

Product: Kubota M108S Low Profile Service Manual

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WSM

WORKSHOP MANUAL
TRACTOR

M108S Low Profile

Kubota

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KiSC issued 09, 2020 A

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TO THE READER

This Workshop Manual tells the servicing personnel about the mechanism, servicing and maintenance of the M108S-LP. It contains 4 parts: "**Information**", "**General**", "**Mechanism**" and "**Servicing**".

■ Information

This section primarily contains information below.

- Safety First
- Safety Decal
- Specification
- Dimension

■ General

This section primarily contains information below.

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

■ Mechanism

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

Refer to the latest version of Workshop Manual for diesel engine / tractor mechanism that this manual does not include.

- Booklet: Code No. 9Y021-01870 / 9Y021-18200
- PDF file in Kubota Web Site: Code No. 9Y011-01870 / 9Y011-18200

■ Servicing

This section primarily contains information below.

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

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

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

August 2016

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Record of Revisions

For pdf, use search function {Search word} to find all the revised locations.

Last digit of the Code No.	Month of Revision	Main Revised Point and Corrective Measures {Search word}	Reference Page
1	2018.02	Update of brake master cylinder service content.	G-39, 5-S7, 5-S11
2	2018.03	<ul style="list-style-type: none">• Additional information Additional information regarding the assembly procedure of the new type spiral bevel pinion shaft	3-S37, 3-S56
		<ul style="list-style-type: none">• Wrong correction Disassembly procedure in parking brake case was corrected.	5-S3, 5-S17
3	2020.09	Added the return spring to hydraulic shuttle valve.	3-M5

I INFORMATION

INFORMATION

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1. SAFETY FIRST

SAFETY FIRST

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

DANGER

- Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

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, could result in minor or moderate injury.

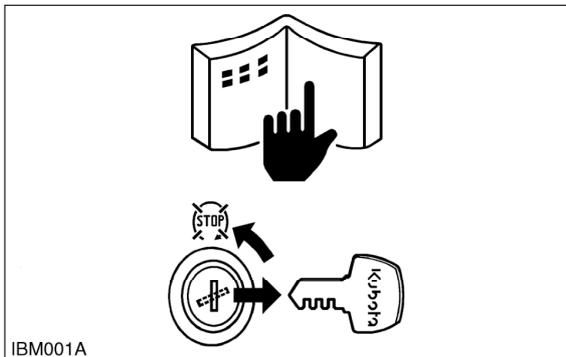
■ IMPORTANT

- Indicates that equipment or property damage could result if instructions are not followed.

■ NOTE

- Gives helpful information.

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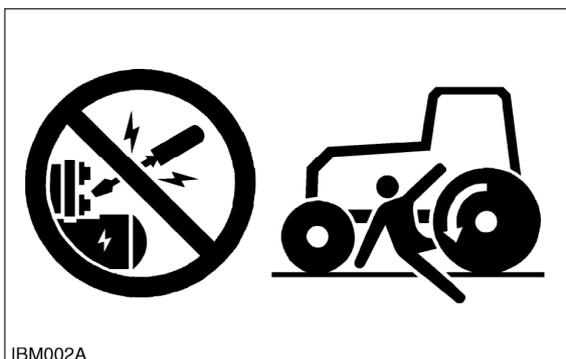


IBM001A

BEFORE YOU START SERVICE

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

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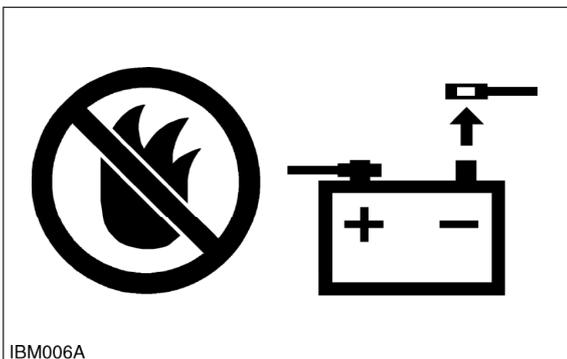
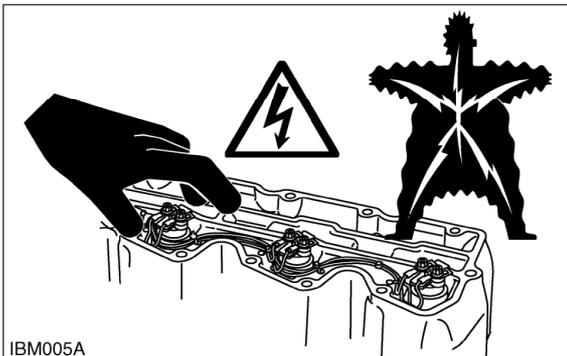
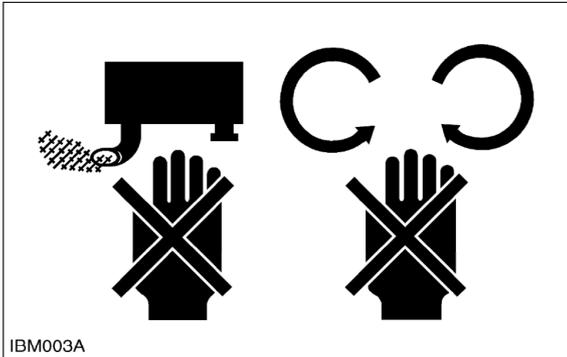


IBM002A

START SAFELY

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

WSM000001INI0015US0



OPERATE SAFELY

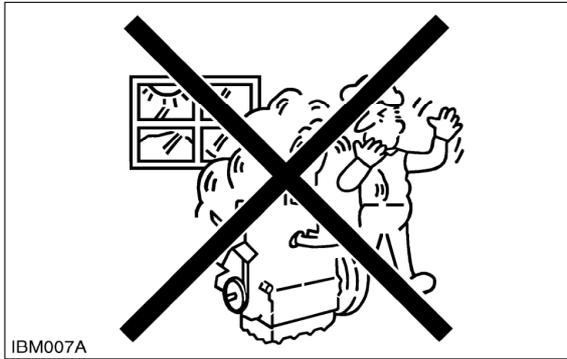
- Do not use the machine after you consume alcohol or medication or when you are tired.
- Put on applicable clothing and safety equipment.
- Use applicable tools only. Do not use alternative tools or parts.
- When 2 or more persons do servicing, make sure that you do it safely.
- Do not operate below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

