



Lubricant

Location	Type	Air temperature								When to replace
		-4 -20	14 -10	32 0	50 10	68 20	86 30	104°F 40°C		
Engine oil pan	Diesel engine oil API: CJ-4 or CK-4 class	SAE 10W-30				SAE 15W-40				Every 500 hrs. after the initial 50 hrs.
Hydraulic oil tank	Diesel engine oil API: CD, CE, CF or CK-4 class	SAE 10W-30***								Every 1000 hrs.
Engine cooling system	Cooling water (water + coolant)** SAE: J814C or J1034	Mixture of 50% coolant								Every 1000 hrs.
Travel reduction gear	Gear oil API: GL-4	SAE 90								Every 500 hrs after the initial 250 hrs*.
Working equipment	Lithium based grease EP-2	—								Daily or every 10 hrs.
Levers	NLGI No.2									When required

*: If the ratio of traveling time to total operating time is high, replace the gear oil earlier than the specified time.

** : For water, use tap water (soft). Do not use well or river water. When the ambient temperature drops below 0°C (32°F), add coolant (antifreeze). Follow the coolant manufacturer's instructions to determine the mixture ratio.

***: Ambient temperature when the oil used as hydraulic oil.

LUBRICANT AND FUEL CHART

TL8

Select the appropriate fuel, lubricant, and grease according to temperature by referring to the table below.

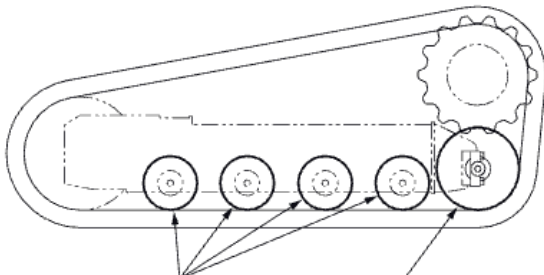
- Regardless of the time specified below, change the oil also if it becomes too dirty or degraded.
- When adding oil, never mix oils of different brands. If a brand is to be changed, replace all of the fuel/oil.

Part	Type	Selection by air temperature							When to change/ replenish	Capacity
		-4 -20	14 -10	32 0	50 10	68 20	86 30	104°F 40°C		
Engine oil pan	Diesel engine oil API: CJ-4 class or above			SAE 10W-30					Every 500 hrs. af- ter the first 50 hrs	Upper limit: 11.2 L (11.8 US qt) Lower limit: 8.2 L (8.7 US qt)
Hydraulic tank	Diesel engine oil API: CD, CE, or CF class or above			SAE 10W-30					Every 1000 hrs	Total amount of oil: 58 L (15.3 US gal) Tank capacity: 39 L (10.3 US gal)
Engine cooling system	Cooling water (water + coolant)** SAE: J1814C, J1034			Mixture of 50% coolant					Every 1000 hrs	14 L (14.8 US qt)
Travel reduction gear	Gear oil API: GL-4				SAE 90				Every 500 hrs. after the first 250 hrs*	1.0 L x 2 (1.06 US qt)
Track roller A	Engine oil API: CD class				SAE 30				–	0.18 L (6.09 fl oz)
Track roller B	Mobilegear SHC 680				–				–	0.14 L (4.7 fl oz)
Idler	Engine oil API: CD class				–				–	0.12 L (4.1 fl oz)
Working equip- ment	Lithium grease EP-2				–				Daily or every 10 hrs	As required
Levers/pedals	NLGI No. 2								As required	

* If the ratio of traveling time to total operating time is high, replace the gear oil earlier than the specified time.

** For water, use (soft) tap water. Do not use well or river water.

For regions/conditions where the ambient temperature drops below 0°C (32°F), add coolant (antifreeze). Follow the coolant manufacturer's instructions to determine the mixture ratio.



TRACK ROLLER A
GLEISKETTENROLLE A
GALET INFÉRIEUR A
トラックローラ A

TRACK ROLLER B
GLEISKETTENROLLE B
GALET INFÉRIEUR B
トラックローラ B

2C0BE01



Lubricant

Location	Type	Air temperature								When to replace
		-4	14	32	50	68	86	104°F		
		-20	-10	0	10	20	30	40°C		
Engine oil pan	Diesel engine oil API: CJ-4 or CK-4 class	SAE 10W-30****		SAE 15W-40						Every 500 hrs. after the initial 50 hrs.
Hydraulic oil tank	Diesel engine oil API: CD, CE, CF or CK-4 class	SAE 10W-30***								Every 1000 hrs.
Engine cooling system	Cooling water (water + coolant)** SAE: J814C or J1034	Mixture of 50% coolant								Every 1000 hrs.
Travel reduction gear	Gear oil API: GL-4	SAE 90								Every 500 hrs after the initial 250 hrs*.
Working equipment	Lithium based grease EP-2	—								Daily or every 10 hrs.
Levers	NLGI No.2									When required

*: If the ratio of traveling time to total operating time is high, replace the gear oil earlier than the specified time.

** : For water, use tap water (soft). Do not use well or river water. When the ambient temperature drops below 0°C (32°F), add coolant (antifreeze). Follow the coolant manufacturer's instructions to determine the mixture ratio.

***: Ambient temperature when the oil used as hydraulic oil.

****: If you use oil with a higher viscosity than 10W-30, the oil will not work properly due to low temperature until the engine is well warmed up. In addition, it could cause excessive wear on the engine or seizing of the engine.

API standard: American Petroleum Institute

ACEA standard: Association des Constructeurs Européens d'Automobiles

SAE standard: Society of Automotive Engineers

LUBRICANT AND FUEL CHART

Select the appropriate fuel, lubricant and grease according to the temperature by referring to the table below.

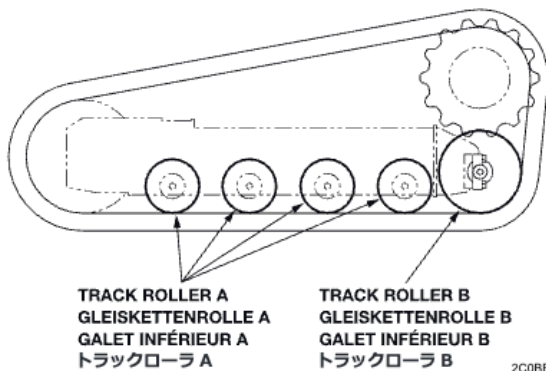
- Regardless of the specified time, change the oil if it becomes too dirty or degraded.
- When refilling, never mix oils of different brands. If a brand is to be changed, replace the whole fuel/oil.

