

MAINTENANCE AND LUBRICATION CHART OF KAMOTSU TRACTOR

| Nomenclature | Daily/10 hrs | Weekly/60 Hrs | Monthly/250 Hrs | 500 Hrs | 10000 Hrs |
|-------------------------------|------------------------------------|---|---|-------------------------|---|
| <u>Maint Engine</u> | | | | | |
| Injector Nozzle | - | - | Check injection pressure and spray condition | - | - |
| Fuel filter | - | Drain water and wash segment | - | Replace filter fitment | - |
| Oil Pan | Top up/and check pressure on gauge | - | Change oil | - | Clean in side wash section pot & screen |
| Oil Filter | - | Drain of element and clean in side and wash element | Change element | - | - |
| Oil cooler | - | - | - | - | Clean |
| Fan Belt and water pump | - | Adjust & check lub, with grease to pump | - | - | - |
| Radiator | Check water level & top up | Clean cooling fans | Change water | Wash with soda solution | - |
| Air Cleaner | - | Remove dust on collector cap. Clean indicate oil bath and wash screen and renew the oil | - | - | - |
| Generator | - | - | Check and adjust brush and commotatur surfaces. | - | - |
| Fuel Tank Inlet/Exhaust valve | Drain Sediments | - | - | - | Remove and clean |
| Crank Brether | - | - | Check and adjust valve clearance | - | - |
| | - | - | Clean screen | - | - |

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| Cylinders | - | - | Check compression | - | - |
| Cylinders head | - | - | Tightening bolt/nut | - | - |
| Hour meter | - | Lubricate with few drops of oil | Give grease to the grease cup | - | - |
| Governor and FIP | - | Check Oil level | Change oil | - | - |
| <u>Starting Engine</u> | | | | | |
| Oil Sump | Check Oil level | - | Change oil and clean crank case brether screen | - | Clean in side wash section port & screen |
| Air Cleaner | - | Clean & renew oil and wash screen | - | - | - |
| Fuel Tank | - | - | - | - | Remove & clean |
| Magneto | - | - | Check contact point and adjust gap | - | - |
| Spark plug | - | Clean and adjust | - | - | - |
| Clutch | - | Drain water and oil from clutch box and adjust engagement | - | - | - |
| <u>Power Transmission System</u> | | | | | |
| Main Clutch | Tighten all nuts and bolts and lubricate all linkage | Adjust main cluch drain oil from plus | - | - | Check lining. If necessary wash or replace. Check links if necessary replace. |
| Transmission including bevel gear case | Tights all nuts and bolts | Check oil level. Lubricant linkage | Drain water from oil/plug/drain | Check bearing | Change oil |
| Steering clutch | Tighten nuts and bolts | Adjust play drain | Check clutch yoke | - | - |

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| | | | water from oil drain plug lub. Linkage with grease. | adjusting screw. | | | |
| Brakes | - | | Check Adjustment & function of brake padal | - | Check wear | lining | - |
| Final drive | - | | | - | Check oil level & Top drain water from oil drain plug | | Change oil |
| Hydraulic control unit | Lubricate with grease suspension arms and piston rod stop shaft | Check & Top up oil level | | | Check link or steering level | Check oil seal packing | Renew oil wash in side screen |
| Track Roller Frame assy | Clean Track assy | | Check and adjust tension of track link assy. Check cotter pin lub track roller & wheel bearing. | - | | Check bearing clearance, Lubricate track and carrier roller. | - |

