

Product: Kubota M100X M110X M126X M135X Service Manual

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# WSM

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## WORKSHOP MANUAL TRACTOR

# M100X,M110X,M126X,M135X

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# Kubota

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KiSC issued 01, 2022 A

## TO THE READER

This Workshop Manual tells the servicing personnel about the mechanism, servicing and maintenance of the M100X, M110X, M126X and M135X. 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 (Code No. 9Y021-01870 / 9Y021-18200) for the diesel engine / tractor mechanism that this workshop manual does not include.

### ■ Servicing

This section primarily contains information below.

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

Regarding the servicing of Common Rail System (CRS), refer to "DIAGNOSIS MANUAL (CD-ROM)" (9Y130-00142, 9Y130-00531) at the end of this manual.

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

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

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

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September 2010

## 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
9Y121-23560	2020.03	The code number of this WSM has been changed from 9Y121-05259 to 9Y121-23560.	—
		Additional information <ul style="list-style-type: none"><li>Diagnostic trouble code was changed.</li></ul>	9-S21
		Corrected information <ul style="list-style-type: none"><li>Instruction for "Calibration of solenoid proportional pressure reducing valve (Master, Main shift L and H)" is corrected.</li></ul>	9-S44
1	2022.01	Update of Air-conditioner belt tension	G-19, G-35 to G-36, 1-S9, 1-S21, 1-S30, 2-S8, 2-S16, 10-S6, 10-S38
		Additional, deleted and changed information <ul style="list-style-type: none"><li>Minor correction about cylinder head gasket shape.</li><li>Relief valve assembly topic is deleted because this assy isn't permitted to disassemble.</li></ul>	1-S14, 1-S44, 1-S46 8-S41

# 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

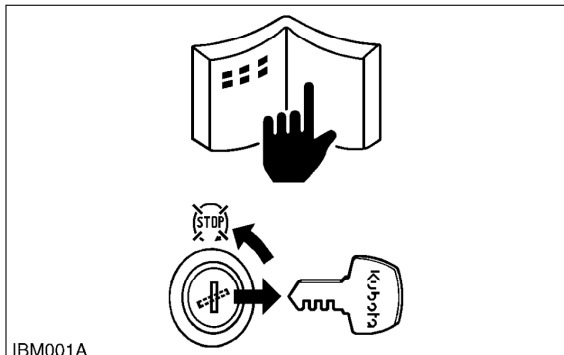
- Indicates that equipment or property damage could result if instructions are not followed.



### NOTE

- Gives helpful information.

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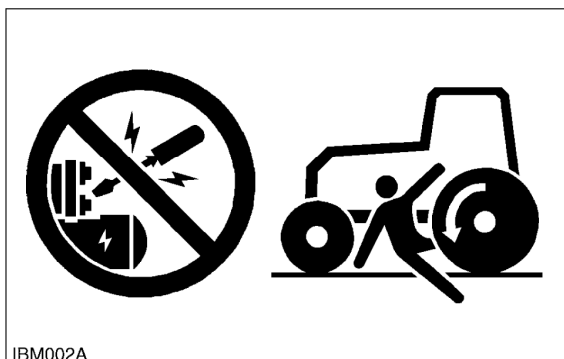


IBM001A

## 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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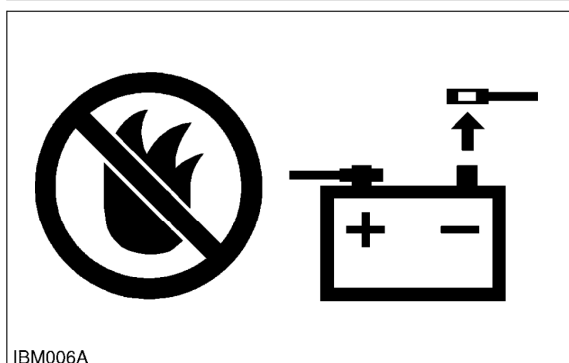
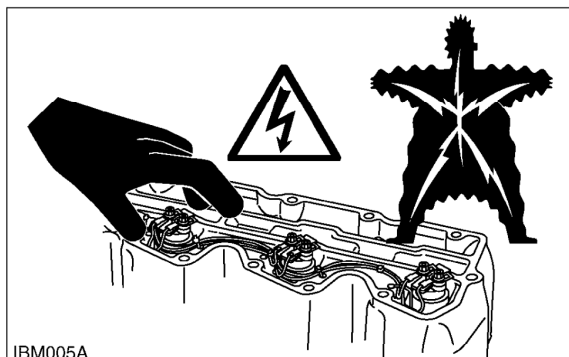
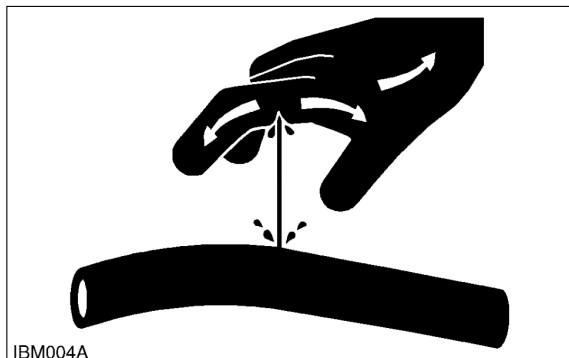
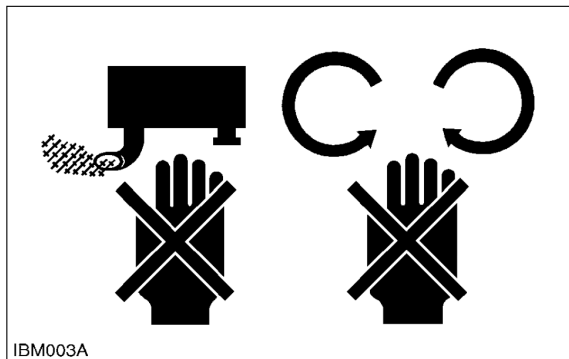


IBM002A

## 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.

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### OPERATE SAFELY

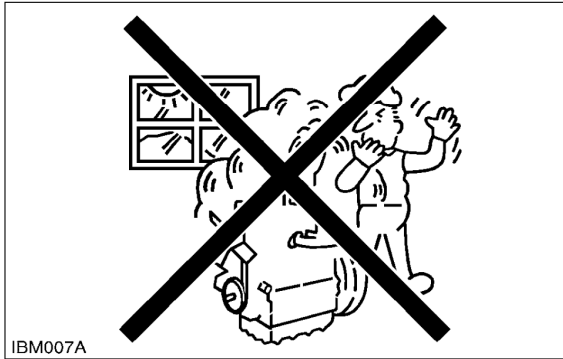
- Do not use the machine after you consume alcohol or medication or when you are tired.
- Put on applicable clothing and safety equipment.
- Use applicable tools only. Do not use alternative tools or parts.
- When 2 or more persons do servicing, make sure that you do it safely.
- Do not operate below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

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.