WSM000001INI0012US0

PREVENT A FIRE

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

WSM000001INI0005US0



IBM007A

KEEP A GOOD AIRFLOW IN THE WORK AREA

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

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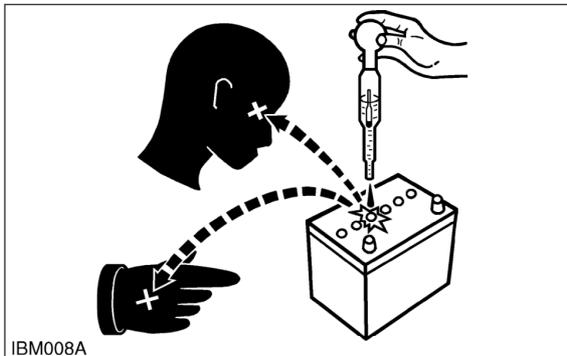


IBM009A

DISCARD FLUIDS CORRECTLY

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

WSM000001INI0007US0

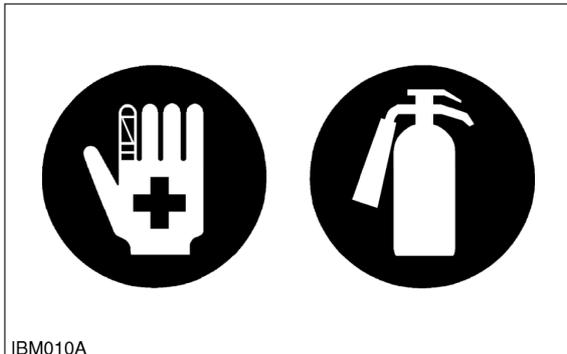


IBM008A

PREVENT ACID BURNS

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

WSM000001INI0008US0



IBM010A

PREPARE FOR EMERGENCIES

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

WSM000001INI0009US0

2. 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.

WSM000001INI0013US0

- (1) Part No. 6C090-4958-2
Do not get your hands close to engine fan and fan belt.



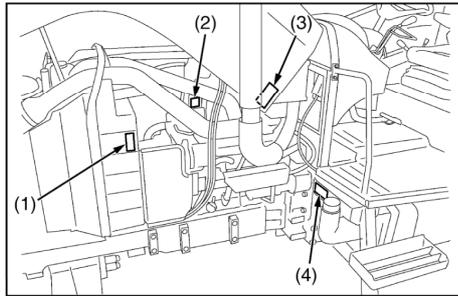
- (2) Part No. 3N600-4958-1
Do not touch hot surface like supply pump, etc.



- (3) Part No. 3N300-4958-1
Do not touch hot surface like muffler, etc.



- (4) Part No. TC230-4956-1
Diesel fuel only No fire



9Y1211618ICI001US

9Y1211618INI0001US0

(1) Part No. 6C150-4743-1

	<p>⚠ WARNING</p> <p>BEFORE DISMOUNTING TRACTOR:</p> <ol style="list-style-type: none"> 1. ALWAYS SET PARKING BRAKE. Leaving transmission in gear with the engine stopped will not prevent tractor from rolling. 2. PARK ON LEVEL GROUND WHENEVER POSSIBLE. If parking on a slope, position tractor across the slope. 3. LOWER ALL IMPLEMENTS TO THE GROUND. 4. STOP THE ENGINE.
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1AGAIBDAP040E

(2) Part No. TA040-4965-2

	<p>⚠ 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. Never start engine while standing on the ground.
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1AGAIAZAP009A

(3) Part No. 3F240-9857-1

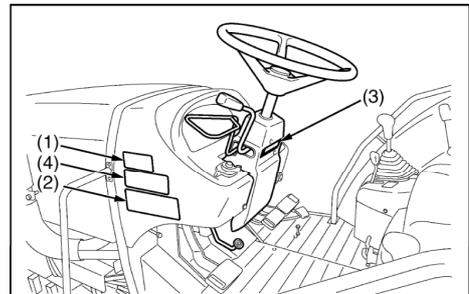
	<p>⚠ WARNING</p> <p>To avoid free wheeling when shifting the shuttle lever while on a slope: Stop completely by using the brake and by depressing the clutch pedal. Start off after selecting shuttle direction by releasing the clutch pedal.</p>
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1AGAIBDAP039A

(4) Part No. 3N600-9801-1

	<p>⚠ WARNING</p> <p>TO Avoid Serious Crushing Injuries or Death. Do not ride or stand on the step during operation. Riding or standing there could result in being crushed under the rear tire due to slippage or the step fracturing or displacing due to unintended loading.</p> 
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1AGAIWAP068A



9Y1211618ICI002US

9Y1211618INI0002US0

(1) Part No. 3P305-9856-1

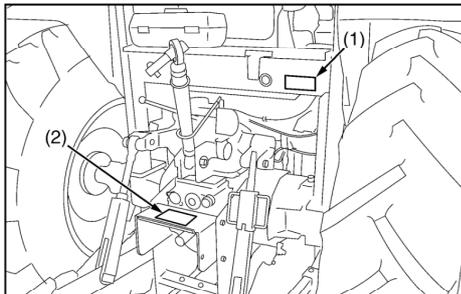
⚠ WARNING	
TO AVOID PERSONAL INJURY OR DEATH FROM SEPARATION:	
	DO NOT EXTEND LIFT ROD BEYOND THE GROOVE ON THE THREADED ROD.
	

