

## Proper Maintenance Prevents Excess Smoke

A vehicle that is smoking excessively probably uses more fuel than it should. This increases carbon buildup in the engine that may result in more frequent overhauls. A good preventative maintenance program at the proper intervals will reduce fuel costs and corrective maintenance costs. Some good tips:

- Clean or replace the air filter
- Replace fuel filter
- Clean or replace injectors or nozzles
- Adjust or replace puff limiter
- Adjust air-fuel ratio controls
- Adjust or replace throttle delay
- Adjust the governor
- Adjust the fuel rack
- Adjust injector timing
- Repair or replace metering pump
- Adjust, repair, or replace turbocharger

For more information call (609) 292-7953.

New Jersey Department of Environmental Protection  
Diesel Risk Reduction Program  
Heavy Duty Diesel Vehicle Inspection Program  
P.O. Box 418  
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Visit our website at:  
[www.nj.gov/dep/dieselim](http://www.nj.gov/dep/dieselim)

Do not tamper with your truck's engine or emission controls. Changing factory settings or disconnecting OEM equipment is illegal. This not only causes pollution but wastes fuel and can shorten engine life.

**Remember:** Diesel smoke is a major source of public complaints. A clean engine is good for your business image.

Your Smoke Opacity Test Results	
Date of Testing	
License Plate #	
Opacity Level	

Do your part  
to clean up  
the air.

## NJ HEAVY DUTY DIESEL VEHICLE Inspection Program

REVISED OPACITY CUTPOINTS  
[ EFFECTIVE DEC '09 ]



## CLEAN AIR FOR ALL NEW JERSEY.



Since the initial opacity cutpoints were put into effect ten years ago,

# several changes have occurred

within the fleet of trucks operating in New Jersey.

First, engine technology improvements such as common rail injection, variable vane turbochargers, adaptive EGR systems and more advanced computer controls make trucks sold today significantly cleaner and more efficient than those available only a few years ago. These vehicles pass the current standards easily but still need service or maintenance.

**Diesel smoke has major health impacts** due to the fine particles and air toxins it contains and it impairs visibility. These fine particles and toxins have been implicated in causing:

- Increased symptoms of asthma
- Increased hospitalization for respiratory ailments
- Lung cancer
- Chronic decrease in lung function among children under age 18

Going forward, exhaust after-treatment systems such as diesel particulate filters – often referred to as traps – have now become standard equipment thus further reducing the pollution emitted by these trucks.

Add to this the fact that New Jersey fleet owners haven't been sitting still but rather are continuously purchasing the new vehicles to expand their business and replace old, high mileage units. These factors mean that the vast majority of trucks on the road today normally have smoke opacity levels far below the original

cutpoints. The introduction of the new cutpoints will help identify those vehicles that are in need of better maintenance and therefore allow everyone to breathe cleaner air.

### Old vs New Cutpoints

The original cutpoints were separated by vehicle age and type and now even the vehicle age ranges have been revised, the proposed new cutpoints still use the same vehicle types.

	OLD	NEW
<b>Trucks:</b>	Pre-1974: 70% 1974–1990: 55% 1991 and newer: 40%	Pre-1991: 40% 1991–1996: 30% 1997 and newer: 20%
<b>Buses:</b>	Pre-1988: 40% 1988 and newer: 30%	Pre-1988: 40% 1988–1993: 30% 1994 and newer: 20%
<b>Retrofitted Buses*</b>	All: 30%	Pre-1994: 30% 1994 and newer: 20%

The exhaust smoke level is measured in terms of percentage (%) opacity. As the amount of particulate matter in the exhaust increases, the opacity of the exhaust also increases. A clear exhaust has 0% opacity and a black exhaust that blocks out all light has 100% opacity.



## What this Means to You?

The basic structure of the Heavy Duty Diesel Vehicle Inspection Program is not changing. If your truck is registered in New Jersey, you are still required to have it inspected annually at a Diesel Emissions Inspection Center (DEIC). If you drive on New Jersey roads, regardless of where your truck is registered, you may be subject to random roadside emissions inspection. During these tests, your truck will be subjected to one of three emissions tests to determine its smoke opacity:

**SNAP ACCELERATION TEST** is the most commonly performed. The vehicle is held stationary with wheel chocks and brakes released as the engine is rapidly accelerated to maximum governed RPM with the transmission in neutral. A smoke meter is used to determine the average opacity over several snaps.

**ROLLING ACCELERATION TEST** can be performed on any vehicle regardless of engine speed or transmission type. Vehicles are rapidly accelerated in low gear or 'Drive' – for manual or automatic transmissions respectively – to maximum governed RPM while the smoke opacity is measured.

**POWER BRAKE TEST** is only required on vehicles with an automatic transmission AND a high-speed engine. The vehicle is held stationary with all brakes applied and the transmission placed in 'Drive'. The accelerator is fully depressed and held for a maximum of ten seconds (usually about three seconds) while the smoke opacity is measured.

\* Vehicles retrofitted under a USEPA or NJDEP grant program only.