

appendix 2 Maintenance schedule

Period	Activity	Object	Remark/additional information
continuous	Check	Charge voltage Gland seal Gasket inspection intake conus Temperature gearbox Temperature engine coolant Engine coolant lever motor	± 28 Volt  60° - 85° 70° - 104° Murphy switch
6 hours	Lubricate	Gland seal	2x pump of grease gun
12 hours	Check	Oil level engine  Oil level gearbox V-belts/multi-belts	Not running: "Ending stop" At idle: "Low idle" 3/4 inspection glass Max. 10 mm depression
	Top up/fill	Oil reservoir vacuum pump	Full
	Lubricate	Bearings pump ass	1 pump of grease gun
	Tap-off/drain off	Water separator vacuum boiler Oil separator vacuum pump	
24 hours	Tap-off/drain off	Water separator fuel pre-filter Oil separator, vacuum pump	
	Empty	Dust pan under air filters	
250 hours	Inspect and lubricate	Universal joint shaft (PTO)	Use grease nipples ½ pump grease gun
	Clean	Radiator and radiator fan Oil cooler gearbox Sump breather oil separator	
	Tap-off/drain off	Sump breather oil separator Water separator fuel pre-filter	
	Check	Impellor and pump intake wear ring Start batteries and poles  Radiator fan V-belts, multi belts and hoses Fine air filter (inside part)	Max. 5 mm play/space Distilled water, see level Leakage or broken?  Tighten or replace if necessary Replace if necessary
	Clean	Coarse air filter (outside part)	With compressed air or replace if necessary
	Change/replace/renew	Fuel filters Oil filters Vacuum filters	Fill with fuel before fitting
	Drain and Renew	Engine oil	± 68 litre (dip stick)
1000 hours	Check	Rotor + vanes vacuum pump	Max. 6 mm wear
	Drain and Renew	Gearbox oil	± 100 litre (to 3/4 inspection glass)
	Replace/Renew	Gearbox oil filter All v-belts and/or multi-belts	Service list
2000 hours	By a Van Heck Service engineer or qualified diesel engine engineer		
	Lubricate	Bearings radiator fan	Lightly lubricate
	Inspect	Diesel injectors Turbo's Start motor and alternator Engine supports Flexible coupling (on fly-wheel)	
	Check and adjust	Valve clearances cylinder head	Exhaust: 0.76 ± 0.10 mm (0.030 ± 0.004 inch) Intake: 0.38 ± 0.10 mm (0.015 ± 0.004 inch)
	Check	Gear wheels Pump as play	Wear, pitting and alignment Max. 0.2 – 0.3 mm
	Test	Operation panel all functions Vacuum pressure (pump)	Including warnings and safety features
	Inspect and lubricate	Universal joint shaft (PTO)	Grease nipples ½ pumps grease gun

Part	No. of or volume	Type	remark
Engine oil		Shell Rimula Super 15W40	
Gear box oil		Shell Omala 220	
Vacuum pump oil		Shell Rimula X40 <i>(summer)</i>	X30 <i>(winter)</i>
Grease		Shell Alvania EP2	
Engine coolant		Shell Coolant Standard	
Oil filter	2	IR-1808	
Fuel pre-filter	1	IR-0755	
Fuel filter	1	326-1643	
Air filter (outer part)	1	Donaldson P18-1039/P18-2039	Clean with compressed air
Air filter (inner part)	1	Donaldson P11-4931	Do not clean
Vacuum filter	1	GS1441	
Gearbox oil filter	1	Arlon ST/60	
V-belt radiator fan	4	6N-6657	
V-belt alternator	2	GL-6643	
V-belt vacuum pump	1	SPA 1857	
Alternator 24V-60A	1	CAT 4N-3986	Or exchange OR-5203
Starter 24V	1	CAT 6V-0890	Or exchange OR-4272
Battery	2	Centurion 96803	12V/280Ah

**Always use original Caterpillar filters during operating hours!**

For other parts of the pump and gearbox, see the drawing and parts list on the following pages.

appendix 4     *Alternative lubrication*

Supplier	Engine oil	Gear box oil	Hydraulic oil
Shell	Rimula Super 15W40	Omala 220	Tellus T32
Mobil	Mobil Guard HSD	SHC630	DTE 24
Total	Rubia TIR 7400	Carter EP 220	Equivis ZS 32
BP	Vanellus C6 Global	Energol GR-XP 220	Energol SHF-HV 32
Valvoline	Premium Blue E	EPG-220	Ultramax HVLP 32
Elf	Performance Trophy	Reductelf SP 220	Hydrelf DS32
Agip	Sigma Truck	Blasia 220	Arnica 32
Kendall	Super D3	Gear Guard 220	R&O AW 32 HVI
Beverol	Victory Artol XTR	Transol 220	Inula HV 32

Merk	Vacuum pump oil	Grease	Engine coolant
Shell	Rimula X40	Alvania EP2	Coolant Standard
Mobil	Mobil Guard 412	Mobilux EP2	Coolant
Total		Multis EP2	Thermocool
BP	Energol HD-S SAE 30/40	Energrelse LS-EP2	Isocool
Valvoline		Multipurpose Grease	Coolant-46
Elf		Epexelf 2	Coolelf Classic
Agip		GR MU/EP2	Permanent Fluid LL Alu Protect
Kendall		L-426 EP2	Kenlux
Beverol		Lical EP2	Bevercool