magnatech™

INFORMATION SHEET

HOW THE MAGNATECH SYSTEM WORKS II

The basic concept of hydrocarbon fuel passing through a magnetic field: In 1989, Hans Dehmelt of the university of Washington was awarded the Noble Prize in physics for his work on the fundamental properties of electrons. His work showed that electrons have the ability to store energy within themselves, which produces an effect similar to a flywheel, called spin. When a small magnetic field is applied, the electrons absorb the energy and their properties will change. This is evidenced in the below theories i.e. Chemistry theory – Covalent bond, Physics theory – Barnett effect, Math's theory – Quantum mechanics.

Chemistry theory: Particles are made up of number of atoms. Fig. 1 shows an atom having an equal number of protons and electrons in neutral charge, if a greater number of electrons is present then a –ve charge is obtained, if the number of protons is greater then a +ve charge is obtained. Hydrocarbon fuel molecules are constructed with a C--H bond, and each electron has two movements 1) Spin & 2) orbital movement which results in mixing of fuels.

Fig. 1 Basic molecule concept

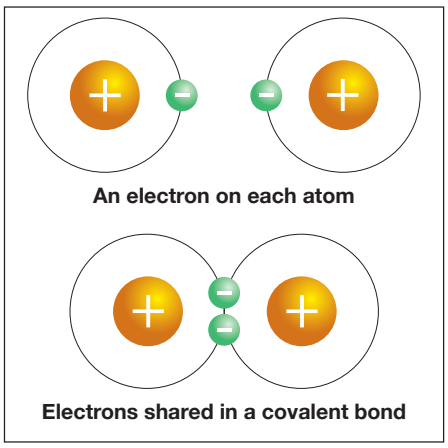

Fig. 2 Molecule energy levels

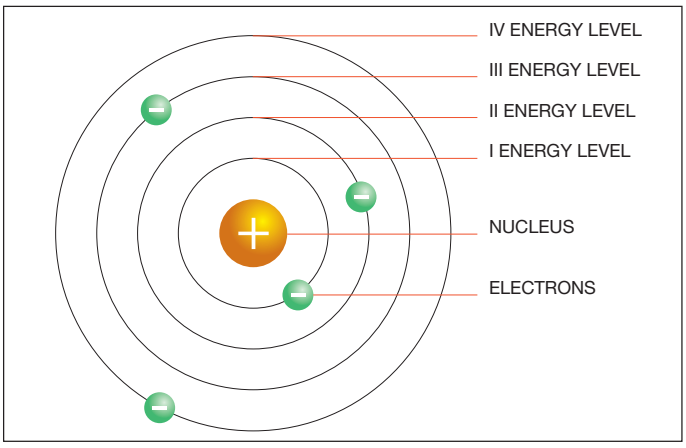

Fig. 2 Energy levels (also called electron shells) are fixed distances from the nucleus of an atom where electrons may be found. Electrons are negatively charged particles in an atom that move around the positive nucleus at the center. Energy levels are a little like the steps of a staircase. You can stand on one step or another but not in between the steps. The same goes for electrons. They can occupy one energy level or another but not the space between energy levels.

The model in fig. 2 shows the first four energy levels of an atom. Electrons in energy level I have the least amount of energy. As you go farther from the nucleus, electrons at higher levels have more energy, and their energy increases by a fixed, discrete amount.

The orbiting electrons have a tendency to attract towards the nucleus. Due to this intermolecular force of attraction, the fuel particles do not all actively interact with oxygen during combustion and the un-burned fuel is expelled as part of the exhaust process, thereby causing incomplete combustion. When we apply a magnetic field around fuel inlet lines, the intermolecular attraction within the fuel molecules is reduced, which results in a better, more complete combustion of the fuel.

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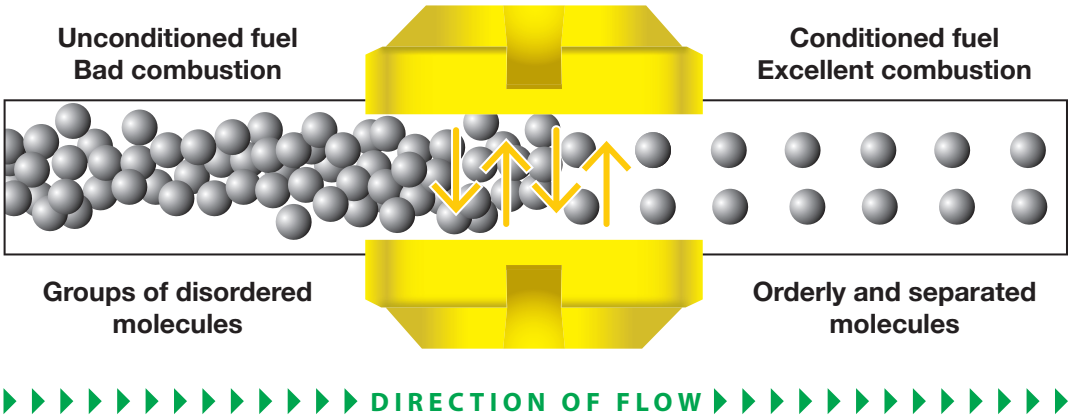
Physics theory: Due to the effect a magnetic field has on fuel molecules, the spinning electrons will absorb the energy and finally flip into alignment. Because of this, the cluster structure of fuel molecules breaks i.e. bonds will break into fine particles. These fine particles (C and H) influenced by a magnetic field, will tend to adhere to more oxygen electrons i.e. the extra oxidation that occurs will ultimately result in a more complete combustion that releases less un-burned fuel as part of the exhaust process, hence pollution will be reduced.

Math's theory: Quantum (Math's) theory is used for analyzing the above effects which occur in covalent bond & Barnett theory.

EFFECT OF THE MAGNETIC FIELD OVER THE FUEL MOLECULES



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