Maintenance Manual

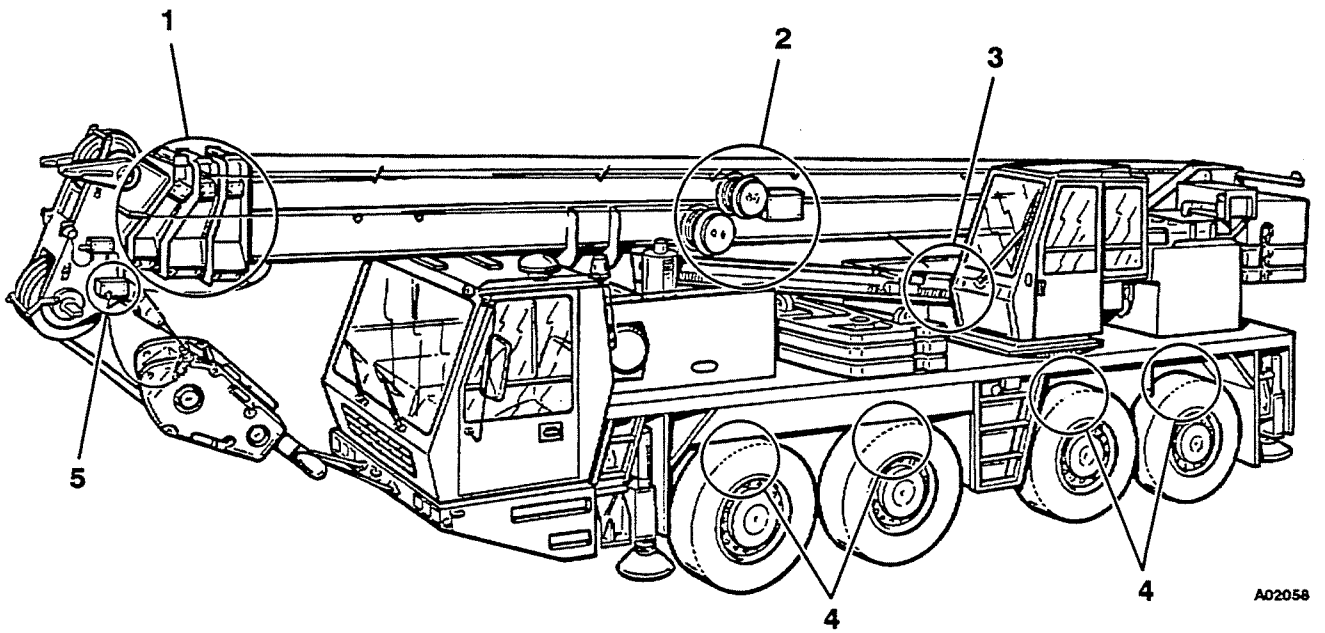
KMK 4070

Crane Identification Number:

as per 19.01.1993

2 085 693 en

3.1 Assembly groups endangered by cleaning work



1 Sliding surfaces of telescope sections

2 SLI length and angle measuring unit

3 Rotary connections

4 Suspension cylinder assemblies

5 Limit switches

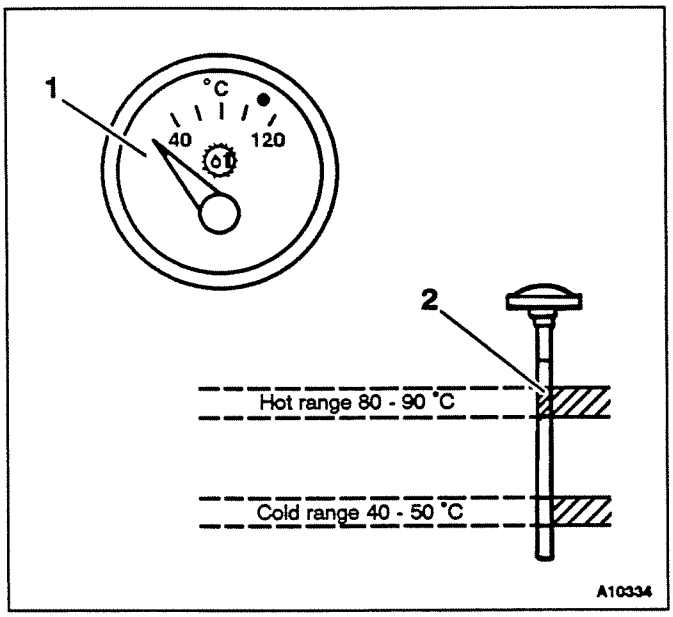
6.3 Lubricant table

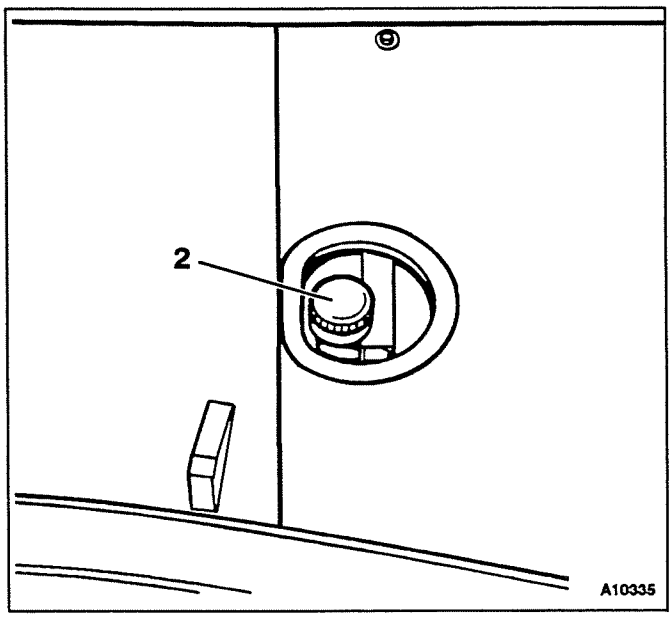
Desig-nation	Lubricating point	Type of lubrication	Designation in DIN 51502	Specification Classification	Type of lubricant Viscosity range
A	Diesel engine	Circulation lubrication	HD-CD	MIL-L 2104C DB 227.1 228.1	*
E1	Gear units		C-LP	MIL-L 2105 API-GL-4	SAE 80 ISO-VG 150
E3			C-LPF	MIL-L 2105B API-GL-4	SAE 90 ISO-VG 220
E4				ZF TE-ML 14 ***	
F1	Automatic gearbox		ATF	ZF TE-ML 14 ***	
F2				C-3	
F3			HD-CD	ZF TE-ML 03 ***	SAE 20/W20
G2	Hydraulic system	Oil fill	H-LP	DIN 51524 T.2	ISO-VG 32
J	General lubrication point	Grease gun and by hand	K-L2K	DIN 51825	
K	Antifriction bearings	After repairs greased before replacement	KP-L2K	DIN 51825	
L1	Slides	After repairs greased before replacement		DIN 51513	BB
					BB-V
L2			BERULUB PAL 3 Krupp Part No. 1681 963 **		
M	Other lubrication points	Oil can	As "A" diesel engine		
V	Open gear wheels	Contact lubrication	VOLER-COMPOUND-2000 ES Krupp Part No. 0554 205 **		
W	Installation of bolts, pins, bushes etc.	Contact lubrication	VOLER A. C. Spray Krupp Part No. 1573 046 **		

* See engine operating manual
** Can be supplied by Krupp Service
*** Can be supplied by ZF service stations

7.5 Checking the oil level and changing the oil in the automatic gearbox

7.5.1 Checking the oil level





Note: It is very important that there is the correct amount of oil in the automatic gearbox.
– If there is not enough oil in the gearbox it will not function properly.
– If there is too much oil the gearbox will overheat.

Check the oil when it has reached a temperature of approx. 80°C.

- Park the vehicle so that it is level horizontally.
- Move the gear lever to the neutral position (N).
- Run the engine in neutral for approx. 2 minutes.
- Read the oil temperature off the temperature gauge (**1**) in the driver's cab.
- When the oil has reached a temperature of 80°C, check the oil level.

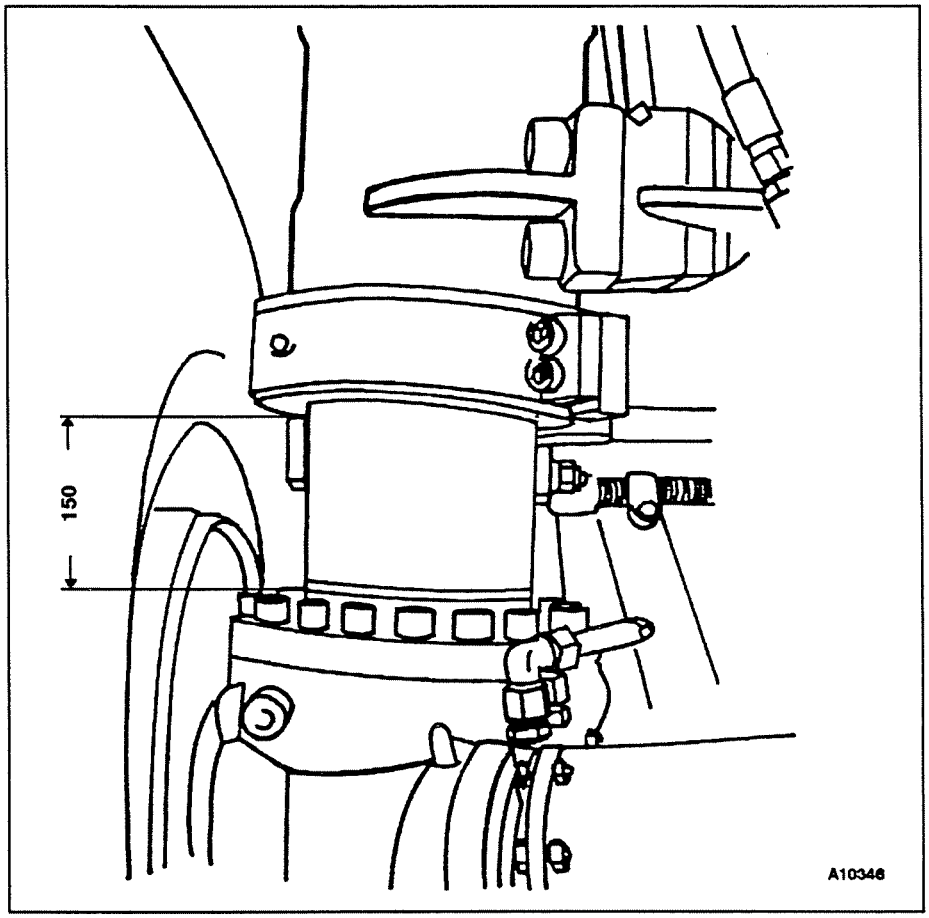
Note: The oil level must be checked with the engine running.

