WORKSHOP MANUAL

M6060,M7060

Kybota

TO THE READER

This Workshop Manual tells the servicing personnel about the mechanism, servicing and maintenance of the M6060 and M7060. It contains 4 parts: "Information", "General", "Mechanism" and "Servicing".

Information

This section primarily contains information below.

- Safety First
- Safety Decal
- Specifications
- Dimensions

General

This section primarily contains information below.

- Engine Identification
- Model Identification
- General Precautions
- Maintenance Check List
- Check and Maintenance
- Special Tools

Mechanism

This section contains information on the structure and the function of the unit. Before you continue with the subsequent sections, make sure that you read this section.

Refer to the latest version of Workshop Manual (Code No. 9Y021-01870 / 9Y021-18200) for the diesel engine / tractor mechanism that this workshop manual does not include.

Servicing

This section primarily contains information below.

- Troubleshooting
- Servicing Specifications
- Tightening Torques
- · Checking, Disassembling and Servicing

Regarding the servicing of Common Rail System (CRS), refer to "DIAGNOSIS MANUAL". (9Y120-02440)

Regarding the servicing of Diesel Particulate Filter (DPF), refer to "DIESEL PARTICULATE FILTER HANDLING MANUAL" (9Y111-08131).

All illustrations, photographs and specifications contained in this manual are of the newest information available at the time of publication.

KUBOTA reserves the right to change all information at any time without notice.

Since this manual includes many models, information or illustrations and photographs can show more than one model.

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Thanks very much for your reading, Want to get more information, Please click here, Then get the complete manual



INFORMATION

INFORMATION

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1. SAFETY FIRST

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 try 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 YOU START SERVICE

- 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 stable and level ground, and set the parking brake.
- Lower the implement to the ground.
- Stop the engine, then remove the key.
- · Disconnect the battery negative cable.
- Hang a "DO NOT OPERATE" tag in the operator station.

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START SAFELY

- Do not do the procedures below when you start the engine.
 - short across starter terminals
 - bypass the safety start switch
- Do not alter or remove any part of machine safety system.
- Before you start the engine, make sure that all shift levers are in neutral positions or in disengaged positions.
- Do not start the engine when you stay on the ground. Start the engine only from operator's seat.

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OPERATE SAFELY

- Do not use the machine after you consume alcohol or medication or when you are tired.
- Put on applicable clothing and safety equipment.
- Use applicable tools only. Do not use alternative tools or parts.
- When 2 or more persons do servicing, make sure that you do it safely.
- Do not operate below the machine that only a jack holds. Always use a safety stand to hold the machine.
- Do not touch the hot parts or parts that turn when the engine operates.
- Do not remove the radiator cap when the engine operates, or immediately after it stops. If not, hot water can spout out from the radiator. Only remove the radiator cap when it is at a sufficiently low temperature to touch with bare hands. Slowly loosen the cap to release the pressure before you remove it fully.
- Released fluid (fuel or hydraulic oil) under pressure can cause damage to the skin and cause serious injury. Release the pressure before you disconnect hydraulic or fuel lines. Tighten all connections before you apply the pressure.
- Do not open a fuel system under high pressure. The fluid under high pressure that stays in fuel lines can cause serious injury. Do not disconnect or repair the fuel lines, sensors, or any other components between the fuel pump and injectors on engines with a common rail fuel system under high pressure.
- Put on an applicable ear protective device (earmuffs or earplugs) to prevent injury against loud noises.
- Be careful about electric shock. The engine generates a high voltage of more than DC100 V in the ECU and is applied to the injector.

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PREVENT A FIRE

- Fuel is very flammable and explosive under some conditions. Do not smoke or let flames or sparks in your work area.
- To prevent sparks from an accidental short circuit, always disconnect the battery negative cable first and connect it last.
- The battery gas can cause an explosion. Keep the sparks and open flame away from the top of battery, especially when you charge the battery.
- Make sure that you do not spill fuel on the engine.

I-2



KEEP A GOOD AIRFLOW IN THE WORK AREA

• If the engine is in operation, make sure that the area has good airflow. Do not operate the engine in a closed area. The exhaust gas contains poisonous carbon monoxide.

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DISCARD FLUIDS CORRECTLY

 Do not discard fluids on the ground, down the drain, into a stream, pond, or lake. Obey related environmental protection regulations when you discard oil, fuel, coolant, electrolyte and other dangerous waste.

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PREVENT ACID BURNS

 Keep electrolyte away from your eyes, hands and clothing. Sulfuric acid in battery electrolyte is poisonous and it can burn your skin and clothing and cause blindness. If you spill electrolyte on yourself, clean yourself with water, and get medical aid immediately.

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PREPARE FOR EMERGENCIES

- Keep a first aid kit and fire extinguisher ready at all times.
- Keep the emergency contact telephone numbers near your telephone at all times.

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2. SAFETY DECALS

The following safety decals (pictorial safety labels) 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.

