

PERIODIC MAINTENANCE

BASIC MAINTENANCE INFORMATION

Observe the maintenance schedules carefully: read the hour counter every day. When doing maintenance work position the vehicle on a solid, obstacle-free stretch of ground and set the bucket down. Unless specifically stated otherwise, all maintenance work must be carried out with the engine OFF and the ignition keys removed. It is good practice to let the engine cool down before starting work.

Before lubricating clean the nipples. Clean the outer edges of plugs and filler holes before pouring in oil. No dirt or dust must get into parts or circuits.



If maintenance and repair work is not carried out correctly there is high risk of serious personnel injury. If you have any doubts regarding maintenance procedures contact your **Ahlmann** distributor.



A raised operating arm or driver less machine movement could cause serious injury. Before carrying out any maintenance work proceed as follows:

1. Park the vehicle on the flat.
2. Lower the operating arm until it is resting on the ground.
3. Turn off the engine (thermal).
4. Chock the wheel to keep the vehicle in place.



Locking bar working



Locking bar not working



Should maintenance work require the bucket to be in raised position, position the lock bar (which prevents the loader booms to come down) against the lift cylinder head.

Whenever maintenance work is being done place a sign which says “DO NOT START” on the dashboard. Never abandon the cab with the engine running.

Never carry out modifications without authorisation. Unauthorised modifications may cause serious injury.

IMPORTANT: if the machine is used in a particularly tough environment (dusty, corrosive etc.) carry out maintenance work more frequently.

IMPORTANT: strictly observe all machine filter change schedules. Engine life depends on filter cleanliness.



The hour counter lets you know when its is time to carry out maintenance. With the engine running the counter works as a clock.

Maintenance schedules are clearly stated in order to make machine operation safe and efficient.

Note: A separate manual giving more detailed **diesel engine** maintenance information will be supplied with every vehicle.

Servo brake safety device



The braking system is also equipped with a power accumulator in order to ensure a certain number of brakings, also when the engine is off.

Therefore, press the brake pedal completely down before moving the vehicle, when the engine is on, so that the above mentioned safety accumulator is automatically loaded.

In case of system power lack a warning light on the warning light block located on the right side box lights up (see. pag. 17 pos. L8)

RUNNING-IN PERIOD

Good engine care during the first 20 working hours will give longer-lasting top level performance and more economic running.

During this period you must:

Monitor the dashboard instruments carefully.

Check oil and coolant levels frequently

Use the vehicle at low engine r.p.m. during the first 8 hours.

Never “force” the engine in low gears (wheels turning slowly or at a standstill with engine at full speed).

Keep the engine at standard operating temperature.

Never run the engine at idle speed for long periods.

Besides routine Maintenance Schedule work, the running-in period also requires the following:

AFTER THE FIRST 10 WORKING HOURS:

Check that the wheel nuts and the axle fastening bolts are tight with the right tightening torque.



AFTER THE FIRST 20÷40 WORKING HOURS

Change engine oil and oil filter.

AFTER THE FIRST 200 WORKING HOURS

Change hydraulic oil filter.

AFTER THE FIRST 1000 WORKING HOURS

Change the hydraulic circuit oil.

INTERVALLI DI MANUTENZIONE

TASK CHECK AND CLEAN	FREQUENCY (in h)							
	10	50	100	200	250	500	1000	2000
CHECK ENGINE OIL LEVEL	•							
CHECK ENGINE RADIATOR WATER LEVEL	•							
CHECK HYDRAULIC OIL	•							
CHECK BOLTS AND WHEELS FOR TIGHTNESS	•							
CHECK DRY AIR FILTER		•						
CHECK TIRE PRESSURE			•					
CHECK BATTERY			•					
CHECK ALL BOLTS/NUTS			•					
CHECK EPICYCLIC REDUCTION GEAR OIL				•				
CHECK DIFFERENTIAL OIL				•				
CHECK TRANSFER BOX OIL				•				
CHECK ALTERNATOR AND FAN BELT TENSION					•			
CLEAN DIESEL TANK							•	
CLEAN DIESEL RADIATOR							•	
CLEAN MULTISTAGE CENTRIFUGAL BLOWER								•
LUBRICATION AND REPLACEMENT								
LUBRICATE BUSHES AND PINS	•							
LUBRICATE CENTRAL JOINT		•						
LUBRICATE CARDAN JOINTS		•						
REPLACE HYDR. OIL FILTER CARTRIDGE				•				
REPLACE ENGINE SUMP OIL						•		
REPLACE ENGINE OIL FILTERS						•		
REPLACE FUEL FILTER CARTRIDGES						•		
REPLACE HYDRAULIC OIL							•	•
REPLACE REDUCER OIL							•	
REPLACE EPICYCLIC REDUCTION GEAR OIL							•	
REPLACE DIFFERENTIAL OIL							•	

every **10 working hours**



1. Check diesel engine oil level

The level should be checked with the engine OFF and must be between the min and max notches.