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**KEEP A GOOD AIRFLOW IN THE WORK AREA**

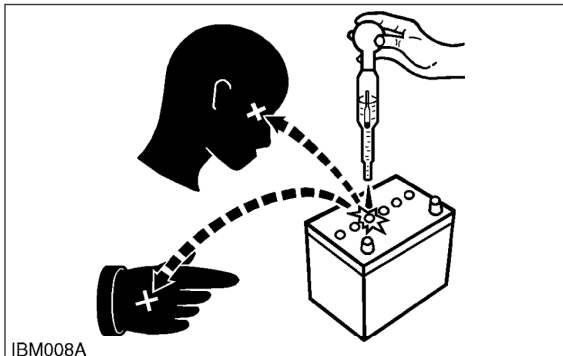
- If the engine is in operation, make sure that the area has good airflow. Do not operate the engine in a closed area. The exhaust gas contains poisonous carbon monoxide.

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**DISCARD FLUIDS CORRECTLY**

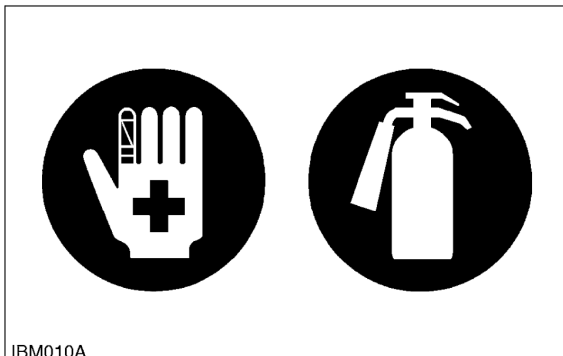
- Do not discard fluids on the ground, down the drain, into a stream, pond, or lake. Obey related environmental protection regulations when you discard oil, fuel, coolant, electrolyte and other dangerous waste.

WSM000001INI0007US0

**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

**PREPARE FOR EMERGENCIES**

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

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## 2. SAFETY DECALS

The following safety decals (pictorial safety labels) are installed on the machine. If a decal becomes damaged, illegible or is not on the machine, replace it. The decal part number is listed in the parts list.

WSM000001INI0014US0

(1) Part No. 3F240-9819-1

Do not stand by IMPLEMENT or between implement and tractor while operating remote hitch switch.



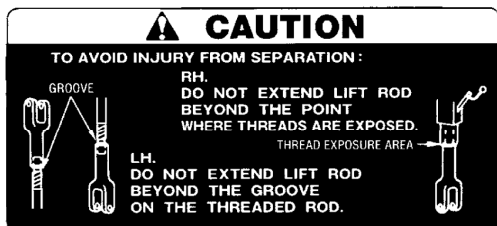
1AGAIBIAP1770

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

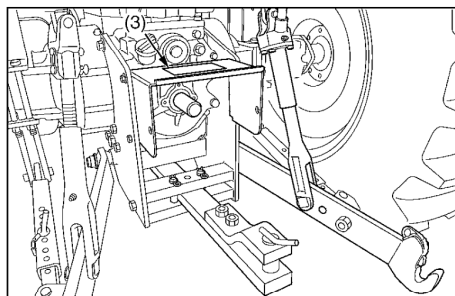
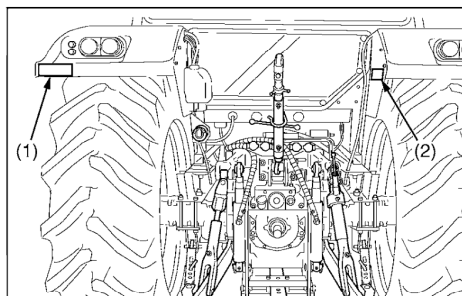


1AGAIHFAP067A

(2) Part No. 3A111-9856-3



1AGAIAP119A



9Y1210525ICI001US

9Y1210525INI0005US0

(1) Part No. TA040-4965-2



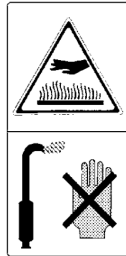
1AGAIAP009A

(2) Part No. TA040-4957-1  
Do not get your hands close to engine fan and fan belt.



1AGAIAP110A

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



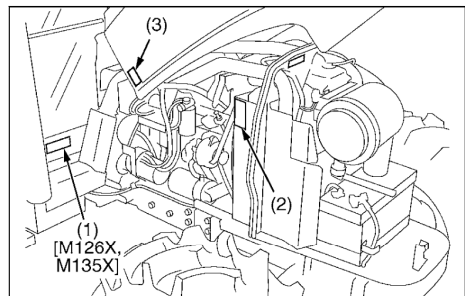
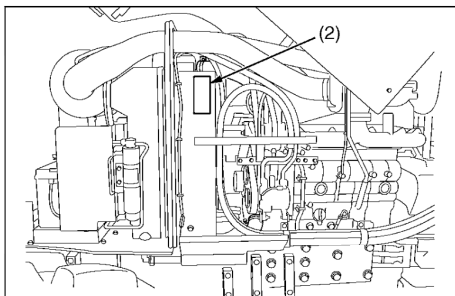
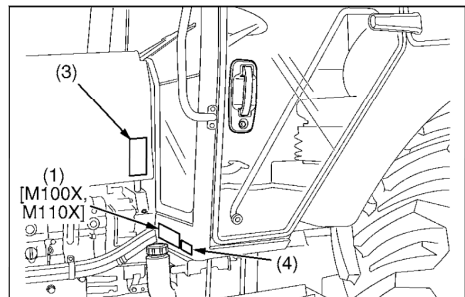
1AGAIAP071A

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

No fire



1AGAPAJAP068A



9Y1210525IC1002US

9Y1210525INI0006USO

(1) Part No. 3F240-9836-2

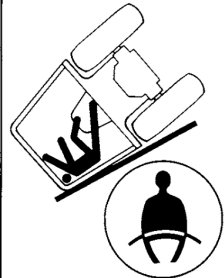
**CAUTION****TO AVOID PERSONAL INJURY:**

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

1AGAICHAP113A

9Y1210525IC1003US

(2) Part No. TA040-4902-1

**WARNING**

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

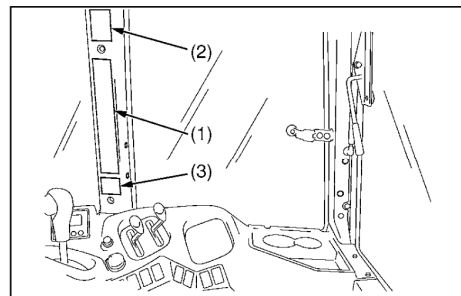
1AGAMAOAP078A

(3) Part No. 3F240-9821-1

**WARNING****TO AVOID MACHINE RUNAWAY DUE TO 4WD BRAKING SYSTEM:**

Do not run engine with only rear wheels off ground.

1AGAIBIAP1820



9Y1210525INI0007US0

(1) Part No. TD170-4933-1



**⚠ WARNING**

**BEFORE DISMOUNTING TRACTOR:**

- 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.**  
Failure to comply to this warning may allow the wheels to slip, and could cause injury or death.
- 4. STOP THE ENGINE.**

1AGAMAOAP079E

(2) Part No. 3F240-4966-1




**CAUTION**

USE [UP-DOWN] ONLY ON FARM FIELDS. FOR ALL OTHER APPLICATIONS, USE HYDRAULIC LEVER TO MOVE ATTACHMENT.

1AGAIBIAP1800

(3) Part No. 3F240-4905-2




**⚠ WARNING**

To avoid personal injury: Use "Bi-speed Turn" only in low gears and slow speed. Do not use "Bi-speed Turn" in high gears or road speed.

