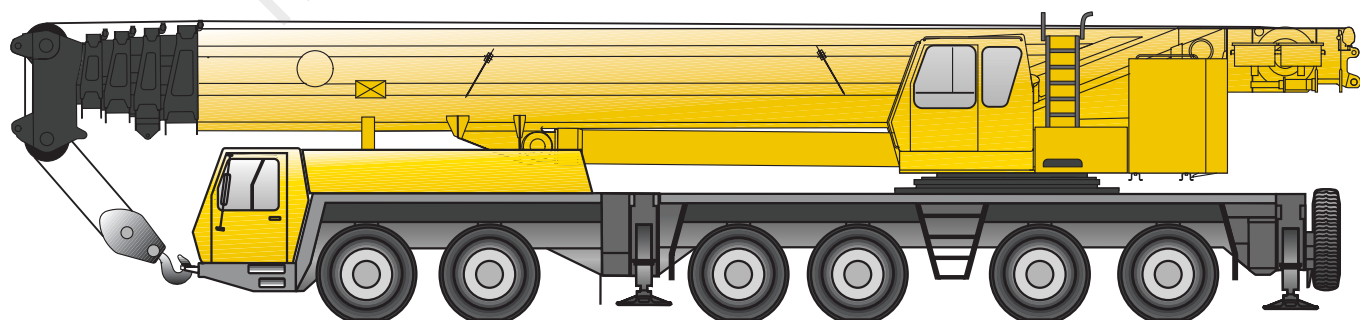


GROVE®

GMK 6300



Maintenance manual



Manitowoc®
Crane Group

Serial number

3 112 246 en
20.01.2006

A **Manitowoc** Company

Suspension struts – check oil level

Spare parts and tools

- Press with connected hose (from tool box)

Prerequisites

- The engine is not running and is secured against unauthorised use.
- Immediately before the inspection, the truck crane was completely lowered and returned to *On-road level*; *Operating Instructions*.

Checking the oil level

Use only oil as specified in the maintenance plan M1; p. 1.



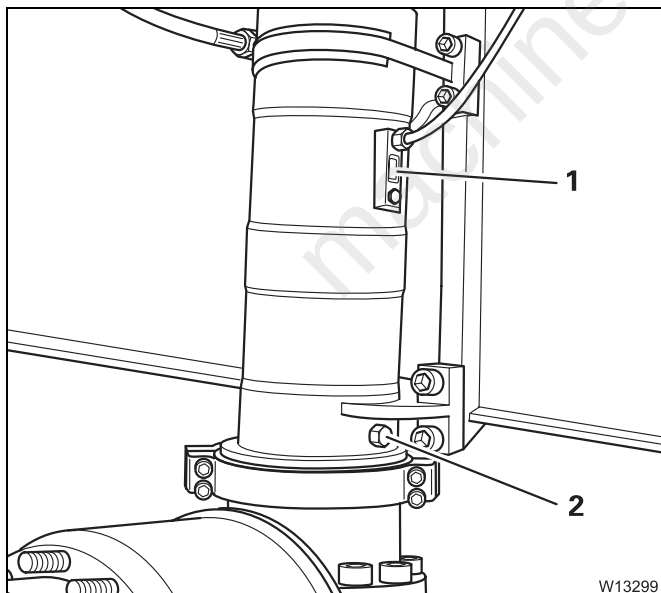
Risk of damage due to faulty suspension struts

If the oil level is above the upper marking on the inspection glass the suspension strut is faulty and must be replaced.
Notify an authorised GROVE dealer or **CraneCARE**.



Risk of damage to the suspension struts due to insufficient lubrication

It is difficult to inject the oil. Even so, do not fill oil through the inspection glass connections. If you do this, the oil will not reach all the lubricating points.



