

**Vehicle variant TGS 41.400 8x4 BB CH**

**Nationale Zulassung[kg] / Technische Last Plus (mit Ausnahmegenehmigung) [kg]**

**Gross weight 32000 / 35000**  
**1st front axle 7500 / 7500**  
**2nd front axle 7500 / 7500**  
**1st rear axle 9000 / 12000**  
**2nd rear axle 9000 / 12000**

**Current scope of delivery**

MAN Individual	Code	Description
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**Vehicle characteristics**

**Basic characteristics**

OP3M3	MAN	
OP3MA	Trucks	
OP3M8	NHMR	
OP2U9	Chassis	
OP2UC	Chassis class, heavy	
OP3GA	Destination: Germany (DE)	
OP8LN	Merchant tonnage 41 t	
OPGCU	Basic layout of vehicle, all-round	
OP2TQ	Frame type, medium-high	
OP2UN	Vehicle type Tipper (KI)	
OP3AS	Left-hand-drive	
OP3F5	Right-hand traffic	
OP2L6	Vehicle documents in German	
OP8NL	Labelling in German	
OT0CB	Type truck 39E	
OP6C0	D20R6_EURO2_L	
OP6EN	KI_NN_2505_0800	
OPGDK	NN_S	
OPHBE	Cab position 640 mm (distance from frame lower edge to cab floor)	
<b>Registration</b>		
OP3JS	Vehicle approval, N3G class	
OP2UJ	Maximum speed limiter, 89 km/h, tolerance +1 km/h, electronic, engine speed regulation	
OPIND	Maximum vehicle noise level, 82 dB in acc. with UN/ECE-R 51.02	

OPHA1 Height over cab, unloaded up to 4,000 mm

OPHDB Swing out of vehicle rear up to 800 mm/1,000 mm with raised or steered last axle

#### **Documents**

OP3AO Data confirmation, international

OP3AU Supplier declaration

OP3B0 Without registration documentation, national

#### **Application scope / transport tasks**

OP6WH Construction

OP2QG 021 Tipper, three-way

OP0G7 Temperate range, vehicle deployment, moderate

OP4F0 Case hardness of final drive Distribution

#### **Lines, editions and packages**

##### **Horizontal and vertical loads**

OP5QM 32,000 kg permitted gross load, vertical, nat. appr.

OP5UH 35,000 kg permitted gross load, vertical, tech.

OP8H6 35,000 kg permitted gross load, vertical, tech. Plus

OP5KR 7,500 kg permitted load on front axle, nat. appr.

OP5LL 7,500 kg permitted load on front axle, tech.

OP8D1 7,500 kg permitted load on front axle, tech. Plus

OP5FZ 7,500 kg permitted load on 2nd front axle NatZu

OP5NK 7,500 kg permitted load on 2nd front axle, tech.

OP7TU 7,500 kg permitted load on 2nd front axle, tech. Plus

OP7PF 7500/7500kg load variant, vertical, front axles, national registration, T1=15000

OP7QQ 7500/7500kg load variant, vertical, front axles, tech., T1=15000

OP7SO 7500/7500kg load variant, vertical, front axles, tech. plus, T1=15000

OP5GR 9,000 kg permitted load on rear axle NatZu

OP5IK 12,000 kg permitted load on rear axle, tech.

OP8BP 12,000 kg permitted load on rear axle, tech. Plus

OP5FC 9,000 kg permitted load on 2nd rear axle NatZu

OP5M6 12,000 kg permitted load on 2nd rear axle, tech.

OP7TE 12,000 kg permitted load on 2nd rear axle, tech. Plus

OP7CJ 0/9000/9000/0kg load variant, vertical, rear axles, national registration, T2=18000

OP7IB 0/12000/12000/0kg load variant, vertical, rear axles, tech., T2=24000

OP7NM 0/12000/12000/0kg load variant, vertical, rear axles, tech. plus, T2=24000

OP7T8 15000kg permissible load on axle group T1, national registration

OP7VJ 15000kg permissible load on axle group T1, tech.

