

## Bosch Rexroth Installs Parallel Hydrostatic Regenerative Braking System in Fairfax County's First Hydraulic Hybrid Trash and Recycling Vehicle

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For Immediate Use



The Rexroth parallel hydrostatic regenerative braking system is expected to generate savings in diesel fuel consumption, energy costs and vehicle maintenance.

**Rexroth's parallel hydrostatic regenerative braking system (HRB), ideal for rugged and heavy-duty fleet applications such as refuse trucks reduces fuel consumption costs, carbon emissions and brake wear.**

(Fairfax County, VA) The Fairfax County Solid Waste Program in Virginia is using a Bosch Rexroth [parallel hydrostatic regenerative braking system \(HRB\)](#) in the county's first hydraulic hybrid trash and recycling vehicle. The Rexroth HRB system was retrofitted in January 2011 on a 2007 Mack Truck Granite Chassis with a Heil Environmental Formula<sup>®</sup> 5000 rear loader body.

According to Michelle DuHadway, account manager for Rexroth's parallel regenerative hybrid braking systems unit, the HRB system can generate up to 25 percent savings in fuel and energy costs depending on duty cycle and driver behavior. The actual savings for this project will be determined during these field trials.

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## Press Release

Jeff Smithberger, director of the county's solid waste collection and recycling division said, "Our priority is to promote environmental stewardship throughout Fairfax County. Part of our strategic process involves evaluating the feasibility of new technologies and innovations that can help us perform our work at a high level and in a cost-efficient manner while minimizing the impact on our local environment."

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The Rexroth HRB system, funded by a grant from the American Recovery and Reinvestment Act, uses a hydraulic pump/motor connected to the driveline, to capture kinetic energy during vehicle braking. When the driver presses the brake pedal, a hydraulic unit integrated into the drivetrain presses the hydraulic fluid into a high-pressure reservoir. The resulting resistance makes the vehicle decelerate. When accelerating, the hydraulic pressure reservoir is controlled electronically to release the pressure and relieve the load on the diesel engine. Each time a driver brakes, the HRB system stores energy which would otherwise be lost.

"Every refuse truck in Fairfax County stops and starts about 800 times a day filling trash and recyclables," added Ben Boxer, communications and outreach manager for the Fairfax County Solid Waste Management Program.

Hydraulic hybrids have the potential to capture a large portion of the braking energy and use it more effectively, extending brake wear and reducing brake maintenance costs and the associated vehicle downtime. Since it is possible to slow the vehicle without engaging the foundation brakes as often, the life of the vehicle's brakes is extended and the amount of brake dust released into the environment is reduced.

The HRB system is ideal for use in various heavy commercial vehicle applications that undergo frequent starts and stops. The system can be integrated and retrofitted in the chassis as an add-on-system, in some cases, without major modifications.

"We retrofitted one truck and after the county evaluates the performance and benefits of the system, our hope is that the HRB system will be integrated on other refuse vehicles for Fairfax County," said DuHadway.

Currently Rexroth HRB systems are installed on approximately 35 trash collection and recycling trucks worldwide.

*Bosch Rexroth AG is one of the world's leading specialists in the field of drive and control technologies. Under the brand name of Rexroth the company*

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*supplies more than 500,000 customers with tailored solutions for driving, controlling and moving. Bosch Rexroth is a partner for industrial applications and factory automation, mobile applications and renewable energy. As The Drive & Control Company, Bosch Rexroth develops, produces and sells components and systems in more than 80 countries. In 2009 Bosch Rexroth, part of the Bosch Group, achieved sales of around \$5.7 billion (4.1 billion Euro) with 34,200 employees.*

*For more information please visit: [www.boschrexroth-us.com](http://www.boschrexroth-us.com)*

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