

# WSM

---

WORKSHOP MANUAL  
**TRACTOR**

**L2501**

---

**Kubota**

# TO THE READER

This Workshop Manual tells the servicing personnel about the mechanism, servicing and maintenance of the L2501. It contains 4 parts: "**Information**", "**General**", "**Mechanism**" and "**Servicing**".

## ■ **Information**

This section primarily contains information below.

- Safety First
- Safety Decal
- Specifications
- Dimensions

## ■ **General**

This section primarily contains information below.

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

## ■ **Mechanism**

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

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

## ■ **Servicing**

This section primarily contains information below.

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

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.

**September, 2014**

© KUBOTA Corporation 2014

# **I INFORMATION**

# INFORMATION

## CONTENTS

- 1. SAFETY FIRST ..... I-1
- 2. SAFETY DECALS ..... I-4
- 3. SPECIFICATIONS ..... I-7
- 4. TRAVELING SPEEDS ..... I-8
- 5. DIMENSIONS ..... I-9

# 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, may result in minor or moderate injury.

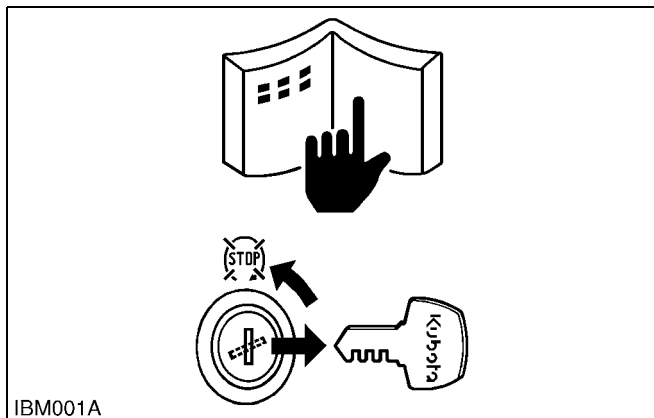
### ■ IMPORTANT

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

### ■ NOTE

- Gives helpful information.