| Item | Nature of maintenance | Periodicity | | | | | | |
|--------------------|--------------------------------------|-------------|--------------|---------------|---------------|---------------|----------------|----------------|
| | | Daily | Every 50 Hrs | Every 100 Hrs | Every 200 Hrs | Every 400 Hrs | Every 1000 Hrs | Every 1500 Hrs |
| <u>A. Engine</u> | | | | | | | | |
| Lubricating system | Check and top up oil level in sump | 0 | | | | | | |
| | Check leaks and rectify | 0 | | | | | | |
| Fuel System | Check oil pressure | 0 | | | | | | |
| | Change oil | | | 0 | | | | |
| | Change filter element | | | 0 | | | | |
| | Check leaks and rectify | 0 | | | | | | |
| | Clean fuel pump screen | | | | | 0 | | |
| | Change filter element | | | | 0 | | | |
| Cooling system | Check and adjust injectors | | | | | | 0 | |
| | Clean fuel tank | | | | | | | 0 |
| | Check leaks & water level and top up | 0 | | | | | | |
| | Check and adjust belt tension | | 0 | | | | | |
| | Check thermal control | | | | | 0 | | |
| | Check corrosion resistor | | | | 0 | | | |
| | Clean cooling system | | | | | | 0 | |
| Air System | Check and lubricate fan bearing | | 0 | | | | | |
| | Lubricate water pump bearing | | 0 | | | | | |
| | Check air cleaner oil level | 0 | | | | | | |
| | Clean pre cleaner | 0 | | | | | | |
| | Clean air cleaner element and bath | | 0 | | | | | |
| | Change oil in air cleaner | | 0 | | | | | |
| | Clean crankcase breather | | | | 0 | | | |
| | Tighter manifold nuts | | | | | | | |

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| Other | Clean Generator and cranking motor | | | 0 | |
| | Clean and tighten electric connection | | | 0 | |
| | Tighten mounting bolts and nuts | | | 0 | |
| | Flush engine | | | 0 | |
| | Tighten bolts on engine lead | | 0 | | |
| | Check and adjust valve clearance | | 0 | | |
| | Check engine compression pressure | | | | 0 |
| <u>(B) Transmission</u> | | | | | |
| Converter and inverter assy | Check for leaks | | 0 | | |
| | Check oil level in converter and top up | | 0 | | |
| | Check converter oil pressure (Should be 3-6 Kg/Sq. cm when not engaged and 12-16 Kg/Sq cm when engaged) | | 0 | | |
| | Check converter oil temp (normal 80-110°C and should not exceed 120°C) | | 0 | | |
| | Drain oil, flush converter and refill fresh oil | | | | 0 |
| | Clean oil filter | | | 0 | |
| | Check for cooling system | 0 | | | |
| | Change filter elements | | | | 0 |
| | Clean suction screen of pump | | | 0 | |
| | Clean regulator valve | | | | 0 |
| | Clean selector valve | | | | 0 |
| | Check tightness of nut (Part No. SKF-1M 14) on inverter output shaft (Torque 18 Kgm) | | | 0 | |
| | Propeller Shaft | Lubricate main propeller shaft | | 0 | |
| Lubricate pump propeller shaft | | | 0 | | |
| Gear Box | Check tightness of screws and bolts | 0 | | | |
| | Check oil level and top up | | 0 | | |

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| | Check for leaks | 0 | | | |
| | Check for abnormal noise | 0 | | | |
| | Change oil after flushing | | | | 0 |
| | Change clean magnetue filter | | 0 | | |
| | Lubricate transmission selector level joint | | | 0 | |
| | Check conical gears clearance (0.1 – 0.3 mm) | | | | 0 |
| | Check and adjust conical bearing clearance (0.16 -0.30 mm) | | | | 0 |
| | Check & adjust the clearance or radial axial bearing on the input gear box shaft (0.4 – 0.08 mm) | | | | 0 |
| Steering clutches | Lubricate steering clutch brg | | | | 0 |
| | Check for slipping of clutch and rectify | 0 | | | |
| Side reductors and reductors in chassis | Check leaks | 0 | | | |
| | Check oil level | | | | |
| | Check for noise | | | | |
| | Chance oil after flushing | | | | |
| Wheel & Tyres | Lubricate inner and outer bashing | | | | |
| | Check bolts & nuts for proper tightness | | | | |
| | Check tyre pressure (It should be 3 kg/cm for tyre 1600x24) | 0 | | | |
| | Clean tyre | 0 | | | |
| | Lubricate wheel axle labyrinths | | 0 | | |
| | Lubricate bearing in wheel hub | | | | 0 |
| Steering | Check for leaks | 0 | | | |

mechanism

Check oil level and top up 0
Change oil in servo mech 0
Lubricate ball brgs and forks of strg
clutches 0