Part	Type	Type by air temperature							When to change/ replenish	Capacity
		-30	-20	-10	0	10	20	30		
Engine oil pan	Diesel engine oil API: CJ-4 or higher				SAE 10W-30				Every 250 hrs af- ter the first 50 hrs	Upper limit: 13.2 L (13.9 US qt) Lower limit: 8.8 L (9.3 US qt)
Hydraulic oil tank	Diesel engine oil API: CD, CE or CF class				SAE 10W-30				Every 1000 hrs	Total amount of oil: 74 L (19.6 US gal) Tank capacity: 48 L (12.7 US gal)
Engine cool- ing system	Cooling water (water + coolant)** SAE: J814C, J1941, J1034 or J2036 ASTM: D6210 or D4985 (USA)				Mixture of 50% coolant				Every 1000 hrs	15.5 L (16.4 US qt)
Travel reduc- tion gear	Gear oil API: GL-4				SAE 90				Every 500 hrs af- ter the first 250 hrs*	1.6 L (1.7 US qt)
Track roller A	Engine oil API: CD				SAE 30				—	0.18 L (6.09 fl oz)
Track roller B	Mobilegear SHC680 or Bonnoc AX 680				—				—	0.17 L (5.75 fl oz)
Idler	Mobilegear SHC680 or Bonnoc AX 680				—				—	0.17 L (5.75 fl oz)
Working equipment	Lithium grease EP-2 NLGI No.2				—				Daily or every 10 hrs	As required
Lever/pedal									When required	

* If the ratio of traveling time to total operating time is high, replace the gear oil earlier than the specified time.

** For water, use tap water (soft). Do not use well or river water.

When the ambient temperature drops below 0°C, add coolant (antifreeze). Follow the coolant manufacturer's instructions to determine the mixture ratio.



LUBRICANT AND FUEL CHART

TL10V2

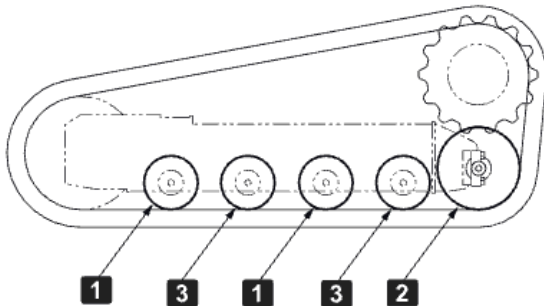
Select the appropriate fuel, lubricant, and grease according to temperature by referring to the table below.

- Regardless of the amount of time specified, change the oil if it becomes too dirty or degraded.
- When refilling, never mix oils of different brands. If a brand is to be changed, replace all of the fuel/oil.

Part	Type	Selection by air temperature							When to change/ replenish	Capacity
		-4 -20	14 -10	32 0	50 10	68 20	86 30	104°F 40°C		
Engine oil pan	Diesel engine oil API: CJ-4 class or above			SAE 10W-30					Every 500 hrs. af- ter the first 50 hrs.	Upper limit: 11.2 L (11.8 US qt.) Lower limit: 8.2 L (8.7 US qt.)
Hydraulic tank	Diesel engine oil API: CD, CE, or CF class or above			SAE 10W-30					Every 1000 hrs.	Total amount of oil: 65 L (17.2 US gal.) Tank level capacity: 36 L (9.5 US gal.)
Engine cooling system	**Cooling water (water + coolant) SAE-J814C, J1034			Mixture of 50% coolant					Every 1000 hrs.	15 L (15.9 US qt.)
Travel reduction gear	Gear oil API: GL-4			SAE 90					Every 500 hrs. after the first 250 hrs.*	1.6 L × 2 (1.7 US qt. × 2)
Track roller A and C	Engine oil API: CD class or above			SAE 30					–	0.185 L (6.26 fl. oz)
Track roller B	Mobil SHC Gear 680			–					–	0.185 L (6.26 fl. oz)
Idler	Mobil SHC Gear 680			–					–	0.125 L (4.23 fl. oz)
Working equipment Lever/pedal	Lithium grease EP-2 NLGI No. 2			–					Daily or every 10 hrs. When required	As required

* If the ratio of traveling time to total operating time is high, replace the gear oil earlier than the specified time.

** For water, use tap water (soft). Do not use well or river water.
When the ambient temperature drops below 0°C (32°F), add coolant (antifreeze). Follow the coolant manufactur-
er's instructions to determine the mixture ratio.



2C0BQ01

- 1** Track roller A
- 2** Track roller B
- 3** Track roller C

LUBRICANT AND FUEL CHART

TL12

Select the appropriate fuel, lubricant, and grease according to temperature by referring to the table below.

- Regardless of the time specified below, change the oil also if it becomes too dirty or degraded.
- When adding oil, never mix oils of different brands. If a brand is to be changed, replace all of the fuel/oil.

Part	Type	Selection by air temperature								When to change/ replenish	Capacity
		-4 -20	-14 -10	32 0	50 10	68 20	86 30	104°F 40°C			
Engine oil pan	Diesel engine oil API: CJ-4 class or above			SAE 10W-30						Every 250 hrs after the first 50 hrs	Upper limit: 13.2 L (13.9 US qt) Lower limit: 8.8 L (9.3 US qt)
Hydraulic tank	Diesel engine oil API: CD, CE, or CF class or above			SAE 10W-30						Every 1000 hrs	Total amount of oil: 95 L (25.1 US qt) Tank capacity: 60 L (15.9 US gal)
Engine cooling system	Cooling water (water + coolant)**	Mixture of 50% coolant								Every 1000 hrs	16.5 L (17.4 US qt)
				Mixture of 30% coolant							
Travel reduction gear	Gear oil API: GL-4	SAE 90								Every 500 hrs. af- ter the first 250 hrs*	1.6 L (1.7 US qt)
Track roller A	Engine oil API: CD class	SAE 30								—	0.18 L (6.09 fl oz)
Track roller B	Mobilegear SHC 680 or Bonnoc AX 680	—								—	0.17 L (5.75 fl oz)
Idler	Mobilegear SHC 680 or Bonnoc AX 680	—								—	0.17 L (5.75 fl oz)
Working equip- ment	Lithium grease EP-2	—								Daily or every 10 hrs	As required
Levers/pedals	NLGI No. 2									As required	

* If the ratio of traveling time to total operating time is high, replace the gear oil earlier than the specified time.

** For water, use (soft) tap water. Do not use well or river water.

For regions/conditions where the ambient temperature drops below 0°C (32°F), add coolant (antifreeze). Follow the coolant manufacturer's instructions to determine the mixture ratio.

LUBRICANT AND FUEL CHART

TL12R2

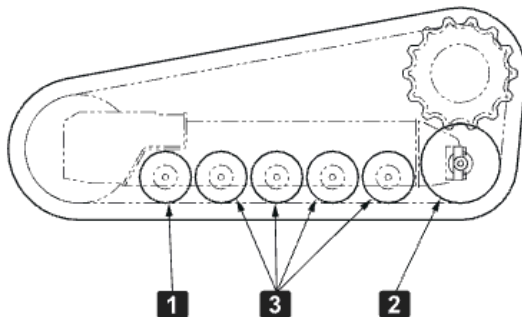
Select the appropriate fuel, lubricant, and grease according to temperature by referring to the table below.