WSM000001INI0001US1

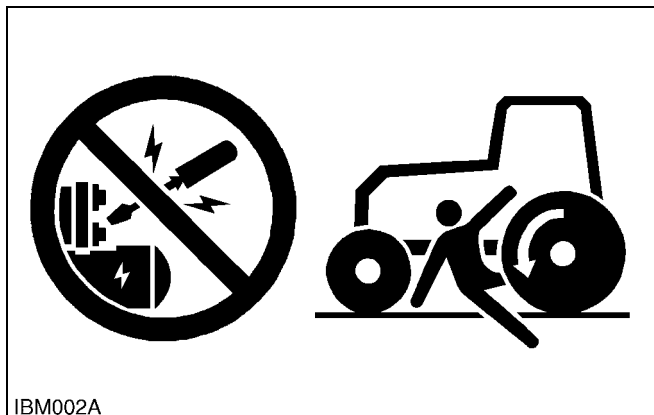


IBM001A

### 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.

WSM000001INI0010US0

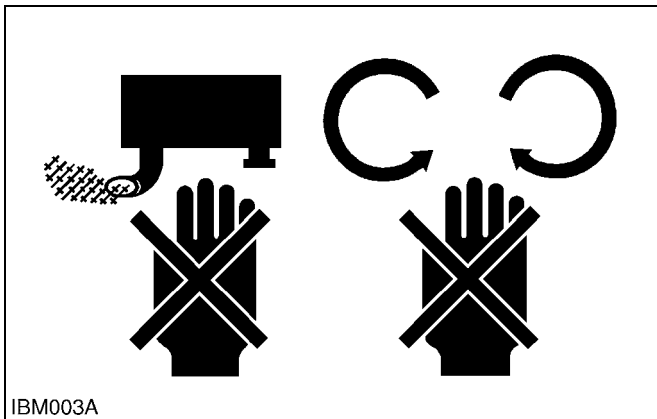


IBM002A

### 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.

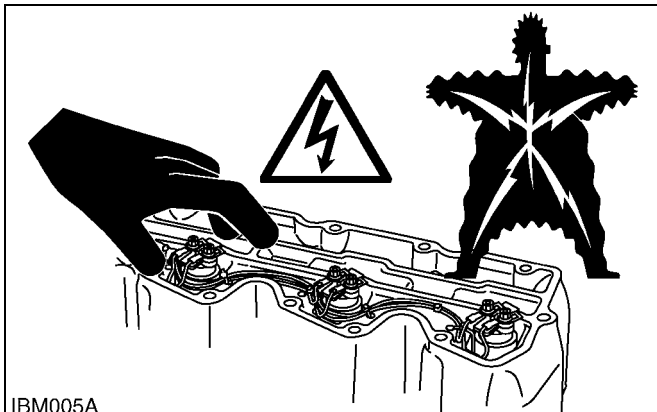
WSM000001INI0015US0



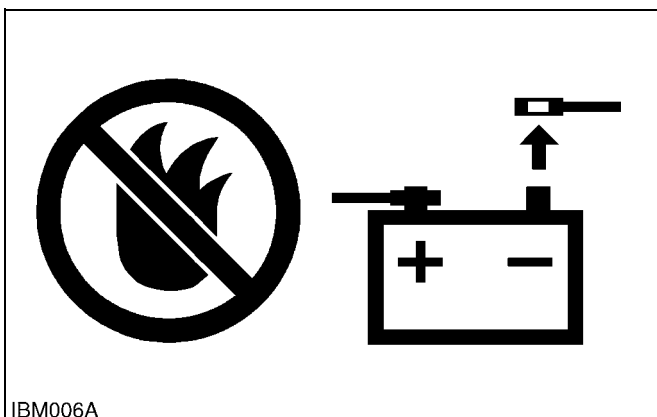
IBM003A



IBM004A



IBM005A



IBM006A

## OPERATE SAFELY

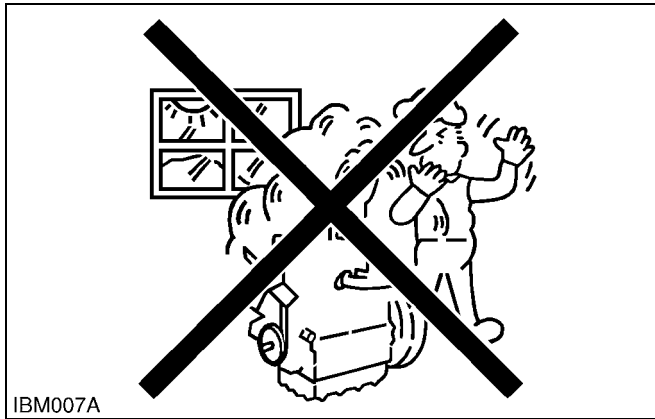
- Do not use the machine after you consume alcohol or medication or when you are tired.
- Put on applicable clothing and safety equipment.
- Use applicable tools only. Do not use alternative tools or parts.
- When 2 or more persons do servicing, make sure that you do it safely.
- Do not operate below 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

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

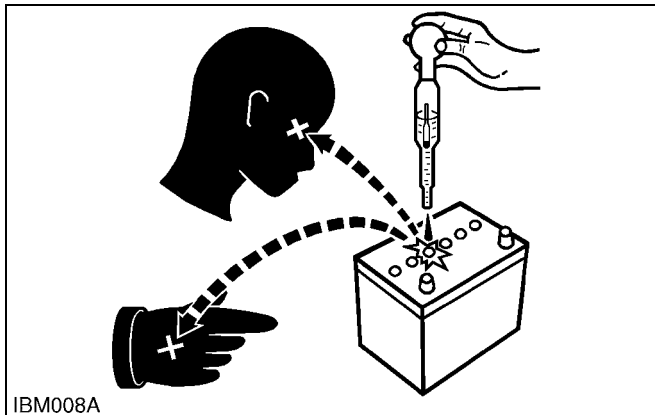
- If the engine is in operation, make sure that the area has good airflow. Do not operate the engine in a closed area. The exhaust gas contains poisonous carbon monoxide.

WSM000001INI0006US0

**DISCARD FLUIDS CORRECTLY**

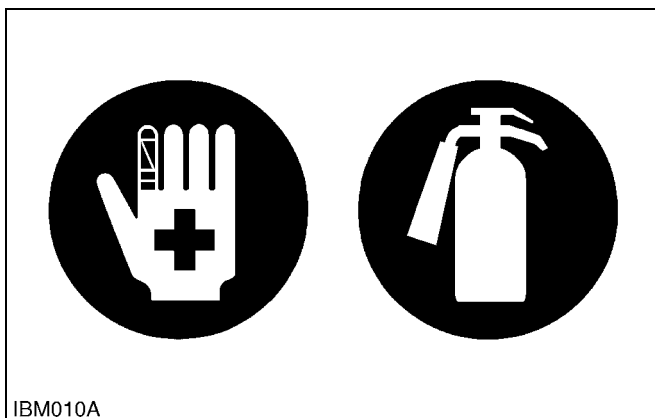
- Do not discard fluids on the ground, down the drain, into a stream, pond, or lake. Obey related environmental protection regulations when you discard oil, fuel, coolant, electrolyte and other dangerous waste.

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.

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. TA040-4965-2

	<p><b>⚠ DANGER</b></p>
	<p><b>TO AVOID POSSIBLE INJURY OR DEATH FROM A MACHINE RUNAWAY.</b></p> <ol style="list-style-type: none"> <li>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.</li> <li>2. Start engine only from operator's seat with transmission and PTO OFF. Never start engine while standing on the ground.</li> </ol>



(4) Part No. 6C300-4744-1

<p><b>⚠ WARNING</b></p>
<p>Operation of this equipment may create sparks that can start fires around dry vegetation. A spark arrester may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.</p>

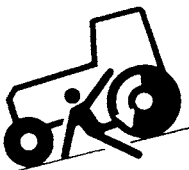
(2) Part No. TA040-4959-3

	<p><b>⚠ WARNING</b></p>
	<p><b>TO AVOID PERSONAL INJURY.</b></p> <ol style="list-style-type: none"> <li>1. Keep PTO shield in place at all times.</li> <li>2. Do not operate the PTO at speeds faster than the speed recommended by the implement manufacturer</li> <li>3. For trailing PTO-driven implements, set drawbar at towing position. (see operator's manual)</li> </ol>

(5) Part No. TC230-4956-1

<p>Diesel fuel only.</p> 	<p>No fire</p> 
<p><b>LOW SULFUR FUEL OR ULTRA LOW SULFUR FUEL ONLY</b></p>	


(3) Part No. TA140-4933-1 [Manual Transmission Type]

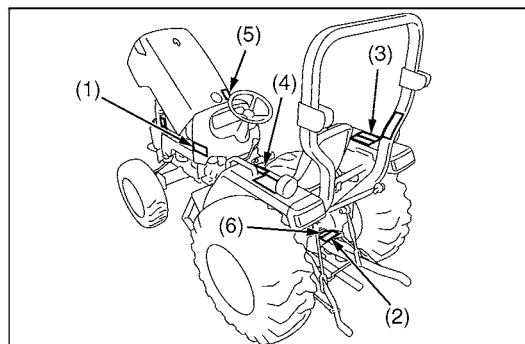
	<p><b>⚠ WARNING</b></p>
	<p><b>BEFORE DISMOUNTING TRACTOR:</b></p> <ol style="list-style-type: none"> <li>1. ALWAYS SET PARKING BRAKE.</li> <li>2. PARK ON LEVEL GROUND WHENEVER POSSIBLE. If parking on a slope, position tractor across the slope.</li> <li>3. LOWER ALL IMPLEMENTS TO THE GROUND. Failure to comply to this warning may allow the wheels to slip, and could cause injury or death.</li> <li>4. LOCK SHUTTLE SHIFT LEVER IN NEUTRAL POSITION AND STOP THE ENGINE.</li> </ol>

(6) Part No. TA040-4935-1

<p><b>⚠ WARNING</b></p>
<p><b>TO AVOID PERSONAL INJURY:</b></p> <ol style="list-style-type: none"> <li>1. Attach pulled or towed loads to the drawbar only.</li> <li>2. Use the 3-point hitch only with equipment designed for 3-point hitch usage.</li> </ol>

(3) Part No. TD170-4933-1 [HST Type]

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



9Y1210520IC1001US

9Y1211121INI0001US0



(1) 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.

