

WSM

(M4900 · M5700)



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·The code No. of these Workshop Manuals is as follows.

WSM for North America:No.97897-12460

TO THE READER

This Workshop Manual has been prepared to provide servicing personnel with information on the mechanism, service and maintenance of KUBOTA Tractors M4900 and M5700. 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.

March 2000

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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.

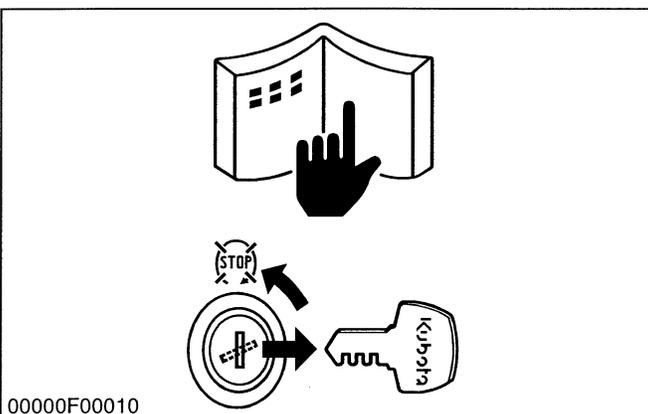
 **WARNING** : Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

 **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.

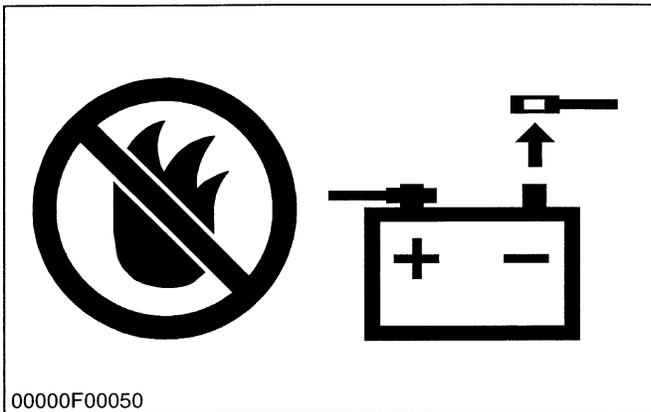
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SAFETY STARTING

- (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.

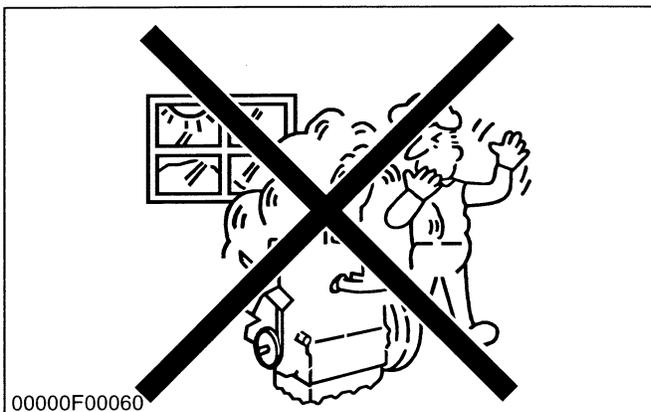
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AVOID FIRES

- (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.

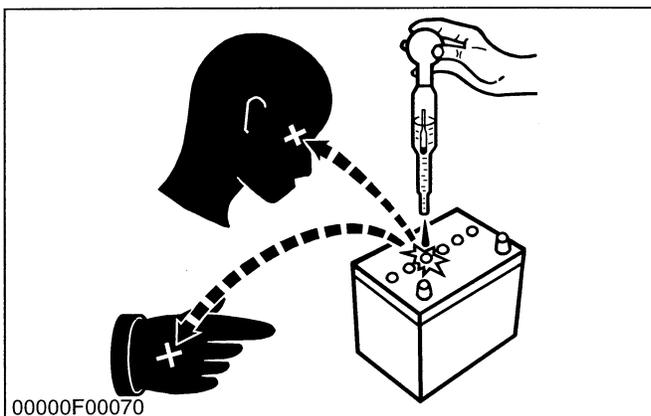
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VENTILATE WORK AREA

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

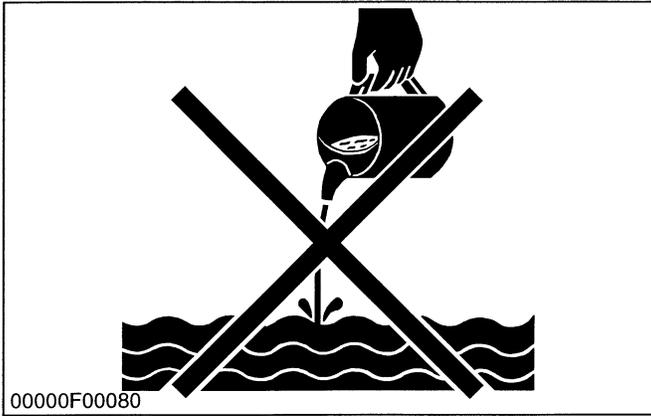
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PREVENT ACID BURNS

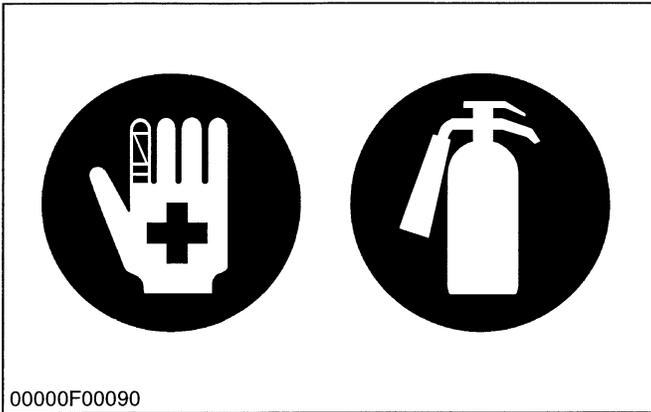
- (1) Sulfuric acid in battery electrolyte is poisonous. It is strong enough to burn skin, clothing and cause blindness if splashed into eyes. Keep electrolyte away from eyes, hands and clothing. If you spill electrolyte on yourself, flush with water, and get medical attention immediately.

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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.

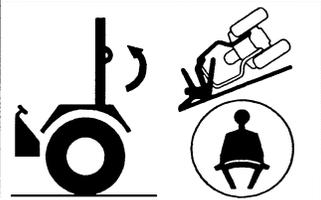
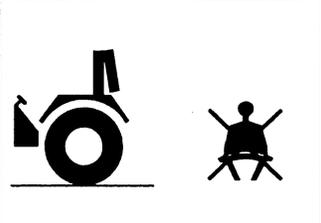
① Part No. TA040-4965-2

	<p style="text-align: center;">⚠ DANGER</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. <p style="text-align: center;">Never start engine while standing on the ground.</p>
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⑤ Part No. 3A111-9554-1

<p style="text-align: center;">⚠ WARNING</p> <p>Never modify or repair a ROPS because welding, grinding, drilling or cutting any portion may weaken the structure.</p>
<p style="text-align: center;">⚠ CAUTION</p> <p>TO AVOID INJURY WHEN RAISING OR FOLDING ROPS:</p> <ul style="list-style-type: none"> • Set parking brake and stop engine. • Remove any obstruction that may prevent raising or folding of the ROPS. • Do not allow any bystanders. • Always perform function from a stable position at the rear of the tractor. • Hold the top of the ROPS securely when raising or folding. • Make sure all pins are installed and locked.

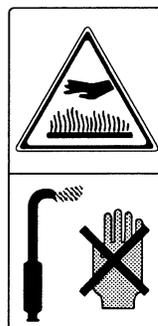
② Part No. 3A111-9848-2

	<p style="text-align: center;">⚠ WARNING</p> <p>TO AVOID INJURY OR DEATH FROM ROLL-OVER:</p> <ul style="list-style-type: none"> • Keep Roll-Over Protective Structures (ROPS) in the upright and locked position. • Fasten SEAT BELT before operating.
	<p>THERE IS NO OPERATOR PROTECTION WHEN THE ROPS IS IN THE FOLDED POSITION.</p> <ul style="list-style-type: none"> • Check the operating area and fold the ROPS only when absolutely necessary. • Do not wear SEAT BELT if ROPS is folded. • Raise and lock ROPS as soon as vertical clearance allows. • Read ROPS related instructions and warnings.

