



PERMO-DRIVE'S NEW HYBRID SYSTEM PROMISES MAJOR FUEL ECONOMY GAINS

TEMPE, Ariz. -- Permo-Drive Technologies has developed a compact version of its recently introduced hybrid hydraulic drive system that promises to improve the fuel-economy of medium-duty commercial vehicles by 30 percent or more.

([PRWEB](#)) February 21, 2003 -- For Immediate Release

PERMO-DRIVE'S NEW HYBRID SYSTEM PROMISES MAJOR FUEL ECONOMY GAINS

TEMPE, Ariz. -- Permo-Drive Technologies has developed a compact version of its recently introduced hybrid hydraulic drive system that promises to improve the fuel-economy of medium-duty commercial vehicles by 30 percent or more.

The new design is 300 pounds lighter and significantly smaller than the prototype systems first shown by the company last year, according to Paul Chandler, vice president of North American Operations.

Speaking at the third annual Clean Heavy-Duty Vehicles Conference on Feb. 19-20 in Tempe, Chandler said that the new system is "ideally suited for Class VI-VII trucks and represents an important, evolutionary step in the development of hybrid hydraulic drive technology."

The second-generation system weighs approximately 330 pounds. When fully charged the system can generate power equivalent to a 340-horsepower engine with 995 foot-pounds of torque. A prototype will be ready for fleet testing in the fourth quarter of 2003, with production planned in 2005.

Chandler noted that "This smaller, lighter version of Permo-Drive's Regenerative Drive System (RDS) offers significant fuel savings, reduced emissions and improves brake life to the trucking industry and major fleet operators, including the U.S. military."

A U.S. Army vehicle equipped with the Permo-Drive system recently underwent three weeks of intensive testing. Preliminary results show a 27 percent improvement in fuel economy, a 36 percent jump in rapid-acceleration or "dash" capability and a 60 percent improvement in deceleration when comparing hydraulic-system deceleration rates to engine-braking.

Dennis J. Wend, executive director of the U.S. Army National Automotive Center, recently noted that "In our modeling and simulation work to date, parallel hybrid-hydraulic systems show the potential to provide significant fuel-economy savings for future generations of trucks."

Chandler pointed out that the company's hybrid hydraulic system also has been tested on commercial vehicles in Australia, where it achieved fuel economy gains of 33 percent or more. Permo-Drive's system captures normally wasted energy generated during braking, then releases it back into the vehicle's driveline when additional power is needed.



RDS technology can be applied to new or existing trucks. Key design features include an innovative inline axial-piston pump/motor, high-pressure accumulator energy-storage devices that utilize special composite materials, ultra-light-weight metals and advanced hydraulic and electronic engineering. The Permo-Drive system integrates vehicle dynamics, hydraulics, mechanical engineering, accumulator technology, material science, computer telemetry and electronics.

Installed on a medium-duty truck, the system acts like a second 340-horsepower engine, Chandler noted. It dramatically reduces the need for fuel, while providing additional horsepower when necessary.

RDS is a high power-density, high energy-flow system that features a light-weight, compact design. You can quickly transfer a lot of energy in and out of the system. It's also a very efficient system with very little mechanical or hydraulic energy loss.

Chandler pointed out that Permo-Drive's technology offers a number of other advantages when compared to electric hybrids, including:

- Hydraulics are a mature technology with a proven track record around the world. Hydraulic systems are robust enough to operate in arctic cold or desert heat with a minimum of routine maintenance.
- There is a readily available supply of hydraulic components and engineering expertise.
- The RDS system is retrofitable to many existing vehicles.

The U.S. Army vehicle tested with the Permo-Drive system was a 6x6 FMTV (Family of Medium Tactical Vehicles) equipped with a seven-speed transmission and six-cylinder Caterpillar engine.

The Permo-Drive RDS storage system includes two hydraulic fluid accumulators, a high-pressure tank (up to 5,000 PSI) and a low-pressure reservoir. As braking takes place, energy is captured with the flow of oil from the low-pressure tank to the high-pressure accumulator. A central processor later controls the release of the oil during acceleration to enhance overall fuel economy and reduce emissions.

Permo-Drive Technologies Ltd. is an Australia-based company focused on the development of regenerative energy-management systems for the automotive industry. More information about the company is available on the Internet at www.permo-drive.com.

The 2003 Clean Heavy-Duty Vehicles Conference in Tempe is sponsored by the U.S. Environmental Protection Agency (EPA), the United States Army National Automotive Center, CalStart and WestStart. The conference looks for solutions to the emissions, mileage, economic and technological issues facing the heavy-duty vehicle industry.

###

Permo-Drive Company Contact

Paul Chandler
Permo-Drive Technologies Ltd.
Phone: 734.944.7279
E-Mail: paul.chandler@permo-drive.com
URL: www.permo-drive.com



Permo-Drive Media Contact

Larry Weis

AutoCom Associates

Phone: 248.647.8621

E-Mail: lweis@usautocom.com

URL: www.usautocom.com



Contact Information

Janet Krol

Autocom Associates

<http://www.permo-drive.com>

248.647.8621

Online Web 2.0 Version

You can read the online version of this press release [here](#).