

Product: Kubota WSM RTV1140CPX Utility Vehicle Service Repair Workshop Manual  
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# WSM

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## WORKSHOP MANUAL UTILITY VEHICLE

# RTV1140CPX

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The Kubota logo is rendered in a bold, black, stylized font. The letters are thick and blocky, with a distinctive shape for the 'K' and 'O's.

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## TO THE READER

This Workshop Manual tells the servicing personnel about the mechanism, servicing and maintenance of the RTV1140CPX. It contains 4 parts: "**Information**", "**General**", "**Mechanism**" and "**Servicing**".

### ■ **Information**

This section contains information below.

- Safety First
- Safety Label
- Specification
- Dimension

### ■ **General**

This section 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 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.

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

**June, 2009**

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# **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 attempt to repair or use this unit.

### DANGER

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

### WARNING

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

### CAUTION

- Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

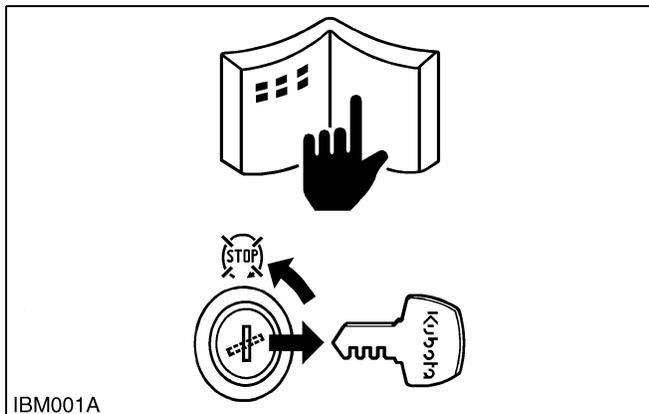
### ■ IMPORTANT

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

### ■ NOTE

- Gives helpful information.

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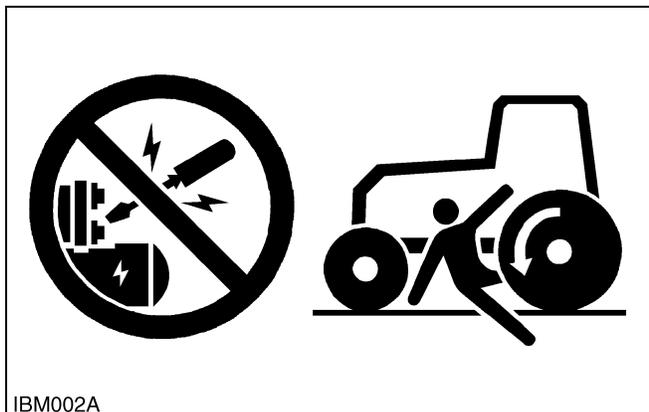


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### BEFORE YOU START SERVICE

- 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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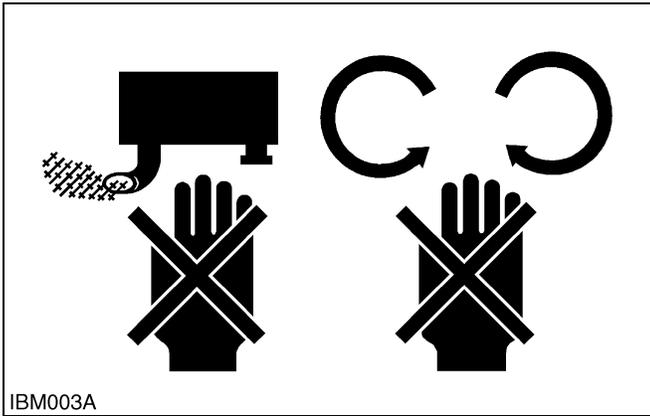


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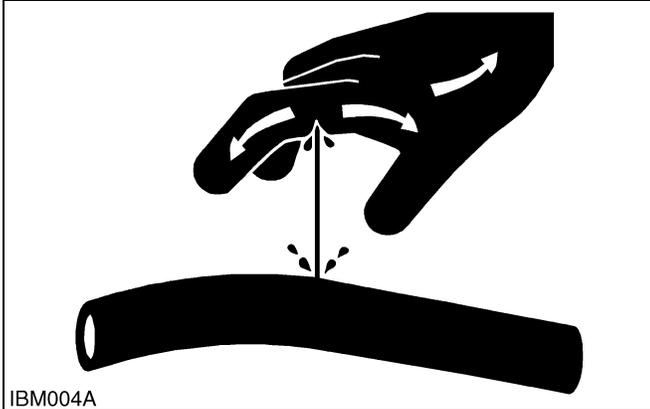
### START SAFELY

- 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.

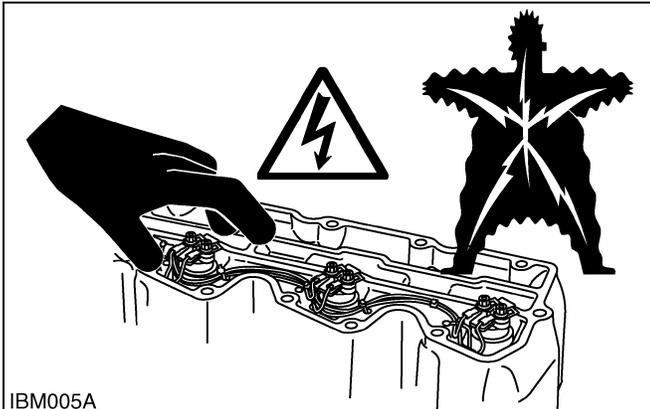
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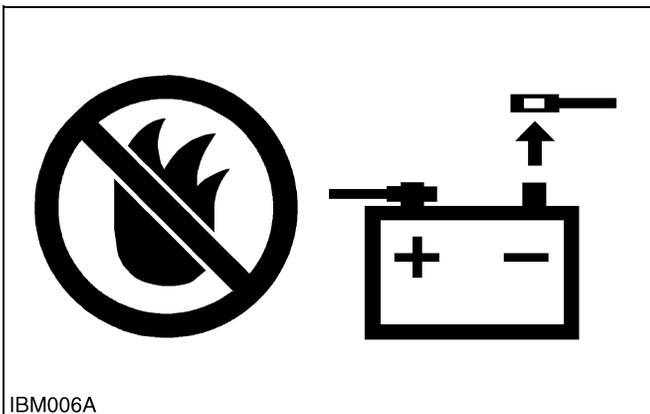
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## OPERATE SAFELY

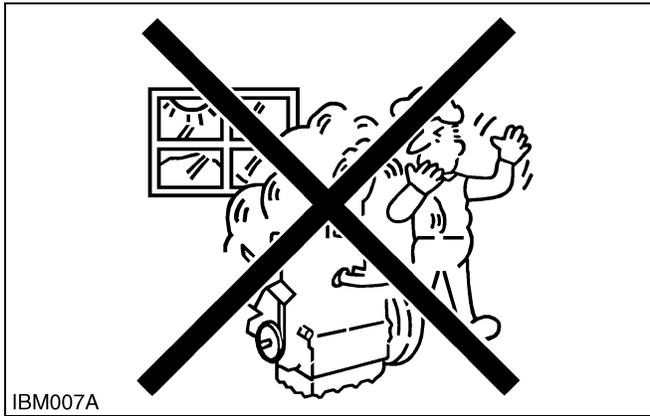
- Do not use the machine after you consume alcohol or medication or when you are tired.
- Put on applicable clothing and safety equipment.
- Use applicable tools only. Do not use alternative tools or parts.
- When 2 or more persons do servicing, make sure that you do it safely.
- Do not operate below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

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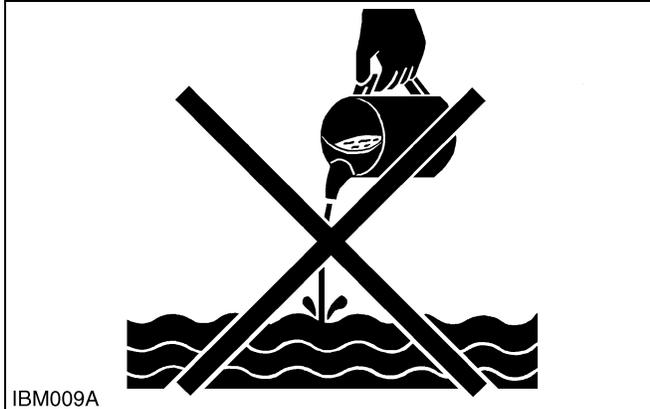
## PREVENT A FIRE

- 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.

