

Clean Truck Program Equivalent Emission Control Requirements

The Northwest Seaport Alliance (NWSA) accepts alternative solutions that control emissions equivalent to the 2007 engine emission standard. Not all verified retrofit devices will be equivalent to a truck manufactured to meet the 2007 EPA engine standards.

The NWSA will only accept any device verified by the California Air Resource Board (CARB) as a Level 3 device that reduces particulate matter emissions by at least 85 percent. Note: CARB Level 1 and Level 2 devices will not be accepted as equivalent technologies to a 2007 engine. A list of CARB Level 3 devices may be found here: <https://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>.

The NWSA will also accept EPA-verified retrofits that reduce PM emissions by at least 85 percent as equivalent to a 2007 engine. EPA-verified retrofits may be found here: <https://www.epa.gov/verified-diesel-tech/verified-technologies-list-clean-diesel>. [Note: sort by 'PM Reduction']

Not every Diesel Particulate Filter (DPF) is suitable for every engine and not every truck engine and duty cycle will be compatible with a DPF retrofit. To identify which DPFs might be suitable for your truck, you will first need to know information about your truck engine:

- identify the engine year,
- engine manufacturer,
- engine family number,
- horsepower rating.

This information should be shown on the metal engine plate that is attached to your engine. The CARB website outlines the process clearly and lists authorized dealers in California, several of which also operate in the Pacific Northwest: <https://www.arb.ca.gov/msprog/decsinstall/installationprocess.htm>

Once you've gathered your truck's information, you can use it to research which DPFs may be suitable for your truck either by using the EPA and CARB websites listed above or by consulting with DPF manufacturers or an installer/dealer authorized by a DPF manufacturer. The NWSA cannot advise you prior to installation on specific products or dealers to use. The manufacturer or approved installer will provide a technical recommendation on after-market appropriate DPF retrofit systems that may be compatible with your truck's engine. The NWSA recommends that you contact the DPF manufacturer, or their authorized distributor, prior to making any purchasing decision.

There are two categories of DPF retrofits: passive and active. Active DPFs can regenerate, or self-clean, by adding extra fuel to the DPF system. Passive DPFs are not able to regenerate, or self-clean. Both types of DPFs need manual cleanings annually or more often depending on the duty cycle of the engines. Passive DPFs will need manual cleanings more often than active DPFs, which can be costly.

Passive DPF

A passive DPF is a flow-through diesel oxidation catalyst combined with a filter canister. The filter canister traps the pollutants and is cleaned out by high-temperature exhaust, along with periodic cleaning by a professional using a cleaning machine.

Passive DPFs depend on high exhaust temperatures to keep them operating properly (and not clogging up), the installer will measure the temperature of your truck's exhaust over several days to ensure that it will be hot enough for the passive DPF to work properly. If your exhaust is hot enough and the DPF can be installed, be sure to obtain a copy of the temperature testing data because you will be required to provide the NWSA evidence of that temperature testing. You should discuss your regular route and duty cycle with the authorized installer. If your duty cycle is highly variable or tends to change that is important for the installer to know prior to specifying a DPF retrofit that would be compatible with your engine. You may need to have the temperature of your exhaust recorded for many days to capture the variations in your truck's duty cycle. Once a DPF is installed, any change in duty cycle could result in a prematurely plugged DPF, and you will be liable for any repairs.

Active DPF

An active DPF also includes a Diesel Oxidation Catalyst (DOC) in line with a filter, but instead of relying on the exhaust temperatures while the truck is running to be high enough to burn off the accumulated soot, these DPFs include additional components that dose the exhaust with diesel fuel to burn off and regenerate the filter.

Exhaust Retrofit on Existing Engine

A qualified installer must perform the following services at the expense of the truck owner.

Before you install an exhaust retrofit:

- Data log the exhaust temperatures and/or review the duty cycle for system specification to ensure the DPF will perform as verified.
- Perform engine pre-assessment prior to DPF installation. The installer will check for any existing leaks, wear and tear, missing or broken engine parts etc.
- If engine passes pre-assessment, install verified DPF. If an engine fails the pre-assessment, or is missing its emissions label, the installer will not be able to proceed with the DPF installation until these items are corrected.

After you install an exhaust retrofit:

- Conduct post-installation assessment to make sure the retrofit is working properly. For active DPF retrofits a Parked Regen must be completed to verify that no dashboard lights come on.

NWSA Documentation

You must provide all documents received from the installer to the NWSA for verification of the DPF retrofit's compliance with program requirements. The installer must provide you with the following documentation for review by the NWSA:

- Data log results
- Copy of engine pre-assessment from installer
- Copy of verification letter for the DPF retrofit device installed
- Copy of installation work order
- Copy of work order showing post-installation assessment

The NWSA will review all the supplied documentation and determine whether the retrofit meets the requirements of the Clean Truck Program.

Engine Repower + Exhaust Retrofit

A repower on your truck is when your existing non-compliant engine is removed and replaced with a completely new compliant engine and a DPF. If you replace your engine and install a DPF you will need to meet all the exhaust retrofit requirements above in addition to the following requirement:

- The emission controls for the engine year must be consistent with regulation. For example, if you choose to purchase a 2010 or newer engine, you are responsible for ensuring the distributor installs a NOx control system during the engine retrofit.

The distributor will then perform the following services at the expense of the truck owner:

- Installation of engine and engine retrofit system;
- Record of EPA Certification Code and provide copy to truck owner;
- Photograph EPA Certificate Date and provide copy to truck owner;
- Print copy of engine regen history, engine install work order, and cleaning worksheet to truck owner.

You then provide all documents received from distributor to the NWSA for verification of compliance with Clean Truck Program.

Existing Exhaust Retrofit

If you are considering purchasing a truck with a retrofit already installed, or have already purchased a truck with a retrofit, you must provide the following documentation to the NWSA either from the original installation, or, if that is unavailable, the work must be repeated:

- Data log results
- Confirmation of engine assessment from installer
- Copy of verification letter for the DPF retrofit device installed
- Copy of work order showing post-installation assessment

For more information or questions, please contact trucks@nwseaportalliance.com or 253-592-6200.