



# PART WORN TYRES



**TyreSafe<sup>®</sup>**

**SAFE TYRES SAVE LIVES** [tyresafe.org](https://www.tyresafe.org)





# Part Worn Tyres and Your Safety

## Part Worn Tyres

As the only part of a vehicle in contact with the road surface, tyres play a critical role in road safety. When replacing your tyres, TyreSafe strongly recommends the fitting of new tyres. However, subject to them meeting a number of regulations, the sale of part worn tyres is legal. Part worn tyres that do not meet these legal requirements can pose a serious safety risk to the driver, passengers and other road users. Whether a part worn tyre is fit to be returned to the road or not, motorists should also be aware that while the price might be lower than for a new tyre, its shorter life-span can often mean it is a false economy.

Tyres are complex engineered products so it is not just their outer visual condition that affects road

safety. Running tyres under-inflated or even hitting a kerb or pothole can cause serious damage to internal components. As part worn tyres are not required to be examined by x-ray for internal structural defects before their sale, it can be impossible to determine if any internal damage exists and that the safety of the tyre has been compromised.

This document is only intended to be a guide to part worn tyres and their inspection. A tyre consultant should be commissioned for formal investigation. Please contact **[theteam@tyresafe.org](mailto:theteam@tyresafe.org)** for details. If you have been supplied a part worn tyre that you believe does not comply with existing legislation, please contact your local Trading Standards office. Details of your nearest office can be found by searching on the **[gov.uk](https://www.gov.uk)** website.

## Investigations with Trading Standards

During five years **94% of the 220 part worn dealers investigated by TyreSafe in partnership with Trading Standards were found to be supplying tyres illegally.** Equally concerning, **65% of the 441 tyres inspected were found to be unsafe to return to the road network.**

As far as TyreSafe is aware, there is no other retail sector with such an

atrocious track record, especially one selling safety critical components. When tyres are driven in an unroadworthy condition, a vehicle's braking and steering are compromised, and road users are put at significant risk of a catastrophic tyre failure.

All part worns are required to be thoroughly inspected internally and externally before sale - in reality, far too many have not been checked **AT ALL.**

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## The 'part worn' mark; no part worn tyre should be supplied without one

To comply with legislation, a **'PART WORN'** mark in **UPPER CASE** letters, at least 4mm high, must be permanently and legibly applied to the tyre, other than by hot branding or otherwise cutting into the tyre. The part worn mark should be immediately adjacent to every approval mark (E/e mark) on the tyre.

