

ENGINE AIR FILTRATION

What you need to know about cleaning air filters

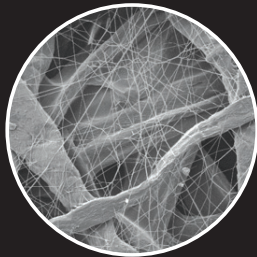
Cleaning and reusing engine air filters is a risky practice that can dramatically increase your owning and operating costs. Data shows the process of cleaning your air filter causes damage. Although the damage is not visible to the bare eye, it significantly reduces how effective the filter is at capturing harmful contaminants.

Damage Caused by Cleaning

Microscope images of filter media show cleaned filter has

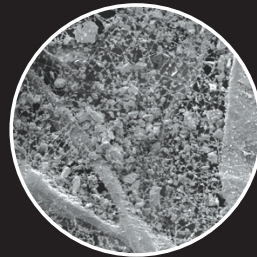
46%
Less Fine
Fiber Media

New Filter



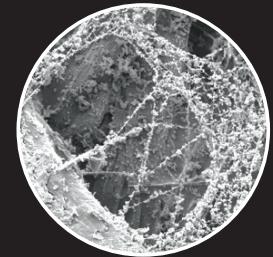
Filter media ready to do the job

Used Filter, Not Cleaned



Filter media working properly

Used Filter, Cleaned



Much of the filter media has been damaged leaving gaps for debris to enter

Effect of Cleaning on Piston Ring Life

Piston Ring Life

69%

Using a filter that has been cleaned every other change interval

100%

Using a new filter every change interval

- Cleaned filters were blown out using 30 psi of compressed air (considered to be less severe than many alternative processes used to clean filters).
- Utilizing a filter that has been cleaned every other change interval results in **31% More Wear to Piston Rings**

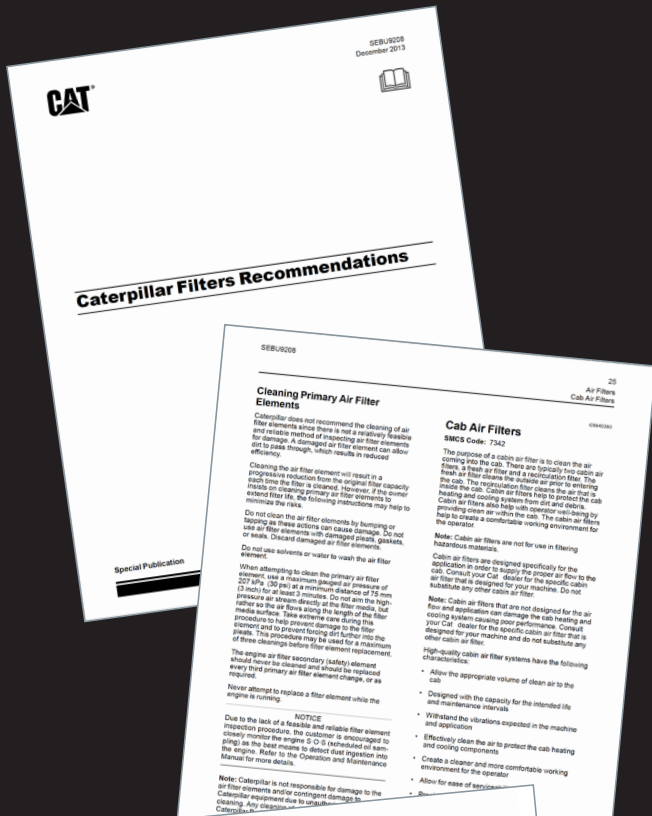
The Outcome of Cleaning

Cleaning your air filter damages your air filter:

- More abrasive particles enter your engine
- Wear to internal engine components is accelerated
- Rebuild cycles are shortened
- Downtime increases
- Productivity decreases
- Maintenance & overall costs increase



Want More Information on Air Filter Cleaning?



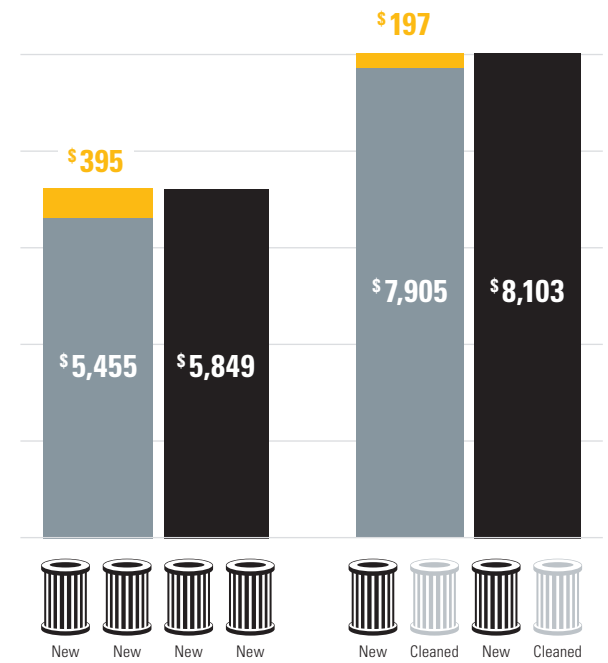
Cleaning Primary Air Filter Elements

Caterpillar does not recommend the cleaning of air filter elements since there is not a relatively feasible and reliable method of inspecting air filter elements for damage. A damaged air filter element can allow dirt to pass through, which results in reduced efficiency.

Cleaning the air filter element will result in a progressive reduction from the original filter capacity each time the filter is cleaned. However, if the owner insists on cleaning primary air filter elements to extend filter life, the following instructions may help to minimize the risks.

Cost to Clean

Annualized Cost Example* (USD)



Metric	Value	Description
FILTER COST	50%	cost savings from cleaning air filter
REBUILD COST	45%	cost savings from cleaning air filter
TOTAL COST	39%	cost savings from cleaning air filter

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