

## Parker's Hydraulic Hybrid Technology Helps Truck Owners Exceed Proposed Federal Fuel Efficiency and Emissions Standards

- Developed with the support of the EPA, the technology is reducing fuel use and emissions by as much as 50 percent

CLEVELAND, Nov. 23, 2010 /PRNewswire/ -- Parker Hannifin Corporation (NYSE: PH), the global leader in motion and control technologies, has developed several cutting edge hydraulic hybrid technologies that improve the performance of refuse and delivery vehicles to levels that exceed proposed new federal fuel efficiency and emissions standards, and could soon be used on buses. The Environmental Protection Agency (EPA) and the Department of Transportation have proposed regulations that would require heavy duty trucks, including refuse vehicles, delivery vans and buses, to reduce fuel use and emissions by as much as 20 percent for model years 2014 through 2018. Parker's system can exceed these benchmarks today.

(Logo: https://photos.prnewswire.com/prnh/19990816/PHLOGO)

Extensive testing and field use indicates that Parker's RunWise® advanced series hydraulic hybrid technology is the most effective system available for dramatically reducing fuel consumption and emissions even as it improves drivability and performance. The system is capable of reducing fuel use and emissions by as much as 50 percent depending upon the application and duty cycle.

Developed and tested with support from the EPA at its National Vehicle and Fuel Emissions Laboratory in Ann Arbor, Michigan, the technology is already in use on refuse vehicles in three South Florida communities and cities across the country are considering the new system. United Parcel Service (UPS) and Fed Ex have become the first companies to order a variation on the technology for use on delivery vehicles scheduled to be on the road in 2011. Parker is already developing further advancements in the technology for use on an advanced bus platform that is targeting a 45 percent reduction in fuel use over average diesel powertrains and which would be more than double the fuel reduction achieved with hybrid-electric systems.

"This is the first ever series hydraulic hybrid technology in commercial use and this technology is the highest efficiency powertrain that exists," Charles Gray, director of the EPA's Advanced Technology Division, said recently during South Florida ceremonies to deliver the first refuse vehicles to use the technology. "This technology can also produce the

highest reduction in greenhouse gas emissions in these applications in urban environments of any technology we know. This is just the beginning and the future is bright for this technology."

Parker's advanced series hydraulic system is unique in that it disconnects the engine from the rear wheels of the vehicle. This de-coupling offers several advantages including: the ability to recover and store as much as 70 percent of the energy from braking, reduced brake wear, which extends brake life; an engine management system that optimizes the vehicle's engine for reduced fuel consumption; the ability to drive the vehicle with the engine off for short distances, significantly reducing carbon emissions in depots and contributing to reduced fuel consumption.

Extensive field testing of the technology since 2008 has been conducted in severe operating conditions, including high loads and repetitive start-stop cycles. The system performed well in extreme hot and cold weather, up and down mountain grades, over rough-roads, and through a variety of other severe-duty tests.

"Regardless of what standards end up being mandated, Parker has readily available technologies that dramatically reduce vehicle fuel use and emissions – that can yield truck operators significant savings over time," said Jeff Cullman, Group President, Hydraulics for Parker Hannifin. "The beauty of this system is that it makes use of well-proven technology that has been in use in rugged truck applications for many decades."

With annual sales of \$10 billion in fiscal year 2010, Parker Hannifin is the world's leading diversified manufacturer of motion and control technologies and systems, providing precision-engineered solutions for a wide variety of mobile, industrial and aerospace markets. The company employs approximately 55,000 people in 46 countries around the world. Parker has increased its annual dividends paid to shareholders for 54 consecutive fiscal years, among the top five longest-running dividend-increase records in the S&P 500 index. For more information, visit the company's web site at <a href="http://www.parker.com">http://www.parker.com</a>, or its investor information web site at <a href="http://www.parker.com">http://www.parker.com</a>. For additional information on the RunWise advanced series hybrid drive system visit <a href="http://parkerhybrid.parker.com">http://parkerhybrid.parker.com</a>

## **Forward-Looking Statements**

Forward-looking statements contained in this and other written and oral reports are made based on known events and circumstances at the time of release, and as such, are subject in the future to unforeseen uncertainties and risks. All statements regarding future performance, earnings projections, events or developments are forward-looking statements. It is possible that the future performance and earnings projections of the company and individual segments may differ materially from current expectations, depending on economic conditions within its mobile, industrial and aerospace markets, and the company's ability to maintain and achieve anticipated benefits associated with announced realignment activities, strategic initiatives to improve operating margins, actions taken to combat the effects of the current economic environment, and growth, innovation and global diversification initiatives. A change in economic conditions in individual markets may have a particularly volatile effect on segment results. Among the other factors which may affect future performance are: changes in business relationships with and purchases by or from major customers, suppliers or distributors, including delays or cancellations in shipments, disputes regarding contract terms or significant changes in financial condition, and changes in contract cost and revenue

estimates for new development programs; uncertainties surrounding timing, successful completion or integration of acquisitions; ability to realize anticipated cost savings from business realignment actions; threats associated with and efforts to combat terrorism; uncertainties surrounding the ultimate resolution of outstanding legal proceedings, including the outcome of any appeals; competitive market conditions and resulting effects on sales and pricing; increases in raw material costs that cannot be recovered in product pricing; the company's ability to manage costs related to insurance and employee retirement and health care benefits; and global economic factors, including manufacturing activity, air travel trends, currency exchange rates, difficulties entering new markets and general economic conditions such as inflation, deflation, interest rates and credit availability. The company makes these statements as of the date of this disclosure, and undertakes no obligation to update them unless otherwise required by law.

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