- Regardless of the amount of time specified, change the oil if it becomes too dirty or degraded.
- When refilling, never mix oils of different brands. If a brand is to be changed, replace all of the fuel/oil.

Part	Type	Selection by air temperature							When to change/ replenish	Capacity
		-4 -20	14 -10	32 0	50 10	68 20	86 30	104°F 40°C		
Engine oil pan	Diesel engine oil API: CJ-4 class or above JASO: DH-2			SAE 10W-30					Every 500 hrs. after the first 50 hrs.	Upper limit: 13.2 L (13.9 US qt) Lower limit: 8.8 L (9.3 US qt)
Hydraulic tank	Diesel engine oil API: CD, CE, or CF class or above			SAE 10W-30					Every 1000 hrs.	Total amount of oil: 79 L (20.9 US gal) Tank level capacity: 50 L (13.2 US gal)
Engine cooling system	**Cooling water (water + coolant) SAE-J814C, J1034			Mixture of 50% coolant					Every 1000 hrs.	18 L (19 US qt)
				Mixture of 30% coolant						
Travel reduction gear	Gear oil API: GL-4			SAE 90					Every 500 hrs. after the first 250 hrs.*	1.6 L × 2 (1.7 US qt × 2)
Track roller A and C	Engine oil API: CD class or above			SAE 30					–	0.18 L (6.09 fl oz)
Track roller B	Mobil SHC Gear 680			–					–	0.17 L (5.75 fl oz)
Idler	Mobil SHC Gear 680			–					–	0.17 L (5.75 fl oz)
Working equipment Lever/pedal	Lithium grease EP-2 NLGI No. 2			–					Daily or every 10 hrs. When required	As required

* If the ratio of traveling time to total operating time is high, replace the gear oil earlier than the specified time.

** For water, use tap water (soft). Do not use well or river water.
 When the ambient temperature drops below 0°C (32°F), add coolant (antifreeze). Follow the coolant manufacturer's instructions to determine the mixture ratio.



2C0B001

- 1** Track roller A
- 2** Track roller B
- 3** Track roller C

Lubricant

Location	Type	Type by air temperature							When to replace
		-4	-14	32	50	68	86	104°F	
		-20	-10	0	10	20	30	40°C	
Engine oil pan	API: CJ-4 class ACEA: E6 class JASO: DH2 class	SAE 10W-30							Every 500 hrs. or once a year (whichever comes first)
	SAE 15W-40								
Hydraulic oil tank	Takeuchi genuine hydraulic oil 46	ISO VG46							Every 4000 hrs.***
	Anti-wear hydraulic oil	ISO VG32							Every 2000 hrs.***
		ISO VG46							
		ISO VG68							
Engine cooling system	Cooling water (water + coolant)** SAE: J814C or J1034 ASTM: D3306 JIS: K2234	Mixture of 50% coolant							Every 2000 hrs. or every two years (whichever comes first)
		Mixture of 30% coolant							
Travel reduction gear	Gear oil API: GL-4	SAE 90							Every 1000 hrs after the initial 250 hrs*.
Slew bearing	Lithium based grease EP-2	-							Every 50 hrs.
Working equipment	NLGI No.2	-							Daily or every 10 hrs.
Carrier roller	Engine oil API: CD	SAE 30							-
Track roller	Gear oil API: GL-3	-							-
Idler	Engine oil API: CD	SAE 30							-

TABLE OF FUEL AND LUBRICANT

TB280FR

Use fuel, lubricant, and grease depending on temperature, referring to the table below.

- When fuel, lubricant, or grease is severely dirty or deteriorated, replace it as soon as possible.
- Do not use a different type of oil for replenishment. When changing the brand of fuel, lubricant, or grease, replace the total amount of it. Do not mix the brand with a different one.

Replenishment part	Type	Use depending on temperature							Replacement or replenishment period	Capacity
		-4 -20	14 -10	32 0	50 10	68 20	86 30	104°F 40°C		
Engine oil pan	Diesel engine oil API: CJ-4 class or above ACEA: E6 class		SAE 10W-30		SAE 15W-40				Every 250 hours	Upper limit: 9.4 L (9.9 US qt) Lower limit: 5.0 L (5.3 US qt)
Hydraulic oil tank	Takeuchi genuine hydraulic oil 46		ISO VG46						Every 4000 hours***	Total amount of oil: 147 L (38.83 US gal) Tank capacity: 70.6 L (18.65 US gal)
	Anti-wear hydraulic oil		ISO VG32		ISO VG46		ISO VG68		Every 2000 hours***	
Engine cooling system	Cooling water (water + coolant)** SAE-J814C, J1034		50% coolant mixture			30% coolant mixture			Every 2000 hours	11 L (2.91 US gal)
Travel reduction gear	Gear oil API: GL-4		SAE 90						Every 1000 hours after the first 250 hours*	1.1 L (1.2 US qt) × 2
Carrier roller	Engine oil API: CD class		SAE 30						—	0.140 L (4.73 fl oz)
Track roller	Gear oil		ISO VG220						—	0.180 L (6.1 fl oz)
Idler	Engine oil API: CD class		SAE 30						—	0.150 L (5.07 fl oz)
Slew bearing	Lithium grease EP-2 NLGI No.2								Every 50 hours	As required
Work equipment			—						Daily or every 10 hours	
Lever									When necessary	

* If the travel time accounts for a large portion of the total operating time, replace the gear oil before the specified time.

** Use tap water (soft water). Do not use well water or river water.
 When the ambient temperature drops below 0°C (32°F), add coolants (antifreeze). Decide a mixture ratio according to the instruction manual of the coolant manufacturer.

*** The replacement period of hydraulic oil depends on the type of the hydraulic oil used. Takeuchi genuine hydraulic oil 46 is used in new vehicles. This manual also explains the replacement period assuming that Takeuchi genuine hydraulic oil 46 is used. When conventional anti-wear hydraulic oil is used, replace the hydraulic oil every 2000 hours.

API standard: American Petroleum Institute
 ACEA standard: European Automobile Manufacturers' Association
 SAE standard: Society of Automotive Engineers

LUBRICANT AND FUEL CHART

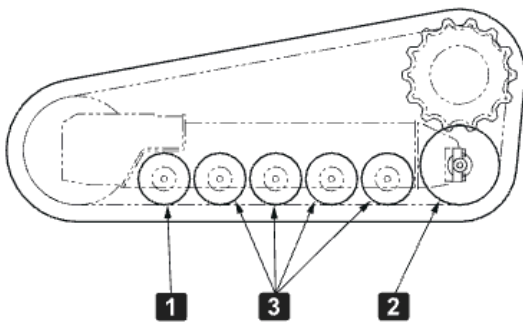
TL12V2

Select the appropriate fuel, lubricant, and grease according to temperature by referring to the table below.

- Regardless of the amount of time specified, change the oil if it becomes too dirty or degraded.
- When refilling, never mix oils of different brands. If a brand is to be changed, replace all of the fuel/oil.

