

Part 3: Lubrication and Maintenance instructions for the Superstructure

For you,

This instruction manual is provided for the benefit of personnel carrying out maintenance work, and includes information required for maintenance and lubrication of the machine and special equipment.

 *The information contained in this manual is correct with regard to the equipment at the time of publication.*

Data, diagrams and dimensions are subject to change as a result of technical development.

No liability can be accepted for damage resulting from incorrect maintenance.

The maintenance work which is described in this manual may only be carried out by appropriately trained and qualified personnel.

1.4 Measures to Ensure Safe Operating Periods

1.4.1 General

In accordance with the accident prevention regulations for winches, lifting and dragging equipment (VBG 8), the crane operator is obliged to carry out an inspection of the crane at least once a year (also see ISO 9927-1).

The **spend share of the theoretical service life for the winches** must also be determined. The crane operator must employ a specialist for the purpose if necessary.



This regulation is legally binding within the scope of the accident prevention regulations of the trade association. Outside of this realm, the crane manufacturer recommends that the procedures listed are also observed.

1.4.2 Theoretical Service Life

The Design engineer has assumed certain operating conditions in calculating and dimensioning the winches on your crane.

The winches on your crane are classified as follows (ISO 4301/1, FEM 1.001, DIN calculation principles for power units):

- Power unit group: M.....
- Load spectrum: Q..... (L.....)
- Load spectrum factor: Km=.....

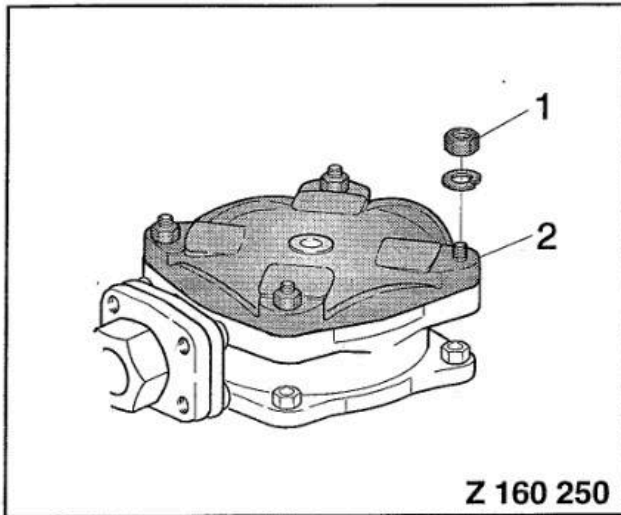
A **theoretical service life, D**, is thus calculated.

 *The values applicable must be taken from the "Monitoring the Winches" table given in the crane log-book.*

No.:	Work to be carried out	Measured and Test Variable, Process Materials	Daily	Interval / Operating hours									as necessary
				50	100	200	250	500	1000	1500	2000	3000	
15	Fuel system												
	Fuel tank, drain off sediment and water												X

No.:	Work to be carried out	Measured and Test Variable, Process Materials	Daily	Interval / Operating hours										as necessary
				50	100	200	250	500	1000	1500	2000	3000		
16	Air intake and cooling system													
-	Empty the dust collector on the air filter		X											
-	Clean or replace the air filter element													X
-	Clean the cooling system													X
-	Check the coolant level and top up as necessary		X											

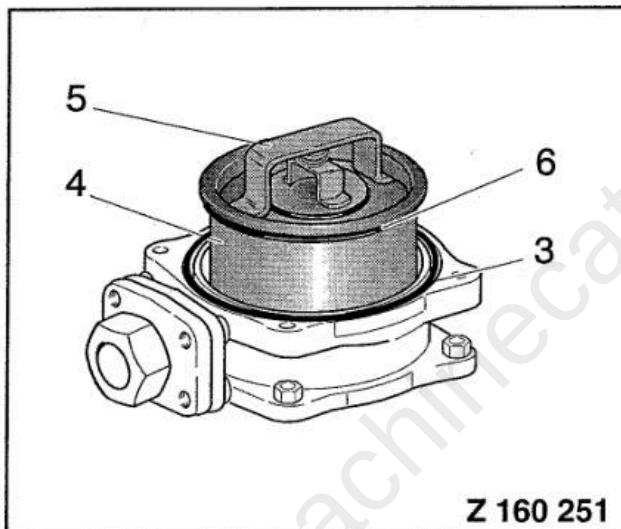
No.:	Work to be carried out	Measured and Test Variable, Process Materials	Daily	Interval / Operating hours								as necessary	
				50	100	200	250	500	1000	1500	2000		3000
17	Piston rods												
-	Lubricate piston rods	Slide grease Section 2.11											X



