



LiquidPiston, Inc. Unveils Compact, Quiet X2 Rotary Diesel Engine

150% More Efficient than Conventional Diesel, Available for Partner Testing Q1 2013

BLOOMFIELD, Conn – October 17, 2012 – LiquidPiston, Inc., leader in advanced internal combustion engine design, today unveiled the new multi-fuel-capable rotary combustion engine, the X2. The X2 is a 40 horsepower rotary engine that requires no valves, cooling systems, radiators, mufflers, or other components.

The X2's innovative design operates on LiquidPiston's patent-pending "High-Efficiency Hybrid Cycle" (HEHC), an improved thermodynamic cycle that is optimized for fuel efficiency. The HEHC cycle increases average efficiency over conventional diesel engines from less than 20% to more than 50% under typical operating modes, reducing fuel consumption by as much as threefold over conventional diesel engines.

By combining its HEHC with a rotary engine architecture, LiquidPiston has created an engine that is up to ten times lighter, whisper quiet, and two to three times more efficient at part-load than conventional engines.

X2 Features and Benefits:

- Fixed volume combustion chamber permits very high temperatures and pressures
- Theoretical thermal cycle efficiency of 74%
- Expected realized brake efficiency of 58% (peak) and 50% at partial load
- Quiet operation: engine lacks poppet valves and over-expansion minimizes exhaust noise
- Power modulation by cycle skipping increases efficiency and recaptures heat
- Low heat signature from over-expansion and cycle skipping eliminates water cooling
- Power density of ~ 2 HP/Lb
- Low production cost - the engine has ¼ the mass and 85% fewer parts than small Diesel engines
- Scalable to serve a variety of applications

The X2 Engine design will officially be unveiled at the [DEER Conference](#) in Dearborn, Michigan on October 17th as well as at the [Engine Expo](#), in Novi, Michigan, October 23-25, booth #E204. The company is currently test firing an alpha prototype of the X-series engine called the X1. The X2 engine will be available as a beta prototype for outside testing by the first quarter of 2013.

[Click here](#) for photos of the X2 Engine.

About LiquidPiston

LiquidPiston, Inc. develops rotary internal combustion engines based on an innovative thermodynamic cycle, increasing average-load efficiency to above 50%, which reduces fuel consumption by as much as threefold over conventional engines. LiquidPiston engines are quiet, compact and powerful, with a lower total carbon footprint for environmental sustainability. To learn more, visit www.liquidpiston.com.

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