OP7WS 15000kg permissible load on axle group T1, tech. plus  
OP7YI 18000kg permissible load on axle group T2, national registration  
OP7ZB 24000kg permissible load on axle group T2, tech.  
OP7Z2 24000kg permissible load on axle group T2, tech. plus  
OPFYQ Load key, vertical, 201  
OP8XD 0kN D value  
OP9E1 0/0kg load variant, horizontal, assign., national registration  
OPAPJ 0/0kg load variant, horizontal, assign., tech. hom.  
OP9TI 0/0kg load var., hor., assign., tech. plus, D-value=0kN, without gradeability restrictions  
OP9B9 Load key, horizontal, 063

**Notification texts**

**Scopes for adaptation for military use**

**Chassis**

**Vehicle frame (wheelbase, overhang, ...)**

OP2YQ Main wheelbase, 2,505 mm  
OP3C1 Wheelbase between front axles, 1,795 mm  
OP3BX Wheelbase between rear axles, 1,400 mm  
OP3EU Frame overhang, rear, 800 mm  
OP0Y7 Main frame side member thickness, 9.5 mm  
OP0XT Vehicle rear, straight end of frame  
OP6YC Top coating, chassis

**Exhaust system, air intake**

OP1BH Exhaust silencer, side, right  
OP1BT Exhaust tailpipe, towards middle of frame

**Battery cases, batteries, alternator**

OP0WA Battery, 12 V, 175 Ah, 2 units, maintenance free  
OP1BV Alternator, Basic  
OP0WU Medium battery box, 2 batteries  
OP0WO Battery box, left  
OP0WF Main battery switch, mechanical  
OP1V1 Fuses

**Tanks and fuel line**

OP4E8 Fuel tank capacity 300 l, right  
OP4GN Fuel tank, right, steel  
OP4HF Tank cross-section, right, low  
OP4H5 Fuel tank cap, lockable for master key system

### **Frame attachments**

- OP1FM Without underride protection, front
- OP0VH Without working platform
- OP1FG Without underride protection, side
- OP1SB Final cross member, with hole pattern 160 x 100 mm
- OP1FD Underride protection, rear, round
- OP6WX Wheel chock, two units, without retaining device, delivered loose

### **Pneumatic brakes, compressed-air generation, brake system**

- OP0AF Air compressor, 1-cylinder, 360 ccm
- OP0AB Compressed-air treatment, pneumatically controlled
- OP0XH Steel compressed-air tank
- OP0BL Electronic brake system (EBS)
- OP0BE Anti-lock braking system (ABS)
- OP0CM Full brake assistant
- OP0BV MAN EVB high-performance engine brake
- OP1I9 Disc brakes on front axle
- OP1I1 Disc brakes on 2nd front axle
- OP1I5 Drum brakes on rear axle
- OP1IF Drum brakes on 2nd rear axle
- OP3KH Parking brake control, next to driver's seat
- OPGBL Parking brake with spring-type actuator on rear axles (incl. leading axle/ trailing axle)

### **Lights and acoustic signals on the chassis (rear lights, ...)**

- OP2AQ Rear lights
- OP2AD Light function test
- OP2BJ Side marker lights, LED

### **Driveline/running gear**

#### **Engine, radiator**

- OP6BR Diesel engine MAN D2066 LF06, 294 kW (400 hp) output, 1,900 Nm torque, Euro 2
- OPHIF Fuel filter, heated, for fuels up to Cleanliness Class 21
- OP0AU Fuel pre-filter, with oil separator/water trap, heated
- OP0G5 Without torque reduction
- OP8PN Ventilation, crankcase, open
- OP2E7 Anti-noise skirt, engine
- OP1YE Reduction of dust swirl through radiator fan
- OP4XX Engine cooler, normal length
- OP1XE Radiator protection, lower

OP0B6 Engine oil dipstick and digital oil level gauge  
 OP0KA Warning message for engine coolant level, with advance warning  
 OP0AK Antifreeze, down to -32 °C  
 OP0GD Flame-start system  
 OP1X4 Cover for intercooler

#### **Gearbox, clutch**

OP5VL Manually operated gearbox, MAN 16.25 OD  
 OPGCL Gearbox for increased percentage of overrun during driving operation  
 OP3KL Manual gearbox operation, single-H, group/split switch  
 OP0DT Single-disc clutch, 430 mm, dry  
 OP0E2 Driveline propshaft, reinforced  
 OPGCF Propshaft, 2nd rear axle, reinforced