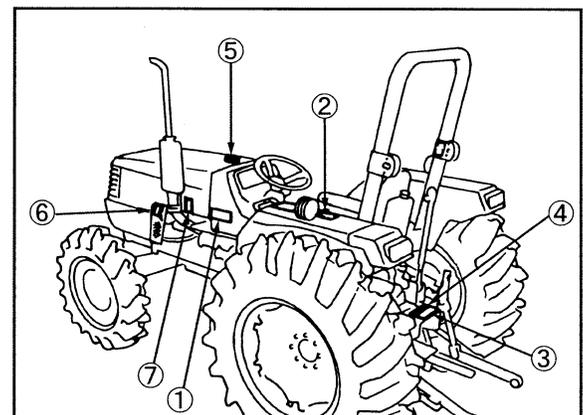
③ Part No. TA040-4935-1

<p style="text-align: center;">⚠ 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.
--

④ Part No. 32310-4958-1



⑥ Part No. 6C040-4741-2
No fire



① Part No. 35260-3491-3

CAUTION**TO AVOID PERSONAL INJURY:**

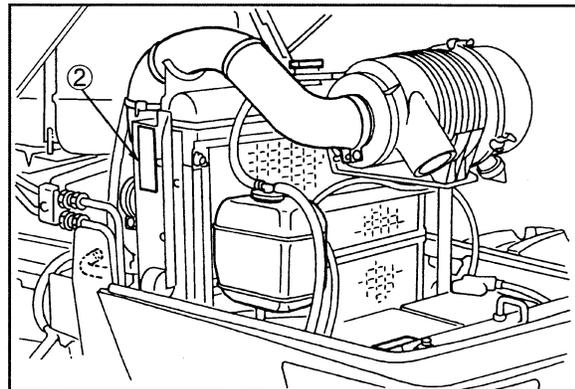
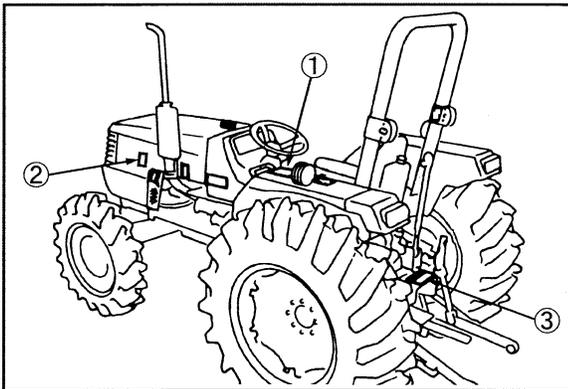
1. Read and understand the operator's manual before operation.
2. Before starting the engine, make sure that everyone is at a safe distance from the tractor and that the PTO is OFF.
3. Do not allow passengers on the tractor at any time.
4. Before allowing other people to use the tractor, have them read 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.

② Part No. 32751-4958-1
Stay clear of engine fan and fanbelt.

③ Part No. TA040-4959-3

WARNING**TO AVOID PERSONAL INJURY.**

- 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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① Part No. 35080-6528-2

⚠ CAUTION

Pull the engine stop knob back and hold it until the engine stops in case of emergency.

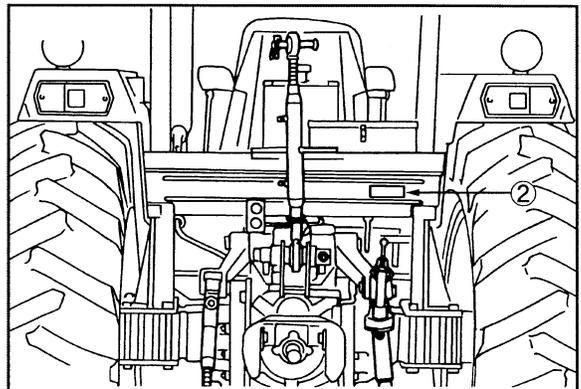
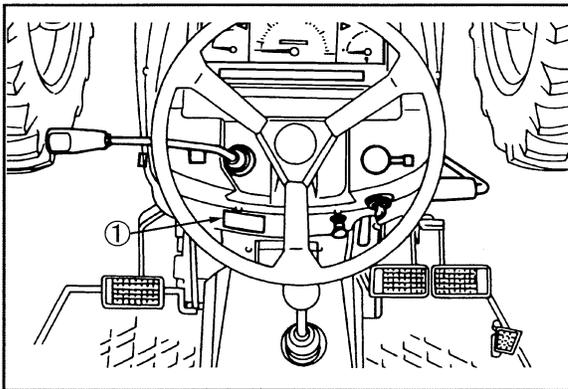
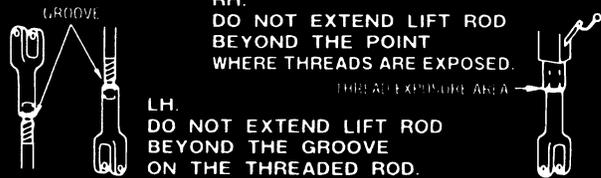
② Part No. 3A111-9856-3

⚠ CAUTION

TO AVOID INJURY FROM SEPARATION:

RH.
DO NOT EXTEND LIFT ROD BEYOND THE POINT WHERE THREADS ARE EXPOSED.

LH.
DO NOT EXTEND LIFT ROD BEYOND THE GROOVE ON THE THREADED ROD.



■ **NOTE**

- Only labels applied to places other than where they are applied on tractors with no cabin are mentioned.

① Part No. 3F240-9836-1

CAUTION

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 tractor and 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 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.

② Part No. 35080-6528-2

CAUTION

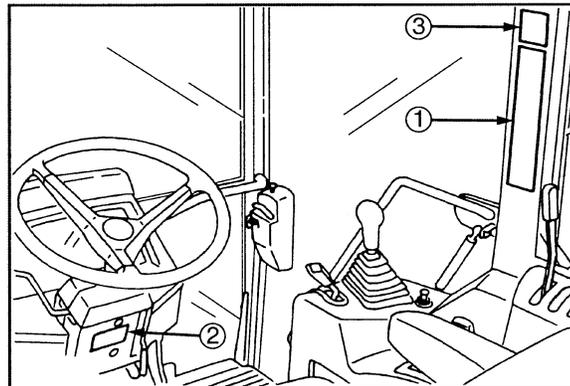
Pull the engine stop knob back and hold it until the engine stops in case of emergency.

③ Part No. TA040-4902-1

WARNING



TO AVOID INJURY OR DEATH FROM ROLL-OVER:
Always use seat belt when driving.



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 locations (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

[ROPS TYPE]

Model		M4900		M5700		
		2WD	4WD	2WD	4WD	
Engine	Model	F2803-ELA		F2803-EA		
	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.)				
	Net power	37.7 kW (50.5 HP)*		42.5 kW (57 HP)*		
	PTO power (factory observed)	33.6 kw (45 HP)*/2600 min ⁻¹ (rpm)		38.8 kw (52 HP)*/2800 min ⁻¹ (rpm)		
	Maximum torque	171 N·m (17.4 kgf·m, 126.1 ft-lbs.)/ 1400 to 1600 (rpm)		183 N·m (18.7 kgf·m, 135 ft-lbs.)/ 1400 to 1600 (rpm)		
	Battery	12 V, CCA 700A				
	Fuel	Diesel fuel No.1 [below -10 °C (14 °F)] Diesel fuel No. 2 [above -10 °C (14 °F)]				
	Fuel tank capacity	65 L (17.2 U.S.gal., 14.4 imp.gal)				
	Engine crankcase capacity	8.0 L (8.5 U.S.qts., 14.4 imp.qts)				
	Engine coolant capacity	7.3 L (7.7 U.S.qts., 6.4 imp.qts)				
Dimensions	Overall length	3495 mm (137.6 in.)	3405 mm (1341 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	1320 to 1720 mm (52.0 to 67.7 in.)		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/8R (with creep speed 12F/12R)				
	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	41.6 L (44.0 U.S.gal. 36.6 imp.gal)/min.				
	Three point hitch	Category I & II				
	Maximum lifting force	1900 kg (4200 lbs.) at lower link end 1500 kg (3307 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 min ⁻¹ (rpm) at 2295 engine min ⁻¹ (rpm)			
Traction system		Swinging drawbar, adjustabln in direction				

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

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[CABIN TYPE]

