

MAKE A FUEL MAGNET.

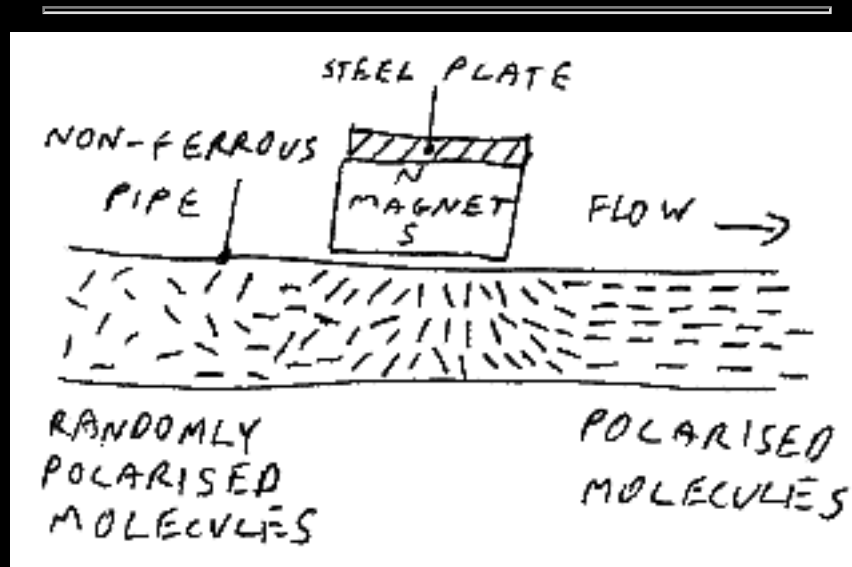
Oooh! This is a controversial one, but let's do it.

A fuel magnet is a device that is strapped to the fuel line in your vehicle (or each injector line on a diesel engine) and makes the fuel more receptive to oxygen, thus producing a leaner more efficient combustion with less exhaust waste.

At least that's the theory.... The technology involved is based on the concept that the orientation of molecules in a fluid can be changed by applying a polarised magnetic field. The tiny molecular charge makes the molecules rotate into alignment with the applied field, and they then hold that position for a short time due to the matching alignment of their neighbouring molecules. This alignment can be disrupted by turbulence in the liquid and the molecules will gradually return to a disorganised alignment state.

In the case of water, the alignment theoretically traps minerals and contaminants, and helps prevent furring and scaling of water pipes, while for fuel it supposedly makes the fuel combust more efficiently.

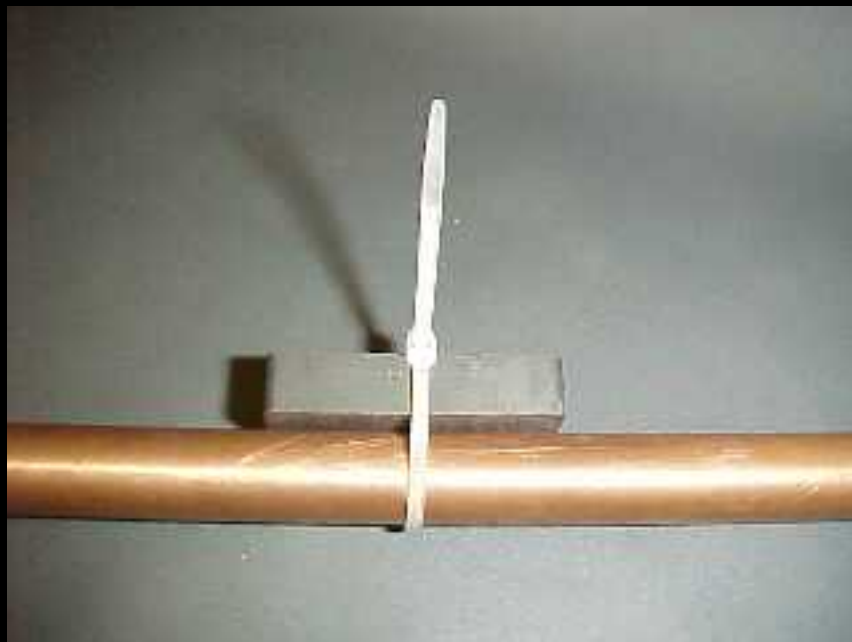
The manufacturers of fuel magnets tend to make bold statements about having a unique and top secret magnetic arrangement that is generally vastly superior to all their competitors, but in reality they are all fundamentally applying a strong polarised magnetic field to the fluid, and this is quite simple to achieve with nothing more than a big magnet and a cable tie.



Here's the theory... The liquid flows through the pipe past the magnet, and as it does so, its randomly oriented molecules are aligned by the strong unipolar magnetic field and retain their polarised state as they leave the vicinity of the magnet.