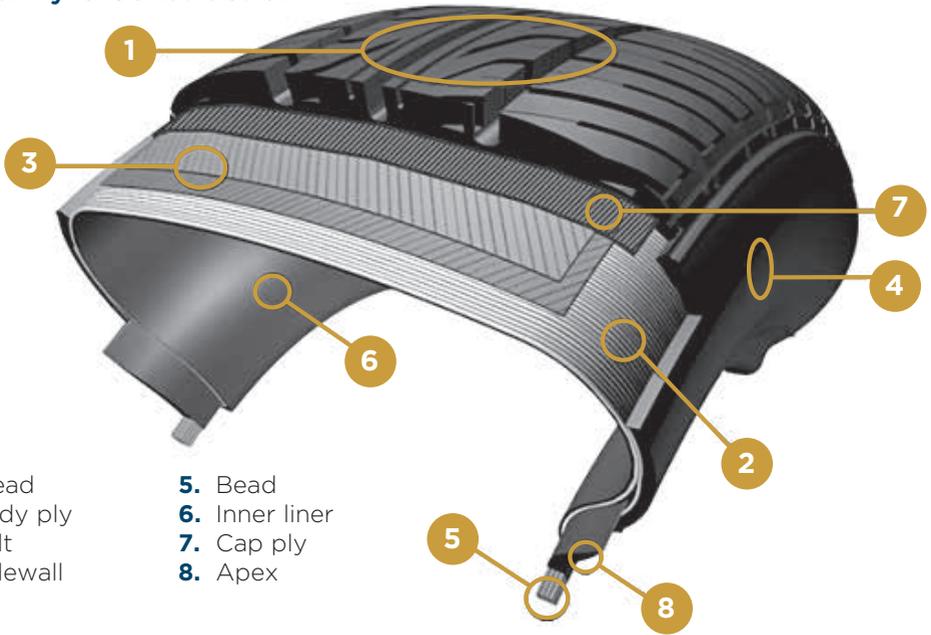


*PART WORN MARKING CORRECT*

*THE TYRES BELOW ARE ALL INCORRECTLY MARKED*



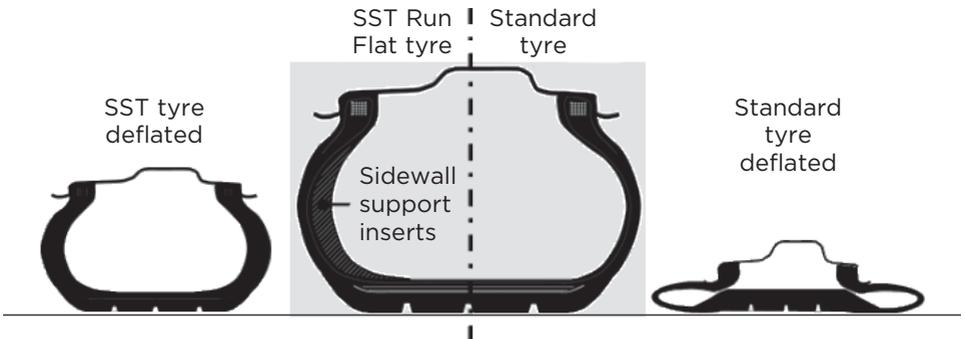
## Radial Tyre Construction



- |             |                |
|-------------|----------------|
| 1. Tread    | 5. Bead        |
| 2. Body ply | 6. Inner liner |
| 3. Belt     | 7. Cap ply     |
| 4. Sidewall | 8. Apex        |

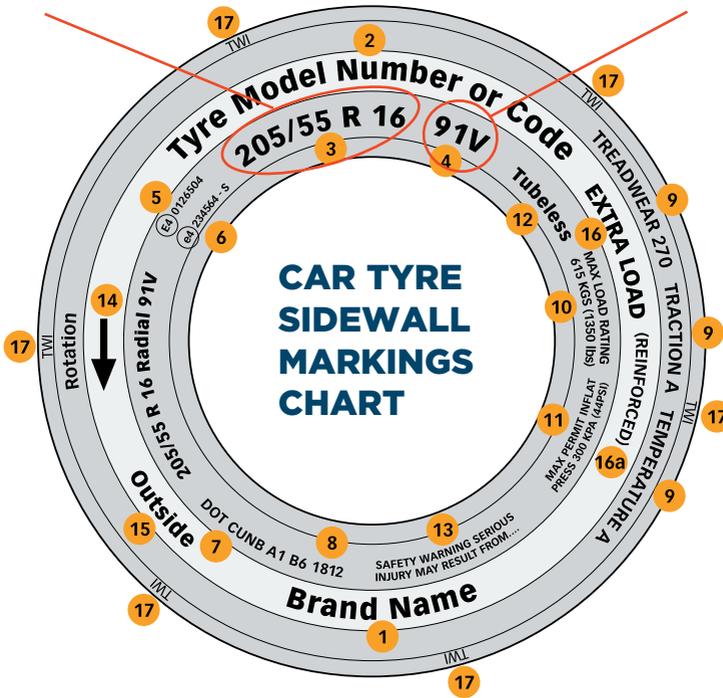
Tyre selection should be made very carefully, as tyre choice has a considerable bearing on a vehicle's handling. It is recommended to have tyres of the same make and type across an axle, and ideally on all wheel positions - especially on 4 wheel drive vehicles. Your tyres should comply with the vehicle manufacturer's specifications, and changes from these specifications should not be undertaken without seeking the advice of the vehicle or tyre manufacturer.

Some tyres, known as Self Supporting Run Flat Tyres (SSTs), are designed to provide a limited run on period following a puncture. It is strongly recommended not to mix conventional and run flat tyres on a vehicle, and retro-fitting run flat tyres may mean other modifications to the vehicle are necessary. Therefore, be aware that part worn run flat tyres should not be accidentally fitted to a vehicle that was designed for conventional tyres.



Tyre Size Marking

Load Index & Speed Symbol



- |  |   |
|--|---|
| <b>1</b> Manufacturer's name or Brand name   | <b>13</b> Safety Warning  |
| <b>2</b> Model or Pattern Code   | <b>14</b> Direction of Rotation<br>[Directional Tyres only]   |
| <b>3</b> Tyre Size, Nominal Section width(mm),<br>Height to width aspect ratio, Rim<br>diameter code | <b>15</b> Outer (Inner) sidewall<br>[Asymmetric Tyres Only]   |
| <b>4</b> Service Description (Load Index + Speed<br>Symbol)  | <b>16</b> Extra Load: Denotes higher load capacity<br>than standard tyre  |
| <b>5</b> ECE R30 Conformity Approval Number  | <b>16a</b> "Reinforced" is an alternative marking<br>to "Extra Load"  |
| <b>6</b> EEC Noise Approval Number   | <b>17</b> TWI-Tread Wear Indicators- raised areas<br>at the base of the tread grooves to<br>serve as a visual warning of when the<br>tyre is approaching or at the minimum<br>legal limit |
| <b>7</b> USA Dept. of Transport Manufacturer's<br>code   |   |
| <b>8</b> Date of Manufacture (e.g. week 18 of 2012)  |   |
| <b>9</b> USA UTQG Quality Grades**   |   |
| <b>10</b> USA Maximum Tyre Loading**   |   |
| <b>11</b> USA Maximum Tyre Inflation Pressure**  |   |
| <b>12</b> Denotes Tubeless Construction  |   |