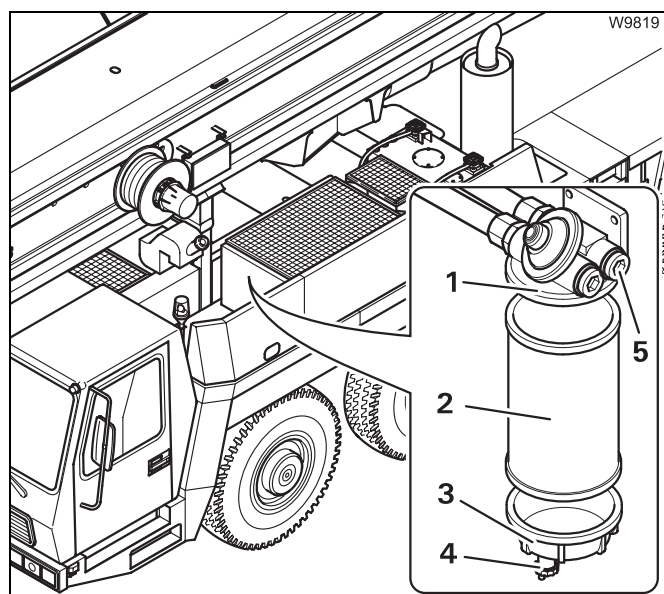
- Check whether oil is visible in the middle of the inspection glass (1) on each suspension strut.

If the oil level is too low:

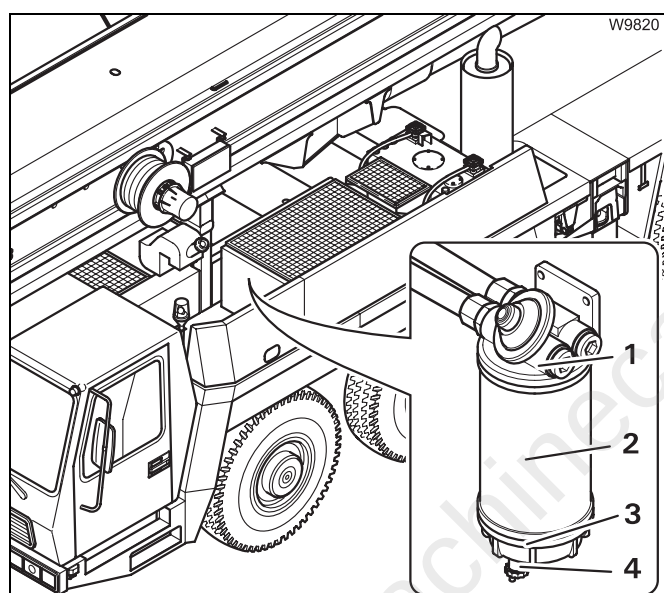
- Open the connection (2) – oil escapes – and quickly connect the press with hose.
- Inject oil up the centre of the inspection glass.
- Remove the hose and quickly close the connection (2).

Designation	Lubricating point	Type of lubrication	Designation according to DIN 51502	Specification, classification	Lubricant type, Viscosity range
M	Lubricating points (lubricating oil)	Oil can, high pressure squirt gun	like A 1/A 2 (vehicle/crane engine)		
V	Open-running gear wheels	Adhesive lubrication	GROVE part no. 00 554 205 ³⁾		
W	Mounting screws, bushings, etc.		GROVE part no. 01 573 046 ³⁾		
X	Slip ring assembly	Corrosion protection	GROVE part no. 03 315 060 ³⁾		
Z	Locking pins / derricking cylinder piston rod		Spray oil containing molybdenum disulphide (MoS ₂)		

