

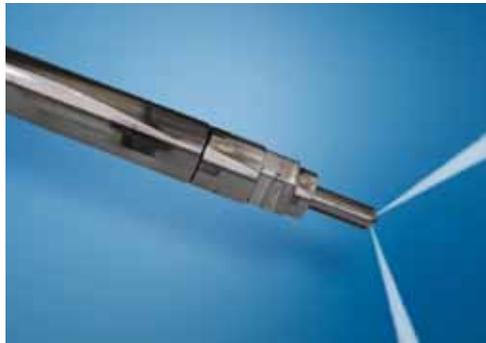


**Clean up sticky diesel injectors—
and keep them clean.**

Today's high-pressure common rail (HPCR) direct injection diesel engines are incredibly complex. Afton delivers the sophisticated detergent additives you need to protect them and deliver optimum performance.

Diesel injector sticking is a real industry problem which will only get worse as more HPCR engines enter the market.

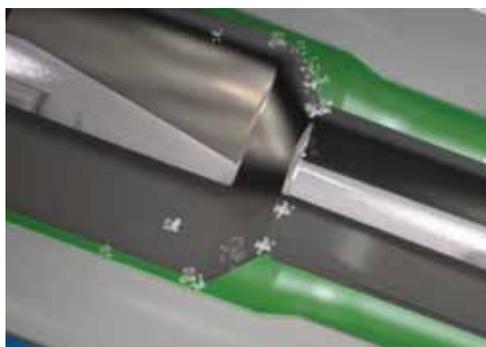
New, reduced-emission diesel injectors have finer tolerances and tend to gather "waxy" deposits primarily due to a reaction between commonly-used corrosion inhibitors and trace sodium contamination. As more of these sophisticated diesel engines enter the fleet, issues like injector sticking will increase. If left untreated, these deposits can lead to premature injector failure, higher maintenance costs, and reduced reliability. And with ultra low sulfur diesel (ULSD) fuels now required for off-road applications, we're likely to see even more problems.



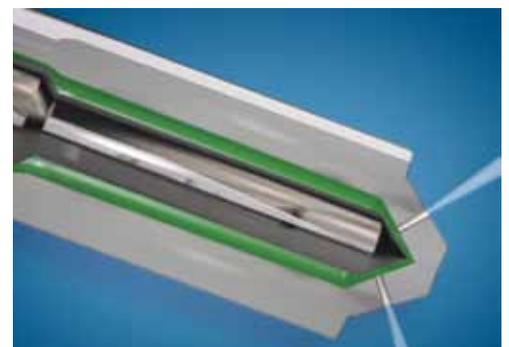
Corrosion inhibitors used in diesel fuel react with trace sodium ions to form salt deposits that are insoluble in ULSD fuel. The salt deposits accumulate in tight areas of injectors.



The deposits cause noticeable loss of performance from sticking injector needles, reduced fuel economy, lost power, and increased emissions.



Greenclean® cleans away deposits and keeps engines running smoothly.

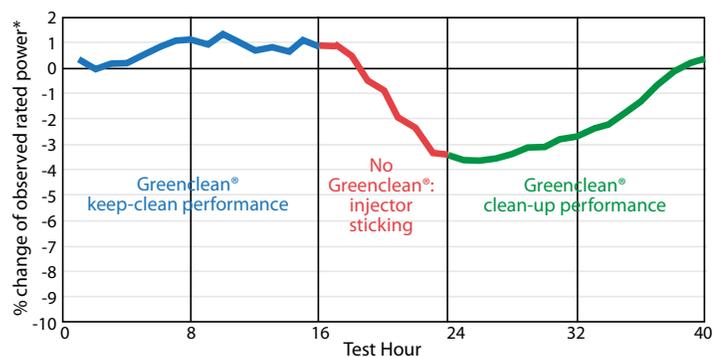


Once the clean-up process is complete, Greenclean® continues to keep injectors clear of performance-robbing deposits.



Greenclean® Detergent Technology dramatically cleans up sticky injectors and keeps them clean.

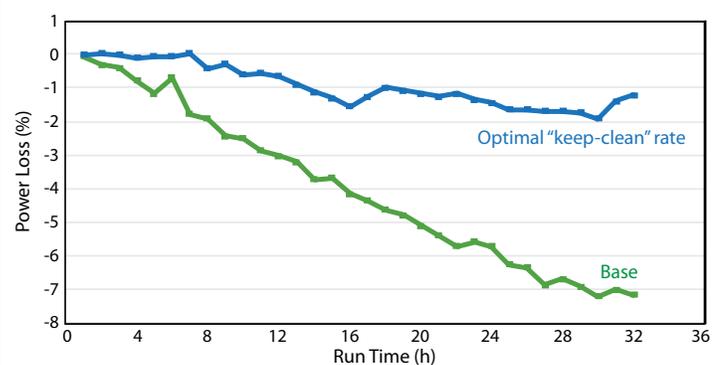
One product that can prevent and clean up injector deposits



*Loss of power is a symptom of sticky injectors

Afton's performance testing proves that fuels containing Greenclean® Detergent Technology dramatically clean up injectors and keep them clean.

Greenclean® reduces power loss in DW-10 test



And it also provides excellent protection against traditional coking as measured in the DW-10 test.



TERMINALS



Afton helps you keep customers satisfied by giving you reliable diesel injector solutions, with no changes to your terminal infrastructure or disruption of fuel supply.

- Prevent fuel injector problems in the field
- Enhance the equity of your quality brand with trouble-free diesel that improves fuel economy
- Continue using corrosion inhibitors you know and trust



FUEL MARKETERS

Protect and promote your brand with quality detergents that restore engine performance, increase fuel economy and clean up sticky diesel injector deposits.

- Protect your reputation with quality brands and differentiated fuel products
- Keep your customers happy with quick clean-up solutions for sticky injectors and economical keep-clean performance
- Restore engine performance and power, maintain fuel economy, and protect against future deposits

TRUCK OWNER/OPERATORS



Protect your equipment investment with quality detergents that help restore engine performance and increase fuel economy by cleaning up deposits.

- Clean up injector deposit problems—and protect against future deposits
- Reduce equipment downtime from “midnight breakdown” calls and improve fleet productivity
- Lower fleet maintenance costs
- Restore engine performance and increase fuel economy



ENGINE MANUFACTURERS

Protect your brand with quality detergents while giving your customers peace of mind that their engines will run smoothly for years to come.

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- Reduce customer complaints, warranty claims and expense
 - Help customers reduce costs and improve the efficiency of their fleets
 - Resolve customer problems with sticky residue and all other deposits quickly



NEW!



Greenclean[®]
DETERGENT TECHNOLOGY

Afton Chemical's innovation in diesel detergent additives has solved a very real problem affecting every stakeholder in the chain.

- Heads off a growing industry problem of injector sticking in high-pressure common rail (HPCR) engines, which is only going to get worse as more engines enter the market
- Extensive engine testing shows total control over all deposit types
- Lets **terminal owners** continue using corrosion inhibitors they know and trust
- Helps **fuel marketers** protect their brands with reliable, differentiated fuel products customers can depend on
- Reduces equipment downtime and maintenance costs for **end users** by providing a quick resolution to the problem of sticky injectors
- Reduces **OEM** customer complaints, warranty claims and expense



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