EPA Announces Partnership to Demonstrate World’s First Full Hydraulic Hybrid Urban Delivery Vehicle

- The U.S. Environmental Protection Agency (EPA) has announced a new partnership to show the benefits of EPA’s full hydraulic hybrid technology for urban pick-up and delivery fleets. This unique technology is based on numerous EPA pioneering hybrid patents.

- EPA and its partner, Eaton Corporation – Fluid Power, will fabricate EPA’s new and innovative integrated hydraulic rear-drive for a United Parcel Service (UPS) package vehicle.


- Hydraulic hybrid technology that will be used in the UPS demonstration vehicle:
  - Uses a hydraulic energy storage and propulsion system (versus a battery system in electric hybrids)
  - Captures and stores a large fraction of the energy normally wasted in vehicle braking
  - Uses this energy to help propel the vehicle during the next vehicle acceleration
  - Enables the engine to operate more efficiently when it is needed

- The demonstration UPS package vehicle will include:
  - Two power sources to operate the vehicle - the EPA Clean Diesel Combustion engine and hydraulic hybrid components
  - Full hydraulic hybrid technology that replaces the conventional drivetrain with a hydraulic drivetrain and eliminates the need for a transmission
  - Primary hydraulic components consisting of two hydraulic accumulator vessels, one engine hydraulic pump, and one integrated rear-drive hydraulic pump-motor assembly

Clean Diesel Combustion technology is the combination of several innovative improvements in diesel fuel injection system performance, reoptimization and refinement of air management/turbocharging systems, and an improved combustion system – creating a diesel engine capable of meeting the 2010 NOx standards without NOx aftertreatment.

- The EPA’s advanced technology in the UPS demonstration vehicle is targeted to achieve:
  - 60-70 percent better fuel economy
  - 2010 heavy-duty vehicle NOx standard
  - Ability to recoup additional cost for new hydraulic hybrid technology in less than 3 years

www.epa.gov/otaq/technology