



The MAN exhibits at bauma 2016

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On Stand 225 in Hall B4, MAN is exhibiting five trucks from the TGL, TGS and the TGX series plus TGS WorldWide for the construction, mining, and concrete industries. A further five exhibits are located close by on the open area in front of Hall B4.

MAN Truck & Bus
Dachauer Straße 667
D-80995 Munich

Head of Media Relations
Martin Böckelmann

MAN TGL 12.220 4x2 BL

The MAN TGL series covers the tonnage range from 7.49 to 12 tonnes permitted total weight. Engines from 150 to 250 hp are on offer. The most powerful 4 cylinder engine in the series has an output of 220 hp. The MAN TGL 12.220 being exhibited can be used as a loading crane tipper for a range of tasks in the construction, landscaping and horticultural industries, in municipal building yards or by commercial service providers operating in this segment. The cab is fitted with a passenger seat comprising two comfortable individual seats for transporting employees to the working area. In the TGL series, MAN has positioned the exhaust control system components to free up space on the frame for the crane tipper supports. Aluminium wheel rims and a compressed-air tank increase the payload of this 12 tonne vehicle. The vehicle is equipped with a stabilisation package to assist with driver safety for loads with a higher centre of gravity.

Phone: +49 89 1580-2001
Martin.Boeckelmann@man.eu
www.man.eu/presse

MAN has also fitted the TGL series with a comprehensive range of safety and assistance systems. These include the Emergency Brake Assist (EBA), the Lane Guard System (LGS), the electronic stability programme as well as the emergency braking signal as an additional safety system.

Engine	D08 in-line four-cylinder engine, displacement 4580 ccm
Engine output	220 hp (162 kW) at 2300 rpm
Maximum torque	850 Nm at 1300 - 1800 rpm
Gearbox	MAN TipMatic 6-speed

MAN Truck & Bus is one of Europe's leading manufacturers of commercial vehicles and supplier of transport solutions, with revenues of approximately €9 billion a year (2015). The product portfolio includes trucks, buses and diesel engines, as well as services related to passenger and cargo transport. MAN Truck & Bus employs more than 35,500 people worldwide.



Suspension	Leaf/air suspension
Cab	C
Body	Loading crane tipper
Wheelbase	3600 mm
Permissible gross vehicle weight	12,000 kg

MAN TGS 18.480 4x4H BLS

MAN is showcasing its extended range of vehicles fitted with MAN HydroDrive at the bauma 2016 trade fair. Exhibits will include this innovative drive concept combined with the TipMatic automatic gear shift system. The MAN PriTarder installed in the engine and integrated in the cooling circuit provides maximum braking power of 620 kW. The two-axle semitrailer tractor tipper is fitted with sector-specific equipment ex works including a combined high-pressure/low-pressure hydraulic system for operating the semitrailer. The exhaust system tailpipe discharges exhaust gases in an upward direction. This arrangement prevents annoying dust turbulence caused by an exhaust tail pipe discharging in a downward direction. Tail lights with LED design are also fitted. Compared to traditional tail lights with bulbs, these are less sensitive to vibrations - this adds to MAN vehicle reliability and operational safety on uneven construction site roads.

Engine	D26 in-line six-cylinder engine, displacement 12,419 ccm with PriTarder
Engine output	480 hp (353 kW) at 1800 rpm
Maximum torque	2300 Nm at 930 - 1400 rpm Torque increase in 11th and 12th gear to 2500 Nm.
Gearbox	MAN TipMatic TX 12-speed
Drive system	MAN HydroDrive on the front axle
Suspension	Leaf/air suspension
Type	Medium height
Cab	M cab with steel bumper



Body	Semitrailer tractor tipper
Wheelbase	3600 mm
Permissible gross train weight	40,000 kg

MAN TGS 32.400 8x4 BB

MAN is using the MAN TGS 32.400 8x4 BB to showcase the weight-optimised design of the 4-axle truck mixer for the first time. Special features include the M cab for single-day trips, aluminium compressed-air tank, the partially raised exhaust system and the newly designed hypoid tandem axle. This rear axle design alone with a load capacity of 11.5 tonnes provides a payload advantage of approximately 280 kilogrammes compared to the planetary axle with a load capacity of 13 tonnes. The payload advantage compared to the hypoid axle designed for 13 tonnes is approximately 180 kilogrammes. This axle also allows greater ground clearance than the 13 tonne hypoid axle. The vehicle being exhibited therefore achieves the ground clearance required for N3G approval (off-road vehicle) with 315/80 R 22.5 tyres fitted. This configuration gives the chassis an empty weight of around 9,065 kilogrammes without driver and fuel tank filled up with 10 %.

