Kubota MC MAINTENANCE CHART

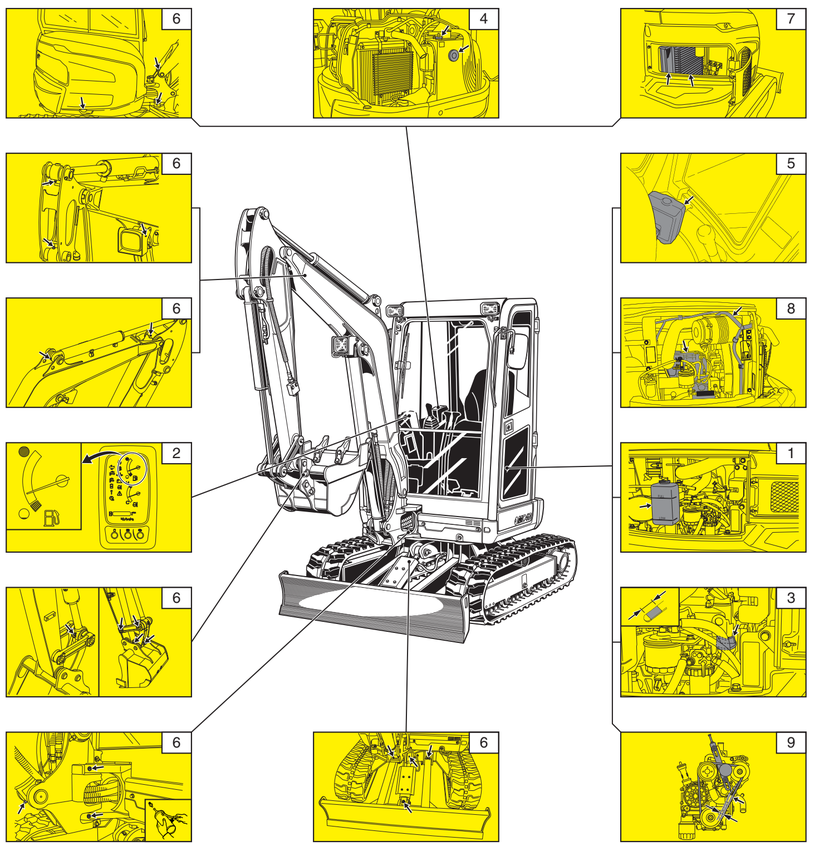
U27-4 EXCAVATOR (NA VERSION)

■ RECOMMENDED LUBRICANTS

	Recommendation			Filled at the factory		Note
	Ambient temperature conditions	Viscosity	Quality standard	Brand	Type	
Engine oil	In winter and/or at low temperatures	SAE 10W SAE 20W	API CF* API CI-4* API CJ-4*	——	——	When diesel fuel with a high sulphur content (between 0.50% and 1.00%) is used, the engine oil and engine oil filter must be replaced at shorter intervals. Never use diesel fuel with a sulphur content exceeding 1.00%.
	In summer and/or at high ambient temperatures	SAE 30 SAE 40 SAE 50		——	——	
	All-weather	15W-40*		Shell	Rimula R4L*	——
Coolant	——	——	G048* SAE J1034* MB 325.0* ASTM D3306* D4985	ROWE	Hightec Antifreeze AN (-37 °C)*	Always use distilled water to mix with antifreeze. Always follow the recommendations of the coolant manufacturer for the mixing ratio. Do not mix with other coolants.
Grease	——	NLGI-2*	DIN 51825 KP2K-30*	Mobil	Mobilux EP2*	——
	——	NLGI-1	——	WEICON	Antiseize Standard	Only use during the first 50 working hours (on all greasing points around the swing block).
Hydraulic oil	In winter and/or at low temperatures	ISO 32 ISO 46*	——	Shell	Tellus S2M46*	——
	In summer and/or at high ambient temperatures	ISO 46 ISO 68	——	——	——	——
Gear oil	In winter and/or at low temperatures	SAE 75 SAE 80	MIL-L-2105C*	——	——	——
	In summer and/or at high ambient temperatures	SAE 90 SAE 140		——	——	——
	All-weather	80W-90*		Shell	Spirax MA80W*	——
Diesel	——	——	EN 590 ASTM D975	——	——	The fuel filled at the factory is not winter diesel. For preparing the excavator for use in winter, fill the fuel tank with winter diesel and allow the engine to run for a few minutes. Never use diesel fuel with a sulphur content exceeding 1.00%.
Refrigerant	——	——	HFC R134a	——	——	——

* This lubricant is filled while manufacturing the engine.

