



And Your Safety

Car Tyres

Tyres are the only parts of the car which are in contact with the road. Safety in acceleration, braking, steering and cornering all depend on a relatively small area of road contact. It is therefore of paramount importance that tyres should be maintained in good condition at all times and that when the time comes to change them the correct replacements are fitted.

The original tyres for a car are determined by joint consultation between the car and tyre manufacturers and take into account all aspects of operation. It is recommended that changes in tyre size or type should not be undertaken without seeking advice from the car or tyre manufacturers, as the effect on car handling, safety and clearances must be taken into account.

In some other European countries it is illegal to use replacements which differ in certain respects (e.g. size, load, and speed rating) from the tyre fitted originally by the vehicle manufacturer.



Car Tyres and Your Safety

TYPES OF TYRE

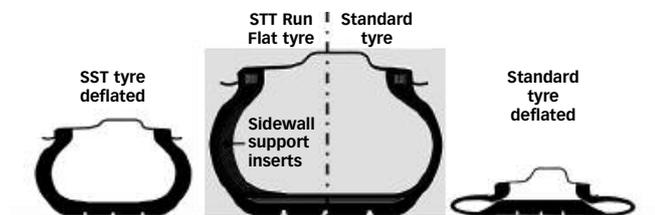
Radial ply tyres are now the most common tyres in use on British roads representing more than 90%. Some radial ply tyres now have a run flat capability known as Self Supporting Run Flat (SST) tyres which are becoming more common particularly when fitted as an original equipment. Older diagonal (cross-) ply tyres are now very rarely seen and have effectively been replaced by radial ply tyres.

Radial ply tyres may be either steel or textile braced and are identified in the size marking by the letter "R" and often the word "Radial".



Self Supporting Run Flat (SST) tyres are designed to provide a limited run on period following a puncture. These are identified by the letters "RF" in the size marking. To be categorised as a run flat tyre, the minimum distance they must achieve in a run flat condition is 50 miles (80 km) at a maximum speed of 50 mph (80 km/h) and at a minimum of 80% of their maximum load capacity.

It is essential the vehicle is equipped with a tyre pressure monitoring system to enable use of run flat tyres.



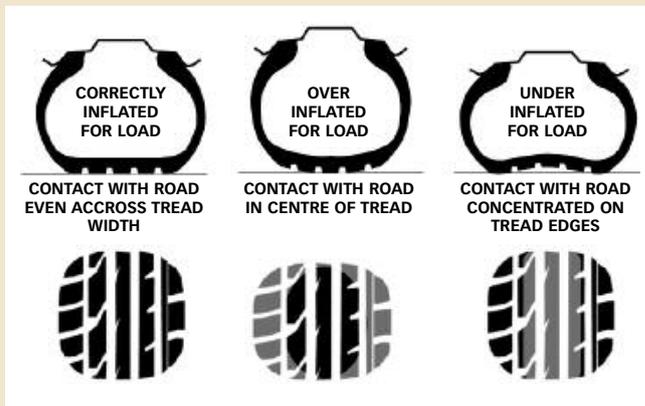
DO NOT MIX TYRE TYPES

Except in the case of temporary use spare tyres supplied as original equipment, it is illegal in the United Kingdom and dangerous to mix tyres of different types on the same axle. It is also advised that the same tyre type is fitted to all wheel positions.

KEEP THE PRESSURE CORRECT

Recommended tyre inflation pressures for your vehicle can be found in the vehicle handbook and/or on a placard

mounted on the vehicle. In the absence of either of these consult the tyre manufacturer. Correct pressures are related to loads, speeds and vehicle handling and are vital for maximum safety, braking, grip and good tyre life.



Prolonged under-inflation causes excessive flexing, deterioration of the casing and rapid wear of the tread shoulders. The vehicle will also consume more fuel.

Over-inflation results in an uncomfortable ride, a reduced area of contact with the road, accelerated wear on the tread centre and makes the tyre more susceptible to impact damage.

Inflation pressure should be checked at least every two weeks and only when the tyre is cold, since there is an increase in pressure when the tyre has warmed up after being run.

A reliable and accurate pressure gauge should be used.