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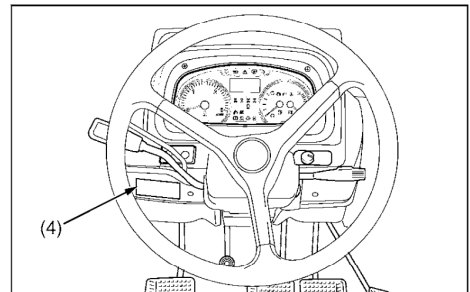
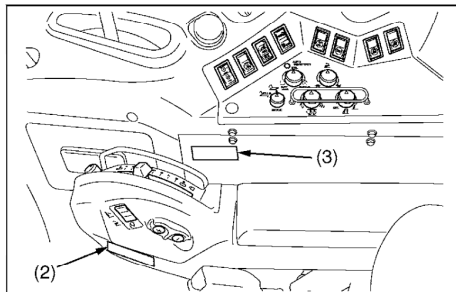
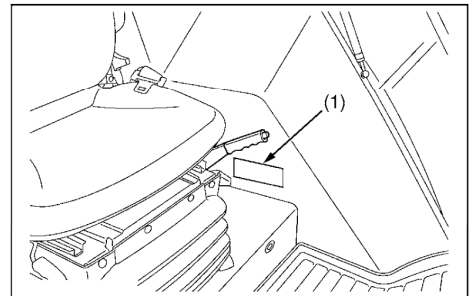
(4) Part No. 3F240-9857-1



**WARNING**

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.

1AGAIBDAP039A



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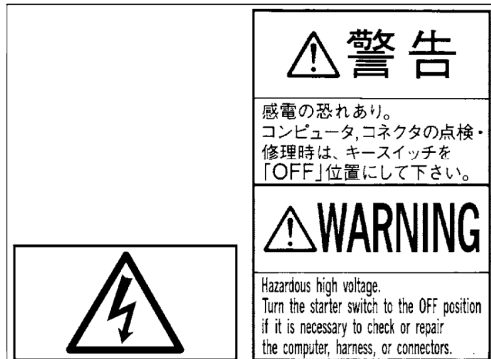
9Y1210525INI0008USO

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

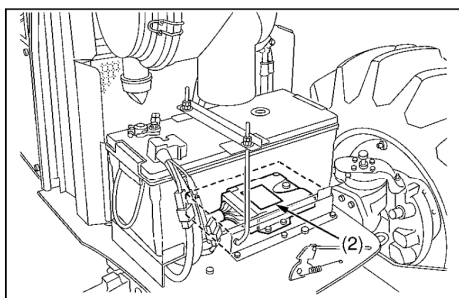


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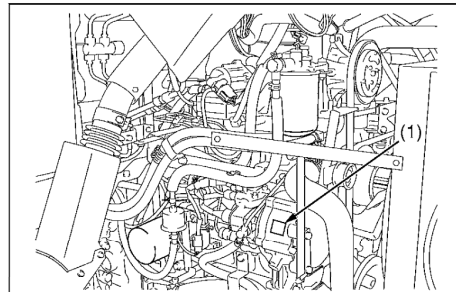
- (2) Part No. 1J574-5905-3



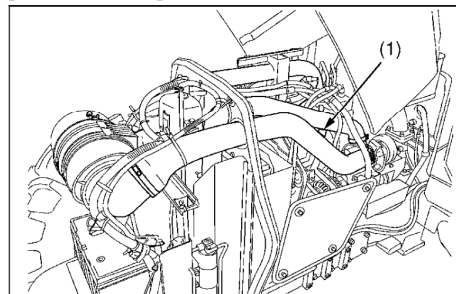
1AGAIHFAP064A



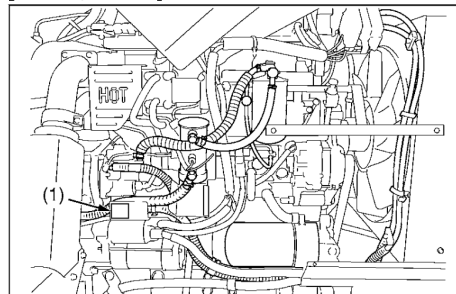
## [M100X, M110X]



## [M100X, M110X]



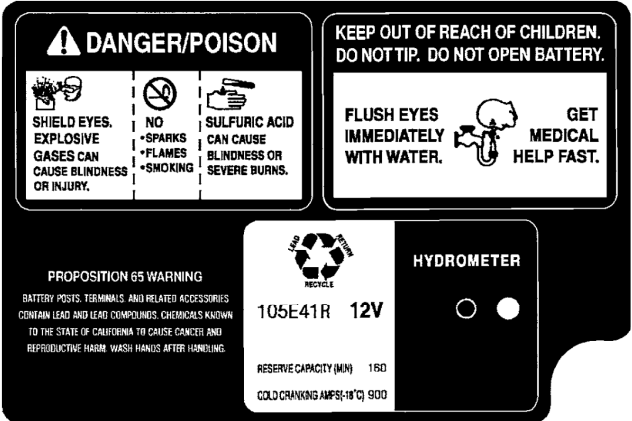
## [M126X, M135X]



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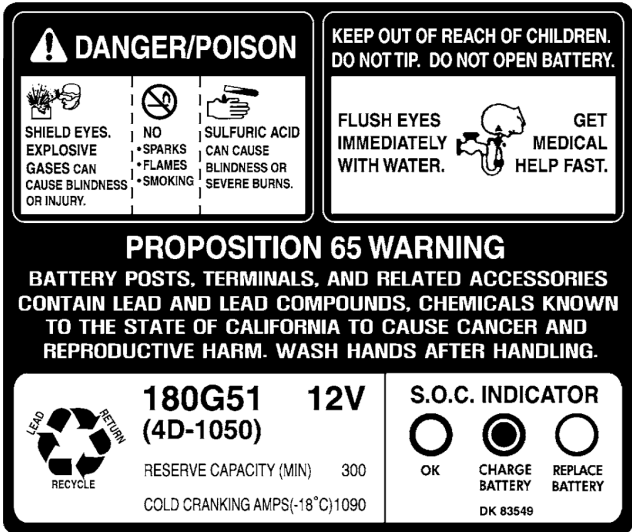
9Y1210525INI0009US0

(1) Part No. 3N300-9892-1



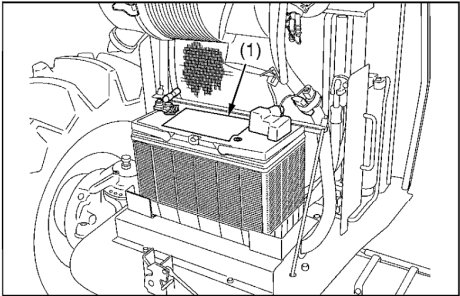
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(2) Part No. 3P903-9892-2

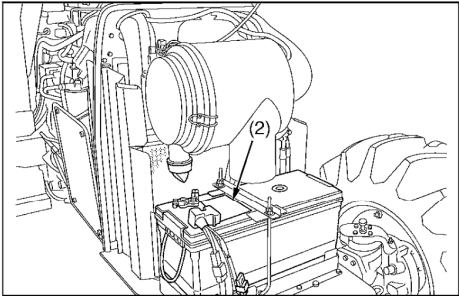


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[M100X, M110X]



[M126X, M135X]



9Y1210525ICI006US

9Y1210525INI0010US0

(1) Part No. 3T565-9855-2 [Front suspension type]

**⚠ CAUTION****TO AVOID PERSONAL INJURY:**

Before operating the switches for the front suspension, make sure the area near the machine is clear of all persons and objects.