Daily

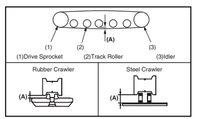


■ DAILY CHECK

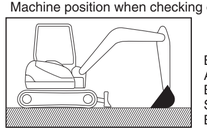
No.	Item	Note	Capacity
1	Coolant	Check the coolant level in the recovery tank and replenish water if needed.	Radiator: Canopy 2.4 L (0.63 U.S.gals) Cabin 2.6 L (0.69 U.S.gals) Recovery tank: 0.6 L (0.16 U.S.gals)
2	Fuel	Check the fuel level and replenish if needed.	33 L (8.7 U.S.gals)
3	Engine oil	Check the engine oil level and replenish if needed.	3.6 L (0.95 U.S.gals)
4	Hydraulic oil	Check the oil level in the oil level gauge and refill the oil if necessary.	Tank: 22 L (5.8 U.S.gals) Whole oil system: 37.5 L (9.9 U.S.gals)
5	Washer liquid (only CABIN type)	Check the washer liquid level and replenish if needed.	——
6	Lubrication Points	Replenish grease to the grease nipple by a grease gun.	——
7	Radiator and oil cooler	Clean the fins with compressed air (or steam). Check the rubber hoses for damage and replace if cracked or old. Check if the hose clamps are tight enough.	——
8	Engine and electrical wiring	Check if flammable substances are on the muffler or the engine. Check disconnections, shorts or loose terminals.	——
9	Fan belt tension	Press the fan belt down in the middle, with a force of approx. 7 kg (15.41 lbs). The belt tension is correct if it deflects about 7 mm (0.28 in.).	——

Check track tension 50 hours after initial use and readjust if necessary.

Track adjustment	Rubber	10 to 15 mm
		0.39 to 0.59 in.
	Steel	75 to 80 mm
		3.0 to 3.2 in.



Machine position when checking oil level.



Boom : Half-extended state
Arm : Vertical to the ground
Bucket : Parallel to the ground
Swing : Central
Blade : Down to the ground

■ SERVICE HOUR METER

When the hour meter has counted up to the hours mentioned in the maintenance list below, the right indicator will appear on the instrument panel.

Maintenance indicator:

No.	Check items		Tasks	Hours of operation indicator							Maintenance intervals
				50	100	250	500	750	1000	2000	
C:_01	Engine oil		Replace				○		○	○	Every 500 hrs
C:_02	Hydraulic oil								○	○	Every 1000 hrs
C:_03	Air cleaner elements	Outer element							○	○	Every 1000 hrs
		Inner element							○	○	Every 1000 hrs
C:_04	Fuel filter cartridge						○		○	○	Every 500 hrs
C:_05	Engine oil filter						○		○	○	Every 500 hrs
C:_06	Drive motor gear oil			●			○		○	○	Every 500 hrs
C:_07	Hydraulic oil return filter						○		○	○	Every 500 hrs
C:_08	Hydraulic oil suction filter								○	○	Every 1000 hrs
C:_09	——		——	——	——	——	——	——	——	——	——
C:_10	Track roller oil, front idler oil		Replace							○	Every 2000 hrs

●: First operation

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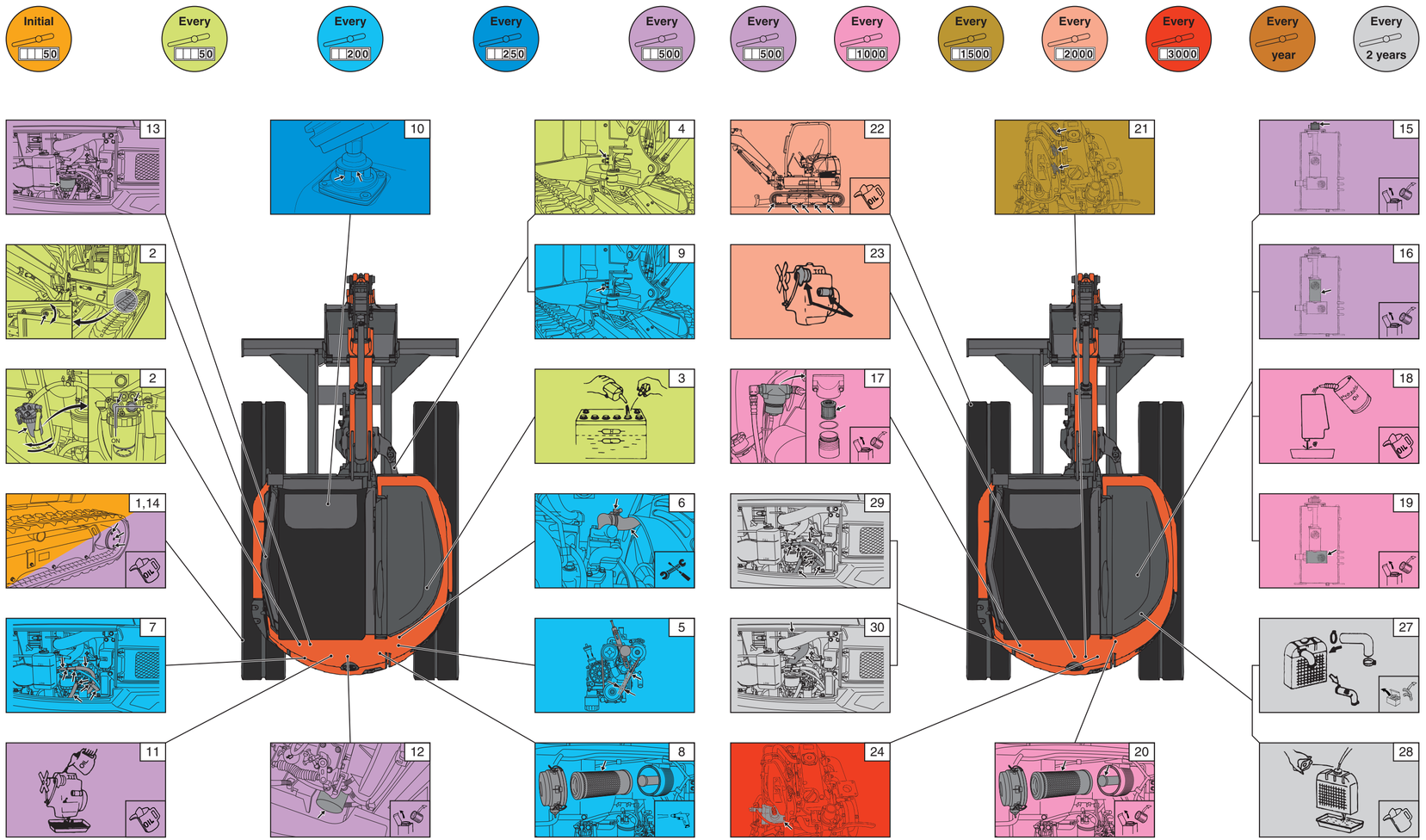

