followed. Like all tyres; overloading, sustained high speeds, and under or over-inflation all contribute to increased tyre wear and/or premature failure.

Never buy a retreaded tyre without the "e" mark.