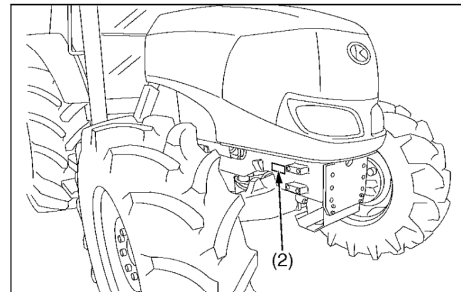
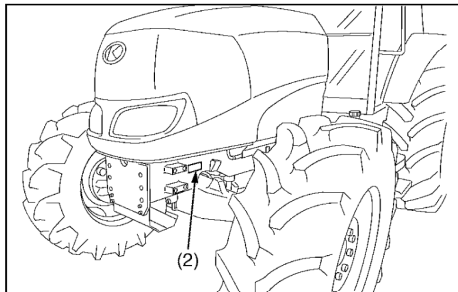
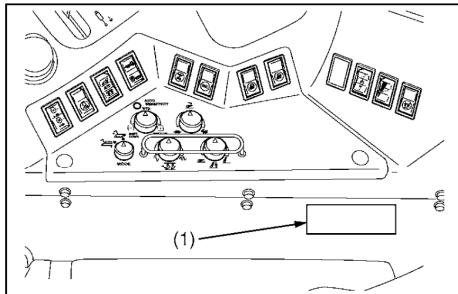
1AGAIHFAP086A

(2) Part No. 3T565-9859-2 [Front suspension type]

**⚠ CAUTION****TO AVOID PERSONAL INJURY:**

Servicing of front suspension hydraulic system should be performed only by authorized Kubota dealer.

1AGAIHFAP087A



9Y1210525ICI007US

9Y1210525INI0011US0

**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.

9Y1210525INI0012US0

### 3. SPECIFICATIONS

Model			M100X	M110X	M126X	M135X
Engine	Model		V3800-TIE2		V6108-TIE2	
	Type		Direct injection, with turbocharger, water-cooled, 4-cycle diesel			
	Number of cylinder		4			
	Total displacement		3769 cm <sup>3</sup> (230 cu.in.)		6124 cm <sup>3</sup> (374 cu.in.)	
	Bore and stroke		100 × 120 mm (3.94 × 4.72 in.)		118 × 140 mm (4.65 × 5.51 in.)	
	Net power*		72.9 kW (97.7 HP)	80.2 kW (107.5 HP)	93.2 kW (125 HP)	100.7 kW (135 HP)
	PTO power* (factory observed)		63.4 kW (85 HP) / 2600 min <sup>-1</sup> (rpm)	70.9 kW (95 HP) / 2600 min <sup>-1</sup> (rpm)	80.6 kW (108 HP) / 2200 min <sup>-1</sup> (rpm)	88.0 kW (118 HP) / 2200 min <sup>-1</sup> (rpm)
	Maximum torque		337 N·m (34.4 kgf·m, 249 lbf·ft) / 1500 min <sup>-1</sup> (rpm)	365 N·m (37.2 kgf·m, 269 lbf·ft) / 1500 min <sup>-1</sup> (rpm)	519 N·m (52.9 kgf·m, 383 lbf·ft) / 1200 min <sup>-1</sup> (rpm)	560 N·m (57.1 kgf·m, 413 lbf·ft) / 1200 min <sup>-1</sup> (rpm)
	Low idling revolution		800 to 850 min <sup>-1</sup> (rpm)			
	Battery capacity		12 V, 100 Ah at 20 hours, 900CCA		12 V, 160 Ah at 20 hours, 1090CCA	
	Fuel		Diesel fuel No. 1-D [below -10 °C (14 °F)] Diesel fuel No. 2-D [above -10 °C (14 °F)]			
	Fuel tank capacity		190 L (50.2 U.S.gals, 41.8 Imp.gals)			
	Engine oil capacity		10.5 L (11.1 U.S.qts, 9.2 Imp.qts)		14.6 L (15.4 U.S.qts, 12.8 Imp.qts)	
	Coolant capacity		9.6 L (10.1 U.S.qts, 8.5 Imp.qts)		14.6 L (15.4 U.S.qts, 12.8 Imp.qts)	
Dimensions	Overall length		4230 mm (166.5 in.)		4360 mm (171.7 in.) <4350 mm (171.3 in.)>	
	Overall width (min. tread)		1825 mm (71.85 in.)	2125 mm (83.7 in.)	2180 mm (85.8 in.)	
	Overall height		2640 mm (103.9 in.)	2690 mm (105.9 in.)	2725 mm (107.3 in.)	
	Wheel base		2435 mm (95.9 in.)		2690 mm (105.9 in.) <2680 mm (105.5 in.)>	
	Tread	Front	1455, 1490 mm (57.29, 58.66 in.)	1580, 1610 mm (62.2, 63.39 in.)	1775, 1875 mm (69.9, 73.8 in.)	
		Rear	1500 to 2005 mm (59.1 to 78.9 in.)		1590 to 2085 mm (62.6 to 82.1 in.)	
Crop clearance		560 mm (22.0 in.)		590 mm (23.2 in.)	615 mm (24.2 in.)	
Weight			4020 kg (8862 lbs)	4105 kg (9050 lbs)	4660 kg (10273 lbs) <4860 kg (10710 lbs)>	
Traveling system	Standard tire size	Front	12.4R24	13.6R24	14.9R24	
		Rear	16.9R34	18.4R34	18.4R38	
	Clutch		Multiple wet disc, Electronic Hydraulically operated			
	Steering		Hydrostatic power steering			
	Braking system		Hydraulically operated wet disk			
Differential		Bevel gears with differential lock (Front, Rear)				
Hydraulic system	Hydraulic control system		Electronic draft control			
	Pump capacity		68.4 L (18.1 U.S.gals, 15.0 Imp.gals) / min.		77.2 L (20.4 U.S.gals, 17.0 Imp.gals) / min.	
	Three point hitch		Category 2			
	Max. lifting force	At lift points**	3900 kg (8598 lbs)		5000 kg (11020 lbs)	
		24 in. behind lift points***	3300 kg (7276 lbs)		4300 kg (9480 lbs)	
	Remote hydraulic control		2 standard (3rd and 4th valve optional)			
	System pressure		19.7 MPa (201 kgf/cm <sup>2</sup> , 2857 psi)			
Traction system		Swinging drawbar, adjustable in direction				
PTO system	Live PTO (Independent)	Direction of turning	Clockwise, viewed from tractor rear			
		PTO / engine speed	6 splines: 540 min <sup>-1</sup> (rpm) / 2405 min <sup>-1</sup> (rpm) 1000 min <sup>-1</sup> (rpm) / 2529 min <sup>-1</sup> (rpm)		6 splines: 540 min <sup>-1</sup> (rpm) / 1994 min <sup>-1</sup> (rpm) 1000 min <sup>-1</sup> (rpm) / 2050 min <sup>-1</sup> (rpm)	

#### NOTE

- < >: Front Suspension Type

\*Manufacture's estimate

\*\* At lower link and with links horizontal.