1AGBDAAAP053A

(2) Part No. 6C200-4959-1

⚠ WARNING	TO AVOID PERSONAL INJURY: 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.
	⚠ 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)

1AGAIHFAP067A



9Y1211618IC1003US

9Y1211618INI0003US0

(1) Part No. 3B391-9554-1

⚠ WARNING

Never modify or repair a ROPS because welding, grinding, drilling or cutting any portion may weaken the structure.

⚠ WARNING

TO AVOID PERSONAL INJURY OR DEATH WHEN EXTENDING OR RETRACTING ROPS:

- Set parking brake and stop engine.
- Remove any obstruction that may prevent extending or retracting of the ROPS.
- Do not allow any bystanders.
- Always perform function from an operator's seat.
- Hold the top of the ROPS securely when extending or retracting.
- Make sure all pins are installed and locked.

1AGBDAAP068A

(2) Part No. 3A111-9848-2

	⚠ WARNING
	TO AVOID INJURY OR DEATH FROM ROLL-OVER:
	<ul style="list-style-type: none"> • Keep Roll-Over Protective Structures (ROPS) in the upright and locked position. • Fasten SEAT BELT before operating.
	THERE IS NO OPERATOR PROTECTION WHEN THE ROPS IS IN THE FOLDED POSITION.
	<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.

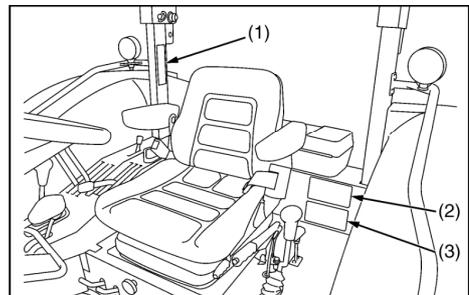
1AGAIDCAP066E

(3) Part No. TC660-4997-1

⚠ WARNING

TO AVOID PERSONAL INJURY OR DEATH:

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 to the ground, set the parking brake, stop the engine and remove the key.
12. Securely support tractor and implements before working underneath.



9Y1211618IC1004US

9Y1211618INI0004US0

- (1) Part No. 3N600-4958-1
Do not touch hot surface like supply pump, etc.



1AGAIDXAP073A

- (2) Part No. 6C090-4958-2
Do not get your hands close to engine fan and fan belt.



1AGAI AZAP110A

- (3) Part No. 3Y205-9892-1

! DANGER/POISON

<p> SHIELD EYES. EXPLOSIVE GASES CAN CAUSE BLINDNESS OR INJURY.</p>	<p> NO SPARKS. FLAMES OR SMOKING, SEVERE BURNS.</p>	<p> SULFURIC ACID CAN CAUSE BLINDNESS OR SEVERE BURNS.</p>
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KEEP OUT OF REACH OF CHILDREN. DO NOT TIP. DO NOT OPEN BATTERY.

FLUSH EYES IMMEDIATELY WITH WATER. GET MEDICAL HELP FAST.

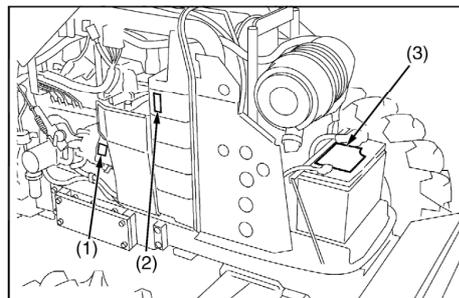
PROPOSITION 65 WARNING
BATTERY POSTS, TERMINALS, AND RELATED ACCESSORIES CONTAIN LEAD AND LEAD COMPOUNDS, CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND REPRODUCTIVE HARM. WASH HANDS AFTER HANDLING.

DK 85330

<p>105E41R 12V</p> <p>AMP. HR (5HR) 80</p> <p>AMP. HR (20HR) 100</p> <p>RESERVE CAPACITY (MIN) 160</p> <p>BCI CCA 900</p> <p>EN CCA 800</p>	<p>S.O.C INDICATOR</p> <p> OK CHARGE BATTERY REPLACE BATTERY</p>
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Pb

