Liberty International Trucks
Diesel Particulate Filter Cleaning Service

Liberty International Trucks of NH cleans diesel particulate filters for customers on either an as-needed basis or under contract. We will inspect, clean, test and return the filter to the customer who sent it in. We do not exchange or substitute filters. All filters are recorded by serial number in our database with the associated results from cleaning.

Our Cleaning Procedure
1. Record owner and serial number
2. Inspected and test filter on FSX TrapTester; record defects, damage and test results in database
3. Perform Stage 1 pneumatic cleaning of the filter using the FSX TrapBlaster. Inspect filter during cleaning process using built in filter failure diagnostic feature. Record defects.
4. Test filter on FSX TrapTester. Compare results with FSX Baseline Matrix; determine status as Green Tag, Orange Tag, or Red Tag
5. If Green Tag achieved record results, repackage and return to customer.
6. If status is Orange Tag or Red Tag move filter forward into Stage 2 thermal cleaning using the FSX TrapBurner
7. Perform second pneumatic cleaning on FSX TrapBlaster to blow out ash freed in Stage 2 thermal cleaning.
8. Test filter for air flow on TrapTester; record results. Compare results with FSX Baseline Matrix; determine status as Green Tag, Orange Tag or Red Tag and attach tag with cleaning results
9. Record results in FSX database, repackage and return to customer.

Inspections and Testing
Liberty International inspects and tests the filter at every step of the cleaning process. When we are finished processing the DPF we know the exact condition of the filter and have absolute confidence and knowledge of the level of recovery. Cleaning results are shared with the customer and can be compared with historical recovery levels for the filter.

Quality Control
FSX equipment and the cleaning process has been subjected to rigorous testing by engineering teams from three major engine OEM’s. These tests determined that the FSX equipment, process and thermal cleaning programs provide the best cleaning available without damaging the ceramic sub-strait, wash-coats or packing materials. The FSX thermal programs adhere to all filter manufacturer specifications for cleaning.

Cleaning Results
Liberty International cannot and does not guarantee or warrant that we can achieve recovery of the filter. Filters can fail for a variety of reasons as a result of operating conditions. The primary source of failure is unusual thermal events that have caused sintering, failure of the cell walls or melting of the ceramic sub-strait. Filters can also be damaged by dropping them, thermal shocking them, excessive oil soaking, chips and vibration. Due to design and materials some filters last longer than others or can withstand higher temperatures.

Our FSX DPF cleaning system has an overall average cleaning success of about 95% of the filters. A recovered filter reaches Green Tag or Orange Tag status as set by FSX statistical analysis. Approximately 5% of the incoming filters will not move out of the Red Tag range for a variety of reasons or have failed or been damaged prior to receipt. These filters are Red Tagged and deemed un-cleanable.

Overall Filter Life
Overall filter life decreases when impacted ash is left in the filter cells. The deeper the impacted ash becomes the harder it is to remove in subsequent cleanings. The risk of sintering increases when ash is left in the filter. Ash stuck in the filter causes cold cells and leads to premature soot plugging. The cleaner the filter is kept the longer the overall life. FSX has repeatedly cleaned the same filters pulled annually on a preventative maintenance basis over four years and returned them to the Green Tag range every time.

Filters cleaned on pneumatic cleaning machines that do not clean each cell individually are more difficult to recover.
Time between Cleanings
FSX cannot control the time between cleanings and makes no guarantees. Filters can be re-plugged within hours if the engine is malfunctioning, operating temperatures are out of specification or if the wrong fuels or lubricants are used. FSX has seen filters run 240,000 miles after cleaning and filters that re-plugged in two hours. The ash that plugs a filter loads linearly in the filter based on engine hours and rpm. The loading rate of ash will vary due to the lubricants used, engine condition, and fuel quality. Usually it takes quite a period of time to plug a filter with ash. Soot plugging can occur very quickly and is usually due to a very unfavorable operating condition such as low filter temperature or engine problems.

Retrofit filters without passive regenerations systems typically plug with soot much more often than engine systems equipped with active onboard regeneration systems. Active regeneration systems have the ability to burn off accumulated soot and thereby keep the filter clear.

Turn-Around
FSX typically performs the Stage 1 Pneumatic Cleaning on an incoming filter within 8 business hours of arrival. If the filter needs a Stage 2 Thermal Cleaning the process time is about 12 hours.
Typical turn around times:
Stage 1 Pneumatic Cleaning – 24 hours
Stage 1 Pneumatic Cleaning plus Stage 2 Thermal Cleaning – 48 hours

Rush cleaning is available on request on a first come first serve basis. An up charge will apply for rush orders.

Customer Pick up and Delivery

Pick-up and Delivery Service: Liberty International Trucks provides pick-up and delivery service with 7 delivery trucks in New Hampshire and surrounding area’s. This service is available under limited conditions.

Packaging

DPF are very expensive filters and should be treated with care. Make sure your shipment is adequately packaged for rough motor freight conditions. The filter should be placed in a sealed bag or container. Make sure the packaging protects flanges or rims from denting. Do not leave the ceramic face exposed.

Filter Size Capability

Our FSX Equipment has the ability to process any size filter.
Largest filter cleaned: 32” Diameter x 48” Long that came out of a large crane
Smallest filter processed: 5” Diameter x 6 “Long

Prices

Prices will be provided upon request. Prices may vary due to filter size and filter design and whether the filter needs to go forward to a Stage 2 thermal cleaning. FSX only moves a filter forward to a Stage 2 thermal cleaning if the filter did not reach Green Tag range with the Stage 1 pneumatic cleaning. FSX has the following charges:

- Stage 1 Pneumatic Cleaning – Green Tag
- Combined Stage 1 Pneumatic Cleaning and Stage 2 Thermal Cleaning - Green Tag or Orange Tag
- Unsuccessful Cleaning Handling Charge: $25.00 flat charge in most cases unless filter is over 16” in diameter x 27” tall Note: The cleaning charges under item #1 and #2 above are waived by FSX if we are unsuccessful in recovering the filter. FSX believes if you did not get the enjoyment of being able to use your filter that we should not get the enjoyment of being paid. The nominal flat handling charge of $25.00 covers a small portion of the costs we incurred attempting to salvage your filter.