

Re: Ether Steam Engine ???

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- *From:* [jimp@xxxxxxxxxxxxxxxxxxxxxx](mailto:jimp@xxxxxxxxxxxxxxxxxxxxxx)
  - *Date:* Tue, 13 Mar 2007 00:45:03 GMT
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The Ghost In The Machine <[ewill@xxxxxxxxxxxxxxxxxxxxxx](mailto:ewill@xxxxxxxxxxxxxxxxxxxxxx)> wrote:

In sci.physics, [jimp@xxxxxxxxxxxxxxxxxxxxxx](mailto:jimp@xxxxxxxxxxxxxxxxxxxxxx)  
<[jimp@xxxxxxxxxxxxxxxxxxxxxx](mailto:jimp@xxxxxxxxxxxxxxxxxxxxxx)>  
wrote  
on Mon, 12 Mar 2007 23:15:02 GMT  
<[p23hc4-4o1.ln1@xxxxxxxxxxxxxxxxxxxxxx](mailto:p23hc4-4o1.ln1@xxxxxxxxxxxxxxxxxxxxxx)>:

The Ghost In The Machine <[ewill@xxxxxxxxxxxxxxxxxxxxxx](mailto:ewill@xxxxxxxxxxxxxxxxxxxxxx)> wrote:

In sci.physics, [jimp@xxxxxxxxxxxxxxxxxxxxxx](mailto:jimp@xxxxxxxxxxxxxxxxxxxxxx)  
<[jimp@xxxxxxxxxxxxxxxxxxxxxx](mailto:jimp@xxxxxxxxxxxxxxxxxxxxxx)>  
wrote  
on Mon, 12 Mar 2007 21:25:02 GMT  
<[tpsgc4-90g.ln1@xxxxxxxxxxxxxxxxxxxxxx](mailto:tpsgc4-90g.ln1@xxxxxxxxxxxxxxxxxxxxxx)>:

G=EMC<sup>2</sup> Glazier  
<[herbertglazier@xxxxxxxxxx](mailto:herbertglazier@xxxxxxxxxx)> wrote:

Ether boils at 96F Either is  
very explosive. Good  
engineering could  
come up with a clean  
combustible engine. I have  
an idea mixed with water  
gas(steam) and you would  
end up with lots of energy.  
Bert

Engines where the fuel detonates are soon  
called junk.

Pedant point: Diesel and Gasoline engines fall into this  
category. :-)

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Or did you mean "detonates in the fuel tank"? :-)

It is relatively easy to keep gas under control.

It is rather hard to keep ether from detonation and pre-ignition.

<http://www.streetrodstuff.com/Articles/Engine/Detonation/>

Also, the smog components of engine exhaust are not a factor of the fuel. They come from using air which contains nitrogen as the oxidizer.

The higher the combustion temperature, the more smog components you get.

I'm assuming you are talking about ordinary ether as used as an engine starting aid.

I'm not the one that brought up ether (presumably, that's Glazier's idea), which is actually a class of organic compounds (presumably, the "ether" he's mentioning is diethyl-ether,  $C_2H_5O_2$ ). I'll admit I know little about engine starting aids, beyond the existence of such things as glow plugs in diesel systems, and nitrous oxide used as a power boost in racing engines.

Ether has been used as an engine starting aid in sub-zero weather for about a hundred years.

Since it vaporizes so easily while gasoline doesn't at low temps, you squirt a bit of ether into the air intake to get the engine going.

Once it starts up, the internal engine temp is sufficient to keep running on gasoline.

Many an engine has been broken by use of too much ether.

I also know predetonation — usually because of too low an octane, fouled plugs, and/or mistuning an engine — does nasty things. :-)

Two different things.

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Pre-ignition is when the fuel starts burning before it is supposed to.

Detonation is essentially a high pressure spike after normal ignition.

I frankly don't know why an ether-steam combo would be any better from an emissions standpoint than our current ICE, a H<sub>2</sub>-based ICE (which isn't all that good an idea), or a H<sub>2</sub>-powered fuel cell. (Assuming the H<sub>2</sub> can be gotten from an absolutely clean power source, and that's a very big question mark; the best I can do is PV cells and there are many issues in the manufacture thereof.) Also, wouldn't there be a risk of the steam hydrolyzing the ether, yielding just plain old alcohol? If so, why not just use alcohol? Butyl alcohol is occasionally touted as an interesting renewable power source. (I don't know how good it is compared to biodiesel or battery power.)

The idea of injecting steam into an engine is stupid from the start.

If you inject water, it quickly turns to steam in the engine.

Water injection has been used for at least 80 years to control the internal temperature of high performance engines, i.e. to get maximum power out without destroying the engine from pre-ignition and detonation.

Neglecting the CO<sub>2</sub>, the "bad" emissions from an internal combustion engine are almost entirely oxides of nitrogen.

They come from using air as an oxidizer.

Subject oxygen and nitrogen, i.e. air, to high temperatures and you get oxides of nitrogen.

The higher the temperature, the more nasty stuff you get; chemistry 101.

The only way to make a "clean" hydrogen engine is to use the hydrogen in a fuel cell to power an electric engine.

In any event, good engineering includes knowing what to avoid in the making of an engine — unless one really does want to make a drivable bomb, in which case one wants the engine to work and the bomb not to go off prematurely... :-)

Yep, and the basics of engine engineering were pretty much solved by the end of WWII.

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Almost all the advances since then have been in the area of materials and controls to fine tune various characteristics.

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Jim Pennino

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