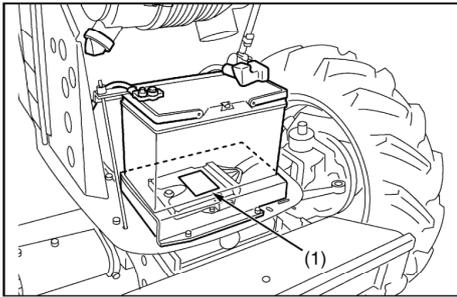
1AGAIJHAP083A



(1) Part No. 1J574-8721-1



1AGAIEDAP019A



9Y1211618IC1006US

9Y1211618INI0010US0

CARE OF DANGER, WARNING AND CAUTION LABELS

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

9Y1211618INI0005US0

3. SPECIFICATIONS

Model		M108S		
		4WD		
Engine	Model	V3800-CR-TI		
	Type	Direct Injection, liquid cooled 4 cylinder diesel		
	No. of cylinder	4		
	Total displacement	3769 cm ³ (230.0 cu.in.)		
	Bore and stroke	100 × 120 mm (3.9 × 4.7 in.)		
	Rated revolution	2600 min ⁻¹ (rpm)		
	Low idling revolution	800 to 850 min ⁻¹ (rpm)		
	Net power *1	80.6 kW (108 HP)* / 2600 min ⁻¹ (rpm)		
	PTO power *1 (factory observed)	71.6 kW (96 HP)*1 / 2600 min ⁻¹ (rpm)		
	Maximum torque	366.4 N·m (37.4 kgf·m, 270.3 lbf·ft) / 1400 to 1600 min ⁻¹ (rpm)		
	Battery capacity	12 V, RC: 160 min, CCA 900 A		
	Fuel tank capacity	175 L (46.2 U.S.gals, 38.5 Imp.gals)		
	Engine oil capacity	10.7 L (11.3 U.S.qts, 9.4 Imp.qts)		
	Coolant capacity	9.6 L (10.1 U.S.qts, 8.4 Imp.qts)		
Dimensions	Overall length	4145 mm (163.2 in.)		
	Overall width (Minimum tread)	2120 mm (83.5 in.)		
	Overall height	2270 mm (89.4 in.)		
	Wheel base	2435 mm (95.9 in.)		
	Tread	Front	1530 mm (60.2 in.)	
		Rear	1620 to 2000 mm (63.8 to 78.7 in.)	
Minimum ground clearance	310 mm (12.2 in.) (drawbar bracket)			
Weight		2960 kg (6526 lbs)		
Traveling system	Standard tire size	Front	9.5-20	
		Rear	16.9-24	
	Clutch	Hydraulic wet disks		
	Steering	Hydraulic power steering		
	Braking system	Hydraulic wet disks		
Differential	Bevel gears with differential lock (front and rear)			
Hydraulic unit	Hydraulic control system	Position, draft (top link sensing) and mix control		
	Pump capacity	65.0 L/min. (17.2 U.S.gals/min., 14.3 Imp.gals/min.)		
	3-point hitch	Category 2		
	Max. lifting force	At lifting point *2	2500 kg (5512 lbs), 3200 kg (7055 lbs) with / assist cylinder (option)	
		24 in. behind lifting point *2	2100 kg (4630 lbs), 2750 kg (6063 lbs) with / assist cylinder (option)	
	Remote hydraulic control	2 standard (3rd and flow control valve optional)		
	System pressure	19.6 MPa (200 kgf/cm ² , 2847 psi)		
Traction system	Swinging drawbar, adjustable in direction			
PTO	Live PTO (Independent)	Direction of turning	Clockwise, viewed from tractor rear	
		PTO/Engine speed	6 spline: 540 min ⁻¹ (rpm) at 2205 engine min ⁻¹ (rpm) 21 spline: 1000 min ⁻¹ (rpm) at 2210 engine min ⁻¹ (rpm) (if equipped)	

■ **NOTE**

- The company reserves the right to change the specifications without notice.
- *1 Manufacturer's estimate.
- *2 At lower link end with links horizontal.

9Y1211618INI0006US0

4. TRAVELING SPEEDS

(At rated engine rpm)

Model				M108S			
Tire size (Rear)				16.9-24		18.4-26	
Transmission type				with Dual speed			
Shuttle shift lever	Range gear shift lever	Main gear shift lever	Hi	Lo	Hi	Lo	
			km/h (mph)	km/h (mph)	km/h (mph)	km/h (mph)	
Forward	CREEP (Option)	LO	1	0.30 (0.19)	0.25 (0.16)	0.32 (0.20)	0.27 (0.17)
			2	0.38 (0.24)	0.31 (0.19)	0.41 (0.25)	0.34 (0.21)
			3	0.47 (0.29)	0.39 (0.24)	0.51 (0.32)	0.42 (0.26)
			4	0.57 (0.365)	0.47 (0.29)	0.62 (0.39)	0.52 (0.32)
		HI	1	0.73 (0.45)	0.61 (0.38)	0.80 (0.50)	0.66 (0.41)
			2	0.94 (0.58)	0.77 (0.48)	1.02 (0.63)	0.84 (0.52)
			3	1.15 (0.71)	0.95 (0.59)	1.25 (0.78)	1.04 (0.65)
			4	1.41 (0.88)	1.17 (0.73)	1.54 (0.96)	1.27 (0.79)
	L	LO	1	1.67 (1.04)	1.38 (0.86)	1.81 (1.12)	1.50 (0.93)
			2	2.12 (1.32)	1.75 (1.09)	2.31 (1.45)	1.91 (1.19)
			3	2.61 (1.62)	2.16 (1.34)	2.84 (1.76)	2.35 (1.46)
			4	3.20 (1.99)	2.65 (1.65)	3.48 (2.16)	2.88 (1.79)
		HI	1	4.10 (2.55)	3.39 (2.11)	4.46 (2.77)	3.69 (2.29)
			2	5.22 (3.24)	4.31 (2.68)	5.68 (3.53)	4.69 (2.91)
			3	6.43 (4.00)	5.31 (3.33)	6.99 (4.34)	5.78 (3.59)
			4	7.88 (4.90)	6.51 (4.05)	8.57 (5.33)	7.09 (4.41)
	H	LO	1	5.82 (3.62)	4.81 (2.99)	6.33 (3.93)	5.23 (3.25)
			2	7.41 (4.60)	6.13 (3.81)	8.07 (5.01)	6.67 (4.14)
			3	9.13 (5.67)	7.55 (4.69)	9.93 (6.17)	8.21 (5.10)
			4	11.19 (6.95)	9.25 (5.75)	12.18 (7.57)	10.07 (6.26)
		HI	1	14.32 (8.90)	11.83 (7.35)	15.58 (9.68)	12.88 (8.00)
			2	18.23 (11.33)	15.07 (9.36)	19.84 (12.33)	16.40 (10.19)
			3	22.46 (13.96)	18.57 (11.54)	24.44 (15.19)	20.20 (12.55)
			4	29.64* (18.42)	22.76 (14.14)	32.26* (20.05)	24.77 (15.39)

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

* At maximum engine rpm.