The tube should be non-ferrous to avoid reducing the level of magnetic field applied to the liquid, and a metal plate should be applied to the back of the magnet to increase the strength

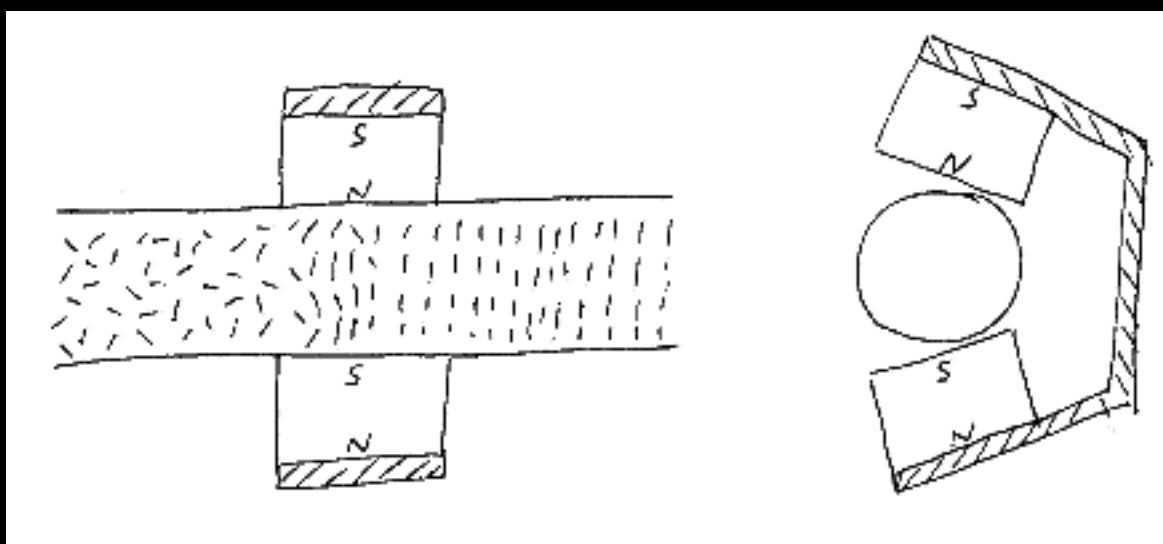
of the field on the pipe side.
Polarity of the magnet is not really important.



Here's one I made earlier.... It's just a powerful ceramic magnet applied to the side of a copper pipe and held in place with a tie-wrap. It would have been better if I had added a steel plate to the back of the magnet.

The more powerful the magnet the better, so using a sizeable Neodymium Iron Boron magnet would be a much better option since it's currently one of the most powerful commercial magnetic materials.

If the pipe is going to be liable to vibration (like on an engine) then the magnet should be mounted on a small foam pad like a standard adhesive pad to avoid abrasion of the pipe. Likewise a heavy magnet could put strain on the couplings of a small pipe like a diesel injector pipe, so either a smaller more powerful magnet should be used, or support should be added.



This is the most common arrangement for applying a strong field in commercial fuel magnets. Each magnet can either have it's own steel plate at the back, or a common peice of folded

steel can be used to create a closed magnetic loop.

The right hand image shows a steel field concentrator that has been angled to allow a bit of tolerance for placing the assembly as close to the pipe as possible whilst allowing slight variation in pipe diameter.

Magnetic power can be increased even further by stacking magnets or seeking out the more powerful types. Be careful with very powerful magnets, since they can attract together with such force that the ceramic magnets can shatter or they can trap your fingers and nip the skin. Large Neodymium magnets can break fingers. (Cool!)

It doesn't cost much to try this technology for yourself to see if you consider it valid or not. If the magnetic field does boost the efficiency of fuel combustion, then you should find that you have either got a little bit more power from your vehicle, or a reduction in fuel consumption, since less gas will be required for a given power.

Of course, it could all be quackery, but there's only one way to find out...



One of the most interesting applications for magnetic fluid conditioning is for drinks like wine.

If a strong magnet is placed underneath a glass of wine, then theoretically all the liquid molecules will align with the magnetic field. Some people can perceive a slight smoothing of the wines texture after exposure to the magnet. To try the wine test for yourself, get three identical plastic bases and mount a powerful magnet inside just one. Place a glass on each base (keep them well apart) and fill them from the same bottle then leave them for a few minutes. Can you tell the base with the magnet by taste and texture?

It's better to get someone else to administer the test, since knowing which base has the magnet can spoil the randomness of the test.

There have been commercial products that claim to enhance wine, and these generally involve placing the bottle onto a special mat for a short time. Can you guess what's inside the mat?



If you experiment with this technology, then let me know how you get on.



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