

3. SPECIFICATION OF FUEL, COOLANT AND LUBRICANTS

1) NEW MACHINE

New machine used and filled with following lubricants.

Description		Specification
Engine oil		SAE 15W-40(API CH-4)
Hydraulic oil		ISO VG46
Transmission oil		SAE 15W-40
Axle oil	** VOLVO	SAE 80W-90LS(API GL-5) for wet type brake & limited slip differential
	** ZF	* Refer to below list
Grease		Lithium base grease NLGI No. 2
Fuel		ASTM D975-No. 2
Coolant		Mixture of 50% ethylene glycol base antifreeze and 50% water

- SAE : Society of Automotive Engineers
 - API : American Petroleum Institute
 - ISO : International Organization for Standardization
 - NLGI : National Lubricating Grease Institute
 - ASTM : American Society of Testing and Material
 - UTTO : Universal Tractor Transmission Oil
- * Recommended oil list
 - BP TERRAC SUPER TRANSMISSION 10W-30
 - CASTROL AGRI TRANS PLUS 10W-30
 - MOBILFLUID 426
 - SHELL DONAX TD 10W-30
 - TOTAL DYNATRANS MPV
 - ** Machine serial No. :
 - VOLVO axle
 - ~#379, #381~386, #391, #392, #394, #396, #402, #404, #405, #407, #408, #410, #416, #417~419, #423, #424, #427, #428, #430, #431, #436, #442, #443, #458
 - ZF axle
 - #380, #387~390, #393, #395, #397~401, #403, #406, #409, #411~415, #420~422, #425, #426, #429, #432~435, #437~441, #444~457, #459~

2) RECOMMENDED LUBRICANTS

Use only oils listed below or equivalent.

Do not mix different brand oil.

Service point	Kind of fluid	Capacity l (U.S. gal)	Ambient temperature °C(°F)						
			-20 (-4)	-10 (14)	0 (32)	10 (50)	20 (68)	30 (86)	40 (104)
Engine oil pan	Engine oil	23(6.1)	SAE 30						
			SAE 10W						
			SAE 10W-30						
						SAE 15W-40			
Transmission	Engine oil	50(13.2)	SAE 10W-30						
						SAE 15W-40			
** VOLVO axle	Gear oil	Front : 78(20.6) Rear : 53(14.0)	SAE 80W-90LS/API GL-5						
** ZF axle	UTTO	Front : 51(13.5) Rear : 43(11.4)	*Refer to below list						
Hydraulic tank	Hydraulic oil	Tank: 200(52.8) System: 320(85)	ISO VG 32						
						ISO VG 46			
						ISO VG 68			
Fuel tank	Diesel fuel	430(114)	ASTM D975 NO. 1						
						ASTM D975 NO. 2			
Fitting (Grease nipple)	Grease	As required	NLGI NO. 1						
						NLGI NO. 2			
Radiator	Mixture of antifreeze and water 50 : 50	56(14.8)	Ethylene glycol base permanent type						

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