WSM

WORKSHOP MANUAL
TRACTOR

M9000DT-M
(SUPPLEMENT)

Kubota

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KiSC issued 04, 2006 A

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SPECIFICATIONS

Model			M9000DT-M	
			Standard	With 80 in. wide axle
Engine	Model		V3300-TIE / V3300-TIE2	
	Type		Vertical, water-cooled, 4-cycle diesel engine	
	No. of cylinders		4	
	Total displacement		3318 cm^3 (202.5 cu.in.)	
	Bore and stroke		98 × 110 mm (3.9 × 4.3 in.)	
	Net power		67.2 kW (90 HP)*	
	PTO power (factory observed)		59.7 kW (80 HP)* / 2600 min^{-1}(rpm)	
	Maximum torque		311 N·m (31.7 kgf·m, 229.4 ft-lbs) / 1400 to 1600 min^{-1}(rpm)	
	Battery capacity		12 V, CCA 1000A	
	Fuel		Diesel fuel No. 1 [below –10 °C (14 °F)], Diesel fuel No. 2 [above –10 °C (14 °F)]	
	Fuel tank capacity		90 L (23.8 U.S.gals., 19.8 lmp.gals.)	
	Engine oil capacity		10.7 L (11.3 U.S.qts., 9.4 lmp.qts.)	
	Coolant capacity		9.0 L (9.5 U.S.qts., 7.92 lmp.qts.)	
Dimensions	Overall length		4060 mm (159.8 in.)	
	Overall width (Minimum tread)		2010 mm (79.1 in.)	2470 mm (97.2 in.)
	Overall height (with ROPS)		2730 mm (107.4 in.)	
	Wheel base		2250 mm (88.5 in.)	
	Tread	Front	1565 mm (61.6 in.), 1665 mm (65.6 in.)	1830 mm (72 in.), 1925 mm (75.8 in.), 2025 mm (79.7 in.)
		Rear	1525 mm (60.0 in.), 1630 mm (64.2 in.)	1845 mm (72.6 in.), 1940 mm (76.3 in.) 2045 mm (80.6 in.)
	Minimum ground clearance		642 mm (25.3 in.) DRIVE CASE	
Weight (with ROPS)			3240 kg (7143 lbs)	3320 kg (7319 lbs)
Travelling system	Standard tire size	Front	13.6 - 38	
		Rear	13.6 - 38	
	Clutch		Single dry plate	
	Steering		Hydraulic power steering	
	Transmission		12 forward and 12 reverse fully synchronized main and shuttle transmission with creep speed	
	Brake system		Multiple wet disk mechanical	
	Differential		Bevel gears with diff. lock (Front, Rear)	
Hydraulic system	Hydraulic control system		Position, draft and mix control	
	Pump capacity		64.3 L (67.9 U.S.qts., 56.6 lmp.qts.)/min.	
	Three point hitch		Category II	
	Maximum lifting force	At lifting points	2500 kg (5560 lbs) [3400 kg (7496 lbs) : with assist cylinder] at lower link end with links horizontal	
		24 in. behind lifting point	2100 kg (4630 lbs) [2900 kg (6393 lbs) : with assist cylinder]	
	Remote hydraulic control		One remote valve	
	System pressure		19.6 MPa (200 kgf/cm^2, 2846.6 psi)	
	Traction system		Swinging drawbar, adjustable in direction	
PTO	Live PTO (Indipendent)	Direction of turning	Clockwise, viewed from tractor rear	
		Standard PTO	540 min^{-1}(rpm) at 2205 engine min^{-1}(rpm)	

NOTE: *Manufacture's estimate The company reserves the right to change the specifications without notice.

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[2] LUBRICANTS, FUEL AND COOLANT

	Place	Capacity		Lubricants, fuel and coolant
		Standard	With 80 in. wide axle	
1	Fuel	90 L 23.8 U.S.gals. 19.8 Imp.gals.		No. 2-D diesel fuel No. 1-D diesel fuel if temperature is below –10 °C (14 °F)
2	Coolant	9.0 L 9.5 U.S.qts. 7.9 Imp.qts.		Fresh clean water with anti-freeze
3	Engine crankcase	10.7 L 11.3 U.S.qts. 9.4 Imp.qts.		Engine oil : API service Classification CD Below 0 °C (32 °F) : SAE10W, 10W-30 or 10W-40 0 to 25 °C (32 to 77 °F): SAE20, 10W-30 or 10W-40 Above 25 °C (77 °F): SAE30, 10W-30 or 10W-40
4	Transmission case	56 L 59.2 U.S.qts. 49.3 Imp.qts.	57 L 60.1 U.S.qts. 50.2 Imp.qts.	KUBOTA UDT or SUPER UDT fluid*
5	Front differential case oil	6.0 L 6.3 U.S.qts. 5.3 Imp.qts.	7.0 L 7.3 U.S.qts. 6.2 Imp.qts.	KUBOTA SUPER UDT fluid or SAE80, 90 gear oil
6	Front axle gear case oil	3.5 L 3.7 U.S.qts. 3.1 Imp.qts.		

