



5.17 Fluids and lubricants

Component/application	Fluid/lubricant	Specification	Season/temperature	Capacities ¹ EZ53
Diesel engine	Engine oil Tier IV ²	API CJ-4; ACEA E9; EMA-DHD-1	-20 °C – (-4 °F) +40 °C – (+104 °F)	10.6 l (2.8 gal)
	Engine oil Tier III	API CH-4; ACEA E5; EMA-DHD-1	-18 °C – (0 °F) +50 °C – (+122 °F)	8.9 l (2.4 gal)
Traveling drive	Gearbox oil ³	SAE 80W-90 ⁴	Year-round	About 1.3 l each (0.34 gal)
Hydraulic oil reservoir	Hydraulic oil	HVLP 46 ⁵	Year-round ⁶	73 l (19.3 gal)
		HV 46 ⁷		
	Biodegradable oil ⁸	HLP Synth 46		
		BIOHYD SE-S 46		
Grease	Roller and friction bearings	KPF 2 K-20 ⁹ , ISO-L-X-BCEB 2 ¹⁰	Grease	As required
	Open transmissions live ring: ball bearing			
	Live ring gears			
	Grease zerks			
Grease zerks	Multipurpose grease	KPF 2 K-20 ⁹	Year-round	As required
Battery terminals	Acid-proof grease ¹¹	FINA Marson L2	Year-round	As required
Fuel tank	Diesel fuel ¹²	ASTM D975-94: 1D, 2D (USA)	Summer or winter diesel depending on outside temperatures	83 l (21.9 gal)
		EN 590 : 96 (EU)		
		ISO 8217 DMX (International)		
		BS 2869-A1, A2 (GB)		
		JIS K2204 (Japan)		
		KSM-2610 (Korea)		
	GB252 (China)			
	Biodiesel	EN 14214		
ASTM D-6751				
Engine cooling system	Coolant	Distilled water + antifreeze ASTM D6210 (violet)	Year-round	11.7 l (3.1 gal)
Air conditioning	Refrigerant	R134a ¹³	Year-round	950 g (1.65 lbs)
	Compressor oil	Sanden SP10	Year-round	116.5 cm ³ (7.11 in ³)
Washer system	Cleaning solution	Water + antifreeze	Year-round	2 l (0.53 gal)
Control lever base	Adhesive fluid grease	Förch S401	Year-round	As required

1. The capacities indicated are approximate values; the oil level check alone is relevant for the correct oil level. Capacities indicated are no system fills
2. According to DIN 51511 (API CF, CF-4, CI-4; ACEA E3, E4, E5; JASO DH-1).
3. Hypoid gearbox oil based on basic mineral oil (SAE80W-90 according to DIN 51502), API GL5.
4. According to DIN 51502 on a mineral oil basis. Do not mix gearbox oils.
5. According to DIN 51524 section 3, ISO-VG 46.
6. Depending on local conditions – *See Hydraulic oil types* on page 5-41.
7. According to ISO 6743/4
8. Biodegradable hydraulic oil based on saturated synthetic esters with an iodine value of < 10, according to DIN 51524, section 3, HVLP, HEES.
9. KPF 2 K-20 according to DIN 51502 multipurpose lithium grease.
10. ISO-L-X-BCEB 2 according to DIN ISO 6743-9.
11. Standard acid-proof grease NGLI category 2.
12. Sulfur content below 0.05 %, cetane number over 45
13. According to DIN 8960.

Engine oil types (Tier III)

Viscosity grade (SAE)	Ambient temperature			
	min. °C	min. °F	max. °C	max. °F
0W20	-40	-40	10	50
0W30	-40	-40	30	86
0W40	-40	-40	40	104
5W30	-30	-22	30	86
5W40	-30	-22	40	104
10W30	-20	-4	40	104
15W40	-10	14	50	122

Engine oil types (Tier IV)

Viscosity grade (SAE)	Ambient temperature			
	min. °C	min. °F	max. °C	max. °F
0W30	-30	-22	30	86
0W40	-30	-22	40	104
5W30	-25	-13	30	86
5W40	-25	-13	50	122
10W30	-18	0	40	104
10W40	-18	0	50	122
15W40	-10	14	50	122

Additional oil change and filter replacement (hydraulic system)



Caution!

An additional oil change and filter replacement can be required depending on how the machine is used. Failure to observe these replacement intervals can cause damage to hydraulic components.

☞ *Observe the following intervals.*

Percentage of hammer work	Hydraulic oil	Hydraulic oil filter
20%	Every 800 o/h	300 o/h
40%	Every 400 o/h	
60%	Every 300 o/h	100 o/h
Over 80 %	Every 200 o/h	



Notice!

Please refer to the maintenance plan on page 5-43 for additional maintenance.



Hydraulic oil types

Viscosity grade (HVLP 46 ¹)	Ambient temperature			
	min. °C	min. °F	max. °C	max. °F
ISO VG32	-20	-4	30	86
ISO VG46	-5	-23	40	104
ISO VG68	5	41	50	122

1. According to DIN 511524 section 3, ISO-VG 46.