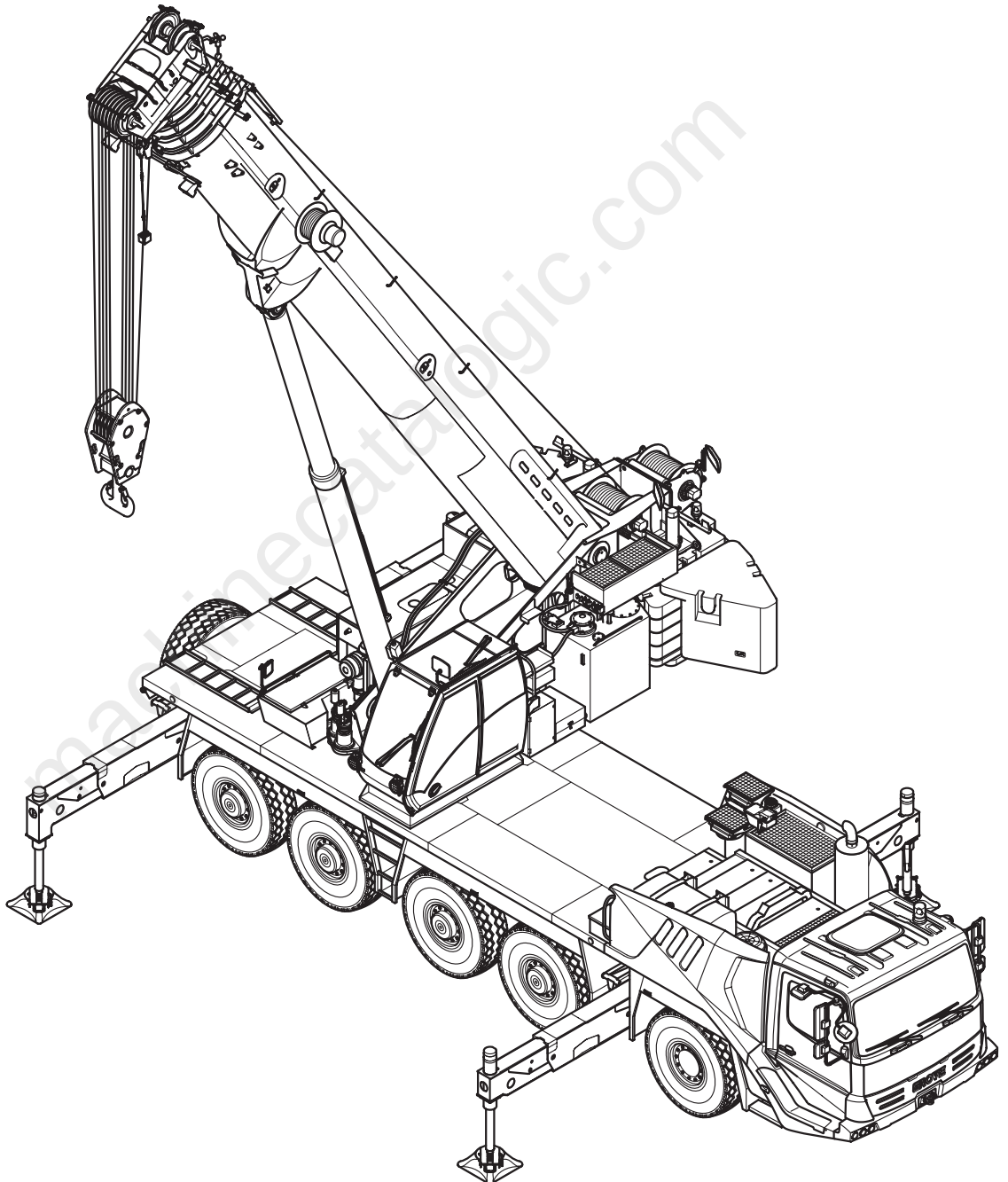


GROVE®

GMK 5110-1



Maintenance manual



Manitowoc®
Crane Group

Serial number

3 112 510 en
20.06.2008

A **Manitowoc** Company

- 1 SLI terminal box
- 2 Telescope slide faces
- 3 SLI length data transmitter
- 4 Angle data transmitter
- 5 Pressure sensors
- 6 Lowering limit switch
- 7 Suspension struts
- 8 Superstructure switch box
- 9 Slewing angle sensor on the superstructure
- 10 Outriggers control unit
- 11 Lifting limit switch
- 12 Housing of the input-output circuit boards on the carrier
- 13 Swing-away lattice extension proximity switch
- 14 Spotlights, slewable
- 15 SLI connections



Subassemblies at risk of damage on the lattice extension;  *Operating instructions, lattice extension.*

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7.3.2

Topping up the oil

Data on the prescribed oil specification;  *Engine manufacturer's documentation.*

Oil

