

GLOSSARY

Aftermarket - Broad term that applies to any change after the original purchase, such as adding equipment.

Alternative Fuel - Methanol, denatured ethanol, and other alcohols; mixtures containing 85% or more by volume of methanol, denatured ethanol, and other alcohols with gasoline or other fuels; natural gas; liquefied petroleum gas; hydrogen; coal-derived liquid fuels; non-alcohol fuels (such as biodiesel) derived from biological material; and electricity.

B100 - 100% (neat) biodiesel.

B20 - A blend of biodiesel fuel with petroleum-based diesel where 20% of the volume is biodiesel.

Biodiesel - A biodegradable transportation fuel for use in diesel engines that is produced through transesterification of organically derived oils or fats. Biodiesel is used as a component of diesel fuel. In the future it may be used as a replacement for diesel.

Box semi-trailer – the most common type of trailer can haul almost anything that can fit inside. It is also called a van trailer. *See Semi-trailer.*

Carbon Dioxide (CO₂) - A product of combustion that has become an environmental concern in recent years. CO₂ does not directly impair human health, but is a greenhouse gas that traps the Earth's heat and contributes to the potential for global warming.

Carbon Monoxide (CO) - A colorless, odorless gas produced by the incomplete combustion of fuels with a limited oxygen supply, as in automobile engines. According to the U.S. Environmental Protection Agency (EPA), CO contributes to the formation of smog ground-level ozone, which can trigger serious respiratory problems.

California Air Resources Board (CARB) - The state agency that regulates the air quality in California. CARB standards are often stricter than federal standards.

Catalyst - A substance whose presence changes the rate of chemical reaction without itself undergoing permanent change in its composition.

Clean Diesel - An evolving definition of diesel fuel with lower emission specifications, which strictly limit sulfur content to 0.05 weight %; in California, aromatics content is further limited to 10 volume % (for large refiners).

Clean Fuel Vehicle (CFV) - Any vehicle certified by EPA as meeting certain federal emissions standards. The three categories of federal CFV standards are: low emission vehicles (LEV), ultra-low emission vehicles (ULEV), and zero emission vehicles (ZEV).

Compressed Natural Gas (CNG) - Natural gas that has been compressed under high pressures, typically 2000 to 3600 psi, held in a container. The gas expands when used as a fuel.

Dry Bulk semi-trailer – resembles a big *tanker*, but is used for sugar, flour and other dry powder materials. *See Semi-trailer.*

Dyed Fuel - Fuel that is tinted with a dye to designate off-road or other federally tax-exempt use.

E10 (Gasohol) - Ethanol mixture that contains 10% ethanol, 90% unleaded gasoline.

E85 - Ethanol/gasoline mixture that contains 85% denatured ethanol and 15% gasoline, by volume.

E95 - Ethanol/gasoline mixture that contains 95% denatured ethanol and 5% gasoline, by volume.

Ethanol - Can be produced chemically from ethylene or biologically from the fermentation of various sugars from carbohydrates found in agricultural crops and cellulosic residues from crops or wood.

Flatbed Semi-Trailer – consists of just a load floor and removable side rails, and a bulkhead in front to protect the tractor in the event of a load shift. They can haul almost anything that can be stacked on and strapped down. *See Semi-trailer.*

Fossil Fuel - A fuel such as coal, oil, and natural gas. Fossil fuels are the remains of ancient plants and animals.

Gen Sets – are diesel powered generators that provide power to *reefers* which attach to the *trailer* while on the road.

Global Warming - The theoretical escalation of global temperatures caused by the increase of greenhouse gas emissions in the lower atmosphere.

Green Diesel - Diesel fuel that is taxed by all taxing authorities. Also called 'ultra low sulfur diesel'.

Greenhouse Effect - A warming of the Earth and its atmosphere as a result of the thermal trapping of incoming solar radiation by CO₂, water vapor, methane, nitrogen oxide, chlorofluorocarbons, and other gases, both natural and man-made.