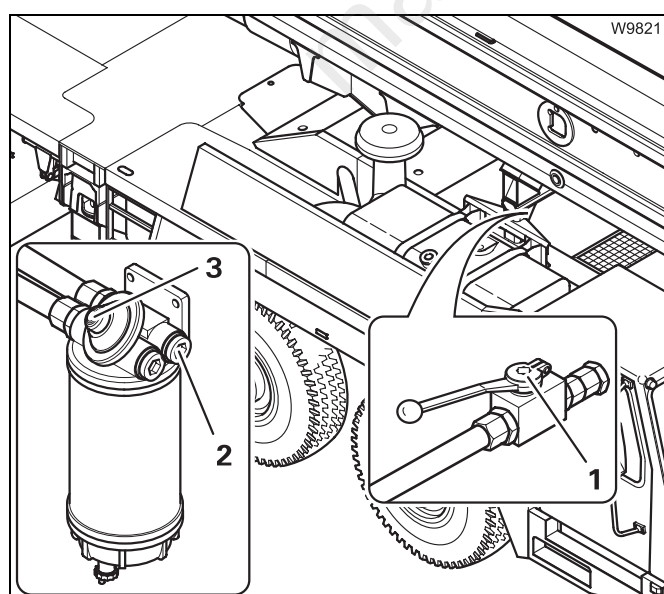
³⁾ Deliverable by **CraneCARE**



- Open the vent screw (5).
- Place a collecting vessel underneath the fuel prefilter.
- Open the drain valve (4). Catch any fuel as it runs out.
- Unscrew the lower part of the filter (3).
- Unscrew the filter element (2).
- Check the sealing flanges on the filter head (1) and the lower part of the filter (3) for damage.



- Screw a new filter (2) onto the filter head (1).
- Screw the lower part of the filter (3) back on.
- Close the drain valve (4).



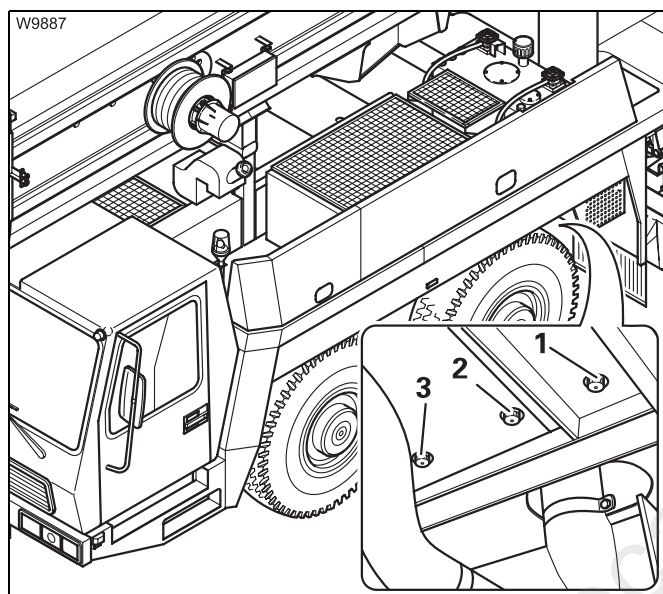
- Open the shut-off valve (1). To do this, turn the handle so that it is parallel to the fuel line.
- Pump the hand pump (3) until the fuel flowing through the vent screw no longer contains any bubbles (2).
- Close the vent screw (2).
- Remove the collecting vessel underneath the fuel prefilter.
- Start the vehicle engine and check the seals of the fuel prefilter for leaks.