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

## The Law

Under The Motor Vehicle Tyres (Safety) Regulations 1994 (reg.7.), part of the Consumer Protection Act, it is an offence for anyone to supply part worn tyres that do not meet the following principal requirements:

1. The structural integrity must not be compromised. It should be free of large cuts, unrepaired penetration damage, any bulges or lumps both internally and externally. No plies or cords should be exposed.
2. When inflated to the highest pressure at which it is designed to operate, the tyre must not exhibit any of the above external defects.
3. The grooves of the original tread pattern of the tyre must be of a depth of at least 2mm across the full breadth of tread and round the entire circumference.
4. Part worn tyres which have not been retreaded must clearly show an approval mark (E/e mark) alongside which **'PART WORN'** must be permanently and legibly applied in letters at least 4mm high. These words cannot be hot branded or cut into the tyre.
5. Part-worn tyres that have been retreaded must have one of the following:

BS AU 144b, 144c, 144d, or 144e markings on the side wall (if first supplied as a retread on or before 31 December 2003 an ECE approval mark (if first supplied as a retread on or after 1 January 2004) a permanent mark to identify the original model and manufacturer, the word **'RETREAD'** moulded onto or into its sidewall (in upper case letters at least 4mm high) and further markings in accordance with

ECE rules. The indication **'PART WORN'** must also appear next to the BS or ECE approval mark, or next to the word **'RETREAD'** For tyres marked BS AU 144e, a speed category symbol and load capacity marking should be present. These words cannot be hot branded or cut into the tyre. Retreaded tyres must also show speed category and load capacity index marks in accordance with BS AU 144e 1998.

6. Any repair to a part worn tyre must have been properly carried out and meet the requirements of BS AU 159.

A tyre has to comply with all these requirements whether or not it is fitted to a rim. Never buy a part worn which does not have **'PART WORN'** permanently stamped on the tyre; this marking is a legal requirement to prove it has been examined and is safe to use.

## Cost Of Non-Compliance with The Law

A recent case where a retailer was found to be retailing part worn tyres illegally and supplying unsafe examples to motorists resulted in a fine of £1,600 for each of the three offences, two relating to the tyre safety and one for being a retail 'distributor' without keeping the appropriate records. He was also ordered to pay full prosecution costs of £2,325, resulting in a final bill of over £7,000.

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**TyreSafe recommends  
buying new tyres.**

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## Cost and Value

Many drivers buying part worn tyres do so in the belief that they offer better value for money when compared with new tyres. However, this isn't necessarily so and buyers should consider the cost per mm of usable tyre, rather than just the initial purchase price.

New tyres are normally sold with around 8mm of tread depth, whereas part worn tyres may have as little as 2mm of tread. With a legal minimum tread depth of 1.6mm in the UK, the cost per mm of usable tread of part

worn tyres can be considerably more than that of a new tyre. Equally, part worn tyres will need to be replaced much sooner than a new tyre meaning further expenditure will be required.

As you have to change your tyres more regularly, there is also significantly more inconvenience. Drivers should remember that not only is it dangerous and unsafe to drive on tyres with less than 1.6mm of tread but it is also against the law and can result in fines of up to £2,500 and 3 penalty points per tyre.

## How To Inspect A Tyre

Whether you're a Trading Standards officer or a member of the public, it's important that you know how to inspect a tyre and understand what you're looking at and what you're looking for.

