HHV

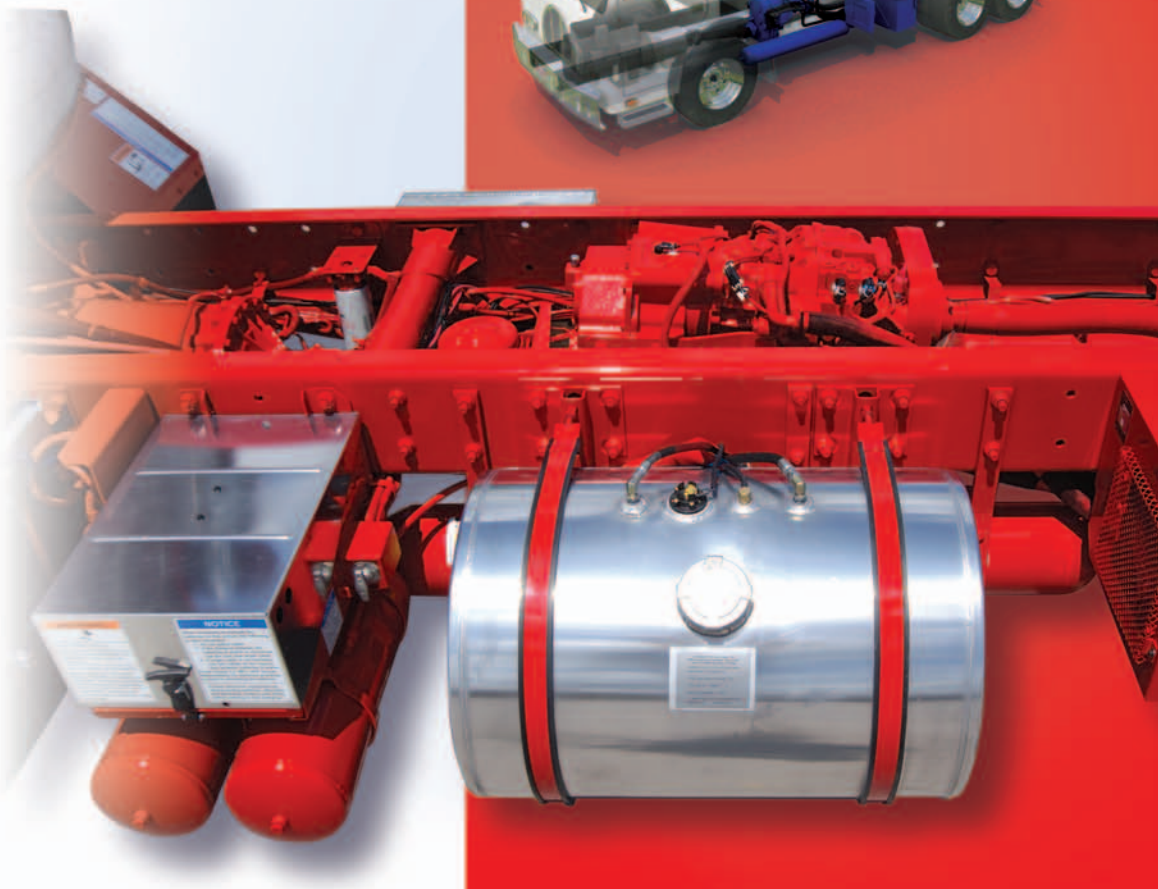
Hybrid Hydraulic Vehicle

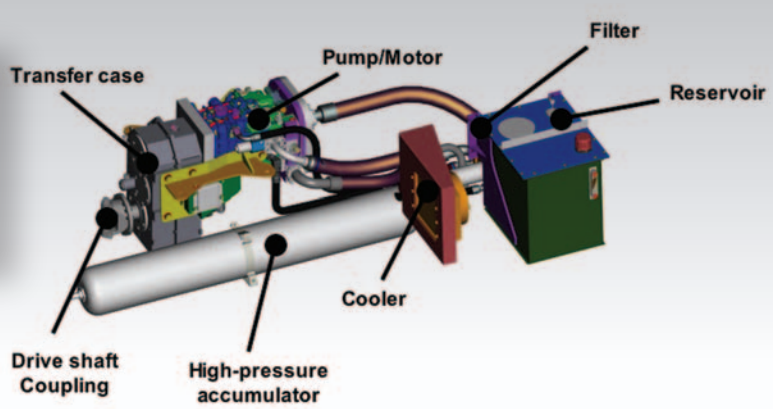
Power To Get the Job Done

With a parallel hybrid hydraulic system, the conventional vehicle powertrain is supplemented by the addition of the hybrid hydraulic system. The hybrid hydraulic system is best suited for vehicles that operate in high stop-and-go duty cycles, including refuse where fuel economy improvements between 20 and 30 percent are typical. The Eaton Hydraulic Launch Assist™ (HLA®) System utilizes regenerative braking and is ideal in refuse truck applications.