ROPS Model

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CABIN Model







CARE OF PICTORIAL SAFETY LABELS

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

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3. SPECIFICATIONS

ROPS Model

Model		M6060	M7060	M6060-SPA	M7060-SPA		
			4	VD			
	Model		V3307-CR-TE4				
	Туре		4-cylinder in-line, Common Rail System, direct injection				
	Number of cylinders		4				
	Total displacement			3331 cm ³	(203 cu.in.)		
	Bore and strok	е		94 × 120 mm	(3.7 × 4.7 in.)		
	Rated speed		2400 min ⁻¹ (rpm)				
	Net power*1		47.3 kW (63.5 PS)	52.9 kW (71.9 PS)	47.3 kW (63.5 PS)	52.9 kW (71.9 PS)	
Engine	Gross power*1		49.5 kW (67.3 PS)	55.4 kW (75.3 PS)	49.5 kW (67.3 PS)	55.4 kW (75.3 PS)	
	Maximum torqu	Je	230 N·m (23.5 kgf·m, 170 lbf·ft) / 1400 min ⁻¹ (rpm)	260 N·m (26.5 kgf·m, 192 lbf·ft) / 1400 min ⁻¹ (rpm)	230 N·m (23.5 kgf·m, 170 lbf·ft) / 1400 min ⁻¹ (rpm)	260 N·m (26.5 kgf·m, 192 lbf·ft) / 1400 min ⁻¹ (rpm)	
	Battery capacit	У		12 V, RC: 160 r	nin, CCA: 900 A		
	Fuel tank capa	city		70 L (18.5 U.S.g	als, 15 Imp.gals)		
	Engine oil capa	acity		12 L (12.7 U.S.	.qts, 11 Imp.qts)		
	Coolant capaci	ty		8 L (8.5 U.S.q	ts, 7.0 Imp.qts)		
	Overall length			3675 mm	(144.7 in.)		
	Overall width (minimum tread)		1855 mm (73.03 in.)		1965 mm (77.36 in.)		
Dimensions	Overall height		2515 mm (99.02 in.)		2455 mm (96.65 in.)		
	Wheel base		2110 mm (83.07 in.)				
	Tread	Front	1450 to 1540 mm (57.09 to 60.63 in.)		1365 to 1415 mm (53.74 to 55.71 in.)		
	Rear		1415 to 1735 mm (55.71 to 68.31 in.)		1545 to 1740 mm (60.83 to 68.30 in.)		
	Minimum grour	nd clearance	400 mm (15.7 in.)		340 mm (13.4 in.)		
Weight			2490 kg (5490 lbs)		2420 kg	(5335 lbs)	
	Standard tire Front tire size Rear tire *2		320/85R30		320/7	70R20	
			420/85R30 (16.9-30) 420/70R28			70R28	
	Clutch			Hydraulic mul	tiple wet disks		
Traveling	Steering		Hydraulic power steering				
system	Braking system	ו		Hydraulically op	erated wet disks		
	Trailer brake		Hydraulic ISO 5676				
	Trailer brake co	ouple	ISU 5676				
	Differential		Bevel gears with differential lock (Rear)				
	Hydraulic contr	ol system	Position, draft (top link sensing) and mix control				
	Pump capacity		61.5 L (16.2 U.S.gals, 13.5 Imp.gals) /min				
	3-point hitch	A (1) (1)	SAE Category 1 and 2				
Hydraulic system	Max. lifting force	At lifting points* ³		2300 kg ((5071 lbs)		
System	Remote hydrau	ulic control	2 standard (3rd and flow control valve optional)				
	Remote contro	l valve coupler	ISO 7241-1 standards "A"				
	System pressu	re		19.1 MPa (195 k	gf/cm ² , 2770 psi)		
	Traction syster	n		Swinging drawbar, a	djustable in direction		
DTO	Live PTO	Direction of turning		Clockwise, viewe	d from tractor rear		
	(Independent)	PTO speed	6 spline: 540 min ⁻¹ (rpm) / 2160 min ⁻¹ (rpm) engine speed 6 spline: 540E min ⁻¹ (rpm) / 1828 min ⁻¹ (rpm) engine speed		peed speed		
The level of pr substance *4	otection against	hazardous	Category 1				

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

- NOTE
 - *1: Manufacture's estimate

*2: Cast iron disks available for wheels

*3: At lower link end with links horizontal.

*4: According to EN 15695-1: 2009

INFORMATION

Model			M6060	M7060	M6060-SPA	M7060-SPA
			4WD			
Noise at the operator's ear *5			85.3 dB (A)			
Noise of the tractor in motion *6			90 dB (A)			
	Grammer	Light driver	1.24 m/s² (124 cm/s², 0.126 G)			
	MSG95A/ 721	Heavy driver	1.1 m/s ² (110 cm/s ² , 0.11 G)			
	Grammer DS44/1HB	Light driver	1.04 m/s ² (104 cm/s ² , 0.106 G)			
Value of the		Heavy driver		0.83 m/s ² (83	cm/s ² , 0.085 G)	
level *7		Light driver		1.19 m/s ² (119	9 cm/s ² , 0.121 G)	
	KAD II/E0	Heavy driver	0.90 m/s ² (90 cm/s ² , 0.092 G)			
		Light driver		1.09 m/s ² (10	9 cm/s ² , 0.111 G)	
	KAD I J/E0	Heavy driver		0.90 m/s ² (90	cm/s ² , 0.092 G)	

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

NOTE

*5: Measured according to Directive 2009/76/EC *6: Measured according to Directive 2009/63/EC *7: Measured according to Directive 78/764/EEC