Part	Type	Selection by air temperature							When to change/ replenish	Capacity
		-4 -20	14 -10	32 0	50 10	68 20	86 30	104°F 40°C		
Engine oil pan	Diesel engine oil API: CJ-4 class or above			SAE 10W-30					Every 500 hrs. af- ter the first 50 hrs.	Upper limit: 13.2 L (13.9 US qt) Lower limit: 8.8 L (9.3 US qt)
Hydraulic tank	Diesel engine oil API: CD, CE, or CF class or above			SAE 10W-30					Every 1000 hrs.	Total amount of oil: 78 L (20.6 US gal) Tank level capacity: 50 L (13.2 US gal)
Engine cooling system	**Cooling water (water + coolant) SAE-J814C, J1034			Mixture of 50% coolant					Every 1000 hrs.	18 L (19 US qt)
				Mixture of 30% coolant						
Travel reduction gear	Gear oil API: GL-4				SAE 90				Every 500 hrs. after the first 250 hrs.*	1.6 L × 2 (1.7 US qt × 2)
Track roller A and C	Engine oil API: CD class or above				SAE 30				–	0.18 L (6.09 fl oz)
Track roller B	Mobil SHC Gear 680				–				–	0.17 L (5.75 fl oz)
Idler	Mobil SHC Gear 680				–				–	0.17 L (5.75 fl oz)
Working equip- ment	Lithium grease EP-2				–				Daily or every 10 hrs.	As required
Lever/pedal	NLGI No. 2								When required	

- * If the ratio of traveling time to total operating time is high, replace the gear oil earlier than the specified time.
- ** For water, use tap water (soft). Do not use well or river water.
When the ambient temperature drops below 0°C (32°F), add coolant (antifreeze). Follow the coolant manufactur-
er's instructions to determine the mixture ratio.



2C0B001

- 1** Track roller A
- 2** Track roller B
- 3** Track roller C

TABLE OF LUBRICANT

TB20E

Use lubricant and grease depending on temperature, referring to the table below.

- If lubricant or grease becomes very dirty or significant performance decrease is found, replace them as soon as possible.
- Do not add a different type of oil. When changing the brand of lubricant or grease, replace the total amount of it. Do not mix the brand with a different one.

Lubricant

Where the lubricant is replenished	Type	Use depending on temperature							When to replace or replenish the lubricant	
		-4 -20	14 -10	32 0	50 10	68 20	86 30	104°F 40°C		
Hydraulic oil tank	Takeuchi genuine hydraulic oil 46								ISO VG46	Every 4000 hours**
	Bio-oil recommended by Takeuchi*** Mobil EAL EnviroSyn H 46, Panolin HLP Synth 46								ISO VG46	Every 4000 hours
	Anti-wear hydraulic oil								ISO VG32 ISO VG46 ISO VG68	Every 2000 hours**
Travel reduction gear	Gear oil API: GL-4								SAE 90	Every 1000 hours after the first 250 hours*
Slew motor pinion	Lithium grease EP-2 NLGI No.2								—	Every 50 hours
Slew bearing		Every 50 hours								
Work equipment		Every day or every 10 hours								
Lever		When necessary								
Track roller	Gear oil API: GL-4								SAE 90	—
Idler	Gear oil API: GL-4								SAE 90	—

* If the travel time accounts for a large portion of the total operating time, replace the gear oil before the specified time.

** The replacement period of hydraulic oil depends on the type of the hydraulic oil used. Takeuchi genuine hydraulic oil 46 is used at the shipment of new vehicles. This manual also explains the replacement period assuming that Takeuchi genuine hydraulic oil 46 is used. When conventional anti-wear hydraulic oil is used, the hydraulic oil is replaced every 2000 hours.

*** When replacing mineral oil with bio-oil, the amount of mineral oil left in the machine should be no more than 2%, in accordance with ISO 15380.

API standard: American Petroleum Institute

SAE standard: Society of Automotive Engineers

LUBRICANT AND FUEL CHART

TB240

Select the appropriate fuel, lubricant, and grease according to temperature by referring to the table below.

- Regardless of the specified time, change the oil if it becomes too dirty or degraded.
- When refilling, never mix oils of different brands. If a brand is to be changed, replace all of the fuel/oil.

Part	Type	Selection by air temperature							When to change/ replenish	Capacity
		-4 -20	14 -10	32 0	50 10	68 20	86 30	104°F 40°C		
Engine oil pan	Diesel engine oil API: CJ-4 class ACEA: E6 class JASO: DH2 class	SAE 10W-30							500 hours or every one year****	Upper limit: 7.4 L (7.8 US qt.) Lower limit: 4.0 L (4.2 US qt.)
		SAE 15W-40								
Hydraulic tank	Takeuchi genuine hydraulic oil 46	ISO VG46							Every 4000 hrs.***	Total amount of oil: 74 L (19.5 US gal.) Tank capacity: 41 L (10.8 US gal.)
	Anti-wear hydrau- lic oil	ISO VG32							Every 2000 hrs.***	
		ISO VG46 ISO VG68								
Engine cooling system	**Cooling water (water + coolant) SAE-J814C, J1034	Mixture of 50% coolant							Every 2000 hrs.	9 L (9.5 US qt)
Mixture of 30% coolant										
Travel reduction gear	Gear oil API: GL-4	SAE 90							Every 1000 hrs. after the first 250 hrs.*	0.6 L×2 (0.63 US qt.×2)
Carrier roller	Engine oil API: CD class	SAE 30							–	0.150 L (5.07 fl. oz.)
Track roller	Engine oil API: CD class	SAE 30							–	0.180 L (6.1 fl. oz)
Idler	Engine oil API: CD class	SAE 30							–	0.150 L (5.07 fl. oz.)
Slew bearing	Lithium grease EP-2 NLGI No. 2	–							Every 50 hrs.	As required
Working equip- ment									Daily or every 10 hrs.	
Levers									When required	

* If the ratio of traveling time to total operating time is high, replace the gear oil earlier than the specified time.

** For water, use tap water (soft). Do not use well or river water.
When the ambient temperature drops below 0°C (32°F), add coolant (antifreeze). Follow the coolant manufactur-
er's instructions to determine the mixture ratio.

*** The replacement interval for hydraulic oil depends on the oil type being used. New machines are shipped from
the factory with the Takeuchi genuine hydraulic oil 46. This manual describes when to replace the hydraulic oil
assuming that this Takeuchi oil is used. When a conventional anti-wear hydraulic oil is used, replace it every 2000
hours.

**** Replace the engine oil and the oil filter if the machine has been operated for one year, even if the total machine
operating time is less than 500 hours. Additionally, the engine oil and the oil filter need to be replaced when the
total machine operating time reaches 500 hours, even if the machine has not been operated for one year.

LUBRICANT AND FUEL CHART

TB290

Select the appropriate fuel, lubricant, and grease according to temperature by referring to the table below.