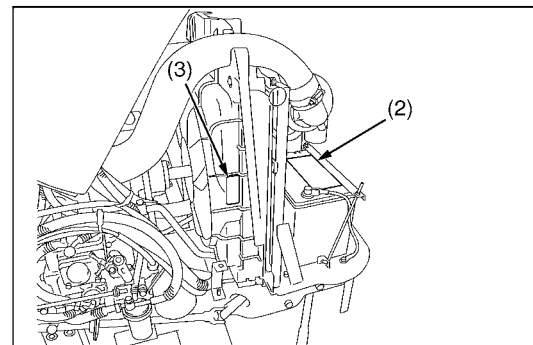
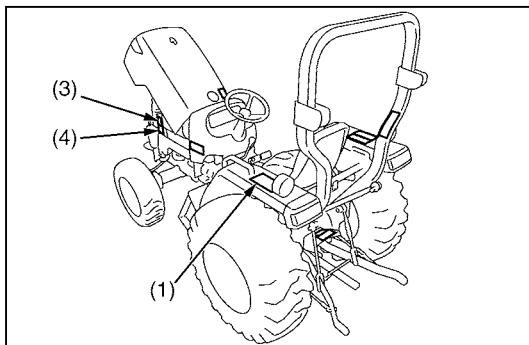
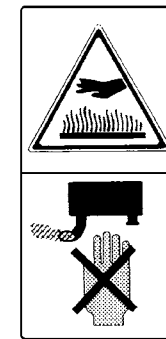
(3) Part No. 6C090-4958-2  
Do not get your hands close to engine fan and fan belt.



(2) Part No. TD020-3012-3

 FLAMMABLES	 SHIELD EYES	 KEEP OUT OF THE REACH OF CHILDREN	 CAUTION OF SULFURIC ACID	 READ INSTRUCTION MANUAL CAREFULLY	 EXPLOSIVE
<p><b>⚠ DANGER EXPLOSIVE GASES</b> Cigarettes, flames or sparks could cause battery to explode. Always shield eyes and face from battery. Do not charge or use booster cables or adjust post connections without proper instruction and training.</p> <p><b>⚠ POISON CAUSES SEVERE BURNS</b> Contains sulfuric acid. Avoid contact with skin, eyes or clothing. In event of accident flush with water and call a physician immediately.</p> <p><b>KEEP OUT OF REACH OF CHILDREN</b></p>					
<p><b>SAFETY INSTRUCTIONS:</b></p> <ul style="list-style-type: none"> <li>• DUE TO HYDROGEN GAS GENERATED FROM BATTERY, HANDLING WITHOUT CARE CAN CAUSE FIRE AND EXPLOSION</li> <li>• THIS 12V BATTERY IS ONLY FOR STARTING ENGINE. DO NOT APPLY THIS PRODUCT FOR OTHER USES</li> <li>• CHARGE THIS BATTERY ONLY AT WELL VENTILATED PLACES AND AVOID SHORTS OR SPARKS.</li> <li>• REFER TO THE INSTRUCTION MANUAL OF VEHICLE OR BATTERY BEFORE USING BOOSTER CABLE.</li> </ul> <p><b>⚠ DANGER:</b> SULFURIC ACID MAY CAUSE BLINDNESS OR SEVERE BURN IN CASE EYES, SKIN, CLOTHES OR ANY ARTICLES ARE SPILLED WITH ACID. FLUSH OBJECTS IMMEDIATELY WITH WATER. IF ACID BEING SWALLOWED, DRINK PLENTY OF WATER PROMPTLY. IN CASE OF ACCIDENTAL CONTACT, CONSULT A DOCTOR IMMEDIATELY.</p> <p><b>⚠ BATTERY FILLED WITH ACID. DO NOT TILT OR SPILL. • FLAMMABLE. DO NOT CHARGE NEAR FIRE OR SPARKS</b></p> <p>• DO NOT CHARGE RAPIDLY • DO NOT DISASSEMBLE THE BATTERY (SEALED TYPE)</p>					
<p><b>PROPOSITION 65 WARNING</b> 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.</p>					
<p>FITTING DATE: <input type="radio"/>0 <input type="radio"/>1 <input type="radio"/>2 <input type="radio"/>3 <input type="radio"/>4 <input type="radio"/>5 <input type="radio"/>6 <input type="radio"/>7 <input type="radio"/>8 <input type="radio"/>9 YEAR</p> <p><input type="radio"/>1 <input type="radio"/>2 <input type="radio"/>3 <input type="radio"/>4 <input type="radio"/>5 <input type="radio"/>6 <input type="radio"/>7 <input type="radio"/>8 <input type="radio"/>9 <input type="radio"/>10 <input type="radio"/>11 <input type="radio"/>12 MONTH</p>					
<b>75D26R</b>		<b>490CCA (SAE)</b>		<b>460CCA (EN)</b>	
<b>12V</b>		<b>65Ah(20HR)</b>		<b>RC 123(MIN)</b>	
				 RECYCLE DK 85462	

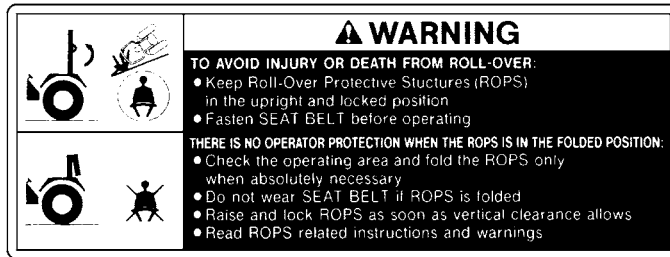
(4) Part No. TC030-4958-1  
Do not touch hot surface like muffler etc.