WARNING: the oil level must be checked with the vehicle perfectly horizontal. Always top up with the same oil type.



2. Check diesel engine radiator water level

The level must be about 2 - 2.5 cm below the filler hole edge.
Antifreeze must be used in winter. See the relevant supply table for correct quantity.



Should the radiator cap be removed when the engine is still hot, boiling coolant could be released. Let the system cool then remove the cap down first, then rotate the cap as far as the first notch and wait until pressure is completely released. Then remove the cap.



3. Check hydraulic oil

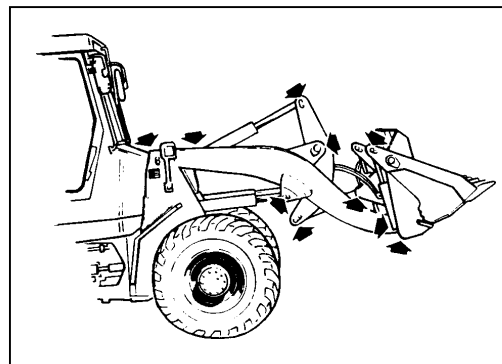
Check the level with the engine OFF and cold. The level must be between the min and max notches with the operating arm laying on the ground.



4. Tighten wheel nuts

Check the wheel nuts (tightening torque 55-60 kgm). Do this after the first 10 working hours and then regularly every 200 hours.

Note: This check should be effected at the above-mentioned intervals whenever the wheels are removed.



5. Lubricate articulation pins and bushes.

Inject grease (via the special pump) until the old grease flows out.

Note: Greasing points are highlighted by a red protection plug.

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every **50** working hours



6. Lubricate central joint

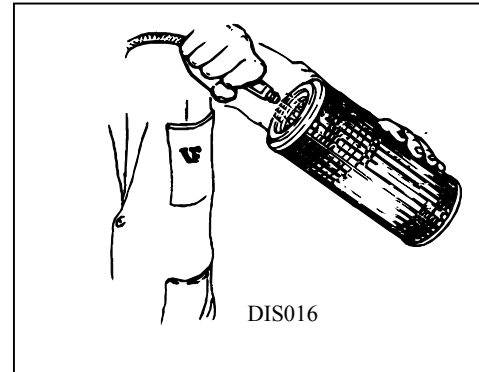
Inject grease (via the special pump) until the old grease flows out.

Note: Greasing points are highlighted by a red protection plug.



7. Lubricate cardan joints between engine reducer gear and differentials

Inject grease (via the special pump) until the old grease flows out.



8. Check dry air filter

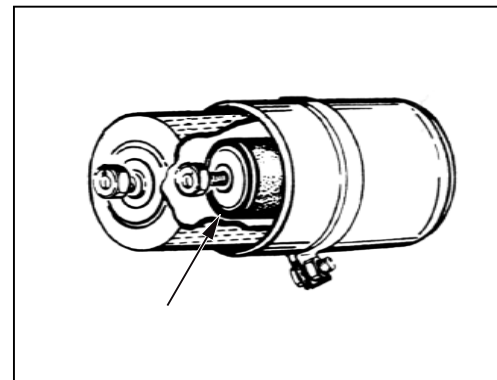
Main Filter

Dismantle the cartridge and clean with dry air at a maximum pressure of 7 kg/cm². Direct the air from the interior towards the exterior. Pass the jet over the filter in line with the grill flaps at a distance of 3 cm.

Before replacing the cartridge carry out the following checks:

- a) Check the plastic flaps for wear. Replace the seals if damaged.
- b) Check the condition of the cartridge by inserting a light inside. This will reveal any holes: replace if there are any.
- c) Check the hoses between filter and engine.

Note: Change the cartridge every 10 cleanings or once a year.



Secondary Filter (on request)

This filter works as a protection filter should main filter be damaged.

Replace the secondary filter if required.

Do not perform any cleaning.

