Re-refined Oil

What is re-refined oil?
Used motor oil is treated to remove contaminants, such as dirt, fuel, and water and distilled to separate light and heavy oils. Three products are made, asphalt flux (roofing material), gas oil (refinery fuel) and base oil. The base oil is sold to blenders, who combine the base oils with additives to make finished lubricants like motor oil, transmission fluid and greases. Re-refined oil is the finished blend of base oils with additives and may be 100% re-refined content or blended with virgin base oil. Used oil can be re-refined over and over again, it never wears out - it just gets dirty.

Are re-refined lubricants safe to use?
• Re-refined oil is subject to the same stringent refining, compounding, and performance standards as virgin oil.
• Lubricants made from re-refined base stocks must meet the same standards as virgin lubricants in order to receive the American Petroleum Institute’s (API) certification.
• Major auto and engine manufacturers, M ercedes Benz, Ford, General Motors, Chrysler and Detroit Diesel Warranties allow the use of re-refined oils as long as they are API certified.

Where Can I Buy Re-Refined Oil Products?
To find distributors in California, check the used oil web pages on the California Integrated Waste Management Board (CIWMB) web site: http://www.ciwmb.ca.gov/UsedOil/Recycled/RecycledOil_Distributors.htm
You can also find distributors of other recycled content products at the CIWMB recycled content products database: http://www.ciwmb.ca.gov/RCP/Recycled

Get paid for recycling
If you own or operate equipment that generates used oil, you are considered an industrial generator of used oil. If you become a registered industrial generator, you can receive a 16¢ per gallon recycling incentive for all the used oil generated by your equipment.
Curbside collection programs that pick up used oil may also become registered with the State. Once registered, program operators can receive the 16¢ per gallon recycling incentive for all the used oil collected at curbside as well as used oil generated by program vehicles.
Private businesses, local governments, or special districts may become registered industrial generators or registered curbside collection programs.

The Industrial Generator Registration Program is administered by the California Integrated Waste Management Board (CIWMB). For more information and a registration application, visit www.ciwmb.ca.gov/UsedOil/CertsRegs/registr.htm or call the Used Oil Recycling Program at (916) 341-6457.

By-Pass Oil Filter

What is a By-Pass Oil Filter?
A by-pass oil filter is an added system designed to be used with a full flow oil filter to remove more and finer contaminant particles, such as dirt and metals than the full flow filter alone. It consists of an outer casing and mounting bracket, a dense inner filter media, such as cotton, and a flow rate regulator. Some by-pass filters also include a heating element and time released additives. By-pass filters are available in various sizes for use in all kinds of vehicles from a passenger car to large trucks and other equipment.

Why Use a By-Pass Oil Filter?
Lubricating oil is made from a limited natural resource and used oil is by far one of the largest hazardous waste streams generated in California. A fleet maintenance facility can generate thousands of gallons of used oil each year from routine engine maintenance. You can reduce the amount of used oil you generate by using by-pass oil filtration systems to extend oil life in your fleet vehicles. The by-pass filtration system allows you to reduce purchase and disposal costs of oil while still maintaining optimal operating conditions.

Internal combustion engines require that their lubricating oil maintain proper viscosity and total base number (TBN) in order to perform at peak efficiency or to perform at all. Through normal use, the viscosity and TBN of the oil changes as the oil gets contaminated with metal, soot, and water and the additive package breaks down. Lubricating oil itself does not wear out, so if the contaminants are removed the oil can keep doing its job.

What Does A By-Pass Oil Filter Do?
It filters solid contaminants from the engine oil including fine abrasive particles and soot as small as one micron or less in some types. Most full flow filters alone can only remove particles larger than thirty or forty microns without overloading, and plugging up. Some by-pass filters can help evaporate liquids, such as fuel, coolant and water, which can reduce or eliminate oxidation by-products known as gum and varnish.

How Does A By-Pass Oil Filter Work?
A small amount of oil from the main oil galley is directed through the by-pass filter where the contaminants are trapped in the filter medium. The cleaned oil is returned to the oil sump. The oil flow rate through the filter is low, three to eight gallons per hour, and is controlled by a metering jet, orifice or check-ball.