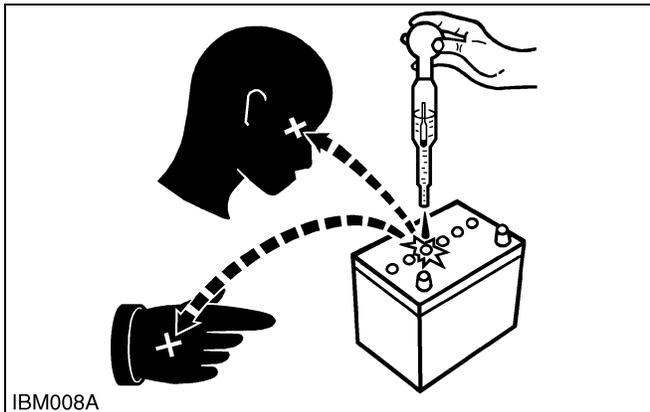
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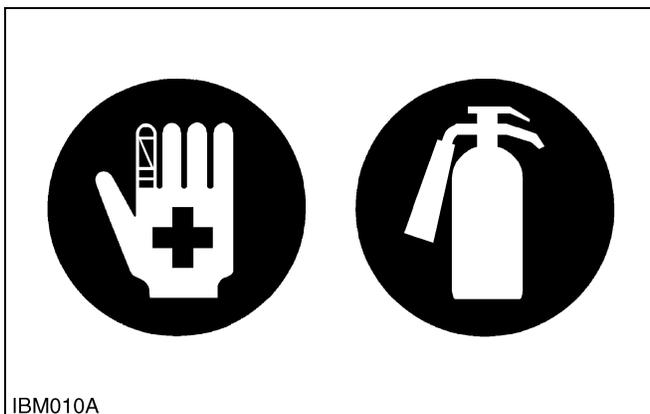
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**KEEP A GOOD AIRFLOW IN THE WORK AREA**

- 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.

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**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.

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**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.

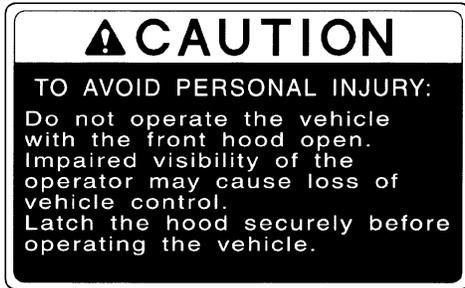
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# 2. SAFETY DECALS

The following safety decals 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.

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(1) Part No. K7561-6530-2



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(2) Part No. K7611-6533-1



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(3) Part No. K7561-6565-2



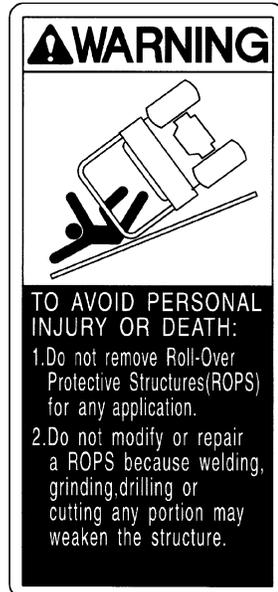
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(4) Part No. K7611-6544-1



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(5) Part No. K7561-6541-2

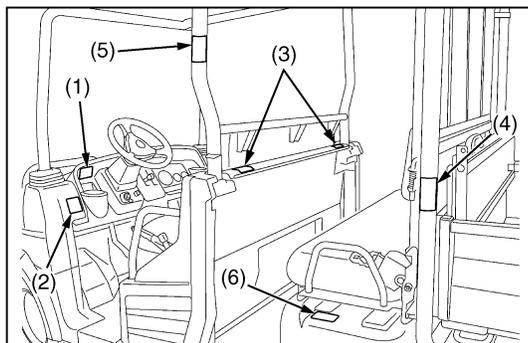


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(6) Part No. K7611-6584-1



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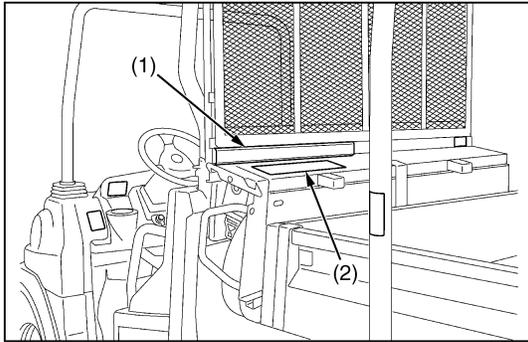
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(1) Part No. K7611-6524-1

	<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>Do not start engine by shorting across starter terminals or bypassing the safety start switch. The vehicle may start in gear and move if normal starting circuitry is bypassed.</li> <li>Start engine only from operator's seat with range shift lever in neutral position.</li> </ol>	<p><b>⚠ WARNING</b></p> <p><b>TO AVOID PERSONAL INJURY:</b></p> <ol style="list-style-type: none"> <li>Do not carry passengers in cargo bed.</li> <li>Do not travel with the cargo bed in the raised position.</li> </ol>	<p><b>IMPORTANT</b></p> <p>1. Max cargo load should not exceed "CBC" or "CL".</p> <table border="0"> <tr> <td>(a) 1 ROW SEATING MODE CBC (Cargo Bed Capacity): 400kg(1100 lb) CL (Cargo Load) Defined as follows: CL: 7,00kg (1500 lb) operator+one passenger +opt. cargo weight</td> <td>(b) 2 ROW SEATING MODE CBC (Cargo Bed Capacity): 300kg(661 lb) CL (Cargo Load) Defined as follows: CL: 7,30 kg (1600 lb) operator+passengers +opt. cargo weight</td> </tr> </table> <p>2. TO AVOID TAIL GATE DAMAGE: Remove the rear tow hitch when tail gate stopper wire is removed and cargo bed is raised.</p>	(a) 1 ROW SEATING MODE CBC (Cargo Bed Capacity): 400kg(1100 lb) CL (Cargo Load) Defined as follows: CL: 7,00kg (1500 lb) operator+one passenger +opt. cargo weight	(b) 2 ROW SEATING MODE CBC (Cargo Bed Capacity): 300kg(661 lb) CL (Cargo Load) Defined as follows: CL: 7,30 kg (1600 lb) operator+passengers +opt. cargo weight
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<p>1A YAACAAP0590</p>					

(2) Part No. K7611-6589-2

SEATING CHANGE INSTRUCTIONS				<p><b>⚠ WARNING</b></p> <p><b>TO AVOID PERSONAL INJURY :</b></p> <ol style="list-style-type: none"> <li>Always lower cargo bed when changing seating.</li> <li>Always stop engine and remove key when changing seating.</li> </ol>	
<ol style="list-style-type: none"> <li>Unhook the upper and lower latches on both sides of the screen.</li> <li>Slide the screen forward and hook latches on both sides securely.</li> </ol>	<ol style="list-style-type: none"> <li>Unhook the seat latches and flip up the rear seat forward.</li> <li>Push seat forward until seat latches hook up.</li> </ol>	<ol style="list-style-type: none"> <li>Open both cargo side panels outward after unlatching the stoppers.</li> </ol>	<ol style="list-style-type: none"> <li>Slide the pins on both sides of the front panel towards the center of the panel and secure in the notches.</li> </ol>	<ol style="list-style-type: none"> <li>Fold the front cargo bed down onto the frame.</li> </ol>	<ol style="list-style-type: none"> <li>Flip up the front panel and insert the stoppers into the slit of the side panels.</li> <li>Release the pins and insert into holes.</li> </ol>
<p>⊙ Upper latch ⊙ Lower latch ⊙ Screen</p>	<p>⊙ Seat latch ⊙ Rear seat</p>	<p>⊙ Stopper ⊙ Side panel</p>	<p>⊙ Pin ⊙ Front panel ⊙ Front panel</p>	<p>⊙ Front cargo bed</p>	<p>⊙ Front panel ⊙ Stopper ⊙ Slit ⊙ Pin</p>
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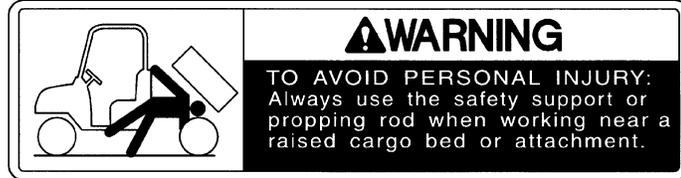
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(2) Part No. K7711-6117-1