- Unscrew the dipstick (**2**) and pull it out of the dipstick pipe. The oil level must reach the upper mark (hot range) on the dipstick. The lower oil level mark is for the 40 - 50 °C temperature range.
- If the oil level is too low, top up oil in accordance with the specification in the lubricant table, Section 6.3. If the oil level is too high, drain oil out of the gearbox.

Setting the carrier to the "on-the-road" level

- Turn the switch (**5**) to the left or right. The warning light (**4**) goes out as soon as the on-the-road level is reached.
- Switch off the carrier level adjustment system.

Note: In this position the piston rods of all suspension cylinder assemblies must be extended approx. 150 mm from the guide housings.



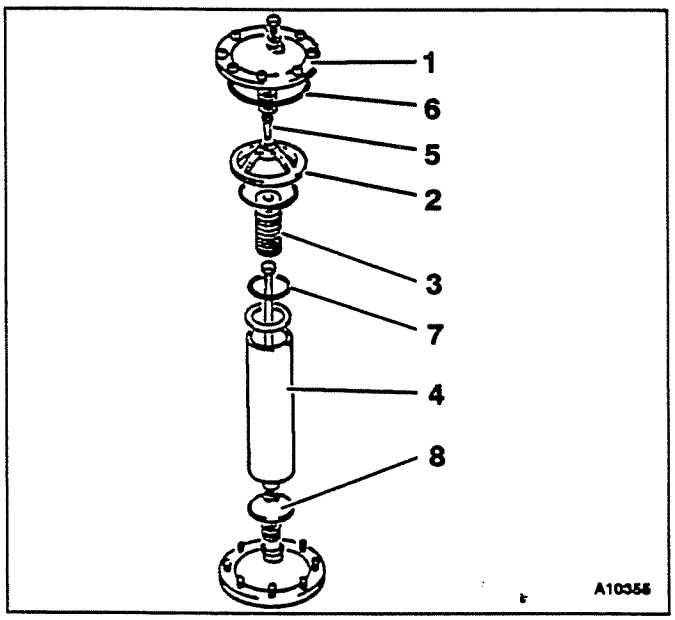
Switching off the carrier level adjustment system

- Turn the key (**3**) to the right until it disengages and take it out of the switch.

7.17 Changing the hydraulic oil filter

The hydraulic oil filter must be changed if the warning lamp "hydraulic oil return filter" lights up on the instrument panel (either in the driver's cab or crane operator's cab).

Caution: The pump drive must be switched off before the filter is checked.



- Unscrew the lid (**1**) from the filter housing.
- Take out the filter.
- Unscrew the hexagon socket screw (**5**) and remove the top part of the filter (**2**).
- Unscrew the magnetic bar (**3**) from the threaded rod.
- Clean the magnetic bar (**3**).
- Replace the filter element (**4**).
- Check the condition of O-rings (**6**) to (**8**) and replace if necessary.
- Fitting the new filter is the reverse of removal.

Caution: If there are metal chips adhering to the magnetic bar the hydraulic system must be checked for damage (please refer to the Repair Manual).

7.24 Checking the condition of the hoist rope

These checks are part of the routine maintenance work.

Additional checks must be carried out:
- immediately following very high loads
- at frequent intervals if damage is suspected but is not visible
- if the ropes have not been used for a long period
- if an accident has happened or damage has occurred connected with the rope system
- in the first few weeks after a new hoist rope or winch rope has been fitted

Possible causes of rope damage due to very high loads are:

- incorrect use
- overloading
- high wear loads
- the rope has come into contact with electric current
- mechanical damage
- heat