3. 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 VG 46(SAE 10W)				
Swing and travel reduction gear	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.				

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 (U.S. gal)	Ambient temperature °C (°F)								
			-			_	10	20	30	40
		(-4	.)	(14)	(32	2) (50)	(68)	(86)	(104)
Engine oil Engine oil Swing drive	38(10)							SAF 30)	
								O/ (L 00		
				SAE	10W	<u> </u>	1			
		SAE 10W-30								
			SAE 15W-40							
0	$5.0 \times 2(1.3 \times 2)$					CAE	25/4/	1.10		
drive Gear oil	5.0×2					SAE	3577-	140		
i ilai diive	(1.3×2)									
Hydraulic tank Hydraulic oil	Tank; 250(66) System; 380(100)			ISO	VG 3	32				
					Vac	<i></i>				
		ISO VG 46								
			ISO VG 68							
								10.00		
Fuel tank Diesel fuel	610(161)									
		ASTN	/I D97	5 NO.	1					
			ASTM D975 NO.2							
Fitting (Grease nipple) Grease	As required									
		N	LGI N	0.1						
							NLG	I NO.2		
									\Box	
Radiator Mixture of antifreeze (Reservoir tank) and water	50(13.2)									
		Ethylene glycol base permanent type								
and water 50 : 50										
	Engine oil Gear oil Hydraulic oil Diesel fuel Grease Mixture of antifreeze and water	Kind of fluid ℓ (Ú.S. gal) Engine oil 38(10) Gear oil 5.0 × 2 (1.3 × 2) (1.3 × 2) Hydraulic oil Tank; 250(66) System; 380(100) Diesel fuel 610(161) Mixture of antifreeze and water 50(13.2)	Engine oil 38(10) -2 (-4	Color Colo	Capacity (U.S. gal) -20 -10 (-4) (14)	Engine oil 38(10) SAE 10W SA	Capacity (U.S. gal) -20 -10 0 (-4) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (14) (32) (32) (32) (32) (32) (32) (32) (32	Engine oil 38(10) Engine oil 38(10) SAE 10W SAE 10W-30 SAE 15W- SAE 15W- SAE 85W- 1380(100) SAE 15W- SAE 15	Engine oil Engine oil SAE 10W SAE 10W-30 SAE 15W-40 SAE 15W-40 SAE 85W-140 SAE 10W-30 SAE 10W-	Engine oil 38(10) Engine oil 38(10) SAE 10W SAE 10W-30 SAE 15W-40 SAE 15W