7.10.6**Hydraulic system – taking oil samples****M 12**

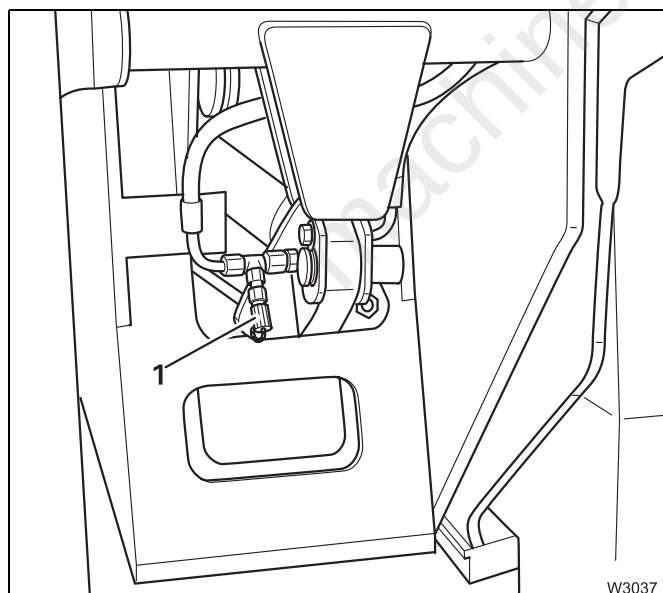
To determine the usability of the hydraulic oil, samples must be taken from the hydraulic oil tank and from the hydraulic system (▮▮▮▮ *Taking oil samples*, p. 7 - 59).



The drain valves can only be opened and closed using the 1/2-inch connecting pieces. The connecting pieces are to be found in the tool box;
▮▮▮▮ *Handling the drain valves*, p. 7 - 59.



- Take one oil sample from each of the drain valves (1), (2) and (3) on the hydraulic oil tank.



The oil sample from the hydraulic system is taken via a gauge port (1), e.g. on an outrigger.

7.14.6

Checking the initial tension of the springs

M 3

New couplings should show an initial axial torque of at least 100 Nm. The coupling head should require physical power to twist when checking the torque.

- Twist the coupling head clockwise and anticlockwise to check the initial tension of the rubber springs.

7.14.7

Checking the function of the coupling jaw/resetting to middle position

M 3



The following checks are required only on model series 700. If you need to close the towbar coupling by hand for the checks, make sure you observe the data in the Section *Lubricating the towbar coupling*, p. 7 - 79.

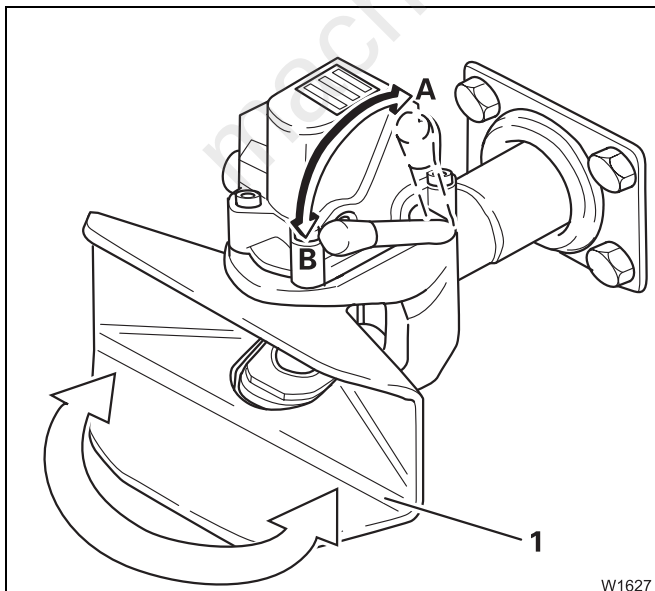
Checking function

If you need to close the towbar coupling by hand for the checks, make sure you observe the data in Section *Lubricating the towbar coupling*, p. 7 - 79.



Risk of injury if the automatic closing device is actuated

Ensure that the coupling is closed for the following work (lever points downwards). The lever may otherwise come down with great force and cause serious hand injury.



The towbar coupling is closed (position **B**).

The coupling jaw must be able to move easily in both directions.

- Hold the coupling jaw (1) pressed slightly to the left or right.
- Open the coupling (position **A**) and let the coupling jaw go.

The release lever must automatically lock the coupling jaw in the central position. The coupling jaw is locked when the towbar coupling can no longer move to the side.



8.3.3

Lubricating slewing gear pinion and gear rim

M 6

The slewing gear pinions and gear rim must be lubricated with special grease (► *Maintenance plan*, p. 5 - 15). The grease is applied to the gear teeth (with a brush or sprayed on). There are different procedures for initial lubrication and subsequent lubrications.

