



Volvo CE Unveils Hybrid Wheel Loader at CONEXPO-CON/AGG 2008

Volvo Construction Equipment's L220F Hybrid wheel loader will offer significant fuel and cost saving benefits as well as performance and environmental gains when deliveries begin late next year.

Volvo Construction Equipment (Volvo CE) will use the CONEXPO-CON/AGG exhibition March 11 – 15, 2008, in Las Vegas to unveil a pre-production prototype of its L220F Hybrid wheel loader. Offering more power, better performance and a 10% reduction in fuel consumption, the L220F Hybrid's increased efficiency and cost saving potential will offer customers a much greater return on their investment over the lifecycle of the machine.

Leveraging its position as the world's largest manufacturer of heavy-duty diesel engines in the 9 – 18-liter class, the Volvo L220F Hybrid's parallel hybrid technology has been developed within the Volvo Group and uses as its platform the proven and reliable D12 engine. While much of the technology remains confidential, subject to patents pending, the heart of the hybrid system is an ISG – Integrated Starter Generator. Fitted between the engine and the transmission, the ISG is coupled to a state-of-the-art battery that has many times the power capacity of a normal lead acid battery. The ISG works in a number of ways:

Power when you need it – and only when you need it

Firstly, up to 40% of a wheel loader's time can be spent with the engine idling. The ISG allows the diesel engine to be turned off when stationary – and then almost instantly restarted by rapidly spinning the engine up to optimum working speed using a burst of energy from the high power battery.

Secondly, the ISG can also overcome diesel engine's traditional problem of low torque at low engine speeds by automatically offering a massive electric torque 'boost' – as the ISG's electric motor offers torque of up to 700 Nm from standstill. Put in engine power terms – the ISG adds up to 50 kW of instant mechanical energy.

The combination of these two attributes of the ISG mean that the diesel engine will remain off for long periods when it would otherwise be idling – and that the operator does not need to over-rev the engine in order to get sufficient torque to work, as peak torque will be offered at almost tick-over engine speeds. The battery is then replenished automatically without reducing productivity, with the ISG acting as a dynamo/alternator.



While the ISG is the heart of the system, there are other energy saving innovations in the L220F Hybrid, such as an electrically powered climate control system (rather than being powered directly by the engine). When coupled to the non-hybrid L220F's already efficient V-ACT Volvo engine and hydraulic systems, the L220F Hybrid's additions make for dramatic improvements in efficiency and economy without a reduction in reliability.

The best of both worlds

The Volvo L220F Hybrid will be Volvo's – and probably the industry's – first commercially available wheel loader when deliveries begin in late 2009. This first-generation machine will spearhead a sea change in the industry, highlighting to customers that buying hybrids offers much more than 'just' environmental benefits. The key advantages of the Volvo Hybrid system is that of much lower fuel costs combined with improved performance. Volvo hybrid equipment will come to be recognised as truly the best of both worlds.

More productivity and lower fuel consumption without sacrificing any of the values associated with Volvo in terms of quality and safety. The Volvo L220F Hybrid means higher efficiency and reduced fuel consumption and reduced impact on the environment.

###

March 2008

For further information, please contact:

Winston Leonard

Volvo Construction Equipment North America, Inc.

One Volvo Dr.

Asheville, NC 28803

Phone: 828-650-2043

E-mail: winston.leonard@volvo.com

Visit <http://www.thenewsmarket.com/volvogroup> to access broadcast-standard video from the Volvo Group. You can preview and request video material as MPEG2 files or on Beta SP tapes. Registration and video material are free for the media.

Volvo Construction Equipment (Volvo CE) is a major international company developing, manufacturing and marketing equipment for construction and related industries. Its products, leaders in many world markets, include a comprehensive range of wheel loaders, hydraulic excavators, articulated haulers, motor graders, soil and asphalt compactors, pavers, milling machines, compact equipment and material handling equipment. Volvo CE is part of the Volvo Group, the world's largest manufacturer of diesel engines in the 9 to 18 litre category. The Volvo Group (AB Volvo) is one of the world's leading manufacturers of trucks, buses and construction equipment, drive systems for marine and industrial applications, aerospace components and services. The Group also provides complete solutions for financing and related services. Volvo is a public company; sales in 2006 were approximately \$35 billion.