Gross Vehicle Weight Rating (GVWR) - Maximum weight of a vehicle, including payload.

Idle Time - Vehicle engines that idle during equipment use and generally not associated with fuel used for on-road mileage.

Interstate Common Carrier (ICC) - A vehicle predominantly used by its owner to offer to transport the general public or the goods of the general public from place to place for hire.

Lowboy Semi-Trailer– type of *flatbed* in which the load floor is as close to the ground as possible. Most commonly used to haul heavy equipment, cranes, bulldozers, etc. *See Semi-trailer.*

Lubricity - Capacity to reduce friction.

M100 - 100% (neat) methanol.

M85 - 85% methanol and 15% unleaded gasoline by volume.

Natural Gas - A mixture of gaseous hydrocarbons, primarily methane, occurring naturally in the Earth and used principally as a fuel.

Neat Fuel - Fuel that is free from admixture or dilution with other fuels.

Non-Road Vehicle - A vehicle that does not travel streets, roads, or highways. Such vehicles include construction vehicles, locomotives, forklifts, tractors, golf carts, and others. (See also Off-Road or Off-Road Equipment)

Odometers - Displays vehicle miles traveled. May or may not continue to run when PTO units are in use and the vehicle is stationary. Odometers are usually located on the vehicle's dash and/or on the vehicle wheel hub.

Off-Road - Any non-stationary device, powered by an internal combustion engine or motor, used primarily off the highways to propel, move, or draw persons or property, and used in any of the following applications: marine vessels, construction/farm equipment, locomotives, utility and lawn and garden equipment, off-road motorcycles, and off-highway vehicles. (See also Non-Road Vehicle or Off-Road Equipment)

Off-Road Equipment - Unlicensed equipment not intended for on-road use. Examples: construction equipment (backhoes and bulldozers) and agricultural equipment (tractors). (See also Non-Road Vehicle or Off-Road)

Original Equipment Manufacturer (OEM) - The original manufacturer of a vehicle or engine.

Oxides of Nitrogen (NO_x) - Regulated air pollutants, primarily NO and NO₂ but including other substances in minute concentrations. Under the high pressure and temperature conditions in an engine, nitrogen and oxygen atoms in the air react to form various NO_x. Like hydrocarbons, NO_x are precursors to the formation of smog. They also contribute to the formation of acid rain.

Paraffins - Group of saturated aliphatic hydrocarbons, including methane, ethane, propane, and butane and noted by the suffix "-ane".

Particulate Matter (PM) - A generic term for a broad class of chemically and physically diverse substances that exist as discrete particles (liquid droplets or solids) over a wide range of sizes.

Particulate Trap - Diesel vehicle emission control device that traps and incinerates diesel particulate emissions after they are exhausted from the engine but before they are expelled into the atmosphere.

Petroleum Fuel - Gasoline or diesel fuel.

Power Take Off (PTO) - State tax term used to describe auxiliary equipment operated by a vehicle's fuel generally not associated with fuel used for on-road mileage. Split shaft power take-offs are designed to

allow one engine to power either the vehicle's drive axle or the auxiliary equipment by switching the mode of operation with the main clutch in the gearbox.

Private Fleet - A fleet of vehicle owned by a non government entity.

Pseudo Fleet – is a Vortex term used internally when referring to a group of individuals at the same location, such as a real estate office. Selling to one individual frequently leads to selling the vast majority of at that location.

Reefer – is a *box trailer* with a heating/cooling unit (reefer) attached used in freight transport. It is usually a refrigerated container that relies on external power – electrical power if stationary or diesel powered generators (“gen sets”) which attach to the containers while on the road. *See also Gen Sets, Semi-Trailer and Trailer.*

Retailer – is a retail location selling **Vortex Fuel Savers** that is allowed to purchase product at the published wholesale price list.

