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Drive better, burn lesser

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Nowadays, one can see as many branded tyre retail shops near a highway as large car showrooms. The brand game has caught up there as well, but I don't really know what difference it makes if I buy one brand or the other. I was wondering to myself if I were to replace any of my car tyres, what would I go and look for? And on what basis? How does one know what difference the quality and performance of a tyre makes to the car and to what extent? Even though the tyre is one of the most engineered products and is considered by some as the last frontier of classical physics, it still remains a mystery like a 'black-box' to an average buyer.

While working in the company that manufactures synthetic rubber which is a key ingredient in tyres, I was fortunate to lay my hands on the answers to these questions especially since I now know that the tyres can influence a lot of things in a vehicle like fuel efficiency, safety (braking distance and grip), handling and manoeuvrability, ride and comfort, and noise, although a tyre costs less than 1 per cent of the vehicle cost.

An average Indian automobile user, usually obsessed with mileage (fuel efficiency) will be happy to know that a high performance tyre can improve the fuel efficiency of the vehicle by around 8-10 per cent. This, I feel, is a welcome respite for car users, given the rising fuel costs. Fuel efficiency depends on a parameter called 'rolling resistance' of the tyres, which in turn is proportional to the fuel consumption of the vehicle. When a car is wading its way through urban traffic or bad road conditions, the tyre deforms to align itself to the road surface. This takes up energy transmitted by the engine and is manifested as rolling resistance. This then causes the car to consume more fuel and release more carbon emissions. It also causes tyre abrasion which further pollutes through particulate matter and results in a shorter life for the tyre.

High performance rubber in tyres can reduce rolling resistance by about 20-30 per cent.

In addition, almost 25 percent of an automobile's carbon dioxide emissions are related to tyres. Michelin, a major global tyre maker, estimates that about 4 per cent of the world's carbon dioxide comes from rolling resistance from tyres. So we would be doing a favour to the environment as well, if the tyres and effectively the vehicles are more fuel efficient.

Another important aspect that drew my attention in this regard is that good tyres can affect road safety. Who isn't perturbed by the dismal state of affairs as far as safety during road travel is concerned? A study conducted by Professor Horst Wildermann from Munich University in Germany estimates that high-quality tyres improve road grip and handling and can reduce braking distance by 50 percent. Also, in 30 percent of all road accidents resulting in personal injuries, the collision speed and the severity of resulting injuries could be reduced with high-quality tyres. In fact, roughly 5 percent of all accidents could be avoided with better tyres, he says.

While all this is good to know, how does an average person determine how fuel efficient is the tyre that he is buying? How does he find out what is the achievable braking distance for his tyre? How does he know the operating costs for a high quality tyre vis-à-vis a regular one?

Thankfully, the authorities in some parts of the world have worked out a solution for demystifying this. The European Union, South Korea and Japan have introduced what is called tyre labelling for all tyres. A label on a tyre is something equivalent to the star ratings for the consumer durable, meant to indicate the performance of the tyre in terms of parameters like fuel efficiency, mileage, traction, braking distance, rolling resistance, rolling noise, durability, and so on through different grading systems.

From November 1, 2012, any tyre sold within the European Union will have to have a sticker that shows its impact on the environment. Although the law comes into effect on November 1, any tyre sold after July 1 will carry the label to give consumers a little time to get used to it. The European Union labels will address three areas – rolling resistance, wet grip and noise. The labels will indicate the values of these parameters, marked from 'A' to 'G', with 'A' being the most efficient.

In South Korea too, the government has instituted voluntary tyre labelling, effective from 2012. Japan has already has a voluntary tyre labelling initiative in place since July 2010. The China Rubber Industry Association (CRIA) has announced that it will officially launch a program to develop 'Green Tyres'. The plan calls for half of China's tyre makers to be capable of producing a fuel-efficient tyre by the end of the 2015 and 25 percent of passenger vehicle tyres have to be 'Green Tyres' by then.

The obvious question that follows in tandem is – When can we expect to see something like this in India? Well, it will take its own time. Having said that, the tyre industry in India which is now duly making its presence felt in the overseas markets are aware of the development and are gearing up towards it. The ones, who export to any of these countries, have to be already compliant with their labelling regulations. Moreover, this should provide an opportunity to them to differentiate their performance tyres against the general purpose ones, something they badly wanted for a long time.

Recently, fuel efficiency standards and labels for cars have been announced for the Indian automobile industry. The norms, to be implemented soon, will mandate automobile manufacturers to put government certified fuel efficiency labels on each car they sell and improve efficiency of the cars they sell every year. While the labels will become mandatory soon, the standards will kick in by 2015, giving manufacturers time to improve the technology to meet the standards. A car's label will certify the fuel efficiency of a particular car model under standard conditions and specify how it does in comparison to other cars in the same category. This probably is the reason why the car companies are now looking at high performance tyres to improve the fuel efficiency.

Fuel efficiency labels are analogous to the tyre labelling that I just talked about. In future, an extrapolation of this regulation for tyres may just resolve our dilemma with regard to tyre buying and at least, we would know what we are paying for! Like for any other product that we buy like a refrigerator, air conditioner, or the car itself, we at least deserve to know its performance specifications. We should know whether a marginal premium gives us better value overall or whether a better tyre is available at a comparable price.