

Product: Kubota M4700 M5400 Service Manual

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TO THE READER

This Workshop Manual has been prepared to provide servicing personnel with information on the mechanism, service and maintenance of KUBOTA Tractors M4700 and M5400. It is divided into two parts, "Mechanism" and "Servicing" for each section.

■ Mechanism

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

■ Servicing

Under the heading "General" section comes general precautions, check and maintenance and special tools. Other section, there are troubleshooting, servicing specification lists, 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 production information available at the time of publication.

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

August '95

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SAFETY FIRST

This symbol, the industry's "Safety Alert Symbol", is used throughout this manual and decals 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.

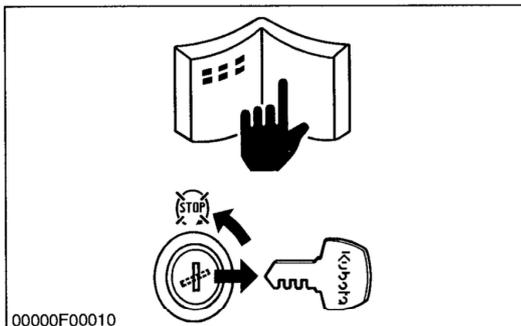
 **WARNING** :Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

 **CAUTION** :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.

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BEFORE SERVICING AND REPAIRING

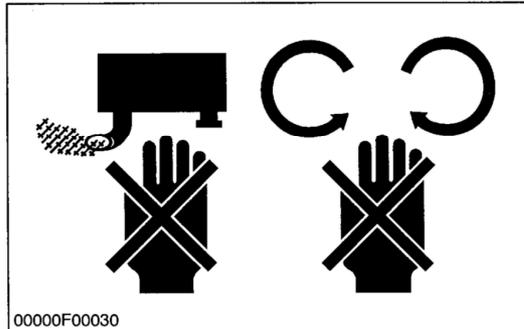
- (1) Read all instructions and safety instructions in this manual and on your machine safety decals.
- (2) Clean the work area and machine.
- (3) Park the machine on a firm and level ground, and set the parking brake.
- (4) Lower the implement to the ground.
- (5) Stop the engine, and remove the key.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

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**SAFETY STARTING**

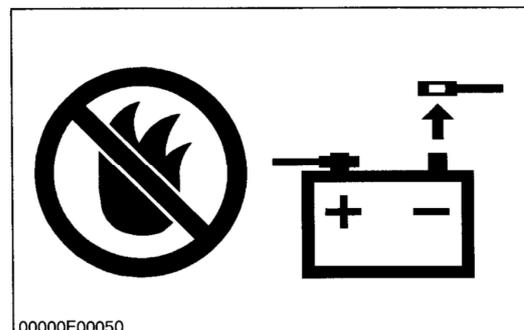
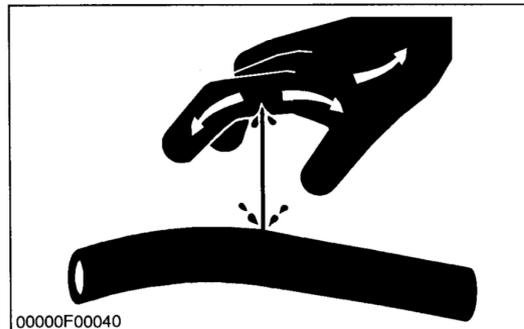
- (1) Do not start the engine by shorting across starter terminals or bypassing the safety start switch.
- (2) Do not alter or remove any part of machine safety system.
- (3) Before starting the engine, make sure that all shift levers are in neutral positions or in disengaged positions.
- (4) Never start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

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**SAFETY WORKING**

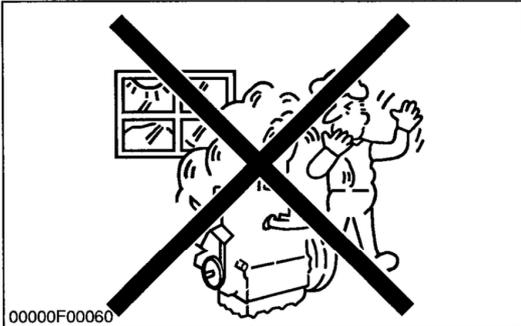
- (1) Do not work on the machine while under the influence of alcohol, medication, or other substances or while fatigued.
- (2) Wear close fitting clothing and safety equipment appropriate to the job.
- (3) Use tools appropriate to the work. Makeshift tools, parts, and procedures are not recommended.
- (4) When servicing is performed together by two or more persons, take care to perform all work safely.
- (5) Do not work under the machine that is supported solely by a jack. Always support the machine by safety stands.
- (6) Do not touch the rotating or hot parts while the engine is running.
- (7) 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.
- (8) 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.

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**AVOID FIRES**

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

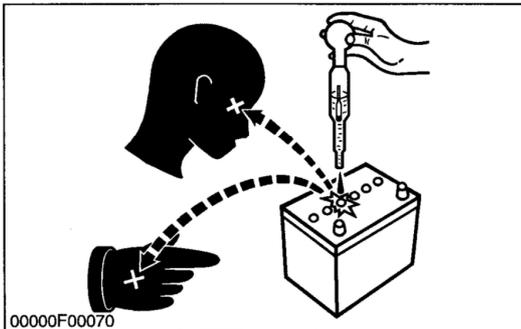
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VENTILATE WORK AREA

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

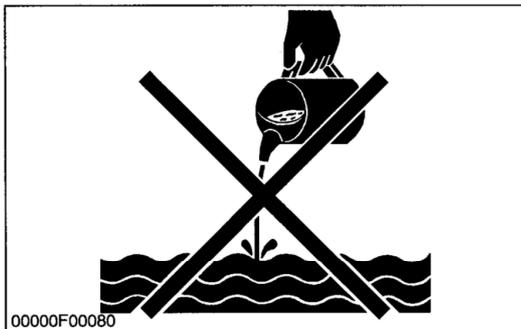
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PREVENT ACID BURNS

- (1) 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.

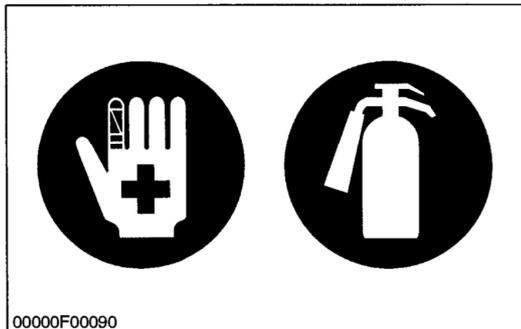
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DISPOSE OF FLUIDS PROPERLY

- (1) 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.

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PREPARE FOR EMERGENCIES

- (1) Keep a first aid kit and fire extinguisher handy at all times.
- (2) Keep emergency numbers for doctors, ambulance service, hospital and fire department near your telephone.

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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.

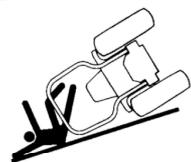
① Part No. TA040-4965-2

	<p style="text-align: center;">⚠ DANGER TA040-49652 ©</p> <p>TO AVOID POSSIBLE INJURY OR DEATH FROM A MACHINE RUNAWAY.</p> <ol style="list-style-type: none"> 1. Do not start engine by shorting across starter terminals or bypassing the safety start switch. Machine may start in gear and move if normal starting circuitry is bypassed. 2. Start engine only from operator's seat with transmission and PTO OFF. Never start engine while standing on the ground.
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⑥ Part No. 32751-4958-1
Stay clear of engine fan and fanbelt.



