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Microscopic Fuel Tests Using Magnetic Fuel Conditioning

by Dr. Klaus J. Kronenberg (1991)

After 45 years of experience as a physicist, studying magnetics, acoustics and crystallography, Dr. Klaus Kronenberg, in conjunction with other Research efforts, has developed an exciting new theory of magnetic fluid treatment.

Investigations and results

Empty glass slides were held for several seconds in the exhaust stream of a V-8 gasoline engine using leaded gasoline running at 2000 rpm.

Fig.1 No Treatment. The droplets at highest magnification show a spherical structureless shape.

All slides exposed to the exhaust without Magnetic Treatment showed a multitude of small droplets clinging to the glass. They were distributed over the entire glass slide at even distances. They did not evaporate over days. Their shape became visible in the microscope using polarized light.

Fig.2 No Treatment. Remains of a solid particle from the exhaust which bounced off the glass slide.

Figure 2 is an example of a shapeless bit of matter clinging to the glass. About 10 such places were found with similar shapeless matter on the glass

Fig.3 Exhaust of Magnetically Treated Fuel.One of the round spots found on the glass slide exposed to exhaust from Magnetically Treated gasoline.

The slides which had been exposed to the exhaust when the magnetic device was in place on the fuel supply line were also full of the small droplets, but additional material was discovered clinging to the glass. This material formed roundish spots, about 10 to 30 per slide. The details of the round spots were most visible when side-illuminated. Many contained a black particle in them, which was often broken up. All the rims of the round spots were heavily scalloped, exhibiting just enough surface tension to form the roundish appearance of the spot on the glass slide.

Fig.4 Exhaust of Magnetically Treated Fuel. Stronger magnification and side illumination reveals scalloped shape of the rim of this substance (low surface tension indicated).

The side-illumination reveals the scalloped rim of the spot. The traces of the gradual evaporation within the spot are visible and show that the evaporation ended at the particle.

In order to obtain more information about the nature of the material which formed the rounded spots they were observed with polarized light. Within the roundish spots crystalline shapes appeared with a variety of configurations. Most of the shapes were crystals of a dendritic type.

Large numbers of smaller, nearly cubic crystals were also found. All of these crystals are of an optically active material, recognizable on the dark-light contrast within each crystal in the polarized light. The shape of the crystals point toward the crystals having a cubic crystal structure, being most likely a lead compound.

CONCLUSIONS

The consistent results of both test series permit a cautious attempt at explanation. The fact is that the slides covered with exhaust without the magnetic fuel treatment showed only the tiny droplets, but not one single round spot. But, the round spots were found in abundance on the slides from exhaust with magnetic treatment. This makes it almost certain that the magnetic device on the fuel supply line had an effect on the combustion of the fuel in the engine.

The roundish shapes of these spots are evidence of the fact that they must have been splashed onto the glass as a liquid. They must have been in the form of spherical drops in the exhaust. Their sizes imply drops at least 1000 times heavier than the droplets found in the exhaust of the untreated fuel.

The dark particles found inside these roundish spots indicate that a solid particle was transformed in the combustion process partly to a liquid. This could have happened in the form of a partial combustion.

Not one roundish spot of a similar size has been found in the exhaust of untreated fuel. This suggests, that such partial combustion of certain larger particles has not been occurring without the magnetic treatment. In the exhaust of untreated fuel we find instead, evidence of some larger solid particles which have left some formless traces after hitting the glass and flying off. They showed no trace of a liquid by a partial combustion.

The investigated fuel is a mixture of many components containing benzene-like ring-molecules. The refining process - heating in the absence of oxygen - had used the internal vibration of the large molecular sheets to have them break up. The molecular fragments were driven off, collected and separated. Their size determined their ability to resist combustion.

The results of our tests with the application of a number of magnetic poles which the fuel had to pass on the way to the engine can be best understood as an additional effect of fuel refining. We suggest that some larger molecular structures remained in the fuel after the normal refinement process, because they withstood the breakup effect by heat. They were then broken up when they passed through the series of alternating magnetic fields. The magnetic effect on molecules is very weak. But it is known that it can be amplified a million fold in the case of resonance. If the time sequence of the alternate magnetic fields encountered by the streaming fuel hits a frequency of the internal vibration of a molecular structure, then a resonance occurs and may break up the structure which had escaped the breakup by the original refining process. This renders the original refining process more complete.
Therefore, we think we can predict that the effect of magnetic fuel treatment will be best for the least completely refined fuel. Further research is required in order to confirm the findings. Possible differences for different fuels (Diesel), varied rpm's, and varied arrangements of magnetic fields are being explored.