- Return oil filter

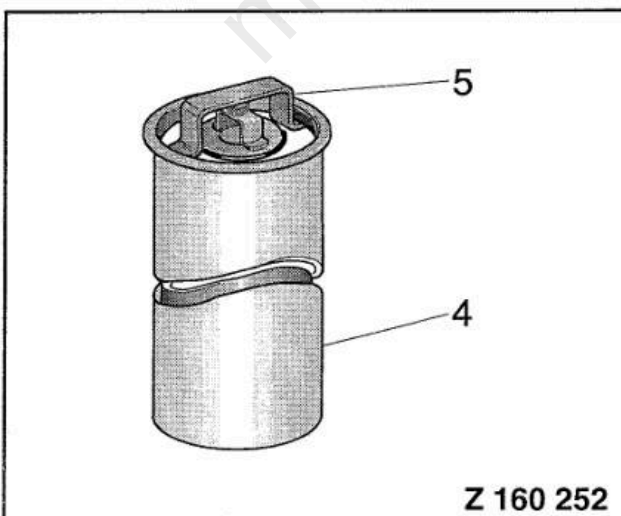
Loosen the hexagon nuts (1) with wrench SW 17 and remove them together with the spring washers.
(Z 160 250)

Then remove the filter cover (2) while paying attention to the sealing ring (Z 160 251, item 3) situated underneath.

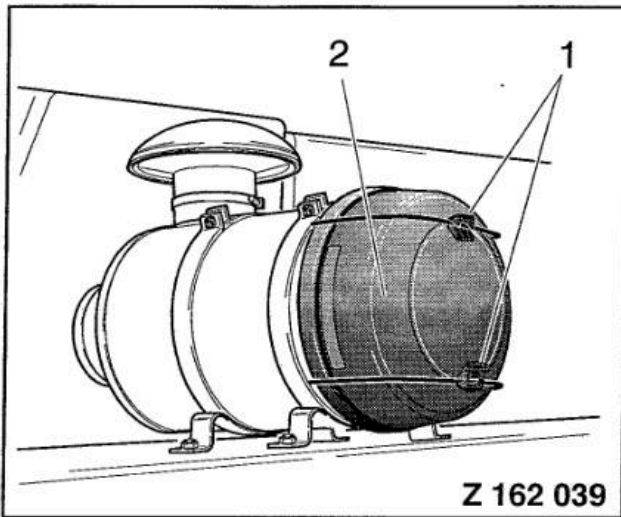


While paying attention to the O-ring (6), pull the filter unit (4) out of the head piece by means of the handle (5).
(Z 160 251)

 It is advisable to set the filter unit down on the head piece until the oil in the filter has run out via the paper elements.



Place the filter unit (4) on a solid base, press the handle (5) downwards and return it approximately 60° to the left or the right. Remove the handle (5) with the attached valve, clean the latter in diesel oil or petroleum ether and place it on a clean base.
(Z 160 252)



16 Air Intake and Cooling

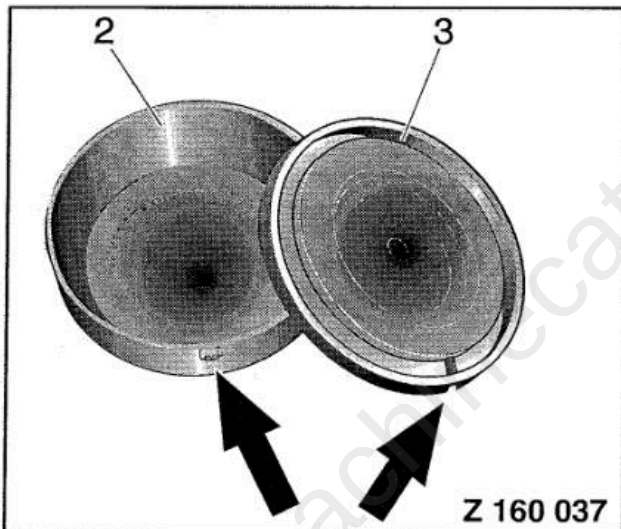
Empty the dust collector of the air filter.