② Part No. TA040-4932-2

<p>⚠ WARNING</p> 	<p>TO AVOID PERSONAL INJURY OR DEATH FROM ROLL-OVER:</p> <ol style="list-style-type: none"> 1. Kubota recommends the use of a Roll-Over Protective Structures (ROPS) and seat belt in almost all applications. 2. Remove the ROPS only when it substantially interferes with operation or itself presents a safety risk (Examples include work in orchards and vineyards.) ALWAYS REINSTALL IT BEFORE USING THE TRACTOR IN OTHER APPLICATIONS. 3. Never use just the seat belt or just the ROPS. They must be used together. For further details, consult your Operator's Manual or your local dealer. <p style="text-align: right; font-size: small;">TA040-49322 ©</p>
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⑦ Part No. 32310-4958-1
Do not touch hot surface like muffler, etc.



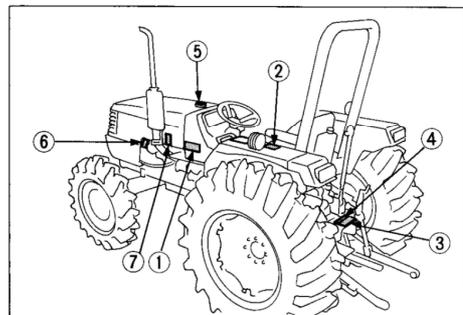
③ Part No. TA040-4959-3

	<p style="text-align: center;">⚠ WARNING TA040-49593 ©</p> <p>TO AVOID PERSONAL INJURY.</p> <ol style="list-style-type: none"> 1. Keep PTO shield in place at all times. 2. Do not operate the PTO at speeds faster than the speed recommended by the implement manufacturer. 3. For trailing PTO-driven implements, set drawbar at towing position. (see operator's manual)
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④ Part No. TA040-4935-1

<p>⚠ WARNING</p> <p>TO AVOID PERSONAL INJURY:</p> <ol style="list-style-type: none"> 1. Attach pulled or towed loads to the drawbar only. 2. Use the 3-point hitch only with equipment designed for 3-point hitch usage. <p style="text-align: right; font-size: small;">TA040-49351 ©</p>
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⑤ Part No. 6C040-4741-1
No fire



⑧ Part No. 35260-3491-3

CAUTION

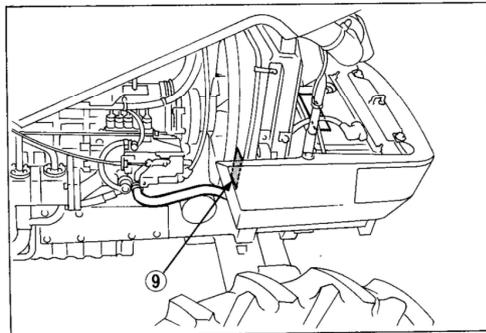
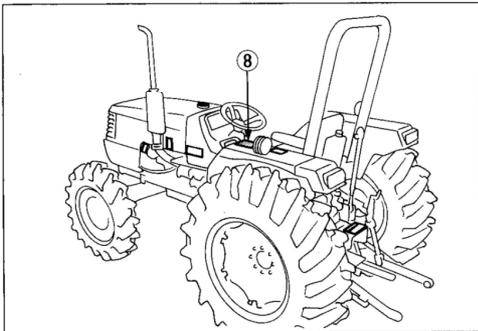
35260-3491 3 ⑧

TO AVOID PERSONAL INJURY:

1. Read and understand the operator's manual before operation.
2. Before starting the engine, make sure that everyone is at a safe distance from the tractor and that the PTO is OFF.
3. Do not allow passengers on the tractor at any time.
4. Before allowing other people to use the tractor, have them read the operator's manual.
5. Check the tightness of all nuts and bolts regularly.
6. Keep all shields in place and stay away from all moving parts.
7. Lock the two brake pedals together before driving on the road.
8. Slow down for turns, or rough roads, or when applying individual brakes.
9. On public roads use SMV emblem and hazard lights, if required by local traffic and safety regulations.
10. Pull only from the drawbar.
11. Before dismounting, lower the implement, set the parking brake, stop the engine and remove the key.

⑨ Part No. TA040-4957-1

Stay clear of engine fan and fanbelt.



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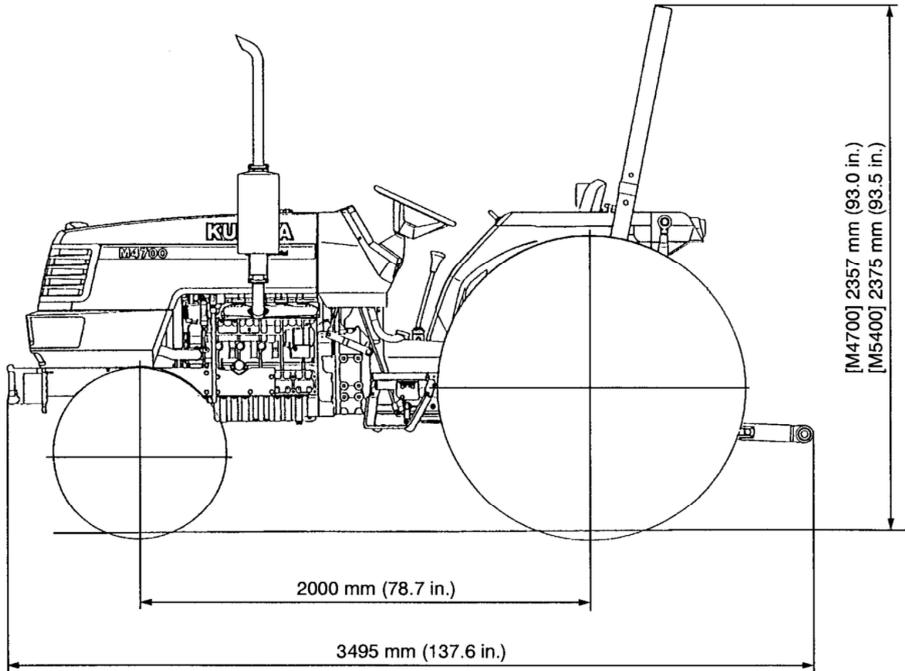
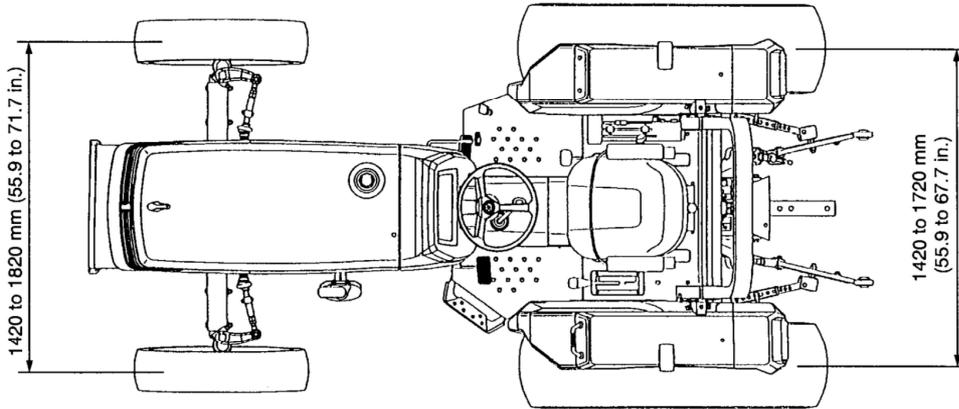
SPECIFICATIONS