#### **Wheels, tyres**

OPFW2 Required tyre speed index J  
 OPEXT Front axle tyres optionally 315/80R22.5 Steering-Road+Offroad TL (156/150 K)  
 OP0P0 Rim type, front axle, steel, single-part  
 OP0NI Rim size, front axle, 10-hole, 9.00x22.5  
 OP0PR Wheel nut cover ring, front axle  
 OPFIO Tyres 2nd front axle optional 315/80R22.5 steer S+G TL (156/150 K)  
 OP0PF Rim type, 2nd front axle, steel, 1-part  
 OP0OH Rim size, 2nd front axle, 10-hole, 9.00x22.5  
 OP0Q3 Wheel nut cover ring, 2nd front axle  
 OPDRX Rear axle tyres optionally 315/80R22.5 Drive-Road+Offroad TL (154/150 K)  
 OP0OO Rim type, rear axle, steel, single-part  
 OP0MU Rim size, rear axle, 10-hole, 9.00x22.5  
 OPEA2 Tyres for 2nd rear axle optionally 315/80R22.5 Drive-Road+Offroad TL (154/150 K)  
 OP0PA Rim type, 2nd rear axle, steel, single-part  
 OP0O7 Rim size, 2nd rear axle, 10-hole, 9.00x22.5  
 OP6YL Top coating, rims, steel, white-aluminium  
 OPHZW Centring sleeves for rim mounting

#### **Axles**

OP3BI 8x4  
 OP1JX Steering ratio, standard  
 OP1JV Steering oil tank with electrical measuring sensor  
 OP5EX Front axle, 9,200 kg, not driven, straight, steered, not liftable  
 OP1AT Mudguard, front axle

- OP1XS Splash guard mat on mudguard, front axle, longer at bottom
- OP4ZH 2nd front axle, 9,200 kg, not driven, straight, steered, not liftable
- OP1B8 Mudguard, 2nd front axle, removable upper shell
- OP1Y4 Splash guard mat on mudguard, 2nd front axle, longer at bottom
- OP4ZM Rear axle, 13,000 kg, planetary axle with drive shaft, straight, not steered, not liftable
- OP1HN Twin tyre on rear axle
- OP1AM Mudguard, rear axle, upper shell removable
- OP1XI Splash guard flaps on mudguard, rear axle
- OP4Y7 2nd rear axle, 13,000 kg, planetary axle without drive shaft, straight, not steered, not liftable
- OP1HW Twin tyre on 2nd rear axle
- OP1B3 Mudguard, 2nd rear axle, removable upper shell
- OP1XY Splash guard mat on mudguard, 2nd rear axle
- OP0D2 Axle ratio,  $i = 4.00$
- OP0DI Differential locks on driven rear axles
- OP0DL Without differential locks, front axles
- OP1KO Emergency steering pump

**Axle control system and suspension**

- OP2YB Suspension type for front axles and driven rear axles, leaf/leaf (BB)
- OP1JE Leaf-spring suspension on front axle, parabolic, 3-leaf, steel
- OP1JS Leaf-spring suspension on 2nd front axle, parabolic, 3-leaf, steel
- OP1IY Leaf-spring suspension on rear axle, progressive, steel
- OP1JI Leaf-spring suspension on 2nd rear axle, progressive, steel
- OP5C2 Spring load-bearing capacity front axle 8,000 kg
- OP5DE Spring load-bearing capacity of 2nd front axle, 8,000 kg
- OP5BV Spring load-bearing capacity of rear axle, 13,000 kg
- OP5C7 Spring load-bearing capacity of 2nd rear axle, 13,000 kg
- OP1M4 Shock absorbers on front axle
- OP1ME Shock absorbers on 2nd front axle
- OP1LQ Shock absorbers on rear axle
- OP1M9 Shock absorbers on 2nd rear axle
- OP1LD Stabiliser, front axle
- OP1LA Stabiliser, rear axle
- OP1LH Stabiliser, 2nd rear axle
- OP6ZR Wishbone

**Cab**

**Cab and cab exterior**

- OP6YB Top coating, cab
- OP6YQ Textured coating, bumper, steel
- OP6X9 Textured coating, step units
- OP6YG Textured coating, mudguard, behind cab
- OP2DL Local transport cab NN
- OP1V8 Cab mount, Basic
- OP1V6 Cab tilt mechanism, manual
- OP1VY No tilting roof/sliding roof
- OP1SG Bumper, steel, 3 pieces
- OP1VE Front step, integrated, with grab option
- OP1X0 Windscreen, composite safety glass, tinted
- OP1WK Sunblind, in front of windscreen
- OP1WG Wiper system for windscreen
- OP1UL Wiper activation, manual
- OP1V0 Step unit, hinged
- OP1WS Central locking, no remote control
- OP3JT Vehicle key, 2 units
- OP1WV No door extension
- OP1WO Door windows, tinted
- OP1WMDoor window, safety glass
- OP1VB Cab rear wall, with window
- Lights and acoustic signals on cab exterior (headlights, horn, ...)**
- OP1ZN Front headlights, H7
- OP2BN Daytime driving lights, H7
- OP2AC Headlight beam regulator, manual
- OP1ZF Driving-light control, manual
- OP2BS Contour lights, LED, 2 units
- OP1Z6 Turn signal lights, sides, bulb
- OP1W1 Horn, two-tone, electrical
- OP2A5 Preparation for loading area lighting
- Mirrors and mirror replacements
- OP2CC Exterior rear-view mirror, mechanically adjustable
- OP2CP Mirror housing, not painted
- OP2CT Rear-view mirror arms, suitable for body width 2,500 mm to 2,600 mm
- OP2CH Kerb mirror, right, mechanically adjustable
- OP2CJ Front mirror, mechanical adjustment

