Adding Lightness (Lighter Weight/Fuel Efficient Cars) – April 2009

ADDING LIGHTNESS (LIGHTER WEIGHT / FUEL EFFICIENT CARS)

By BACLV Technical Editor, Ron Couturier

The following is a condensed version of an article which appeared in the December 2008 issue of the "SEMA NEWS MAGAZINE". The article was authored by Frank Bohanan.

Nowadays, picking up an automobile magazine such as Motor Trend, Car & Driver, Road & Track, Automobile, or any of the other numerous car magazines that deal with modern production cars and their testing results, you will usually find an article or mention of Detroit's product planning and the current instability of our economy and the troublesome times in the auto industry finds itself in.

Basically, the SEMA article stated that Detroit needs to think lighter, smaller and more fuel efficient vehicles if it wants to stay competitive in the world market. Product cycles, about three to four years, mean that you won't see these dramatic product improvements right away. More likely than not, we should see the evolution of existing vehicles to be lighter and more fuel efficient to meet mandated goals.

Right now we are seeing "B" series cars show up in our market. Cars such as the Honda Fit, Toyota Yaris, Nissan Versa, the smart car and the Mini. These "B" series cars are experiencing a brisk business because of their frugality and lower cost.

These vehicles are a preview of a coming trend. Vehicles of all sizes will begin to get lighter, if not necessarily much smaller. The trick, of course, will be how to keep interior space where consumers want and/or need it to be while keeping exterior dimensions and total vehicle weight to a minimum. Light weight materials, more sophisticated designs and manufacturing techniques will be used to achieve the desired products. Expect to see a rise in prices. You can expect to see more aluminum magnesium, carbon fiber, plastic/composites in future cars to reduce vehicle weight.

It's going to be a sink or swim situation. Automakers will have to use the best technology they have to meet the new mandates while still giving buyers performance and features they want at a price they can afford. Gasoline will continue to be the dominant fuel for the foreseeable future. Innovations, such as gasoline direct-injection, stop/start systems and smaller engine sizes with turbochargers or superchargers, will all be used to increase both output and overall efficiency of engines, while changes in material specifications will make them lighter.

Hybrids should become more main stream, and so will their buyers. Hybrids are getting all the hype now, but diesels are the sleeper that's going to make a bigger impression. The cost premium versus gasoline is much less than it is for a hybrid, and diesels provide both fuel economy and performance benefits under all conditions, not just city driving.

To sum it all up, you can be sure that most vehicles will ultimately be lighter, smaller (at least on the outside), have smaller direct-injected engines and/or be boosted, and there will be a significant increase in the sales of both hybrids and diesels in cars and trucks.

Happy Motoring....Ron Couturier