Model		M4700		M5400		
		2WD	4WD	2WD	4WD	
PTO power (Factory observed)		31.3 kW (42 HP, 2600 rpm)		37.3 kW (50 HP, 2700 rpm)		
Engine	Model	F2803-LA		F2803-A		
	Type	Vertical, water-cooled, 4-cycle diesel engine				
	Number of cylinders	5				
	Total displacement	2746 cm ³ (167.6 cu.in.)				
	Bore and stroke	87 × 92.4 mm (3.4 × 3.6 in.)				
	Engine rated output	35.1 kW (47 HP)		40.3 kW (54 HP)		
	Rated revolution	2600 rpm		2700 rpm		
	Maximum torque	158 N·m (16.1 kgf·m, 116.5 ft-lbs)/ 1400 to 1600 rpm		175 N·m (17.9 kgf·m, 129 ft-lbs)/ 1400 to 1600 rpm		
	Battery	CCA 615 K, RC150 min (12 V)				
	Fuel	Diesel fuel No. 1-D [below -10 °C (14 °F)] Diesel fuel No. 2-D [above -10 °C (14 °F)]				
	Fuel tank capacity	65 L (17.2 U.S.gal., 14.3 Imp.gal.)				
	Engine crankcase capacity	8.0 L (8.5 U.S.qts., 7.03 Imp.qts.)				
	Engine coolant capacity	6.2 L (6.6 U.S.qts., 5.7 Imp.qts.)		8.0 L (8.5 U.S.qts., 7.03 Imp.qts.)		
Dimensions	Overall length	3495 mm (137.6 in.)	3405 mm (134.1 in.)	3495 mm (137.6 in.)	3405 mm (134.1 in.)	
	Overall width (Minimum tread)	1706 mm (67.2 in.)		1850 mm (72.8 in.)		
	Overall height (with ROPS)	2357 mm (93.0 in.)		2375 mm (93.5 in.)		
	Wheel base	2000 mm (78.7 in.)				
	Tread	Front	1420 to 1820 mm (55.9 to 71.7 in.)	1330 mm (52.4 in.) 1430 mm (56.3 in.)	1420 to 1820 mm (55.9 to 71.7 in.)	1330 mm (52.4 in.) 1430 mm (56.3 in.)
		Rear	1420 to 1720 mm (55.9 to 67.7 in.)			
	Minimum ground clearance	430 mm (16.9 in.) (BRACKET DRAWBAR)		460 mm (18.1 in.) (BRACKET DRAWBAR)		
Weight (with ROPS)		1700 kg (3748 lbs)	1800 kg (3968 lbs)	1750 kg (3858 lbs)	1850 kg (4078 lbs)	
Travelling system	Standard tire size	Front	6.5-16	9.5-22	7.5-16	
		Rear	14.9-28		16.9-28	
	Clutch	Dry, Single plate				
	Steering	Full hydrostatic power steering				
	Transmission	Shuttle synchromesh, 8F/4R (with creep speed 12F/4R)				
	Brake	Travelling	Wet type, multiple discs (mechanical)			
		Parking	Connected with the travelling brake			
Differential	Bevel gears (with differential lock)					
Hydraulic system	Hydraulic control system	Position, draft and mix control				
	Pump-up capacity	35.4 L (9.4 U.S.gal., 7.8 Imp.gal.)/min.		42.7 L (11.3 U.S.gal., 9.4 Imp.gal.)/min.		
	Three point hitch	Category I & II				
	Maximum lifting force	1900 kg (4189 lbs) at lower link end 1500 kg (2307 lbs) at 610 mm (24 in.) behind lifting point				
	System pressure	19.1 MPa (195 kgf/cm ² , 2773 psi)				
PTO	Independent clutch	Wet type, multiple discs				
	Live PTO	Direction of turning	Clockwise, viewed from tractor rear			
		PTO speed	540 rpm at 2295 engine rpm			
Traction system		Swing drawbar, adjustable in direction				

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DIMENSIONS

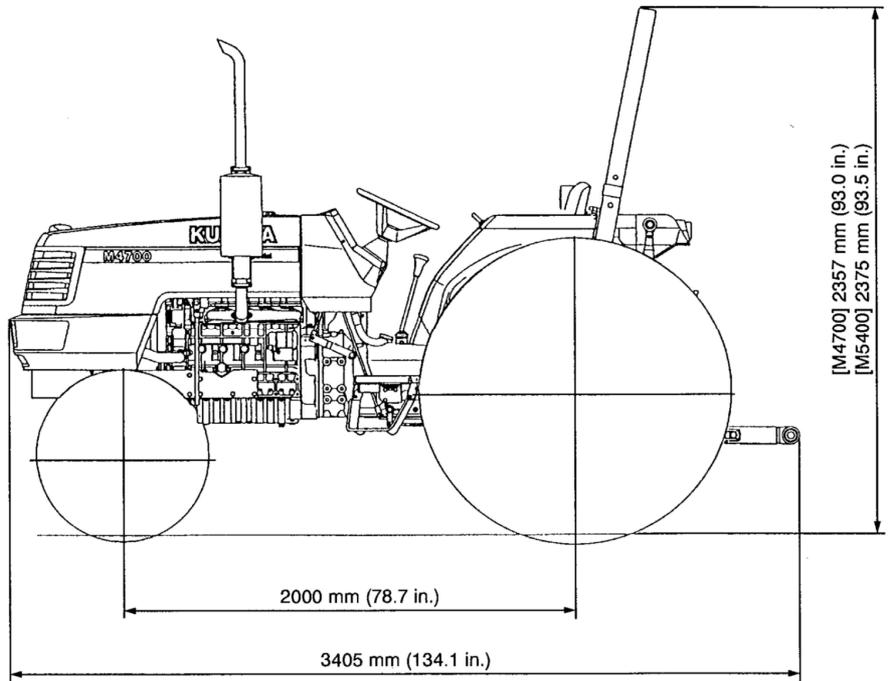
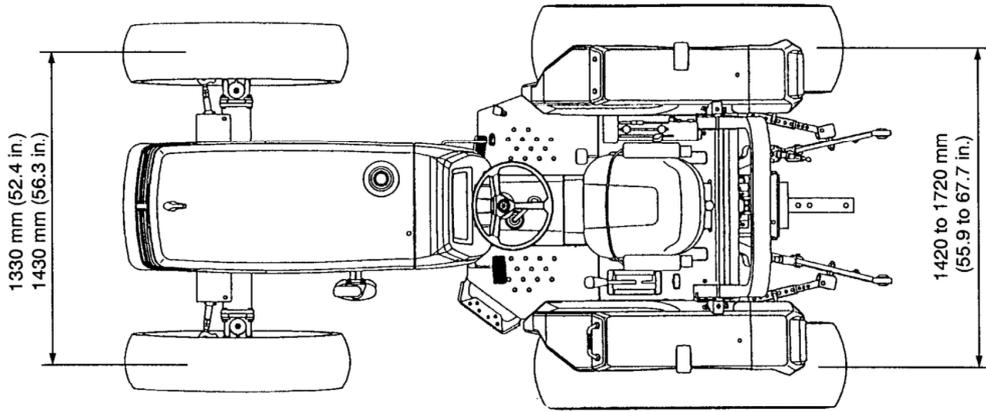
M4700-M5400 [2WD Type]



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M4700-M5400 [4WD Type]



