TO THE READER

This Workshop Manual has been prepared to provide servicing personnel with information on the mechanism, service and maintenance of MX5100. It is divided into three parts, "General", "Mechanism" and "Servicing".

General

Information on the tractor identification, the general precautions, maintenance check list, check and maintenance and special tools are described.

Mechanism

Information on the construction and function are included. This part should be understood before proceeding with troubleshooting, disassembling and servicing.

Refer to Diesel Engine / Tractor Mechanism Workshop Manual (Code No. 9Y021-01874 / 9Y021-18201) for the one which has not been described to this workshop manual.

Servicing

Information on the troubleshooting, servicing specification lists, tightening torque, checking and adjusting, disassembling and assembling, and servicing which cover procedures, precautions, factory specifications and allowable limits.

All information illustrations and specifications contained in this manual are based on the latest product information available at the time of publication.

The right is reserved to make changes in all information at any time without notice.

Due to covering many models of this manual, information or picture being used, have not been specified as one model.

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A SAFETY FIRST

This symbol, the industry's "Safety Alert Symbol", is used throughout this manual and on labels on the machine itself to warn of the possibility of personal injury. Read these instructions carefully. It is essential that you read the instructions and safety regulations before you attempt to repair or use this unit.

DANGER	: Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
	: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
	: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
■ IMPORTANT	: Indicates that equipment or property damage could result if instructions are not followed.

■ NOTE	: Gives	helpful	information.



BEFORE SERVICING AND REPAIRING

- Read all instructions and safety instructions in this manual and on your machine safety decals.
- Clean the work area and machine.
- Park the machine on a firm and level ground, and set the parking brake.
- Lower the implement to the ground.
- Stop the engine, and remove the key.
- Disconnect the battery negative cable.
- Hang a "DO NOT OPERATE" tag in operator station.









SAFETY STARTING

- Do not start the engine by shorting across starter terminals or bypassing the safety start switch.
- Do not alter or remove any part of machine safety system.
- Before starting the engine, make sure that all shift levers are in neutral positions or in disengaged positions.
- Never start the engine while standing on ground. Start the engine only from operator's seat.

SAFETY WORKING

- Do not work on the machine while under the influence of alcohol, medication, or other substances or while fatigued.
- Wear close fitting clothing and safety equipment appropriate to the job.
- Use tools appropriate to the work. Makeshift tools, parts, and procedures are not recommended.
- When servicing is performed together by two or more persons, take care to perform all work safely.
- Do not work under the machine that is supported solely by a jack. Always support the machine by safety stands.
- Do not touch the rotating or hot parts while the engine is running.
- Never remove the radiator cap while the engine is running, or immediately after stopping. Otherwise, hot water will spout out from radiator. Only remove radiator cap when cool enough to touch with bare hands. Slowly loosen the cap to first stop to relieve pressure before removing completely.
- Escaping fluid (fuel or hydraulic oil) under pressure can penetrate the skin causing serious injury. Relieve pressure before disconnecting hydraulic or fuel lines. Tighten all connections before applying pressure.
- Do not open high-pressure fuel system. High-pressure fluid remaining in fuel lines can cause serious injury. Do not disconnect or attempt to repair fuel lines, sensors, or any other components between the high-pressure fuel pump and injectors on engines with high pressure common rail fuel system.
- High voltage exceeding 100 V is generated in the ECU and injector.

Pay sufficient caution to electric shock when performing work activities.



AVOID FIRES

- Fuel is extremely flammable and explosive under certain conditions. Do not smoke or allow flames or sparks in your working area.
- To avoid sparks from an accidental short circuit, always disconnect the battery negative cable first and connect it last.
- Battery gas can explode. Keep sparks and open flame away from the top of battery, especially when charging the battery.
- Make sure that no fuel has been spilled on the engine.



VENTILATE WORK AREA

• If the engine must be running to do some work, make sure the area is well ventilated. Never run the engine in a closed area. The exhaust gas contains poisonous carbon monoxide.



PREVENT ACID BURNS

 Sulfuric acid in battery electrolyte is poisonous. It is strong enough to burn skin, clothing and cause blindness if splashed into eyes. Keep electrolyte away from eyes, hands and clothing. If you spill electrolyte on yourself, flush with water, and get medical attention immediately.



