CARDONE™
WE BUILD IT BETTER

Remanufactured

DIESEL PARTICULATE FILTERS

Advanced exhaust systems on diesel vehicles play an integral role in reducing emissions to an environmentally friendly level. Within the exhaust system, Diesel Particulate Filters are responsible for removing soot from the exhaust stream. Historically, when a DPF failed, the only option was to purchase an expensive, brand-new unit. CARDONE Remanufactured Diesel Particulate Filters provide an alternative for light and medium-duty trucks and passenger cars with coverage on 90% of the market. They are re-engineered to meet or exceed O.E. performance standards, but at a fraction of the cost.

- Direct-fit O.E. replacement. Units are contained in the O.E. stainless steel housings to ensure precise flow, safety and durability.
- After reassembly, units are media blasted and coated to renew exterior appearance and increase corrosion protection.
- All applicable O.E.-quality temperature sensors and sealing gaskets are provided to ensure a complete repair.
- Each unit is flow-tested to on-car exhaust levels before and after the remanufacturing process to verify it meets O.E. performance standards.
- Exhaust hangers and sensor mount holes are welded, where necessary, to return each part to factory fit and function.
- Parts are thoroughly cleaned to remove loose particulate matter then baked at high temperatures to return units to O.E. performance levels.
- New mounting nuts are included with units containing mounting studs.

CARDONE™
WE BUILD IT BETTER

Good Maintenance Practices

- Air, fuel and oil filters must be replaced at specified intervals as stated by the O.E. service manual.
- Monitor fuel and oil consumption. Excessive consumption could indicate an issue with the DPF.
- Ensure correct fuel type is being used.
- Perform periodic inspections of the exhaust. Repair any leaks.
- Perform engine valve train adjustments at specified intervals as stated by the O.E. service manual.

Signs of Wear and Troubleshooting

- Engine management light illuminated
- Catalyst saturation warning in vehicle information center
- Warning chime heard in passenger compartment
- Fault codes stored
- Loss of power – vehicle performance complaint
- Reduced fuel economy
- Poor throttle response
- Hard start or failure to start
- Limp mode may be actuated
- Bad smell

FAQs

What's a Diesel Particulate Filter (DPF)?

- A Diesel Particulate Filter (DPF) is a filter designed to reduce diesel particulate matter or soot to an allowable amount for release into the atmosphere through the exhaust stream.

What is Diesel Particulate Matter?

- Diesel particulate matter, or soot, is a black, carbon byproduct generated from incomplete combustion of diesel fuel.

CARDONE™
WE BUILD IT BETTER

How does the DPF work?

- Most DPFs utilized by O.E. manufacturers are designed to remove 85% or more of soot under specific conditions. The accumulated soot is burned off at high temperatures, leaving only a residue of ash. This process renews the filter, so it is prepared to take on more matter. The DPF needs to be cleaned regularly, through a process called regeneration.

How does the regeneration process work?

- The DPF separates and captures exhaust soot in order to reduce emissions, however, the DPF has a limited capacity. The soot that is captured must be periodically burned off to "regenerate" the filter. Regeneration is the process in which the DPF is subjected to high temperatures in order to remove the soot, lower exhaust stream back pressure caused by the loaded filter and restore filter capacity.

Are there different types of regeneration that O.E. manufacturers use to clean the DPF?

- Yes, most O.E. manufacturers use three different types of regeneration to clean the DPF. Those types are passive, active and forced.

How does Passive DPF Regeneration work?

- Passive regeneration automatically begins once the exhaust reaches optimum temperature, usually on prolonged highway driving.

How does Active DPF regeneration work?

- Active regeneration is initiated by the powertrain control module and occurs when passive regeneration alone does not remove soot that has accumulated. In an active regeneration process, the DPF is cleaned by raising the exhaust temperature to a point where the soot is burned away. After the soot is burned off, the exhaust temperature and back pressure return to normal levels.

How does Forced DPF regeneration work?

- Forced regeneration is necessary when active regeneration could not occur, resulting in a high soot level within the filter. The vehicle will enter into limp mode and will require a diagnostic tool to force the regeneration process. If the regeneration process is not performed as soon as possible the DPF will need to be replaced.

How does a DPF fail?

- DPFs typically become blocked when vehicles are left idling for extended periods of time or when they are driven repeatedly on short trips. Over time, ash that is not removed during a regeneration process can build up, resulting in a blocked DPF. Some other causes of DPF failure include turbo oil leakage, a restricted EGR valve, faulty fuel injectors (engine running too rich), or incorrect oil type being utilized in the engine.

Can a blocked DPF cause engine or turbo failure?

- Yes. Driving a vehicle with a blocked DPF can lead to engine and/or turbo damage. A blocked DPF prevents the exhaust gas stream from passing through the exhaust system at the required rate, resulting in excessive back pressure and an increase in exhaust gas temperatures. The increase in exhaust gas temperature and back pressure can eventually lead to oil leaks, excessive engine crankcase pressures, carbonization of oil, restrictions at oil feed to turbo and bearing wear at the turbo.

How long does it take for a DPF to become blocked?

- A DPF may take several years to become blocked depending on how the vehicle is driven and maintained; however, if the DPF does become blocked it may lead to turbo and/or engine damage.

Is the quality of diesel fuel really that important for DPF efficiency?

- Yes. The quality of the fuel greatly influences the formation of diesel particulate matter. A high sulfur content fuel will produce more matter. A lower sulfur fuel produces less matter.