Greasing

	Place	No. of greasing point	Capacity	Type of grease
7	Front wheel case support	2	Until grease overflows	Multipurpose type grease
	Front axle support	2		
	Top link	2		
	Top link bracket	2		
	Lift rod	3		
	Battery terminal	2	Moderate amount	

* KUBOTA original transmission hydraulic fluid.

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[2] SERVICING

(1) Servicing specifications

Item		Factory Specification	Allowable Limit
Shuttle Rod	Length	268 mm 10.55 in.	–
Auxiliary Shift Rod	Length **L1**	Approx. 318 mm 12.52 in.	–
Auxiliary Shift Rod	Length **L2**	Approx. 250 mm 9.84 in.	–

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(2) Tightening Torques

Tightening torques of screws, bolts and nuts on the table below are especially specified.
(For general use screws, bolts and nuts : See page G-13.)

Item	N·m	kgf·m	ft-lbs
Main delivery pipe and return pipe retaining nut	46.6 to 51.0	4.8 to 5.2	34.7 to 37.6
Turning delivery hose retaining nut	24.5 to 29.4	2.5 to 3.0	18.1 to 21.7
Steering controller mounting screws	48.1 to 55.9	4.9 to 5.7	35.4 to 41.2
Starter's terminal **B** mounting nut	8.8 to 11.8	0.9 to 1.2	6.5 to 8.7
Gear case mounting screw	48.1 to 55.9	4.9 to 5.7	35.4 to 41.2
Engine and clutch housing mounting screw, nut	77.5 to 90.2	7.9 to 9.2	57.1 to 66.5
Engine and clutch housing mounting stud bolt	38.2 to 45.1	3.9 to 4.6	28.2 to 33.3
Rear wheel mounting nut	260 to 304	26.5 to 31.0	192 to 224
ROPS mounting screw M16 grade 9 screw	260 to 304	26.5 to 31.0	192 to 224
Pedal frame mounting screw	77.5 to 90.2	7.9 to 9.2	57.1 to 66.5
Transmission case and clutch housing mounting screw	77.5 to 90.2	7.9 to 9.2	57.1 to 66.5
Transmission case and clutch housing mounting nut	103.0 to 117.7	10.5 to 12.0	76.0 to 86.8
Speed change cover mounting screw	23.5 to 27.5	2.4 to 2.8	17.4 to 20.3
Release fork setting screw	166.7 to 186.3	17.0 to 19.0	122.9 to 137.4
Bearing holder 1 mounting screw and nut	23.5 to 27.5	2.4 to 2.8	17.4 to 20.3
Bearing holder 2 mounting screw	77.5 to 90.2	7.9 to 9.2	57.1 to 66.5
Bearing holder 3 mounting screw	23.5 to 27.5	2.4 to 2.8	17.4 to 20.3