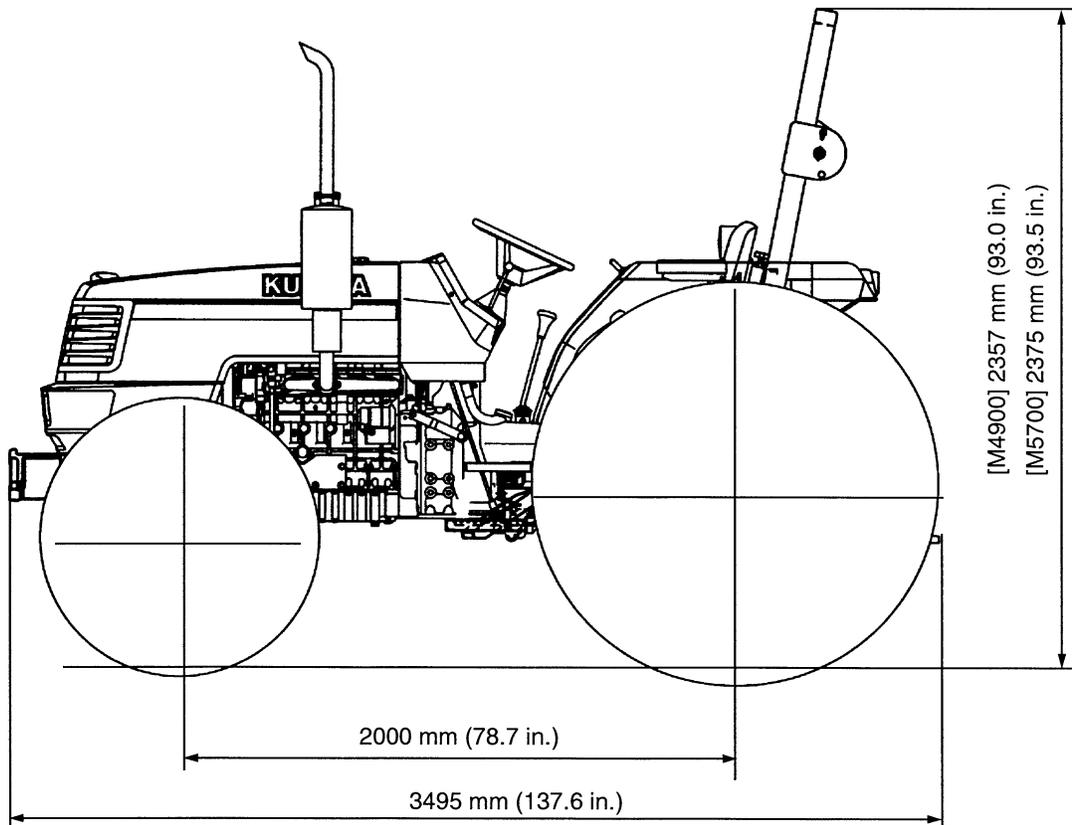
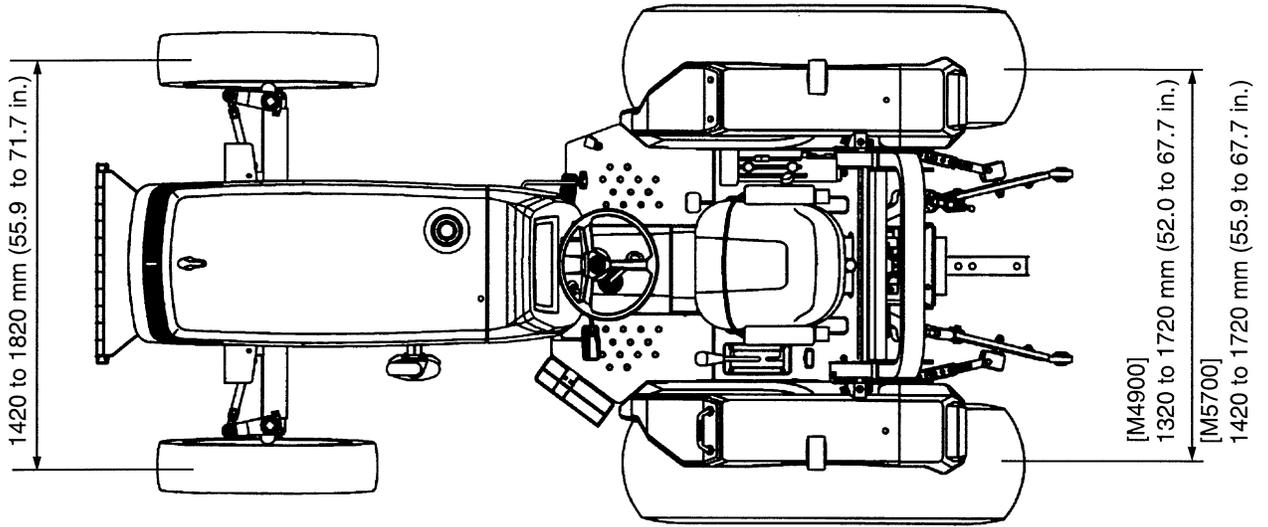
Model		M4900		M5700		
		2WD	4WD	2WD	4WD	
Engine	Model	F2803-ELA		F2803-EA		
	Type	Vertical, water-cooled, 4-cycle diesel engine				
	Number of cylinders	5				
	Total displacement	2746 cm ³ (167.6 cu.in.)				
	Bore and stroke	87 × 92.4 mm (3.4 × 3.6 in.)				
	Net power	37.7 kW (50.5 HP)*		42.5 kW (57 HP)*		
	PTO power (factory observed)	33.6 kW (45 HP)* / 2600 min ⁻¹ (rpm)		38.8 kW (52 HP)* / 2800 min ⁻¹ (rpm)		
	Maximum torque	171 N·m (17.4 kgf·m, 126.1 ft-lbs.)/ 1400 to 1600 min ⁻¹ (rpm)		183 N·m (18.7 kgf·m, 135.0 ft-lbs.)/ 1400 to 1600 min ⁻¹ (rpm)		
	Battery capacity	12 V, CCA 700A				
	Fuel	Diesel fuel No.1 [below -10 °C (14 °F)], Diesel fuel No. 2 [above -10 °C (14 °F)]				
	Fuel tank capacity	95 L (25.1 U.S.gal., 20.9 Imp.gal.)				
	Engine oil capacity	8.0 L (8.5 U.S.qts., 7.5 Imp.qts.)				
	Coolant capacity	7.3 L (7.7 U.S.qts., 6.4 Imp.qts.)				
Dimensions	Overall length	3570 mm (140.6 in.)	3480 mm (137.1 in.)	3570 mm (140.6 in.)	3480 mm (137.1 in.)	
	Overall width (Minimum tread)	1706 mm (67.2 in.)		1850 mm (72.8 in.)		
	Overall height (with CAB)	2485 mm (98.1 in.)		2515 mm (99.0 in.)		
	Wheel base	2075 mm (81.7 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	1320 to 1720 mm (52.0 to 67.7 in.)		1420 to 1720 mm (55.9 to 67.7 in.)	
	Minimum ground clearance	400 mm (15.7 in.) (COVER TANK)		430 mm (16.9 in.) (COVER TANK)		
Weight (with CAB)		1940 kg (4277 lbs.)	2040 kg (4497 lbs.)	2020 kg (4453 lbs.)	2090 kg (4607 lbs.)	
Travelling system	Standard tire size	Front	6.5-16	9.5-22	7.5-16 9.5-22	
		Rear	14.9-28		16.9-28	
	Clutch	Dry, Single plate				
	Steering	Full hydrostatic power steering				
	Transmission	Shuttle synchromesh, 8F/8R (with creep speed 12F/12R)				
	Braking system	Wet type, multiple discs (mechanical)				
Differential	Bevel gears (with differential lock)					
Hydraulic system	Hydraulic control system	Position, draft and mix control				
	Pump capacity	41.6 L (44.0 U.S.qts.)/min.				
	Three point hitch	Category I & II				
	Maximum lifting force	At lifting points	1900 kg (4200 lbs.) at lower link end with links horizontal			
		24 in. behind lifting point	1500 kg (3307 lbs.)			
	Remove hydraulic control	One remote valve with detent and self-canceling				
	System pressure	19.1 MPa (195 kgf/cm ²)				
Traction system	Swinging drawbar, adjustable in direction					
PTO	Live PTO (Independent)	Direction of turning	Clockwise, viewed from tractor rear			
		Standard PTO / Engine speed	540 min ⁻¹ (rpm) at 2295 engine min ⁻¹ (rpm)			