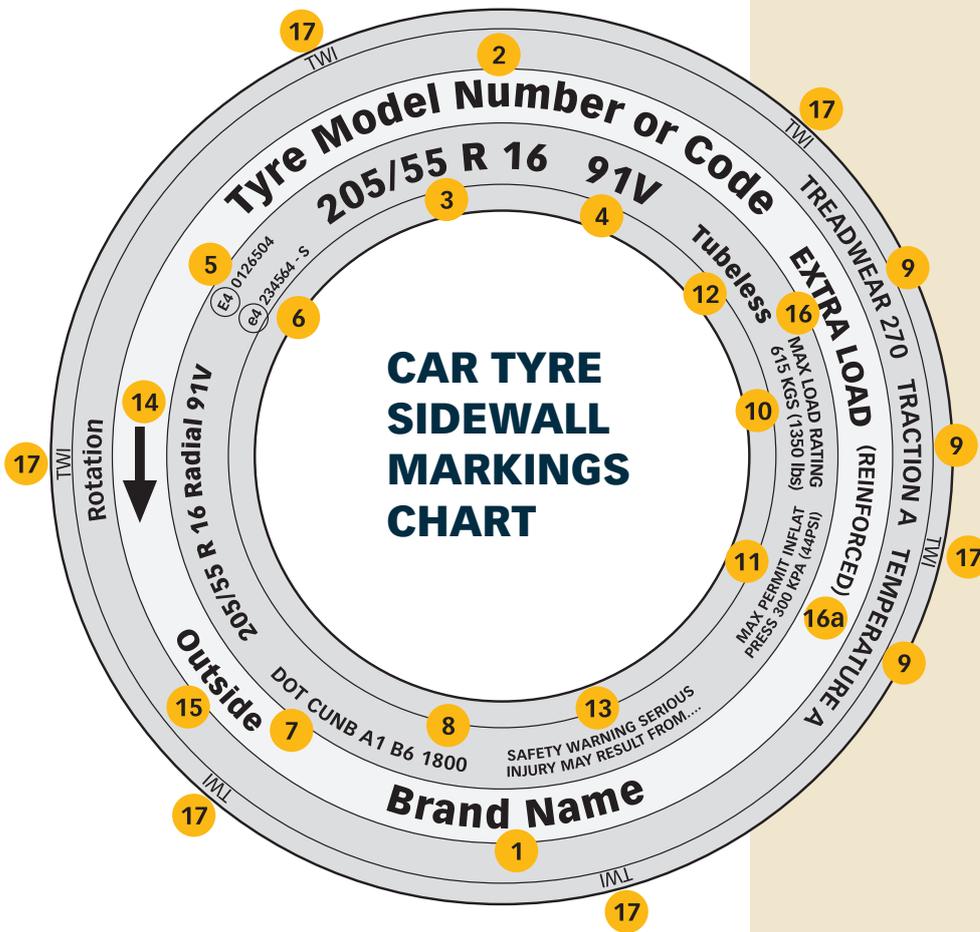
INSPECTION AND MAINTENANCE

Examine your tyres regularly, removing stones and other objects embedded in the tread. If the tyre has lumps or bulges it must be examined by a tyre specialist since these could indicate internal damage. Wipe away oil or grease with a suitable diluted detergent.

WATCH YOUR TREAD

Tyre treads are designed to give good grip on wet roads, but in general wet grip decreases as tyre tread pattern wears down or as the depth of water increases. Motorists should take this into consideration and reduce speed when it is wet.

The legal minimum tread depth in the UK is 1.6mm throughout a continuous band comprising the central three-quarters of the breadth of tread and round the entire outer circumference of the tyre. However tyre wet grip deteriorates more rapidly in the second half of its tread life and wet stopping distances can dramatically lengthen. It is therefore advisable consideration is given to replacing tyres well before they reach the legal minimum.



- 1 Manufacturer's name or Brand name
- 2 Model or Pattern Code
- 3 Tyre Size, Nominal Section width(mm), Height to width aspect ratio, Rim diameter code
- 4 Service description (Load Index + Speed Symbol)
- 5 ECE R30 Conformity Approval Number
- 6 EEC Noise Approval Number
- 7 USA Dept of Transport Manufacturer's code
- 8 Date of Manufacture
- 9 USA UTQG Quality Grades **
- 10 USA Maximum Tyre Loading **
- 11 USA Maximum Tyre Inflation Pressure **
- 12 Denotes Tubeless Construction
- 13 Safety Warning
- 14 Direction of Rotation [Directional Tyres only]
- 15 Outer (Inner) sidewall [Asymmetric Tyres Only]
- 16 Extra Load : Denotes higher load capacity than standard tyre.
- 16a "Reinforced" is an alternative marking to "Extra Load"
- 17 TWI-tread wear indicators- raised areas at the base of the tread grooves to serve as a visual warning of when the tyre is approaching or at the minimum legal limit.