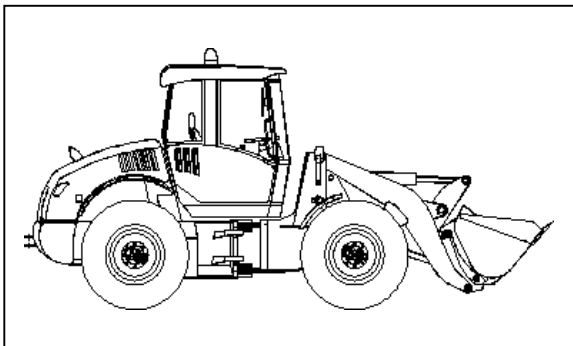
Replace the secondary filter after 3 main filter replacements or after 2,000 working hours.

Never remove the secondary filter. Remove it only in case of replacement.

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every **100** working hours

9. Check tire pressure



When checking tire pressure or inflating the tire always position yourself in line with tire tread, not in front of the tire wall. When removing a wheel from the vehicle always use an inflation cage. Keep all personnel well away from the area.



- 15.5 - 25 (12 pr)	
Front 3,5 kg/cm ²	Rear 2,5 kg/cm ²
- 17,5 - 25 (12 pr)	
Front 3,5 kg/cm ²	Rear 2,5 kg/cm ²
- 15,5 R 25	
Front 2,5 kg/cm ²	Rear 2 kg/cm ²
- 17,5 R 25	
Front 2,5 kg/cm ²	Rear 2 kg/cm ²
- 405/80 R25	
Front 2,5 kg/cm ²	Rear 2 kg/cm ²

Note: Should the tire be replaced, always make sure that the tread is positioned as it is shown.

10. Battery



Check that the battery is clean and that the terminals are properly insulated. These must always be covered with grease. Check electrolyte (distilled water) level and top up if necessary; the electrolyte should just cover the electrodes. Should the vehicle remain idle for a long period, dismantle the battery and keep it in a dry place. Dislodge fuel feeding pipe support (no.2 nuts M8) to remove battery. (double battery on request)



Battery knife switch

The battery knife switch is located in the vehicle cab, under the parking brake lever. If the vehicle is left unguarded, disconnect the knife switch.



11. Tighten nuts and bolts.

Check all bolt-held connections. (See tightening torque table).

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every **200** working hours



12. Replace hydraulic oil filter cartridge.

Change after the first 200 working hours and then every 1,000 hours. Remove the filter element (1) from the filter body and replace it with a new one. Check the lid gasket (2) for wear and replace if necessary.

Wash the container with naphtha. Wait until it is completely dry then insert the new cartridge.

14. Check differential oil

Check that the level reaches the plug as shown in the picture. If necessary top up via the same.

Note: The level must be checked with the vehicle perfectly horizontal.



Front axle



Rear axle



13. Check epicyclic reduction gear oil

Turn the wheel until the inscription “OIL LEVEL” (on the reduction unit) is parallel to the ground and the level-filler cap is on the right position; remove the cap: Oil should just be at the level of the hole. Top up by introducing the oil via the filler hole when this is in the upper position.

Note: The level must be checked with the vehicle perfectly horizontal.

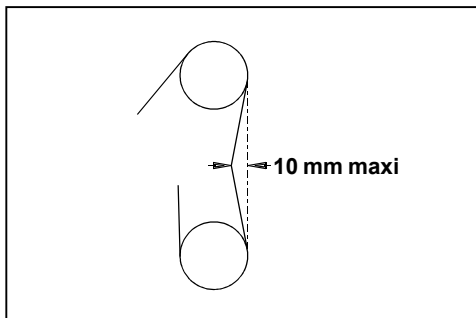


15. Check transfer box oil

Check that the level reaches the plug as shown in the picture. If necessary top up via the same.

Note: The level must be checked with the vehicle perfectly horizontal and engine off.

every **250** working hours



16. Alternator belt and fan

Loosen the alternator from its support and move it (by means of a lever placed between the monobloc frame and generator body) until belt tension is such that pressing it with your thumb on the longest side produces a dip of about 10 mm.

Belt replacement must be followed by a follow-up tension check a few working hours later.

ogni **500** ore di lavoro



17. Diesel engine sump oil

Empty the oil sump and fill it with new oil up to the dip stick "MAX" mark and no further. Run the engine in neutral to fill the circuit; stop the engine and after few minutes re-check the level, topping up if necessary.