\*\*\* Top link mounting: upper hole

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

9Y1210525INI0001US0

4. TRAVELING SPEEDS

Forward and Reverse

Model	M100X		M110X		M126X, M135X	
Tire size (Rear)	16.9R34		18.4R34		18.4R38	
Range	km/h	mph	km/h	mph	km/h	mph
C1	0.36	0.22	0.37	0.23	0.36	0.22
C2	0.45	0.28	0.46	0.29	0.45	0.28
C3	0.56	0.35	0.58	0.36	0.57	0.35
C4	0.66	0.41	0.68	0.42	0.76	0.48
C5	0.88	0.55	0.90	0.56	0.88	0.55
C6	1.10	0.68	1.13	0.70	1.11	0.69
C7	1.37	0.85	1.41	0.88	1.39	0.87
C8	1.61	1.00	1.66	1.03	1.87	1.16
1	2.01	1.25	2.06	1.28	2.00	1.24
2	2.50	1.55	2.57	1.60	2.53	1.57
3	3.13	1.94	3.21	1.99	3.18	1.97
4	3.68	2.29	3.78	2.35	4.26	2.65
5	4.92	3.06	5.04	3.13	4.89	3.04
6	6.12	3.80	6.28	3.90	6.19	3.85
7	7.66	4.76	7.86	4.88	7.78	4.83
8	9.01	5.60	9.24	5.74	10.43	6.48
9	7.02	4.36	7.20	4.47	7.0	4.3
10	8.74	5.43	8.97	5.57	8.8	5.5
11	10.93	6.79	11.22	6.97	11.1	6.9
12	12.86	7.99	13.19	8.20	14.9	9.3
13	17.18	10.68	17.63	10.96	17.1	10.6
14	21.40	13.30	21.96	13.65	21.6	13.5
15	26.76	16.63	27.46	17.06	27.2	16.9
16*	33.64	20.90	34.53	21.46	38.1	23.7

(At rated engine rpm)

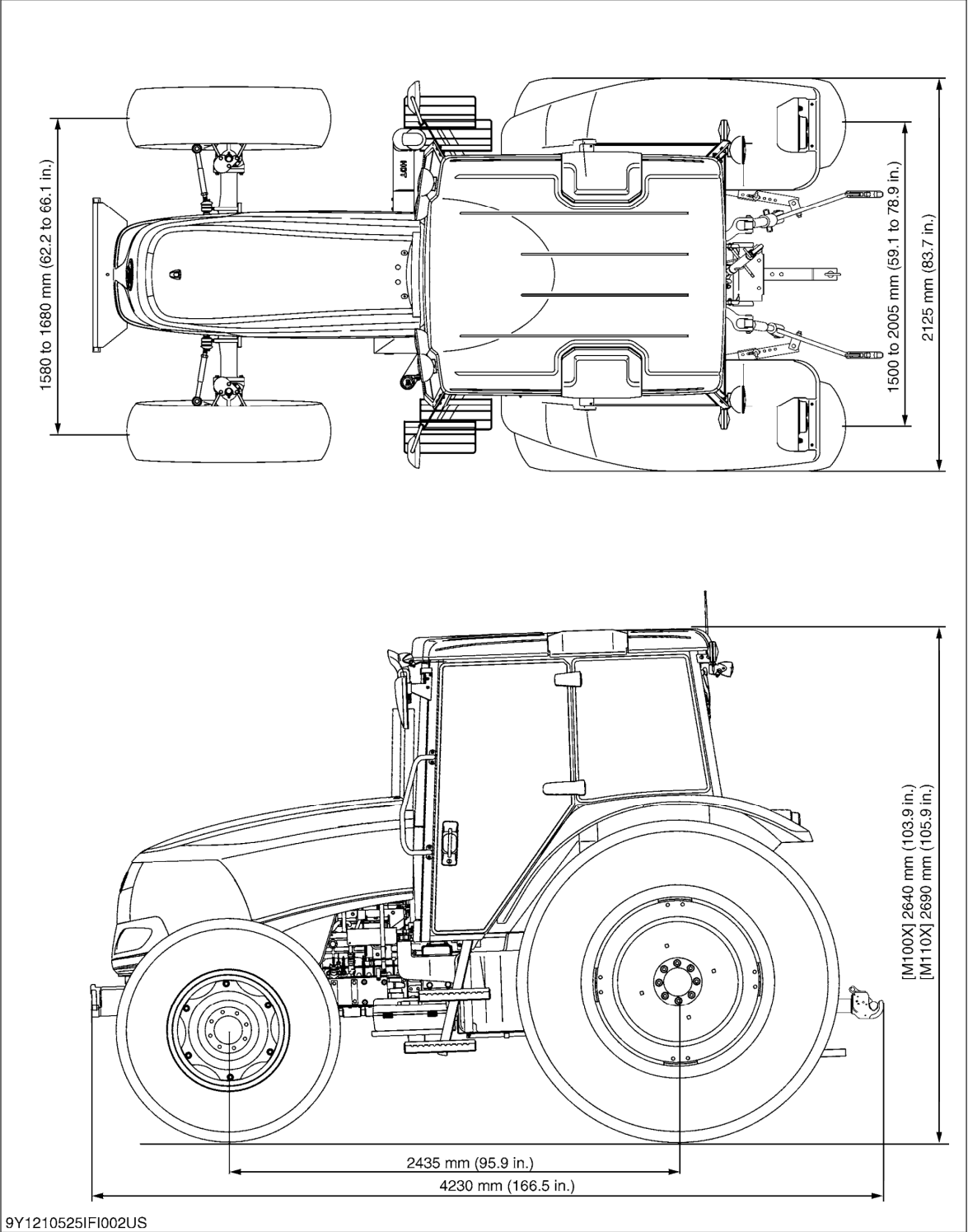
The company reserves the right to change the specifications without notice.

