

### 3. 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 gear case oil	SAE 85W-90 with LS-ADDITIVE
Axle planetary gear case oil	SAE 85W-140(API GL-5)
Grease	Lithium base grease NLGI No. 2
Fuel	ASTM D975-No. 2
Coolant	Mixture of 50% ethylene glycol base antifreeze and 50% water.

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## 2) RECOMMENDED OILS

Use only oils listed below or equivalent.

Do not mix different brand oil.

Service point	Kind of fluid	Capacity (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	15.3(4.0)	SAE 30						
			SAE 10W						
Transmission case		3.2(0.85)	SAE 10W-30						
			SAE 15W-40						
Swing drive	Gear oil	2.5(0.66)	SAE 85W-140						
	Grease	0.35(0.09)	NLGI NO.1						
			NLGI NO.2						
Front axle differential gear case	Gear oil	7.75(2.0)	SAE 85W-90						
Rear axle differential gear case		8.4(2.2)							
Axle planetary gear case	Gear oil	1.2(0.32) × 4	SAE 85W-140						
Hydraulic tank	Hydraulic oil	Tank: 124(32.7) System: 240(63.4)	ISO VG 32						
			ISO VG 46						
			ISO VG 68						
Fuel tank	Diesel fuel	270(71.3)	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(6.4)	Ethylene glycol base permanent type						

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