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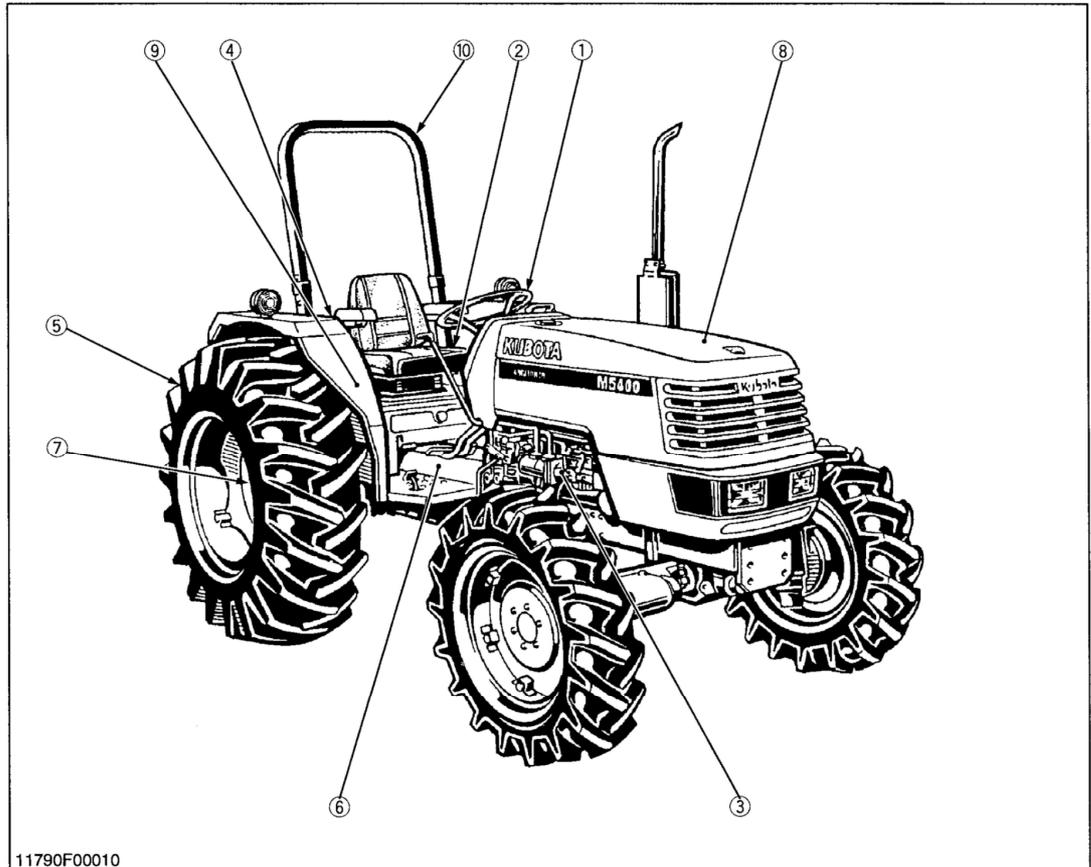
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[1] FEATURES

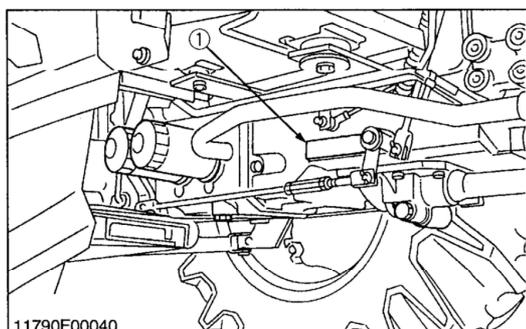
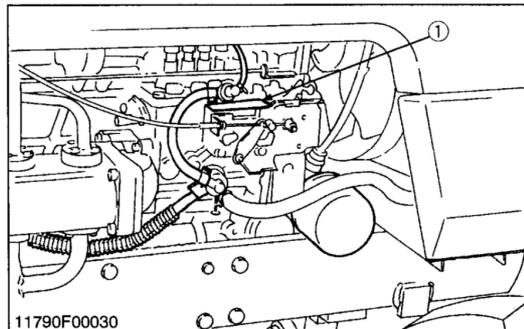
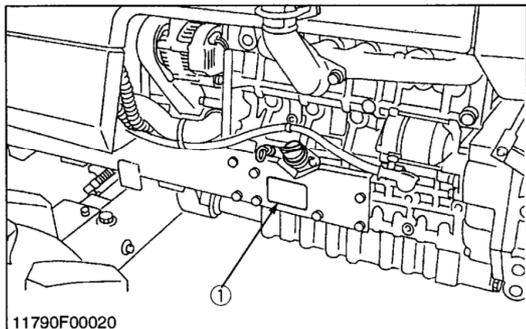
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- | | |
|---|--------------------------------------|
| (1) Full Hydrostatic Power Steering | (6) Creep Transmission (Option) |
| (2) Synchro Shuttle Shift (Lo-Reverse) | (7) Wet Disc Brake |
| (3) E-TVCS (Three Vortex Combustion System) Diesel Engine | (8) New Design |
| (4) Independent PTO Hydraulic PTO Clutch System | (9) Auxiliary Control Valve (Option) |
| (5) Three Point Hitch with Big Lift Power Three Point Hitch Fully Equipped with Position, Draft and Mixed Control | (10) ROPS |

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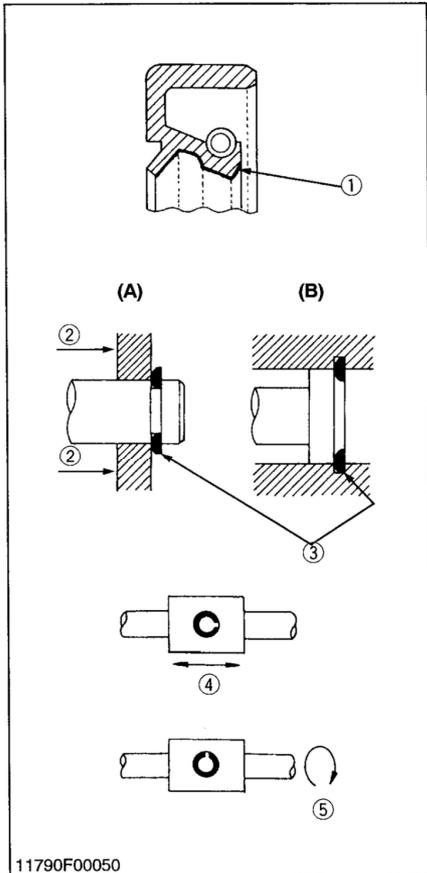
[2] TRACTOR IDENTIFICATION

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



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[3] GENERAL PRECAUTIONS



- During disassembly, carefully arrange removed parts in a clean area to prevent confusion later. 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 tractor 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.

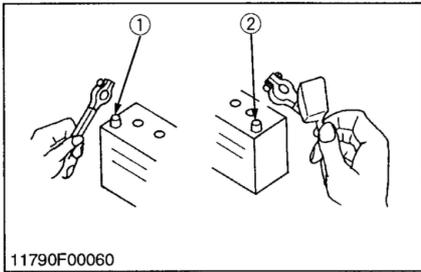
- (1) Grease
- (2) Force
- (3) Sharp Edge
- (4) Axial Force
- (5) Rotating Movement

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

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[4] HANDLING PRECAUTIONS FOR ELECTRICAL PARTS AND WIRING



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

■ IMPORTANT

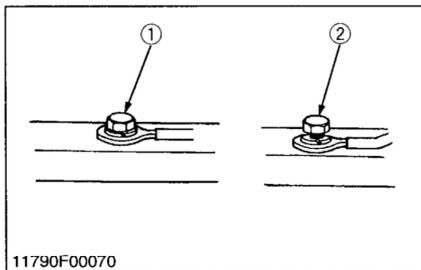
- Check electrical wiring for damage and loosened connection every year. To this end, educate the customer to do his or her own check and at the same time recommend the dealer to perform periodic check for a fee.
- Do not attempt to modify or remodel any electrical parts and wiring.
- When removing the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

(1) Negative Terminal

(2) Positive Terminal

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(1) Wiring

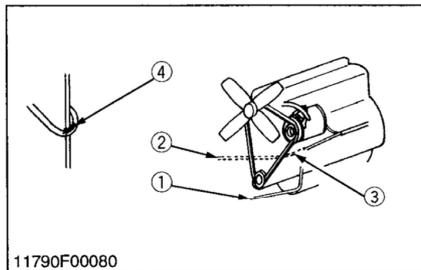


- Securely tighten wiring terminals.

