



Guidelines on Bio-Diesel Use and Membership in the Cowichan Bio-Diesel Co-op

The good news about diesel engines is that all of them should be able to use biodiesel without the need for any significant conversion to the vehicle. A significant vehicle conversion is only needed IF you want it to run on "Straight Vegetable Oil" or SVO, which is not the same as biodiesel (a chemically altered SVO). However, there are a few key things you need to know about your specific vehicle type and bio-diesel use before you start using bio-diesel. Therefore, as part of your personal responsibility as a Co-op member you must read, understand and apply the following guidelines on bio-diesel use:

Canadian bio-diesel quality standards are currently being developed for Canada under the auspices of the Canadian General Standards Board but is not yet available. In the interim, it has been generally accepted practice to ensure that ASTM D6751 fuel standards (This is a US standard for bio-diesel.) are met; however, the cost of such testing represents a significant barrier for small-scale producers like the Co-op. As a result, it should be understood that Co-op bio-diesel has not undergone lab testing to determine whether it meets ASTM D6751 fuel standards. However, we have over 7 years of experience using our bio-diesel to fuel a great variety of different diesel of both on- and off-road vehicles. We are confident enough in our bio-diesel to provide it to you to use as a diesel fuel additive or substitute for your own personal vehicle IF you first agree to read and take full responsibility for the following BEFORE you use it:

- 1) Confirm that your vehicle, its warranty, its hoses, gaskets, etc. are bio-diesel compatible** (they are NOT made of rubber or other materials that break down when exposed to bio-diesel). Older fuel lines with any real rubber in them will slowly break down over time but this commonly does not apply to most vehicles newer than the mid-nineties. If in doubt, email or call us with the year, make and model of your vehicle and we will do our best to inform you about its compatibility.
- 2) If you have a new car check your warranty – some may be void if you use higher ratios of bio-diesel.** Most new vehicles in North America won't honour the warranty if you use bio-diesel over a percentage as low as 5% (B5). This is likely because bio-diesel is still a relatively young and developing industry in NA and its properties can vary considerably based on the type of oil (vegetable or animal) and the process used to make it.
- 3) If you have not used bio-diesel in your vehicle before, you must "wean" your engine onto successively higher bio-diesel blends.** That means using 20% bio-diesel (B20) or less for the first two or more fill ups then moving to successively higher ratios and finally B100 if you wish and you determine your vehicle is compatible. This is because bio-diesel acts to clean out internal deposits/build-up from regular fossil diesel use. If you use too much too fast, it may cause fuel filters to clog more quickly as it flushes out the deposits. Once your engine has been weaned you can use higher bio-diesel ratios (up to 100% depending on the vehicle) and you should notice your engine will sound better, run better, and smell better with no ugly black particulate exhaust.
- 4) Check fuel filters more regularly** than with regular diesel fuel use and replace as needed. As well as releasing deposits from regular diesel use bio-diesel may contain minute quantities of glycerine that can accumulate in your fuel filter over time. If these deposits build up too much they can clog your fuel filter and starve your engine of fuel. If this occurs while the engine is running it will feel like your vehicle is stuttering, or intermittently hesitating as you drive until finally the supply of fuel to the engine is cut off. Also, if you leave your vehicle out while the temperature drops any glycerine

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accumulations in your fuel filter can thicken and clog your fuel filter until temperatures increase or the filter is changed. If this happens, do not be alarmed. These issues can all easily be addressed by simply changing and/or draining your fuel filter. A more proactive approach is to install a pre-filter such as a Donaldson P558000. The Donaldsons are a good second filter because they have a high capacity water separator with a drain and its about 1/3 the cost of a VW or Toyota fuel filter.

5) Its good practice to **always keep your fuel tank filled above a quarter tank.** Part of ensuring longer fuel filter, injector, and injector pump life is making sure you NEVER run your vehicle until the fuel tank is empty.

6) **Be aware of cold temperature limitations to bio-diesel use.** The cloud point of bio-diesel made from Canola oils is typically about -16 degrees C. However, when temperatures dip below freezing bio-diesel can thicken enough to make starting more difficult and also taxing fuel pumps and injection systems. On Southeast Vancouver Island it's rare to get temperatures so low that bio-diesel use becomes problematic. However, a cautious proactive approach to avoid any issues related to cold temperatures would be to use a blend of B50 or less during the late fall to early spring months. This means blending our Coop bio-diesel with 50% or more regular diesel fuel.

7) **Taxes. Prior to 2010, bio-fuels were exempt from tax in B.C. In light of the January 1, 2010 changes to the Carbon Tax Act and Motor Fuels Tax Act the Co-op is currently re-examining how these taxes may now apply to bio-diesel.**

8) **Provide us with feedback on your experiences with our fuel.** We need to know if you notice any improvements or problems with your vehicle after using the fuel. So far we've had extremely positive feedback from members and we continue to believe your experience will be as positive as ours.

The Value versus the Price of Co-op Bio-Diesel

If the price per litre for Coop bio-diesel seems high compared to fossil diesel, please consider the following:

- **Our current price is subsidized by volunteer efforts and does not reflect the true cost of providing it.** The bio-diesel we provide is well below our costs to produce and distribute it. Currently, the only way we can offer locally produced bio-diesel at this "low" price is due to the tireless efforts of volunteers. As we grow and the workload on volunteers increases faster than our budget, we move further away from a sustainable Coop model. That considered, prices will go up with regular diesel prices before they go down. Once we reach that sustainable "fair trade" Coop model that isn't based on volunteers carrying the bulk of the costs, then we can realistically look into keeping fuel prices below market prices to reward Coop members. From another perspective, we expect pressures from peak oil and increasing demand from developing countries to push regular diesel prices above our prices in the not too distant future.

- **Like organic foods, Bio-diesel is a better product - healthier, more ethical and sustainable.**

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- **Mechanical benefits:** Just 5% or less of bio-diesel mixed with regular diesel can potentially double the life of your engine due to its lubricity and engine cleaning qualities compared to regular diesel.
- **Ethically made from locally recycled waste cooking oil:** No foreign countries were invaded, no oil sands were mined, no deforestation to grow palm plantations took place and no food crops were used to produce this fuel.
- **Carbon neutral:** Every litre you burn instead of regular fossil diesel reduces the amount of new CO2 in the atmosphere and helps limit our impacts on global climate change.
- **Bio-diesel significantly reduces harmful pollutants** such as sulphur, toxins and particulates.
- Every litre you purchase, every membership you buy, and every contribution you make brings us closer to the goal of building our community plant, and all the environmental, economic and social benefits this will bring to the Valley.

How to Purchase Bio-Diesel

If you are a Coop member in good standing, have read and agreed to your personal Co-op responsibilities above and support the principles on which the Coop was founded, you are welcome to purchase Coop bio-diesel at our Duncan location:

Duncan Location: Cowichan Petroleum Sales office, 2999 Allenby Road.

The CPS office is open 7am to 5pm, Monday through Friday.

If you have any questions regarding bio-diesel use or issues you are unsure of please contact us for assistance.

Thanks for your support,

Brian Roberts
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