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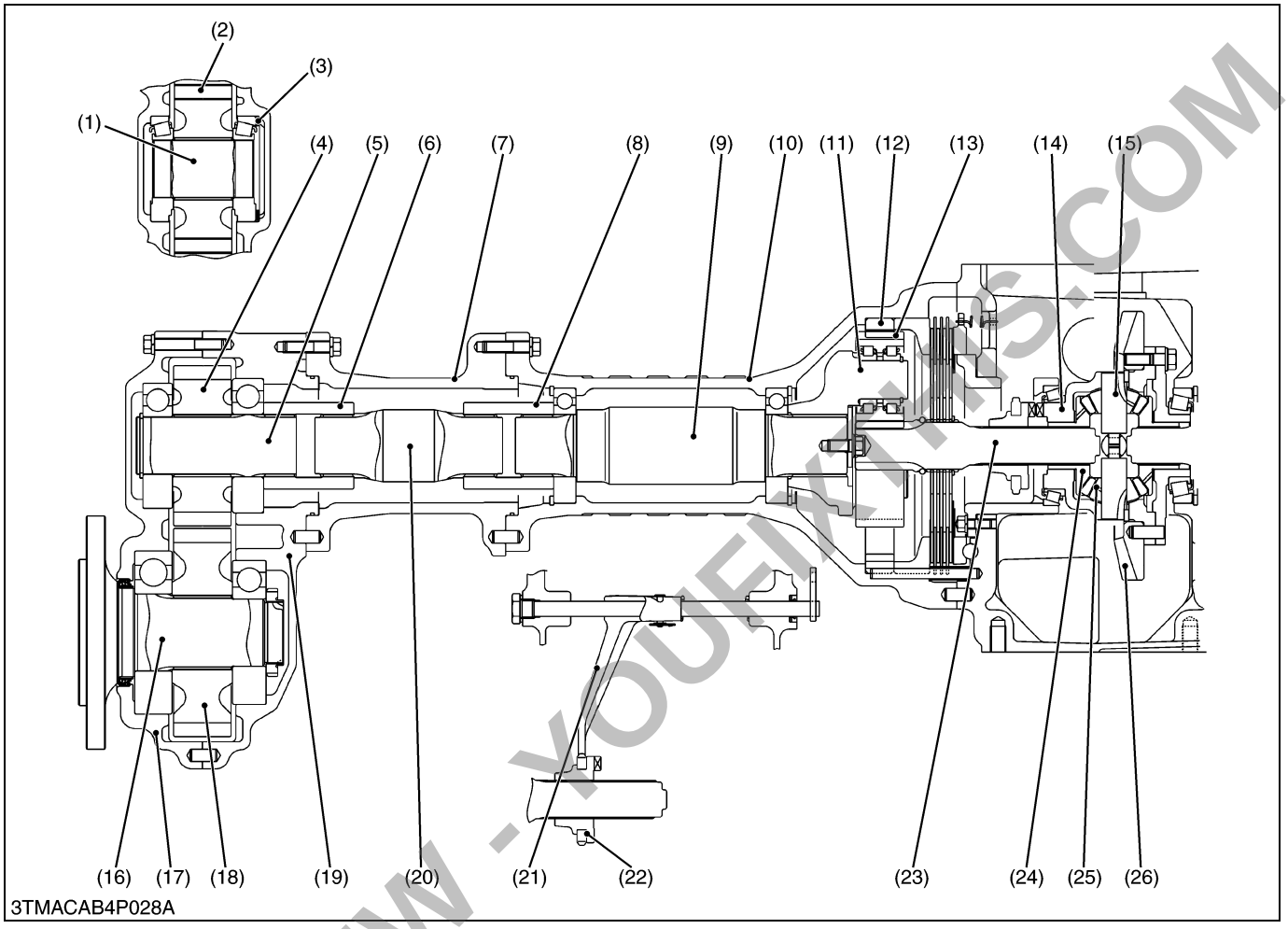
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4. REAR AXLE

[1] MECHANISM

(1) Features



(1) Shaft 1
(2) 24T Gear
(3) Belleville (Three Pieces)
(4) 23T Gear
(5) Shaft 2
(6) Coupling
(7) Spacer (Option)
(8) Coupling (Option)
(9) Shaft 3
(10) Rear Axle Case
(11) Planetary Gear Support
(12) 66T Internal Gear
(13) 26T Planetary Gear
(14) Differential Case
(15) Differential Pinion Shaft
(16) Rear Axle
(17) Drop Axle Case 1
(18) 31T Gear
(19) Drop Axle Case 2
(20) Shaft 4
(21) Differential Lock Shift Fork
(22) Differential Lock
(23) Brake Shaft (12T Gear)
(24) Differential Side Gear
(25) Differential Pinion Gear
(26) 35T Bevel Gear

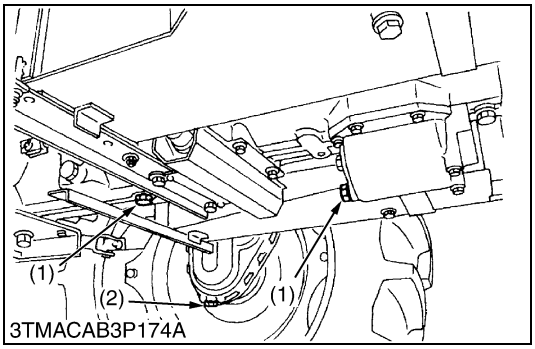
The rear axles are the final mechanism which transmit power from the transmission to the rear wheels. Direction of power transmitted is changed at a right angle by the differential gear and, at the same time, speed is reduced. It is further reduced by the planetary gear to drive the rear axles. The rear axles are semi-floating type with the ball bearing between the rear axle and rear axle case, which support the rear wheel load as well as transmitting power to the rear wheel. They withstand all the forces caused by tire rotation and side skidding.