(1) Correct
(Securely Tighten)

(2) Incorrect
(Loosening Leads to Faulty Contact)

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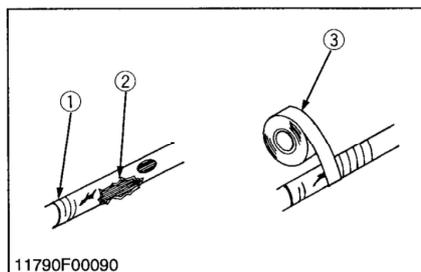


- Do not let wiring contact dangerous part.

(1) Wiring (Correct)
(2) Wiring (Incorrect)

(3) Dangerous Part
(4) Dangerous Part

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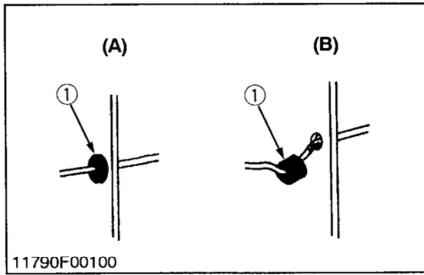


- Repair or change torn or aged wiring immediately.

(1) Aged
(2) Torn

(3) Insulating Vinyl Tape

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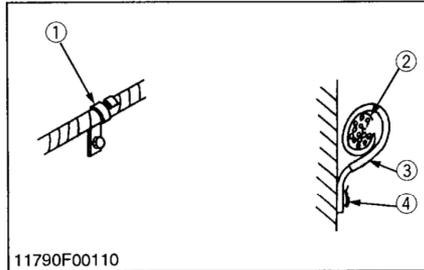


• Securely insert grommet.

(1) Grommet

(A) Correct
(B) Incorrect

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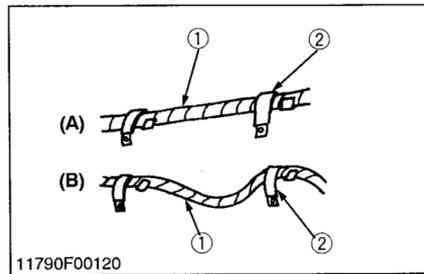


• Securely clamp, being careful not to damage wiring.

(1) Clamp
• Wind Clamp Spirally
(2) Wire Harness

(3) Clamp
(4) Welding Dent

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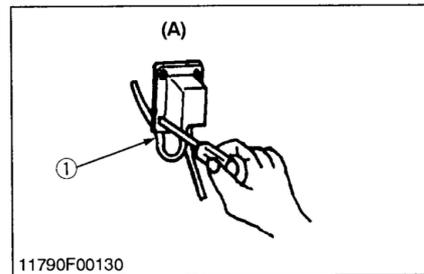


• Clamp wiring so that there is no twist, unnecessary sag, or excessive tension, except for movable part, where sag be required.

(1) Wiring
(2) Clamp

(A) Correct
(B) Incorrect

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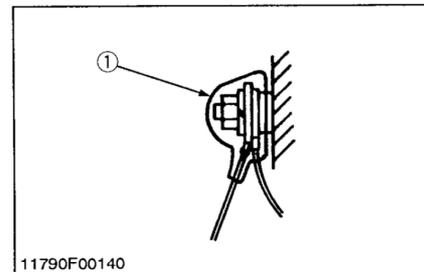


• In installing a part, take care not to get wiring caught by it.

(1) Wiring

(A) Incorrect

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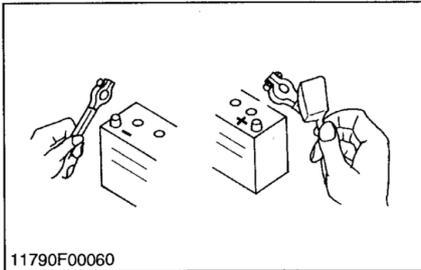


• After installing wiring, check protection of terminals and clamped condition of wiring, only then connect battery.

(1) Cover
• Securely Install Cover

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(2) Battery



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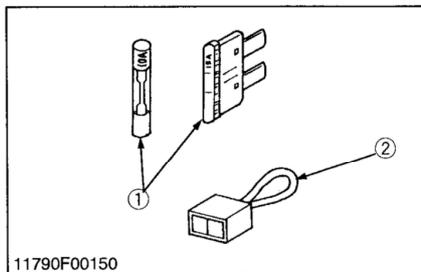
- Take care not to confuse positive and negative terminals.
- When removing battery cord, disconnect negative wire first. When installing battery cord, check for polarity and connect positive wire first.
- Do not install any battery with capacity other than is specified (Ah).
- After connecting cord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

CAUTION

- 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.

11790G00130

(3) Fuse



11790F00150

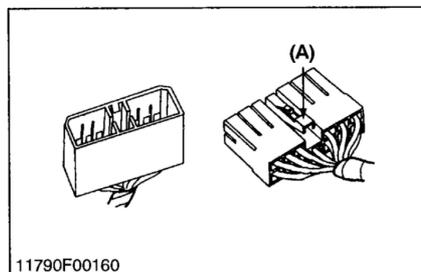
- Use fuses with specified capacity. Neither too large or small capacity fuse is acceptable.
- Never use steel or copper wire in place of fuse.
- Do not install working light, radio set, etc. on machine which is not provided with reserve power supply.
- Do not install accessories if fuse capacity of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

(1) Fuse

(2) Fusible Link

11790G00140

(4) Connector

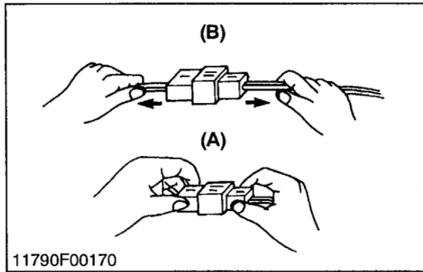


11790F00160

- For connector with lock, push lock to separate.

(A) Push

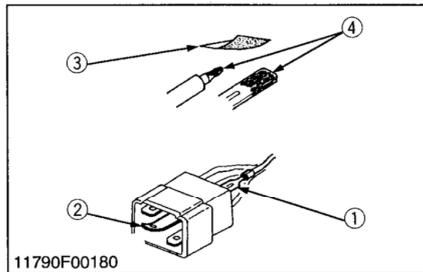
11790G00150



- In separating connectors, do not pull wire harnesses.
- Hold connector bodies to separate.

(A) Correct (B) Incorrect

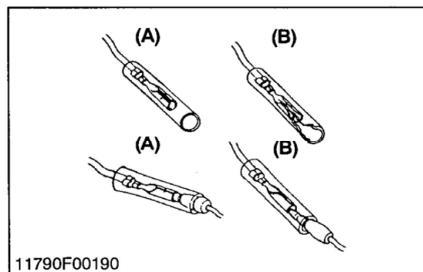
11790G00160



- Use sandpaper to remove rust from terminals.
- Repair deformed terminal. Make certain there is no terminal being exposed or displaced.

