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BRITISH RAIL ASSESSMENT - 1993

SYNOPSIS

British Rail conducted some quite extensive testing of the CEP product in 1993. CEP was a forerunner to Fuelstar. Some elements of the technology have been enhanced in the intervening period but, nonetheless, the tests conducted confirm the efficacy of the product. If the testing were to be repeated today, the results could be expected to be significantly better.

Attached are two sets of documents

(1) four pages detailing turbo boost calculations. Engines 43020, 43028, 43151, 43175 and 43184 did not have the catalyst fitted. The turbo boost pressures had fallen away to various figures ranging from minus 0.7 psi to 0.5 psi. Engine 43137 had new turbo blades fitted during the trial period which restored the turbo boost to its optimum level of 3.5 psi. Engines 43017 and 43174 had catalysts installed and the turbo boost had been restored to ~ 2.5 bar as the product progressively cleaned up the internal engine operating surfaces. An increase in turbo boost pressure of 0.1 bar equates to an increase in power of around 8% for the same fuel rack setting. Therefore an increase in turbo boost of 2 psi (0.15 bar) would equate to a power increase of 12%. This is consistent with results achieved elsewhere. If the additional power is not required, the fuel rack can be reduced giving a fuel saving of about 12% .

(2) 14 page report from British Rail “Assessment of CEP Product on medium speed diesels. The quality of the scanned copy is sub standard but, nonetheless, the conclusion is clear….the report clearly confirmed that the technology resulted in lower emissions coupled with power gain/improved economy.

When a Fuelstar catalyst is fitted to the engine the turbo blades get cleaned and this is maintained due to the improved combustion of the fuel (less soot and carbon in the exhaust system). It can be several hundred hours, in some cases, before the full potential / benefits of fitting a device can be realized. The gradual improvement shown in the graphs supports our claims that engines require a “conditioning period”. This gradual conditioning of an engine makes EPA, ISO, ECE type “small window” testing almost impossible unless the procedure is modified to take into account this conditioning period.

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