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■ REGULAR MAINTENANCE

No.	Item	Contents	Interval	Note
1	Drive unit oil	Change	Initial 50 hrs	Initial oil change.
2	Fuel tank, water separator	Drain	50 hrs	Drain water from the tank and water separator.
3	Battery condition	Check		Check the battery conditions with the indicator.
4	Greasing swing bearing teeth	Grease		Replenish grease to the grease nipple by a grease gun.
5	Fan belt tension	Adjust	200 hrs	Press the fan belt down in the middle, with a force of approx. 7 kg (15.41 lbs). The belt tension is correct if it deflects about 7 mm (0.28 in.).
6	Radiator hoses and clamps	Check		This check should be done every 200 hours or every 6 months, whichever comes first.
7	Fuel line and Intake air line	Check		Clean the outer element. Do not remove the inner-element.
8	Air filter element (outer element) (*1)	Clean		The element should be cleaned more frequently if the machine is used in extremely dusty areas.
9	Greasing swing ball bearing	Grease		Replenish grease to the grease nipple by a grease gun.
10	Lubrication of the pilot valve	Grease	250 hrs	Grease the tip of the push rod and the rotating part of the link.
11	Engine oil	Change	500 hrs	Regardless of the service hours, an engine oil change is due every 1 year.
12	Engine oil filter cartridge	Replace		Always check the oil level when replacing the filter.
13	Fuel filter cartridge	Replace		The fuel system must be purged of air after the replacement.
14	Drive unit oil	Change		Change drive unit oil every 500 hrs or at least once a year.
15	Breather filter	Replace		Always check the oil level when replacing the filter.
16	Hydraulic return filter element (*2)	Replace		
17	Hydraulic pilot filter element	Replace	1000 hrs	O-ring can't be reused.
18	Hydraulic oil (*2)	Change		Before these maintenance, stop the machine on flat ground and lower the bucket to the ground.
19	Hydraulic suction filter element	Replace		
20	Air filter element (inner and outer element)	Replace	1000 hrs or once a year	Shorten the replacement period if the machine is used in dusty or sandy areas.
21	Fuel injection nozzle	Check	1500 hrs	Consult your local KUBOTA dealer for this service.
22	Front idler and track roller oil	Change	2000 hrs	Contact your KUBOTA dealer for details.
23	Alternator and starter motor	Check		
24	Injection pump	Check	3000 hrs	Consult your local KUBOTA dealer for this service.
25	Electrical wiring and fuses	Check	Every year	Check the terminals for proper connections.
26	Electrical circuit	Check		Check the electrical circuitry for disconnections, shorts or loose terminals.
27	Radiator hoses and hose clamps	Replace	Every 2 years	Replace radiator hoses and hose clamps every two years.
28	Radiator coolant	Change		In case of long life coolant.
29	Fuel hoses and hose clamps	Replace		Replace the hoses and clamps.
30	Intake air line	Replace		Replace the hoses and clamps, if necessary.

(*1) Clean and replace the air filter more frequently if used under dusty conditions. When the filter is very dirty from dusty conditions, replace the filter.

(*2) When using a hydraulic breaker, the interval of changing hydraulic oil becomes short as follow.

		Hydraulic oil	Hydraulic return filter element
Normal excavator work		Every 1000 hrs	Every 500 hrs (250 hrs after first operation)
Hammer work portion	20%	Every 800 hrs	Every 200 hrs
	40%	Every 400 hrs	
	60%	Every 300 hrs	Every 100 hrs
	More than 80%	Every 200 hrs	

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