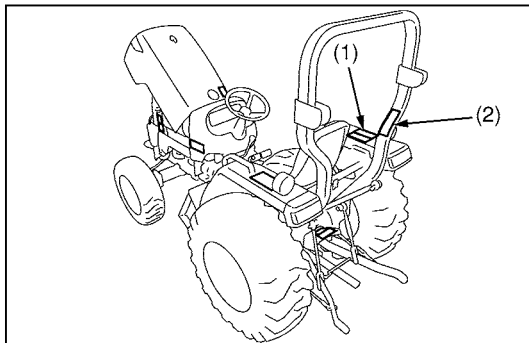
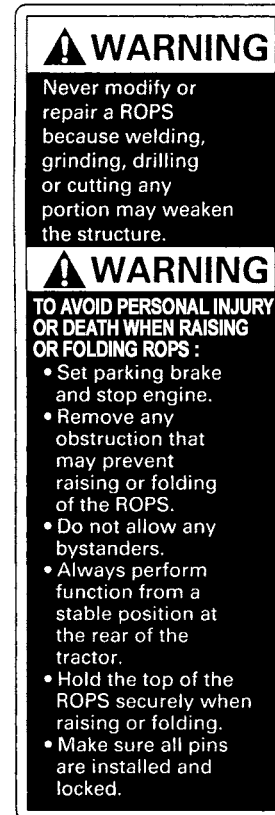
9Y1211121ICI001US

9Y1211121INI0002US0

(1) Part No. TA240-9848-2



(2) Part No. 6C540-9554-1



9Y1211121ICI002US

9Y1211121INI0003US0

### **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.

9Y1211121INI0004US0

### 3. SPECIFICATIONS

Model		L2501			
		Manual Transmission		HST	
		2WD	4WD	4WD	
PTO power*		15.3 kW (20.5 HP)		14.2 kW (19.0 HP)	
Engine	Maker	KUBOTA			
	Model	D1703-M-DI-E4			
	Type	Indirect injection, Vertical, Water-cooled 4 cycle diesel			
	Number of cylinders	3			
	Bore and stroke	87 × 92.4 mm (3.4 × 3.6 in.)			
	Total displacement	1.647 L (100.47 cu.in.)			
	Engine gross power*	18.5 kW (24.8 HP)			
	Engine net power*	17.8 kW (23.9 HP)			
	Rated revolution	36.7 rps (2200 min <sup>-1</sup> (rpm))			
	Low idling revolution	17.5 to 19.2 rps (1050 to 1150 min <sup>-1</sup> (rpm))			
	Maximum torque	95.2 N·m (9.71 kgf·m, 70.2 lbf·ft)			
Battery	12 V RC: 123 min., CCA: 490 A				
Capacities	Fuel tank	38.0 L (10.0 U.S.gals, 8.4 Imp.gals)			
	Engine crankcase (with filter)	5.7 L (6.0 U.S.qts, 5.0 Imp.qts)			
	Engine coolant	6.0 L (6.3 U.S.qts, 5.3 Imp.qts)			
	Transmission case	27.0 L (7.1 U.S.gals, 5.9 Imp.gals)	27.5 L (7.3 U.S.gals, 6.1 Imp.gals)	23.5 L (6.2 U.S.gals, 5.2 Imp.gals)	
Dimensions	Overall length (without 3P)	2810 mm (110.6 in.)	2700 mm (106.3 in.)		
	Overall width (min. tread)	1400 mm (55.1 in.)			
	Overall height (with ROPS)	2330 mm (91.7 in.)			
	Overall height (Top of steering wheel)	1475 mm (58.1 in.)			
	Wheel base	1610 mm (63.3 in.)			
	Min. ground clearance	345 mm (13.6 in.)	340 mm (13.4 in.)		
	Tread	Front 1050 mm (41.3 in.)	1095 mm (43.1 in.)		
	Rear	1115 mm (43.8 in.), 1195 mm (47.1 in.), 1290 mm (50.8 in.)			
Weight (with ROPS)		1100 kg (2425 lbs)	1180 kg (2601 lbs)	1190 kg (2623 lbs)	
Traveling system	Tires	AG front	5-15	7-16	
		AG rear	11.2-24		
	Indust. (option)	Front	N/A	27 × 8.50-15	
		Rear	N/A	15-19.5 R4	
	Clutch	Dry type single stage			
	Steering	Integral type power steering			
	Transmission	Gear shaft, 8 forward and 4 reverse		Hydrostatic transmission, 3 range speed	
	Brake	Wet disk type			
Min. turning radius (with brake)	2.4 m (7.9 feet)	2.5 m (8.2 feet)			
Hydraulic unit	Hydraulic control system	Position control			
	Pump capacity (main)	20.9 L/min. (5.52 U.S.gals/min., 4.60 Imp.gals/min.)			
	Pump capacity (PS)	12.7 L/min. (3.36 U.S.gals/min., 2.79 Imp.gals/min.)			
	Three point hitch	Category 1			
	Max. lift force	At lift points	870 kg (1918 lbs)		
		24 in. behind lift points	630 kg (1389 lbs)		
System pressure	15.2 MPa (155 kgf/cm <sup>2</sup> , 2205 psi)				
PTO	Rear PTO	PTO shaft size	SAE 1-3/8, 6-splines		
		Type	Transmission driven with overrunning	Live-continuous running	
	PTO / Engine speed	540 / 1910 min <sup>-1</sup> (rpm)		540 / 2105 min <sup>-1</sup> (rpm)	