- Regardless of the specified time, change the oil if it becomes too dirty or degraded.
- When refilling, never mix oils of different brands. If a brand is to be changed, replace all of the fuel/oil.

Part	Type	Selection by air temperature							When to change/ replenish	Capacity
		-4 -20	14 -10	32 0	50 10	68 20	86 30	104°F 40°C		
Engine oil pan	Diesel engine oil API: CJ-4 class or above ACEA: E6 class			SAE 10W-30					Every 250 hrs.	Upper limit: 9.4 L (9.9 US qt) Lower limit: 5.0 L (5.3 US qt)
Hydraulic tank	Takeuchi genuine hydraulic oil 46			ISO VG46					Every 4000 hrs.***	Total amount of oil: 140 L (37.0 US gal) Tank capacity: 73 L (19.3 US gal)
	Anti-wear hydrau- lic oil			ISO VG32		ISO VG46		ISO VG68	Every 2000 hrs.***	
Engine cooling system	Cooling water (water + coolant)** ASTM-D6210 or D4985 JIS K-2234 SAE-J814C, J1941, J1034, or J2036			Mixture of 50% coolant			Mixture of 30% coolant		Every 2000 hrs.	14 L (14.8 US qt)
Travel reduction gear	Gear oil API: GL-4			SAE 90					Every 1000 hrs. after the first 250 hrs.*	1.1 L (1.16 US qt)
Carrier roller	Engine oil API: CD class			SAE 30					–	0.150 L (5.07 fl oz)
Track roller	Engine oil API: CD class			SAE 30					–	0.180 L (6.1 fl oz)
Idler	Engine oil API: CD class			SAE 30					–	0.150 L (5.07 fl oz)
Slew bearing	Lithium grease EP-2 NLGI No. 2								Every 50 hrs.	As required
Working equip- ment				–					Daily or every 10 hrs.	
Levers									When required	

- * If the ratio of traveling time to total operating time is high, replace the gear oil earlier than the specified time.
- ** For water, use tap water (soft). Do not use well or river water.
When the ambient temperature drops below 0°C (32°F), add coolant (antifreeze). Follow the coolant manufacturer's instructions to determine the mixture ratio.
- *** The replacement interval for hydraulic oil depends on the oil type being used. New machines are shipped from the factory with the Takeuchi genuine hydraulic oil 46. This manual describes when to replace the hydraulic oil assuming that this Takeuchi oil is used. When a conventional anti-wear hydraulic oil is used, replace it every 2000 hours.

API standard: American Petroleum Institute
ACEA standard: European Automobile Manufacturers' Association
SAE standard: Society of Automotive Engineers

TB335R

Lubricant

Where the lubricant is replenished	Type	Use depending on temperature								When to replace or replenish the lubricant
		-4	14	32	50	68	86	104°F		
		-20	-10	0	10	20	30	40°C		
Engine oil pan	Diesel engine oil API: CF, CG, CH-4, CI-4 class	SAE 10W-30								Every 250 hours after the first 50 hours
		SAE 15W-40								
Hydraulic oil tank	Takeuchi genuine hydraulic oil 46	ISO VG46								Every 4000 hours***
	Bio-oil recommended by Takeuchi**** Mobil EAL EnviroSyn H 46, Panolin HLP Synth 46	ISO VG46								Every 4000 hours
	Anti-wear hydraulic oil	ISO VG32			ISO VG46			ISO VG68		Every 2000 hours***
Engine cooling system	Cooling water (water + coolant)** SAE: J814C or J1034	Mixture of 50% coolant								Every 2000 hours or every 2 years, whichever is earlier
Travel reduction gear	Gear oil API: GL-4	SAE 90								Every 1000 hours after the first 250 hours*
Slew bearing	Lithium grease EP-2	—								Every 50 hours
Work equipment	NLGI No.2									Every day or every 10 hours
Carrier roller	Gear oil API: GL-4	SAE 90								—
Track roller	Gear oil API: GL-4	SAE 90								—
Idler	Gear oil API: GL-4	SAE 90								—

- * If the travel time accounts for a large portion of the total operating time, replace the gear oil before the specified time.
- ** Use tap water (soft water). Do not use well water or river water. When the outside temperature drops below 0°C, add coolants (antifreeze). Decide a mixture ratio according to the instruction manual of the coolant manufacturer.
- *** The replacement period of hydraulic oil depends on the type of the hydraulic oil used. Takeuchi genuine hydraulic oil 46 is used at the shipment of new vehicles. This manual also explains the replacement period assuming that Takeuchi genuine hydraulic oil 46 is used. When conventional anti-wear hydraulic oil is used, the hydraulic oil is replaced every 2000 hours.
- **** When replacing mineral oil with bio-oil, the amount of mineral oil left in the machine should be no more than 2%, in accordance with ISO 15380.

API standard: American Petroleum Institute
 SAE standard: Society of Automotive Engineers

TB350R

Lubricant

Where the lubricant is replenished	Type	Use depending on temperature							When to replace or replenish the lubricant
		-4 -20	14 -10	32 0	50 10	68 20	86 30	104°F 40°C	
Engine oil pan	Diesel engine oil API: CJ-4 or CK-4 class				SAE 10W-30				After 50 hours for the first time, then every 250 hours thereafter
					SAE 15W-40				
Hydraulic oil tank	Takeuchi genuine hydraulic oil 46				ISO VG46				Every 4000 hours***
	Bio-oil recommended by Takeuchi**** Mobil EAL EnviroSyn H 46, Panolin HLP Synth 46				ISO VG46				Every 4000 hours
	Anti-wear hydraulic oil				ISO VG32		ISO VG46	ISO VG68	Every 2000 hours***
Engine cooling system	Cooling water (water + coolant)** SAE: J814C or J1034				Mixture of 50% coolant				Every 2000 hours or every 2 years, whichever is earlier
Travel reduction gear	Gear oil API: GL-4				SAE 90				After 250 hours for the first time, then every 1000 hours thereafter*
Slew bearing	Lithium grease EP-2 NLGI No.2								Every 50 hours
Work equipment					—				Every day or every 10 hours
Carrier roller	Engine oil API: CD				SAE 30				—
Track roller	Gear oil EP 220 HK oil or equivalent				SAE 90				—
Idler	Engine oil API: CD				SAE 30				—

* If the travel time accounts for a large portion of the total operating time, replace the gear oil before the specified time.

** Use tap water (soft water). Do not use well water or river water. When the ambient temperature drops below 0°C (32°F), add coolants (antifreeze). Decide a mixture ratio according to the instruction manual of the coolant manufacturer.

*** The replacement period of hydraulic oil depends on the type of the hydraulic oil used. Takeuchi genuine hydraulic oil 46 is used in new vehicles. This manual also explains the replacement period assuming that Takeuchi genuine hydraulic oil 46 is used. When conventional anti-wear hydraulic oil is used, replace the hydraulic oil every 2000 hours.