\*At maximum engine rpm

9Y1210525INI0002US0

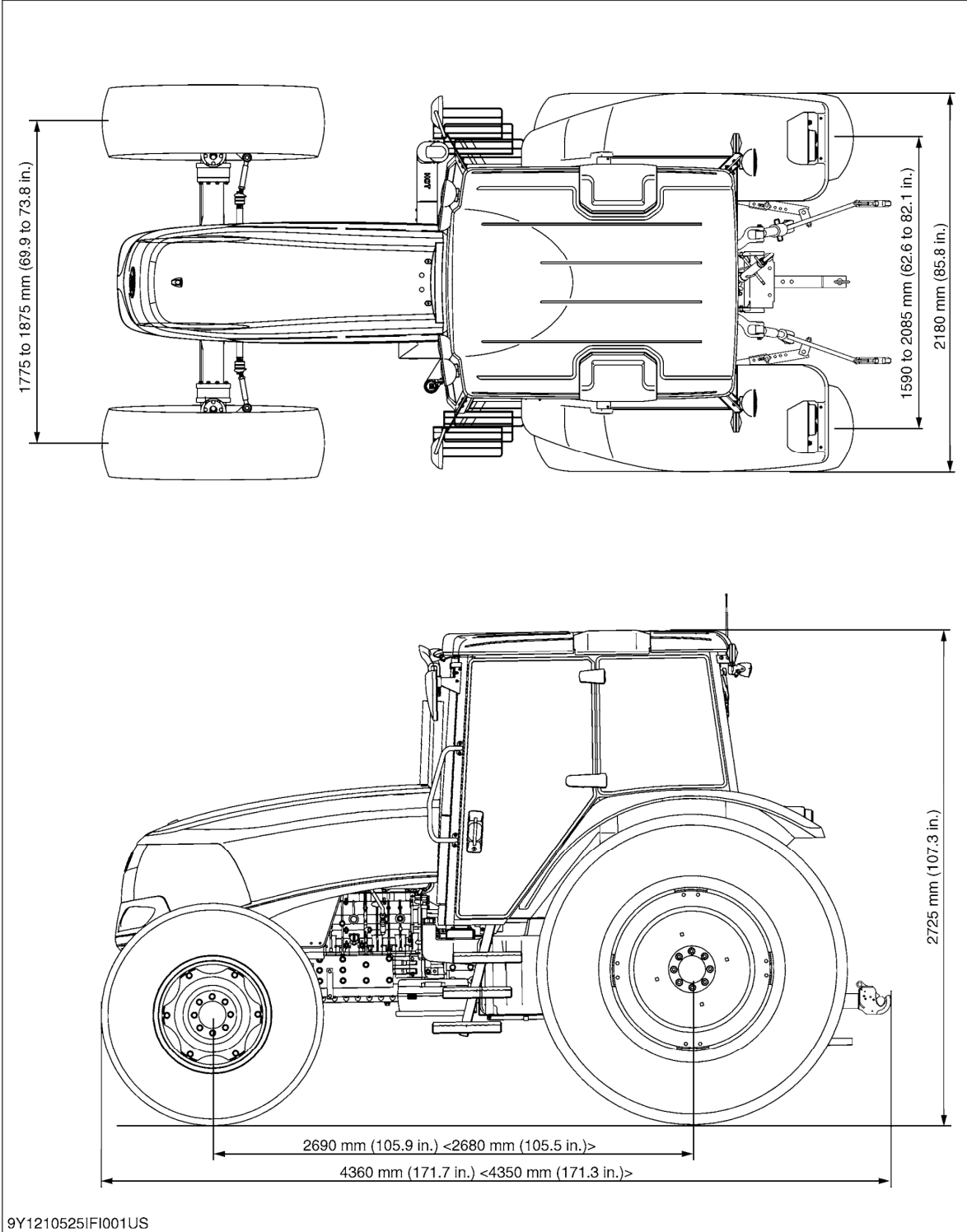
# 5. DIMENSIONS

M100X, M110X



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M126X, M135X <Front Suspension Type>



# **G GENERAL**

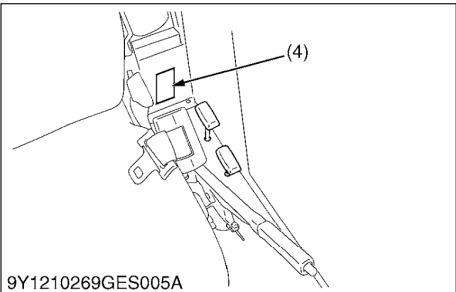
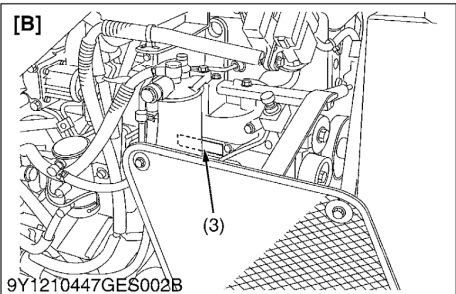
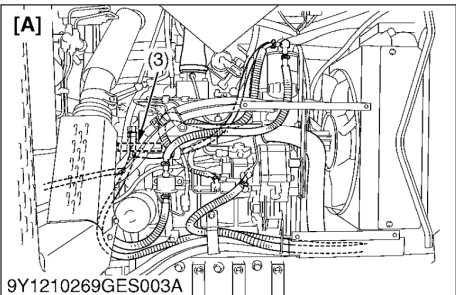
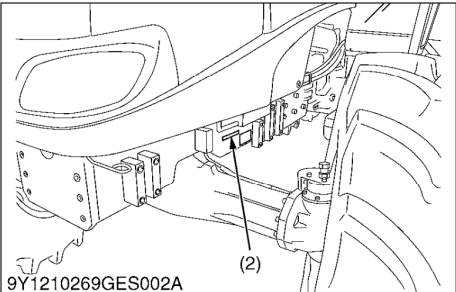
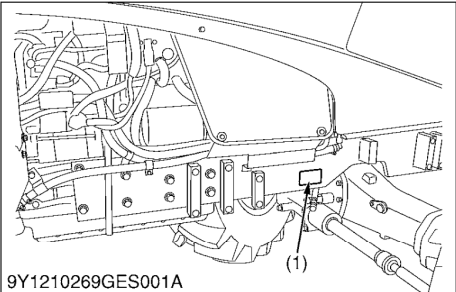
# GENERAL

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# 1. TRACTOR IDENTIFICATION

## [1] MODEL NAME AND SERIAL NUMBER



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

The engine model and its serial number need to be identified before the engine can be serviced or parts replaced.

■ Engine Serial Number

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

It indicates month and year of manufacture as follows.

Year of manufacture

Alphabet or Number	Year	Alphabet or Number	Year
1	2001	F	2015
2	2002	G	2016
3	2003	H	2017
4	2004	J	2018
5	2005	K	2019
6	2006	L	2020
7	2007	M	2021
8	2008	N	2022
9	2009	P	2023
A	2010	R	2024
B	2011	S	2025
C	2012	T	2026
D	2013	V	2027
E	2014		

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

[A] M100X, M110X  
[B] M126X, M135X

(To be continued)

(Continued)

Month of manufacture

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

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

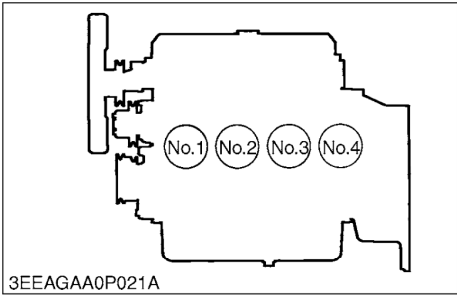
e.g.

- (a) (b)(c) (d)  
• V6108-T - 7 VA001

- (a) Engine Model Name: **V6108-T**
- (b) Year: **7** indicates **2007**
- (c) Month: **U** or **V** indicates **October**
- (d) Lot Number: (**0001 ~ 9999** or **A001 ~ Z999**)

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[2] CYLINDER NUMBER

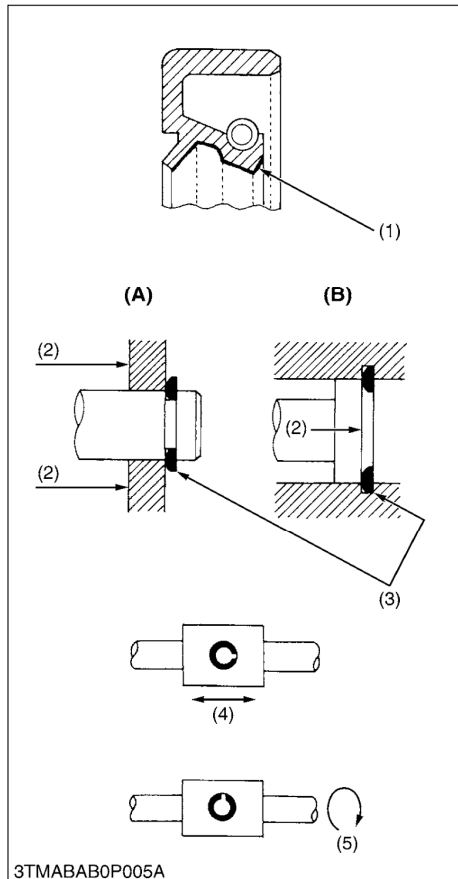


The cylinder numbers of kubota diesel engine are designated as shown in the figure.