(At rated engine rpm)

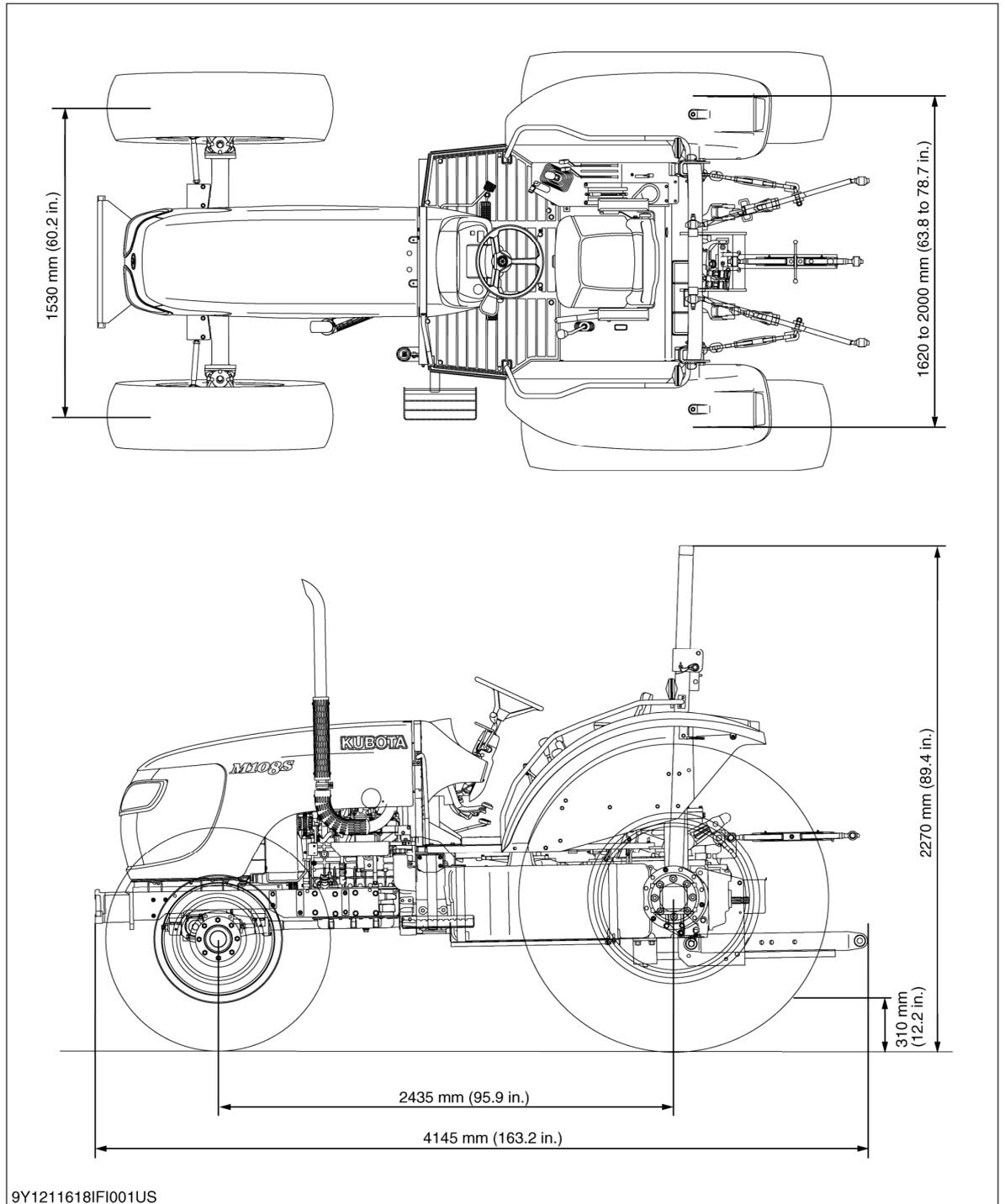
Model			M108S				
Tire size (Rear)			16.9-24		18.4-26		
Transmission type			with Dual speed				
Shuttle shift lever	Range gear shift lever	Main gear shift lever	Hi	Lo	Hi	Lo	
			km/h (mph)	km/h (mph)	km/h (mph)	km/h (mph)	
Reverse	CREEP (Option)	LO	1	0.30 (0.19)	0.25 (0.16)	0.33 (0.21)	0.27 (0.17)
			2	0.38 (0.24)	0.32 (0.20)	0.42 (0.26)	0.34 (0.21)
			3	0.47 (0.29)	0.39 (0.24)	0.51 (0.32)	0.42 (0.26)
			4	0.58 (0.36)	0.48 (0.30)	0.63 (0.39)	0.52 (0.32)
		HI	1	0.74 (0.46)	0.61 (0.38)	0.81 (0.50)	0.67 (0.42)
			2	0.94 (0.58)	0.78 (0.48)	1.03 (0.64)	0.85 (0.53)
			3	1.16 (0.72)	0.96 (0.60)	1.26 (0.78)	1.05 (0.65)
			4	1.42 (0.88)	1.18 (0.73)	1.55 (0.86)	1.28 (0.80)
	L	LO	1	1.68 (1.04)	1.39 (0.86)	1.83 (1.14)	1.51 (0.94)
			2	2.14 (1.33)	1.77 (1.10)	2.33 (1.45)	1.92 (1.19)
			3	2.63 (1.63)	2.18 (1.35)	2.87 (1.78)	2.37 (1.47)
			4	3.23 (2.01)	2.67 (1.66)	3.51 (2.18)	2.91 (1.81)
		HI	1	4.13 (2.57)	3.42 (2.13)	4.50 (2.80)	3.72 (2.31)
			2	5.26 (3.27)	4.35 (2.70)	5.73 (3.56)	4.74 (2.95)
			3	6.48 (4.03)	5.36 (3.33)	7.05 (4.38)	5.83 (3.62)
			4	7.95 (4.94)	6.57 (4.08)	8.65 (5.37)	7.15 (4.44)
	H	LO	1	5.87 (3.65)	4.85 (3.01)	6.39 (3.97)	5.28 (3.28)
			2	7.47 (4.64)	6.18 (3.84)	8.13 (5.05)	6.73 (4.18)
			3	9.21 (5.72)	7.61 (4.73)	10.02 (6.23)	8.28 (5.14)
			4	11.28 (7.01)	9.33 (5.80)	12.28 (7.63)	10.15 (6.31)
HI		1	14.44 (8.97)	11.94 (7.42)	15.71 (9.76)	12.99 (8.07)	
		2	18.39 (11.43)	15.20 (9.44)	20.01 (12.43)	16.55 (10.28)	
		3	22.65 (14.07)	18.73 (11.64)	24.65 (15.32)	20.38 (12.66)	
		4	29.90* (18.58)	22.95 (14.26)	32.54* (20.22)	24.98 (15.52)	

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

* At maximum engine rpm.