** These markings are required by North American legislation and have no significance in the UK & Europe

CARAVANS AND CAR TRAILERS

Caravan and car trailer tyres may be radial or on older vehicles diagonal (cross-) ply construction irrespective of what type is fitted to the towing vehicle. Both tyres on a caravan or trailer axle must be of the same size and type. Caravan and trailer tyres often require higher inflation pressures than are required for the same tyres on a car. It is essential correct tyre pressures be determined and maintained.

When towing in the absence of any recommendation in the vehicle handbook, increase the towing vehicle's rear tyre pressures by 4 to 6 psi (0.3 to 0.4 bar) to improve stability of the complete unit.

TEMPORARY USE SPARE TYRES

Temporary use spare tyres are frequently a different size to the standard road tyres. Severe operating restrictions apply. Failure to observe the advice given in the vehicle handbook and/or on the tyre sidewall could have very serious consequences.

Do not exceed 50 mph when using a temporary use spare tyre and observe the minimum inflation pressure.

VALVES

A new valve should be fitted when replacing tubeless tyres. When checking or adjusting inflation pressure, always ensure the valve is not leaking. A new cap of the sealing type should be fitted.

TYRE REPAIRS

Repairs to car tyres must only be carried out by a tyre specialist and in accordance with the current British Standard AU159.

Permanent repairs can only be carried out following removal of the tyre from the wheel to allow a thorough inspection internally as well as externally to ensure there is no hidden damage which could result in a catastrophic failure.

To avoid such a hazard, neither externally applied plug repairs, nor liquid sealants may be considered as a permanent repair. Tyre manufacturers cannot be held responsible for problems resulting from their use.

For repairs to self supporting run flat tyres, consult the relevant tyre manufacturer.

WHEELS AND RIMS

It is essential the wheel size is an approved fitment for the tyre and vehicle concerned. Tyres must not be used on damaged, distorted or modified wheels since this could result in tyre damage, deflation and possible loss of control of the vehicle.

REMOVAL AND FITTING OF TYRES

These operations should only be entrusted to a trained tyre specialist who has the necessary equipment and expertise. Inexpert fitting can result in injury and damage to tyres and wheels. Wheels should be balanced after tyres are fitted or replaced.

TYRE 'LOAD' AND 'SPEED' MARKINGS With few exceptions, tyres new or retreaded are required by law to carry indications of the tyre's load carrying and speed capabilities e.g. 205/55R16 91V. These are moulded on the sidewall as a service description comprising a Load Index (e.g. '91' in table 1) for load carrying capacity and a Speed Symbol (e.g. 'V' in table 2) for speed capability. It is strongly recommended to always fit tyres that have a speed capability and load index at least equal to or higher than those originally specified by the vehicle manufacturer.

TABLE 1: LOAD INDICES AND RELATED MAXIMUM LOADS

Load Index	Load KG								
50	190	65	290	80	450	95	690	110	1060
51	195	66	300	81	462	96	710	111	1090
52	200	67	307	82	475	97	730	112	1120
53	206	68	315	83	487	98	750	113	1150
54	212	69	325	84	500	99	775	114	1180
55	218	70	335	85	515	100	800	115	1215
56	224	71	345	86	530	101	825	116	1250
57	230	72	355	87	545	102	850	117	1285
58	236	73	365	88	560	103	875	118	1320
59	243	74	375	89	580	104	900	119	1360
60	250	75	387	90	600	105	925	120	1400
61	257	76	400	91	615	106	950	121	1450
62	265	77	412	92	630	107	975	122	1500
63	272	78	425	93	650	108	1000	123	1550
64	280	79	437	94	670	109	1030	124	1600

TABLE 2: TYRE SPEED SYMBOL MARKING

Speed Symbol	Maximum vehicle speed for which tyre is suitable	
M	81 mph	130 km/h
P	93 mph	150 km/h
Q	99 mph	160 km/h
R	106 mph	170 km/h
S	112 mph	180 km/h
T	118 mph	190 km/h
H	130 mph	210 km/h
V	150 mph	240 km/h
W	169 mph	270 km/h
Y	187 mph	300 km/h
ZR	over 150 mph	over 240 km/h

GENERAL INFORMATION

Driving over pot-holes, kerbs, speed humps etc even at low speed can result in the weakening or fracture of the tyre's structure. It is dangerous to re-inflate a tyre which has been run flat or seriously under inflated and such tyres should be removed for complete examination by a tyre specialist.