Engine	D26 in-line six-cylinder engine, displacement 12.419 ccm
Engine output	400 hp (294 kW) at 1800 rpm
Maximum torque	1900 Nm at 930 - 1400 rpm Torque increase in 11th and 12th gear to 2100 Nm.
Gearbox	MAN TipMatic 12-speed off-road transmission with software for off-road applications
Suspension	Leaf-leaf suspension
Cab	M cab with steel bumper
Body	Truck mixer
Wheelbase	1795 + 2505 + 1400 mm
Permissible gross vehicle weight	34,000 kg



MAN TGS 33.480 6x6 BB

The robust and strong MAN TGS 33.480 from the WorldWide product family is designed with mining operations and use on rough ground in mind. MAN has optimised the three-axle chassis to meet sector requirements and to allow large format single 16.00 R 20 tyres to be mounted. The rear axle spacing was extended to 1500 millimetres for this purpose. Permanent all-wheel drive ensures traction off-road and on inclines. The hill-climbing brake prevents rolling back when driving on inclines. The heat retention function which remains active in neutral keeps the engine warm up to an air temperature of minus 40°C. The cyclone filter keeps the high-level of dust pollution in mining and similar desert-like regions away from the cab interior and contributes to driver comfort.

Engine	D26 in-line six-cylinder engine, displacement 12.419 ccm in Euro 5 design.
Engine output	480 hp (353 kW) at 1900 rpm
Maximum torque	2300 Nm at 1050 - 1400 rpm
Gearbox	MAN 16 gear manually-operated gearbox
Suspension	Leaf-leaf suspension
Type	High design height
Cab	M cab with steel bumper
Body	Rear tipper
Wheelbase	3800 + 1500 mm
Permissible gross vehicle weight	33,000 kg

MAN TGX 33.560 6x4 BL

MAN is presenting the MAN TGX 33.560 designed for heavy-duty and regular trailer operations on its bauma 2016 trade fair stand. The powerful 560 hp engine from the D38 Common Rail engine series accomplishes the task of moving a gross combination weight of up to 120 tonnes with ease. The engine is combined with the automated MAN TipMatic gearbox which performs well in terms of comfort and efficiency with a number of functions. These include the rocking free function and the EfficientCruise GPS cruise



control with EfficientRoll sail function. When starting on slight inclines, MAN EasyStart stops the vehicle from rolling back for two seconds. This is activated using a button on the dashboard. IdleShutDown helps to reduce fuel consumption, and therefore the total cost of ownership, by switching the engine off after four minutes to avoid unnecessary idling. Manoeuvrability off-road and in confined construction sites has increased thanks to the turning brake. Here, rear wheels braking on the inside of the corner reduce the cornering radius. The driver can activate this function up to a road speed of 30 km/h.

Engine	D38 in-line six-cylinder engine, displacement 15,256 ccm
Engine output	560 hp (412 kW) at 1800 rpm
Maximum torque	2700 Nm at 930 - 1400 rpm
Gearbox	MAN TipMatic TX 12-speed with Intarder. Off-road transmission software for off-road deployment:
Suspension	Leaf/air suspension
Type	Medium-high design height
Cab	XL with steel bumper
Body	3-sided tipper
Wheelbase	3600 + 1400 mm
Permissible gross vehicle weight	33,000 kg
Permissible gross train weight	120,000 kg

MAN has five more exhibits on the open area in front of Hall B4:

MAN TGM 18.340 4x4 BB

MAN TGM 18.340 is the most powerful variant in the MAN TGM series. MAN has installed a range of effective functions for use off-road as an all-wheel drive tipper. The front-wheel drive is engageable. The TipMatic automatic gear shift system uses off-road transmission software which reduces interruption of tractive force by providing higher gear-shifting speeds, quicker gear changing and no gear skipping. The transfer case



differential management specifies a logical differential gearshift sequence via its rotary switch. This avoids operating error. The ABS terrain system enables an improved braking effect in some driving situations on unsurfaced or soft ground.

Engine	D08 in-line six-cylinder engine, displacement 6871 ccm
Engine output	340 hp (251 kW) at 2200 rpm
Maximum torque	1250 Nm at 1200 - 1800 rpm
Gearbox	MAN TipMatic 12-speed off-road transmission with software for off-road applications
Suspension	Leaf-leaf suspension
Type	High
Cab	C with steel bumper
Body	3-sided tipper
Wheelbase	3600 mm
Permissible gross vehicle weight	18,000 kg

MAN TGS 50.480 10x4-6 BBL

MAN is showcasing an ex works five-axle chassis using the MAN TGS 50.480 at the bauma 2016 trade fair. The MAN TGS with 10x4-6 wheel configuration delivers impressive performance with its short, compact design. It is highly manoeuvrable thanks to its steered and lifting trailing axle provided as standard. This feature is important in traffic when delivering concrete to construction sites. Lifting the 5th axle reduces the driving resistance and tyre wear when the vehicle is on its way back to the concrete plant without a load. The partially raised exhaust control system is located behind the cab. The TGS 50.480 being exhibited is to be used as a truck mixer in Switzerland. The legislation there allows a total vehicle weight of 40 tonnes on a five-axle chassis. However, this vehicle design is not only of importance to the Swiss market. Truck mixers, concrete pumpers, tippers, ejector trailers or crane vehicles also benefit from the increased payload compared to a four-axle vehicle.