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

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DIMENSIONS

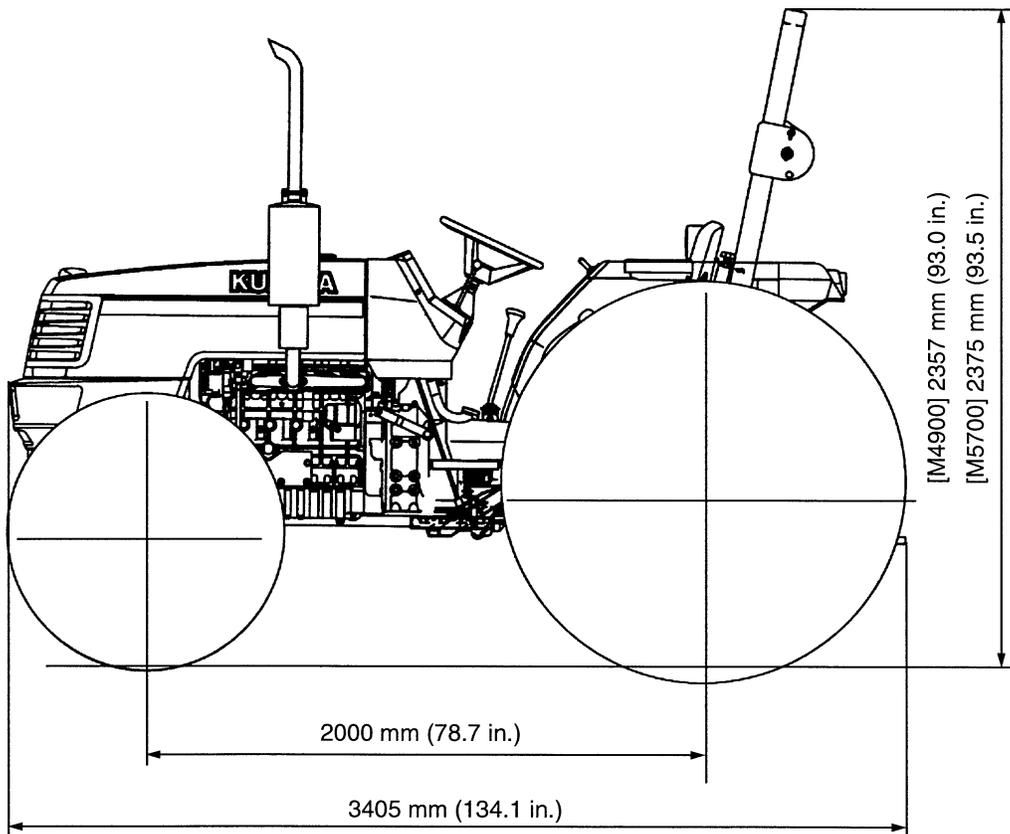
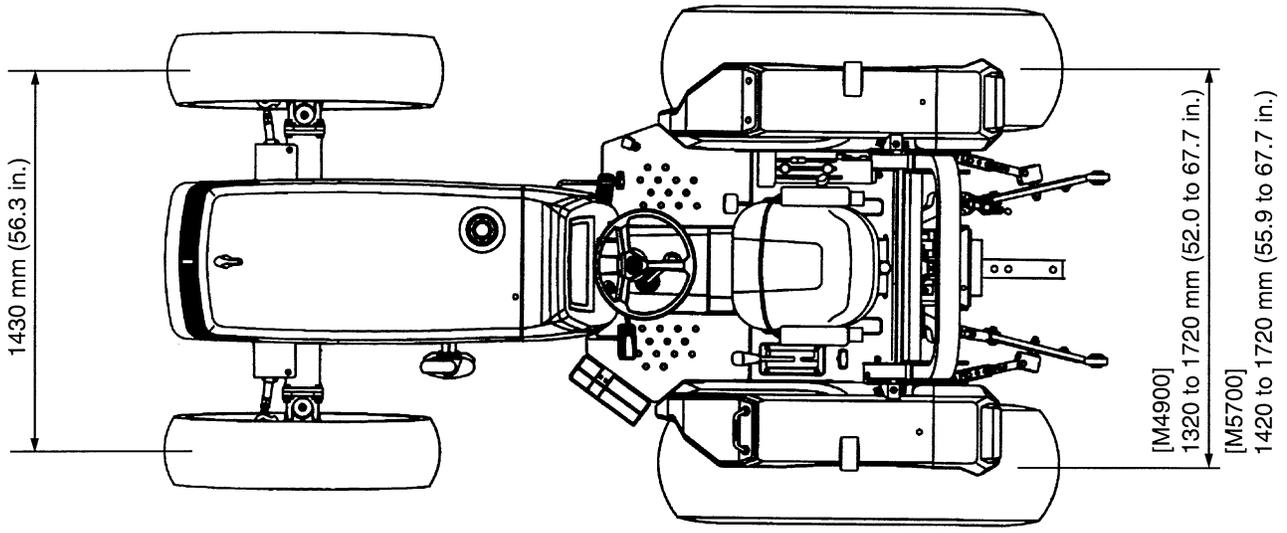
M4900 • M5700 [2WD Type]



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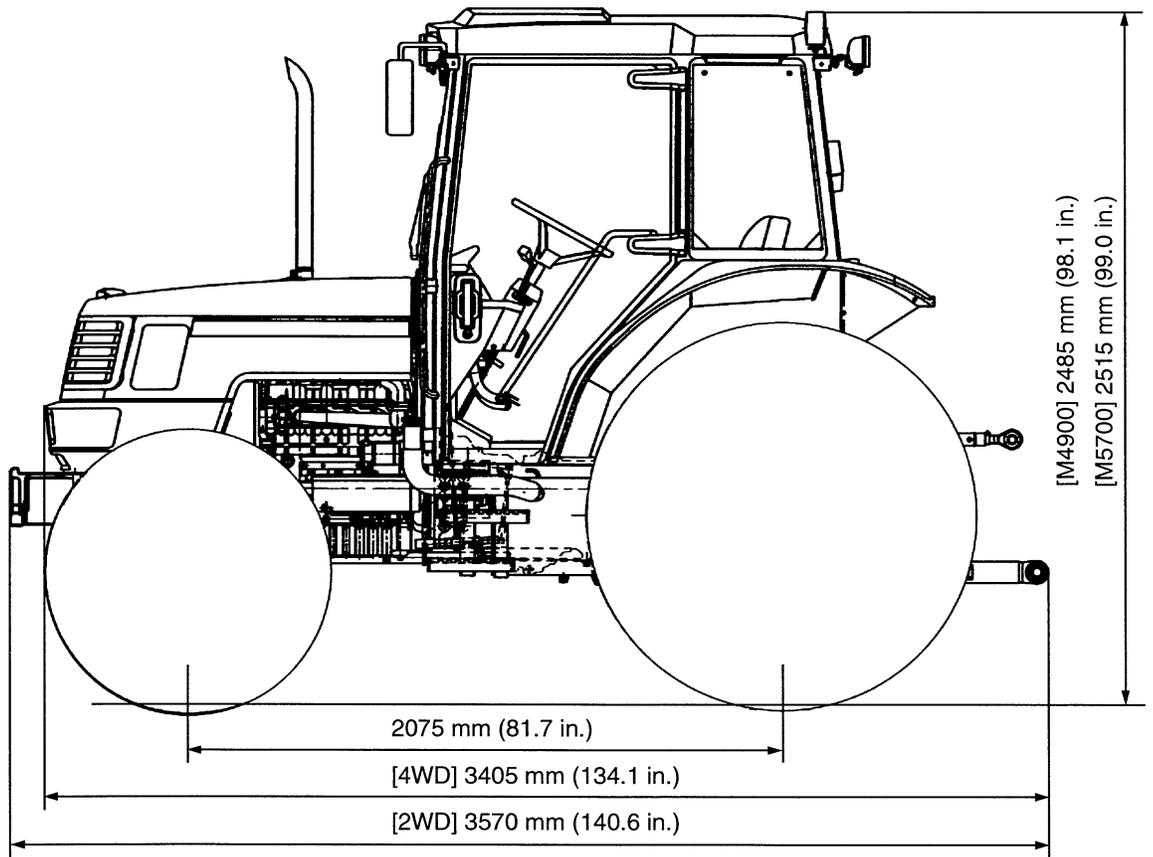
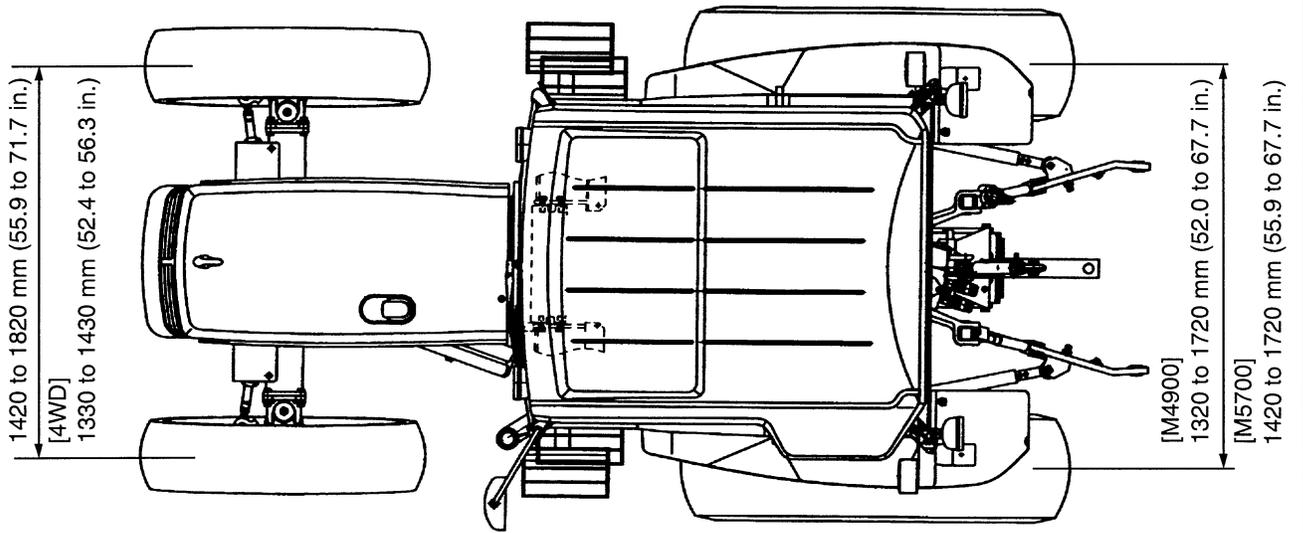
M4900 • M5700 [4WD Type]