■ **NOTE**

- \*Manufacturer's estimate

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

9Y1211121INI0005US0

## 4. TRAVELING SPEEDS

### ■ Manual Transmission Type

(At rated engine rpm)

Model			L2501	
Tire size (Rear)			11.2-24	
Shuttle shift lever	Range gear shift lever	Main gear shift lever	km/h	mph
Forward	Low	1	1.4	0.9
		2	1.8	1.1
		3	2.6	1.8
		4	4.5	2.8
	High	1	5.3	3.3
		2	6.9	4.3
		3	10.0	6.2
		4	17.3	10.7
Reverse	Reverse	1	1.9	1.2
		2	2.5	1.8
		3	3.6	2.3
		4	6.2	3.9

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

### ■ HST Type

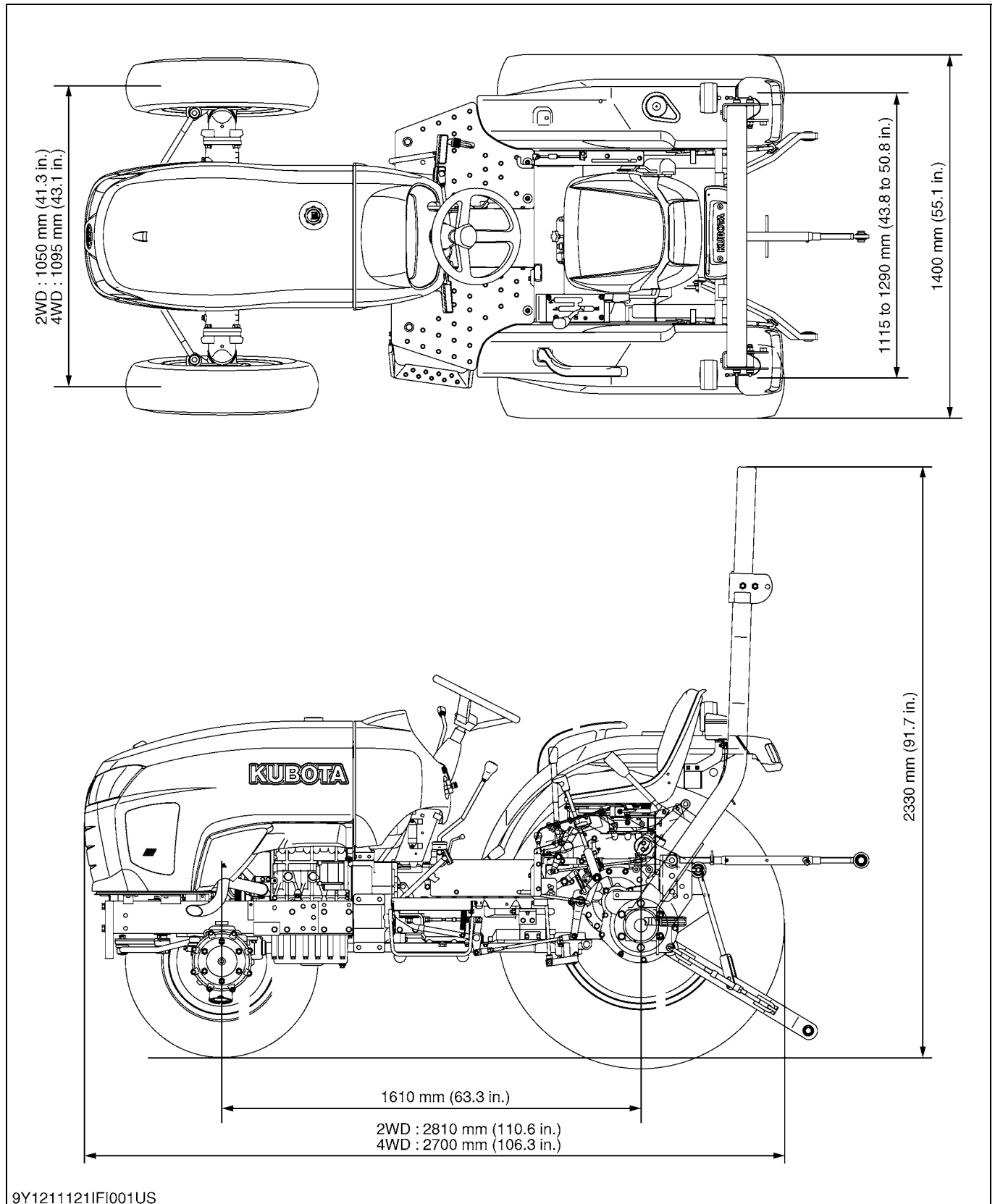
(At rated engine rpm)

Model		L2501	
Tire size (Rear)		11.2-24	
	Range gear shift lever	km/h	mph
Forward	L	5.7	3.5
	M	9.9	6.2
	H	18.5	11.5
Reverse	L	5.2	3.2
	M	8.9	5.5
	H	16.6	10.3