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CABIN Model

		M6060	M7060	M7060-SPA		
Model			4WD			
	Model		V3307-CR-TE4			
	Туре		4-cylinder in-line, Common Rail System, direct injection			
	Number of cylinders		4			
	Total displacement		3331 cm ³ (203 cu.in.)			
	Bore and stroke		94 × 120 mm (3.7 × 4.7 in.)			
	Rated speed		2400 min ⁻¹ (rpm)			
	Net power*1		47.3 kW (64.3 PS) 52.9 kW (71.9 PS)			
Engine	Gross power*1		49.5 kW (67.3 PS) 55.4 kW (75.3 PS)			
	Maximum torqu	le	229 N·m (23.4 kgf·m, 169 lbf·ft) / 1400 min⁻¹ (rpm)	 N·m (23.4 kgf·m, 169 lbf·ft) / 258 N·m (26.3 kgf·m, 190 lbf·ft) / 1400 min⁻¹ (rpm) 1400 min⁻¹ (rpm) 		
	Battery capacit	у		12 V, RC: 160 min, CCA: 900 A		
	Fuel tank capa	city		90 L (24 U.S.gals, 20 Imp.gals)		
	Engine oil capa	acity		12 L (12.7 U.S.qts, 11 Imp.qts)		
	Coolant capaci	ty		8 L (8.5 U.S.qts, 7 Imp.qts)		
	Overall length			3675 mm (144.7 in.)		
	Overall width (r	minimum tread)	1855 mm	(73.03 in.)	1965 mm (77.36 in.)	
	Overall height		2580 mm (101.6 in.)		2520 mm (99.21 in.)	
	Wheel base		2110 mm (83.07 in.)			
Dimensions	Tread	Front	1450 to 1540 mm (57.09 to 60.63 in.)		1365 to 1415 mm (53.74 to 55.71 in.)	
		Rear	1415 to 1735 mm (55.71 to 68.31 in.)		1545 to 1740 mm (60.83 to 68.30 in.)	
	Minimum ground clearance		390 mm (15.4 in.)		330 mm (13.0 in.)	
Weight			2725 kg (6008 lbs)		2655 kg (5853 lbs)	
	Standard tire	Front tire	320/85R20		320/70R20	
	size	Rear tire *2	420/85R30 (16.9-30)		420/70R28	
	Clutch		Hydraulic multiple wet disks			
Traveling	Steering			Hydraulic power steering		
system	Braking system	ו	Hydraulically operated wet disks			
	Trailer brake		Hydraulic			
	Trailer brake co	puple	ISO 5676			
	Differential		Bevel gears with differential lock (Rear)			
	Hydraulic contr	ol system	Position, draft (top link sensing) and mix control			
	Pump capacity		61.5 L (16.2 U.S.gals, 13.5 Imp.gals) /min			
	3-point hitch		SAE Category 1 and 2			
Hydraulic	Max. lifting force	At lifting points* ³		2300 kg (5071 lbs)		
system	Remote hydrau	lic control	2 standard (3rd and flow control valve optional)			
	Remote contro	l valve coupler	ISO 7241-1 standards "A"			
	System pressu	re	19.1 MPa (195 kgf/cm², 2770 psi)			
	Traction system	n	Swinging drawbar, adjustable in direction			
DTO	Live PTO	Direction of turning	C	clockwise, viewed from tractor rea	ar	
019	(Independent)	PTO speed	6 spline: 540 min ⁻¹ (rpm) / 2160 min ⁻¹ (rpm) engine speed		engine speed engine speed	
The level of pr substance *4	The level of protection against hazardous		Category 1			

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

NOTE

*2: At lower link end with links horizontal.

*3: At lower link end with links horizontal.

*4: According to EN 15695-1: 2009

^{• *1:} Manufacture's estimate

Model			M6060	M7060	M7060-SPA	
			4WD			
Noise at the	CAB/door closed		78.9 dB (A)			
operator's ear ^{*5}	CAB/door closed		80.3 dB (A)			
Noise of the tractor in motion *6				80 dB (A)		
	Grammer	Light driver	1.24 m/s ² (124 cm/s ² , 0.126 G)			
	MSG95A/721	Heavy driver	1.1 m/s ² (110 cm/s ² , 0.11 G)			
	Grammer	Light driver 1.24 m/s ² (124 cm/s ² , 0.126 G)				
	DS85H/90	Heavy driver		0.98 m/s ² (98 cm/s ² , 0.10 G)		
Value of the	KAB 11/E6	Light driver		1.19 m/s ² (119 cm/s ² , 0.12 G)		
Vibration		Heavy driver		0.90 m/s ² (90 cm/s ² , 0.092 G)		
		Light driver		1.09 m/s ² (109 cm/s ² , 0.111 G)		
	KAB 15/E0	Heavy driver		0.90 m/s ² (90 cm/s ² , 0.092 G)		
	Soora 2045	Light driver		1.20 m/s ² (120 cm/s ² , 0.122 G)		
	Sears 3045	Heavy driver		1.12 m/s ² (112 cm/s ² , 0.114 G)		

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

NOTE
 *5: Measured according to Directive 2009/76/EC
 *6: Measured according to Directive 2009/63/EC
 *7: Measured according to Directive 78/764/EEC