Retrofit - To change a vehicle or engine after its original purchase, usually by adding equipment.

Sales Commission – Commissions earned by Vortex Independent Sales Representatives by making sales to Retailers. This specifically does not include Finder’s Fees or profits earned by Vortex Independent Sales Representatives making personal sales.

Semi-Trailer – is a trailer without a front axle. A large portion of its weight is supported by a tractor or by a detachable front axle assembly known as a dolly. A semi-trailer is normally equipped with legs which can be lowered to support it when it is uncoupled. Different types of semi-trailers are designed to haul different cargoes – *box, reefer, tanker, dry bulk, flatbed, lowboy and car carrying trailer.* *See also Semi-Trailer Truck and Trailer.*

Semi-Trailer Truck – or “semi” is a tractor coupled to a semi-trailer. *See Semi-trailer.*

Smog - A visible haze caused primarily by particulate matter and ozone. Ozone is formed by the reaction of hydrocarbons and NOx in the atmosphere.

Stabilization Period -- is the time it takes for the engine system to reach full efficiency from using Vortex products. The Stabilization Period generally takes three tanks of fuel for a car or light truck, but can take up to five weeks for a large tractor. Nonetheless, the Vortex products give good results during the period.

Sulfur Dioxide (SO2) - An EPA criteria pollutant.

Tanker – is a type of *semi-trailer*, used for hauling liquids like gasoline, milk, etc.

Tractor – proper name for trucks commonly referred to as 18-wheelers, transfer truck or big rig in the U.S., and as articulated lorry (shortened form “artic”), juggernaut (large ones), prime mover, road tractor, semi, tractor unit, truck and tractor in various places around the world. Tractors are also

frequently referred to within the trucking industry as “unit.” They are heavy-duty vehicles, usually with a large diesel engine and two or three axles, designed for the transport of freight of some kind over a significant distance, to pull long *Semi-Trailers* or *Trailers*. A history of the name suggests that steam tractors were originally referred to as traction engines, with the work “tractor” eventually deriving from a contraction of ‘traction’ and ‘motor’.

Trailer – as in Tractor-Trailer -- is generally an unpowered vehicle pulled by a powered vehicle. Trailers are typically 20 or 40 foot long containers pulled by *Tractors*. *See also Semi-Trailer*.

U.S. Department of Energy (DOE) - A department of the federal government, established by the Carter Administration in 1977, to consolidate energy-oriented programs and agencies. The DOE mission includes the coordination and management of energy conservation, supply, information dissemination, regulation, research, development and demonstration.

U.S. Department of Transportation (DOT) - A government agency whose mission is to ensure a fast, safe, efficient, accessible, and convenient transportation system that meets the national interests and enhances our quality of life.

U.S. Environmental Protection Agency (EPA) - A government agency, established in 1970, responsible for protecting the environment and public health. EPA seeks to reduce air, water, and land pollution and pollution from solid waste, radiation, pesticides, and toxic substances. EPA also controls emissions from motor vehicles, fuels, and fuel additives.

Vehicle Miles Traveled - The miles traveled by motor vehicles over a specified length of time (e.g. daily, monthly, or yearly) or over a specified road or transportation corridor.

Volatile Organic Compound (VOC) - Reactive gas released during combustion or evaporation of fuel and regulated by EPA. VOCs react with NO_x in the presence of sunlight and form ozone.

Voluntary Mobile Source Emission Reduction Program - A program established by EPA to encourage voluntary emission reduction programs that can be part of a state implementation program.

Vortex Fuel Optimizers – A system comprised of product for the fuel, air, coolant, as well as air conditioning and power steering lines of an engine designed to save fuel, reduce emissions and enhance the performance of the engine for tractors, and other large, heavy duty vehicles.

Vortex Fuel Savers -- A system comprised of product for the fuel, air and coolant lines of an engine designed to save fuel, reduce emissions and enhance the performance of the engine for automobiles and light trucks.