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

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## 2. GENERAL PRECAUTIONS



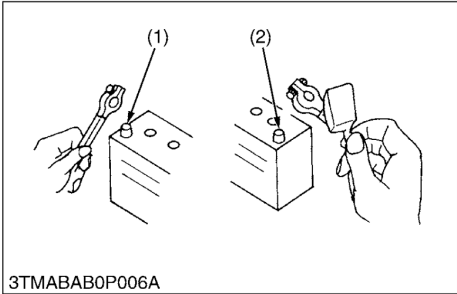
- When you disassemble, carefully put the parts in a clean area to make it easy to find the parts. You must install the screws, bolts and nuts in their initial position to prevent the reassembly errors.
- When it is necessary to use special tools, use KUBOTA special tools. Refer to the drawings when you make special tools that you do not use frequently.
- Before you disassemble or repair machine, make sure that you always disconnect the ground cable from the battery first.
- Remove oil and dirt from parts before you measure.
- Use only KUBOTA genuine parts for replacement to keep the machine performance and to make sure of safety.
- You must replace the gaskets and O-rings when you assemble again. Apply grease (1) to new O-rings or oil seals before you assemble.
- When you assemble the external or internal 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.

- (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



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

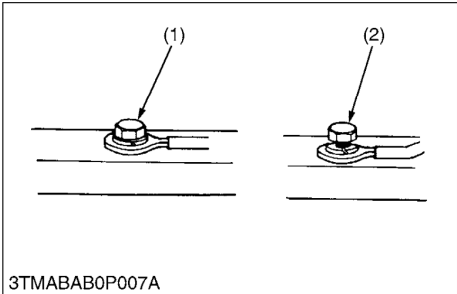
- **IMPORTANT**
- **Check electrical wiring for damage and loosened connection every year.**
- **When removing the battery cables, disconnect the negative cable first. When installing the battery cables, connect the positive cable first.**

(1) Negative Terminal

(2) Positive Terminal

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#### [1] WIRING

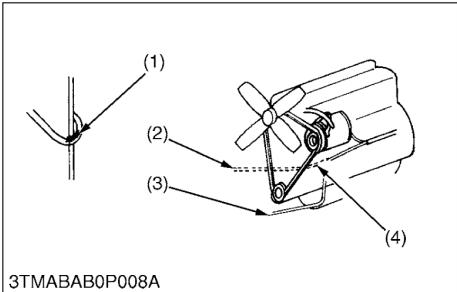


- Securely tighten wiring terminals.

(1) Correct  
(Securely Tighten)

(2) Incorrect  
(Loosening Leads to damaged Contact)

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- Do not let wiring contact dangerous part.

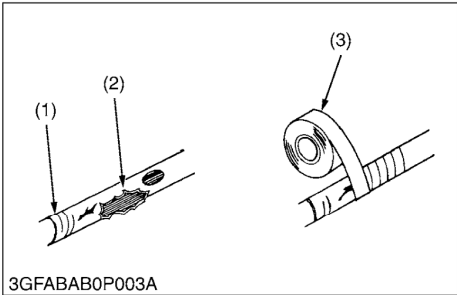
(1) Dangerous Part (Sharp Edge)

(2) Wiring (Incorrect)

(3) Wiring (Correct)

(4) Dangerous Part

WSM000001GEG0064US0



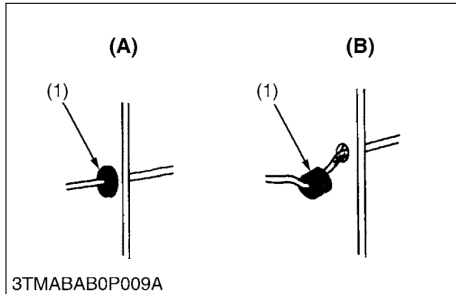
- Repair or change torn or aged wiring immediately.

(1) Aged

(2) Torn

(3) Electrical Tape

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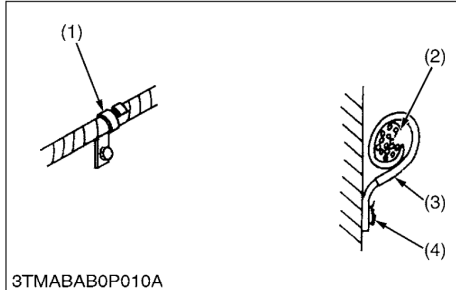


- Securely insert grommet.

(1) Grommet

(A) Correct  
(B) Incorrect

WSM000001GEG0066US0

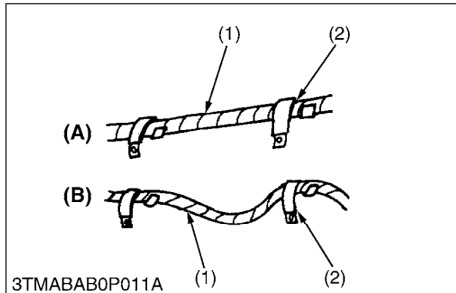


- Securely clamp, being careful not to damage wiring.

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

(3) Clamp  
(4) Welding Dent

WSM000001GEG0067US0

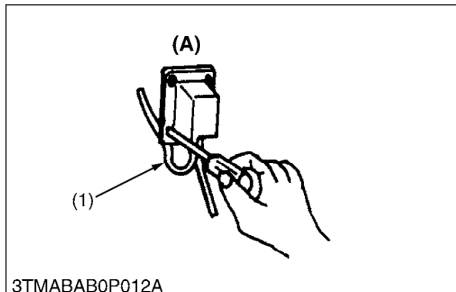


- Clamp wiring so that there is no twist, unnecessary sag, or excessive tension, except for movable part, where sag be required.

(1) Wiring  
(2) Clamp

(A) Correct  
(B) Incorrect

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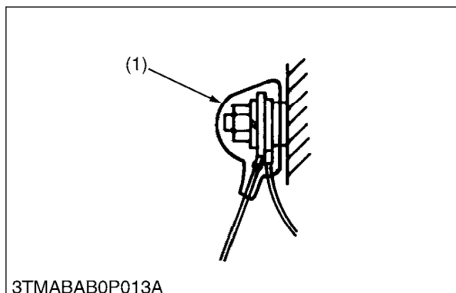


- In installing a part, be careful not to get wiring caught by it.

(1) Wiring

(A) Incorrect

WSM000001GEG0069US0

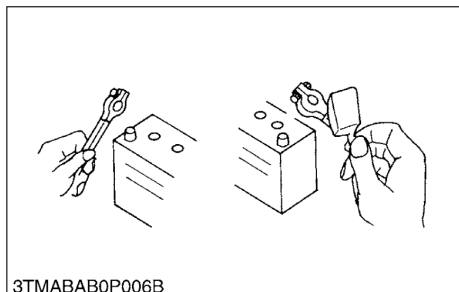


- After installing wiring, check protection of terminals and clamped condition of wiring.