**** When replacing mineral oil with bio-oil, the amount of mineral oil left in the machine should be no more than 2%, in accordance with ISO 15380.

API standard: American Petroleum Institute

SAE standard: Society of Automotive Engineers



TB210R

Lubricant

Location	Type	Type by air temperature								When to replace
		-4 -20	14 -10	32 0	50 10	68 20	86 30	104 40	°F °C	
Engine oil pan	Diesel engine oil API: CF, CF-4, CG-4, CH-4 or CI-4 class			SAE 10W-30						Every 250 hrs. after the initial 50 hrs.
Hydraulic oil tank	Biodegradable oil recommended by Takeuchi*** Mobil EAL EnviroSyn 46H Panolin HLP Synth 46				ISO VG46					Every 2000 hrs.
	Anti-wear hydraulic oil			ISO VG32		ISO VG46				
						ISO VG68				
Engine cooling system	Cooling water (water + coolant)** SAE: J814C or J1034			Mixture of 50% coolant						Every 1000 hrs.
				Mixture of 30% coolant						
Travel reduction gear	Gear oil API: GL-4				SAE 90					Every 1000 hrs after the initial 250 hrs*.
Slew motor pinion	Lithium based grease EP-2 NLGI No.2									Every 50 hrs.
Slew bearing		Every 50 hrs.								
Working equipment		Daily or every 10 hrs.								
Levers		When required								

* : If the ratio of traveling time to total operating time is high, replace the gear oil earlier than the specified time.

** : For water, use tap water (soft). Do not use well or river water. When the ambient temperature drops below 0°C (32°F), add coolant (antifreeze). Follow the coolant manufacturer's instructions to determine the mixture ratio.

*** : When replacing a mineral oil with a biodegradable oil, the residual mineral oil in the machine should be about 2% or less, as complying with the ISO 15380. For details, refer to "Biodegradable oil" on page 8-8.

API standard: American Petroleum Institute

ACEA standard: Association des Constructeurs Européens d'Automobiles

SAE standard: Society of Automotive Engineers

TB370

Lubricant

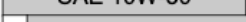



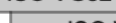
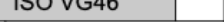

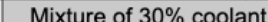
Where the lubricant is replenished	Type	Use depending on temperature							When to replace or replenish the lubricant
		-4	-14	32	50	68	86	104°F	
		-20	-10	0	10	20	30	40°C	
Engine oil pan	Diesel engine oil API: CJ-4 class	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; background-color: #cccccc; padding: 2px;">SAE 10W-30</div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 5px;"> <div style="border: 1px solid black; background-color: #cccccc; padding: 2px;">SAE 15W-40</div> </div>							The first 50 hours Every 500 hours after the 50 hours
Hydraulic oil tank	Takeuchi genuine hydraulic oil 46	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; background-color: #cccccc; padding: 2px;">ISO VG46</div> </div>							Every 4000 hours***
	Anti-wear hydraulic oil	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; background-color: #cccccc; padding: 2px;">ISO VG32</div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 5px;"> <div style="border: 1px solid black; background-color: #cccccc; padding: 2px;">ISO VG46</div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 5px;"> <div style="border: 1px solid black; background-color: #cccccc; padding: 2px;">ISO VG68</div> </div>							Every 2000 hours***
	Cooling water (water + coolant)** SAE: J814C or J1034 ASTM: D3306 JIS: K2234	<div style="border: 1px solid black; background-color: #cccccc; padding: 2px; width: 100%;">50 % coolant mixture</div>							Every 2000 hours or every two years, whichever is earlier
Travel reduction gear	Gear oil API: GL-4	SAE 90							Every 1000 hours after the first 250 hours*
Slew bearing	Lithium grease EP-2	-							Every 50 hours
Work equipment	NLGI No.2	-							Every day or every 10 hours
Carrier roller	Engine oil API: CD	SAE 30							-
Track roller	Gear oil API: GL-3	-							-
Idler	Engine oil API: CD	SAE 30							-

LUBRICANT AND FUEL CHART

TB225

Select the appropriate fuel, lubricant, and grease according to temperature by referring to the table below.

- Regardless of the specified time, change the oil if it becomes too dirty or degraded.
- When refilling, never mix oils of different brands. If a brand is to be changed, replace all of the fuel/oil.

Part	Type	Selection by air temperature							When to change/ replenish	Capacity
		-4 -20	14 -10	32 0	50 10	68 20	86 30	104°F 40°C		
Engine oil pan	Diesel engine oil API: CD class ACEA: E-3, E-4 or E-5	<div style="text-align: center;">   </div>							Every 250 hrs	Upper limit: 3.4 L (3.6 US qt) Lower limit: 1.8 L (1.9 US qt)
	Hydraulic oil tank	Takeuchi genuine hydraulic oil 46	<div style="text-align: center;">  </div>							
	Anti-wear hydraulic oil	<div style="text-align: center;">    </div>							Every 2000 hrs***	
Engine cooling system	Cooling water (water + coolant)** SAE-J814C or -J1034	<div style="text-align: center;">   </div>								2000 hours or every 2 years
Travel reduction gear	Gear oil API: GL-4	SAE 90							Every 1000 hrs after the first 250 hrs*	
Carrier roller	Engine oil API: GL-4	SAE 90							—	0.010~0.020 L (0.338~0.676 fl oz)
Track roller	Gear oil API: GL-4	SAE 90							—	0.040~0.050 L (1.353~1.691 fl oz)
Idler	Engine oil API: GL-4	SAE 90							—	0.040~0.050 L (1.353~1.691 fl oz)
Slew bearing	Lithium grease								Every 50 hrs	As required
Working equipment	EP-2	—							Daily or every 10 hrs	
Levers	NLGI No. 2								When required	

* If the ratio of traveling time to total operating time is high, replace the gear oil earlier than the specified time.

** For water, use tap water (soft). Do not use well or river water.
When the ambient temperature drops below 0°C (32°F), add coolant (antifreeze). Follow the coolant manufacturer's instructions to determine the mixture ratio.

*** The replacement interval for hydraulic oil depends on the type of oil being used. New machines are shipped from the factory with the Takeuchi genuine hydraulic oil 46. This manual describes when to replace the hydraulic oil assuming that this Takeuchi oil is used. When a conventional anti-wear hydraulic oil is used, replace it every 2000 hours.

API Standards: American Petroleum Institute

ACEA Standards: European Automobile Manufacturers' Association

SAE standard: Society of Automotive Engineers

LUBRICANT AND FUEL CHART

TB1140

Select the appropriate fuel, lubricant, and grease according to temperature by referring to the table below.

- Regardless of the specified time, change the oil if it becomes too dirty or degraded.
- When refilling, never mix oils of different brands. If a brand is to be changed, replace all of the fuel/oil.