9Y1211618INI0007US0

5. DIMENSIONS



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G GENERAL

GENERAL

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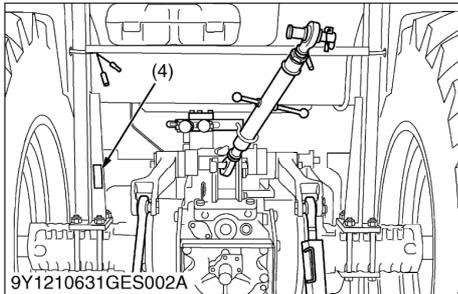
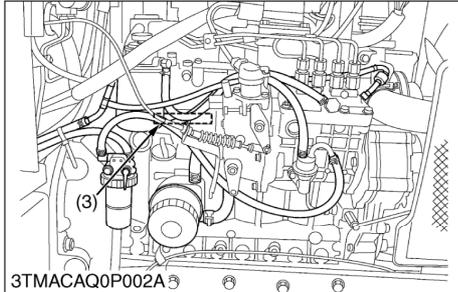
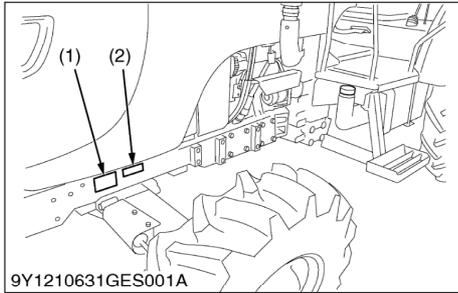
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1. TRACTOR IDENTIFICATION

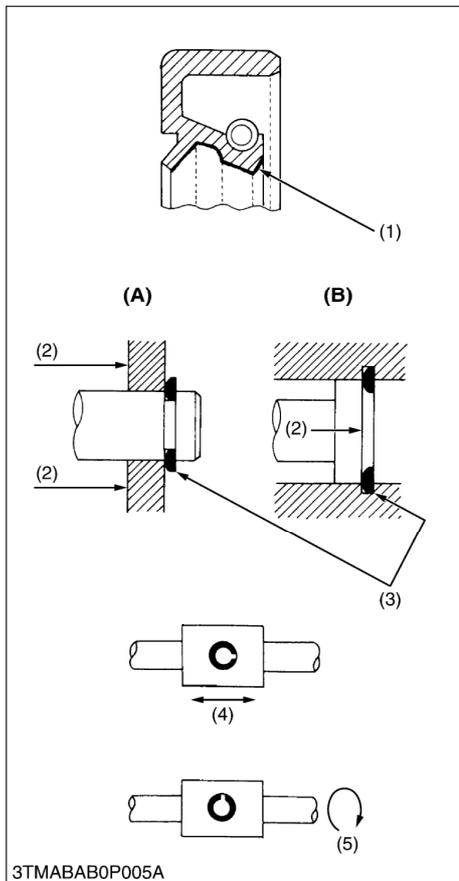
When contacting your local KUBOTA distributor, always specify engine serial number, tractor serial number and hour meter reading.

- | | |
|----------------------------------|---|
| (1) Tractor Identification Plate | (3) Engine Serial Number |
| (2) Tractor Serial Number | (4) ROPS Identification Plate
(ROPS Serial Number) |

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2. GENERAL PRECAUTIONS



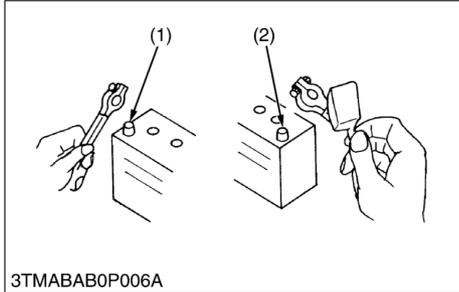
- When you disassemble, carefully put the parts in a clean area to make it easy to find the parts. You must install the screws, bolts and nuts in their initial position to prevent the reassembly errors.
- When it is necessary to use special tools, use KUBOTA special tools. Refer to the drawings when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

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

- (A) External Circlip
 (B) Internal Circlip

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3. HANDLING PRECAUTIONS FOR ELECTRICAL PARTS AND WIRING



3TMABAB0P006A

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

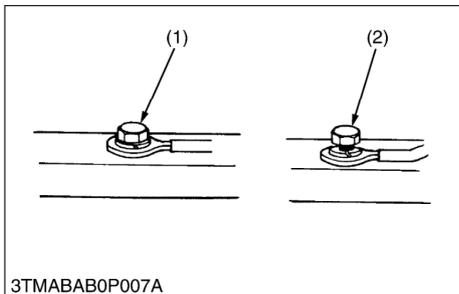
■ IMPORTANT

- Check electrical wiring for damage and loosened connection every year.
- When removing the battery cables, disconnect the negative cable first. When installing the battery cables, connect the positive cable first.

- (1) Negative Terminal (2) Positive Terminal

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[1] WIRING

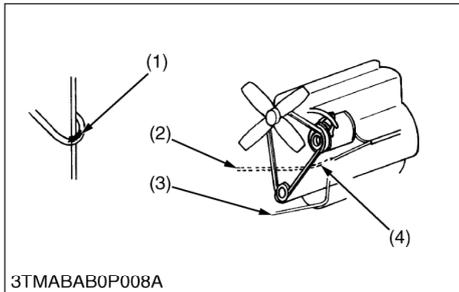


3TMABAB0P007A

- Securely tighten wiring terminals.

