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PD-5 Conditioned fuel; Use in timber processing equipment.
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I became aware of PD-5 as a result of an internet search looking for fuel combustion enhancers. I had an interest in the combustion of vegetable oil in diesel engines as an alternative fuel. One problem with this potential fuel is the resins and gums formed after incomplete combustion. These products have been found to gum up the piston rings and cause bore polishing , excessive oil consumption and finally loss of compression.

I purchased 500ml of PD-5 and being keen to establish the validity of the claims made on the container I treated the fuel used in a timber processing machine. The power unit was a 2.8 litre turbo-charged indirect injection diesel sourced from a road going vehicle, driving a hydraulic pump to provide power for the processing of tree trunks into products ranging from bars to firewood. The machine had been maintained and serviced by myself for the past few years, latterly due to overall wear and tear the exhaust emissions had become very noticeable , indeed on a still day a column of smoke could be seen rising from the machine, belying its position in the forest.

Both the owner and the Forestry Commission had begun to express concerns over this and I had been asked to review alternative engine options or the costs of rebuilding the existing unit. When smoke tested under load the emissions exceeded those stipulated for road vehicles.

After providing the operator with PD-5 I left and duly returned some weeks later; the change in the engine was dramatic, smoke testing showed a smoke number of 2.0 with only heat haze visible from the exhaust stack. Whilst the fuel consumption could only be estimated against the tonnage of timber processed a comparison of two three month periods of operation with and without PD-5 in the fuel showed a reduction in the fuel used per ton of timber equating to almost 15%, furthermore I was able to reduce engine revs from 2800 rpm to 2500rpm and still have enough hydraulic processing power with obvious reductions in noise and general wear.

In almost twenty years of internal combustion engine engineering I have never used an 'additive' that has had the unequivocal and pronounced effects on performance that PD-5 had demonstrated. Unlike every other additive I have come across PD-5 – to borrow a catch phrase-'does exactly what it says on the tin'.

Further contact and dialogue between me and staff at Pendragon Holdings has developed into a joint venture with Cranfield University where it is hoped that we will develop our understanding of the role PD-5 plays in the combustion of fuel and be able to realize the full potential of conventional engines optimized to run on PD-5 conditioned fuel. Needless to say all the plant for which I am responsible now uses PD-5 treated fuel as does my car. In every application there has been an increase in mpg of at least 10%.

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