Part	Type	Selection by air temperature							When to change/ replenish	Capacity
		-4 -20	14 -10	32 0	50 10	68 20	86 30	104°F 40°C		
Engine oil pan	Diesel engine oil API: CJ-4			SAE 10W-30					Every 500 hrs. after the first 50 hrs.	Upper limit: 17 L (18.0 US qt.) Lower limit: 13 L (13.7 US qt.)
Hydraulic tank	Takeuchi genuine hydraulic oil 46			ISO VG46					Every 4000 hrs.***	Total amount of oil: 215 L (56.8 US gal.) Tank capacity: 95 L (25.1 US gal.)
	Anti-wear hydraulic oil			ISO VG32		ISO VG46		ISO VG68		
Engine cooling system	Cooling water (water + coolant)** SAE-J814C, J1941, J1034, or J2036 ASTM-D6210 or D4985 (USA)			Mixture of 50% coolant			Mixture of 30% coolant		Every 1000 hrs.	18.5 L (19.5 US qt.)
Slew reduction gear	Gear oil API: GL-4			SAE 90					Every 1000 hrs. after the first 250 hrs.*	5.3 L (5.6 US qt.)
Travel reduction gear	Gear oil API: GL-4			SAE 90					Every 1000 hrs. after the first 250 hrs.*	2.1 L (2.2 US qt.)
Carrier roller	Engine oil API: CD class			SAE 30					–	0.05 L (1.7 fl. oz.)
Track roller	Gear oil API: GL-3			ISO VG 220					–	0.29 L (9.8 fl. oz.)
Idler	Engine oil API: CD class			SAE 10W-30					–	0.20 L (6.8 fl. oz.)
Slew bearing	Lithium grease EP-2 NLGI No. 2								Every 500 hrs.	As required
Working equipment									Daily or every 10 hrs.	
Levers									When required	

* If the ratio of traveling time to total operating time is high, replace the gear oil earlier than the specified time.

** For water, use tap water (soft). Do not use well or river water.
When the ambient temperature drops below 0°C (32°F), add coolant (antifreeze). Follow the coolant manufacturer's instructions to determine the mixture ratio.

*** The replacement interval for hydraulic oil depends on the type of oil being used. New machines are shipped from the factory with the Takeuchi genuine hydraulic oil 46. This manual describes when to replace the hydraulic oil assuming that this Takeuchi oil is used. When a conventional anti-wear hydraulic oil is used, replace it every 2000 hours.

LUBRICANT AND FUEL CHART

TB230

Select the appropriate fuel, lubricant, and grease according to temperature by referring to the table below.

- Regardless of the specified time, change the oil if it becomes too dirty or degraded.
- When refilling, never mix oils of different brands. If a brand is to be changed, replace all of the fuel/oil.

Part	Type	Selection by air temperature							When to change/ replenish	Capacity
		-4 -20	14 -10	32 0	50 10	68 20	86 30	104°F 40°C		
Engine oil pan	Diesel engine oil API: CF class or higher ACEA: E3/E4/E5 class JASO: DH1 class								Every 250 hrs.	Upper limit: 4.7 L (3.8 US qt.) Lower limit: 2.9 L (2.5 US qt.)
	Takeuchi genuine hydraulic oil 46									
Hydraulic tank	Anti-wear hydrau- lic oil								Every 2000 hrs.***	
	Engine cooling system	**Cooling water (water + coolant) SAE-J814C, J1034								Every 2000 hrs.
Travel reduction gear	Gear oil API: GL-4	SAE 90							Every 1000 hrs. after the first 250 hrs.*	0.5 Lx2 (0.53 US qt.x2)
Carrier roller	Engine oil API: GL-4	SAE 90							–	0.045 L (1.5 fl. oz.)
Track roller	Engine oil API: GL-4	SAE 90							–	0.070 L (2.4 fl. oz)
Idler	Engine oil API: GL-4	SAE 90							–	0.040 L (1.4 fl. oz.)
Slew bearing	Lithium grease EP-2 NLGI No. 2	–							Every 50 hrs.	As required
Working equip- ment									Daily or every 10 hrs.	
Levers									When required	

- * If the ratio of traveling time to total operating time is high, replace the gear oil earlier than the specified time.
- ** For water, use tap water (soft). Do not use well or river water.
When the ambient temperature drops below 0°C (32°F), add coolant (antifreeze). Follow the coolant manufacturer's instructions to determine the mixture ratio.
- *** The replacement interval for hydraulic oil depends on the oil type being used. New machines are shipped from the factory with the Takeuchi genuine hydraulic oil 46. This manual describes when to replace the hydraulic oil assuming that this Takeuchi oil is used. When a conventional anti-wear hydraulic oil is used, replace it every 2000 hours.

LUBRICANT AND FUEL CHART

TB2150

Select the appropriate fuel, lubricant, and grease according to temperature by referring to the table below.

- Regardless of the specified time, change the oil if it becomes too dirty or degraded.
- When refilling, never mix oils of different brands. If a brand is to be changed, replace all of the fuel/oil.

Part	Type	Selection by air temperature							When to change/ replenish	Capacity
		-4 -20	14 -10	32 0	50 10	68 20	86 30	104°F 40°C		
Engine oil pan****	Diesel engine oil Shell Rimula R6 LM 10W-40	Shell Rimula R6 LM 10W-40							500 hours or every 1 year	Upper limit: 10 L (10.6 US qt.) Lower limit: 9 L (9.5 US qt.)
Hydraulic tank	Takeuchi genuine hydraulic oil 46	ISO VG46							Every 4000 hrs.***	Total amount of oil: 234 L (61.8 US gal.) Tank capacity: 107 L (28.1 US gal.)
	Anti-wear hydrau- lic oil	ISO VG32 ISO VG46 ISO VG68							Every 2000 hrs.***	
Engine cooling system	Cooling water (water + coolant)** SAE-J814C, J1941, J1034, or J2036 ASTM-D6210 or D4985 (USA)	Mixture of 50% coolant Mixture of 30% coolant							1000 hours or ev- ery 2 years	27 L (28.5 US qt.)
Slew reduction gear	Gear oil API: GL-4	SAE 90							Every 1000 hrs. af- ter the first 250 hrs.*	5.3 L (5.6 US qt.)
Travel reduction gear	Gear oil API: GL-4	SAE 90							Every 1000 hrs. af- ter the first 250 hrs.*	2.1 L (2.2 US qt.)
Carrier roller	Engine oil API: CD class	SAE 30							-	0.05 L (1.7 fl. oz.)
Track roller	Gear oil API: GL-3	ISO VG 220							-	0.29 L (9.8 fl. oz.)
Idler	Engine oil API: CD class	SAE 10W-30							-	0.20 L (6.8 fl. oz.)
Slew bearing	Lithium grease	-							Every 500 hrs.	As required
Working equipment	EP-2								Daily or every 10 hrs.	
Levers	NLGI No. 2								When required	

- * If the ratio of traveling time to total operating time is high, replace the gear oil earlier than the specified time.
- ** For water, use tap water (soft). Do not use well or river water.
When the ambient temperature drops below 0°C (32°F), add coolant (antifreeze). Follow the coolant manufactur-
er's instructions to determine the mixture ratio.
- *** The replacement interval for hydraulic oil depends on the type of oil being used. New machines are shipped from the
factory with the Takeuchi genuine hydraulic oil 46. This manual describes when to replace the hydraulic oil assuming
that this Takeuchi oil is used. When a conventional anti-wear hydraulic oil is used, replace it every 2000 hours.
- **** Shows the engine oil when the machine was shipped. When using other types of oil, see "Diesel engine oil list DQC
IVLA". (Refer to the Engine Instruction Manual)

API Standards: American Petroleum Institute
ACEA Standards: European Automobile Manufacturers' Association
DQC: An abbreviation of DEUTZ Quality Class.

