

## TYRE TALK—Part 4

*By Gary Bexley*

There is some information written on the sidewalls of tyres that you may, or may not, know the significance of but could be of interest / help. Most important in large print and less relevant in smaller print.

**Large Print** -- the size. For most this is probably self-explanatory so just to recap, assume we have a size of 205 / 65R – 15 95H (refer photo). The “205” is the width in millimetres (mm). The “65” is the sidewall height, or ratio, of the tyre and is a percentage of the width. Therefore, for this example the height is  $205 \times 65 \% = 133 \text{ mm}$ . Or if it was 205 / 75 (4x4 tyre)  $205 \times 75 \% = 154 \text{ mm}$ . Or 205 / 50 (low profile HP tyre)  $205 \times 50 = 102 \text{ mm}$ .



Note ; some tyre sizes are in Imperial therefore the diameter and width is shown in inches and are mainly American 4x4 and not relevant to us. The “R” stands for Radial – the construction of the tyre. The “15” is the rim diameter in inches which is a bit unusual in that the rest of the vehicle (relatively new ones) are all made in metric sizing.

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Even European vehicles which have always been totally metric have imperial rim sizes. There was a move made in the 90's to change to metric rim sizes but never got established. BMW and Jaguar for example changed their 15" rims to 385 mm. dia. If I recall correctly some of the XJ6's with "pepper pot" rims had these. So, if you're considering buying one of these – check the tyre size!! If the tyres are still available they would now be really expensive. It would be more cost effective to buy a set 15" rims and new tyres.

From this info you can then calculate the overall diameter of a wheel if considering a change to your gearing. For our example then ;  $(205 \times 65\%) \times 2$  ( both sides ) +  $(15" \times 25.4)$  (mm/" ) = 647 mm dia. Or, for another example our XK8 had 245 / 50 x 17 as standard but the previous owner changed the rims to the XKR 18" size and 245 / 45 front and 255 / 45 rear. So, to compare the diameters would be;  $17" - (245 \times .5) \times 2 + (17 \times 25.4) = 677$  dia.  $18" - (245 \times .45) \times 2 + (18 \times 25.4) = 677$  dia. – the exact same and  $(255 \times .45) \times 2 + (18 \times 25.4) = 686$  dia. – plus 1.33 % larger dia. but 10 mm more rubber on the road. Interestingly the XKR specs call for 1" (25.4 mm) wider rear rim compared to the front but only 10 mm more rubber. This has the effect of squaring up / stiffening the sidewalls to take more lateral loads like drift cars.

Interestingly - the wheel diameter has been trending down since the horse and cart days at 1200 mm dia. to 800 mm for the 1920's to 1930's and even down to 10" & 12" rims in the 60's – 70's . Then as our sample 15" at 647 mm for the 1980' – 1990's ( Falcon Commodore etc. ) to 680 mm for the 2000's – 2010's years even with 20 times more horsepower . Now it's trending backup as the engineers strive to lower the rolling resistance. That's why carts had large diameter in the first place! So - nothing new.

The "95" is a code number, or load rate, for the weight that tyre is designed to carry at the specified pressure and is normally much the same across the brands. In this case it's 690 kg. For our 18" tyres it's 100 or 800 kg front and 103 or 875 kg rear. The only time you need to consider the load rate is when fitting car tyres for utes (load carrying).

The "H" is a code, or speed rate, for that tyre. In this case the "H" rate is designed to run up to 210 kph. Other common speed rates are "S" @ 180 kph , "V" @ 240 , "W" @ 270 and "Y" @ 300 kph. Again, we don't need to consider this given our miserable speed limits and are much the same across all brands size for size. To me there a no unsafe roads - just incompetent drivers.

How many times have you seen our pathetic Justice system allow recidivist drunk / reckless drivers to get behind the wheel again. Crush their cars I say.

But I digress - - next month we'll check out the small print. In the meantime, check your pressures and watch out for incompetent drivers.

*Gary*