(1) Exposed Terminal (2) Bend Terminal (3) Sandpaper (4) Rust

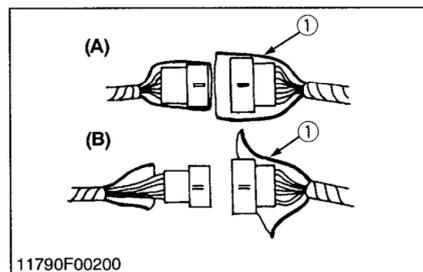
11790G00170



- Make certain that there is no female connector being too open.

(A) Correct (B) Incorrect

11790G00180

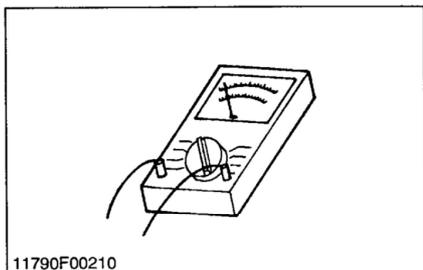


- Make certain plastic cover is large enough to cover whole connector.

(1) Cover (A) Correct (B) Incorrect

11790G00190

(5) Handling of Circuit Tester



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

11790G00200

[5] LUBRICANTS, FUEL AND COOLING WATER

	Place	Capacity		Lubricants, fuel and cooling water
		M4700	M5400	
1	Fuel	65 L 17.2 U.S.gals. 14.3 Imp.gals.		No. 2-D diesel fuel No. 1-D diesel fuel if temperature is below - 10 °C (14 °F)
2	Coolant	6.2 L 6.6 U.S.qts. 5.5 Imp.qts.	8.0 L 8.5 U.S.qts. 7.0 Imp.qts.	Fresh clean water with anti-freeze
3	Engine crankspace	8.0 L 8.5 U.S.qts. 7.0 Imp.qts.		Engine oil : API Service Classification CC or 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	40.0 L 42.3 U.S.qts. 35.2 Imp.qts.		KUBOTA SUPER UDT fluid *
5	Front axle case [4WD]	8.0 L 8.5 U.S.qts. 7.0 Imp.qts.		KUBOTA SUPER UDT fluid or SAE80, SAE90 gear oil
Greasing				
	Place	No. of greasing point	Capacity	Type of grease
6	Front wheel hub [2WD]	2	Until grease overflows	Multipurpose type grease
	Knuckle shaft [2WD]	2		
	Front wheel case support [4WD]	2		
	Front axle support [4WD]	1		
	Top link	2		
	Top link bracket	2		
	Lift rod	3		
	Battery terminal	2	Moderate amount	

* KUBOTA original transmission hydraulic fluid.

11790G00751

[6] TIGHTENING TORQUES (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						⑦ 7T						⑨ 9T		
Material of bolt	SS400, S20C						S43C, S48C						SCr435, SCM435		
Material of opponent part	Ordinariness			Aluminum			Ordinariness			Aluminum			Ordinariness		
Diameter	N-m	kgf-m	ft-lbs												
M6 (6 mm, 0.24 in.)	7.84 to 9.31	0.80 to 0.95	5.79 to 6.87	7.84 to 8.83	0.80 to 0.90	5.79 to 6.51	9.80 to 11.2	1.00 to 1.15	7.24 to 8.32	7.84 to 8.83	0.80 to 0.90	5.79 to 6.51	12.3 to 14.2	1.25 to 1.45	9.05 to 10.5
M8 (8 mm, 0.31 in.)	17.7 to 20.5	1.8 to 2.1	13.0 to 15.2	16.7 to 19.6	1.7 to 2.0	12.3 to 14.5	23.6 to 27.4	2.4 to 2.8	17.4 to 20.2	17.7 to 20.6	1.8 to 2.1	13.0 to 15.2	29.4 to 34.3	3.0 to 3.5	21.7 to 25.3
M10 (10 mm, 0.39 in.)	39.2 to 45.0	4.0 to 4.6	29.0 to 33.2	31.4 to 34.3	3.2 to 3.5	23.1 to 25.3	48.1 to 55.8	4.9 to 5.7	35.5 to 41.2	39.2 to 44.1	4.0 to 4.5	28.9 to 32.5	60.8 to 70.5	6.2 to 7.2	44.9 to 52.1
M12 (12 mm, 0.47 in.)	62.8 to 72.5	6.4 to 7.4	46.3 to 53.5				77.5 to 90.1	7.9 to 9.2	57.2 to 66.5	62.8 to 72.5	6.4 to 7.4	46.3 to 53.5	103 to 117	10.5 to 12.0	76.0 to 86.8
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				196 to 225	20.0 to 23.0	145 to 166				260 to 303	26.5 to 31.0	192 to 224
M18 (18 mm, 0.71 in.)	245 to 284	25.0 to 29.0	181 to 210				275 to 318	28.0 to 32.5	203 to 235				343 to 401	35.0 to 41.0	254 to 297
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				490 to 568	50.0 to 58.0	362 to 420

11790G00760

[7] MAINTENANCE

No.	Item		Period	Indication on hour meter																After purchase		Reference page			
				50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	1 year	2 years				
1	Engine oil		Change	★	☆		☆		☆		☆		☆		☆		☆		☆		☆				G-12
2	Engine oil filter		Replace	★			☆				☆				☆				☆						G-13
3	Hydraulic oil filter		Replace	★			☆				☆				☆				☆						G-13
4	Transmission fluid		Change	★											☆										G-14
5	Front axle case oil		Change	★											☆										G-14
6	Front axle pivot		Adjust	★											☆										G-15
7	Greasing				☆		☆		☆		☆		☆		☆		☆		☆		☆				G-17
8	Engine start system		Check	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	G-16
9	Wheel bolt torque		Check	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	G-16
10	Battery condition		Check		☆		☆		☆		☆		☆		☆		☆		☆		☆				G-17
11	Air cleaner element [Double type]	Primary element *	Clean		☆		☆		☆		☆		☆		☆		☆		☆		☆				G-19
			Replace																				☆		G-19
		Secondary element	Replace																					☆	
12	Filter element		Clean		☆		☆		☆		☆		☆		☆		☆		☆		☆				G-19
			Replace																						☆
13	Fan belt		Adjust		☆		☆		☆		☆		☆		☆		☆		☆		☆				G-20
14	Clutch		Adjust	★	☆		☆		☆		☆		☆		☆		☆		☆		☆				G-15
15	Brake		Adjust		☆		☆		☆		☆		☆		☆		☆		☆		☆				G-20
16	Radiator hose and clamp		Check				☆				☆				☆						☆				G-21
			Replace																						☆
17	Power steering oil line		Check				☆				☆				☆						☆				G-21
			Replace																						☆
18	Fuel line		Check				☆				☆				☆						☆				G-21
			Replace																						☆
19	Toe-in		Adjust				☆				☆				☆						☆				G-22
20	Greasing (2WD front wheel hub)														☆						☆				G-22
21	Engine valve clearance **		Adjust																				☆		G-23
22	Cooling system		Flush																					☆	G-24
23	Coolant		Change																					☆	G-25
24	Fuel system		◆																						G-26
25	Clutch housing water		◆																						G-26
26	Fuse		◆																						G-26
27	Light bulb		◆																						G-27

Note : The jobs indicated by ★ must be done by all means 50 hours after the break-in respectively.
 The jobs indicated by ◆ service as required.
 * Air cleaner should be cleaned more often in dusty conditions than in normal conditions.
 ** Consult your local KUBOTA dealer for this service.