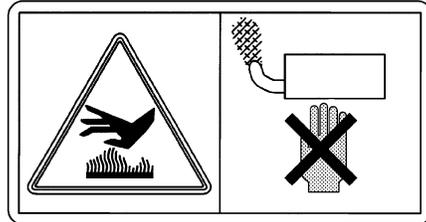
(3) Part No. K7561-6544-1



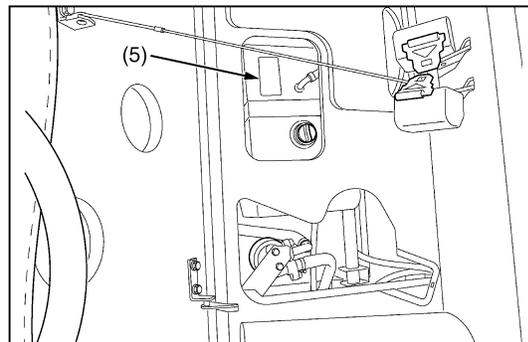
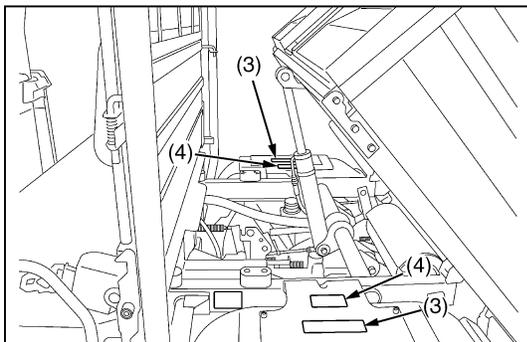
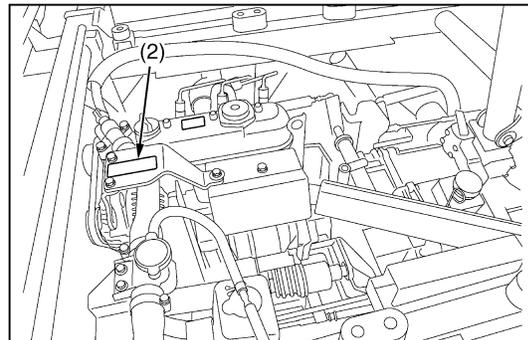
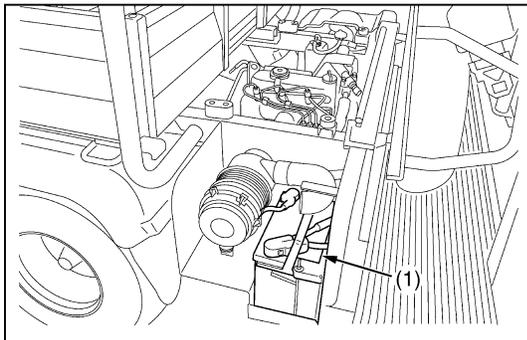
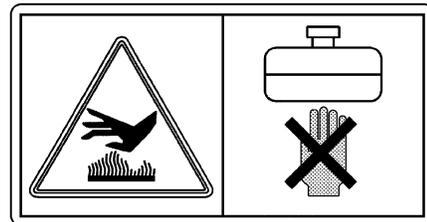
(2) Part No. K7561-6550-1



(4) Part No. K7561-6551-1



(5) Part No. K7561-6553-1



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(1) Part No. K7611-6522-1

<b>IMPORTANT</b>	<b>CAUTION</b>
<p><b>TO AVOID DAMAGE TO TRANSMISSION:</b></p> <ul style="list-style-type: none"> <li>• Shift the range gear shift lever (H-M-L-R) or 4WD lever only when the vehicle is completely stopped.</li> <li>• Even if shifting is hard, do not force the range gear shift lever.</li> </ul> <p>Depress the brake pedal fully, then shift the lever.</p> <p>If the 4WD lever is difficult to shift to 2WD, stop the vehicle, turn steering wheel in both directions and then move the lever.</p>	<p><b>TO AVOID PERSONAL INJURY:</b></p> <ol style="list-style-type: none"> <li>1. Read and understand the operator's manual before operation.</li> <li>2. Never allow anyone without a valid driver's license to operate this vehicle.</li> <li>3. Before allowing other people to use the vehicle, have them read the operator's manual.</li> <li>4. This vehicle is for off road use only. Never operate on a public road.</li> <li>5. Wear safety gear, including helmet and eye protection, as appropriate.</li> <li>6. Check the tightness of all nuts and bolts regularly.</li> <li>7. Keep all shields in place and stay away from all moving parts.</li> </ol> <p>8. In addition to the driver, one passenger can be carried in the front seat and two additional passengers can be carried in the rear seat.</p> <p>9. Before starting the engine, make sure that everyone is at a safe distance from the vehicle.</p> <p>10. Do not operate the vehicle under the influence of drugs or alcohol.</p> <p>11. Slow down for turns, or rough terrain.</p> <p>12. Before getting off from the vehicle, apply the parking brake, stop the engine and remove the key.</p>

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(2) Part No. K7561-6565-2



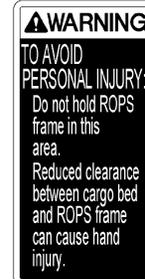
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(4) Part No. K7611-6544-1



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(5) Part No. K7611-6584-1

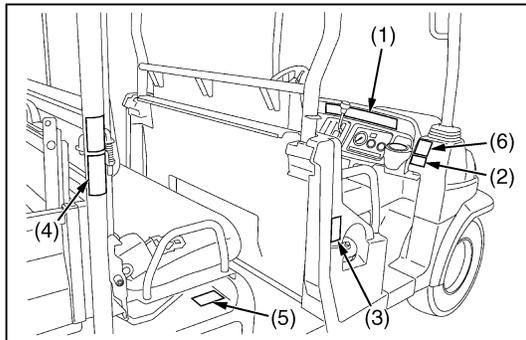


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(6) Part No. K7611-6557-1



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(1) Part No. K7561-6560-1



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(2) Part No. K7611-6588-1

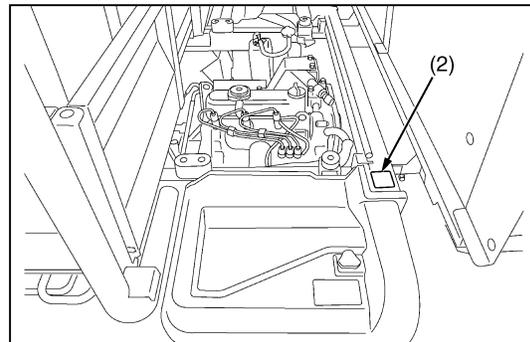
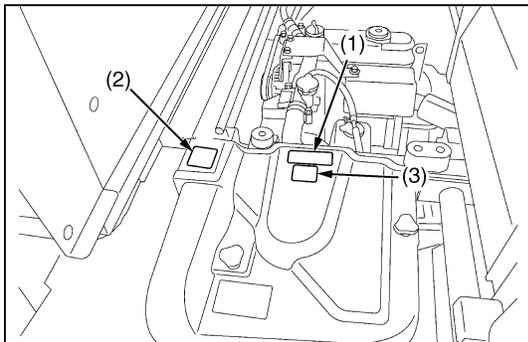