Check out all the great features we've packed into this system:

- Improved fuel economy, up to 35% or more in certain applications
- Lower carbon monoxide (CO), nitrous oxide (NO2) & particulate matter emissions up to 70%
- Reduced idle time, reduces fuel consumption and emissions
- Reduced engine and transmission wear, with increased power
- Increases brake life by 4x or more, in certain applications
- Noise reduction, with reduced acceleration engine speeds
- Convenient parallel design, between chassis frame rails
- Available in LET2 & COE2 Class 6,7 & 8 chassis applications
- 10 year design life, with annual service intervals required
- Maximum power, estimated @ 380 hp
- System weight, estimated @ 1,350 lbs.
- Maximum operating PSI; 5000 PSI (345 Bar)
- System oil volume; 21 gallons (80 L)





Eaton's Hydraulic Launch Assist System has two parts: *regeneration* and *launch assist.*

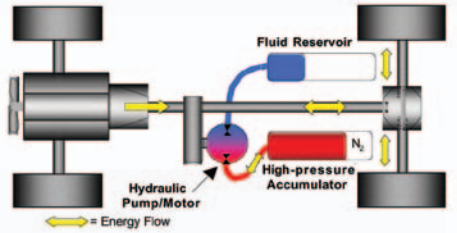
Regeneration - During braking, the vehicle's kinetic energy drives the pump/motor as a pump, transferring hydraulic fluid from the low-pressure reservoir to a high-pressure accumulator. The fluid compresses nitrogen gas in the accumulator and pressurizes the system. The regenerative braking captures about 70% of the kinetic energy produced during braking.

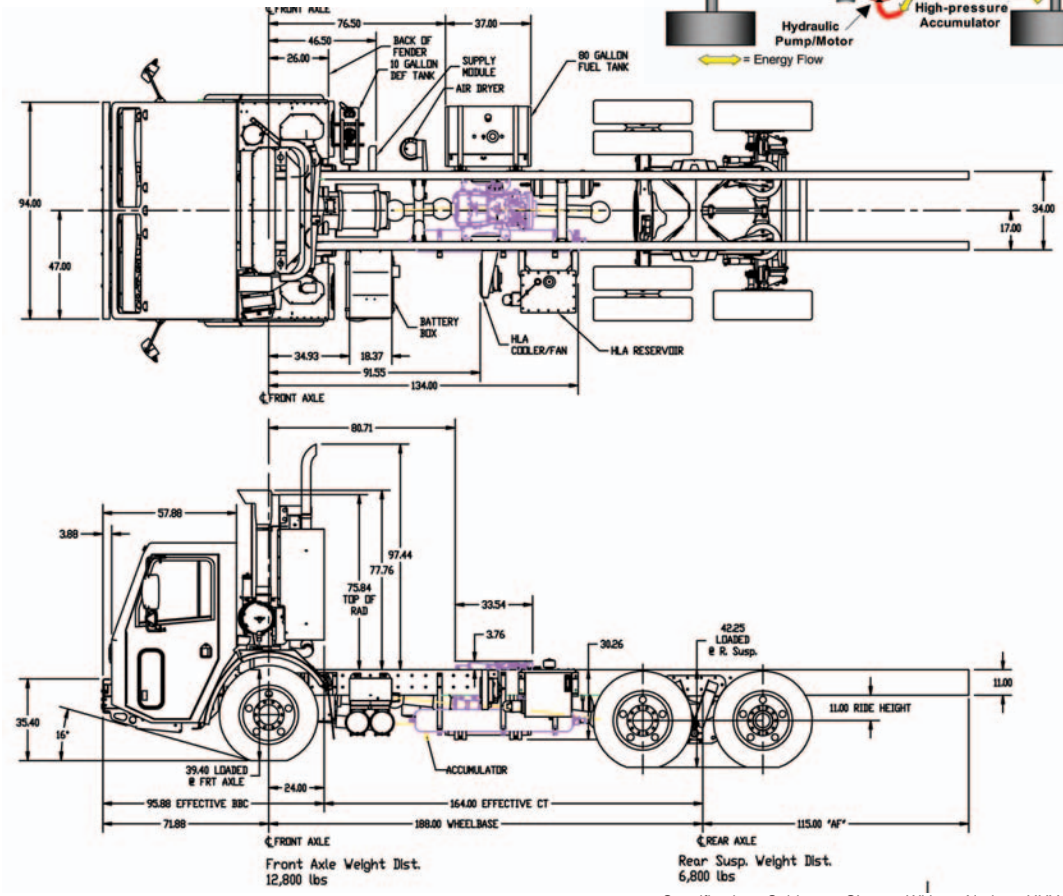
Launch Assist - During acceleration, fluid in the high-pressure accumulator is metered out to drive the pump/motor as a motor. The system propels the vehicle by transmitting torque to the driveshaft.

The Launch Assist has two different settings, the economy mode and the performance mode.

Economy Mode - When the Hydraulic Launch Assist System is operating in Economy Mode, the energy stored in the accumulator during braking is used alone to initially accelerate the vehicle. Once the accumulator has emptied, the engine will begin to perform the acceleration. This process results in increased fuel economy.

Performance Mode - When the Hydraulic Launch Assist System is operating in Performance Mode, acceleration is created by both the engine and energy stored in the accumulator. Once the accumulator has emptied, the engine is completely responsible for acceleration. While fuel economy improvements are seen in Performance Mode, the greatest benefit is increased productivity.





CRANE CARRIER COMPANY

The Refuse Vehicle Specialists

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