- (1) Correct (Securely Tighten) (2) Incorrect (Loosening Leads to damaged Contact)

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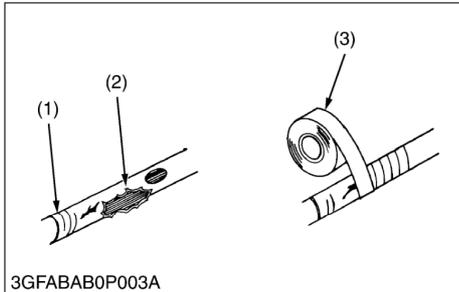


3TMABAB0P008A

- Do not let wiring contact dangerous part.

- (1) Dangerous Part (Sharp Edge) (2) Wiring (Incorrect) (3) Wiring (Correct) (4) Dangerous Part

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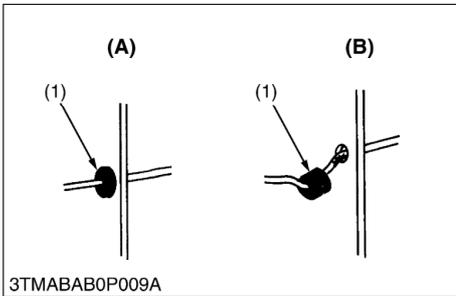


3GFABAB0P003A

- Repair or change torn or aged wiring immediately.

- (1) Aged (2) Torn (3) Electrical Tape

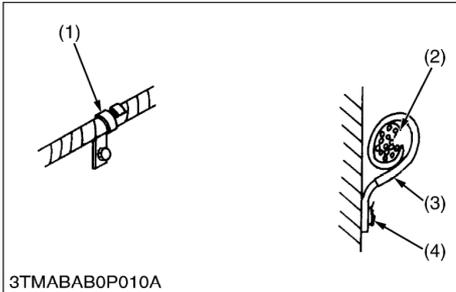
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- Securely insert grommet.

- (1) Grommet
- (A) Correct
- (B) Incorrect

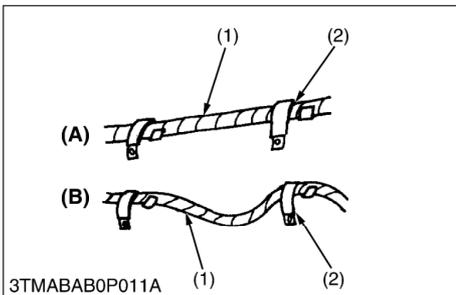
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- Securely clamp, being careful not to damage wiring.

- (1) Clamp (Wind Clamp Spirally)
- (2) Wire Harness
- (3) Clamp
- (4) Welding Dent

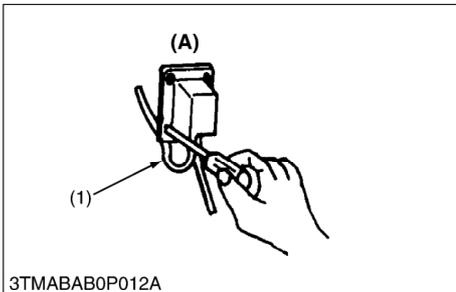
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- Clamp wiring so that there is no twist, unnecessary sag, or excessive tension, except for movable part, where sag be required.

- (1) Wiring
- (2) Clamp
- (A) Correct
- (B) Incorrect

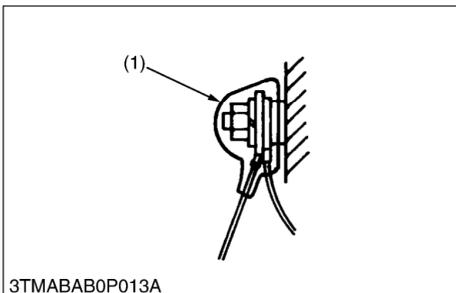
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- In installing a part, be careful not to get wiring caught by it.

- (1) Wiring
- (A) Incorrect

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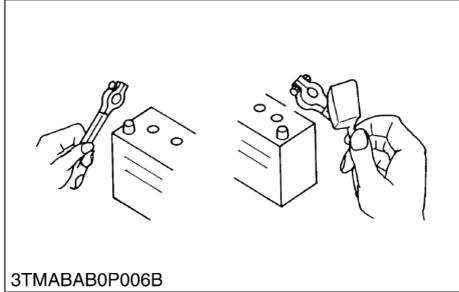


- After installing wiring, check protection of terminals and clamped condition of wiring.

- (1) Cover (Securely Install Cover)

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[2] BATTERY



3TMABAB0P006B

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

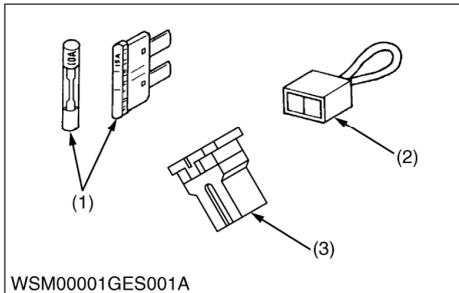
! DANGER

To avoid serious injury or death:

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

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[3] FUSE



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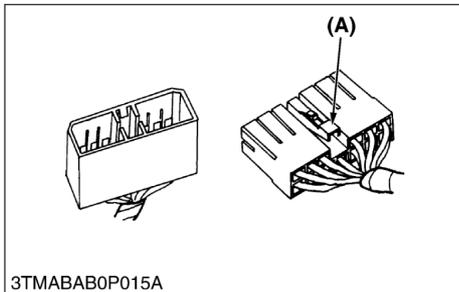
- Use fuses with specified capacity. Neither too large nor small capacity fuse is acceptable.
- Never use steel nor copper wire in place of fuse.
- Do not install working light, radio set, etc. on machine which is not provided with reserve power supply.
- Do not install accessories if fuse capacity of reserve power supply is exceeded.

(1) Fuse
(2) Fusible Link

(3) Slow Blow Fuse

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[4] CONNECTOR

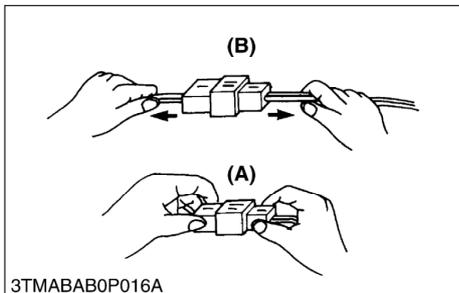


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- For connector with lock, push lock to separate.