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(3) Checking, Disassembling and Servicing

(A) Separating Engine and Clutch Housing Case



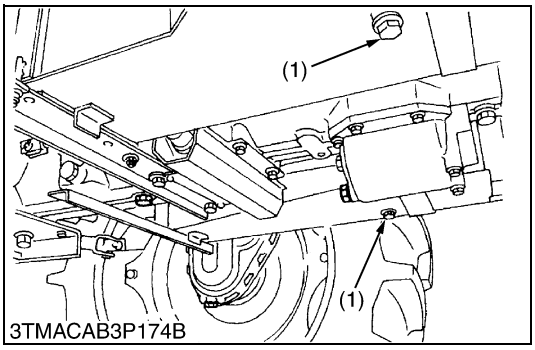
Draining Transmission Fluid

1. Remove the drain plug (1), (2).
2. Drain the transmission fluid.
3. Reinstall the drain plug (1).

Transmission fluid	Capacity	Standard	56.0 L 59.2 U.S.qts. 49.3 Imp.qts.
		With 80 in. wide axle	57.0 L 60.1 U.S.qts. 50.2 Imp.qts.

(1) Drain Plug (2) Drain Plug (Both side)

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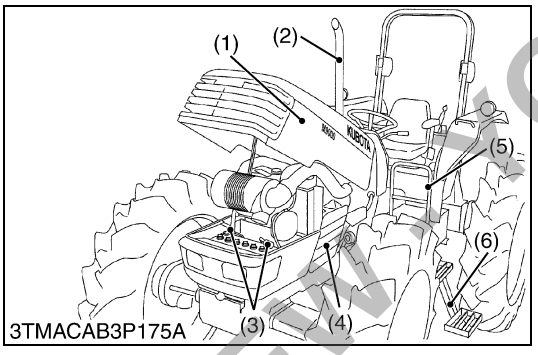
Draining Fuel

1. Place oil pans under the fuel tank.
2. Remove the drain plug (1).
3. Drain the fuel.
4. Reinstall the drain plug (1).

Capacity	90.0 L 23.8 U.S.gals. 19.8 Imp.gals.

(1) Drain Plug

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Muffler and Bonnet

1. Remove the muffler (2).
2. Remove the bonnet (1).
3. Disconnect the battery's cable (3).
4. Disconnect the head light **3P** connectors.
5. Remove the side cover (4).
6. Remove the handrail (5) and auxiliary step (6).

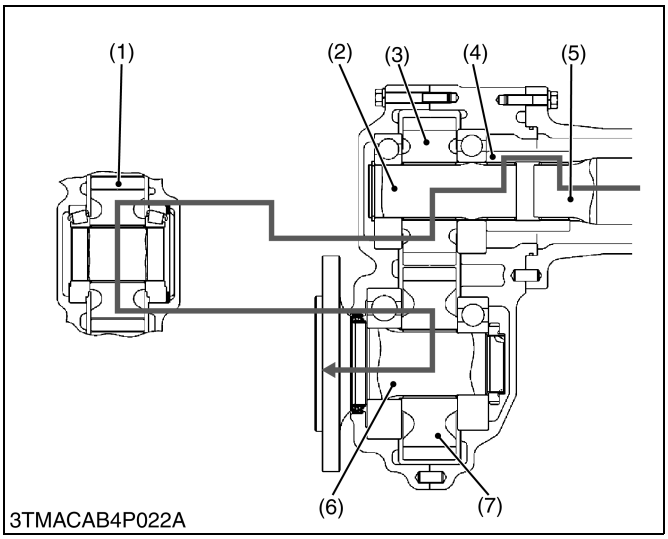
(1) Bonnet
(2) Muffler (Upper)
(3) Battery Cable
(4) Side Cover
(5) Handrail
(6) Auxiliary Step

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(2) Final Reduction System



The final reduction of M9000DT-M tractor is shown in figure.

■ **Final Reduction Section**

Shaft 1 (5) → Coupling (4) → Shaft 2 (2) → 23T Gear (3) → 24T Gear (1) → 31T Gear (7) → Rear Axle Shaft (6).

(1) 24T Gear
(2) Shaft 2
(3) 23T Gear
(4) Coupling
(5) Shaft 1
(6) Rear Axle Shaft
(7) 31T Gear

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