LUBRICANT AND FUEL CHART

TB235-2

Select the appropriate fuel, lubricant, and grease according to temperature by referring to the table below.

- Regardless of the specified time, change the oil if it becomes too dirty or degraded.
- When refilling, never mix oils of different brands. If a brand is to be changed, replace all of the fuel/oil.

Part	Type	Selection by air temperature							When to change/ replenish	Capacity
		-4 -20	14 -10	32 0	50 10	68 20	86 30	104°F 40°C		
Engine oil pan	Diesel engine oil API: CF class or above ACEA: E3/E4/E5 class JASO: DH-1 class	SAE 10W-30 SAE 15W-40							Every 250 hr	Upper limit: 4.7 L (5 US qt) Lower limit: 2.9 L (3.1 US qt)
Hydraulic tank	Takeuchi genuine hydraulic oil 46	ISO VG46							Every 4000 hr***	Total amount of oil: 68 L (18 US gal) Tank capacity: 35 L (9.2 US gal)
	Anti-wear hydraulic oil	ISO VG32 ISO VG46 ISO VG68							Every 2000 hr***	
Engine cooling system	Cooling water (water + coolant)** SAE-J814C, J1941, J1034, or J2036 ASTM-D6210 or D4985 (USA)	Mixture of 50% coolant Mixture of 30% coolant							Every 2000 hr or 2 years	4 L (4.2 US qt)
Travel reduction gear	Gear oil API: GL-4	SAE 90							Every 1000 hr after the first 250 hr*	0.5 L (0.53 US qt)
Carrier roller	Gear oil	SAE 90							–	0.045 L (1.5 fl oz)
Track roller	Gear oil	SAE 90							–	0.070 L (2.4 fl oz)
Idler	Gear oil API: GL-4	SAE 90							–	0.035 L (1.2 fl oz) to 0.045 L (1.5 fl oz)
Slew bearing	Lithium grease								Every 50 hr	As required
Working equipment	EP-2	–							Daily or every 10 hr	
Levers	NLGI No. 2								When required	

- * If the ratio of traveling time to total operating time is high, replace the gear oil earlier than the specified time.
- ** For water, use tap water (soft). Do not use well or river water.
When the ambient temperature drops below 0°C (32°F), add coolant (antifreeze). Follow the coolant manufacturer's instructions to determine the mixture ratio.
- *** The replacement interval for hydraulic oil depends on the type of oil being used. New machines are shipped from the factory with the Takeuchi genuine hydraulic oil 46. This manual describes when to replace the hydraulic oil assuming that this Takeuchi oil is used. When a conventional anti-wear hydraulic oil is used, replace it every 2000 hours.

API Standards: American Petroleum Institute
ACEA Standards: European Automobile Manufacturers' Association
JASO Standards: Society of Automotive Engineers of Japan
SAE Standards: SAE International (Society of Automotive Engineers)

LUBRICANT AND FUEL CHART

TB2150R

Select the appropriate fuel, lubricant, and grease according to temperature by referring to the table below.

- Regardless of the specified time, change the oil if it becomes too dirty or degraded.
- When refilling, never mix oils of different brands. If a brand is to be changed, replace all of the fuel/oil.

Part	Type	Selection by air temperature							When to change/ replenish	Capacity
		-4 -20	14 -10	32 0	50 10	68 20	86 30	104°F 40°C		
Engine oil pan****	Diesel engine oil Shell Rimula R6 LM 10W-40	Shell Rimula R6 LM 10W-40							500 hours or every 1 year	Upper limit: 10 L (10.6 US qt) Lower limit: 9 L (9.5 US qt)
Hydraulic tank	Takeuchi genuine hydraulic oil 46	ISO VG46							Every 4000 hrs.***	Total amount of oil: 235 L (62.1 US gal) Tank capacity: 102 L (26.9 US gal)
	Anti-wear hydrau- lic oil	ISO VG32 ISO VG46 ISO VG68							Every 2000 hrs.***	
Engine cooling system	Cooling water (water + coolant)** SAE-J814C, J1941, J1034, or J2036 ASTM-D6210 or D4985 (USA)	Mixture of 50% coolant Mixture of 30% coolant							1000 hours or ev- ery 2 years	27 L (28.5 US qt)
Slew reduction gear	Gear oil API: GL-4	SAE 90							Every 1000 hrs. af- ter the first 250 hrs.*	5.3 L (5.6 US qt) ^{*1} 2.0 L (2.1 US qt) ^{*2}
Travel reduction gear	Gear oil API: GL-4	SAE 90							Every 1000 hrs. af- ter the first 250 hrs.*	2.1 L (2.2 US qt)
Carrier roller	Engine oil API: CD class	SAE 30							–	0.05 L (1.7 fl oz)
Track roller	Gear oil API: GL-3	ISO VG 220							–	0.29 L (9.8 fl oz)
Idler	Engine oil API: CD class	SAE 10W-30							–	0.20 L (6.8 fl oz)
Slew bearing	Lithium grease	–							Every 500 hrs.	As required
Working equipment	EP-2	–							Daily or every 10 hrs.	
Levers	NLGI No. 2	–							When required	

* If the ratio of traveling time to total operating time is high, replace the gear oil earlier than the specified time.

** For water, use tap water (soft). Do not use well or river water.
When the ambient temperature drops below 0°C (32°F), add coolant (antifreeze). Follow the coolant manufactur-
er's instructions to determine the mixture ratio.

*** The replacement interval for hydraulic oil depends on the type of oil being used. New machines are shipped from the
factory with the Takeuchi genuine hydraulic oil 46. This manual describes when to replace the hydraulic oil assuming
that this Takeuchi oil is used. When a conventional anti-wear hydraulic oil is used, replace it every 2000 hours.

**** Shows the engine oil when the machine was shipped. When using other types of oil, see "Diesel engine oil list DQC
IVLA". (Refer to the Engine Instruction Manual)

API Standards: American Petroleum Institute
ACEA Standards: European Automobile Manufacturers' Association
DQC: An abbreviation of DEUTZ Quality Class.

*1 **S/N** 514800002 to 514800667

*2 **S/N** 514800668 or later