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M4900 • M5700 [CABIN Type]



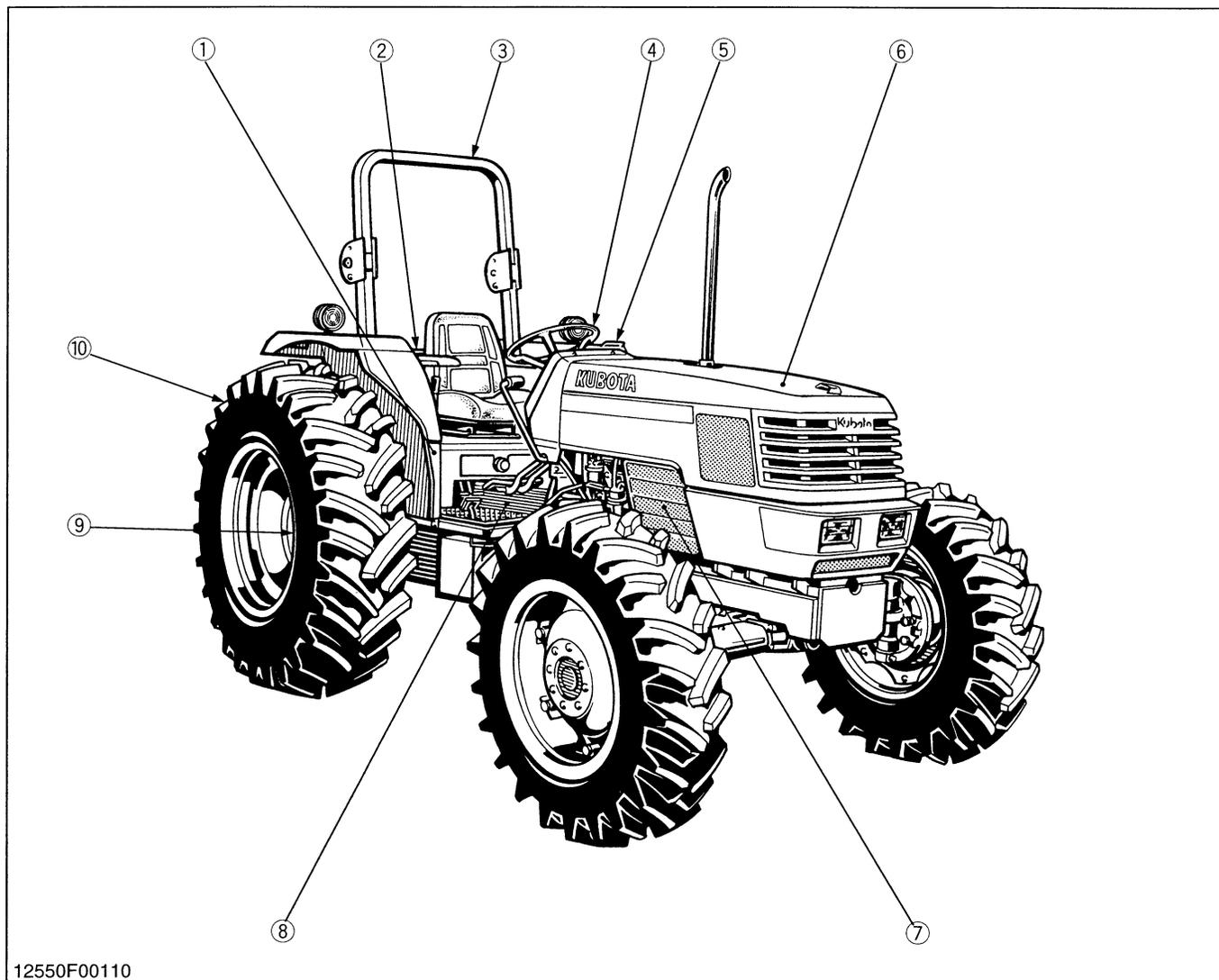
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GENERAL

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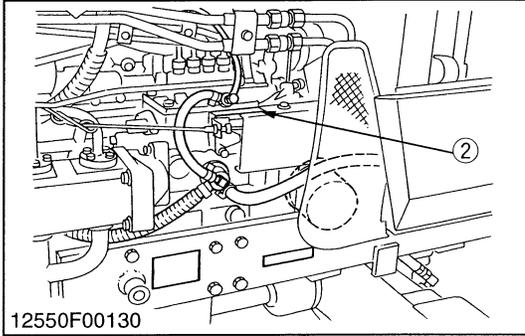
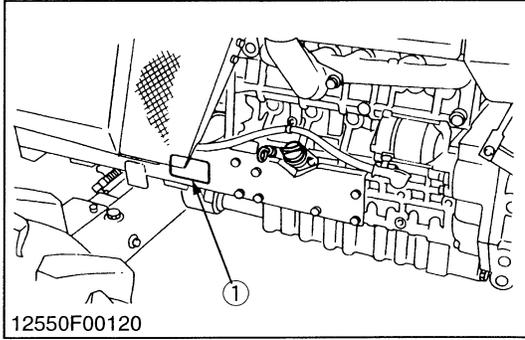
[1] FEATURES

12550F00110

- | | |
|--|--|
| (1) Auxiliary Control Valve | (8) Transmission (Creep Option) |
| (2) Independent PTO
Hydraulic PTO Clutch System | (9) Wet Disc Brake |
| (3) Foldable ROPS | (10) Three Point Hitch with Big Lift Power
Three Point Hitch Fully Equipped with position, Draft
and Mixed Control |
| (4) Full Hydrostatic Power Steering | (11) Comfortable Integral Cab By KUBOTA
Shift Levers Integrally and Ergonomically Positioned
Full-Floating Type Flat Deck Wider Piece of Curved
Glass Side Glass Open |
| (5) Synchro-Shuttle (Forward-Reverse) | |
| (6) New Design | |
| (7) E-TVCS (Three Vortex Combustion system) Diesel
Engine | |

12550G00010

[2] TRACTOR IDENTIFICATION



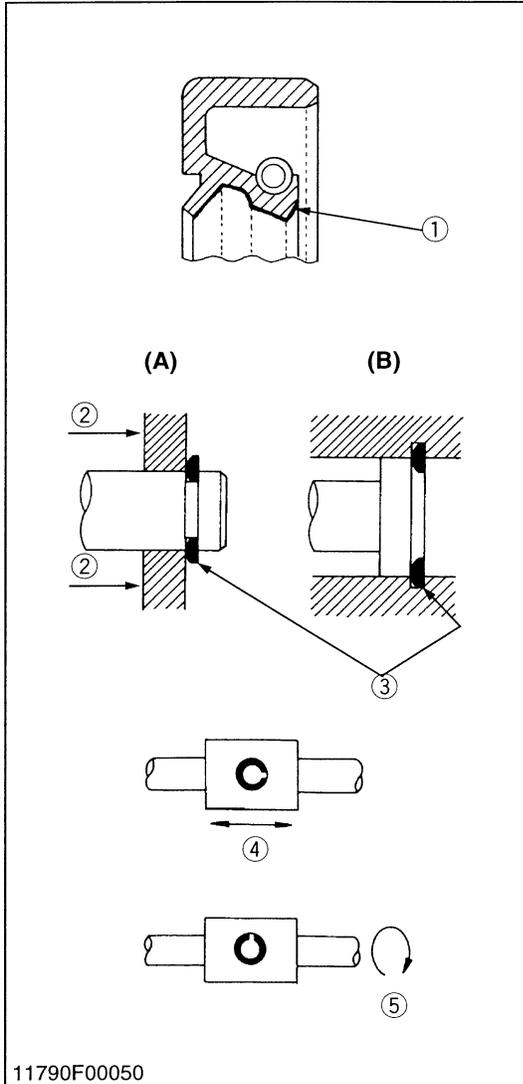
When contracting your local KUBOTA distributor, always specify engine serial number, tractor serial number and hourmeter reading.

