

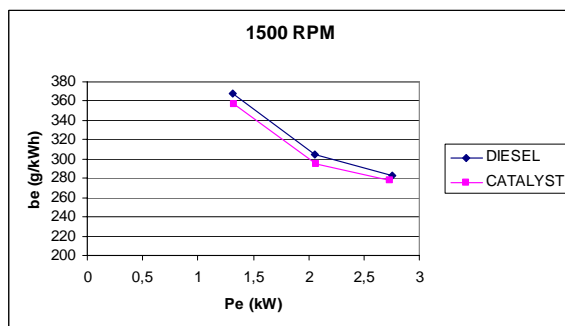
Ricardo-Cussons Engine Tested With Catalyst



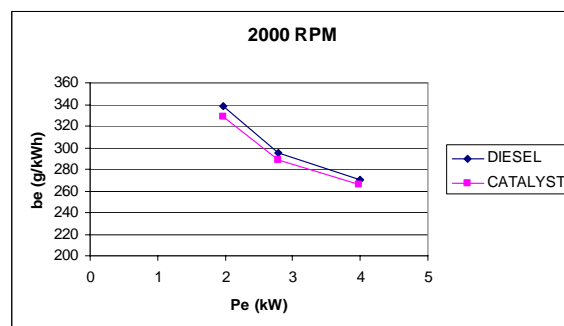
Diesel Progress Magazine first introduced you to the Patented Fitch Fuel Catalyst permanent fuel treatment in last November's issue. When emissions standards are stricter than ever and fuel costs are cutting into company profits, the Fitch Fuel Catalyst couldn't have been introduced to the commercial market at a better time. Tested on a Ricardo-Cusson Hydra research engine, the Fitch Fuel Catalyst once again demonstrated its ability to reduce fuel consumption and emissions.

www.fitchfuelcatalyst.com

The Ricardo-Cusson Hydra engine is a widely used research tool for internal combustion engine laboratory work. The Hydra design concept enables engines to be built having cylinder bores and strokes within the range 70mm to 100 mm to achieve maximum flexibility. The Ricardo/Cussons "HYDRA" is a direct injection, four-stroke, single cylinder, natural breathing water-cooled diesel engine.



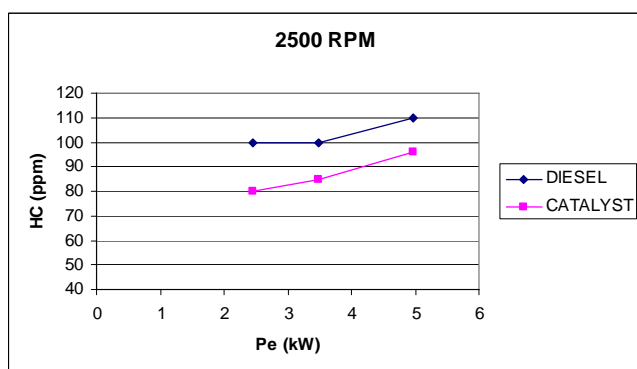
Fuel consumption with and without the use of the catalyst at 1500 rpm



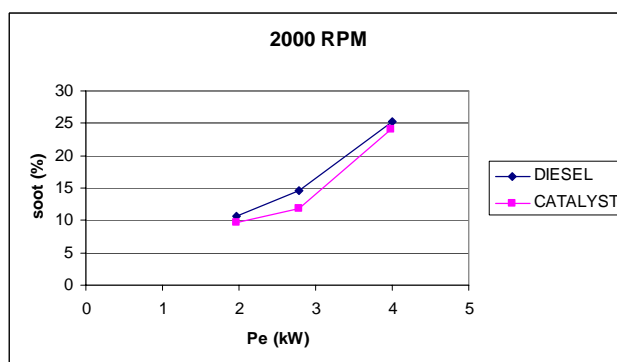
Fuel consumption with and without the use of the catalyst at 2000 rpm

The Fitch Fuel Catalyst experimental procedure included taking measurements with the Ricardo-Cusson engine running at 1500, 2000 and 2500 rpm and capturing three (3) measurements corresponding to 40%, 60% and 80% total load capacity of the engine. During these procedures, the fuel consumption and emissions of the engine were measured for baseline values for comparison of the operation of the engine between running on normal diesel fuel and then running with the Fitch Fuel Catalyst installed.

During the experiments of baseline vs. Fitch retrofit, the following parameters of the operation of the Diesel engine were measured in PPM (Parts Per Million): Fuel consumption, Power, Emissions Temperature, CO, NO, HC, Soot. Peripheral measurements like lubricant temperature and cooling temperature, and exhaust temperature were recorded.



HC emissions with and without the use of the catalyst at 2500 rpm



Soot emissions with and without the use of the catalyst at 2000 rpm

The final results of the experiment demonstrated the following benefits from use of the Fitch Fuel Catalyst

- a reduction of up to 3% in the fuel consumption especially in low and middle rpm's and low and middle loads.
- a reduction in the emissions of HC of 10% and in the high RPMs, 20%
- a reduction in the emission of Soot of about 15%.
- no increases in CO and NO, and
- exhaust temperature of the emissions were lower, especially on low and middle RPMs which agrees with the observed reduction on the fuel consumption.