DISPOSE OF FLUIDS PROPERLY

• Do not pour fluids into the ground, down a drain, or into a stream, pond, or lake. Observe relevant environmental protection regulations when disposing of oil, fuel, coolant, electrolyte and other harmful waste.



- PREPARE FOR EMERGENCIESKeep a first aid kit and fire extinguisher handy at all times.
- Keep emergency numbers for doctors, ambulance service, hospital and fire department near your telephone.

SAFETY DECALS

The following safety decals are installed on the machine.

If a decal becomes damaged, illegible or is not on the machine, replace it. The decal part number is listed in the parts list.







CARE OF DANGER, WARNING AND CAUTION LABELS

- 1. Keep danger, warning and caution labels clean and free from obstructing material.
- 2. Clean danger, warning and caution labels with soap and water, dry with a soft cloth.
- 3. Replace damaged or missing danger, warning and caution labels with new labels.
- 4. If a component with danger, warning and caution label(s) affixed is replaced with new part, make sure new label(s) is (are) attached in the same location(s) as the replaced component.
- 5. Mount new danger, warning and caution labels by applying on a clean dry surface and pressing any bubbles to outside edge.

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SPECIFICATIONS

Model			MX5100				
			2WD 4WD				
	Model		V2403-M-TE3				
	Туре		E-TVCS Indirect injection, water-cooled diesel				
	No. of cylinders	/ Aspiration	4 / Turbo	ocharged			
Engine	Total displacem	ent	2.434 L (14	48.6 cu.in.)			
	Bore and stroke)	87 × 102.4 mm	n (3.4 × 4.0 in.)			
	Net power		37.3 kW	(50 HP)*			
	PTO power (fac	tory observed)	32.8 kW (44 HP)*	/ 2700 min ⁻¹ (rpm)			
	Maximum torqu	e	166.3 N⋅m	(122.7 lbf·ft)			
	Battery capacity	/	12 V, RC : 133 n	nin, OCA : 582 A			
	Fuel		Diesel fuel No. 1 [below -10 °C (14 °F)]	Diesel fuel No. 2 [above -10 °C (14 °F)]			
	Fuel tank		48 L (12.7 U.S.ga	als, 10.6 Imp.gals)			
Capacities	Engine crankca	se (with filter)	8.0 L (8.5 U.S.o	qts, 7.0 Imp.qts)			
Capacities	Engine coolant		7.0 L (7.4 U.S.o	qts, 5.8 Imp.qts)			
	Transmission ca	ase	44.0 L (11.6 U.S.g	gals, 9.7 Imp.gals)			
	Overall length (without 3P)	3245 mm (127.8 in.)	3120 mm (122.8 in.)			
	Overall width (min. tread)		1770 mm (69.7 in.)				
	Overall height (with ROPS)		2430 mm (95.7 in.)				
Dimensions	Wheel base		1895 mm (74.6 in.)				
Dimensions	Min. ground clearance		405 mm (15.9 in.)	385 mm (15.2 in.)			
	Tread	Front	1280 mm (50.4 in.), 1380 mm (54.3 in.) 1480 mm (58.3 in.), 1580 mm (62.2 in.)	1325 mm (52.2 in.)			
		Rear		1375 mm (54.1 in.), 1490 mm (58.7 in.)			
Weight (with R	OPS)		1528 kg (3369 lbs)	1642 kg (3620 lbs)			
	Standard tire	Front	7.5L-15	9.5-16			
	size	Rear	14.5	9-26			
	Clutch		Dry type s	ingle stage			
Iravelling	Steering		Hydrostatic p	ower steering			
System	Transmission		Gear shift, 8 forw	ard and 8 reverse			
	Braking system		Wet di	sk type			
	Min. turning rad	ius (with brake)	2.6 m (8.5 feet)	2.7 m (8.9 feet)			
	Hydraulic contro	ol system	Position control (star	ndard), Draft (Option)			
	Pump capacity		35.8 L (9.5	5 U.S.gals)			
	Three point hitc	h	SAE Cate	gory I & II			
Hydraulic unit		At lift points	1300 kg ((2870 lbs)			
	Max. lift force	24 in. behind lift points	1050 kg (2310 lbs)			
	System pressur	e	18.6 MPa (1	190 kgf/cm ²)			
DTO	Rear PTO		SAE 1-3/8	, 6 splines			
FIU	PTO / Engine s	peed	540 / 2700 min ⁻¹ (rpm)				

NOTE: *Manufacture's estimate

The company reserves the right to change the specifications without notice.