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4. TRAVELING SPEEDS

				(At rated engine rpm)
Model			M6060 / M7060	M6060-SPA / M7060-SPA
Tire size (Rear)			420/85R30 (16.9-30)	420/70R28
Shuttle shift lever	Range gear shift lever	Main gear shift lever	km/h (mph)	km/h (mph)
		1	0.4 (0.2)	0.4 (0.2)
		2	0.6 (0.4)	0.6 (0.4)
	OPEED	3	0.8 (0.5)	0.7 (0.4)
	UNEEF	4	1.0 (0.62)	0.9 (0.6)
		5	1.3 (0.81)	1.2 (0.75)
		6	1.7 (1.1)	1.6 (0.99)
		1	2.6 (1.6)	2.4 (1.5)
		2	3.7 (2.3)	3.3 (2.0)
Forward		3	4.7 (2.9)	4.3 (2.7)
Forward	L	4	6.1 (3.8)	5.5 (3.4)
		5	7.7 (4.8)	7.1 (4.4)
		6	10.2 (6.34)	9.4 (5.8)
	н	1	12.3 (7.64)	11.3 (7.02)
		2	17.4 (10.8)	16.0 (9.94)
		3	22.5 (14.0)	20.6 (12.8)
		4	28.9 (18.0)	26.4 (16.4)
		5	37.0 (17.7)	33.9 (21.1)
		6	39.9 (*1) (24.8)	36.5 (*1) (22.7)
	CREEP	1	0.4 (0.2)	0.4 (0.2)
		2	0.6 (0.4)	0.6 (0.4)
		3	0.8 (0.5)	0.7 (0.4)
		4	1.0 (0.62)	0.9 (0.6)
		5	1.3 (0.81)	1.2 (0.75)
		6	1.7 (1.1)	1.6 (0.99)
		1	2.5 (1.6)	2.3 (1.4)
		2	3.6 (2.2)	3.3 (2.0)
Dovoroo		3	4.6 (2.9)	4.3 (2.7)
Reverse	L	4	5.9 (3.7)	5.4 (3.4)
		5	7.6 (4.7)	7.0 (4.3)
		6	10.1 (6.28)	9.2 (5.7)
		1	12.1 (7.52)	11.1 (6.90)
		2	17.1 (10.6)	15.7 (9.76)
		3	22.2 (13.8)	20.3 (12.6)
		4	28.4 (17.6)	26.0 (16.2)
		5	36.3 (22.6)	33.3 (20.7)
		6	39.2 (*1) (24.4)	35.9 (*1) (22.3)

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

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5. DIMENSIONS

ROPS Model



CABIN Model



G GENERAL

GENERAL

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6. 7.	 [4] METRIC SCREWS, BOLTS AND NOTS	G-17 G-17 G-17 G-18 G-21 G-21 G-21 G-23 G-23 G-23 G-25 G-34 G-34 G-34 G-34 G-34 G-35 G-36 G-37 G-38 G-38 G-38 G-38 G-38
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6. 7. 8.	 [4] METRIC SCREWS, BOLTS AND NOTS	G-17 G-17 G-17 G-18 G-21 G-21 G-21 G-22 G-23 G-23 G-25 G-34 G-34 G-35 G-36 G-37 G-38 G-38 G-38 G-38 G-40 G-44 G-51
6. 7. 8.	 [4] METRIC SCREWS, BOL IS AND NOTS	G-17 G-17 G-17 G-18 G-21 G-21 G-22 G-23 G-23 G-25 G-34 G-34 G-34 G-35 G-36 G-37 G-38 G-38 G-38 G-38 G-38 G-40 G-51 G-51
6. 7. 8.	 [4] METRIC SCREWS, BOLTS AND NUTS [5] AMERICAN STANDARD SCREWS, BOLTS AND NUTS WITH UNC OR UNF THREADS [6] PLUGS [7] MAINTENANCE [1] DAILY CHECK [2] CHECK POINTS OF INITIAL 50 HOURS [3] CHECK POINTS OF EVERY 50 HOURS [4] CHECK POINTS OF EVERY 50 HOURS [5] CHECK POINTS OF EVERY 100 HOURS [6] CHECK POINTS OF EVERY 400 HOURS [6] CHECK POINTS OF EVERY 500 HOURS [7] CHECK POINTS OF EVERY 500 HOURS [8] CHECK POINTS OF EVERY 500 HOURS [9] CHECK POINTS OF EVERY 1000 HOURS [9] CHECK POINTS OF EVERY 1000 HOURS [10]CHECK POINTS OF EVERY 1000 HOURS [11]CHECK POINTS OF EVERY 1500 HOURS [12]CHECK POINTS OF EVERY 1 YEAR. [13]CHECK POINTS OF EVERY 2 YEARS [14]OTHERS SPECIAL TOOLS FOR ENGINE [2] SPECIAL TOOLS FOR ENGINE [2] SPECIAL TOOLS FOR TRACTOR 	G-17 G-17 G-17 G-18 G-21 G-21 G-22 G-23 G-23 G-25 G-34 G-34 G-34 G-34 G-34 G-34 G-35 G-38 G-38 G-38 G-38 G-38 G-38 G-40 G-44 G-51 G-71
6. 7. 8.	 [4] METRIC SCREWS, BOLTS AND NUTS [5] AMERICAN STANDARD SCREWS, BOLTS AND NUTS WITH UNC OR UNF THREADS [6] PLUGS [7] MAINTENANCE [1] DAILY CHECK [2] CHECK POINTS OF INITIAL 50 HOURS [3] CHECK POINTS OF EVERY 50 HOURS [4] CHECK POINTS OF EVERY 100 HOURS [5] CHECK POINTS OF EVERY 200 HOURS [6] CHECK POINTS OF EVERY 400 HOURS [7] CHECK POINTS OF EVERY 500 HOURS [8] CHECK POINTS OF EVERY 500 HOURS [9] CHECK POINTS OF EVERY 1000 HOURS [9] CHECK POINTS OF EVERY 1000 HOURS [10]CHECK POINTS OF EVERY 1000 HOURS [11]CHECK POINTS OF EVERY 1000 HOURS [12]CHECK POINTS OF EVERY 1 YEAR. [13]CHECK POINTS OF EVERY 2 YEARS [14]OTHERS. SPECIAL TOOLS FOR ENGINE [2] SPECIAL TOOLS FOR AIR CONDITIONER UNIT 	G-17 G-17 G-17 G-21 G-21 G-21 G-22 G-23 G-23 G-25 G-34 G-34 G-34 G-34 G-34 G-34 G-35 G-38 G-38 G-38 G-38 G-40 G-44 G-51 G-51 G-71 G-88

[1] TIRE SIZE AND INFLATION PRESSURE	G-91
[2] TREAD ADJUSTMENT	G-93
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1. TRACTOR IDENTIFICATION [1] MODEL NAME AND SERIAL NUMBERS

(1) ROPS Model

When contacting your local KUBOTA distributor, always specify engine serial number, tractor serial number and hourmeter reading.