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(3) Part No. K7611-6555-1



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(1) Part No. K7611-6589-2

SEATING CHANGE INSTRUCTIONS						WARNING	
*Following procedures are 2row to 1row change For 1-row to 2row reverse the procedure. * See operator's manual for details.						<b>TO AVOID PERSONAL INJURY :</b> 1. Always lower cargo bed when changing seating. 2. Always stop engine and remove key when changing seating.	
1. Unhook the upper and lower latches on both sides of the screen. 2. Slide the screen forward and hook latches on both sides securely.	3. Unhook the seat latches and flip up the rear seat forward. 4. Push seat forward until seat latches hook up.	5. Open both cargo side panels outward after unlatching the stoppers.	6. Slide the pins on both sides of the front panel towards the center of the panel and secure in the notches.	7. Fold the front cargo bed down onto the frame.	8. Flip up the front panel and insert the stoppers into the slit of the side panels. 9. Reverse the pins and insert into holes.		
ⓄUpper latch ⓄLower latch ⓄScreen	ⓄSeat latch ⓄRear seat	ⓄStopper ⓄSide panel	ⓄPin ⓄFront panel Ⓞ Front panel	ⓄFront cargo bed	ⓄFront panel ⓄStopper ⓄSlit ⓄPin		

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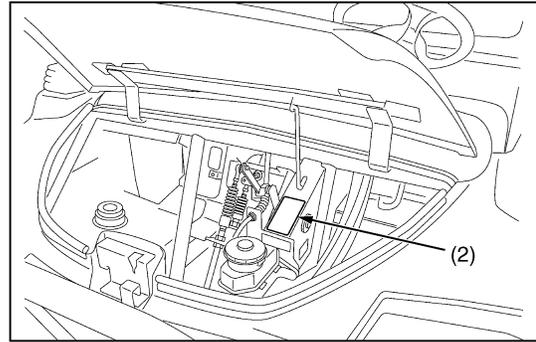
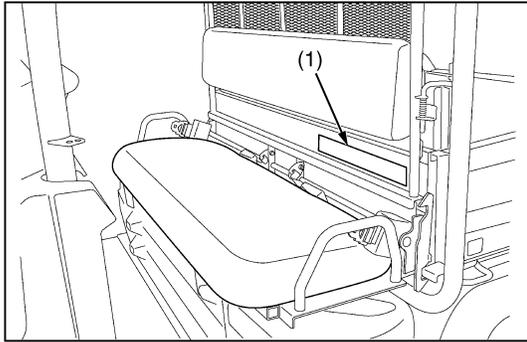
(2) Part No. K7561-6546-2

**! WARNING**

**TO AVOID PERSONAL INJURY:**

1. Use brake fluid(DOT-3) only. Other oil types will ruin synthetic resin or rubber installed in brake system components, and cause brake failure.
2. If brake fluid is spilled on power steering hose, wash off with water immediately. Brake fluid quickly ruins synthetic resin or rubber hoses.

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(1) Part No. K7561-6543-2

**⚠ WARNING**

TO AVOID PERSONAL INJURY:  
Attach pulled or towed loads to the drawbar only.

**IMPORTANT**

- Carefully read the loading information and trailer hitch sections in the Operator's Manual.
- Towing Capacity
  - Max. Towing Load 590kg (1300lbs)
  - Max. Tongue weight 50kg (110lbs)

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(2) Part No. K7711-6554-1

**⚠ CAUTION**

TO AVOID PERSONAL INJURY:

- Before touching any part of an exhaust system, be absolutely sure that it has had sufficient time to cool.
- Always wear safety goggles and a (face) mask.
- The particulate matter contained in the muffler contains chemicals that are harmful to people, animal and marine life.
- If you are unable to do this work, have it done by your KUBOTA Dealer.

**◆ Maintenance**

The screen type spark arrester should be removed, cleaned, and inspected after every 100 hours of use.

- The spark arrester is located inside of the exhaust pipe, and is fastened with two bolts.
- Unfasten the bolts and remove the spark arrester.
- Shake loosened particles out of the screen assembly and lightly clean the screen with a wire brush. Soak in solvent and again clean with a wire brush if necessary.
- If any breaks in the screen or weldments are discovered, the assembly must be replaced.
- Reinstall the spark arrester in the muffler body and refasten the bolts.

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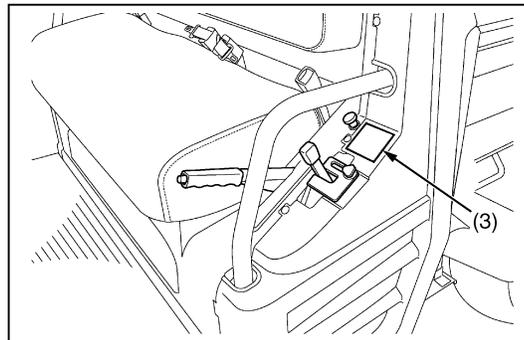
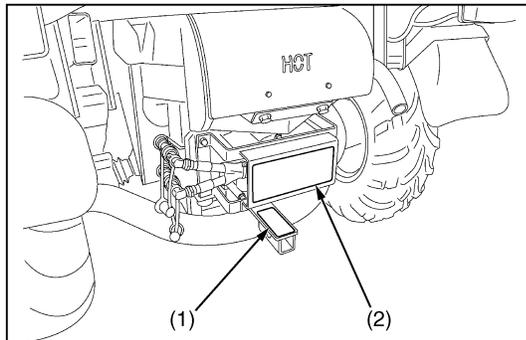
(3) Part No. K7561-6564-1

**⚠ CAUTION**

TO AVOID INJURY FROM CRUSHING:

- Do not utilize the lever lock for machine maintenance or repair.
- The lever lock is to prevent accidental actuation.

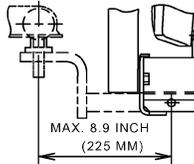
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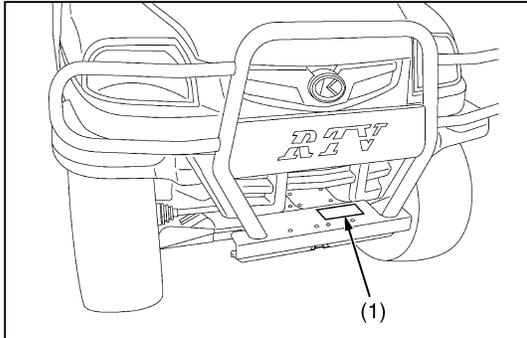
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(1) Part No. K7561-6542-2

<p><b>⚠ WARNING</b></p> <p><b>TO AVOID PERSONAL INJURY:</b> Attach pulled or towed loads to the drawbar only.</p>		<p><b>IMPORTANT</b></p> <ol style="list-style-type: none"> <li>Carefully read the loading information and trailer hitch sections in the Operator's Manual.</li> <li>Towing Capacity <ul style="list-style-type: none"> <li>• Max. Towing Load : 295kg (650lbs)</li> <li>• Max. Tongue Weight : 50kg (110lbs)</li> </ul> </li> </ol>
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1AYAAAAAP135E



9Y1210293ICI008A

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### **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 replaced component.
5. Mount new danger, warning and caution labels by applying on a clean dry surface and pressure any bubbles to outside edge.