TRAVELLING SPEEDS

	Model		MX5100
-	Tire size (Rear)		14.9-26
	Range gear shift lever	Main gear shift lever	km/h (mph)
		1	1.6 (1.0)
	Low	2	2.2 (1.4)
	LOW	3	3.6 (2.3)
Forward		4	5.4 (3.3)
Forward -	High	1	7.6 (4.7)
		2	10.8 (6.7)
		3	17.5 (10.9)
		4	25.9 (16.0)
		1	1.5 (0.9)
	1.000	2	2.1 (1.3)
	LOW	3	3.3 (2.1)
Povorso		4	4.9 (3.1)
itevelse		1	7.0 (4.3)
	High	2	9.9 (6.1)
	riigii	3	16.1 (10.0)
		4	23.7 (14.7)

The company reserves the right to change the specifications without notice.

DIMENSIONS





G GENERAL

GENERAL

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1. TRACTOR IDENTIFICATION

[1] MODEL NAME AND SERIAL NUMBER



When you contact local KUBOTA distributor, always specify the engine serial number, the tractor serial number and hour meter reading.

- (1) Tractor Identification Plate(2) Tractor Serial Number
- (3) Engine Serial Number(4) Hour Meter

[2] CYLINDER NUMBER



The cylinder numbers of KUBOTA diesel engine is designated as shown in the figure.

The sequence of cylinder numbers is given as No.1, No.2, No.3 and No.4 starting from the front cover side.

2. GENERAL PRECAUTIONS



- During disassembly, carefully arrange removed parts in a clean area to prevent confusion later. Screws, bolts and nuts should be installed in their original position to prevent reassembly errors.
- When special tools are required, use KUBOTA genuine special tools. Special tools which are not frequently used should be made according to the drawings provided.
- Before disassembling or servicing electrical wires, always disconnect the ground cable from the battery first.
- Remove oil and dirt from parts before measuring.
- Use only KUBOTA genuine parts for parts replacement to maintain machine performance and to assure safety.
- Gaskets and O-rings must be replaced during reassembly. Apply grease to new O-rings or oil seals before assembling. See the figure left side.
- When reassembling external snap rings or internal snap rings, they must be positioned so that sharp edge faces against the direction from which a force is applied. See the figure left side.
- When inserting spring pins, their splits must face the direction from which a force is applied. See the figure left side.
- To prevent damage to the hydraulic system, use only specified fluid or equivalent.
- (1) Grease
- (2) Force(3) Sharp Edge

(4) Axial Force(5) Rotating Movement

(A) External Snap Ring (B) Internal Snap Ring

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3. HANDLING PRECAUTIONS FOR ELECTRICAL PARTS AND WIRING





[2] BATTERY



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[3] FUSE

- Take care not to confuse positive and negative terminal posts.
- When removing battery cables, disconnect negative cable first. When installing battery cables, check for polarity and connect positive cable first.
- Do not install any battery with capacity other than is specified (Ah).
- After connecting cables to battery terminal posts, apply high temperature grease to them and securely install terminal covers on them.
- Do not allow dirt and dust to collect on battery.

- Take care not to let battery liquid spill on your skin and clothes. If contaminated, wash it off with water immediately.
- Before recharging the battery, remove it from the machine.
- Before recharging, remove cell caps.
- Do recharging in a well-ventilated place where there is no open flame nearby, as hydrogen gas and oxygen are formed.

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- Use fuses with specified capacity. Neither too large or small capacity fuse is acceptable.
- Never use steel or copper wire in place of fuse.
- Do not install working light, radio set, etc. on machine which is not provided with reserve power supply.
- Do not install accessories if fuse capacity of reserve power supply is exceeded.

(2) Slow Blow Fuse

(1) Fuse

(2)

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[4] CONNECTOR





• For connector with lock, push lock to separate.