- (1) Tractor Identification Plate
- (2) Tractor Serial Number
- (3) Engine Serial Number
- (4) ROPS Identification Plate
- (ROPS Serial Number)(5) Diesel Particulate Filter (DPF) Serial Number

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(2) CABIN Model



When contacting your local KUBOTA distributor, always specify engine serial number, tractor serial number and hourmeter reading.

- (1) Tractor Identification Plate
- (2) CABIN Identification Plate
- (CABIN Serial Number)(3) Tractor Serial Number
- (4) Engine Serial Number
- (5) Diesel Particulate Filter (DPF) Serial Number

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(3) Engine Serial Number



The engine serial number is an identified number for the engine. It is marked after the engine model number.

It indicates month and year of manufacture as follows.

Year of manufacture

Alphabet or Number	Year	Alphabet or Number	Year
1	2001	F	2015
2	2002	G	2016
3	2003	Н	2017
4	2004	J	2018
5	2005	К	2019
6	2006	L	2020
7	2007	М	2021
8	2008	Ν	2022
9	2009	Р	2023
А	2010	R	2024
В	2011	S	2025
С	2012	Т	2026
D	2013	V	2027
E	2014		

• Month of manufacture

Month	Engine Serial Number			
Wonth	0001 ~ 9999	10000 ~		
January	A0001 ~ A9999	B0001 ~		
February	C0001 ~ C9999	D0001 ~		
March	E0001 ~ E9999	F0001 ~		
April	G0001 ~ G9999	H0001 ~		
Мау	J0001 ~ J9999	K0001 ~		
June	L0001 ~ L9999	M0001 ~		
July	N0001 ~ N9999	P0001 ~		
August	Q0001 ~ Q9999	R0001 ~		
September	S0001 ~ S9999	T0001 ~		
October	U0001 ~ U9999	V0001 ~		
November	W0001 ~ W9999	X0001 ~		
December	Y0001 ~ Y9999	Z0001 ~		

e.g. V3007-6A0001

"6" indicates 2006 and "A" indicates January.

So, 6A indicates that the engine was manufactured on January, 2006.

(1) Engine Model and Serial Number

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(4) DPF Muffler Number



The DPF muffler full assembly serial number is an identified number for the DPF muffler full assembly.

It shows the month and year of manufacture as below.

- (1) DPF Muffler Full Assembly Part Number and Serial Number
- (2) Body (DPF Outlet) Part Number and (4) Serial Number
- (3) Filter Comp (DPF) Part Number and Serial Number
 - and (4) Catalyst (DOC) Part Number and Serial Number

(To be continued)

(Continued)

Year of manufacture

Alphabet or Number	Year	Alphabet or Number	Year
1	2001	F	2015
2	2002	G	2016
3	2003	Н	2017
4	2004	J	2018
5	2005	К	2019
6	2006	L	2020
7	2007	М	2021
8	2008	N	2022
9	2009	Р	2023
A	2010	R	2024
В	2011	S	2025
С	2012	Т	2026
D	2013	V	2027
E	2014		

Month of manufacture

Month	DPF Muffler Full Assembly Lot Numb		
January	A0001 ~ A9999	B0001 ~ BZ999	
February	C0001 ~ C9999	D0001 ~ DZ999	
March	E0001 ~ E9999	F0001 ~ FZ999	
April	G0001 ~ G9999	H0001 ~ HZ999	
Мау	J0001 ~ J9999	K0001 ~ KZ999	
June	L0001 ~ L9999	M0001 ~ MZ999	
July	N0001 ~ N9999	P0001 ~ PZ999	
August	Q0001 ~ Q9999	R0001 ~ RZ999	
September	S0001 ~ S9999	T0001 ~ TZ999	
October	U0001 ~ U9999	V0001 ~ VZ999	
November	W0001 ~ W9999	X0001 ~ XZ999	
December	Y0001 ~ Y9999	Z0001 ~ ZZ999	

* Alphabetical letters "I" and "O" are not used.

(a)(b) (c) e.g. <u>B L 0019</u>

(a) Year: B indicates 2011(b) Month: L or M indicates June

(c) Lot Number: (0001 ~ 9999 or A001 ~ Z999)

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[2] E4B ENGINE

[Example: Engine Model Name V3307-CR-TE4B-XXXX]

The emission controls previously implemented in various countries to prevent air pollution will be stepped up as Nonroad Emission Standards continue to change. The timing or applicable date of the specific Nonroad Emission regulations depends on the engine output classification.

Over the past several years, KUBOTA has been supplying diesel engines that comply with regulations in the respective countries affected by Nonroad Emission regulations. For KUBOTA Engines, E4B will be the designation that identifies engine models affected by the next emission phase (See the table below).