Engine oil in litres	Designation according to DIN 51502	Specification Classification	GROVE part no.
38	HD - CD	MIL-L 2104 C DB 228.5	First fill oil: SAE 5 W-30 03329588

Prerequisites

- The truck crane is horizontal.
- The engine is switched off and secured against unauthorized use;
 p. 2 - 3.

Topping up oil



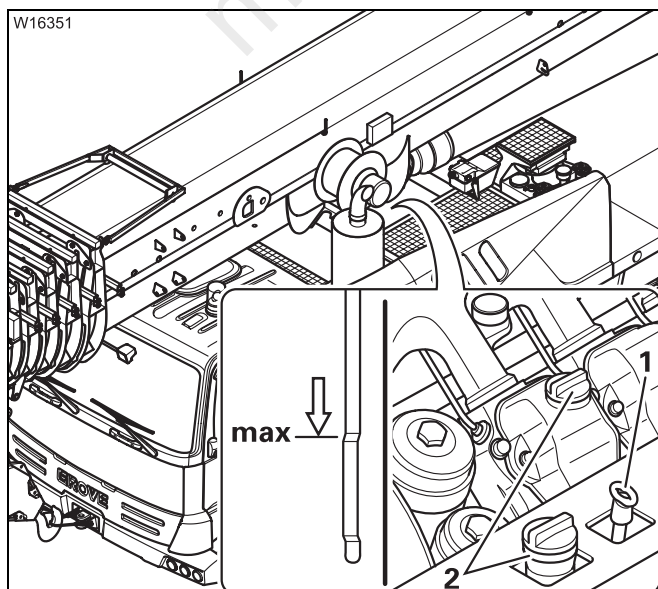
Risk of damage to the engine if the oil level is too high

Do not overfill; the oil level must not be higher than the **max.** mark (arrow).
Drain off oil if necessary;  *Engine manufacturer's documentation.*



Risk of burning yourself when the engine is hot

During operation, the engine and add-on parts can reach temperatures of up to 400 °C. Wear appropriate protective gloves and be careful not to touch hot parts.



- Add oil through one of the filler necks (2) up to the **max.** mark.
- Close the filler neck with the lid.
- Put the dipstick (1) into the dipstick tube after checking the oil level.

