

## Humble tyre valve cap limits costs

- Dave Scott

Success in road transport is all about attention to detail and discipline. So when walking through a parked fleet and casually observing a number of missing tyre valve caps, it's a sure-fire indicator that there are many more fleet disciplines that have been overlooked.

This is where fuel consumption also ranks low, as fleet supervisors fail to see the connection between missing tyre valve caps and energy wastage.

The average motorist gives a shoulder shrug when asked about the importance of tyre valve caps. The problem is that all one sees is the valve core shaft peeping out of the valve entrance – so what's the little valve inside? It's actually quite complex to keep air-pressure from escaping and to allow for inflation when needed. What can go wrong?

pressure which could result in a run-flat tyre on the road.

And here comes the vital role of the 'humble' tyre valve cap. It's there to protect the valve from corrosion and dirt with the ultimate aim of keeping tyre pressure at a consistent, recommended level. The outcome extends into ensuring road safety, longer tyre life, lower fuel consumption and less downtime. There's a cascade of consequences when valve caps go missing.

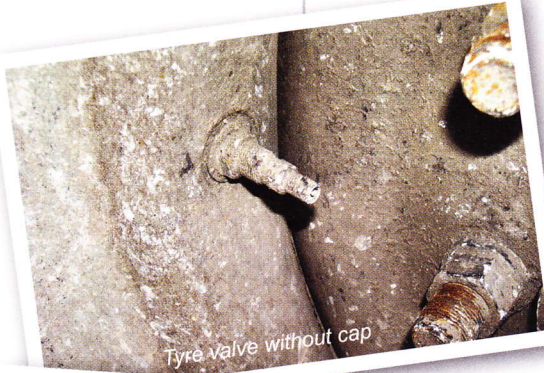
But there are valve caps and then there are 'valve caps'. The vast majority of tyre valves are equipped with plain black plastic caps that only serve to keep contaminants out of the valve stem. A black plastic cap usually cannot stand the heat generated on the road and is easily subject to over-torque when screwed on. Metal valve caps usually have a small rubber insert to permit a good seal against the valve body while this type of cap also helps to prevent air escaping from a slightly leaking valve. Not all metal caps are the same. Some metal caps have a short shank, are very difficult to screw on and are abandoned through frustrated neglect.

Is the valve accessible? So many inner tyres on a drive axle or trailer dual set do not have extensions to access the valve. More often, the inner tyre has been fitted in such a way that the valve stem is totally hidden – and it just cannot be checked. An obscured valve inevitably means there will be no valve cap as well.

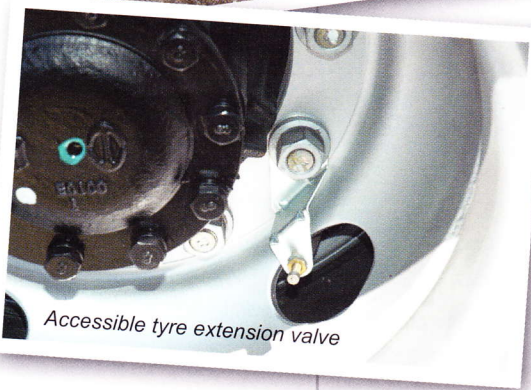
And tyre valves do not last forever. Bridgestone recommends that best practice is to replace the valve every time a tyre is replaced – this of course applies to tubeless tyres where a valve is a separate part attached to the rim and not an inner tube.

When conducting safety by wandering around (CSWA), take a look at the valve caps on your own car – never mind the fleet – and think of what cascade of events a missing tyre valve cap will lead you into.

References & acknowledgement  
Bridgestone South Africa (Pty) Ltd  
Wikipedia - [http://en.wikipedia.org/wiki/Schrader\\_valve](http://en.wikipedia.org/wiki/Schrader_valve)

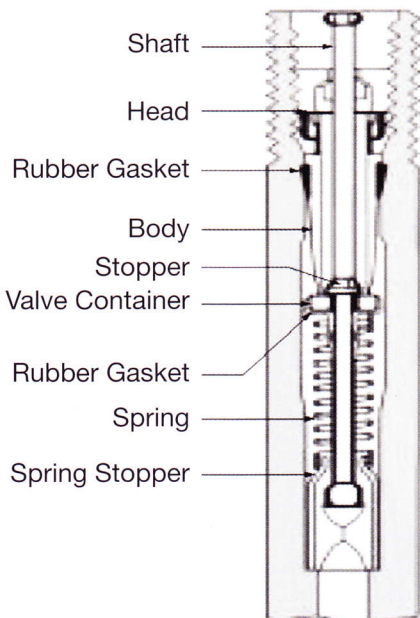


Tyre valve without cap



Accessible tyre extension valve

### Valve Core



When one examines tyre valve components, namely springs, gaskets, stopper, shafts and containers, it's clear that any dirt ingress may get stuck in the valve and cause a leak. And that is exactly what happens when a cap goes missing. Road detritus – mud, grit and debris – gets caught in the open valve head shaft entrance and this gets forced into the valve as soon as tyre pressure checks are made resulting in slow, or even fast, air leaks. Where winter roads are 'salted' to de-ice the surface, rock salt and other chemical winter de-icers used are very damaging to the valve brass components.

*Lesson - if a valve cap is missing, it's advisable not to check air*