General Information On Diesel Engines

Contributed by Ram Janspur
Tuesday, 20 June 2006
Last Updated Wednesday, 26 July 2006

Diesel engines offer the lowest specific fuel usage of any other large internal combustion engine. The fact remains, two-stroke diesels with high pressure forced induction, particularly turbo charging, make up a large percentage of the largest diesel engines.

Throughout North America, diesel engines are generally used in larger trucks, where the low stress, high efficiency cycle will lead to a much longer engine life and lower costs to operate. These advantages also help to make the diesel engine ideal for use in the heavy haul industry.

Cars however like those of 1995 acura legend, continue to use gasoline, primarily due to the consumer desire for a wider range of RPM. In Europe, the use of diesel engines with carsis far more common.

Even though diesel engines are more efficient when throttled down, they aren't suitable for most types of aircraft. The higher compression ratios of the diesel cycle demand a much stronger block, head, and almost all moving parts in general. These stronger parts add a lot of weight, or a lot of expense, especially if lighter alloys are being used.

The Otto cycle engines are much cheaper to build for these reasons, although they have long been overtaken by the turbine engines. For the same displacement of the engine, Otto cycles will produce more actual power than a Diesel cycle can, because the fuel will burn at a much faster rate, allowing more power strokes per minute than a standard diesel can offer.

What this means, is that less fuel has to be carried. Additionally, commercial aircraft is normally run at preset limits, so that Otto cycle engines used in aircraft don't suffer anywhere near the efficiency penalties that land vehicles do. Heavy equipment, such as those used in mining and construction, almost always uses diesel engines.

Diesel engines are also used with submarines. In these types of submarines, the diesel engine is run when the submarine is on the surface, which charges the batteries that power the submarine once it is submerged.

All across the world, diesel engines serve many different purposes. They are used with almost all types of heavy machinery, and other vehicles. Gas isn't the way to go with heavy machinery, as the engines simply can't withstand the beating.

Diesel has been popular for many years with machinery and submarines, simply because the engines can last for years and years. Although they won't offer

as much speed as gasoline, the torque and power is still there.