The by-pass filter and a reusable full flow filter, can reduce your oil filtration waste stream even further. See the fact sheet “Reusable Oil Filters” for more information.
Why Sample Oil?

To maximize the benefits of a by-pass oil filter, you need to begin an oil sampling and testing program to ensure proper maintenance. Some oil distributors and filter vendors provide this service. Besides allowing longer oil change intervals, performing oil testing can provide early warning signs of engine problems. This also works if you want to test oil from transmission, differential, power steering, or other hydraulic systems. Your oil testing program can serve as “a window” into your vehicles’ components to warn you before it is too late. You can find problems early and perform the preventative maintenance that your fleet vehicles need to keep them running their best, which will help to save long term operational costs. See the cheat sheet “Oil Life Extension” to learn how to begin oil sampling and testing for your vehicles. With a by-pass filtration system end-users have reported cost savings up to 90% on both oil purchases and oil disposal. By-pass filters can save thousands of dollars and reduce used oil.

Advantages of By-pass Filters

Operational
- Protect engine against: abrasive particles such as dirt and soot; liquid such as anti-freeze and water; and oxidation by-products gum and varnish;
- Maintain proper oil viscosity for cooling properties,
- Life, save on costs of oil purchases, and used oil disposal.

Environmental
- Ore a non-renewable natural resource – oil.
- Reduce potential for used oil contamination of: groundwater, soil, and surface water.

The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) certified the puraDYN™ Oil Filtration System in 1994 as “A Pollution Preventing Technology.” In 1998, DTSC re-certified the puraDYN™ By-Pass Oil Filtration System. DTSC stated: “an effective means of extending engine oil change intervals through the removal of particulates, water, and dissolved fuel. Extension of drain intervals reduce: 1) use of new oil, 2) generation of used oil, and 3) potential of spills while draining and transporting used oil.” They went on to say, “If properly operated, monitored and maintained, the puraDYN™ By-Pass Oil Filtration System maintains the following engine oil properties within acceptable limits necessary for continued use: viscosity and solids content, water, coolant, fuel, wear metals, and oil additives.”

Why Buy Re-refined Oil?

- Conserve a natural resource
- Increase market demand for high end uses of used oil
- Reduce dependence on foreign oil and trade deficit
- Provide jobs

Re-Refined Oil Facts

- 2.5 quarts of lube oil can be produced from one gallon of used oil.
- Re-refining is energy efficient - it takes less energy to produce a gallon of re-refined base stock than to produce a base stock from crude oil.
- Re-refined oil prices are competitive with virgin oil products.
- Re-refined oils that are API certified meet warranty requirements for new cars and trucks.
- Mercedes-Benz installs oil with re-refined content in their new cars at the factory.

Your state or local government environmental agencies have additional information about compliance and pollution prevention opportunities for auto repair shops and fleet maintenance operations in your state or area. For information on California regulatory compliance issues contact your nearest Department of Toxic Substances Control (DTSC) Regional Office by calling 1-800-728-6942. You may also access the CAL EPA website at www.calepa.ca.gov for links to California Regulatory Agencies. To obtain additional copies of “The Pollution Prevention Tool Kit; Best Environmental Practices for Auto Repair” (Document number 626) or “The Pollution Prevention Tool Kit; Best Environmental Practices for Fleet Maintenance” (Document number 625) contact “DTSC’s Office of Pollution Prevention and Technology Development (OPPTD)” at 1-800-700-5854. Accompanying videos, “Profit Through Prevention” are available at the same phone number for either auto repair (Document number 1504) or fleet maintenance (Document number 1504). DTSC’s OPPTD also provides technical assistance and pollution prevention resources to businesses and government agencies. Electronic versions of the fact sheets can be found at www.dtsc.ca.gov/PollutionPrevention/VSR/.

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Does Re-refined Oil Cost More?

There is no real price difference between re-refined and virgin oils. In fact, re-refined oil may sometimes be a few cents per quart cheaper. The final cost is dependent on factors such as blend, quantity, and supplier. Group procurement agreements can also save money. If you are a California state or local government agency you may buy re-refined oil, as well as other products, through the statewide commodity contract. Visit the Department of General Services web site for information on their recycled products contract: http://www.pd.dgs.ca.gov/contracts/recycled.