T-70 SYSTEM FOR DIESEL ENGINES

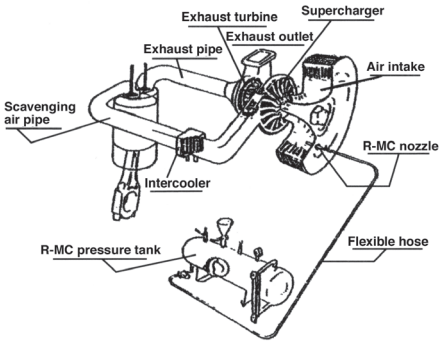
Delivering efficient compressor technology for more than 30 years

TECHNICAL DATA SHEET

THE PROBLEM:

The outcome is predictable when engine deposits accumulate in the scavenging air channels, intercoolers, combustion chambers, exhaust channels, superchargers and turbochargers in diesel engines:

- Power is sharply reduced;
- Running temperatures are elevated;
- Parts lives are reduced due to vibration and wear;
- Fuel consumption is severely increased.



THE SOLUTION:

ECT's Engine Cleaning Systems for diesels combines **T-70** a water based, non-flammable, cleaning formulation, with an engineered injection system designed expressly for maintaining diesel engines and turbochargers at their peak efficiency.

- reducing engine wear
- improving fuel consumption
- permitting injection while running
- the System offers ease of use and installation
- reduced chance of scavenge fires
- longer life for engine components

The **ECT** System comprises either a one gallon pressure tank or a container and small electric pump, hosing and a single injection nozzle. The nozzle, located on the air intake manifold, is easily installed by one person in less than an hour. The cleaning formulation is supplied pre-mixed and ready-to-use and is injected without cutting back power or shutting down the engine.

T-70 Cleaner is an aqueous, amine based formulation sprayed into the engine as a fine mist (approximately 500 micron SMD). The droplets migrate with the airflow and are deposited as a surface active layer on contaminated components. The wet liquid combines chemically with the surface contaminants which undergo a molecular change. The chemical action is accelerated by the thermal environment and the contaminants are gradually reduced to a fine white fly ash that is ejected with exhaust gases. The unique, amine-based formulation can remain in a wet state at temperatures approaching 350°F. For that reason, T-70 has a residence time vastly exceeding solvent-based products.

THE RESULTS:

- Scavenge spaces are cleaned, reducing risk of fire.
- Carbon deposits which constrain air flow are moved from exhaust ports.
- Soot is removed from uptake ducting, reducing risk of funnel sparking and choking of boiler tubes.
- Removal of soot reduces NOx and other emissions.
- Power output is increased.
- Fuel consumption is reduced.
- Greater reliability and reduced downtime costs.

The T-70 System has been used for more than 35 years on virtually every model of diesel engine, marine and ground, including:

GMC
CATERPILLAR
WICHMANN
DOXFORD
SULZER
SACM
WARTSILA
RUSTON
GE
MAN
LEYLAND
DEUTZ
B&W
ALPHA
MIRRLEES
FAIRBANKS-MORSE

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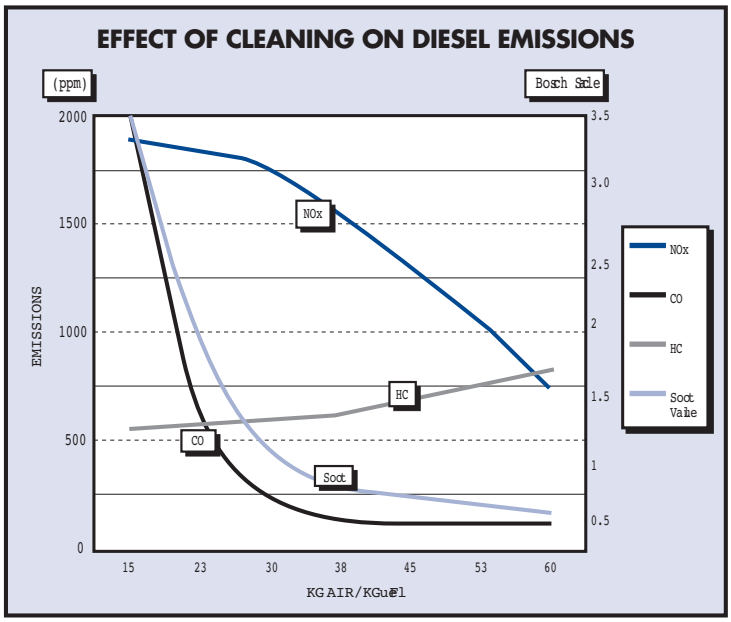
TURBOCHARGED DIESEL ENGINES

Engine efficiency degrades as atmospheric deposits accumulate on the turbocharger compressor, reducing the air supply and causing incomplete combustion. The resulting soot particles are deposited on the aerodynamic surfaces of the impeller, further reducing compressor efficiency. The result is increased compressor load and decreased rotational speed, which means less air delivered to the engine and accelerated production of burnt fuel deposits.

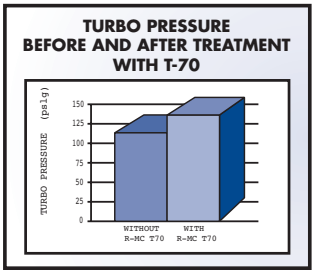
T-70, properly used, can break this efficiency-robbing cycle by removing accumulated deposits from turbocharger, intercooler, combustion chamber and exhaust.



ASPIRATED DIESEL ENGINES

Output in a naturally aspirated diesel engine depends on free air flow. Accumulated deposits in the exhaust ports can result in inefficient discharge of gases from the combustion chamber, causing fuel air contamination, retarding combustion and creating accelerated deposition of foulants.

Treatment with T-70 breaks down the bond between contaminants and component surfaces, gradually reducing the deposits to a fine white powder which is discharged with the exhaust gases.



With initial cleaning injections of just 1 quart of T-70 over four days, followed by regular cleanings on alternate weeks with <1 quart of fluid, the engine can be maintained deposit free with lowered emissions.

PRODUCT DESCRIPTION:

T-70 is a proprietary blend of surfactants, corrosion inhibitors and deionized/ demineralized water which is supplied in a pre-mixed, ready-to-use form. A tertiary amine-based surfactant, the Material Safety Data Sheet provides details respecting content, properties and precautions, but the following is a descriptive summary thereof:

Appearance:
Clear, homogenous liquid
Odor:
Mild, acceptable
pH: 6.5-7.5
Evaporative Temperature:
220°F.
Flash Point: Non-flammable
Toxicity: Non-Toxic
Decomposition:
99% biodegradable,
24 hours
Specific Conductance:
ms/m @ 36°F. 0.1-0.9
Color: Clear, amber
Specific Gravity: 1.002 (H20)

Heavy Metals:
Trace amounts Earth Alkali Metals:
Potassium: <0.25 ppm
Sodium: <0.25 ppm
Calcium: <0.1 ppm
Magnesium: <0. 1 ppm

Nitrate ions: None
Sulfate ions: None
Chloride ions: None

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