

### **Liebherr to unveil its new LTM 1160-5.2 five-axle Mobile Crane at the Conexpo 2014**

March 2014 – Liebherr will be unveiling a new 160-tonne (190 US-ton) mobile crane on a five-axle chassis, the successor to the LTM 1160-5.1, at the Conexpo Con/Agg 2014 in Las Vegas, USA. The load capacity of the new LTM 1160-5.2 has been increased by around 20-25% compared to its predecessor whilst the telescopic boom has remained at the same length of 62 m (203 ft). The vehicle width has been reduced from 3 m to 2.75 m (9'10" to 9') which means that not only it is easier to drive on public roads but also considerably better on constricted sites. The superstructure of the new LTM 1160-5.2 is powered by the engine in the crane chassis using a mechanical shaft. This makes the new 5-axle vehicle the second crane model to feature the innovative single-engine drive concept which Liebherr first presented at the Bauma 2013 for the LTM 1300-6.2.

#### **Powerful boom system**

The six-part 62 m (203 ft) long telescopic boom on the new LTM 1160-5.2 is telescoping in and out easily via the tried and tested rapid action TELEMATIK telescoping system. With its 10.8 m to 19 m (40 ft to 118 ft) folding jib and additional telescopic boom extensions, the new LTM 1160-5.2 can achieve hoist heights of up to 93 m (305 ft) and outreaches of up to 76 m (249 ft). The folding jib can be erected to an angle of 0°, 20° or 40°. An optional hydraulic adjustment facility for the folding jib is available, enabling it to luff under full load between 0° and 40°. For work in two hook operation, a second hoist gear and a 2.9 m (10 ft) assembly jib and a rooster sheave is available.

The maximum ballast of the new LTM 1160-5.2 is 54 t (119,000 lbs) with a width of 4.27 m (14 ft). The base plate with 10 t (22,050 lbs) and a 4 t (8,820 lbs) ballast plate have the same width as the vehicle.

With a total weight of 60 t (132,000 lbs) and a 12 t (26,400 lbs) axle load, the new crane can carry its double folding jib, a 3-sheave hook block and a storage box with a generous payload.

## **Ease of control with Load Sensing and LICCON2**

In the hydraulic system, the electric "Load-Sensing" control ensures accurate work operations. Up to four movements can be actuated simultaneously. Depending on the requirements for the lifting task and of the crane driver, the slewing gear can be easily switched from "open" to "hydraulically locked".

The Liebherr LICCON2 crane control is used in the LTM 1160-5.2. Thanks to its modern and future-oriented control architecture, it facilitates adaptation to the continually growing needs of the market. A mobile, multifunctional control and display unit – BTT Bluetooth Terminal – is provided for setup functions. This means that the crane can be supported easily and safely. The crane driver also has the option of attaching and removing the hook block on the crane bumper with visual contact via remote control of the hoist winch and the luffing cylinder of the telescopic boom.

The Liebherr LICCON2 mobile crane control also offers the option of simple and thus cost-effective extension into a complete remote control system for the crane. Other than the relevant software on the crane, all that is required is a console with two master switches, which the existing BTT plugs into. A significant advantage for the crane operator is that the console can also be used for other cranes with LICCON2 controls programmed for remote control operation.

## **Innovative single-engine concept**

The LTM 1160-5.2 features the new Liebherr concept for powering the superstructure. Instead of the twin-engine concept normally used on cranes in this class the new Liebherr crane is powered by a single engine with a mechanical shaft. Gear shafts are routed from the distributor gear in the crane chassis via two mitre gears through the centre of the slewing ring to the pump distributor gear in the superstructure.

A mechanical shaft ensures a particularly high efficiency level and low engine speeds in the chassis engine provide sufficient power for crane work. This ensures the economy of the new concept in terms of fuel consumption. The benefits of omitting a separate superstructure engine include a reduction in the amount of maintenance work

and a reduction in weight. The omitted weight can be used for load-bearing components, thus increasing the crane's load capacity.

An add-on program has been developed for the new crane drive concept with just one engine and a mechanical shaft to allow the machine to be run with low fuel consumption. This enables the complete pump drive to be disconnected automatically when the engine is idling and then reconnected by the intelligent controller in a matter of seconds when it is required.

### **Time-tested, powerful drive train**

A six-cylinder Liebherr diesel engine which develops 400 kW / 544 h.p. at 1900 rpm and torque of 2,516 Nm at 1350 rpm provides the LTM 1160-5.2 with all the power it needs. The engine complies with the emission regulations of Directive 97/68/EC - Stage 4 and Regulation EPA/CARB – Tier 4 final in the USA.

The force is transferred to the crane axles via the 12-speed ZF-AS Tronic gears. The intarder, a zero wear hydrodynamic brake integrated in the gearbox, acts as a retarder. In addition a Telma eddy current brake is available as an option. Like almost all LTM mobile crane models today, the LTM 1160-5.2 features pneumatic disc brakes. The rear axles of the new 160-tonne (190 US-ton) mobile crane have active electro-hydraulic steering depending on the vehicle speed. This increases the maneuverability of the vehicle and drastically reduces tyre wear. Five steering programs can be selected conveniently at the touch of a button.

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