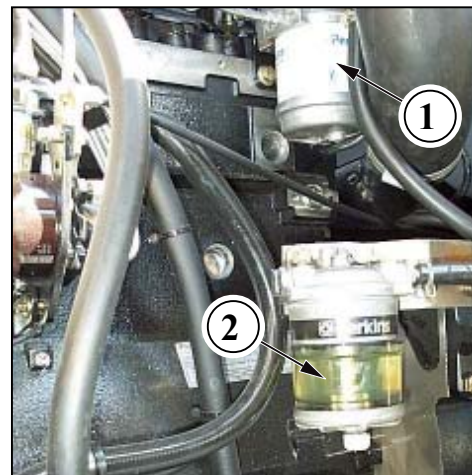
18. Engine oil filter



- Unscrew the filter to be replaced.
- Clean the filter support contact surface.
- Spread a film of clean oil on the rubber sealing ring of the new filters.
- Screw on the new filters.
- Start the engine and check for oil leaks.



Start the engine only when the hood is closed.



19. Replace fuel filter cartridge

Dismantle the filter housing (1) and replace the filter cartridge with two new ones, making sure that the rubber seals are in good condition: if they are not, replace them.

Note: Every time the fuel filter is replaced dismantle the precleaner container (2), clean it and reassemble.

- Fuel filter
- Fuel prefilter

every **1000** working hours



Tappo di riempimento



20. Replace hydraulic oil

Change after the first 1,000 working hours and then every 2,000 hours.

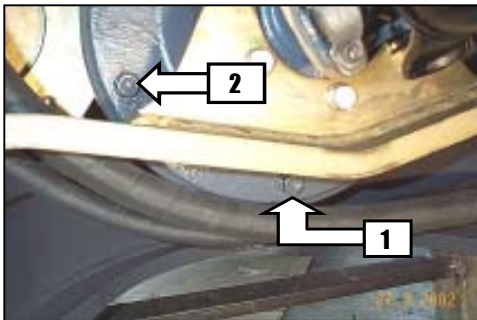
To change the oil remove the filler plug and then release the oil via the lower drain plug. Make use of the hydraulic oil drainage kit (in compliance with environment-friendly Din standards). Make sure that all hydraulic cylinders are closed and the engine is OFF.

When all the oil has been drained, remove the inspection flange and wash the tank interior thoroughly with naphtha.

Leave to dry and replace the flange. Then fill via the filler tube.

This operation should be carried out by your **AHLMANN** distributor.

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21. Replace the transfer box oil

- Remove the drain plug “1”.
- Remove the level-filler cap “2” to ease oil outflow and let oil drain completely.
- Screw the drain plug “1”
- Pour oil into the cap “2” hole until it flows out.
- Screw the drain plug “1”.

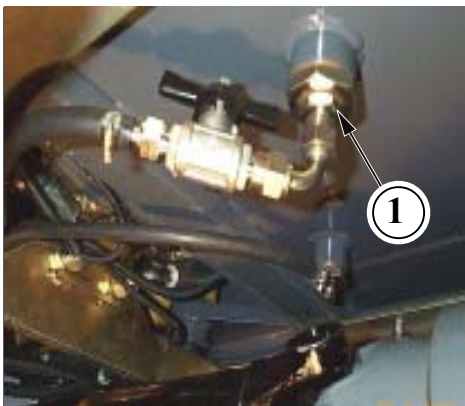


22. Change epicyclic reduction gear oil

- Position the wheel with the drain/filler plug as shown in the picture.
- Unscrew the plug and let the oil drain completely.
- Turn the wheel, bringing the plug into its upper position.
- Introduce new oil until it flows out of the hole.
- Screw the plug again.

23. Clean the diesel tank

- Drain all the diesel (and water if any) via the drain plug (1).
- Screw the plug again.
- Refill via the filler tube (2).



24. Replace differential oil

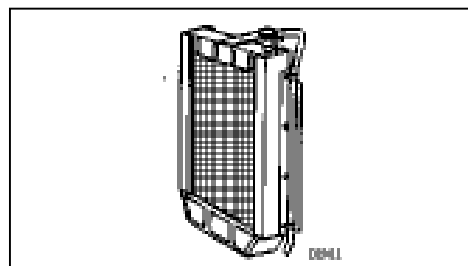
- Remove the plug indicated in the picture to aid oil outflow and ensure complete emptying.
- Pour oil into the plug hole until it flows out.
- Screw the plug again.



Front axle



Rear axle



25. Engine radiator cleaning

After removing the engine compartment closing panel to the right, clean the radiator and the coolant:

- Dry dust: use compressed air.
- Mud: use a water jet.
- Greasy dust: use perchloroethylene.

IMPORTANT : The use of trichloroethylene is strictly forbidden.



Never leave tools or other objects inside the air inlet casing.

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every **2000** working hours



26. Multistage centrifugal blower cleaning

The compressor rotor, its volute and the oil return pipe from the multistage centrifugal blower to the oil sump must be cleaned every 2,000 working hours by a Perkins authorised workshop.