[8] CHECK AND MAINTENANCE



CAUTION

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

11790G00210

(1) Daily Check

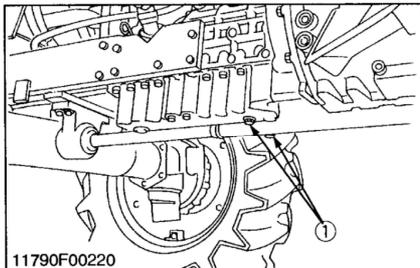
To prevent trouble from occurring, it is important to know the condition of the tractor. Check the following items before starting.

Checking

- Check areas where previous trouble was experienced.
- Walk around the tractor.
 - 1) Check the tire pressure, and check for wear and damage.
 - 2) Check for oil and water leaks.
 - 3) Check the engine oil level.
 - 4) Check the transmission fluid level.
 - 5) Check the coolant level.
 - 6) Check the condition of ROPS attaching hardware.
 - 7) Check and clean the radiator screen and grill.
 - 8) Check the bolts and nuts of the tires are tight.
 - 9) Check the number plate or SMV emblem for damage and cleaner replace as necessary if equipped.
 - 10) Care of danger, warning and caution labels.
 - 11) Clean around the exhaust manifold and the muffler of the engine.
- While sitting in the operator's seat.
 - 1) Check the throttle pedal, brake pedals and clutch pedal.
 - 2) Check the parking brake.
 - 3) Check the steering wheel.
 - Turning the key switch.
 - 1) Check the performance of the easy checker lights.
 - 2) Check head lights, tail lights and hazard lights. Clean if necessary.
 - 3) Check the performance of the meters and gauges.
 - Starting the engine.
 - 1) Check to see that the lights on the Easy Checker go off.
 - 2) Check the color of the exhaust.
 - 3) Check the brakes for proper operation.

11790G00220

(2) Check Points of Initial 50 Hours



11790F00220

Changing Engine Oil



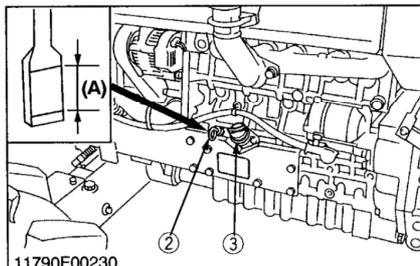
CAUTION

- Before changing oil, be sure to stop the engine.

1. Start and warm up the engine for approx. 5 minutes.
2. Place an oil pan underneath the engine.
3. To drain the used oil, remove the drain plug (1) at the bottom of the engine and drain the oil completely.
4. Screw in the drain plug (1).
5. Fill new oil up to upper line on the dipstick (2).

IMPORTANT

- When using an oil of different manufacture or viscosity from the previous one, remove all of the old oil.
- Never mix two different types of oil.
- Use the proper SAE Engine Oil according to ambient temperatures.
- Refer to "LUBRICANTS, FUEL AND COOLING WATER". (See page G-9.)

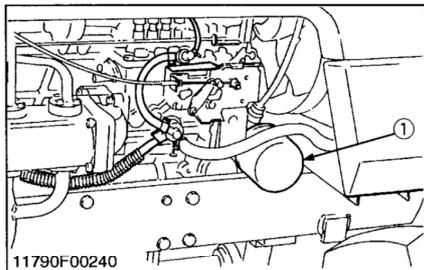


11790F00230

- (1) Drain Plug
- (2) Dipstick
- (3) Oil Inlet

(A) Oil level is acceptable within this range.

11790G00230



11790F00240

Replacing Engine Oil Filter Cartridge

⚠ CAUTION

- **Be sure to stop the engine before changing oil filter cartridge.**

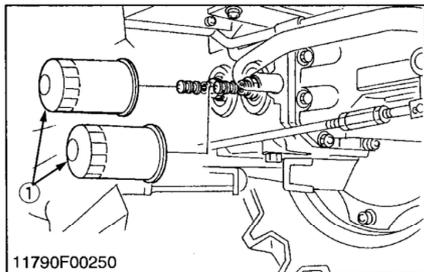
1. Remove the engine oil filter cartridge (1) with the filter wrench.
2. Apply a slight coat of oil onto the cartridge gasket.
3. To install the new cartridge, screw it in by hand. Over tightening may cause deformation of rubber gasket.
4. After the new cartridge has been replaced, the engine oil normally decrease a little. Thus see that the engine oil does not leak through the seal and be sure to read the oil level on the dipstick. Then, replenish the engine oil up to the specified level.

■ IMPORTANT

- **To prevent serious damage to the engine, replacement element must be highly efficient. Use only a KUBOTA genuine filter or its equivalent.**

(1) Engine Oil Filter Cartridge

11790G00240



11790F00250

Replacing Hydraulic Oil Filter Cartridge

⚠ CAUTION

- **Be sure to stop the engine before changing the oil filters.**

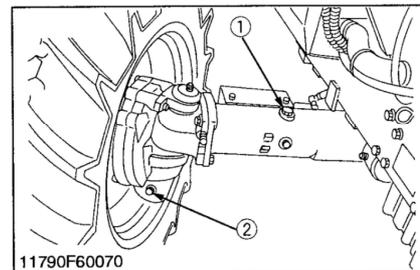
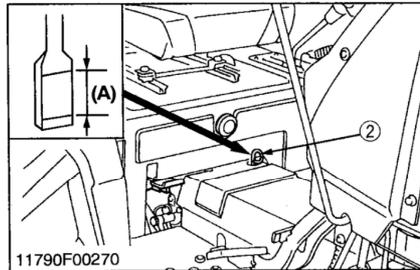
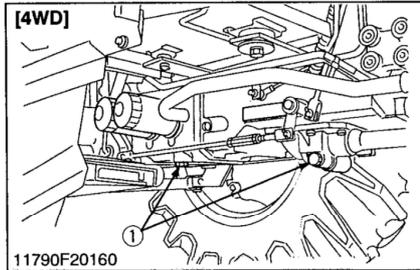
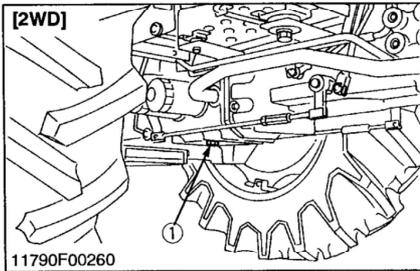
1. Remove the hydraulic oil filter cartridge (1).
2. When installing, apply the clean transmission oil slightly to the rubber gasket.
3. Tighten the hydraulic oil filter cartridge quickly until it contacts the mounting surface. Tighten hydraulic oil filter cartridge (1) by hand an additional 1/2 turn only.
4. After the new cartridge has been replaced, the transmission fluid level normally decreases a little. Add KUBOTA SUPER UDT fluid to proper level. Check for oil leaks around filter gasket.

■ IMPORTANT

- **To prevent serious damage to the hydraulic system, replacement oil filter cartridge must be highly efficient. Use only a genuine KUBOTA filter.**

(1) Hydraulic Oil Filter Cartridge

11790G00250



Changing Transmission Fluid

CAUTION

- Be sure to stop the engine before checking and changing the transmission fluid.

1. Place an oil pan underneath the transmission case.
2. Remove the drain plugs (1) at the bottom of the transmission case.
3. Drain the transmission fluid.
4. After draining, screw in the drain plugs (1).
5. Fill new oil from filling port after removing the filling plug up to the upper notch on the dipstick (2).
6. After running the engine for a few minutes, stop it and check the fluid level again, if low, add fluid prescribed level (A).

IMPORTANT

- Use only multi-grade transmission fluid. Use of other fluids may damage the transmission or hydraulic system.
- Refer to "LUBRICANTS, FUEL AND COOLING WATER". (See page G-9.)
- Never work the tractor immediately after changing the transmission fluid. Keeping the engine at medium speed for a few minutes to prevents damage to the transmission.
- Do not mix different brands oil together.