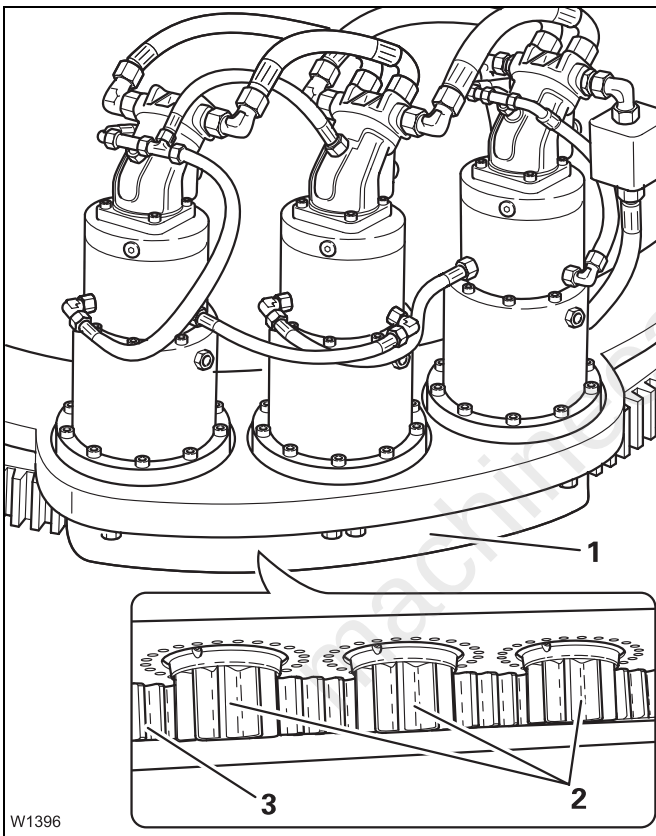


Observe the instructions and safety information on the grease packaging.



Risk of being crushed by the slewing gear pinion

Fingers may be crushed or pieces of clothing can be pulled into the open, rotating slewing gear pinion. For this reason, be sure to mount the protective plate again after lubricating.



- Unscrew the protective plate (1) in front of the slewing gear pinions.

First lubrication:

- Clean the gear teeth of the slewing gear pinions (2) and the gear rim (3) thoroughly to remove residue of old lubricants.
- Apply a thin layer of adhesive lubricating grease and leave to penetrate for approx. 10 minutes.
- Apply a second, thicker coat and leave to penetrate for approx. 30 minutes.
- Attach the guard (1) in front of the slewing gear pinions.

Subsequent lubrication:

- Apply a new layer over the existing layer of adhesive lubricating grease.
- Leave to penetrate for approx. 30 minutes.
- Attach the guard (1) in front of the slewing gear pinions.

- Do not override the SLI anymore.
- Fully extend telescopic section III.
- Apply a thin layer of grease to the bottom two slide faces of telescopic section III with a spatula.
- Extend and retract telescopic section III again so that the grease is distributed uniformly on the telescopic slide faces.
- Fully retract telescopic section III.

Lubricating telescopic section II

- Retract all telescopic sections.
- Enter the SLI rigging code for the current rigging mode of the truck crane.
- Telescope telescopic section II to the middle locking position and lock it.
- Override the SLI by turning the key-operated Override switch to the right.
- Extend telescopic section I to approx. 58% until the lubricating hole for telescopic section II can be reached in the top chord.
- Inject approx. 100 cm³ of grease into each lubricating nipple (position 1).
- Fully retract telescopic section I.
- Do not override the SLI anymore.
- Fully extend telescopic section II.
- Use a spatula to apply a thin layer of grease to the bottom two slide faces of telescopic section II.
- Extend and retract telescopic section II again so that the grease is distributed uniformly on the telescopic slide faces.
- Retract telescopic section II.

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