### **Seats**

- OP2PQ Seat covers, fabric, standard
- OP2P2 Comfort driver's seat, air-sprung
- OP2OE Driver's seat arm rests
- OP4XQ Adjustment of seat belt height, driver's seat
- OP2OO Co-driver's seat, not sprung, with storage box
- OP2Q6 Storage space, in seat bracket of co-driver's seat

### **Driver's workplace**

- OP2GD Multi-function steering wheel, adjustable height and angle
- OP2GE Steering wheel, with parking position
- OP3JZ Steering lock
- OP3L3 Instrumentation, Basic km/h
- OP2KY Tachograph Simulation Unit (TSU), instead of tachograph
- OP2KG Tachograph, calibrated
- OP2FA 2 pull-out cup holders in instrument panel
- OP2FJ Single DIN slots, 4 units, roof space, front

### **Cab air-conditioning system**

- OP2NU Air-conditioning system, manual

### **Bunk area**

#### **Cab interior**

- OP2I6 Colour scheme for interior styling, dark
- OPGBT Interior styling analogous to colour scheme
- OP2FE Windscreen roller blind, internal
- OPHA6 Interior light, central
- OP2IQ Reading light, 1 unit, driver's side
- OP2IO Entry lighting
- OP2IA Door interior cladding, washable
- OP2HJ Drawer, 1 unit, instrument panel in middle section
- OP2F2 Storage box, cab rear wall, 2 units, behind driver's and co-driver's sides
- OP2G2 Grab handle, above door, internal, 2 units, 1 right and 1 left
- OPHPK Entry handles, standard

### **Accessories and tools**

- OP3F6 No jack
- OP2TX Vehicle toolkit
- OP3FI Warning triangle, 1 units
- OP3F3 First aid kit



## **Intelligent Truck**

### **Assistance systems**

OP1TR Tempomat (cruise control, CC)

### **Infotainment (radio,...)**

OP2M2 MMT infotainment system, Starter High

OP2MF MAN loudspeaker system

OP2N2 No navigation map

OP2MO MAN TeleMatics

### **Bodies/interfaces**

#### **Interfaces to semitrailer (e.g. fifth-wheel coupling, brake connection,..)**

OP1O3 Without trailer brake connection behind cab

OP1RJ No fifth-wheel coupling

#### **Interfaces to trailer (e.g. trailer coupling, brake connections,..)**

OP1NQ Without trailer/towing coupling on final cross member

OP1SP Preparation for towing coupling on final cross member

OP1O0 Without trailer brake connection at end of frame, centre

OP1OW Without trailer socket at frame end

OP1O9 Without trailer socket for anti-lock brake system (ABS)

#### **Ex works bodies and interfaces to bodies (e.g. tipper indicator...)**

OP0K8 Preparation for engine start/stop facility, under front panel

OPHPE Interface for data exchange with body (customer-specific control module) and intermediate engine speed (ZDR), behind front panel and behind cab

OP2J3 Display of workshop data for body, control module for ext. data exchange (customer-specific control module) with body functions

OPINX Electrical preparation for keypad, body control

#### **Attachments and interfaces to attachments (e.g. silo compressor, front mounting plate,...)**

##### **PTOs**

OP4N8 PTO, engine-dependent, non-shiftable

OP4W3 PTO, engine-dependent, flywheel, flange (6-hole, 100 mm),  $f=1.233$ , 650/720 Nm continuous/short

OP4OR Flange connection on PTO, engine-dependent, 100 mm diameter (6-hole)

OP4XF Engine-dependent power take-off, continuous operation

OP4QK PTO, gearbox-dependent, type NH/4c, without flange,  $f=1.17/1.40$ , position approx. 4 o'clock

