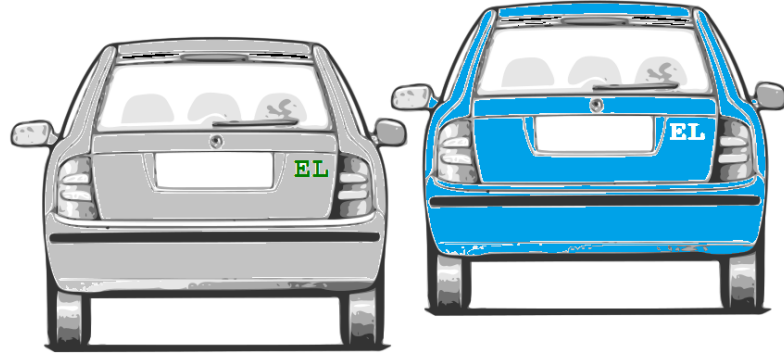


Efficiency along with Luxury

A new era of vehicles tagged with 'EL' is supposed to be witnessed

Car makers if not cars themselves are intelligent these days and are intelligent enough to bind fuel Efficiency with ever desired Luxury. It would not be an exaggeration to say that we await to see a new tag 'EL' instead of the routine Xis, Dis, A/B/C/E/G/M/R/S classes, A-1/3/4/5/6/7/8 series etc.



Luxury is a secondary consideration in car making. Hence, efficiency comes to the fore in present day's Automotive Industry thought process. Of course, Emission control can also be considered in the tag 'EL', but, it any ways is another facet of efficiency. Coming to the efficient proving technologies in the automotive industry, an evolution has to be re-visited.

Engine design, exhaust system design, aerodynamics design and transmission system design are the core entities of a vehicle that reflect in its net efficiency. A particular company selected one among these entities to make their product efficient, and claim it. Whatsoever, moulding the engine design proves concrete in terms of delivering desired (efficiency) results. Several technologies, fuel injection mechanisms in particular, are in an evolutionary use since the diesel combustion engine was first used for automobiles way back in **1930s**. The idea of efficiency was



reckoned when the fuel injection mechanism was direct, and was first used by Fiat in its **Croma** during 1986. Since then fuel injection has been a core design component for every company to make a master piece, Efficient vehicle. Add to that, a hint of Luxury, it can be tagged 'EL'.

The evolution still continues and the next big thing in fuel injection adjacent to Direct Injection technology is the **Common Rail Direct Injection** technology or in simple terms **CRDi**. Next to this is a diesel engine specific injection system called the

Turbocharged Diesel Injection, in simple terms TDi. Another hybrid out of TDi is the **Turbo plus Supercharged Injection** (Twincharged) or simply called, **TSi**. All these are the basically available fuel injection mechanism technologies from which a car maker can choose one to make his product and accordingly design the other vehicle mechanisms to support the engine and its fuel injection eventually giving out an Efficient vehicle.

Modified versions of above mentioned injection mechanisms are used in several vehicles by several companies. Like, Tata used CRDi mechanism in their branded **DICOR** and **CR4** engine design, Ford Motor Company used the same mechanism to design their **TDCi** brand engine where as General Motors branded **CDTi** and **VCDi** are also based on the same injection mechanism.



Earlier mentioned injection mechanisms are basic and can be used in conjunction with certain other vehicle systems modified to produce a better product than before. One such technology that is worth commending now in mid 2011 is the **BlueMotion technology**, introduced by the **Volkswagen** in 2006 via **MK6 Polo** and latest, **Passat**. The revolutionary BlueMotion clubbed various basic technologies to make an outstanding combination that delivered perfectly what is desired from it. An engine tagged with BlueMotion uses either TDi or TSi alongside the modified **Direct Shift Gearbox (DSG)** with dual clutch to offer the best in class fuel economy. In addition to a better fuel economy the emissions are also considerably cut in the name of Nitrous

Oxide (NOx) emission reduction. It also features **injection Start-Stop** system in normal, hybrid as well as electric drive. It gives a sheer drive pleasure with all these in perfect sync and hence, BlueMotion technology is considered to be one of many combos that can possibly be implemented to bring the best or the 'EL' tag eligible vehicle out.

To be continued...