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

9Y1211121INI0006US0

# 5. DIMENSIONS



9Y1211121IFI001US

9Y1211121INI0007US0

# **G GENERAL**

# GENERAL

## CONTENTS

1. TRACTOR IDENTIFICATION.....	G-1
[1] MODEL NAME AND SERIAL NUMBERS .....	G-1
[2] E4B ENGINE .....	G-2
[3] CYLINDER NUMBER.....	G-2
2. GENERAL PRECAUTIONS.....	G-3
3. HANDLING PRECAUTIONS FOR ELECTRICAL PARTS AND WIRING .....	G-4
[1] WIRING .....	G-4
[2] BATTERY .....	G-6
[3] FUSE .....	G-6
[4] CONNECTOR .....	G-6
[5] CIRCUIT TESTER .....	G-7
[6] COLOR OF WIRING .....	G-8
4. LUBRICANTS, FUEL AND COOLANT.....	G-9
5. TIGHTENING TORQUES.....	G-11
[1] GENERAL USE SCREWS, BOLTS AND NUTS .....	G-11
[2] STUD BOLTS .....	G-11
[3] METRIC SCREWS, BOLTS AND NUTS .....	G-12
[4] AMERICAN STANDARD SCREWS, BOLTS AND NUTS WITH UNC OR UNF THREADS .....	G-12
[5] PLUGS .....	G-12
6. MAINTENANCE CHECK LIST .....	G-13
7. CHECK AND MAINTENANCE .....	G-15
[1] DAILY CHECK.....	G-15
[2] CHECK POINTS OF INITIAL 50 HOURS .....	G-16
[3] CHECK POINTS OF EVERY 50 HOURS .....	G-19
[4] CHECK POINTS OF EVERY 100 HOURS .....	G-22
[5] CHECK POINTS OF EVERY 200 HOURS .....	G-26
[6] CHECK POINTS OF EVERY 400 HOURS .....	G-28
[7] CHECK POINT OF EVERY 600 HOURS.....	G-30
[8] CHECK POINT OF EVERY 800 HOURS.....	G-30
[9] CHECK POINT OF EVERY 1500 HOURS.....	G-30
[10]CHECK POINT OF EVERY 3000 HOURS.....	G-31
[11]CHECK POINT OF EVERY 1 YEAR .....	G-31
[12]CHECK POINTS OF EVERY 2 YEARS .....	G-31
[13]OTHERS.....	G-34
8. SPECIAL TOOLS .....	G-37
[1] SPECIAL TOOLS FOR ENGINE .....	G-37
[2] SPECIAL TOOLS FOR TRACTOR .....	G-45
9. TIRES .....	G-56
[1] TIRE PRESSURE.....	G-56
[2] TREADS ADJUSTMENT .....	G-57
(1) Front Wheel.....	G-57
(2) Rear Wheels.....	G-58
[3] TIRE LIQUID INJECTION .....	G-59
[4] IMPLEMENT LIMITATIONS .....	G-62

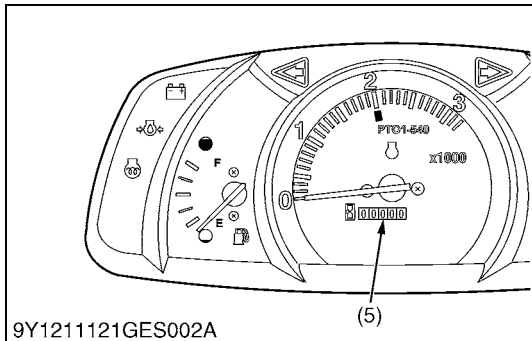
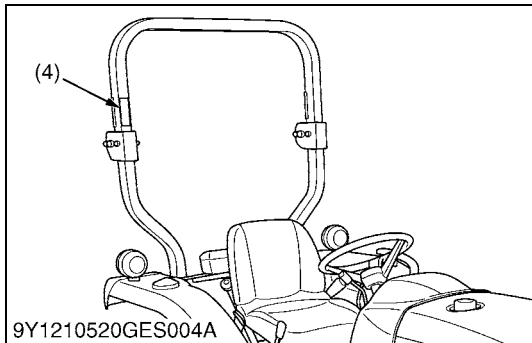
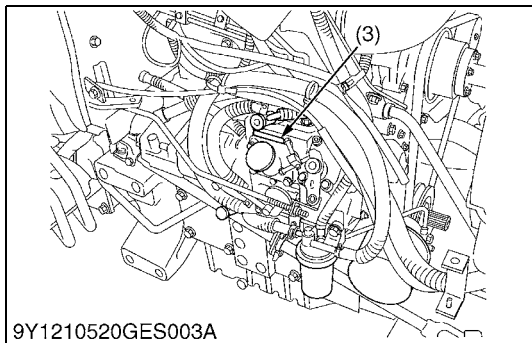
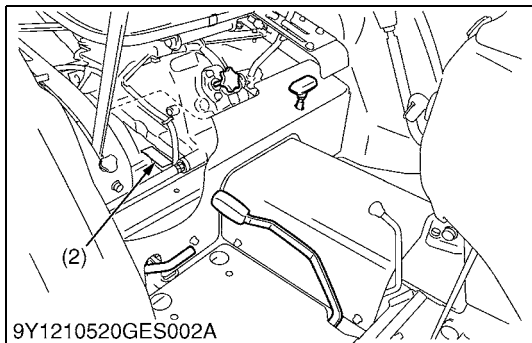
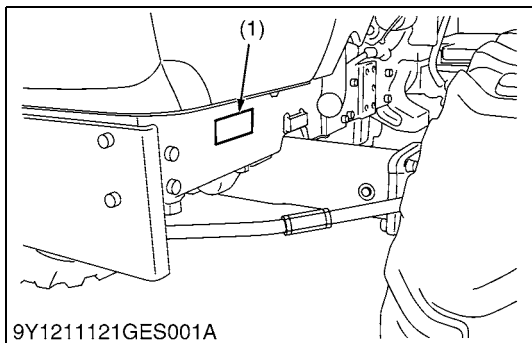
# 1. TRACTOR IDENTIFICATION

## [1] MODEL NAME AND SERIAL NUMBERS

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

- (1) Tractor Identification Plate
- (2) Tractor Serial Number
- (3) Engine Serial Number
- (4) ROPS Identification Plate (ROPS Serial Number)
- (5) Hour Meter

9Y1211121GEG0001US0






## [2] E4B ENGINE

[Example: Engine Model Name V2403-CR-TE4]