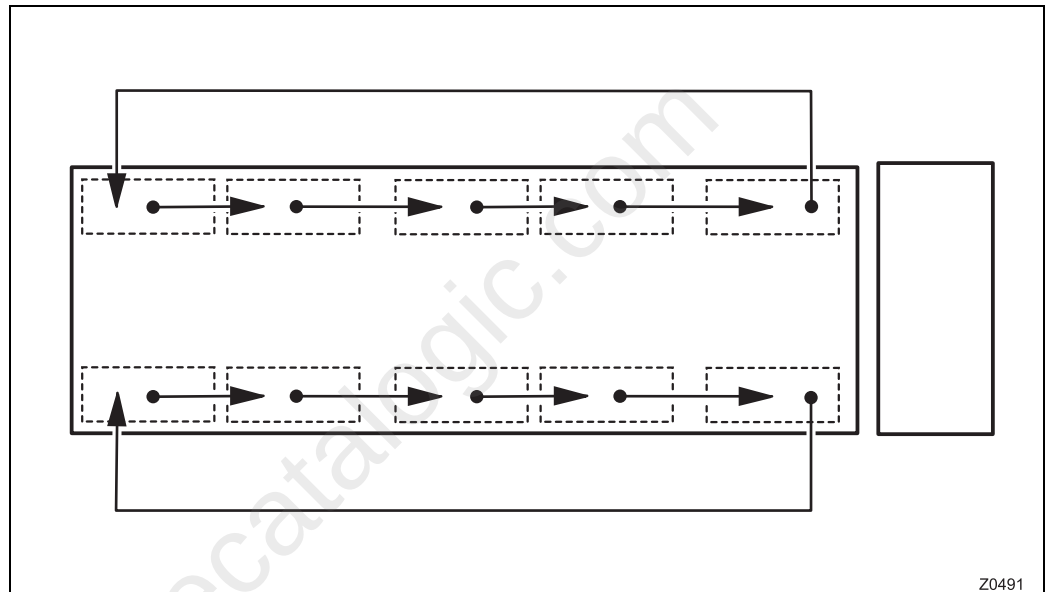
Wheel change



Risk of accidents if procedure incorrect

This section shows only the sequence to be followed when changing tyres. When removing/installing the wheels, observe all the safety instructions and the procedure stated in the operating instructions.

- Remove the wheels from the axles.
- Mount the wheels on another axle, as shown in the diagram. Replace any damaged parts. Tighten the wheel nuts; p. 7 - 49.



7.18 Towbar coupling

Depending on the scope of equipment of your truck crane, it may have towbar couplings (additional equipment) from various manufacturers. Their wear values may vary from those specified;  *Separate operating instructions.*

7.18.1 Lubricating the towbar coupling

M 1

This maintenance work is not required if the towbar coupling is connected to the central lubrication system.

Grease, spare parts, tools

Lubricating grease	Designation according to DIN 51502	Specification Classification	GROVE part no.
Grease	KP - L2K	DIN 51825	00554201

– Grease gun from the tool set.



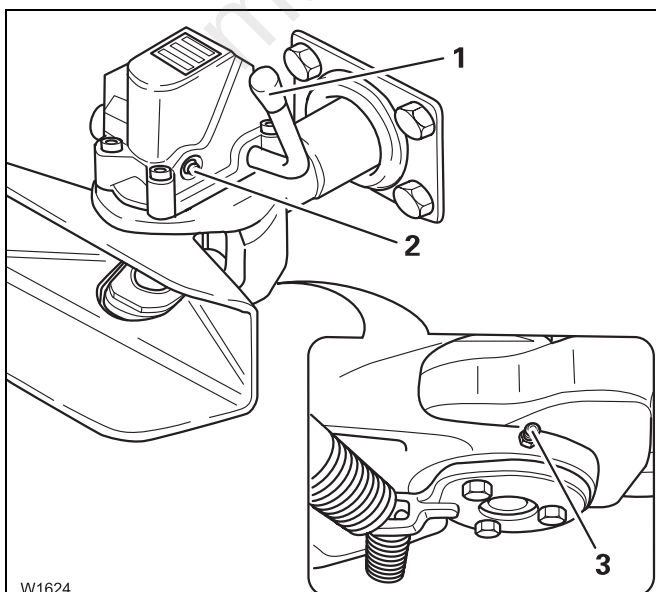
Risk of injury when the automatic closing device is triggered

Do not put your hand into the coupling jaw when the towbar coupling is open.

This may trigger the automatic closing device, make the coupling pin move down and seriously injure your hand.



To avoid over-lubrication, the towbar coupling should be lubricated only when open.



- Clean the lubricating nipples (2) and (3).
- Open the towbar coupling. To do this, move the lever (1) upward.
- Squirt grease into the lubricating nipples (2) and (3).
- Close the towbar coupling.