When servicing or repairing ###-E4B series engines, use only replacement parts for that specific E4B engine, designated by the appropriate E4B KUBOTA Parts List and perform all maintenance services listed in the appropriate KUBOTA Operator's Manual or in the appropriate E4B KUBOTA Workshop Manual. Use of incorrect replacement parts or replacement parts from other emission level engines (for example: E3B engines), may result in emission levels out of compliance with the original E4B design and EPA or other applicable regulations.Please refer to the emission label located on the engine head cover to identify Output classification and Emission Control Information. E4B engines are identified with "EF" at the end of the Model designation, on the US EPA label. Please note: E4B is not marked on the engine.



[3] CYLINDER NUMBER



Category (1)	Engine output classification	EU regulation			
Р	From 37 to less than 56 kW	STAGE IIIB			
Ν	N From 56 to less than 75 kW				
Μ	From 75 to less than 130 kW	STAGE IIIB			
Category (2)	Engine output classification	EPA regulation			
	Less than 19 kW	Tier 4			
EE	From 19 to less than 56 kW	Interim Tier 4			
LI	From 56 to less than 75 kW	Interim Tier 4			
	From 75 to less than 130 kW	Interim Tier 4			

(1) EU regulation engine output classification category

(2) "E4B" engines are identified with "EF" at the end of the Model designation, on the US EPA label.

"E4B" designates some Interim Tier 4 / Tier 4 models, depending on engine output classification.

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You can see the cylinder numbers of KUBOTA diesel engine in the figure.

The sequence of cylinder numbers is No.1, No.2, No.3 and No.4 and it starts from the gear case side.

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2. GENERAL PRECAUTIONS



- When you disassemble, carefully put the parts in a clean area to make it easy to find the parts. You must install the screws, bolts and nuts in their initial position to prevent the reassembly errors.
- When it is necessary to use special tools, use KUBOTA special tools. Refer to the drawings when you make special tools that you do not use frequently.
- Before you disassemble or repair machine, make sure that you always disconnect the ground cable from the battery first.
- Remove oil and dirt from parts before you measure.
- Use only KUBOTA genuine parts for replacement to keep the machine performance and to make sure of safety.
- You must replace the gaskets and O-rings when you assemble again. Apply grease (1) to new O-rings or oil seals before you assemble.
- When you assemble the external or internal snap rings, make sure that the sharp edge (3) faces against the direction from which force (2) is applied.
- 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.
- Clean the parts before you measure them.
- Tighten the fittings to the specified torque. Too much torque can cause damage to the hydraulic units or the fittings. Not sufficient torque can cause oil leakage.
- When you use a new hose or pipe, tighten the nuts to the specified torque. Then loosen (approx. by 45°) and let them be stable before you tighten to the specified torque (This is not applied to the parts with seal tape).
- When you remove the two ends of a pipe, remove the lower end first.
- Use two pliers in removal and installation. One to hold the stable side, and the other to turn the side you remove to prevent twists.
- Make sure that the sleeves of flared connectors and tapers of hoses are free of dust and scratches.
- After you tighten the fittings, clean the joint and apply the maximum operation pressure 2 to 3 times to examine oil leakage.
- (1) Grease

(A) External Circlip (B) Internal Circlip

- (2) Force(3) Sharp Edge
- (4) Axial Force
- (5) Rotating Movement

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3. HANDLING PRECAUTIONS FOR ELECTRICAL PARTS AND WIRING



To ensure safety and prevent damage to the machine and surrounding equipment, obey the following precautions in handling electrical parts and wiring.

- IMPORTANT
- Check electrical wiring for damage and loosened connection every year. To this end, educate the customer to do his or her own check and at the same time recommend the dealer to perform periodic check for a fee.
- Do not try to modify or remodel any electrical parts and wiring.
- When removing the battery cables, disconnect the negative cable first. When installing the battery cables, connect the positive cable first.

(1) Negative Terminal

(2) Positive Terminal

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[1] WIRING





[2] BATTERY



3TMABAB0P006B

[3] FUSE

- Be careful not to confuse positive and negative terminal posts.
- When you remove battery cables, disconnect negative cable first. When you install battery cables, check for polarity and connect positive cable first.
- Do not install any battery with capacity other than is specified (Ah).
- After you connect 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.



- Be careful not to let battery liquid spill on your skin and clothes. If contaminated, wash it off with water immediately.
- Before you recharge the battery, remove it from the machine.
- Before you recharge, remove cell caps.
- Recharge 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 nor small capacity fuse is acceptable.
- Never use steel nor 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.
- (1) Fuse(2) Fusible Link

(3) Slow Blow Fuse

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• 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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(4) CONNECTOR



(A)

3TMABAB0P015A





•



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

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[6] COLOR OF WIRING



- Colors of wire are specified to the color codes.
- This symbol of "/" shows color with stripe(s).