9Y1210293INI009US0

### 3. SPECIFICATIONS

Model		Worksite/Orange	Worksite/Camo	
Engine	Make	KUBOTA D1105-E3-UV		
	Type	3 cylinders, 4-cycle, diesel, OHV		
	Displacement	1.123 L (68.53 cu.in.)		
	Horsepower	18.5 kW (24.8 HP)		
	Rated revolution	3000 min <sup>-1</sup> (rpm)		
	Low idling revolution	1300 to 1400 min <sup>-1</sup> (rpm)		
Fuel capacity		30 L (7.9 U.S.gals, 6.6 Imp.gals)		
Transmission		Continuously variable hydro transmission (VHT)		
Wheels, drive section		4, Rear 2WD or 4WD		
Differential lock		Standard; foot operated with mechanical holder		
Gear selection		Hi-Med-Lo range forward, neutral, reverse		
Brakes	Front / Rear	Wet disk brake		
	Parking brake	Rear wheel, hand lever		
Steering		Hydrostatic power		
Suspension	Front	Independent, MacPherson strut-type		
	Rear	Semi-independent, DeDion axle with leaf springs and shock absorber		
Dimensions	Length	3480 mm (137.0 in.)		
	Width	1550 mm (61.0 in.)		
	Height, overall	2000 mm (78.7 in.)		
	Front tread centers	1150 mm (45.3 in.) HDWS, ATV / 1180 mm (46.5 in.) Turf		
	Rear tread centers	1180 mm (46.5 in.) HDWS, ATV / 1210 mm (47.6 in.) Turf		
	Wheelbase	2415 mm (95.1 in.)		
	Ground clearance	Front axle	190 mm (7.5 in.)	
		Rear axle	190 mm (7.5 in.)	
Turning diameter		10 m (32.8 ft)		
Max. rolling weight (Towing capacity)		590 kg (1300 lbs)		
Payload capacity		730 kg (1609 lbs)		
Weight		1075 kg (2370 lbs)		
Cargo bed	Width	1320 mm (52 in.)		
	Length (1 row / 2 row)	1360 mm (53.5 in.) / 860 mm (33.9 in.)		
	Depth	290 mm (11.4 in.)		
	Volume (1 row / 2 row)	0.52 m <sup>3</sup> (18.4 cu.ft) / 0.33 m <sup>3</sup> (11.7 cu.ft)		
	Bed height (unloaded)	850 mm (33.5 in.)		
	Cargo bed capacity (1 row / 2 row)		500 kg (1102 lbs) / 300 kg (661 lbs)	
	Sound level, operator ear		85 dB (A)	
Tires	Front	25 x 10-12 HDWS, 6 PLY 25 x 10-12 ATV, 6 PLY 25 x 12-12 Turf, 4 PLY	25 x 10-12 HDWS, 6 PLY 25 x 10-12 ATV, 6 PLY	
	Rear	25 x 10-12 HDWS, 6 PLY 25 x 11-12 ATV, 6 PLY 25 x 12-12 Turf, 4 PLY	25 x 10-12 HDWS, 6 PLY 25 x 11-12 ATV, 6 PLY	
Front deluxe guard		Std.	Std.	
Body color		Orange	Camo	
Bed lift		Std.	Std.	
Speedometer		Std.	Std.	

#### ■ NOTE

- The company reserves the right to change the specifications without notice.
- The values in "Ground clearance" and "Weight" are those of the machine equipped with the tires in the table above.

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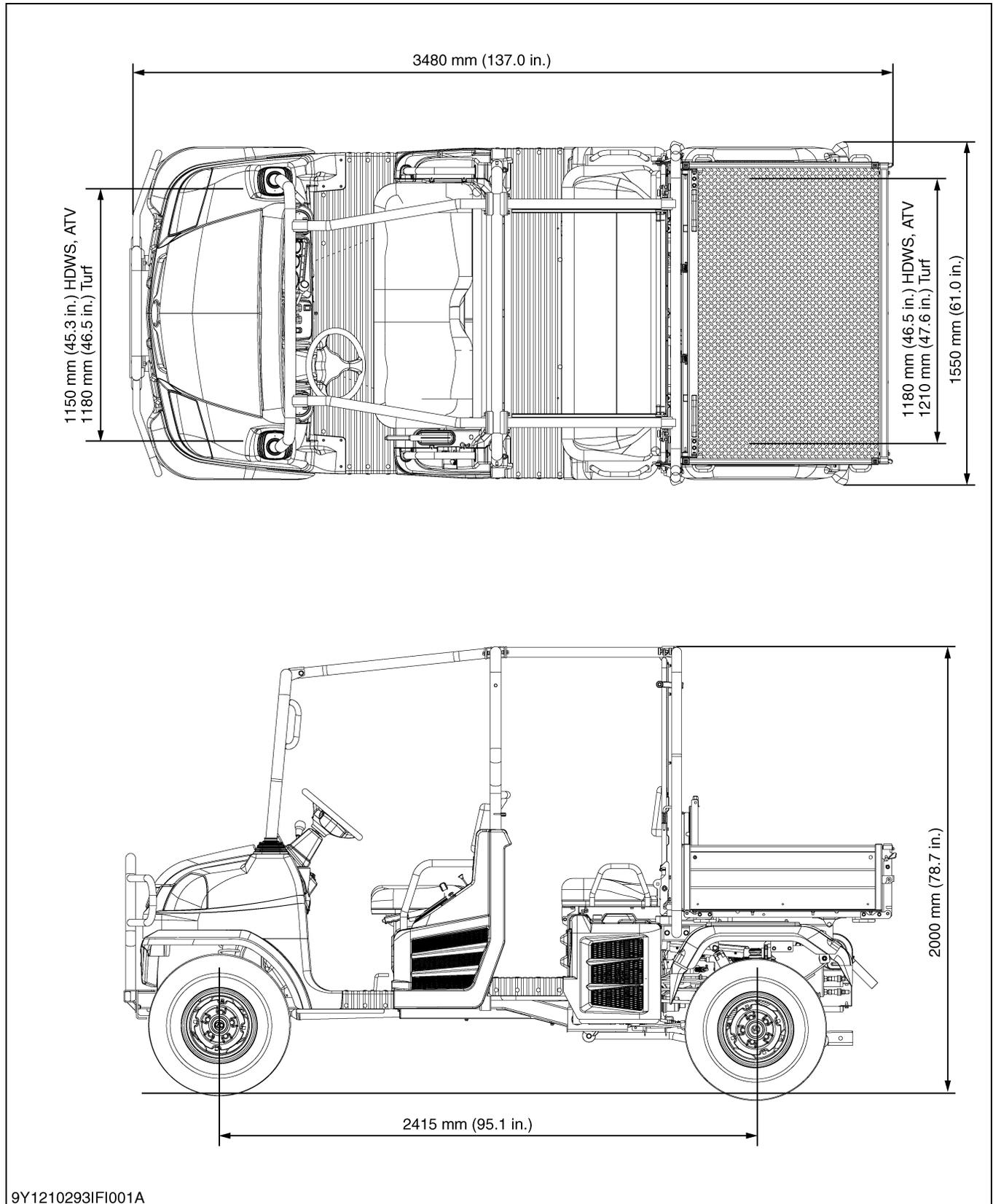
## 4. TRAVELING SPEEDS

(At rated engine rpm)

<b>Rear gear shift lever</b>	<b>km/h (mph)</b>
Low	13 (8)
Medium	25 (16)
High	40 (25)
Reverse	16 (10)

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# 5. DIMENSIONS



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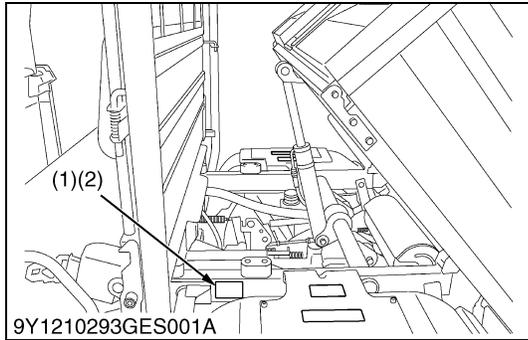
# **G GENERAL**

# GENERAL

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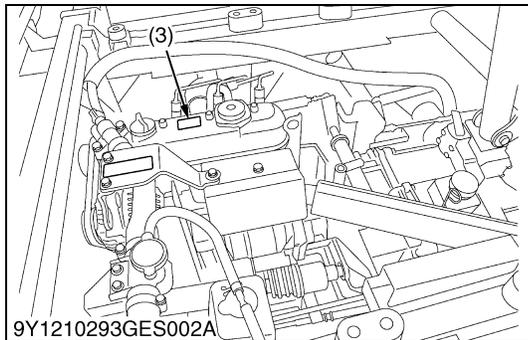
# 1. PRODUCT IDENTIFICATION



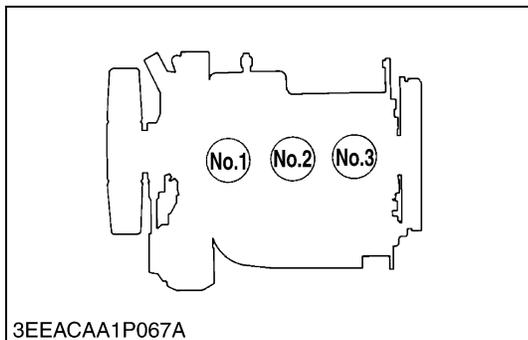
When contacting your local KUBOTA distributor, always specify engine serial number, product serial number and hour meter reading.