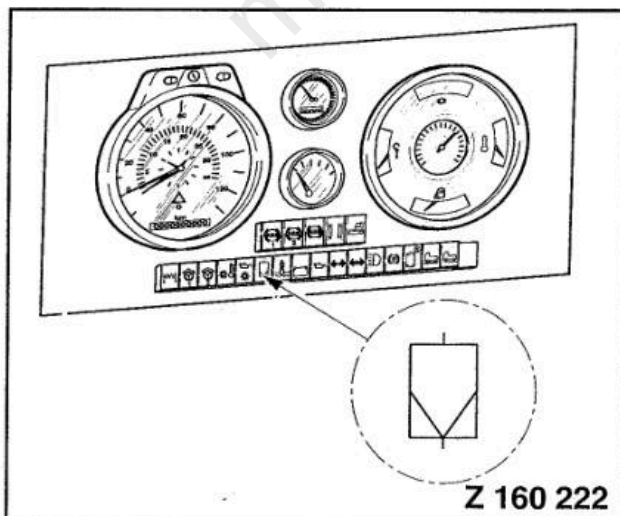
Switch off the engine.

 The dust collection cap of the air filter should be emptied daily, especially when the dust content of the air is high. The dust collection cap must otherwise be emptied weekly.

Release clamps (1), and remove dust collector together with cover.
(Z 162 039)



Remove cover (3) from dust collector (2) and empty and clean. Reassemble in reverse order. The fork bolt on the dust collector and the groove on the cover must interlock (see arrows).
(Z 160 037)



Service the air filter.



Never service the air filter when the engine is running. Service the element as soon as the indicator light comes on with the engine running or at least every 2 years.

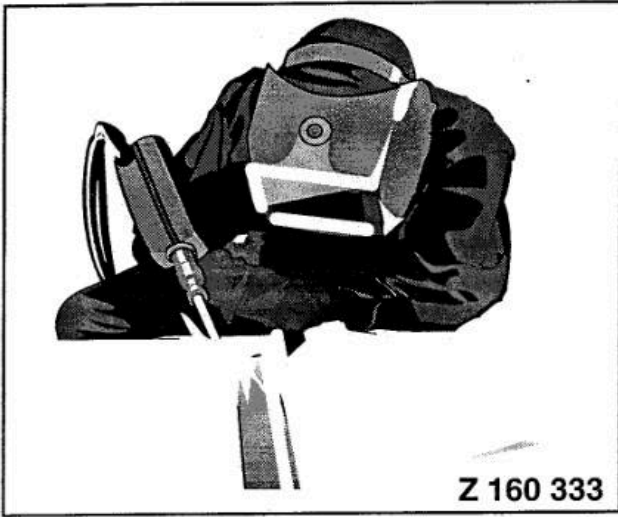
22.6 Checking the gear oil

The gear oil which is drained off should be checked once a year.

The gear oil should be drained onto a filtering tile and inspected for e.g. large grained solid waste using a magnifying glass. Only foreign substances (max. 0.15 % of the total volume of oil) containing fine abrasions with a particle size of less than 25 micrometers are permissible. If large grained abrasions (more than 25 micrometers) or surface flaking from the faces of the teeth are detected, the gear must be dismantled back to the drive, regardless of the volume of the foreign substances. The faces of the gear teeth should be visually inspected. After the run-in period and with normal wear, the surface of the tooth face should be smooth, bright and shining. In the case of any other irregularities such as attrition, scoring, scuffing, pitting, flaking, cracking and plastic deformation, the gear wheels should be replaced or a complete overhaul should be carried out. In this instance please refer to the Customer Service Department of Mannesmann Demag Baumaschinen.

22.7 Determination of the spent share of the theoretical service life

A detailed description is given in chap. 1 "Notes on safety", point 1.4.4.



Weld repairs may only be carried out by a qualified welder.

(Z 160 333)

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