(A) Push

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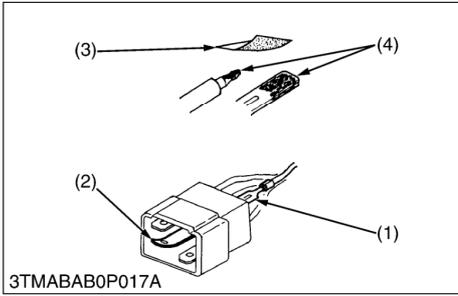
3TMABAB0P016A

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

(A) Correct

(B) Incorrect

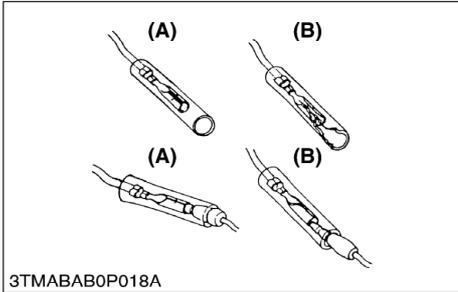
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- Use sandpaper to remove rust from terminals.
- Repair deformed terminal. Make sure that there is no terminal being exposed or displaced.

- (1) Exposed Terminal (3) Sandpaper
 (2) Deformed Terminal (4) Rust

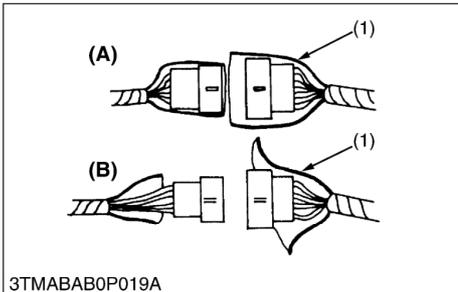
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- Make sure that there is no female connector being too open.

- (A) Correct (B) Incorrect

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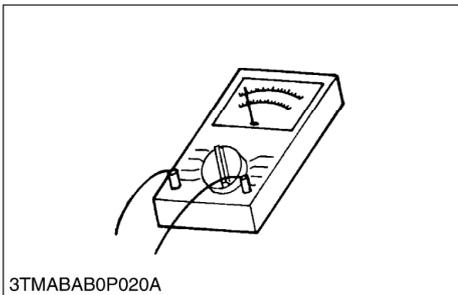


- Make sure that plastic cover is large enough to cover whole connector.

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

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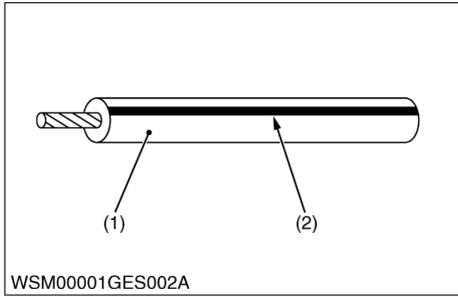
[5] HANDLING OF CIRCUIT TESTER



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

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[6] COLOR OF WIRING



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

(An example)

Red stripe on white color: W/R

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

(1) Wire Color

(2) Stripe

WSM000001GEG0079US0

4. LUBRICANTS, FUEL AND COOLANT

No.	Place		Capacity	Lubricants, fuel and coolant
			M108S	
1	Fuel		175 L 46.2 U.S.gals 38.5 Imp.gals	<ul style="list-style-type: none"> No. 2-D diesel fuel No. 1-D diesel fuel if temperature is below -10°C (14°F)
2	Coolant	Cooling system	9.6 L 10.1 U.S.qts 8.4 Imp.qts	Fresh clean water with anti-freeze
		Recovery system	1.1 L 1.2 U.S.qts 1.0 Imp.qts	
3	Engine crankcase		10.7 L 11.3 U.S.qts 9.4 Imp.qts	Engine oil API Service Classification CF or CI-4 [External EGR type engine] <ul style="list-style-type: none"> Above 25°C (77°F) SAE30, 10W-30 or 10W-40 -10 to 25°C (14 to 77°F) SAE20, 10W-30 or 10W-40 Below -10°C (14°F) SAE10W-30
4	Transmission case		60 L 63.4 U.S.qts 52.8 Imp.qts	KUBOTA UDT or KUBOTA SUPER UDT fluid*
5	Brake oil (reservoir and lines)		0.3 L 0.3 U.S.qts 0.3 Imp.qts	KUBOTA UDT or SUPER UDT fluid or Turbine oil 32 (See below) regular type, multipurpose straight mineral oil Mobile DTE Oil #32 TEXACO Regal Oil #32 CHEVRON -GST Oil #32 TERESSO OIL #32 Never use automotive brake oil.
6	Front differential case oil		7.0 L 7.4 U.S.qts 6.2 Imp.qts	KUBOTA UDT or KUBOTA SUPER UDT fluid or SAE 80-90 gear oil
7	Front axle gear case oil		3.5 L 3.7 U.S.qts 3.1 Imp.qts	

■ NOTE

- The product name of KUBOTA genuine UDT fluid may be different from that in the Workshop Manual depending on countries or territories.

Full Download: <https://www.arepairmanual.com/downloads/kubota-m108s-low-profile-service-manual/>

Greasing				
No.	Place	No. of greasing point	Capacity	Type of grease
8	Top link	2	Until grease overflows	Multipurpose grease NLG1-2 or NLG1-1 (GC-LB)
	Top link bracket	2		
	Lift rod	3		
	Front axle gear case support	2		
	Front axle support	2		
	Steering joint shaft	1		
	Battery terminal	2	A small amount	

■ **NOTE**

- The product name of KUBOTA genuine UDT fluid may be different from that in the Workshop Manual depending on countries or territories.

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