- (1) Drain Plug
(2) Dipstick

- (A) Oil level is acceptable within this range.

11790G00260

Changing Front Axle Case Oil

1. To drain the used oil, remove the right and left drain plugs (2) and filling plug (1) at the front axle case and drain the oil completely into the oil pan.
2. After draining, reinstall the drain plugs (2).
3. Fill with the new oil.
4. After filling, reinstall the filling plug (1).

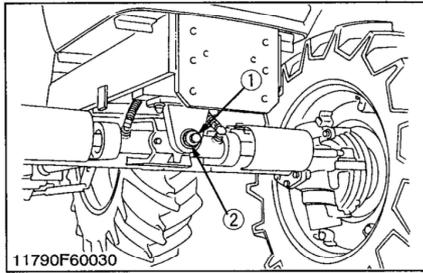
IMPORTANT

- Use KUBOTA SUPER UDT fluid or SAE80, 90 gear oil. Refer to "LUBRICANTS, FUEL AND COOLING WATER". (See page G-9.)

- (1) Filling Plug

- (2) Drain Plug

11790G00271



Adjusting Front Axle Pivot

1. Jack up the tractor body, then loosen the lock nut (2).
2. Measure the adjusting screw tightening torque.
3. If tightening torque is not within the factory specifications, adjust the adjusting screw (1).
4. After adjustment, tighten the lock nut firmly.

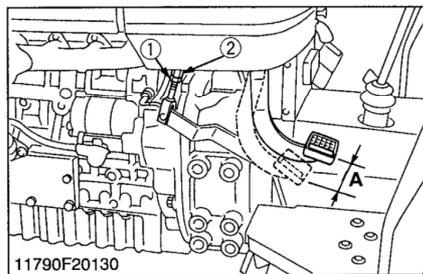
(When reassembling)

Tightening torque	Front axle adjusting screw	19.6 to 29.4 N·m 2.0 to 3.0 kgf·m 14.5 to 21.7 ft·lbs
	Lock nut	98.1 to 147.1 N·m 10.0 to 15.0 kgf·m 72.3 to 108.5 ft·lbs

(1) Adjusting Screw

(2) Lock Nut

11790G00281



Adjusting Clutch Pedal Free Play

1. Stop the engine and remove the key.
2. Slightly depress the clutch pedal and measure free play (A) at top of pedal.
3. If adjustment is needed, loosen the lock nut (1) and turn the turnbuckle (2) to adjust the rod length within the factory specifications.
4. Retighten the lock nut (1).

Clutch pedal free play (A)	Factory spec.	35 to 45 mm 1.4 to 1.8 in.
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(1) Lock Nut

(A) Free Play

(2) Turnbuckle

11790G00290

(4) Check Points of Every 100 Hours

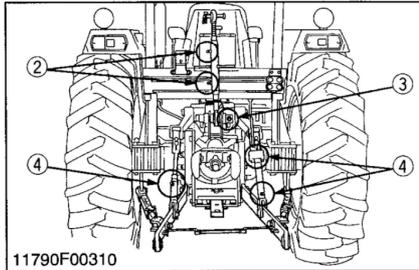
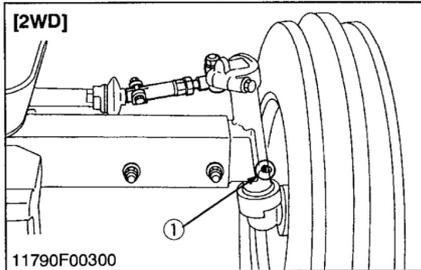
Changing Engine Oil

1. See page G-12.

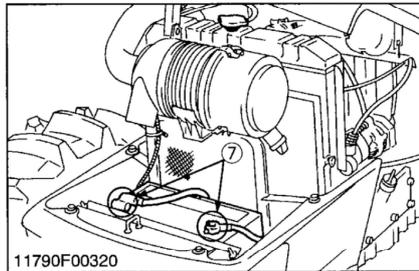
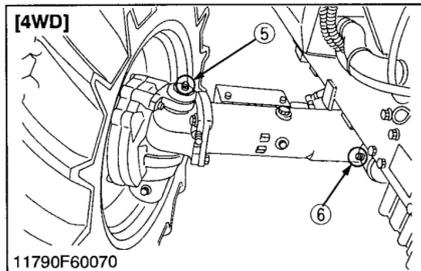
11790G00320

Greasing

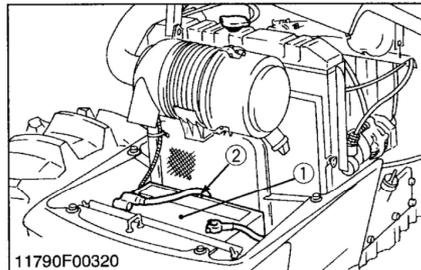
1. Apply grease to the following points every 100 hours.



- (1) Grease Fitting (Knuckle Shaft) [RH, LH]
- (2) Grease Fitting (Top Link)
- (3) Grease Fitting (Top Link Bracket)
- (4) Grease Fitting (Lifting Rod) [RH, LH]
- (5) Grease Fitting (Front Wheel Case Support) [RH, LH]
- (6) Grease Fitting (Front Axle Support)
- (7) Battery Terminal



11790G00331



Checking Battery Condition

CAUTION

- Never remove the vent plugs while the engine is running.
- Keep electrolyte away from eyes, hands and clothes. If you are spattered with it, wash it away completely with water immediately and get medical attention.
- Wear eye protection and rubber gloves when working around battery.

1. Mishandling the battery shortens the service life and adds to maintenance costs.
2. The original battery is maintenance free type battery, but need some servicing.
If the battery is weak, the engine is difficult to start and the lights become dim. It is important check the battery periodically.

(1) Battery

(2) Gas Vent

11790G00340

Tractor model	Battery type	Volts (V)	Reserve capacity (min.)	Normal charging rate (A)
M4700 M5400	CCA 615K	12	150	11

Table 1

Battery Charging



CAUTION

- When the battery is being activated, hydrogen and oxygen gases in the battery are extremely explosive. Keep open sparks and flames away from the battery at all times, especially when charging the battery.
 - When charging battery, remove battery vent plugs.
 - When disconnecting the cable from the battery, start with the negative terminal first.
 - When connecting the cable to the battery, start with the positive terminal first.
 - Never check battery charge by placing a metal object across the posts.
 - Use a voltmeter or hydrometer.
1. Make sure each electrolyte level is to the bottom of vent wells, if necessary add distilled water in a well-ventilated area.
 2. The water in the electrolyte evaporates during recharging. Liquid shortage damages the battery. Excessive liquid spills over and damages the tractor body.
 3. To slow charge the battery, connect the battery positive terminal to the charger positive terminal and the negative to the negative, then recharge in the standard fashion.
 4. A boost charge is only for emergencies. It will partially charges the battery at a high rate and in a short time.
When using a boost-charged battery, it is necessary to recharge the battery as early as possible.
Failure to do this will shorten the battery's service life.
 5. When the specific gravity of electrolyte become between 1.27 and 1.29 charge has completed.
 6. When exchanging an old battery into new one, use battery of equal specification shown in table 1.

Direction for Storage

1. When storing the tractor for long periods of time, remove the battery from tractor, adjust the electrolyte to the proper level and store in a dry place out of direct sunlight.
2. The battery self-discharges while it is stored.
Recharge it once every three months in hot seasons and once every six months in cold seasons.

11790G00350