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Section	Task	Consumable in accordance with section 2	Inspections		First maintenance after	Maintenance interval after operating hours (Bh)				Minimum maintenance
			daily	weekly		100	250	500	1000	
12	Hydraulic System									
12.1	Hydraulic tank – checking oil level / topping up	2.4	x							
12.2	HP Filter									
12.2.1	High–pressure filter – replacing the filter element								x	annually
12.2.2	Servicing the high–pressure line filter								x	annually
12.3	Return oil filter on the hydraulic oil tank – replacing the filter element				50 (Bh)				x	annually
12.4	Replacing the ventilation filter								x	annually
12.5	Changing the oil in hydraulic tank	2.4				every 30 000 (Bh)				
12.6	Bleeding the hydraulic system					if required				
12.7	Checking the hydraulic system									annually
12.8	Checking the hose lines									annually
12.9	Replacing the hose lines									every 6 years
12.10	Checking the accumulator initial gas pressure									annually
12.11	Biodegradable hydraulic oil (optional) – having serviceability checked									annually

7.2 Slew Gearbox – Changing Oil (Z 104 277)



**The detailed notes on the prescribed oil quality must be adhered to, see page 5.
The drained oil must be checked as described under 7.3.**



If the drained oil is to be checked, section 7.3 must be read before changing the oil.



It is easier to change the oil when the gear mechanism is still warm.



**Caution! Risk of scalding.
We recommend that goggles, protective gloves and protective clothing be worn.**

1. Remove breather (3) from the top of the gear mechanism.
2. Unscrew the oil drain plug of the drain hose (7) and drain oil into a suitable container.



The oil drain plug of the drain hose (7) is behind the side moulding. This must be removed.



Dispose of the old oil in an environmentally friendly manner.

3. Clean the gear mechanism with rinsing oil before filling with new oil.
4. Clean the drain plug at the end of the drain hose (7) and screw on firmly again.
5. Fill new oil up to the centre of the inspection glass (5) (for approximate filling quantity, see section 2).
6. Screw the breather (3) with the aluminium sealing ring back onto the top of the gear mechanism in accordance with regulations.



During operation a considerable amount of oil is distributed around the inside of the gearbox case. We recommend therefore checking the oil level again immediately after starting operation with the gears at a standstill and topping up if required.

12.2 High-pressure Filter

(Z 58 842)

If indicator light (118) is illuminated, the contamination indicator of one (or several) filters has been activated. In this case, maintenance of the corresponding filter must be carried out immediately. Apart from the high-pressure filters described in section 12.2.1, the return oil filter in the hydraulic oil reservoir (see page 15) also has such a contamination indicator.

In order to find out which filter element must be serviced, the plugs at the filters' pressure switches must be removed one by one and the indicator light (118) in the dashboard must be observed. The filter at which it goes out is the one where the filter element must be serviced.



If the contamination indicator is only activated with a cold start, filter servicing might not yet be required.



If there has been no display by indicator light (118) after 1000 operating hours (at least 1 x a year), the filters must be serviced regardless of this display.



Make sure everything is scrupulously clean when replacing filter elements!

After dismantling the filter clean all components, check for damage or wear and replace if required.

13.3 Heating – Replacing the Heat Exchanger

The heat exchanger has a life span of 10 years and must be replaced after this period with an original spare by the manufacturer or by an approved workshop. The heater assembly should then be labelled with the purchase date of the heat exchanger and the words "original spare part".

13.4 Heating – Replacing the Fuel Filter

(Z 51 731, principle diagram)

1. Pinch off the fuel hose between the tank and the fuel filter.
2. Release the two hose clips on the fuel filter (14).
3. Pull the hoses from the fuel filter.
4. Insert the new filter.

13.5 Bleeding the System

(Z 56 077)

The entire cooling system, including the heater assembly, must be bled to ensure that no air bubbles remain following any servicing of the system (repairs, changing the coolant). Allow the superstructure engine to run until air bubbles no longer form in the expansion tank.