(An example)

Red stripe on white color: W/R

Color of wiring	Color code		
Black	В		
Brown	Br		
Green	G		
Gray	Gy or Gr		
Blue	L		
Light Green	Lg		
Orange	Or		
Pink	Р		
Purple	Pu or V		
Red	R		
Sky Blue	Sb		
White	W		
Yellow	Y		

(1) Wire Color

(2) Stripe

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4. LUBRICANTS, FUEL AND COOLANT

No	Place	Сара	acity	Lubricanta fuel and coolent	
NO.	FidCe	ROPS	CABIN		
1	Fuel tank	70 L 18.5 U.S.gals 15.4 Imp.gals	90 L 23.8 U.S.gals. 19.8 Imp.gals.	 No. 2-D S15 diesel fuel No. 1-D S15 diesel fuel if temperature is below –10 °C (14 °F) 	
2	Coolant	8.0 8.5 U. 7.0 Im) L S.qts. np.qts.	- Fresh clean water with anti-freeze	
	Recovery tank	1.(1.1 U 0.9 In	0 L .S.qts np.qts		
3	Washer liquid	_	1.3 L 1.4 U.S.qts 1.1 Imp.qts	Automobile washer liquid	
4	Engine crankcase (with filter)	12 12.7 U 10.6 Iו	2 L J.S.qts mp.qts	API Service Classification CJ-4 (DPF type engine) • Above 25 °C (77 °F) SAE30, 10W-30 or 15W-40 • −10 to 25 °C (14 to 77 °F) SAE20, SAE10W-30 or 15W-40 • Below −10 °C (14°F) SAE10W-30	
5	Transmission case	56 59.2 U 49.3 Ir	∂ L I.S.qts. np.qts.	KUBOTA SUPER UDT 2 fluid*	
6	Front differential case oil	5.8 U. 4.8 Im	5 L S.qts. np.qts.		
	Front differential case oil (SPA Model)	5.0 L 5.3 U.S.qts. 4.4 Imp.qts.		KUBOTA SUPER UDT 2 fluid* or SAE80-SAE90 gear oil	
7	Front axle gear case oil (one side)	3.9 3.7 U 3.1 In	5 L .S.qts np.qts		

NOTE

 * The product name of KUBOTA genuine UDT fluid may be different from that in the Operator's Manual depending on countries or territories.

(To be continued)

(Continued)

	Greasing									
No.	Place	No. of greasing point	Capacity	Type of grease						
	Front axle gear case support	2								
	Front axle support	2								
	Top link	2		Multipurpose NLGI-2 or NLGI-1 (GC-LB) grease						
	Top link bracket	2	Until grease overflows							
8	Lift rod	2								
	Hydraulic lift cylinder pin	4								
	Steering joint shaft [CABIN model]	1								
	Battery terminal	2	A small amount							

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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 temperatures as shown above.
- Refer to the following table for the suitable API classification engine oil according to the engine type (with DPF (Diesel Particulate FIlter) type engines) and the fuel.

Fuelused	Engine oil classification (API classification)
i dei used	Oil class of engines with DPF
Ultra Low Sulfur Fuel [< 0.0015 % (15 ppm)]	CJ-4

Fuel :

- Use the ultra low sulfur diesel fuel only [below 0.0015 % (15 ppm)] for these engines.
- Cetane number of 45 minimum. Cetane number greater than 50 is preferred, especially for temperatures below −20 °C (−4 °F) or elevations above 1500 m (5000 ft).
- Diesel fuels 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).

Transmission Oil:

*KUBOTA Super UDT-2 : For an enhanced ownership experience, we highly recommend Super UDT-2 to be used instead of standard hydraulic/transmission fluid.

Super UDT-2 is a proprietary KUBOTA formulation that deliveries superior performance and protection in all operating conditions.

Regular UDT is also permitted for use in this machine.

· Indicated capacities of water and oil are manufacturer's estimate.

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5. TIGHTENING TORQUES [1] GENERAL USE SCREWS, BOLTS AND NUTS

Tighten screws, bolts and nuts whose tightening torques are not specified in this Workshop Manual according to the table below.

Indication on top of bolt	4 No-grade or 4T				7 77				9 эт						
Indication on top of nut		No-grade or 4T							G	O 6T	\bigcirc				
Material of opponent part	Or	dinarin	ess	Α	luminu	m	Or	dinarin	ess	Α	luminu	m	Ore	dinarin	ess
Unit	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
	7.9	0.80	5.8	7.9	0.80	5.8	9.81	1.00	7.24	7.9	0.80	5.8	12.3	1.25	9.05
M6	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to
	9.3	0.95	6.8	8.8	0.90	6.5	11.2	1.15	8.31	8.8	0.90	6.5	14.2	1.45	10.4
	18	1.8	13	17	1.7	13	24	2.4	18	18	1.8	13	30	3.0	22
M8	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to
	20	2.1	15	19	2.0	14	27	2.8	20	20	2.1	15	34	3.5	25
	40	4.0	29	32	3.2	24	48	4.9	36	40	4.0	29	61	6.2	45
M10	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to
	45	4.6	33	34	3.5	25	55	5.7	41	44	4.5	32	70	7.2	52
	63	6.4	47				78	7.9	58	63	6.4	47	103	10.5	76.0
M12	10 70	to	10 5-2	-	-	-	t0	to	to	10 70		10 5-2	117	10 12.0	10 96 7
	12	1.4	20.0				90	9.2	00	12	7.4	55	117	12.0	00.7
M14	108	11.0	79.6				124	12.0	91.2				167 to	17.0	123
10114	125	12.8	92.5	-	_	_	147	15.0	108	_	_	_	196	20.0	144
	167	17.0	123				107	20.0	145				260	26.5	102
M16	to	to	to	_	_	_	to	20.0	to	_	_	_	to	20.0	to
	191	19.5	141				225	23.0	166				304	31.0	224
	246	25.0	181				275	28.0	203				344	35.0	254
M18	to	to	to	_	_	_	to	to	to	_	_	_	to	to	to
	284	29.0	209				318	32.5	235				402	41.0	296
	334	34.0	246				368	37.5	272				491	50.0	362
M20	to	to	to	_	-	_	to	to	to	_	-	-	to	to	to
	392	40.0	289				431	44.0	318				568	58.0	419