(1) Tractor Identification Plate

(2) Engine Serial Number

12550G00020

[3] GENERAL PRECAUTIONS



11790F00050

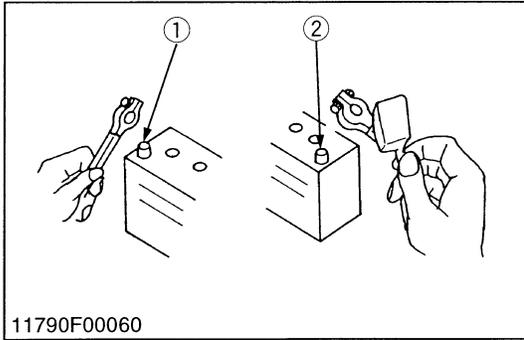
- During disassembly, carefully arrange removed parts in a clean area to prevent confusion later. Bolts and nuts should be installed in their original position to prevent reassembly errors.
- When special tools are required, use KUBOTA genuine special tools. Special tools which are not frequently used 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

11790G00030

[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

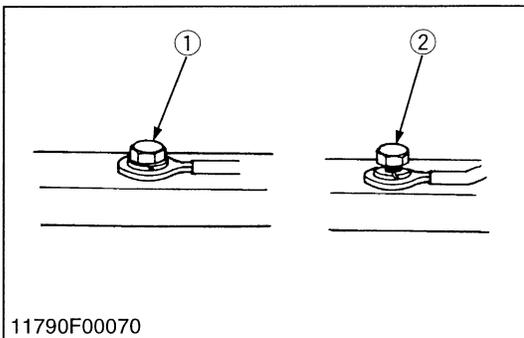
- Check electrical wiring for damage and loosened connection every year. To this end, educate the customer to do his or her own check and at the same time recommend the dealer to perform periodic check for a fee.
- Do not attempt to modify or remodel any electrical parts and wiring.
- When removing the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

(1) Negative Terminal

(2) Positive Terminal

11790G00040

(1) Wiring

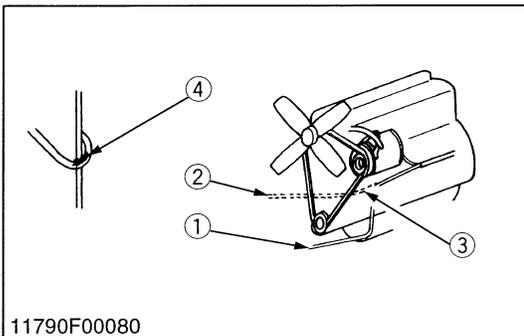


- Securely tighten wiring terminals.

(1) Correct
(Securely Tighten)

(2) Incorrect
(Loosening Leads to Faulty Contact)

11790G00050

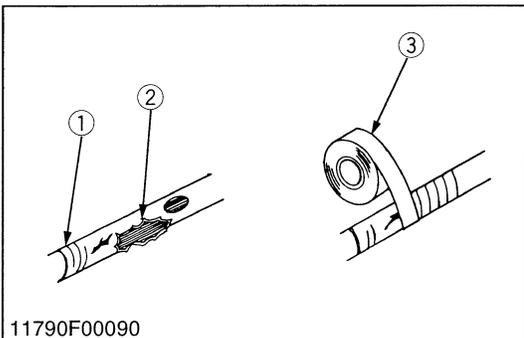


- Do not let wiring contact dangerous part.

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

(3) Dangerous Part
(4) Dangerous Part

11790G00060

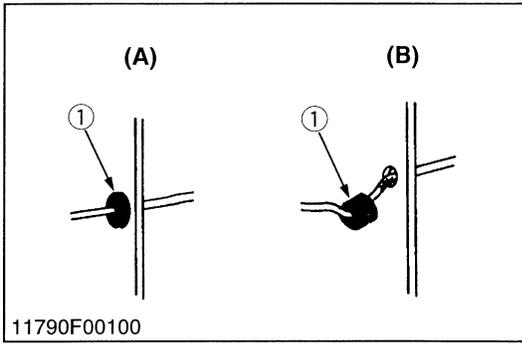


- Repair or change torn or aged wiring immediately.

(1) Damaged
(2) Torn

(3) Insulating Vinyl Tape

11790G00070

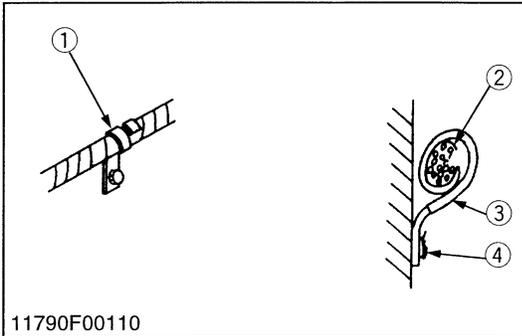


• Securely insert grommet.

(1) Grommet

(A) Correct
(B) Incorrect

11790G00080



• Securely clamp, being careful not to damage wiring.

(1) Clamp

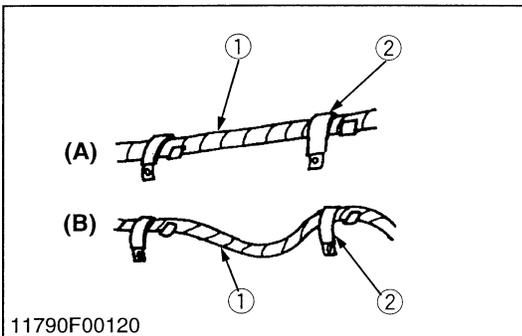
(3) Clamp

• Wind Clamp Spirally

(4) Welding Dent

(2) Wire Harness

11790G00090



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

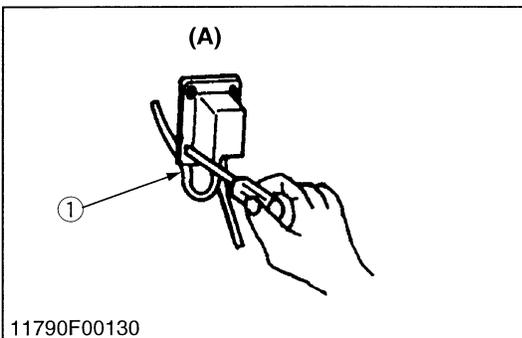
(1) Wiring

(A) Correct

(2) Clamp

(B) Incorrect

11790G00100

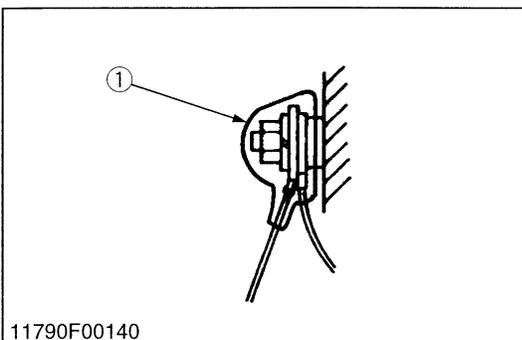


• In installing a part, take care not to get wiring caught by it.

(1) Wiring

(A) Incorrect

11790G00110

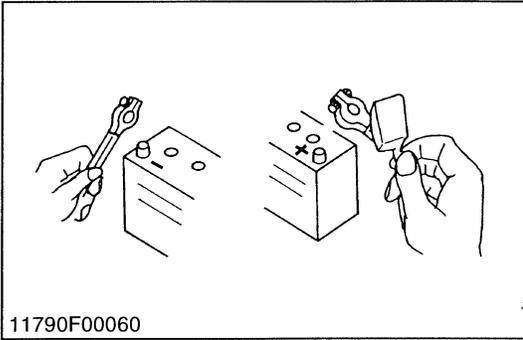


• After installing wiring, check protection of terminals and clamped condition of wiring, only connect battery.