(A) Push

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- In separating connectors, do not pull wire harnesses.
- Hold connector bodies to separate.
- (A) Correct (B) Incorrect



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[5] HANDLING OF CIRCUIT TESTER

- ЗТМАВАВОРО20А
- Use tester correctly following manual provided with tester.
- Check for polarity and range.

4. LUBRICANTS, FUEL AND COOLANT

Place		Capacity	Lubricants fuel and coolant				
	Flace	MX5100	Lupricants, ru	el and coolant			
1	Fuel tank	48.0 L 12.7 U.S.gals 10.6 Imp.gals	No. 2-D diesel fuel No. 1-D diesel fuel if temperature is below -10 °C (14 °F)				
2	Cooling system with recovery tank	7.0 L 7.4 U.S.qts 5.8 Imp.qts	Fresh clean water with anti-freeze				
3	Engine crankcase (with filter)	8.0 L 8.5 U.S.qts 7.0 Imp.qts	Engine oil : API service CF or better. Refer t next page. Below 0 °C (32 °F) : SAE10W, 10W-30 or 15W-40 0 to 25 °C (32 to 77 °F): SAE20, 10W-30 or 15W-40 Above 25 °C (77 °F): SAE30, 10W-30 or 15W-40				
4	Transmission case	44.0 L 11.6 U.S.gals 9.7 Imp.gals	KUBOTA UDT fluid or KUBOTA SUPER UDT fluid*				
5	Front axle case (4WD)	9.0 L 9.5 U.S.qts 7.5 Imp.qts	KUBOTA UDT fluid, KUBOTA SUPER UDT fluid*, SAE80 or SAE90 gear oil				
	·	Greasing	·				
	Place	No. of greasing point	Capacity	Type of grease			
	Front wheel hub (2WD)	2	Moderate amount				
	Knuckle shaft (2WD)	2					
	Front wheel case support (4WD)	2					
6	Front axle support (4WD)	2	Until grease overflows.	Multipurpose grease NLGI-2 or NLGI-1			
	Top link	2					
	Top link bracket	2 (with draft control if equipped)					
	Lift rod	1					
	Battery terminals	2	Moderate amount				

* KUBOTA original transmission hydraulic fluid.

■ NOTE

- Engine Oil:
- Oil used in the engine should have an American Petroleum Institute (API) service classification and Proper SAE Engine Oil according to the ambient temperature as shown in the table.
- With the emission control now in effect, the CF-4 and CG-4 lubricating oils have been developed for use of a lowsulfur fuel on on-road vehicle engines. When an off-road vehicle engine runs on a high-sulfur fuel, it is advisable to employ the "CF or better" lubricating oil with a high Total Base Number (TBN of 10 minimum).
- Lubricating oil recommended when a low-sulfur or high-sulfur fuel is employed.
- Recommended API categorization

All models meeting Third Stage Exhaust Emission Regulations Specification.

Fuelused	Engine oil classification			
i dei used	Oil grade of engines with no external EGR			
High Sulfur Fuel (≥ 500 ppm)	CF (If the "CF-4, CG-4, CH-4 or CI-4" lubricating oil is used with a high-sulfur fuel, change the lubricating oil at shorter intervals. (approximately half))			
Low Sulfur Fuel (< 500 ppm) or Ultra Low Sulfur Fuel (< 15 ppm)	CF, CF-4, CG-4, CH-4 or CI-4			

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EGR: Exhaust Gas Re- circulation

• The CJ-4 engine oil is intended for DPF (Diesel Particulate Filter) type engines, and cannot be used on this tractor.

	without EGR			
Model	MX5100			

Fuel

- Cetane number of 45 minimum. Cetane number greater than 50 is preferred, especially for temperature below -20 °C (-4 °F) or elevations above 1500 m (5000 ft).
- If diesel fuel with sulfur content greater than 0.5 % sulfur content is used, reduce the service interval for engine oil and filter by 50 %.
- DO NOT use diesel fuel with sulfur content greater than 1.0 %.
- Diesel fuel specified to EN 590 or ASTM D975 are recommended.
- No. 2-D is a distillate fuel of lower volatility for engines in industrial and heavy mobile service. (SAE J313 JUN87)
- Since this engine adopts EPA Tier 4 and Interim Tier 4 standards, the use of low sulfur fuel or ultra low sulfur fuel is mandatory in EPA regulated area (North America). Therefore, please use No. 2-D S500 or S15 diesel fuel as an alternative to No. 2-D, or use No.1-D S500 or S15 diesel fuel as an alternative to No.1-D if outside air temperature is below -10 °C (14 °F).

