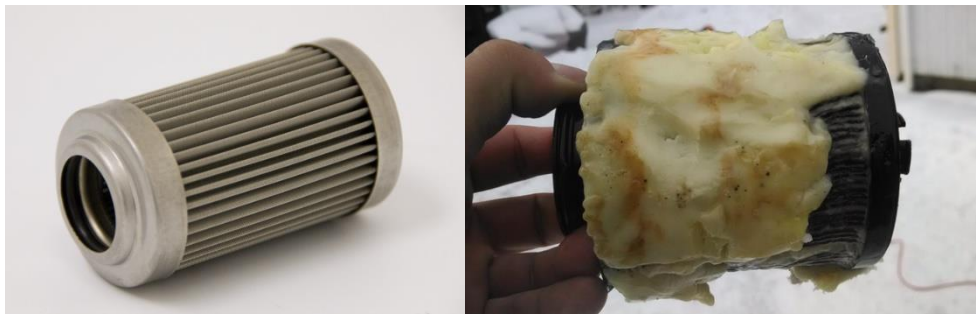


bp Diesel Winterization



Diesel fuel contains paraffin molecules, which are waxy compounds that can stick together and solidify in cold temperatures. The colder the weather outside, the more likely this solidifying will occur—though the temperature of fuel doesn't change as fast as air temperatures due to fuel's heat capacity.

What does this mean to diesel drivers? In winter months in certain geographies, this wax solidification can lead to clogged fuel filters. Clogged fuel filters aren't good: they can result in engine stalling and car repairs—which is both inconvenient and expensive for consumers.



The left is new fuel filter and the right is a fuel filter clogged by paraffin build-up in the winter

Fortunately, there are a variety of measures that can be taken to improve cold weather operability of vehicles and decrease the likelihood clogged filters.

- **Blend No.1 diesel fuel:** No. 1 diesel has a smaller concentration of paraffin wax molecules, so blending it with No. 2 helps make build-up less likely.
- **Blend CFI additives:** There are publicly available additives which help diesel fuels operate at lower temperatures without problems. It is important to note that these additives are sensitive to fuel composition—not all additives work well in all fuels.
 - bp offers ULSD#2 with CFI additives at a particular list of terminals (*see attachment*)
 - If you would like CFI additives but you supply sites out of terminals where bp doesn't offer them, we recommend sending 2-3 base fuel samples to your preferred CFI supplier so the supplier can recommend the right additive and give instructions for proper use.
- **Store the fuel underground:** During the winter, fuel stored underground will tend to stay warmer than fuel stored above ground. In addition, the temperature of delivered fuel will have an impact on operability. The higher temperature the fuel is upon delivery, the longer it will take for its temperature to drop.

- **Keep the fuel dry:** Water in diesel fuel at cold temperatures can cause a problem of ice formation in the filters. It is important that all underground storage tanks be monitored to prevent water infiltration.

You can use any combination of the above methods to combat the issue, although no single method is guaranteed to work in all circumstances.

To learn more about winterized diesel, cold weather operability, and availability please visit www.bpbetter.com/diesel.