Driven Tech Article

The End Of “Backwards Compatibility”

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Since the beginning of the API engine oil licensing system, each and every new specification has been considered “backwards compatible.” This is a fancy way of saying the newest oil is as good as or better than the previous oil.

The exact statement made on API’s MotorOilMatters.com website is as follows:

“For automotive gasoline engines, the latest ILSAC standard or API Service Category includes the performance properties of each earlier category and can be used to service older engines where earlier category oils were recommended.” Since the outbreak of failed flat tappet camshafts a decade ago, this “backwards compatibility” has been called into question by engine builders, camshaft manufacturers and consumers. Within the last year, an asterisk has appeared on the statement of “backwards compatibility” on the Petroleum Quality Institute website (http://www.pqiamerica.com) that says the current API SN and SM oil specs may not be suitable for some flat tappet engines.

That asterisk marks a significant shift in thinking. The stakeholders in the API (the vehicle OEMs and oil companies) are slightly acknowledging that one oil specification cannot cover the requirements of all gasoline engines ever built. That really does sound like a ridiculous idea when you put it down in black and white.

Over this last decade of “compromised compatibility” these same engine builders, camshaft manufacturers and automotive enthusiasts have all received an education on motor oil that most of them did not ask for. The word “Zinc” took on new meaning in automotive circles. Apparently “Zinc” was more than just an ingredient in your multi-vitamin, and if your motor oil was deficient in the proper quantity and type of “Zinc” your camshaft would end up deficient of a few lobes.

In response, special “Zinc” additives and specially formulated “high-zinc” oils appeared on the market in response to the situation.

However, most automotive enthusiasts and engine builders have been burned in the past by “snake oils” that promise the moon but deliver mud in the eye, so the market was slow to accept these products. Even today, many enthusiasts still doubt the idea that “new oils are bad for old engines.”

Maybe the announcement by Porsche this April will change all of this and signal the death knell for “backwards compatibility.” The famous brand just announced its own line of “classic” motor oils designed for the needs of older engines. The text from the Porsche website reads like a copy of what Driven Racing Oil said when it released its “Hot Rod” motor oils 8 years ago. Driven was the first company to market specially formulated break-in oils and high-zinc oils designed specifically for older engines.

Here is a sample from what Porsche has released:

“This engine oil has been developed by experts with the specific aim of meeting the demands of air-cooled engines. The thermal load is higher than in water-cooled units, which means that the engine oil has to work harder to cool the engine down. The traditionally high power output per litre of the

engines also results in high compression and high pressures. A compact and lightweight engine design means that the connecting rods will be short in relation to the piston stroke, which in turn means high lateral piston forces and correspondingly high demands on the lubricating film stability of the oil. In short, the older flat engines in particular can't just use any old oil.

Modern oils use highly efficient detergent/dispersant agents to thoroughly clean the engine and reliably remove dirt, which can be too much of a good thing for a classic Porsche engine. It is true that additional deposits should be prevented and oil-soluble contaminants such as soot, water and dust kept suspended until they are drained off through the oil filter or removed during the next oil change, but at the same time it is important that the deposits which have built up over decades are not suddenly dissolved and that seals are not corroded.

Since not every classic Porsche is in everyday use, the engine oil also had to meet other demands: classic vehicles are often left stationary for long periods of time and only moved intermittently and for short journeys, which means that condensation can form in the oil if the engine does not heat up fully. Aggressive combustion residues can cause acidification of the oil fill, resulting in the corrosion of engine components. The alloys, metals and sealing materials which were used at the time are at particular risk. Porsche therefore paid particular attention to this aspect when developing its Porsche Classic Motoroil. The special formulation incorporates a high alkaline reserve, which neutralises any acids that may form. Additional corrosion inhibitors also protect vulnerable components, even during longer stationary periods."

Does any of that sound familiar?

Hopefully the announcement by Porsche will create awareness that specialty oils are not "snake oils." In fact, oils designed specifically for the hardware and the application are better than a generic, one-size-fits-all API specification. The sooner this idea is embraced, the sooner engine builders, parts manufacturers and enthusiasts can stop worrying about the chemistry of motor oil and just go back to using oil. Then, Zinc can just be the stuff in your multi-vitamin and the stuff that keeps your cam happy.

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