Transmission Oil

• The oil used to lubricate the transmission is also used as hydraulic fluid. To insure proper operation of the hydraulic system and to complete lubrication of the transmission, it is important that a multi-grade transmission fluid is used in this system. We recommended the use of **KUBOTA UDT or SUPER UDT fluid** for optimum protection and performance.

Do not mix different brands together.

• Indicated capacities of water and oil are manufacture's estimate.

5. TIGHTENING TORQUES

[1] GENERAL USE SCREWS, BOLTS AND NUTS

Screws, bolts, and nuts whose tightening torques are not specified in this Workshop Manual should be tightened according to the table below.

Indication on top of bolt	✓ 〈4〉 No-grade or 4T							$\langle 7 \rangle$	7T				(9)	9Т	
Material of bolt			SS400	, S20C			S43C, S48C					SCr435, SCM435			
Material of opponent part	Or	dinarine	ess	A	luminu	m	Or	dinarine	ess	4	luminu	m	Ordinariness		
Unit Diameter	N∙m	kgf∙m	lbf·ft	N∙m	kgf∙m	lbf-ft	N∙m	kgf∙m	lbf•ft	N∙m	kgf∙m	lbf-ft	N∙m	kgf∙m	lbf-ft
M6 (6 mm, 0.24 in.)	7.9 to 9.3	0.80 to 0.95	5.8 to 6.8	7.9 to 8.8	0.80 to 0.90	5.8 to 6.5	9.81 to 11.2	1.00 to 1.15	7.24 to 8.31	7.9 to 8.8	0.80 to 0.90	5.8 to 6.5	12.3 to 14.2	1.25 to 1.45	9.05 to 10.4
M8 (8 mm, 0.31 in.)	18 to 20	1.8 to 2.1	13 to 15	17 to 19	1.7 to 2.0	13 to 14	24 to 27	2.4 to 2.8	18 to 20	18 to 20	1.8 to 2.1	13 to 15	30 to 34	3.0 to 3.5	22 to 25
M10 (10 mm, 0.39 in.)	40 to 45	4.0 to 4.6	29 to 33	32 to 34	3.2 to 3.5	24 to 25	48 to 55	4.9 to 5.7	36 to 41	40 to 44	4.0 to 4.5	29 to 32	61 to 70	6.2 to 7.2	45 to 52
M12 (12 mm, 0.47 in.)	63 to 72	6.4 to 7.4	47 to 53	-	-	-	78 to 90	7.9 to 9.2	58 to 66	63 to 72	6.4 to 7.4	47 to 53	103 to 117	10.5 to 12.0	76.0 to 86.7
M14 (14 mm, 0.55 in.)	108 to 125	11.0 to 12.8	79.6 to 92.5	-	-	-	124 to 147	12.6 to 15.0	91.2 to 108	-	-	-	167 to 196	17.0 to 20.0	123 to 144
M16 (16 mm, 0.63 in.)	167 to 191	17.0 to 19.5	123 to 141	-	_	_	197 to 225	20.0 to 23.0	145 to 166	_	_	_	260 to 304	26.5 to 31.0	192 to 224
M18 (18 mm, 0.71 in.)	246 to 284	25.0 to 29.0	181 to 209	-	_	-	275 to 318	28.0 to 32.5	203 to 235	-	_	-	344 to 402	35.0 to 41.0	254 to 296
M20 (20 mm, 0.79 in.)	334 to 392	34.0 to 40.0	246 to 289	_	_	_	368 to 431	37.5 to 44.0	272 to 318	_	_	-	491 to 568	50.0 to 58.0	362 to 419