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

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

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

TYPE :	#####
FAMILY :	#####
APPROVAL NUMBER:	####/#(P)#####
 KUBOTA Corporation	
	####

(1) (2)

EMISSION CONTROL INFORMATION	
THIS ENGINE MEETS 2012 ##### EMISSION REGULATIONS FOR U.S. EPA AND CALIFORNIA NONROAD ENGINES.	
 KUBOTA Corporation	
MODEL :	###-EF #####
FAMILY:	C #####
POWER:	## kW / ### rpm
VALVE CLEARANCE (COLD):	IN ## mm EX ## mm
ECS:	### #####
ULTRA LOW SULFUR DIESEL FUEL ONLY	
DEL. ASSY.	####

9Y1200165GES001A

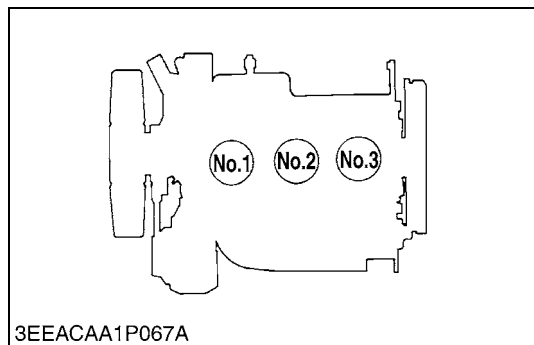
Category (1)	Engine output classification	EU regulation
K	From 19 to 37 kW	STAGE IIIB
P	From 37 to less than 56 kW	STAGE IIIB
N	From 56 to less than 75 kW	STAGE IIIB
M	From 75 to less than 130 kW	STAGE IIIB

Category (2)	Engine output classification	EPA regulation
EF	Less than 19 kW	Tier 4
	From 19 to less than 56 kW	Interim Tier 4
	From 56 to less than 75 kW	Interim Tier 4
	From 75 to less than 130 kW	Interim Tier 4

- (1) EU regulation engine output classification category
- (2) "E4B" engines are identified with "EF" at the end of the Model designation, on the US EPA label. "E4B" designates some Interim Tier 4 / Tier 4 models, depending on engine output classification.

9Y1211121GEG0002US0

## [3] CYLINDER NUMBER

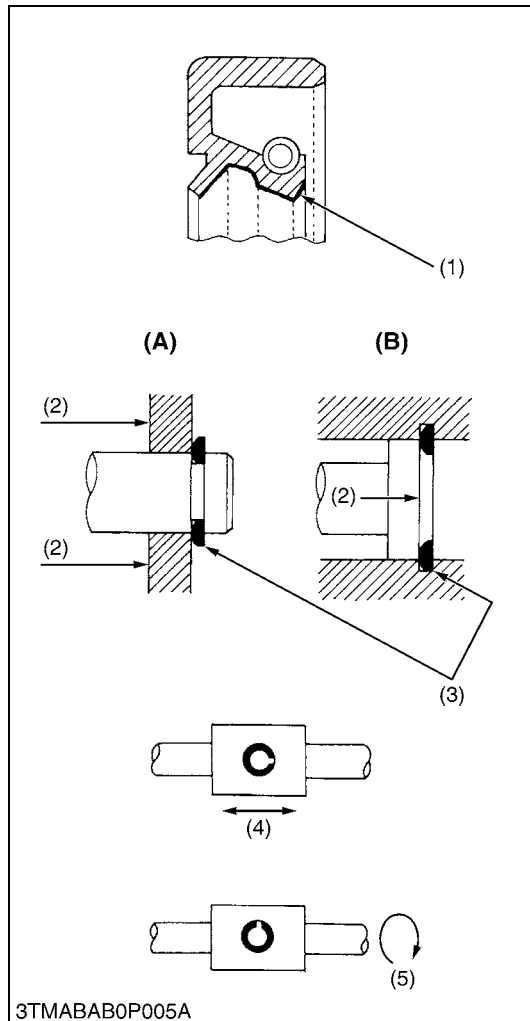


The cylinder numbers of KUBOTA diesel engine are designated as shown in the figure.

The sequence of cylinder numbers is given as No. 1, No. 2, and No. 3 starting from the gear case side.

9Y1211121GEG0003US0

## 2. GENERAL PRECAUTIONS



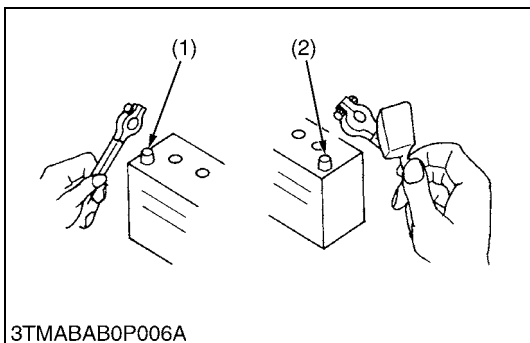
- When you disassemble, carefully put the parts in a clean area to make it easy to find the parts. You must install the screws, bolts and nuts in their initial position to prevent the reassembly errors.
- When it is necessary to use special tools, use KUBOTA special tools. Refer to the drawings when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

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

- (A) External Circlip**
- (B) Internal Circlip**

WSM000001GEG0106US0

### 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**

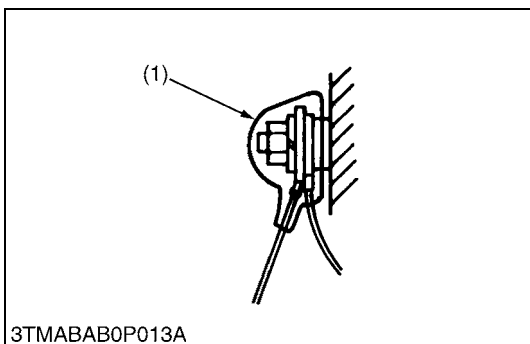
- Check electrical wiring for damage and loosened connection every year. To this end, educate the customer to do his or her own check and at the same time recommend the dealer to perform periodic check for a fee.
- Do not try to modify or remodel any electrical parts and wiring.
- When removing the battery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