(1) Cover

• Securely Install Cover

11790G00120

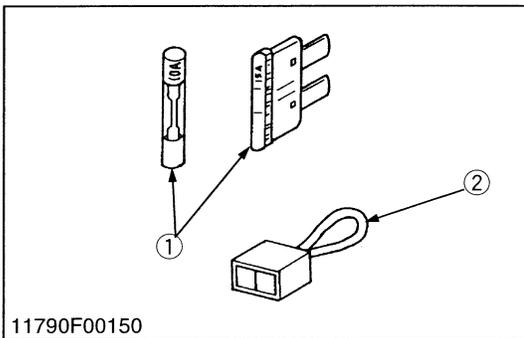
(2) Battery

- 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

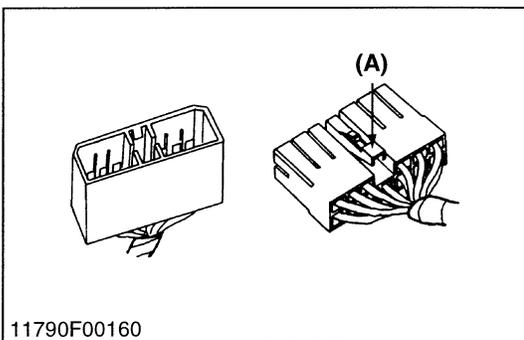
(3) Fuse

- 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

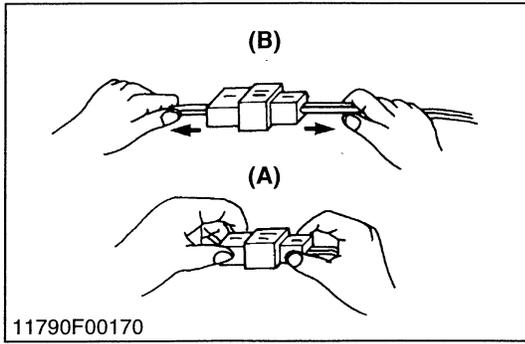
11790G00140

(4) Connector

- For connector with lock, push lock to separate.

(A) Push

11790G00150

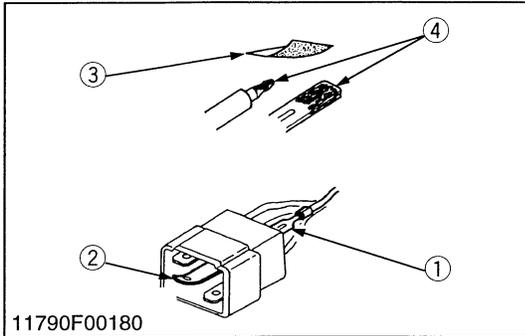


- In separating connectors, do not pull wire harnesses.
- Hold connector bodies to separate.

(A) Correct

(B) Incorrect

11790G00160

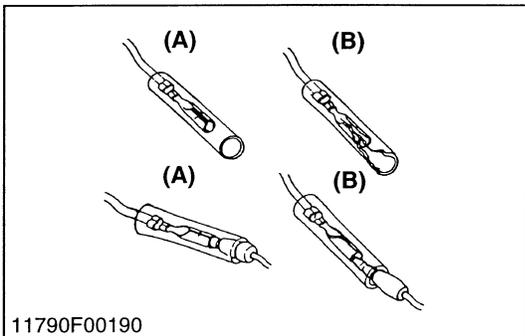


- Use sandpaper to remove rust from terminals.
- Repair deformed terminal. Make certain there is no terminal being exposed or displaced.

(1) Exposed Terminal
(2) Bend Terminal

(3) Sandpaper
(4) Rust

11790G00170

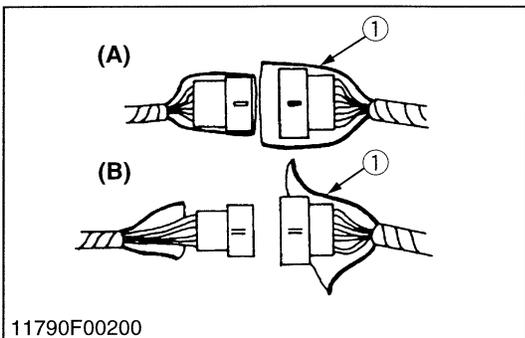


- Make certain that there is no female connector being too open.

(A) Correct

(B) Incorrect

11790G00180



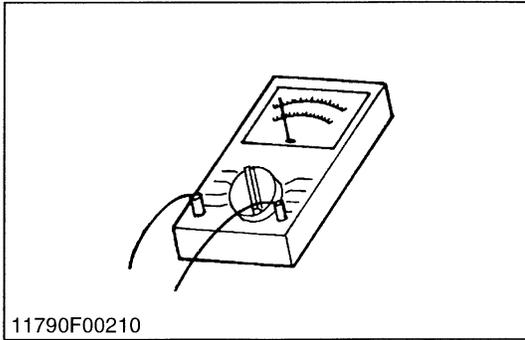
- Make certain plastic cover is large enough to cover whole connector.

(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 COOLANT

	Place	Capacity		Lubricants, fuel and coolant	
		M4900 M5700	M4900 (CAB) M5700 (CAB)		
1	Fuel	65 L 17.2 U.S.gals. 14.3 Imp.gals.	95 L 25.1 U.S.gals. 20.9 Imp.gals.	No. 2-D diesel fuel No. 1-D diesel fuel if temperature is below - 10 °C (14 °F)	
2	Coolant (Radiator)	7.3 L 7.7 U.S.qts. 6.4 Imp.qts		Fresh clean water with anti-freeze	
	Coolant (Recovery tank)	1.0 L 1.1 U.S.qts. 0.9 Imp.qts.			
3	Washer liquid	–	1.3 L 1.4 U.S.qts. 1.1 Imp.qts.	Automobile washer liquid	
4	Engine crankcase	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	
5	Transmission case	40.0 L 42.3 U.S.qts. 35.2 Imp.qts.	43.0 L 45.4 U.S.qts. 37.8 Imp.qts.	KUBOTA SUPER UDT fluid *	
6	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
7	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	1			
	Steering joint	–	1	Moderate amount	
Battery terminal	2				

* KUBOTA original transmission hydraulic fluid.

12550G00030

[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	 No-grade or 4T						 7T						 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	N-m	kgf-m	ft-lbs	N-m	kgf-m	ft-lbs	N-m	kgf-m	ft-lbs	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	Service Interval										After purchase		Important	Reference page	
				50	50	100	200	300	400	600	800	1500	3000	1 year	2 years			
1	Engine oil		Change	★		☆												G-13
2	Engine oil filter		Replace	★			☆											G-13
3	Hydraulic oil filter		Replace	★				☆										G-14
4	Transmission fluid		Change	★						☆								G-14
5	Front axle case oil		Change	★						☆								G-15
6	Clutch		Adjust	★		☆												G-15
7	Water separator (CAB)		Clean	★					☆									G-15
8	Engine start system		Check		☆													G-16
9	Wheel bolt torque		Check		☆													G-16
10	Greasing		-			☆												G-17
11	Battery condition		Check			☆												G-17
12	Air cleaner element [Double type]	Primary element	Clean			☆										*		G-18
		Secondary element	Replace											☆		**	@	G-18
			Replace											☆				
13	Fuel filter element		Clean			☆												G-18
			Replace						☆								@	G-23
14	Fan belt		Adjust			☆												G-19
15	Brake		Adjust			☆												G-19
16	Radiator hose and clamp		Check				☆											G-20
			Replace												☆			G-20
17	Power steering oil line		Check				☆											G-20
			Replace												☆			G-20
18	Fuel line		Check				☆										@	G-20
			Replace												☆			G-20
19	Toe-in		Adjust				☆											G-21
20	Intake air line		Check				☆										@	G-21
			Replace												☆	***		G-21
21	Inner air filter		Clean				☆											G-22
22	Fresh air filter		Clean				☆											G-22
23	Air conditioner condenser		Clean				☆											G-22
24	Air conditioner drive belt		Adjust				☆											G-23
25	Greasing (2WD front wheel hub)		-						☆									G-23
26	Fuel filter (CAB)		Replace						☆								@	G-23
27	Front axle pivot		Adjust							☆								G-24
28	Engine valve clearance		Adjust								☆							1-S19
29	Fuel injection nozzle injection pressure		Check									☆					@	1-S56
30	Injection pump		Check										☆				@	1-S54
31	Air conditioner pipes and hoses		Check											☆				G-26
32	CAB isolation cushion		Check											☆				G-26
33	Cooling system		Flush												☆			G-28
34	Coolant		Change												☆			G-28

12550G00040

No.	Item	Period	Service Interval										After purchase		Important	Reference page			
			50	50	100	200	300	400	600	800	1500	3000	1 year	2 years					
35	Fuel system	Bleed														Service as required			G-29
36	Clutch housing water	Drain																	G-29
37	Fuse	Replace																	G-30, 31
38	Light bulb	Replace																	G-32
39	Washer liquid	Add																	G-32
40	Refrigerant (gas)	Check																	10-S20

IMPORTANT :

- The jobs indicated by ★ must be done after the first 50 hours of operation.
- * Air cleaner should be cleaned more often in dusty conditions than in normal conditions.
- ** Every year or every 6 times of cleaning.
- *** Replace only if necessary.
- 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.