- (1) Vehicle Serial Number
- (2) Vehicle Identification Number
- (3) Engine Serial Number

9Y1210293GEG0003US0



## [1] CYLINDER NUMBER

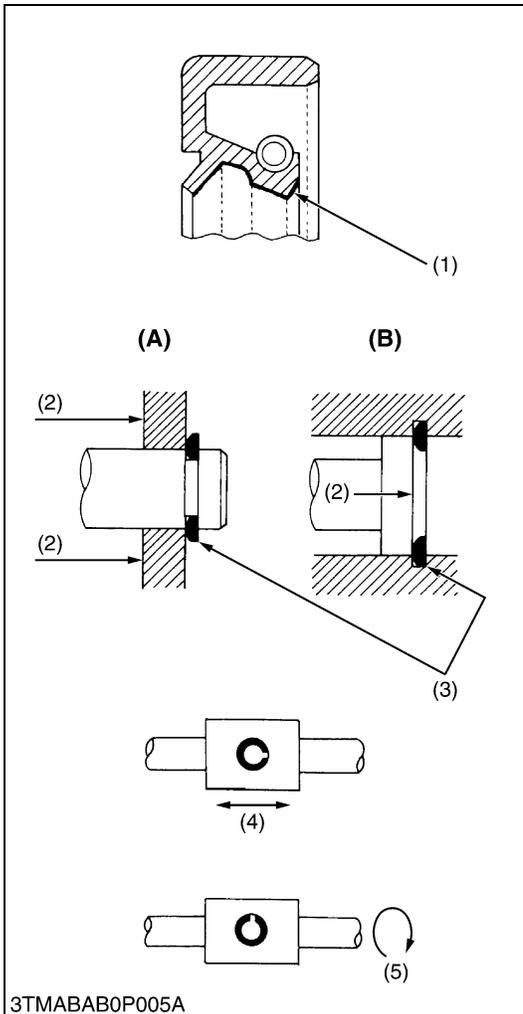


The cylinder numbers of KUBOTA diesel engine are designated as shown in the figure.

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

9Y1210301GEG0017US0

## 2. GENERAL PRECAUTIONS



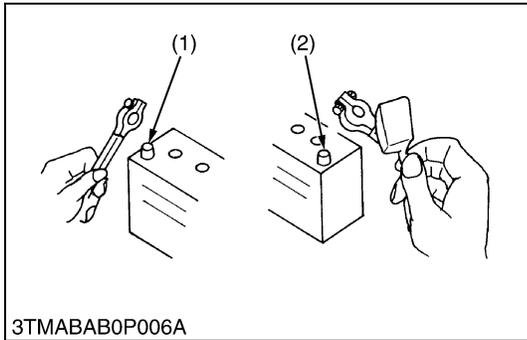
- During disassembly, carefully arrange removed parts in a clean area to prevent confusion later. Screws, bolts and nuts should be installed in their original position to prevent reassembly errors.
- When special tools are required, use KUBOTA genuine special tools. Special tools which are not frequently used should be made according to the drawings provided.
- Before disassembling or servicing electrical wires, always disconnect the ground cable from the battery first.
- Remove oil and dirt from parts before measuring.
- Use only KUBOTA genuine parts for parts replacement to maintain machine performance and to assure safety.
- Gaskets and O-rings must be replaced during reassembly. Apply grease to new O-rings or oil seals before assembling. See the figure left side.
- When reassembling external snap rings or internal snap rings, they must be positioned so that sharp edge faces against the direction from which a force is applied. See the figure left side.
- When inserting spring pins, their splits must face the direction from which a force is applied. See the figure left side.
- To prevent damage to the hydraulic system, use only specified fluid or equivalent.

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

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

9Y1210301GEG0018US0

# 3. HANDLING PRECAUTIONS FOR ELECTRICAL PARTS AND WIRING



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

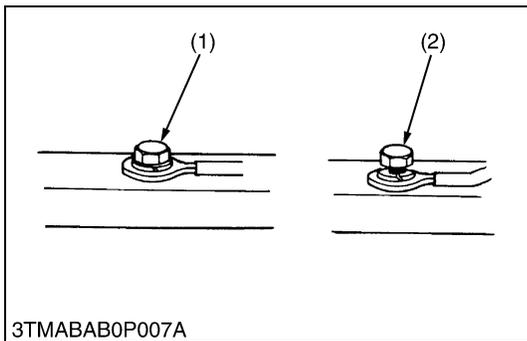
**■ IMPORTANT**

- Check electrical wiring for damage and loosened connection every year. To this end, educate the customer to do his or her own check and at the same time recommend the dealer to perform periodic check for a fee.
- Do not attempt to modify or remodel any electrical parts and wiring.
- When removing the battery 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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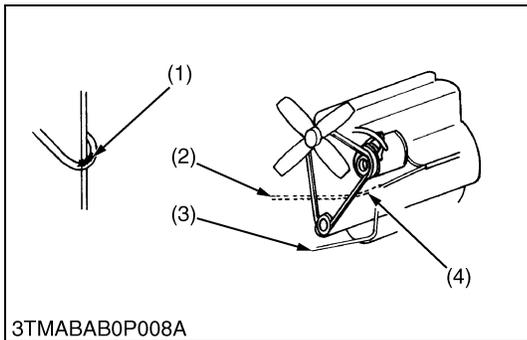
## [1] WIRING



- Securely tighten wiring terminals.

- (1) Correct (Securely tighten) (2) Incorrect (Loosening leads to faulty contact)

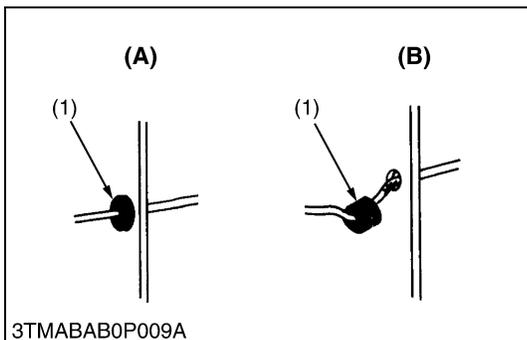
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- Do not let wiring contact dangerous part.

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

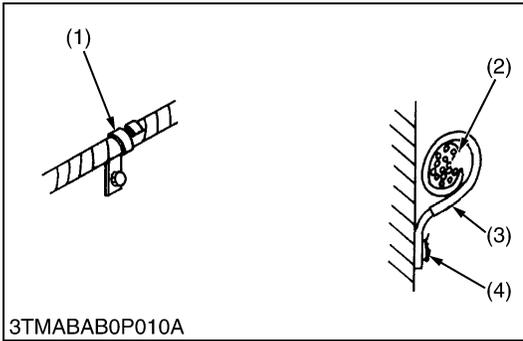
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- Securely insert grommet.

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

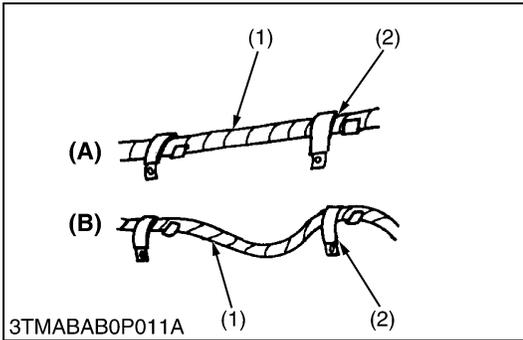
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• Securely clamp, being careful not to damage wiring.