Brake System

Check for easy steering by shifting
levers 0
Check clearance between piston head
& the annealed surface of the clutch
arm (this should be 7-9 mm) 0
Check brake function and for leaks 0
Check oil level 0
Change oil in brake system 0
Check for brake pedal free run (it
should be 30 -35 mm)
Check bolts holding brake jaws for
tightness 0
Lubricate brake pedal bushing 0
Check axial shifting of brake disc (it
should be 0.05 mm) 0
Check an adjust clearance between
hand rake lining and brake disc to be
0.4 mm when not engaged 0

(c) Hyd System

Check oil level 0
Change oil 0
Check pressure (should be IC 5-110
kg/cm²) 0
Clean oil filter 0

(D) Instrment
panel

Check working of ganges for temp,
pressure, Hr meter 0
Check lights and horn for function 0

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|----------------------------|---|---|---|
| (E) Electrical system | Check batteries for proper security | 0 | |
| | Check level of electrolyte | | 0 |
| | Check terminal post for corrosion & dirt | | 0 |
| Implement Dozer attachment | Charge batteries | | 0 |
| | Check for proper attachment | 0 | |
| | Lubricate dozer blade joints upper, lower & support joint | 0 | |
| | Lubricate cyl lower axle & upper axle | 0 | |

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|------------------------------------|---|------|------|------|------|------|--|
| Ball bearings | 4 | -do- | -do- | -do- | -do- | -do- | Every 1500 hrs of operation |
| Steering clutch bearing | 2 | -do- | -do- | -do- | -do- | -do- | -do- |
| Wheel axle labyrinths | 4 | -do- | -do- | -do- | -do- | -do- | After every 50 hrs of operation |
| Control lever bushing | 2 | -do- | -do- | -do- | -do- | -do- | After every 100 hrs of operation |
| Bearing bush inner | 2 | -do- | -do- | -do- | -do- | -do- | After every 10 hrs of operation is daily |
| Bearing bush outer | 2 | -do- | -do- | -do- | -do- | -do- | -do- |
| Control lever shaft bearing | 2 | -do- | -do- | -do- | -do- | -do- | After every 200 hrs of operation. |
| Propellor shaft | 3 | -do- | -do- | -do- | -do- | -do- | -do- |
| Ball joint on steering clutch form | | -do- | -do- | -do- | -do- | -do- | -do- |
| Transmission lever joint | 1 | -do- | -do- | -do- | -do- | -do- | After every 400 Hrs in operation |
| Two arm levers needle bearing | 2 | -do- | -do- | -do- | -do- | -do- | After every 1500 hrs of operation |
| Foot brake pedal axle | 1 | -do- | -do- | -do- | -do- | -do- | After every 50 hrs of operation |
| Hyd system control | 2 | -do- | -do- | -do- | -do- | -do- | -do- |
| Dozer blade upper joint | 2 | -do- | -do- | -do- | -do- | -do- | After every 10 hrs operation is daily |
| Dozer blade lower joint | 2 | -do- | -do- | -do- | -do- | -do- | -do- |
| Dozer blades upper joint | 2 | -do- | -do- | -do- | -do- | -do- | -do- |

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|-------------------------|---|------|------|------|------|------|------|
| Hyd cylinder lower axle | 2 | -do- | -do- | -do- | -do- | -do- | -do- |
| Hyd cylinder upper axle | 2 | -do- | -do- | -do- | -do- | -do- | -do- |