12550G00050

[8] CHECK AND MAINTENANCE



- 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

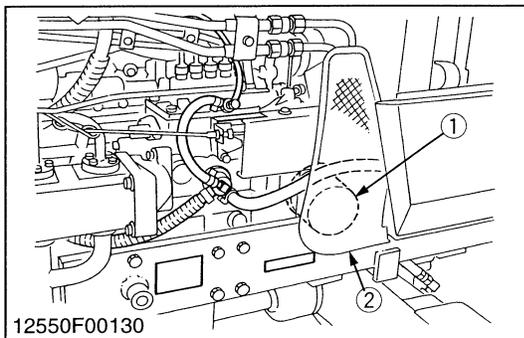
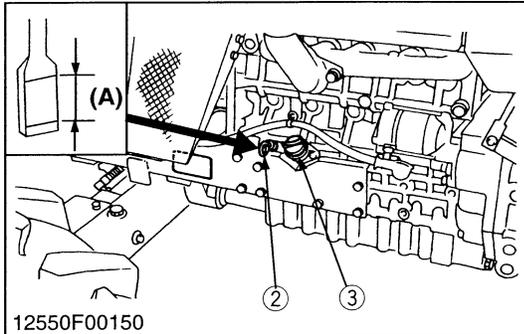
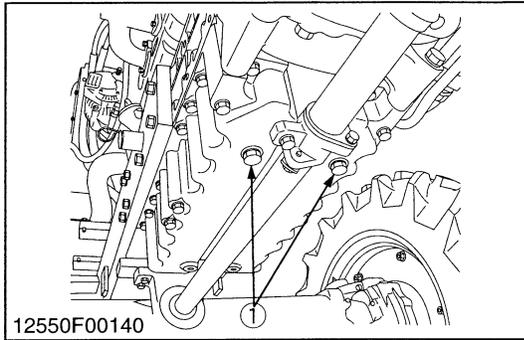
To prevent trouble from occurring, it is important to know the condition of the tractor. Check the following items before starting.

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



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 COOLANT”. (See page G-9.)**

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

(A) Oil level is acceptable within this range.

12550G00060

Replacing Engine Oil Filter Cartridge

⚠ CAUTION

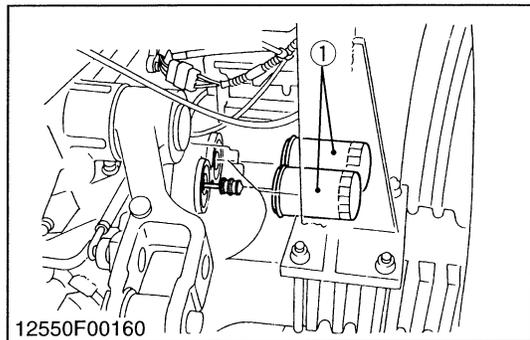
- **Be sure to stop the engine before changing oil filter cartridge.**
 1. Remove the side cover R.H. (2)
 2. Remove the engine oil filter cartridge (1) with the filter wrench.
 3. Apply a slight coat of oil onto the cartridge gasket.
 4. To install the new cartridge, screw it in by hand. Over tightening may cause deformation of rubber gasket.
 5. 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 (2) Side Cover (R.H.)

12550G00070



Replacing Hydraulic Oil Filter Cartridge

⚠ CAUTION

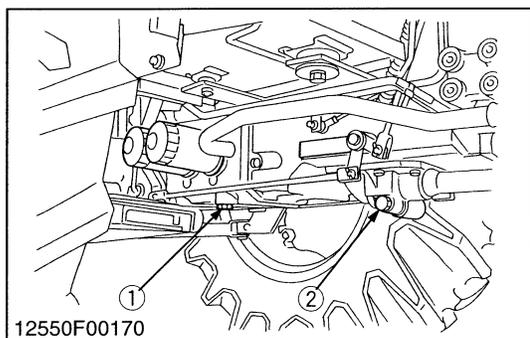
- **Be sure to stop the engine before changing the oil filters.**
1. Remove the hydraulic oil filter cartridge (1).
 2. When installing, apply the clean transmission oil slightly to the rubber gasket.
 3. Tighten the hydraulic oil filter cartridge quickly until it contacts the mounting surface. Tighten 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

12550G00080



Changing Transmission Fluid

⚠ CAUTION

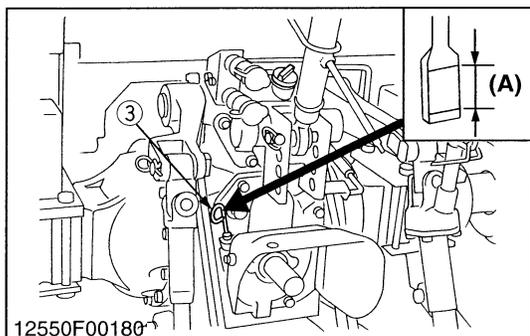
- **Be sure to stop the engine before checking and changing the transmission fluid.**
1. Place an oil pan underneath the transmission case.
 2. Remove the drain plugs (1) and (2) at the bottom of the transmission case.
 3. Drain the transmission fluid.
 4. After draining, screw in the drain plugs (1).
 5. Fill new oil from filling port after removing the filling plug up to the upper notch on the dipstick (3).
 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 COOLANT". (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) Drain Plug (4WD Only)
 (3) Dipstick

(A) Oil level is acceptable within this range.

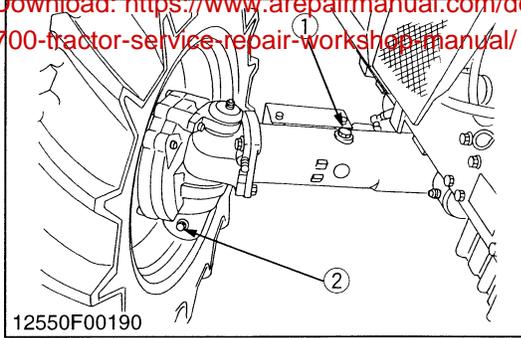


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**Changing Front Axle Case Oil (4WD)**

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).

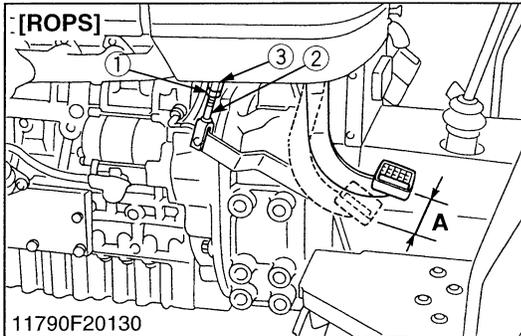
IMPORTANT

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

(1) Filling Plug

(2) Drain Plug

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Clutch Pedal Free Play**[ROPS]**

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 (3) to adjust the clutch rod (2) length.
4. Retighten the lock nut (1).

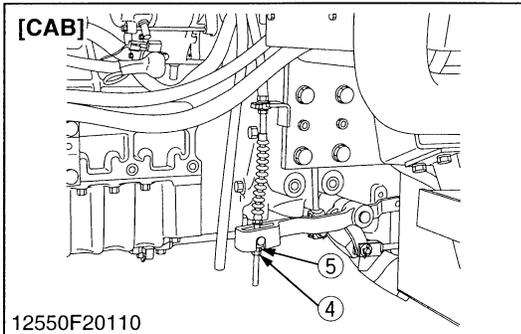
[CAB]

1. Stop the engine and remove the key.
2. Slightly depress the clutch pedal and measure free play (A) at the top of pedal stroke.
3. If adjustment is needed, loosen the lock nut (4) and turn the nut (5) to adjust the cable length within acceptable limits.
4. Retighten the lock nut (4).

Clutch pedal free play (A) on the pedal	Factory spec.	35 to 45 mm 1.4 to 1.8 in.
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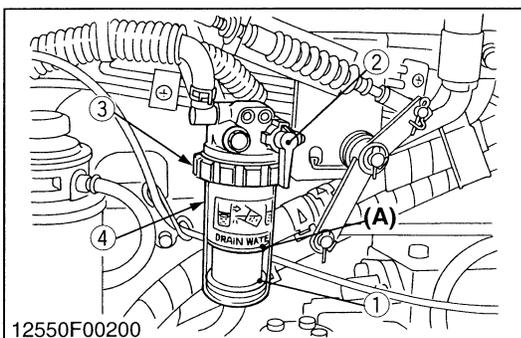
- (1) Lock Nut
- (2) Clutch Rod
- (3) Turnbuckle

- (4) Lock Nut
- (5) Nut



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Checking Water Separator (CAB)

1. As water is collected in the water separator, the red float is raised.
2. When the red float has reached the white line, close the fuel cock, loosen the retainer ring, take out the cup, and clean the cup. Be careful not to break the element.
3. Place the cup back into position. Bleed the fuel system.

- (1) Red Float
- (2) Fuel Cock
- (3) Retainer Ring
- (4) Cup

(A) WHITE LINE

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