A clean sell: Providing DPF cleaning

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For the service providers out there, what do you offer in your preventive maintenance package? Do you include diesel particulate filter (DPF) cleaning?

If you don't, it's not a bad idea to consider adding it.

Most DPFs in use in North American trucks today can be cleaned in an hour or less. The process is predominately automated, and OEMs, DPF manufacturers and independent suppliers all have DPF cleaning equipment on the market.

But the simplicity of the task isn't the only reason to offer it.

DPF cleaning is a necessity to keep heavy-duty trucks on the road, and there's a market for service providers who can do it well.

Effectively cleaning a DPF and its associated parts during preventive maintenance stops will increase the life of the filter, help keep the engine running smooth and minimize breakdown risks in the future.

A service provider who can offer that during PM has a leg up on its competition. DPFs don't need to be cleaned during every PM stop, but being able to do so when necessary can add value to your service department.

Most DPFs in service today require cleaning every 200,000 to 250,000 miles.

The first step in cleaning one is to visually inspect the filter housing and associated components for visible wear or damage, says FSX Inc., a heavy-duty DPF cleaning services company.

A well-kept DPF can last through several cleanings but a DPF must operate at 100 percent to be effective. David McNeill, parts and service manager at Cummins Emissions Solutions, says a DPF should be "inspected and verified suitable for re-use" before cleaning, and that any DPF found to operating incorrectly or damaged should be replaced.

McNeill says DPFs that are improperly cleaned or not cleaned at OE-recommended intervals are most likely to require replacement, while filters cleaned at proper intervals “result in improved DPF reliability and durability, as well as reducing the likelihood of frequent regenerations and associated downtime.”

After a DPF passes visual inspection it can be removed from a tractor and attached to a filter cleaner to begin the process of removing soot and dirt from its interior.

Each OE recommends different cleaning tools during this step.

PACCAR advises its filters be cleaned using FSX’s tool, which requires the filter be removed from the tractor and placed into the machine for cleaning.

Karl Mowat, general marketing manager at PACCAR Parts, says using proper technique and equipment is necessary for an effective cleaning.

“Inadequate cleaning and maintenance of the DPF can lead to more frequent system regenerations, which may lead to shortened life of the DPF as well as the after treatment system as a whole,” adds McNeill.

Once a technician knows what cleaning system the DPF requires, the job is pretty straightforward. The technician must simply affix the DPF to the cleaning apparatus and start the process.

One common method for DPF cleaning — in use in most commercial cleaners today — is to direct air at high-pressure through the DPF in a circular, knife-like snaking motion to dislodge the particulate from the walls of the filter and out through the end.

This process knocks the ash and soot from the DPF quickly and efficiently, Mowat says. The particulate is then deposited it in a separate container that can be emptied from the cleaner for easy disposal.

While a DPF is being cleaned a technician also should check its related components.

John Moore, powertrain product manager at Volvo Trucks, says a diesel exhaust fluid pump filter and tank filling arm both have recommended service intervals shorter than a DPF, and says Volvo advises technicians to check and clean both pieces of equipment during a DPF cleaning.

The next step after a cleaner completes its cycle is to check the DPF internally to make sure the cleaning was successful. A DPF that is not 100 percent empty of particulate is vulnerable to breakdowns and an abbreviated life cycle.

“A dirty DPF is like a dirty air filter. It still ‘breathes,’ but backpressure will continue to increase in the exhaust system, which reduces engine efficiency and fuel efficiency,” says Moore.

Mowat says the FSX cleaner PACCAR recommends includes an air flow test that “tests a filter before and after it’s cleaned to determine backpressure from ash build-up.”

A DPF that passes the test should be re-installed on a truck, while a failing test means the DPF must be re-cleaned in the cleaning machine or through thermal cleaning, he says.

Thermal cleaning is the process of placing a DPF in a heat chamber at an elevated temperature that eventually loosens and removes excess particulate encased on the walls of the component. Commonly known as “baking” the filter, thermal cleaning is used when on-site air cleaning is unsuccessful.

To assure all Volvo trucks return to the road with a peak-operating DPF, Moore says Volvo offers their dealers a program to purchase their own FSX DPF cleaning system. They also offer a clean and return program that allows dealers to send their customers’ DPF filters to the Volvo remanufacturing facility for inspection and cleaning. Volvo customers can also elect to purchase a new filter.

Cummins operates a similar program where filters are exchanged, and McNeill says customers receive a component “that meets the condition and performance specs of the original Cummins DPF.”

The clean filter is then re-installed on the tractor to complete the process.

Moore says a typical DPF swap averages 30 minutes, while McNeill says a DPF removal, cleaning and re-attachment can be done in hour or less.

So if you’re looking for a way to add services and options to your preventive maintenance catalog, consider adding DPF cleaning.

It’s a short repair that can go a long way toward helping your customers.