Engine	D26 in-line six-cylinder engine, displacement 12.419 ccm
Engine output	480 hp (353 kW) at 1800 rpm
Maximum torque	2300 Nm at 930 - 1400 rpm Torque increase in 11th and 12th gear to 2500 Nm.
Gearbox	MAN TipMatic 12-speed with Intarder
Suspension	Leaf/air suspension
Cab	M
Body	Truck mixer
Wheelbase	1795 + 2050 + 1400 + 1450 mm
Permissible gross vehicle weight	50,000 kg

MAN TGS 35.480 8x4-4 BL

The importance of triple-axle vehicles with the three-axle configuration at the rear is growing in a range of markets. A steered and lifting trailing axle with a nine tonne payload is added to the hypoid tandem axle. The automated MAN TipMatic gearbox is fitted with the “off-road” gear changing programme for construction vehicles. The EfficientRole function contributes to fuel saving - the MAN TipMatic shifts to neutral on roads with a slight decline and allows the vehicle to roll. The TGS 35.480 being exhibited with a roll-off skip loader body has the MAN construction site package. It supports the driver in the reliable completion of the work and includes, for example, the ladder with wide non-slip tread surfaces on the driver’s side front wing and a long handle on the roof. An air deflector plate prevents dust turbulence from the fan when driving on unsurfaced roads. The “Light and vision” safety package also included in the vehicle comprises an automatic wiper system with rain sensor and a range of lighting systems. These include the Emergency Stopping Signal (ESS) brake system for emergency braking warning, cornering lights, tail lights, daytime driving lights using LED technology, manoeuvring lights and spotlights. A camera system has been installed for monitoring work in progress when setting down and picking up the roll-off containers. The camera image appears on the MAN MMT navigation and radio system monitor. Fitting your own screen for rear view and reversing camera is no longer required.



Engine	D26 in-line six-cylinder engine, displacement 12,419 ccm with PriTarder
Engine output	480 hp (353 kW) at 1800 rpm
Maximum torque	2300 Nm at 930 - 1400 rpm Torque increase in 11th and 12th gear to 2500 Nm.
Gearbox	MAN TipMatic 12-speed off-road transmission with software for off-road applications
Suspension	Leaf/air suspension
Cab	M cab with steel bumper
Body	Roll-off skip loader
Wheelbase	Triple-axle configuration 3600 + 1350 + 1450 mm
Permissible gross vehicle weight	35,000 kg

MAN TGX 41.640 8x4/4 BBS

Heavy-duty transport is another area of application intended for the MAN D38 which can deliver maximum power output levels of up to 640 hp. The four-axle MAN TGX D38 heavy-duty tractor uses a converter-clutch unit (WSK) for the power transmission which is connected to the MAN TipMatic gearbox. This combination increases the input torque from 3000 Nm to 4700 Nm and transfers it smoothly but powerfully on to the road. The two system combination of the Turbo-EVB and the Intarder provides a brake output of up to 900 kW over a very broad range of speeds. The ex works equipment provided by MAN for heavy-duty transport is extensive. MAN has included the additional radiator for the engine and converter-clutch unit, and also tanks for 960 litres of diesel, 80 litres of AdBlue and 290 litres of hydraulic oil in the equipment carrier behind the XXL cab. The latter feeds the hydraulic system supplying the semitrailer with either 20, 40 or 100 litres of hydraulic oil per minute at a pressure of 250 bar. Additional hydraulic connections are available on the end of the frame and on the front cross member. The fifth-wheel pick-up plate is fitted to a sliding device. The end of the frame covers the supporting plate for the swan neck.

Engine	D38 in-line six-cylinder engine, displacement 15,256 ccm
Engine output	640 hp (471 kW) at 1800 rpm



Maximum torque	3000 Nm at 930 to 1400 rpm
Gearbox	MAN TipMatic 12-speed combined with converter-clutch unit and Intarder
Suspension	Leaf-leaf suspension with air suspension on the leading axle
Cab	XXL with steel bumper and register coupling
Body	Heavy duty semitrailer tractor
Wheelbase	2600 + 1450 + 1400 mm
Permissible gross train weight	250,000 kg

MAN TGS Rally Truck

The exhibited rally truck from the Eurol / Veka team completed a route more than 9000 kilometers long through the deserts of Argentina and Bolivia during the Dakar Rally 2016.

There were altogether 16 MAN vehicles at the start belonging to several racing teams. As the race was over, the Dutchman Hans Stacey could achieve the fourth place at the wheel of the truck exhibited here, thus being the most successful MAN driver.

Engine	D26 six-cylinder straight engine, displacement 12,419 ccm
Engine output	approx. 1,000 hp (735 kW)
Maximum torque	4500 Nm
Gearbox	16-speed manual gearbox
Maximum speed	Limited to 140 km/h
Driver's cab	M with rollover protection and racing seats
Chassis	Single-leaf springs combined with "Reiger-McPherson" struts
Equipment	Tyre pressure control system with tyre pressure monitoring
Weight analysis	55: 45%