Distributor of the
Emissions Technology
Combustion Catalyst System

A Revolution in Combustion Technology
Combustion Catalyst System Benefits

- Reduces emissions
- Extends engine life
- Can extend maintenance cycles
- 5 to 20% fuel savings
- Self funding
- Complements other technology
Pre-Combustion Catalytic System

- Reduces PM, HC, CO and NOx while improving engine performance
- Burns out pre-existing carbon deposits, thereby reducing friction
Applications

- Trucks
- Buses
- Mining & Heavy Equipment
- Generators
- Marine
- Any Diesel Engine
Combustion Catalyst System

- Delivers catalyst in an aerosol form directly into the intake airstream to improve combustion
- Catalyst acts on oxygen in compression stroke
- Accelerates the chemical reaction for combustion
Aerosol Technology

- Patented mixture of Pt, Rh & Re
- Catalyst enhances combustion process
- Lower emissions of PM, HC, CO
- Lower exhaust temperature results in lower NOx
- Burns out pre-existing carbon deposits, thereby reducing friction
- No adverse effects on equipment
- No warranty issues
Test Results

- CARB & EPA recognized testing facility
- Detroit Diesel DDC-50
- ISO-8178 test protocol
Olson Eco-Logic Lab Test

- PM reduced 42.8%
- NOx reduced 13.8%
- HC reduced 58.3%
- CO reduced 9.3%

Level 2 PM verification applied for
## NOx Measurement Summary

<table>
<thead>
<tr>
<th>Location</th>
<th>Year</th>
<th>Equipment</th>
<th>Initial ppm</th>
<th>Final ppm</th>
<th>% Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bakersfield, CA</td>
<td>1978</td>
<td>DDC 60</td>
<td>600</td>
<td>261</td>
<td>64</td>
</tr>
<tr>
<td>Phoenix, AZ</td>
<td>2001</td>
<td>Cat 3412</td>
<td>575</td>
<td>460</td>
<td>20</td>
</tr>
<tr>
<td>New Mexico</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Engine Impact

- Exhaust Temperatures Reduced up to 200 Degrees
- Oil Stays Cleaner – Lower soot and metal contamination
- Reduces Pre-existing Carbon inside the engine
- Reduces Vibration/Torsion
- Can have 10 to 20% Reduced Oil Usage
SAE J1321 Fuel Test
2005 Kenworth #208

Cummins ISM w/ 335 hp

- Fuel Consumption before ……4.13 mpg
- Fuel Consumption after ………4.60 mpg
- Percent Fuel Savings……………11.3%
- Fuel Saved in 400 Hours………203 Gallons
- Approx. Annual NET Savings……$1,550
Schlumberger – Reynosa, MX

CAT D398TA 912HP Genset

20 – 25% reduction in fuel Consumption

Emissions Reductions:
- CO: 40%
- HC: 73%
- Opacity: 11%
## Savings

<table>
<thead>
<tr>
<th>Location</th>
<th>Application</th>
<th>Equipment</th>
<th>Engine</th>
<th>MPG Before</th>
<th>MPG After</th>
<th>MPG Reduction</th>
<th>GPH % Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phoenix, AZ</td>
<td>Truck</td>
<td>Cement Train</td>
<td>DD Series 60</td>
<td>5</td>
<td>5.6</td>
<td>0.6</td>
<td>12.0%</td>
</tr>
</tbody>
</table>

- Gallons per hour (assumes 45 mph): 9.00
- Cost per Gallon: $2.00
- Dollars per Hour: $18.00
- Savings: 12.0%
- Savings - Dollars per hour: $2.16
- Approx. Cost of Catalyst/ Hour: $0.50
- **Net Savings Per Hour**: $1.66

- Hours per bottle: 400
- Net Savings per 400 hour bottle: $665
- Cost of DC-100: $699.00
- Savings - Dollars per hour: $1.66
- **Breakeven Hours**: 420
Installation

- Average installation time 2 hours
- Simple mounting & location flexibility
- Ready-fit bottles for easy catalyst replacement every 400 hours