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[2] STUD BOLTS

Material of opponent part	Or	dinarine	SS	Aluminum			
Unit Diameter	N∙m	kgf∙m	lbf-ft	N∙m	kgf∙m	lbf-ft	
M8	12	1.2	8.7	8.9	0.90	6.5	
(8 mm () 31 in)	to	to	to	to	to	to	
(8 mm, 0.51 m.)	15	1.6	11	11	1.2	8.6	
M10	25	2.5	18	20	2.0	15	
$(10 \text{ mm} \ 0.30 \text{ in})$	to	to	to	to	to	to	
(10 mm, 0.39 m.)	31	3.2	23	25	2.6	18	
M10	29.5	3.0	21.7				
(12 mm 0.47 in)	to	to	to	31.4	3.2	23.1	
(12 mm, 0.47 m.)	49.0	5.0	36.1				
M14	62	6.3	46				
$(14 \text{ mm} \ 0.55 \text{ in})$	to	to	to	-	-	-	
(14 mm, 0.55 m.)	73	7.5	54				
M16	98.1	10.0	72.4				
$(16 \text{ mm} \ 0.62 \text{ in})$	to	to	to	-	-	-	
	112	11.5	83.1				
M19	172	17.5	127				
(19 mm 0.71 in)	to	to	to	-	-	-	
(10 11111, 0.71 111.)	201	20.5	148				

[3] METRIC SCREWS, BOLTS AND NUTS

Grade		Property class 8.8		Property class 10.9			
Unit Nominal Diameter	N·m	kgf-m	lbf-ft	N∙m	kgf∙m	lbf-ft	
M8	24 to 27	2.4 to 2.8	18 to 20	30 to 34	3.0 to 3.5	22 to 25	
M10	48 to 55	4.9 to 5.7	36 to 41	61 to 70	6.2 to 7.2	45 to 52	
M12	78 to 90	7.9 to 9.2	58 to 66	103 to 117	10.5 to 12.0	76 to 86.7	
M14	124 to 147	12.6 to 15.0	91.2 to 108	167 to 196	17.0 to 20.0	123 to 144	
M16	197 to 225	20.0 to 23.0	145 to 166	260 to 304	26.5 to 31.0	192 to 224	

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[4] AMERICAN STANDARD SCREWS, BOLTS AND NUTS WITH UNC OR UNF THREADS

Grade		SAE GR.5		SAE GR.8			
Unit Nominal Diameter	N·m	kgf∙m	lbf-ft	N∙m	kgf∙m	lbf-ft	
5/16	23.1 to 27.7	2.35 to 2.83	17.0 to 20.5	32.6 to 39.3	3.32 to 4.00	24.0 to 29.0	
3/ 8	48 to 56	4.9 to 5.8	35.0 to 42.0	61.1 to 73.2	6.23 to 7.46	45.0 to 54.0	
1/ 2	109 to 130	11.1 to 13.2	80.0 to 96.0	149.2 to 178.9	15.21 to 18.24	110.0 to 132.0	
9/16	149.2 to 178.9	15.21 to 18.24	110.0 to 132.0	217.0 to 260.3	22.12 to 26.54	160.0 to 192.0	
5/ 8	203.4 to 244	20.74 to 24.88	150.0 to 180.0	298.3 to 357.9	30.42 to 36.49	220.0 to 264.0	

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[5] PLUGS

		Material of opponent part													
Shape	Size		Ordinariness		Aluminum										
		N∙m	kgf∙m	lbf-ft	N∙m	kgf-m	lbf-ft								
Tapered	R1/8	13 to 21	1.3 to 2.2	9.4 to 15	13 to 21	1.3 to 2.0	9.4 to 15								
screw	R1/4	25 to 44	2.5 to 4.5	18 to 32	25 to 34	2.5 to 3.5	18 to 25								
	R3/8	49 to 88	5.0 to 9.0	37 to 65	49.0 to 58	5.0 to 6.0	37 to 43								
	R1/2	59 to 107	6.0 to 11.0	44 to 79.5	59 to 78	6.0 to 8.0	44 to 57								
Straight	G1/4	25 to 34	2.5 to 3.5	18 to 25	_	_	_								
screw	G3/8	62 to 82	6.3 to 8.4	46 to 60	_	_	_								
	G1/2	49 to 88	5.0 to 9.0	37 to 65	_	-	_								

