



DIESEL ENGINE FILTERS

A recent survey showed that 90% of diesel truck operators' fuel problems relate to filter blockage. There are five specific causes of blocked filters. These causes and some preventative measures are described below.

TANK BOTTOMS

Water, rust and dirt accumulate in the bottom of storage tanks. With time, the amount of water and sediment may reach such a level that it is drawn from the tank and dispensed into a vehicle. To stop this happening, tanks must be dewatered periodically; in the case of underground tanks, use water finding paste on the dip stick to check for water. After tank filling always allow the fuel to settle before drawing off fuel. As a guide, allow 4 hours settling per metre of fuel in the tank after filling.

OXIDATION PRODUCTS

If automotive diesel fuel is stored for very long periods, it can begin to oxidise. Oxidation occurs naturally with all fuels, and results in the formation of dark gummy deposits and sediment. It can be minimised by:

1. keeping the fuel cool
2. reducing its exposure to air
3. only storing the fuel for short periods
4. periodic draining or pumpout
5. avoiding contact with copper and zinc containing metals eg. copper pipes that have not been tinned and galvanised pipes and tanks

MICROBIOLOGICAL CONTAMINATION

Air, fuel and water all contain bacteria and/or fungal spores. Wherever automotive diesel fuel is in contact with water the possibility of microbiological

growth is present, which in the correct environment can lead to the growth of a slimy mat at the fuel/water interface.

The best preventative measure is to regularly check for water in tanks and drain any that is found. If a problem has developed, it can be stopped by a thorough tank cleaning and use of a biocide (a fungal poison) or alternatively, treatment with a biocide may be sufficient to control the problem. Contact the BP Technical Helpline for advice on fungal treatment options.

AFTER-MARKET ADDITIVES

Some fuel additives may actually lead to filter blocking. Additives purchased by the customer and added to the fuel may be incompatible and not mix. Laboratory testing and field experience confirm that BP Diesel GO doesn't contribute to filter blockage.

WAX

The cloud point is the temperature at which wax starts to crystallise in a diesel fuel. It varies throughout Australia according to location and season, being higher in the summer months and warmer areas. Wax that has settled out can block filters. If a summer grade fuel is used in winter, or a fuel produced for a warm climate is used in a cold climate, filters can block.

Wax problems can be overcome by turning over stocks regularly and using the appropriate fuel for the season and area. Ensure that all fuel is changed over by May at the latest to avoid winter waxing problems.

Cloud points of automotive diesel fuel can be lowered by adding heating oil or lighting kerosine. Heating oil is preferred because lighting kerosine may lower the flash point below the legal requirements for storage and transport. Up to 50% heating oil or 20% lighting kerosine can be used before the fuel viscosity is reduced to a level at which injector or pump wear may occur.

**For further information, please call the
BP Lubricants and Fuels Technical Helpline
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freecall**
or visit www.bp.com.au/fuelnews