

Docket Optical System - comment

From: kaztechnologies <kaztechnologies@shaw.ca>
To: <docket@energy.state.ca.us>
Date: 2/2/2011 12:03 PM
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CC: <sneidich@energy.state.ca.us>

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Before you spent money, on your program, please consider buying a licence to produce the most efficient possible engine with zero toxic emissions shortly described in copied Executive Summary and proved theoretically as well as experimentally during two years non-stop run.

Dear Sir;

I'm independent inventor living in British Columbia, who invented a new engine, describes in the Summary. If you think that my technology could be sponsord by your employer please contact me and I would email you a project proposal with details. The technology has been proved mathematically as well as experimentally and it is in realit an ultimate engine, meaning better is impossible to think of. Also, please tell me what % of the invention your employer requires for the specified financial support needed to clean up the environment in your area within a decade since the fund are available to me.

Details provided upon request! No strings attached!

There are two options:

1. Production of brand new trucks as specified in Executive Summary;
2. Conversion of engines of diesel trucks as indicated in the "subject", which would be provided to you if you request;

Executive Summary

This project proposal includes three stages:

1. *Development of production prototype of invented engine needed fund \$1million;*
2. *Development of a truck that travels 10 to 15 times longer distance on a tank of fuel (needed fund \$1,450,000;*
3. *Development of production of new trucks \$120mil (production of 2000 trucks/year).*

With a view to improving energy conversion and the efficiency of an engine, the inventor of the offered engine examined existing engines to determine what prevents them from operating efficiently.

The findings were crucial, indicating that inefficiencies that appeared in the invention that Otto patented in 1876 have been handed down from generation to generation, even into engines under development today. These findings led the inventor to design an engine free from these inherited flaws.

The most important flaw in the Otto design

One flaw in Otto's engine design is energy waste due to incomplete expansion.

Exhausts when expanding produce work and cool. That is, when expanding they cool and produce work at the same time.

In other words it is the incomplete expansion of exhausts which is behind an incomplete energy conversion. Heat energy that is not converted into useful work accumulates in engine parts and must be disposed or the engine melts. Thus existing engines are rigorously cooled thus cooling is a waste (80%) of energy released from the fuel as heat.

Solution-1 applied to the offered engine

The new design of the offered engine eliminates that flaw by expanding the exhausts completely. Consequently, no heat removal is needed. *(The offered engine operates as efficiently as the ideal engine referred to as Carnot engine!)*

A Second important flaw in the Otto design

In every existing engine, the highest pressure, acting on work piston, occurs when the crank is aligned with the cylinder's centerline, causing stress to parts that do not *relate load of the engine*. That is, the highest potential to produce work is wasted on the wearing of engine parts. Also at that point, because torque is force acting on distance and the distance is zero, there is no contribution to torque or power output,

Solution-2 applied to the offered engine

The new design of the offered engine eliminates that flaw. *An internal device causes replication of the highest pressure (which comes about as a result of detonating vaporized or gaseous fuels) when the crank is horizontal. This boosts the torque up to hundred times, as well as limiting stress on the parts to that related only to load. The increase of torque of such magnitude indicates huge potential to cut fuel consumption in unbelievable 99%, but during experimentation I was only capable cuts by 95%! Would this satisfy your goals*

A third important flaw in the Otto design

In existing engines, depending on actual speed, fuel ignition must be advanced about 20 to 40 degree prior to TDC of the piston. This generates torque that counteracts the rotation of the engine until TDC. This torque is sometimes referred to as "parasitic torque": it consumes and wastes energy *because inflicts unwanted breaking.*

This parasitic torque prevents efficient operation, especially at slow speeds. As a result, to commence movement, every car and truck need a torque boosting transmission. The result is an increase in production costs which is, at the same time, unnecessary.

Solution-3 applied to the offered engine

The proposed engine detonates vaporized or gaseous fuels precisely at TDC. As well, solution-2 (above) assures that the proposed engine operates efficiently without advancing ignition, so there is no need for a transmission or reduction gears and torque as well as high efficiency are preserved within whole range of speeds from starting u to max speed!

A fourth flaw in the Otto design

In engines, fuel is supplied as a mist hanging in the air, so it releases energy from fuel relatively slowly by combustion. Combustion lasts up to 60 degrees of crank rotation - a very definite flaw. *It is a flaw because power available from fuel is by definition energy release from fuel in time, so faster energy release yields better thermodynamic conditions to yield better energy conversion and the efficiency, thus the power available from fuel is not as high as it should.*

In addition some of the droplets forming the mist when in contact with very hot internal parts split some fuel droplets into carbon and hydrogen. While hydrogen reacts with oxygen fast and completely, the resulting carbon combusts only partly and that is causing 6% of fuel loss. In addition the not burnt carbon deposits as black engine deposits or is released as fine, black particulates into the environment, causing environmental degradation and health problems, such as heart attack or stroke, and lung disease.

Combusting fuel mist is slow, as liquid fuels do not combust at all, only vapors of these combust. Because every droplet of the mist is surrounded by a layer of fuel vapor, which can combust, so if ignited then its flames ignite close droplets and flames propagate from one droplet to another which takes time before whole energy is released from the entire fuel charge

Solution-4 applied to the offered engine

The design of the proposed engine *allows fuel detonations*. Fuel is vaporized and then premixed with *air in explosive proportion, before entering into cylinder*. The ignition of the fuel charge releases energy from the fuel by detonating the charge *and that speeds up energy release up to 1000 times, which indicates a potential to increase power output from the same fuel in some proportion to the speeding up!*

Also vaporization of fuel prevents *the splitting of fuel*, eliminating fuel losses and

emissions of black particulates. Both the environment and human health benefit.

Please note:

The inventor has developed a prototype of his invention using fiberglass: only the parts exposed to fuel detonation were made of metal (cylinder liner, cylinder head with valves and the internal device which delays pressure build up over the work-producing piston). The prototype was tested for two years using a variety of fuels, including hydrogen. The tests proved the new concept with boosting efficiency of the invented engine. as well as zero toxic emissions always observed even when fuel had been spiked with Sulfur compounds. This is best possible engine technology.

Contact: gun-engine@shaw.ca;

Phone: +1.778.397.8999.

Independent Inventor

Kazimierz Holubowicz