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6. MAINTENANCE

). Item				Indication on hour meter											Inter-	Refer-	Impor					
No.			50	100	150	200	250	300	350	400	450	500	550	600	650	700	val	ence page	tant				
1	Greasing		-	$\vec{\omega}$	☆	☆	☆	☆	☆	☆	☆	☆	\$	\$	☆	\$	ŵ	every 50 Hr	G-21				
2	Engine start sy	stem	Check	☆	☆	\$	☆	☆	\$	☆	☆	☆	\$	\$	☆	\$	\$	every 50 Hr	G-22				
3	Wheel bolt torc	lue	Check	☆	☆	☆	☆	☆	☆	Ŕ	☆	Ŕ	\$	\$	☆	\$	Ŕ	every 50 Hr	G-22				
4	Battery condition	วท	Check		☆		☆		Ŕ		☆		\$		☆		Ŕ	every 100 Hr	G-23	*4			
5	Fan belt		Adjust		☆		☆		☆		☆		\$		☆		\$	every 100 Hr	G-25				
6	Clutch pedal fro	ee travel	Adjust	*	☆		☆		☆		☆		\$		☆		☆	every 100 Hr	G-25				
7	7 Brake pedal free travel		Adjust		☆		☆		☆		☆		☆		☆		☆	every 100 Hr	G-25				
8			Clean		☆		☆		☆		☆		☆		☆		☆	every 100 Hr	G-26		0		
0	Fuer liner elem	ruei filter element									☆							every 400 Hr	G-32		w.		
	Air cleaner 9 element [Double type] _	A	A	Primary	Clean		\$		☆		☆		☆		☆		☆		☆	every 100 Hr	G-26	*1	
9		element	Replace															every 1 year	G-38	*2	@		
		Secondary element	Replace															every 1 year	G-38				
10	10 Fuel line		Check		\$		☆		☆		☆		☆		☆		☆	every 100 Hr	G-27		0		
10			Replace															every 2 years	G-40		w.		
11	11 Engine oil		Change	*			☆				☆				☆			every 200 Hr	G-19				
12	Engine oil filter		Replace	*			☆				☆				☆			every 200 Hr	G-20				
13	Toe-in		Adjust				☆				☆				\$			every 200 Hr	G-29				
14	14 Radiator hose and clamp		Check				☆				☆				\$2			every 200 Hr	G-30				
			Replace															every 2 years	G-40				
15	15 Power steering oil line		Check				☆				☆				☆			every 200 Hr	G-30				
10			Replace															every 2 years	G-40				
16	16 Intake air line		Check				☆				☆				☆			every 200 Hr	G-30		a		
			Replace															every 2 years	G-40				
17	17 Hydraulic oil filter		Replace	*							☆							every 400 Hr	G-20				
18	18 Transmission fluid		Change								☆							every 400 Hr	G-31				

	Item		Service Interval														Since	Refer-	Impor-	
No.			50	100	150	200	250	300	350	400	450	500	550	600	650	700	then page		tant	
19	Front axle case oil (4WD)	Change								☆							every 400 Hr	G-31		
20	Greasing (2WD front wheel hub)	_								☆							every 400 Hr	G-32		
21	Front axle pivot	Adjust												x			every 600 Hr	G-32		
22	Engine valve clearance	Adjust															every 800 Hr	G-33		
23	Fuel injection nozzle injection pressure	Check															every 1500 Hr	G-34		@
24	Injection pump	Check															every 3000 Hr	G-36		@
25	Turbocharger	Check															every 3000 Hr	G-37		@
26	Cooling system	Flush															every 2 years	G-38		
27	Coolant	Change															every 2 years	G-38		
28	Fuel system	Bleed															Service	G-41		
29	Clutch housing water	Drain															as	G-41		
30	Fuse	Replace															requi-	G-42		
31	Light bulb	Replace															rea	G-42		_

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■ IMPORTANT

- The jobs indicated by **★** must be done after the first 50 hours of operation.
- *1 : Air cleaner should be cleaned more often in dusty conditions than in normal conditions.
- *2 : Every year or every 6 times of cleaning.
- *3 : Replace only if necessary.
- *4 : When the battery is used for less than 100 hours per year, check the battery condition by reading the indicator annually.
- The items listed above (@ marked) are registered as emission related critical parts by KUBOTA in the U.S.EPA nonroad emission regulation. As the engine owner, you are responsible for the performance of the required maintenance on the engine according to the above instruction.
 Please see the Warranty Statement in detail.