[2] STUD BOLTS

Material of opponent part	Or	dinarin	ess	Aluminum			
Unit	N∙m	kgf∙m	lbf·ft	N∙m	kgf∙m	lbf∙ft	
	12	1.2	8.7	8.9	0.90	6.5	
M8	to	to	to	to	to	to	
	15	1.6	11	11	1.2	8.6	
	25	2.5	18	20	2.0	15	
M10	to	to	to	to	to	to	
	31	3.2	23	25	2.6	18	
	30	3.0	22				
M12	to	to	to	31	3.2	23	
	49	5.0	36				
	62	6.3	46				
M14	to	to	to	_	-	-	
	73	7.5	54				
	98.1	10.0	72.4				
M16	to	to	to	_	-	-	
	112	11.5	83.1				
	172	17.5	127				
M18	to	to	to	_	-	-	
	201	20.5	148				

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[3] HYDRAULIC FITTINGS(1) Hydraulic Hose Fittings

Hoso sizo	Throad side	Tightening torque				
nose size	Thead Side	N∙m	kgf∙m	lbf·ft		
02	1/8	13.8 to 15.6	1.40 to 1.60	10.2 to 11.5		
03	1/4	22.6 to 27.4	2 30 to 2 80	16 7 to 20 2		
04	1/4	22.0 10 27.4	2.30 10 2.00	10.7 10 20.2		
05	3/8	45.2 to 52.9	4 60 to 5 40	33 3 to 39 0		
06		45.2 (0 52.9	4.00 10 5.40	33.3 10 39.0		

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(2) Hydraulic Pipe Cap Nuts

Pino sizo	Tightening torque						
r ipe size	N∙m	kgf∙m	lbf·ft				
φ4 × t1.0	19.7 to 29.4	2.00 to 3.00	14.5 to 21.6				
φ6 × t1.0	24.6 to 34.3	2.50 to 3.50	18.1 to 25.3				
φ8 × t1.0	29.5 to 39.2	3.00 to 4.00	21.7 to 28.9				
φ10 × t1.0	39.3 to 49.0	4.00 to 5.00	29.0 to 36.1				
φ12 × t1.5	49.1 to 68.6	5.00 to 7.00	36.2 to 50.6				
φ15 × t1.6	108 to 117	11.0 to 12.0	79.6 to 86.7				
φ18 × t1.6	108 to 117	11.0 to 12.0	79.6 to 86.7				

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(3) Adaptors, Elbows and Others

Itom	Throad side	Tightening torque					
nem	Thead Side	N∙m	kgf∙m	lbf·ft			
	G 1/8	45 to 53	4.5 to 5.5	33 to 39			
Eitting with O ring	G 1/4	74 to 83	7.5 to 8.5	55 to 61			
	G 3/8	93.2 to 102	9.50 to 10.5	68.8 to 75.9			
	G 1/2	113 to 122	11.5 to 12.5	83.2 to 90.4			
	G 1/8	23 to 26	2.3 to 2.7	17 to 19			
Elbow with O ring	G 1/4	36 to 43	3.6 to 4.4	26 to 31			
	G 3/8	54 to 63	5.5 to 6.5	40 to 47			
	G 1/2	73 to 83	7.4 to 8.5	54 to 61			
	G 1/8	9.8 to 14	1.0 to 1.5	7.3 to 10			
Adapter	G 1/4	30 to 34	3.0 to 3.5	22 to 25			
	G 3/8	49 to 68	5.0 to 7.0	37 to 50			
	G 1/2	69 to 88	7.0 to 9.0	51 to 65			

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[4] METRIC SCREWS, BOLTS AND NUTS

Grade	8	.8 Property class 8	3.8	(10.9) Property class 10.9			
Unit	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	76.0 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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[5] AMERICAN STANDARD SCREWS, BOLTS AND NUTS WITH UNC OR UNF THREADS

Grade		SAE GR.5		SAE GR.8			
Unit	N∙m	kgf∙m	lbf∙ft	N∙m	kgf∙m	lbf·ft	
1/4	11.7 to 15.7	1.20 to 1.60	8.63 to 11.5	16.3 to 19.7	1.67 to 2.00	12.0 to 14.6	
5/16	23.1 to 27.7	2.36 to 2.82	17.0 to 20.5	33 to 39	3.4 to 3.9	25 to 28	
3/8	48 to 56	4.9 to 5.7	36 to 41	61 to 73	6.3 to 7.4	45 to 53	
1/2	110 to 130	11.3 to 13.2	81.2 to 95.8	150 to 178	15.3 to 18.1	111 to 131	
9/16	150 to 178	15.3 to 18.1	111 to 131	217 to 260	22.2 to 26.5	160 to 191	
5/8	204 to 244	20.8 to 24.8	151 to 179	299 to 357	30.5 to 36.4	221 to 263	

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[6] PLUGS

Shape	Size	Material of opponent part					
		Ordinariness			Aluminum		
		N∙m	kgf∙m	lbf·ft	N∙m	kgf∙m	lbf·ft
Tapered screw	R1/8	13 to 21	1.3 to 2.2	9.4 to 15	13 to 19	1.3 to 2.0	9.4 to 14
	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 to 58	5.0 to 6.0	37 to 43
	R1/2	58.9 to 107	6.00 to 11.0	43.4 to 79.5	59 to 78	6.0 to 8.0	44 to 57
Straight screw	G1/4	25 to 34	2.5 to 3.5	18 to 25	-	-	-
	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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