(1) Negative Terminal

(2) Positive Terminal

WSM000001GEG0062US0

#### [1] WIRING

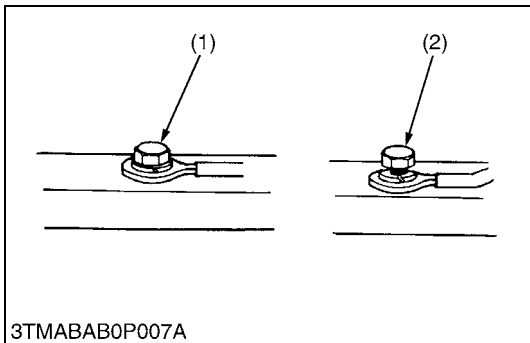


3TMABAB0P013A

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

(1) Cover  
(Securely Install Cover)

WSM000001GEG0070US0



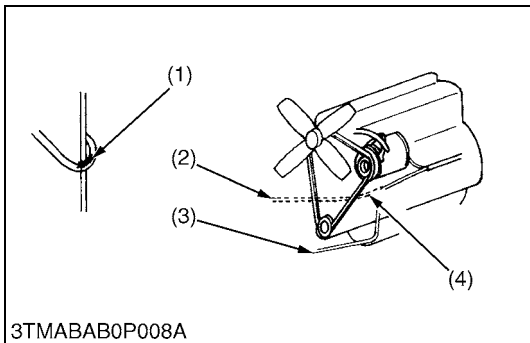
3TMABAB0P007A

- Securely tighten wiring terminals.

(1) Correct  
(Securely Tighten)

(2) Incorrect  
(Loosening Leads to Faulty Contact)

WSM000001GEG0063US0



3TMABAB0P008A

- Do not let wiring contact dangerous part.

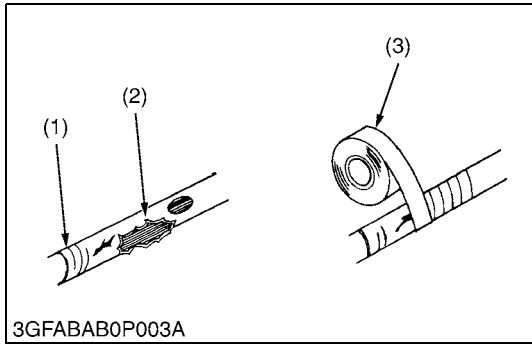
(1) Dangerous Part (Sharp Edge)

(3) Wiring (Correct)

(2) Wiring (Incorrect)

(4) Dangerous Part

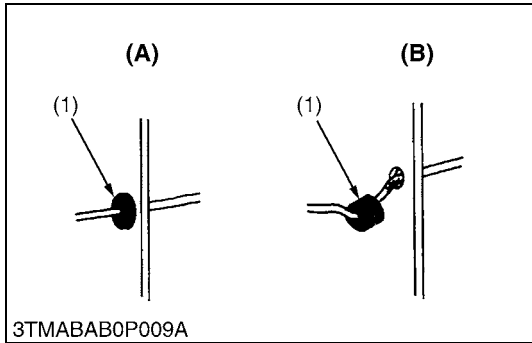
WSM000001GEG0064US0



• Repair or change torn or aged wiring immediately.

- (1) Aged
- (2) Torn
- (3) Insulating Vinyl Tape

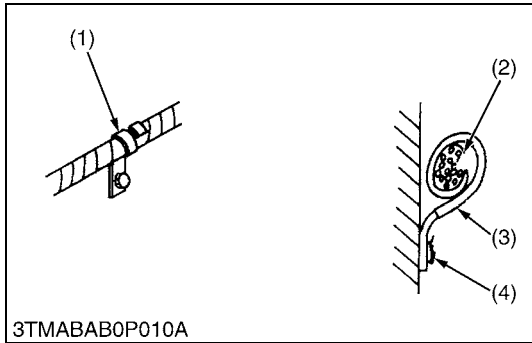
WSM000001GEG0065US0



• Securely insert grommet.

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

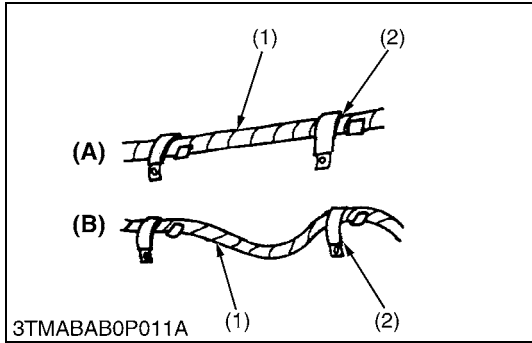
WSM000001GEG0066US0



• Securely clamp, being careful not to damage wiring.

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

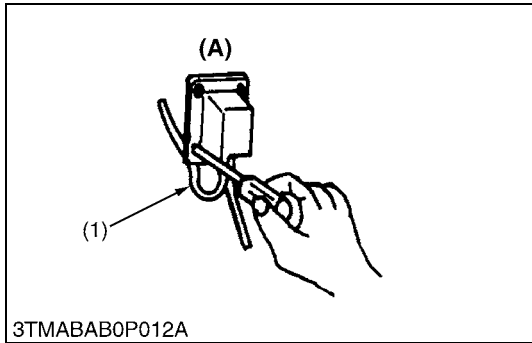
WSM000001GEG0067US0



• 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

WSM000001GEG0068US0



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

- (1) Wiring
- (A) Incorrect

WSM000001GEG0069US0

**Thanks for your reading.**

**Please click here to download complete manual instantly.**

**And can also choose other manuals.**

**Feel free --->write to me with any questions.**

**Our service email:**

**manuals007@hotmail.com**