

Sulphur Content and Diesel Exhaust

As part of the National Fuel Standards in mid 2002, the Federal Government committed to introducing cleaner transport fuels to Australia. One of the key elements of this commitment is the reduction of the amount of sulphur in diesel fuel.

Sulphur adds to exhaust emissions so lowering sulphur content is a relatively quick and easy way to improve air quality.

Prior to the introduction of Low Sulphur Diesel to Queensland in mid 2000 the maximum allowable sulphur content was 5000ppm. Over time it dropped to 50ppm and by the end of 2008 will drop to 10ppm.

Side effects

Removing sulphur from fuel has a couple of side effects.

- One is that it reduces the fuels lubricating properties. This has been addressed by specifying a minimum lubricity standard for Australian diesel fuel.
- The second effect is the reduction in the fuels aromatic content. Aromatics add to exhaust emissions so it's desirable to keep levels to a minimum, but aromatics also have a swelling effect on some seal materials that were once commonly used in fuel pumps. Reductions in aromatic content can cause the seals to shrink slightly and, depending on their condition, they may leak.

Vehicles fitted with VE style fuel pumps built before about 1994 are most likely to be affected. These fuel pumps are standard equipment on the majority of Japanese light diesel vehicles, as well as many trucks, tractors and some small earthmoving equipment.

Seal leakage is due primarily to age and deterioration of the seal material. Changes in fuel composition alone will not cause a seal in good condition to leak.

Installation of seals made after 1994 in fuel systems will resolve any issues.