Draining off water

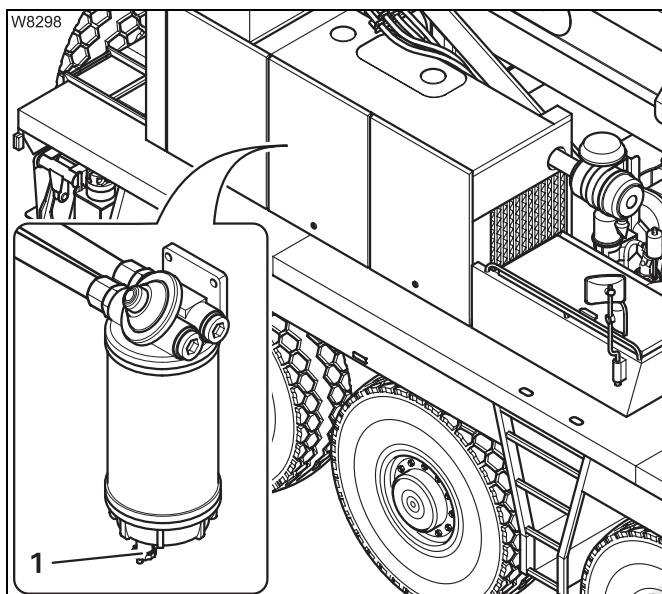


Risk of environmental damage due to leaking consumables

Always let consumables drain into suitable receptacles. Wipe up any consumables that have leaked.

Store/dispose of consumables and any soaked equipment properly.

Ask about the applicable regulations.



- Place a receptacle underneath the filter.
- Open the valve (1).
- If the consumable is clean, close the valve manually.
- Remove the receptacle and properly dispose of the drained consumable.

8.10.5

Replacing the hoist rope

Spare parts and tools

- An original replacement part; ▮▮▮▮ ➔ *Rope certificate.*
- A reel stand with braking block.
- Torque wrench for 79 Nm.



Risk of accidents from falling load

Use only a replacement rope that has the same technical specifications as the defective rope, or an original replacement rope.

Prerequisites

- The truck crane is level.
- The main boom is set down on the boom rest.
- The hook block is unreeved; ▮▮▮▮ ➔ *Operating instructions.*

Replacing the old rope

- Unreel the hoist rope until it switches off.
- Adjust the lowering limit switch so that you can unreel the rope completely; ▮▮▮▮ ➔ *Adjusting the lowering limit switch*, p. 8 - 71.
- Unreel the remaining layers from the hoist drum.
- Lock the crane cab to prevent unauthorized use; ▮▮▮▮ ➔ p. 2 - 3.



Risk of accidents due to rotating rope drum

Turn off the engine and remove the ignition key so that no unauthorized operation of the hoist can occur.

Subassemblies and spare parts Carrier	GROVE part number	Quantity in parts for maintenance interval				
		W	M 1	M 3	M 6	M 12
Hydraulic system						
Filter (just clean)	03329152			(2)		
Gasket set	03135778			2		
Filter	03329152	2 parts for every oil change and symbol display				2
Gasket set	03135778					2
Oil tank cover gasket 140/90 x 3	03098598	1 for every oil change (if damaged)				
Ventilation filter	03324588					1
Particulate filter						
Clamp strap	03134864		(2)	(if damaged)		
Filter	03134863				1	
Clamp strap	03134864				2	

Subassemblies and spare parts Carrier	GROVE part number	Quantity in parts for maintenance interval				
		Y 2	Y 3	Y 5	Y 6	Y 10
Engine						
Oil filter with gasket	03328365	1				
Gasket 26 x 31 Cu DIN 7603	00117147	1				
Transmission						
Filter	03328342			1		
Spring	03328343			1		
Gasket 42 x 49 Al DIN 7603	03328344			1		
Gasket 24 x 29 Al DIN 7603	03328331			1		

Full Version Available

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Book No: 3 112 510 · File Pages: 292 · File Count: 1 · File Language: English