### Markings

- Check for approval marks (E/e marks), **'PART WORN'** markings, Load Index/Speed Symbol etc
- Check the tyre size, load index/speed symbol are correct for the vehicle



### Tyre Age

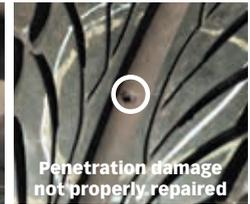
The manufacturing date code is on the tyre sidewall:

- Pre year 2000, e.g. week 08 of 1992
- Post year 2000, e.g. week 45 of 2010



### Tread

- Tread depth at least 2mm
- No deep cuts, exposed cords or unrepaired penetration damage
- Check any repairs. No excessive age-related cracking. No distortion



### Sidewalls

- Check for deep cuts, exposed cords
- No repairs, no excessive age-related cracking
- No bulges, (which may only be apparent when inflated)



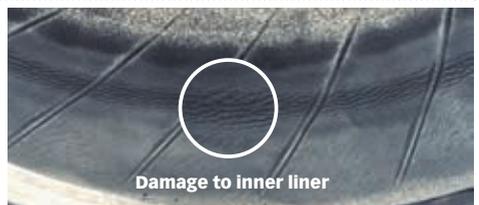
### Beads

- No cuts, no fitting damage
- No exposed casing cords or bead wire



### Interior

- Carefully examine the entire inner chamber
- No creasing on the inner sidewalls, no exposed plies
- Check for repairs....



## Part Worn Tyre Repairs

Remember, part worn tyres have often been repaired so it's important to check the repairs too:

- Prior to repair, the tyre must be removed from the wheel and thoroughly inspected internally and externally to determine suitability for repair
- Any repairs should have been done properly & comply with BS AU 159

- Minor repairs to penetration damage are only allowed in area "T" as specified by BS AU 159



The examples below of repairs not complying with BS AU 159, mean that, as well as being unsafe, it would be illegal to supply these as part worn tyres.

**All of the tyres below were on sale to unsuspecting buyers and discovered by TyreSafe's experts during joint investigations with Trading Standards.**



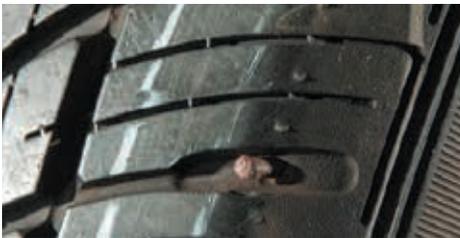
### Unsafe Repair as seen on BBC's Fake Britain.

As well as a bad shoulder repair, this tyre also had run flat damage and severe age-related cracking, making it very unsafe.



### Unsafe Repair

This oily patch is peeling off. A deflation would result with potentially dangerous consequences.



### Unsafe Shoulder Repair

Repairs such as this should not be carried out in the tyre's shoulder area.



### Cracking

Cracking can pose a safety risk, even if it's not as extreme as this.



## Keep The Pressure Correct

Correct inflation pressure is vital for optimum braking and cornering performance and to maximise tyre service life. However, more than half of the tyres on the UK's roads are being driven under-inflated. Inevitably, some of these tyres will be resold as part worn even though they are likely to have some form of damage. Recommended tyre inflation pressures for your vehicle under different operating conditions can be found in the vehicle handbook and/or on a placard mounted on the vehicle. In the absence of these sources of information you should consult the vehicle dealer or manufacturer.

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 contact area with the road and accelerated wear on the tread centre. It also makes the tyre more susceptible to impact damage.

Tyre inflation pressure should be checked at least once a month and before any long journey using an accurate pressure gauge regardless of whether the vehicle is fitted with a Tyre Pressure Monitoring System.

Pressure should be checked when the tyre is cold, since there is an increase in pressure when the tyre has warmed up after being run.



**CORRECTLY  
INFLATED  
FOR LOAD**

**CONTACT WITH ROAD  
EVEN ACROSS TREAD  
WIDTH**



**OVER  
INFLATED  
FOR LOAD**

**CONTACT WITH ROAD  
IN CENTRE OF TREAD**



**UNDER  
INFLATED  
FOR LOAD**

**CONTACT WITH ROAD  
CONCENTRATED ON  
TREAD EDGES**





## Safe Disposal of Old Tyres

According to both the Tyre Recovery Association and UK law, the correct processing of used tyres minimises the impact on the environment and converts them into a useful, sustainable and valuable commodity and benefits the economy. However, this is only possible if used tyres are returned to responsible retailers who abide by a strict code of conduct and practice. To avoid used tyres entering illegal waste storage sites, it is the retailers' responsibility to ensure their waste is handled by an authorised waste carrier.

## About TyreSafe

TyreSafe is the UK's charity (registration number 1168354) dedicated to raising awareness of the importance of correct tyre maintenance and the dangers of defective and illegal tyres. It delivers important safety messages through a communications programme supported by many areas of industry including tyre and car manufacturers and retailers. Since its inception in 2006, TyreSafe's activities have helped reduce the number of people killed or seriously injured each year in a tyre related accident by 47 percent.



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Charity Number: 1168354 (England and Wales)