FPC/FTC Decarbonizer

Fuel Performance Catalyst

Australian Made & Owned
Established 1984

Cost Effective Maintenance

What is FPC/FTC Decarbonizer?

FPC/FTC Decarbonizer is a combustion enhancer that readily disperses fuel to play a catalytic role during the combustion process.

- As scientifically accepted, some elements act as catalysts and help promote combustion. FPC/FTC Decarbonizer contains Ferrous Picrate, which produces Fe++ions, which are proven to be one of the most effective for combustion.
- FPC/FTC Decarbonizer is a true ‘Combustion Catalyst’ in liquid form
- Treatment Ratio from 1:1600 to 1:10,000
- No change to fuel specifications ensuring acceptance by OEM’s

What does FPC/FTC Decarbonizer do?

FPC/FTC Decarbonizer is proven* to cut your fuel costs and carbon emissions, while reducing maintenance costs:

- Reduces fuel consumption and carbon emissions
- Eliminates hard carbon from combustion and exhaust spaces. Avoids turbocharger and DPF failures.
- Cleaner longer lasting oil—assists extended oil drain intervals and lowers wear metals
- Reduces exhaust smoke (DPM)
- Full biocide—kills diesel bug

* Government approved test results available on request (DT80 Test)

Why introduce FPC/FTC Decarbonizer to your fleet?

FPC/FTC Decarbonizer produces a more complete combustion, which provides significant maintenance savings, such as:

- Avoiding DPF, EGR and turbo failures
- Reduced blowby and oil consumption
- Avoiding fuel storage tank contamination
- Elimination of cylinder glazing
- Reduced oil contamination, soot, wear metals etc.
- Reduced harmful emissions

MTU

23,000 hrs.
Whole life FPC/FTC treated.
Scheduled pull down.
No faults to act on.
Pistons and liners reused.

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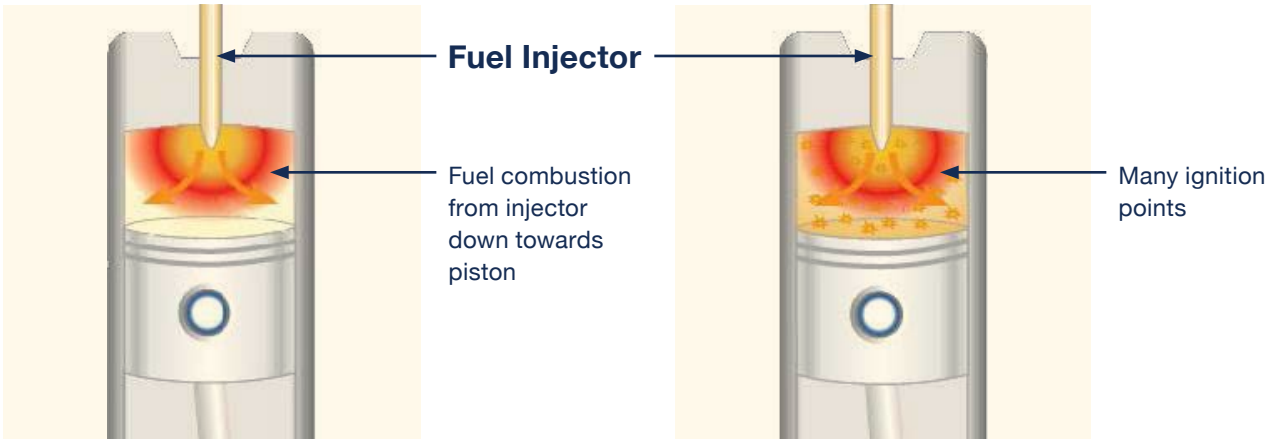
How does FPC/FTC work?

Pre-combustion phase:

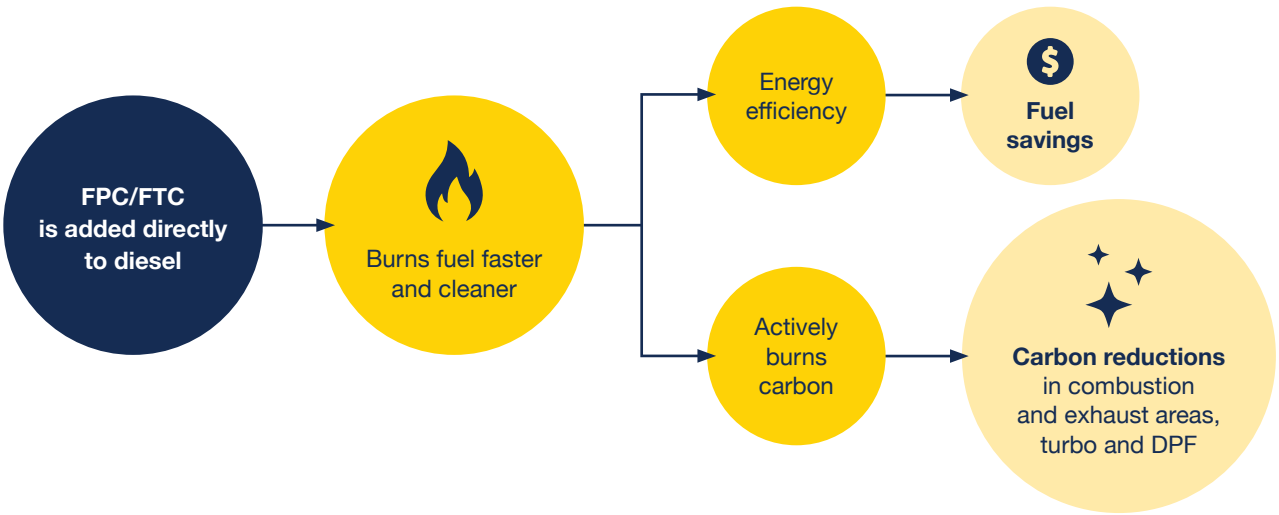
FPC/FTC Decarbonizer treated fuel delivers a cleaner fuel burn, by propagating sites throughout the air/fuel mixture initiating multiple flame fronts, as illustrated:



Untreated Fuel **FPC/FTC Treated Fuel**

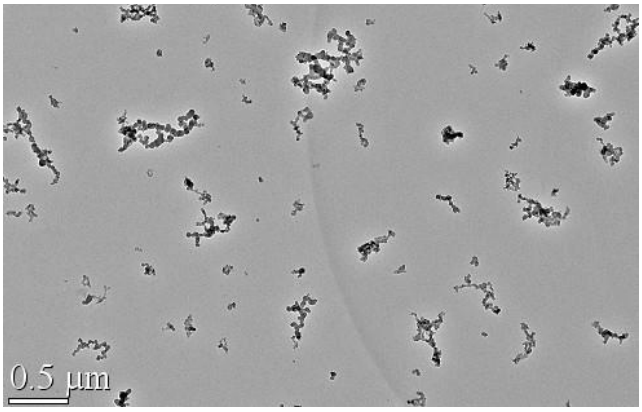
Combustion phase:

FPC/FTC Decarbonizer actively burns away all carbon from the combustion area and deglazes cylinders. Removes carbon from pistons, exhaust valves, turbos and diesel particulate filters.



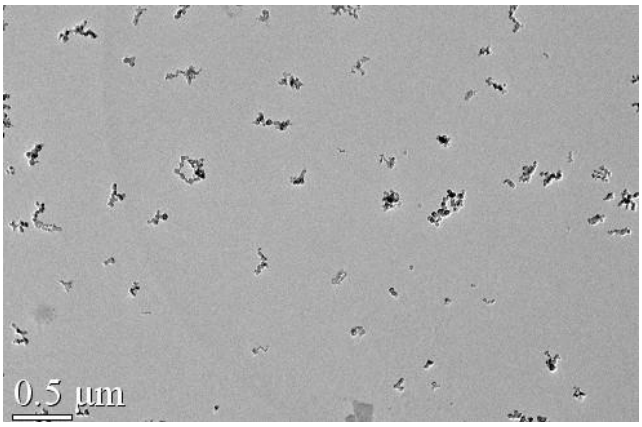
Soot Emission Comparison

Visually, the soot reduction can be seen in Transmission Electron Microscopy (TEM) analysis of soot samples presented below.



Exhaust sample from an engine <u>not</u> using FPC/FTC

Visible engine emissions



FPC/FTC treated 1:10,000 ratio

A visible reduction in diesel smoke was recorded.

FPC/FTC treatment resulted in a reduction in both the number and size of soot particles.

Typical fuel efficiencies provided by FPC/FTC treatment of fuel

Efficiency improvements vary with engine condition and application:

- New or reconditioned engines variable loads 3% - 5%
- New or reconditioned engines full load 2% - 3%
- Used engines variable loads 3% - 8%
- Used engines full load 3% - 5%

Sample Field Testing Efficiency Mobile Equipment

Field	Operation Conditions				Fuel Savings
	Engine Type	Engine Hours	Engine Load	Circuit Distance	
BHP Iron Ore	Cat 789	33970	171 tonnes	2.6 km	5.3%
	Cat 784B	5427	206 tonnes	12.2 km	5.6%
	Cat 784B	5427	0	10.9 km	6.1%
BHP Coal	Cat 784B	7817	199 tonnes	12.2 km	5.3%
	Cat 784B	7817	0	10.9 km	11.7%
Gold Superpit	Cat 793B	28343	220 tonnes	1.9 km	4.6%
	Cat 793B	27859	231 tonnes	1.9 km	6.6%
	Cat 793B	6375	229 tonnes	1.9 km	5.6%
Nickel Operation	Cat 793	2160	225 tonnes	2.0 km	4.0%
	Cat 793C	42781	212 tonnes	2.0 km	5.7%

FPC/FTC Independently Tested

Brisbane City Council DT80 Test:

- 4.7% overall fuel saving
- 7.8% fuel saving at 80kph cruising speed
- 4.6% power increase acceleration to 80kph

Full report: costeffective.com.au/bcc-dt80-test-report/

The University of Western Australia (UWA)

- Up to 22% reduction in carbon emissions
- 2.5% - 4.2% fuel efficiency gain at varying loads
- Up to 39% smoke reduction

NSW Mines Department

Reduced emission up to 32%

Hasting Deering Diesel Fuel Analysis Testing

Treated fuel samples pass all Australian Standards

CAD Railway Services Canada

Fuel efficiency gains at varying loads, 2.5 – 7%

All independent test reports available upon request,
by emailing ***sales@costeffective.com.au***

On site setups and systems

CEM dosing systems are engineered to suit your individual requirements.

- Metering pump when fuel delivered
- Metering pump when fuel transferred from bulk tanks to day tanks
- Semi automatic, fuel quantity to be treated entered into key pad
- Manually treat individually vehicles

Automated dosing systems

Remote solar powered dosing system

On board 12-24V dosing system

Summary of what your operation can expect

- Fuel savings of **up to 8%**
- Reduced diesel particulate matter (smoke) **up to 39%**
- Reduced maintenance caused by carbon fouling (eg. Eliminate DPF, EGR and Turbo failures)
- Reduced oil consumption
- Increased performance
- Effective biocide—kills bacteria and fungus growth in fuel

Thank you, for more information please contact:

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