Tyre manufacturers cannot be held responsible for problems arising from modifications to their products, or the use of sealants which they have not approved.

TYRE SERVICE LIFE AND AGEING

The tyre industry has long recognised the consumer's role in the regular care and maintenance of their tyres. The point at which a tyre is replaced is a decision for which the owner of the tyre is responsible. The tyre owner should consider factors to include service conditions, maintenance history, storage conditions, visual inspections, and dynamic performance. The consumer should consult a tyre service professional with any questions about tyre service life. The following information and recommendations are made to aid in assessing the point of maximum service life.

Tyres are designed and built to provide many thousands of miles of excellent service. For maximum benefit, tyres must be maintained properly to avoid tyre damage and abuse that may result in tyre disablement. The service life of a tyre is a cumulative function of the storage, stowing, rotation and service conditions, which a tyre is subjected to throughout its life (load, speed, inflation pressure, road hazard injury, etc.). Since service conditions vary widely, accurately

predicting the service life of any specific tyre in chronological time is not possible.

Tyres should be removed from service for numerous reasons, including tread worn down to minimum depth, damage or abuse (punctures, cuts, impacts, cracks, bulges, under inflation, overloading, etc). For these reasons tyres, including spares, must be inspected routinely, i.e., at least once a month. This routine inspection should occur whether or not the vehicle is equipped with a tyre pressure monitoring system (TPMS). Regular inspection becomes particularly important the longer a tyre is kept in service. If tyre damage is suspected or found, it is recommended that the consumer has the tyre inspected by a tyre service professional. Consumers should use this consultation to determine if the tyres can continue in service. It is recommended that spare tyres be inspected at the same time.

Consumers are strongly encouraged to be aware of their tyres' visual condition, such as cracking/crazing of the tread/sidewall rubber. Also, they should be alert for any change in dynamic performance such as increased air loss, noise or vibration. Such changes could be an indicator that one or more of the tyres should be immediately removed from service to prevent a tyre disablement. Also, the consumer should be the first to recognize a severe in-service impact to a tyre and to ensure that the tyre is inspected immediately thereafter.

Tyre storage, stowage and rotation are also important to the service life of the tyre.

There is no known technical data that supports a specific tyre age for removal from service. However, in the interests of safety it is recommended that all tyres (including spare tyres) that were manufactured more than ten (10) years previous be replaced with new tyres, even when tyres appear to be usable from their external appearance and if the tread depth may have not reached the minimum wear out depth. Vehicle manufacturers may recommend a different chronological age at which a tyre should be replaced based on their understanding of the specific vehicle application; it is recommended that any such instruction be followed. Consumers should note that most tyres would have to be removed for tread wear-out or other causes before any proscribed removal period. A stated removal period in no way reduces the consumer's responsibility to replace tyres as needed.

The chronological age of any tyre can be found on the tyre sidewall by examining the characters following the symbol "DOT".

For tyres manufactured after the year 1999, the last four numbers identify the date of manufacture of the tyre to the nearest week. The first two of these four numbers identify the week of manufacture (which range from "01" to "52"). The last two numbers identify the year of manufacture (e.g., a tyre with the information "DOT XXXXXX2703" was manufactured in the 27th week of 2003).

For tyres manufactured prior to the year 2000, three numbers instead of four indicate the date of manufacture. Also, during the early 1990's, a triangle was added (◄) to the end of the character string to distinguish a tyre built in the 1990's from previous decades (e.g., a tyre with the information "DOT XXXXXX274◄" was manufactured in the 27th week of 1994).

DIRECTIONAL AND ASYMMETRIC PATTERNED TYRES

Some tyres have patterns where their direction of rotation is important to achieve their full performance. These are known as 'Directional' pattern tyres and the direction of rotation is marked on the tyre's sidewall.

Additionally some tyres have patterns which are different on the inner half of the tread than compared to the outer half. These tyres, known as 'Asymmetric', have their sidewalls marked 'Outside' and/or 'Inside' or similar wording.

It is important with both these tyre types to observe the fitting markings on the tyre sidewall.



Look after your tyres and they'll look after you **TyreSafe**