(1) Cover  
(Securely Install Cover)

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## [2] BATTERY



- 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.



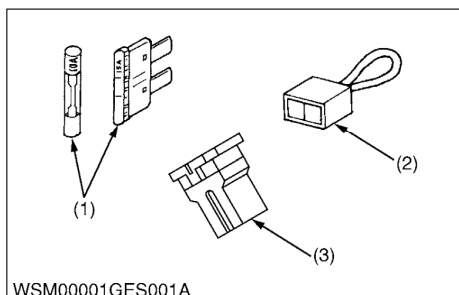
### **DANGER**

**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



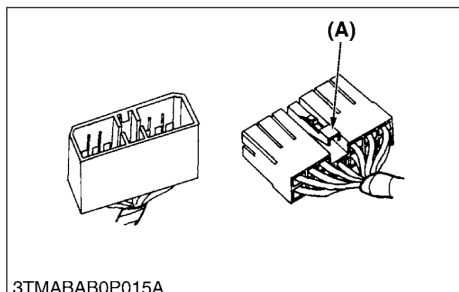
- Use fuses with specified capacity. Neither too large nor small capacity fuse is acceptable.
- Never use steel nor copper wire in place of fuse.
- Do not install working light, radio set, etc. on machine which is not provided with reserve power supply.
- Do not install accessories if fuse capacity of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

- (1) Fuse  
(2) Fusible Link

- (3) Slow Blow Fuse

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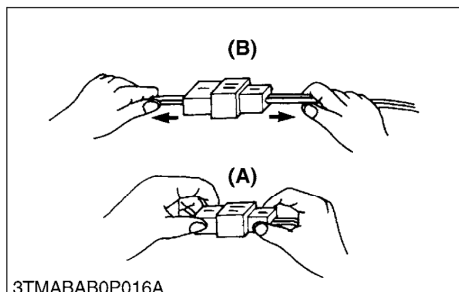
## [4] CONNECTOR



- For connector with lock, push lock to separate.

### **(A) Push**

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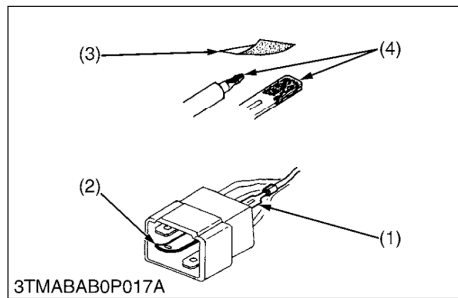


- In separating connectors, do not pull wire harnesses.
- Hold connector bodies to separate.

### **(A) Correct**

### **(B) Incorrect**

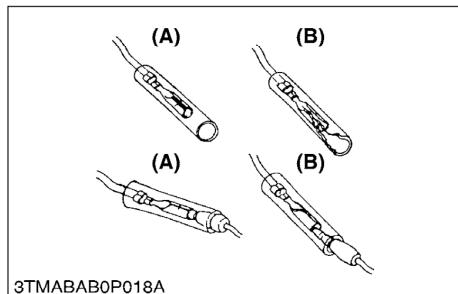
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- Use sandpaper to remove rust from terminals.
- Repair deformed terminal. Make sure that there is no terminal being exposed or displaced.

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

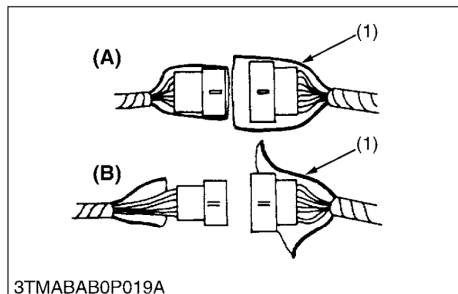
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- Make sure that there is no female connector being too open.

- (A) Correct (B) Incorrect

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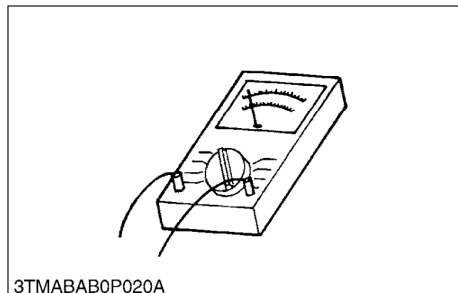


- Make sure that plastic cover is large enough to cover whole connector.

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

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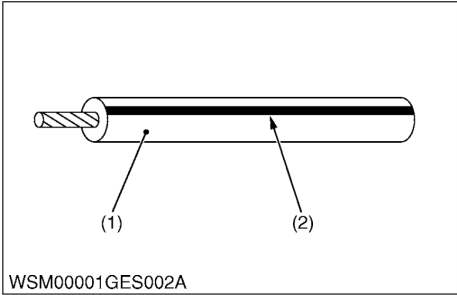
## [5] HANDLING OF CIRCUIT TESTER



- 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
		M100X	M110X	M126X	M135X	
1	Fuel	190 L 50.2 U.S.gals 41.8 Imp.gals				<ul style="list-style-type: none"> <li>No. 2-D diesel fuel</li> <li>No. 1-D diesel fuel if temperature is below <math>-10^{\circ}\text{C}</math> (<math>14^{\circ}\text{F}</math>)</li> </ul>
2	Cooling system	9.6 L 10.1 U.S.qts 8.5 Imp.qts		14.6 L 15.4 U.S.qts 12.8 Imp.qts		Fresh clean soft water with anti-freeze
	Recovery tank	1.1 L 1.2 U.S.qts 1.0 Imp.qts		1.5 L 1.6 U.S.qts 1.4 Imp.qts		
3	Washer liquid	1.3 L 1.4 U.S.qts 1.1 Imp.qts				Automobile washer liquid
4	Engine crankcase (with filter)	10.5 L 11.1 U.S.qts 9.2 Imp.qts		14.6 L 15.4 U.S.qts 12.8 Imp.qts		<b>Engine oil</b> API Service Classification: CD, CE or CF <ul style="list-style-type: none"> <li>Above <math>25^{\circ}\text{C}</math> (<math>77^{\circ}\text{F}</math>) SAE30, SAE10W-30 or 15W-40</li> <li>0 to <math>25^{\circ}\text{C}</math> (<math>32</math> to <math>77^{\circ}\text{F}</math>) SAE20, SAE10W-30 or 15W-40</li> <li>Below <math>0^{\circ}\text{C}</math> (<math>32^{\circ}\text{F}</math>) SAE10W, SAE10W-30 or 15W-40</li> </ul>
5	Transmission case	60 L 63.4 U.S.qts 52.8 Imp.qts				KUBOTA UDT or SUPER UDT fluid*
6	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 Mobil DTE Oil #32 TEXACO Regal Oil #32 CHEVRON -GST Oil #32 TERESSO OIL #32 Never use automotive brake oil.
7	Front differential case oil	6.0 L 6.4 U.S.qts 5.3 Imp.qts	7.0 L 7.4 U.S.qts 6.2 Imp.qts	12.0 L 12.6 U.S.qts 10.5 Imp.qts		KUBOTA UDT or SUPER UDT fluid* or SAE80, SAE90 gear oil
	Front axle gear case oil	3.5 L 3.7 U.S.qts 3.1 Imp.qts		4.5 L 4.8 U.S.qts 4.0 Imp.qts		

### ■ NOTE

- \*KUBOTA original transmission hydraulic fluid.