7. CHECK AND MAINTENANCE

• Be sure to check and service the tractor on a flat place with engine shut off, and apply the parking brake on and chock the wheels.

[1] DAILY CHECK

To prevent trouble from occurring, it is important to know the condition of the tractor. Check the following items before starting.

Walk around Inspection

Look around and under the tractor for such items as loose bolts, trash build-up, oil coolant leaks, broken or worn parts.

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Checking and Refueling



- Do not smoke while refueling.
- Be sure to stop the engine before refueling.
- 1. Turn the key switch to "**ON**", check the amount of fuel by fuel gauge.
- 2. Fill fuel tank when fuel gauge shows 1/4 or less fuel in tank.

Fuel tank capacity 12.7 U.S.gals 10.6 Imp.gals
--

IMPORTANT

- Do not permit dirt or trash to get into the fuel system.
- Be careful not to let the fuel tank become empty, otherwise air will enter the fuel system, necessitating bleeding before next engine start.
- Be careful not to spill during refueling. If should spill, wipe it off at once, or it may cause a fire.
- To prevent condensation (water) accumulation in the fuel tank, fill the tank before parking overnight.
- (1) Fuel Tank Cap







Checking Engine Oil Level

- Be sure to stop the engine before checking the oil level.
- 1. Park the machine on a flat surface.
- 2. Check engine oil before starting the engine or 5 minutes or more after the engine has stopped.
- 3. To check the oil level, draw out the dipstick, wipe it clean, replace it, and draw it out again. Check to see that the oil level lies between the two notches.

If the level is too low, and new oil to the prescribed level at the oil inlet. (See page G-8.)

- IMPORTANT
- When using an oil of different maker or viscosity from the previous one, remove all of the old oil.
 Never mix two different types of oil.
- If oil level is low, do not run the engine.
- (1) Oil Inlet(2) Dipstick

(A) Oil level is acceptable within this range.

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Checking Transmission Fluid Level

- 1. Park the machine on a flat surface, lower the implement and shut off the engine.
- View the fluid level through the fluid level gauge. If the level is too low, add new oil to the prescribed level at the oil inlet. (See page G-8.)
- IMPORTANT
- If oil level is low, do not run the engine.

(1) Gauge	(A) Oil level is acceptable within this
(2) Oil Inlet	range.

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Checking Coolant Level

- Do not remove radiator cap while coolant is hot. When cool, slowly rotate cap to the first stop and allow sufficient time for excess pressure to escape before removing the cap completely.
- 1. Check to see that the coolant level is between the "FULL" and "LOW" marks of recovery tank.
- 2. When the coolant level drops due to evaporation, add water only up to the full level.

In case of leakage, add anti-freeze and water in the specified mixing ratio up to the full level.

(See "Flush Cooling System and Changing Coolant" in "CHECK POINTS OF EVERY 2 YEARS".)

- IMPORTANT
 - If the radiator cap has to be removed, follow the caution above and securely retighten the cap.
- Use clean, fresh water and anti-freeze to fill the recovery tank.
- If water should leak, stop the water leaking.
- (1) Recovery Tank





- Checking Gauge, Meter and Easy Checker (TM)
- 1. Inspect the instrument panel for broken gauge(s), metal(s) and Easy Checker(TM).
- 2. Replace it if it is broken.
- (1) Coolant Temperature Gauge
- (2) Fuel Gauge
- (3) Turn Signal / Hazard Light indicator (7) Hourmeter / Tachometer
- (4) Engine Oil Pressure Lamp
- (5) Glow Plug Indicator
- (6) Electrical Charge Lamp



<u>Checking Head Lights, Hazard Lights, Turn Signal Lights and</u> <u>Tail Lights</u>

- 1. Inspect the lights for broken bulbs and lenses of the lights.
- 2. Replace it if it is broken.
- (1) Head Light
- (2) Side Turn Signal / Hazard Light
- (3) Tail Light
- (4) Rear Turn Signal / Hazard Light



Checking Seat Belt and ROPS

1. Always check condition of seat belt (1) and ROPS (2) attaching hardware before operating tractor.

(2) ROPS

- 2. Replace it if it is damaged.
- (1) Seat Belt

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