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It is appointed unto vehicles once to die...
and after that, the scrap yard.

By Richard Goulet

Vehicles, like humans, inevitably come to the end of their useful life.

They have a limited service life, and two key factors determine when they finally go to the Great Wrecking Yard in the Sky.

The first relates to the condition of the vehicle's exterior body. Minor rust and faded paint is acceptable, but when holes appear in the floor and panels the owner must face the inescapable reality that this vehicle's days are numbered.

The second relates to mileage. A quarter million kilometers is the minimum expected from today's engines and drivetrains. (Any less would be considered premature failure, and may result in the vehicle being labeled a "lemon.") But when the odometer approaches 400,000 kilometers or 500,000 kilometers, there's a good chance it's about to make its final click fairly soon.

As a zone manager for a major vehicle manufacturer, I used to get involved in incidents of premature engine failure. One case in particular stands out in my memory. The vehicle history indicated that soon after the vehicle reached 20,000 kilometers, the engine began using oil at a rate of several litres per 1,000 kilometers. As you can imagine the customer was somewhat upset by this, as the vehicle should not have been nearly ready for the local scrap yard.

The dealer replaced the engine under warranty and the customer went home happy – or so the dealer thought. By the time the vehicle had traveled another 20,000 kilometers, the engine was again consuming abnormal quantities of engine oil.

As the zone manager for the manu-

facturer, I was responsible for working with the dealer and the customer to resolve the ongoing premature engine wear issue.

Since this was the second time around for a complete engine failure due to premature wear, it was necessary to go beyond the regular warranty review of the customer's service and maintenance records.

The owner kept detailed records of the vehicles repair records and nothing out of order was found.



The next step in the process was to have a professional analysis of the engine oil done, as this could provide an insight as to how or what may be causing the engine to have premature wear of the cylinder walls and pistons. This proved to be very valuable. The oil analysis indicated an abnormally high level of silica was found to be present in the oil. Silica is a fine grind of sand or dirt that is very abrasive and if ingested in an engine in sufficient quantity could cause excessive wear. Armed with this information, I could then meet with the vehicle owner to probe for additional information about how silica in abnormally high levels got into the engine.

During my discussion with the owner I gained information on his employment and with this knowledge I was able to piece together the cause of the premature engine wear problem. The vehicle owner operated a quarry and spent a great deal of time on the dusty site leaving his vehicle idling while in park. This in itself is not a problem, however when the air filter was inspected it was found that it had very little dust trapped in it. Further investigation identified that the air filter bezel was warped and as a result the air did not pass through the air filter when entering the engine, it took the path of least resistance allowing the air that was contaminated with silica to enter the engine and eventually collect in the oil. The rest is history.

Once again the engine was replaced, but this time a new air filter bezel was also installed and inspected for a complete seal. The customer was informed as to the cause of the failure, was not charged for the replacement engine and was advised that he should turn off the engine whenever he was visiting the quarry.

It's important to recognize that solving some of the most unique engine problems requires that a technician probe the customer for information that may not be directly related to the customer's complaint.

In this particular situation, the key to the problem lay in the environment where the vehicle was commonly used. Thankfully, the customer was satisfied and the vehicle did not have to go through another inevitable engine failure, and be condemned to an early death. 🚗

Richard Goulet is a veteran after-market, with more than 30 years experience fixing cars and selling parts.