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

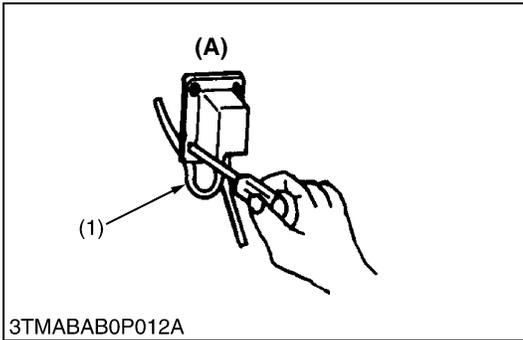
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• Clamp wiring so that there is no twist, unnecessary sag, or excessive tension, except for movable part, where sag be required.

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

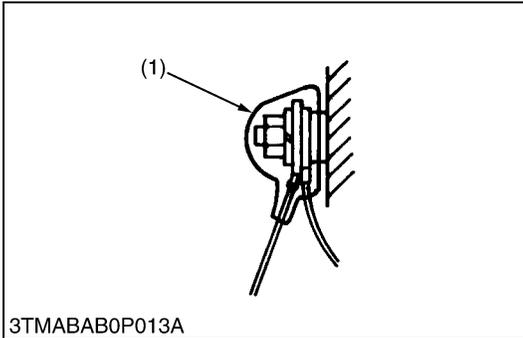
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• In installing a part, take care not to get wiring caught by it.

- (1) Wiring
- (A) Incorrect

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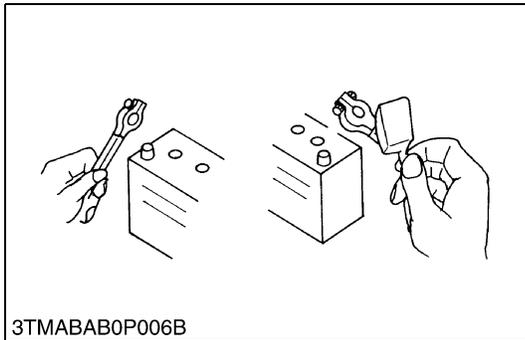


• After installing wiring, check protection of terminals and clamped condition of wiring, only connect battery.

- (1) Cover (Securely Install Cover)

9Y1210301GEG0026US0

## [2] BATTERY



3TMABAB0P006B

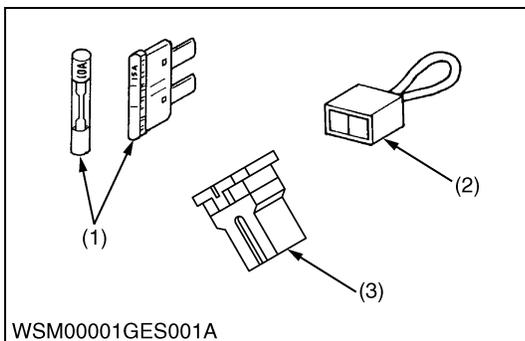
- Take care not to confuse positive and negative terminal posts.
- When removing battery cables, disconnect negative cable first. When installing battery cables, check for polarity and connect positive cable first.
- Do not install any battery with capacity other than is specified (Ah).
- After connecting 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.

### **!** CAUTION

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

9Y1210301GEG0027US0

## [3] FUSE



WSM00001GES001A

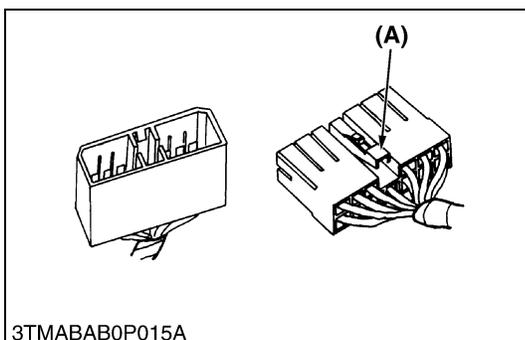
- Use fuses with specified capacity. Neither too large or small capacity fuse is acceptable.
- Never use steel or copper wire in place of fuse.
- Do not install working light, radio set, etc. on machine which is not provided with reserve power supply.
- Do not install accessories if fuse capacity of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

(1) Fuse  
(2) Fusible Link

(3) Slow Blow Fuse

WSM000001GEG0072US0

## [4] CONNECTOR

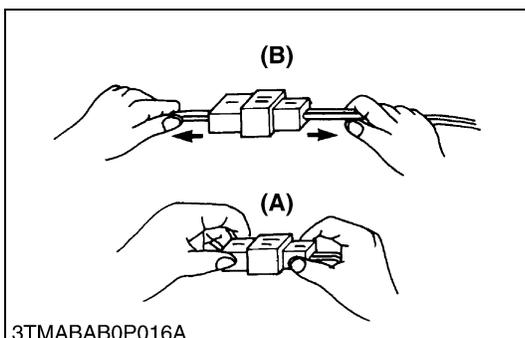


3TMABAB0P015A

- For connector with lock, push lock to separate.

(A) Push

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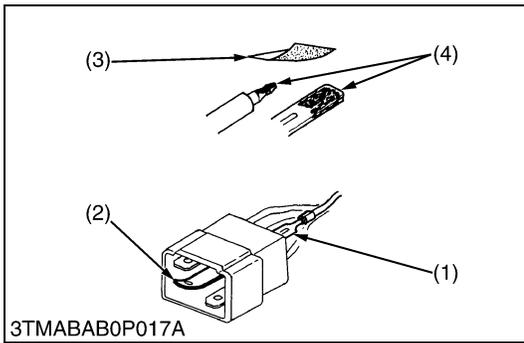
3TMABAB0P016A

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

(A) Correct

(B) Incorrect

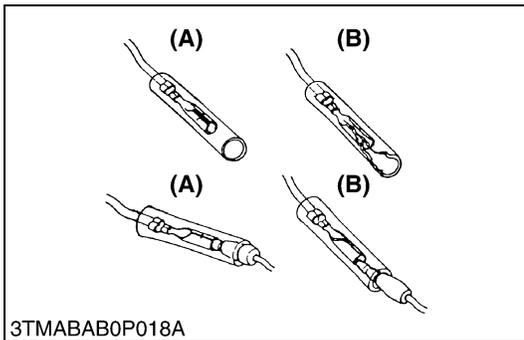
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- Use sandpaper to remove rust from terminals.
- Repair deformed terminal. Make certain there is no terminal being exposed or displaced.

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

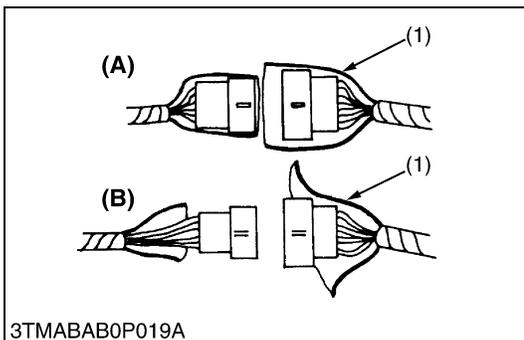
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- Make certain that there is no female connector being too open.

- (A) Correct
- (B) Incorrect

WSM000001GEG0076US0

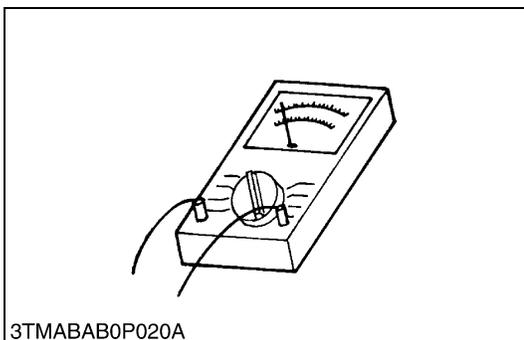


- Make certain plastic cover is large enough to cover whole connector.