The expansion tank is behind the crane operator's cab.



Open the cap of the engine cooling system only when the engine has cooled down. Otherwise the system is under pressure. Accidents may occur.

To be safe, slowly open the cover on the expansion tank up to the first stop so that any overpressure can be released. Only then turn the cap further to the 2nd notch and remove.

All water connections (clamps) must be tightened to ensure they are perfectly watertight and must be retightened after 20 operating hours.

18 Crane Operator's Cab

18.1 Lubricating the Tilt Cylinder (Z 40 175)

Grease the foot bearing and piston rod bearing on the tilt cylinder (5) of the crane operator's cab using the lubricating nipple on each.

18.2 Checking the Windscreen Washing Assembly

Check at least once a week that the windscreen washing assembly is functioning properly.

18.3 Filling up the Supply Tank of the Windscreen Washing Assembly (Z 104 292, Z 58 849)

The supply tank (see Z 104 292) of the windscreen washing assembly must always be filled with water and if necessary with a little cleaning agent (Z 104 292).

The supply tank is behind the crane operator's cab. Access is from above. A corresponding flap (1, Z 58 849) is fitted in the cover plate which can be walked on.



Before the onset of winter, a suitable amount of antifreeze (depending on the temperature) must be added to the water.

18.4 Lubricating the Guide Rail of the Sliding Door

Using a paintbrush, lightly cover the guide rail of the sliding door at the top and the bottom with grease.

22.1.1 Inspection of Load-bearing Steel Constructions

The load-bearing steel constructions must be carefully checked at least during the prescribed repeated crane inspection (at least 1 x a year).

It is important to check the welded seams in particular.

The principle drawings listed in the following are examples for load-bearing welded constructions. Inspections must be carried out at the connections / zones around the points / welded seams marked by arrows.



The inspector is personally responsible for carrying out the inspection, as well as for content and extent. The following principle depictions only serve as examples and additional aids to the inspector. They make no claim to completeness.

The service life of load-bearing steel constructions are governed on the one hand by voltage play numbers pursuant to DIN 15018, Part 3, and on the other hand to the loads (load collective) that arise during periods of operation.

TEREX–Demag cranes are dimensioned for erection operation; the following calculated values are the basis for the dimensioning (DIN 15018, part 3):

Load collective: S_0 (light)

Voltage play number: 25 000.

If the crane was subjected to excessive stress during operation, e.g. due to an exceptional hit, there must be an immediate inspection of the load-bearing components.

If damage, e.g. cracks, are found anywhere in the steel construction, the extent of the damage must be determined by suitable specialists using recognised material examination methods (for example: magnetic powder, ultrasound or x-ray inspections) – with a subsequent decision on the possibility and type of repair work.

Company:	Inspector:	Date:
Crane manufacturer: TEREX–Demag	Crane type:	Construction number:
Construction year:	Inventory no.:	Signature

14th inspection group: Superstructure / drive						
Test component	A	B	C	D	E	Remarks
Combustion engine						
Exhaust system / combustion protection						
Fuel tank						
Fuel lines						
Filter						
Engine suspension						
Noise absorption						
Oil / coolant levels						
15th inspection group: Superstructure / hydraulic system						
Test component	A	B	C	D	E	Remarks
Oil tank						
Filter						
Pumps						
Engines						
Valves						
Lines						
Hoses						
Cylinders						
Pressure relief valves						
Lowering brake valves						

A: existing / complete

B: state / servicing

C: function

D: repair / replacement

E: subsequent inspection required

fulfilled = x

not fulfilled = –

not required = 0

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Demag AC 100-4 All Terrain Crane Maintenance Manual

Demag AC 100-4 all terrain crane maintenance manual covering intervals, lubrication, fluids, filters and inspections. 678 pages, 2 PDF files.

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