OP4VK PTO, gearbox-dependent, for short-time operation less than 60 min

OP4X9 PTO, gearbox-dependent, shiftable

OP4WP Function parameters for PTO; gearbox-dependent, driving operation

OP4X2 Sector-specific parameterisation for truck mixer (working speed control)

**Towing, recovery and lashing**

OP1MK Central coupling jaw, integrated in bumper/front cross member, with lock pin

OPIZ7 missing text (VanText: esa.kon.vcode.text.OPIZ7)

OPKAW missing text (VanText: esa.kon.vcode.text.OPKAW)

**Wheel**

Front axle

Front axle tyres optionally 315/80R22.5 Steering-Road+Offroad TL (156/150 K) Rim type, front axle, steel, single-part Rim size, front axle, 10-hole, 9.00x22.5

Front axle 2

Tyres 2nd front axle optional 315/80R22.5 steer S+G TL (156/150 K) Rim type, 2nd front axle, steel, 1-part Rim size, 2nd front axle, 10-hole, 9.00x22.5

Rear axle

Rear axle tyres optionally 315/80R22.5 Drive-Road+Offroad TL (154/150 K) Rim type, rear axle, steel, single-part Rim size, rear axle, 10-hole, 9.00x22.5

Rear axle 2

Tyres for 2nd rear axle optionally 315/80R22.5 Drive-Road+Offroad TL (154/150 K) Rim type, 2nd rear axle, steel, single-part Rim size, 2nd rear axle, 10-hole, 9.00x22.5

**Colour**

chassis

GRAPHITE BLACK RAL 9011 - Water

cab

PURE WHITE RAL 9010 - Normal

### **Ready-mix concrete mixer EM10R - Regular Drum**

- Nominal volume 10m<sup>3</sup> ready-mixed concrete
- Mixing drum in "Regular" design
- Mixing drum in light construction made of **steel S355**
- Mixing drum made of **S355 in 5mm**
- Mixing spirals in the center made of **S355 in 5mm**

#### **Drive**

- Gearbox make **ZF-P5300**
- Hydraulic pump make **Bosch Rexroth**
- Hydraulic motor make **Bosch Rexroth**
- Oil cooling system integrated

#### **Water system**

- Water tank 500l (compressed air)
- Water tank steel
- Stopcock below the water tank mounted in the filling line
- water connection "C"-coupling, one-sided
- Compressed air water system
- Water connection at the stand platform with hose line

#### **Mixer body**

- Mudguards made of aluminum (corrugated) above the rear axles
- 2x extension troughs made of plastic incl. holder
- Mixing drum with a service flap
- Climbing ladder with stand platform
- Feed hopper
- Rubber attachment on the feed hopper
- Swiveling, single-arm discharge chute
- Wear plates in feed hopper, discharge pan and swivel chute
- Drum locking device to secure the drum during maintenance work
- Polyurethane primer
- Weight approx. 3.965kg, +/- 5% deviations

#### **Assembly**

- Assembly of the mixer on chassis  
(Any modifications or additions to the chassis will be charged at cost).
- Rear underride guard rigid
- Connection to EMC interface  
(Interface must be available on truck side)
- TÜV acceptance

### **Operation & electrics**

- Mixer operation - mechanical
- Start-stop system (with EDC)
- Mix drive mixer control
- with emergency stop function according to EU safety technology

### **Painting**

- painted one color in white

### **Options:**

- Additional extension chute (plastic or steel)
- Folding chute plastic (or steel)
- Retention flap swivel chute
- Dust box plastic or stainless steel
- Additional tool container (plastic non-pressurized or stainless steel compressed air)
- Tool holder (broom, shovel, trowel)
- pneumatic  $\frac{3}{4}$  drum lock
- rear view camera
- LED working light
- Intelligent drum control (electric drum control)
- step on the underride guard
- water gauge
- Pressure gauge
- Frame cover
- Fire extinguisher
- Support for flowing concrete pipe (5 m long)
- Transition piece to the flowing concrete pipe (reducing chute)
- Hydraulic chute support

### **Warranty/ Guarantee**

The warranty period for the entire body is 12 months from delivery, 24 months for the gearbox, hydraulic motor and hydraulic pump, and 60 months for the drum walls including the spirals.

Warranty claims can only be made if there is evidence of use with finished concrete bars, in single-shift operation and if a free annual drum inspection has been carried out at our factory.