

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 CF-4)
Hydraulic oil	ISO VG 46(SAE 10W)
Swing reduction gear oil	SAE 85W-140(API GL-5)
Transmission oil	SAE 10W-30(API CF-4)
Axle & differential oil	SAE 85W-90 with LS-ADDITIVE
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

2) RECOMMENDED OILS

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	10(2.6)					SAE 30		
						SAE 10W			
Transmission case		3.8(1.0)				SAE 10W-30			
						SAE 15W-40			
Swing drive	Gear oil	25(0.7)					SAE 85W-140		
Final drive		1.0 × 4 (0.3 × 4)							
Front axle	Gear oil	11(2.9)					SAE 85W-90		
Rear axle		11(2.9)							
Hydraulic tank	Hydraulic oil	Tank; 120(31.7)					ISO VG 32		
							ISO VG 46		
		System; 240(63.4)					ISO VG 68		
Fuel tank	Diesel fuel	250(66.1)				ASTM D975 NO.1			
							ASTM D975 NO.2		
Fitting (Grease nipple)	Grease	As required				NLGI NO.1			
							NLGI NO.2		
Radiator (Reservoir tank)	Mixture of antifreeze and water 50 : 50	24(6.3)					Ethylene glycol base permanent type		