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

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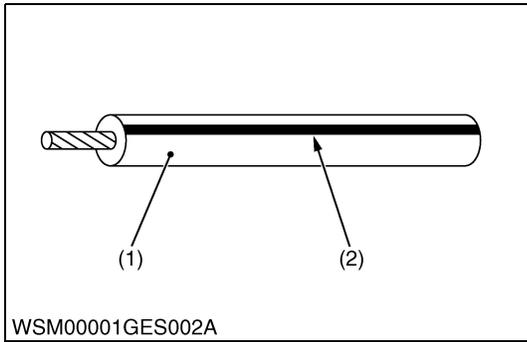
## [5] HANDLING OF CIRCUIT TESTER



- 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
1	Fuel tank	30 L 7.9 U.S.gals 6.6 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\text{ }^{\circ}\text{C}</math> (<math>14\text{ }^{\circ}\text{F}</math>)</li> </ul>
2	Coolant (with reserve tank)	5.2 L 5.5 U.S.qts 4.6 Imp.qts	Fresh clean water with anti-freeze
3	Engine crankcase	(Filter exchanged) 4.1 L 4.3 U.S.qts 3.6 Imp.qts (Filter non-exchanged) 3.8 L 4.0 U.S.qts 3.3 Imp.qts	<b>Engine oil</b> API Service Classification CD, CE or CF <ul style="list-style-type: none"> <li>Above <math>0\text{ }^{\circ}\text{C}</math> (<math>32\text{ }^{\circ}\text{F}</math>) SAE10W, SAE10W-30 or 15W-40</li> <li>0 to <math>25\text{ }^{\circ}\text{C}</math> (<math>32\text{ to }77\text{ }^{\circ}\text{F}</math>) SAE20, SAE10W-30 or 15W-40</li> <li>Below <math>25\text{ }^{\circ}\text{C}</math> (<math>77\text{ }^{\circ}\text{F}</math>) SAE10W or SAE10W-30</li> </ul>
4	Transmission case	11 L 2.9 U.S.gals 2.4 Imp.gals	KUBOTA UDT or SUPER UDT fluid*
5	Front axle case	0.6 L 0.6 U.S.qts 0.5 Imp.qts	KUBOTA UDT or SUPER UDT fluid*
6	Knuckle case	Ref. 0.15 L Ref. 0.16 U.S.qts Ref. 0.13 Imp.qts	KUBOTA UDT or SUPER UDT fluid
7	Brake fluid (reservoir and lines)	0.87 L 0.92 U.S.qts 0.77 Imp.qts	KUBOTA DOT3 GENUINE BRAKE FLUID
8	Hydraulic tank oil	14.5 L 15.3 U.S.qts 12.8 Imp.qts	KUBOTA UDT or SUPER UDT fluid*

Greasing	No. of greasing point	Capacity	Type of grease
Parking brake linkage	4	Moderate amount	Multipurpose EP2 grease (NLGI Grade No. 2)
Battery terminal	2		
Cargo lift cylinder pivot	2		
Cargo bed pivot	2		
VHT link	2	Until grease overflows	
Range gear shift lever pivot	2	Moderate amount	
4WD lever pivot	2		
Rear drive shaft	2		
VHT pressure release pivot	2		
Throttle cable	1		Silicone grease

■ **NOTE**

- \* KUBOTA original transmission hydraulic fluid.

**■ NOTE****• Engine Oil**

Oil used in the engine should have an American Petroleum Institute (API) service classification and Proper SAE Engine Oil according to the ambient temperatures as shown in table.

**• Fuel**

- Cetane number of 45 minimum. Cetane number greater than 50 is preferred, especially for temperatures below -20 °C or elevations above 1500 m.
- If diesel fuel with sulfur content greater than 0.5 % sulfur content is used, reduce the service interval for engine oil and filter by 50 %.
- Do not use diesel fuel with sulfur content greater than 1.0 %.
- Diesel fuels specified to EN 590 or ASTM D975 are recommended.
- No. 2-D is a distillate fuel of lower volatility for engines in industrial and heavy mobile service. (SAE J313 JUN87)
- Since this engine adopts EPA Tier 4 and INterim Tier 4 standards, the use of low sulfur fuel or ultra low sulfur fuel is mandatory in EPA regulated area (North America). Therefore, please use No. 2-D S500 or S15 diesel fuel as an alternative to No. 2-D, or use No. 1-D S500 or S15 diesel fuel as an alternative to No. 1-D if outside air temperature is below -10 °C.

**• Transmission oil**

The oil used to lubricate the transmission is also used as hydraulic fluid. To insure proper operation of the hydraulic system and complete lubrication of the transmission, it is important that a multi-grade transmission fluid be used in this system. We recommend the use of KUBOTA SUPER UDT fluid for optimum protection and performance.

Do not mix different brands or grades.

**• Brake fluid**

Always use KUBOTA DOT3 GENUINE BRAKE FLUID from a sealed container. If it is not available, you should use only DOT3 fluid as a temporary replacement from a sealed container.

However, the use of any non-KUBOTA brake fluid can cause corrosion and decrease the lift of the system. Have the brake system flushed and refilled with KUBOTA DOT3 GENUINE BRAKE FLUID as soon as possible.

**• Indicated capacity of water and oil are manufacturer's estimate.**

9Y1210293GEG0004US0

Product: Kubota WSM RTV1140CPX Utility Vehicle Service Repair Workshop Manual  
 Full Download: <https://www.arepairmanual.com/downloads/kubota-wsm-rtv1140cpx-utility-vehicle-service-repair-workshop-manual/>

# 5 TIGHTENING TORQUES

## [1] GENERAL USE SCREWS, BOLTS AND NUTS

Screws, bolts and nuts whose tightening torques are not specified in this Workshop Manual should be tightened according to the table below.

Indication on top of bolt	4 No-grade or 4T						7 7T						9 9T		
	SS400, S20C						S43C, S48C						SCr435, SCM435		
Material of bolt	Ordinariness						Ordinariness						Ordinariness		
Material of opponent part	Ordinariness			Aluminum			Ordinariness			Aluminum			Ordinariness		
Unit	N·m	kgf·m	lbf·ft	N·m	kgf·m	lbf·ft	N·m	kgf·m	lbf·ft	N·m	kgf·m	lbf·ft	N·m	kgf·m	lbf·ft
<b>M6</b> (6 mm, 0.24 in.)	7.9	0.80	5.8	7.9	0.80	5.8	9.81	1.00	7.24	7.9	0.80	5.8	12.3	1.25	9.05
	to 9.3	to 0.95	to 6.8	to 8.8	to 0.90	to 6.5	to 11.2	to 1.15	to 8.31	to 8.8	to 0.90	to 6.5	to 14.2	to 1.45	to 10.4
<b>M8</b> (8 mm, 0.31 in.)	18	1.8	13	17	1.7	13	24	2.4	18	18	1.8	13	30	3.0	22
	to 20	to 2.1	to 15	to 19	to 2.0	to 14	to 27	to 2.8	to 20	to 20	to 2.1	to 15	to 34	to 3.5	to 25
<b>M10</b> (10 mm, 0.39 in.)	40	4.0	29	32	3.2	24	48	4.9	36	40	4.0	29	61	6.2	45
	to 45	to 4.6	to 33	to 34	to 3.5	to 25	to 55	to 5.7	to 41	to 44	to 4.5	to 32	to 70	to 7.2	to 52
<b>M12</b> (12 mm, 0.47 in.)	63	6.4	47	-	-	-	78	7.9	58	63	6.4	47	103	10.5	76.0
	to 72	to 7.4	to 53	-	-	-	to 90	to 9.2	to 66	to 72	to 7.4	to 53	to 117	to 12.0	to 86.7
<b>M14</b> (14 mm, 0.55 in.)	108	11.0	79.6	-	-	-	124	12.6	91.2	-	-	-	167	17.0	123
	to 125	to 12.8	to 92.5	-	-	-	to 147	to 15.0	to 108	-	-	-	to 196	to 20.0	to 144
<b>M16</b> (16 mm, 0.63 in.)	167	17.0	123	-	-	-	197	20.0	145	-	-	-	260	26.5	192
	to 191	to 19.5	to 141	-	-	-	to 225	to 23.0	to 166	-	-	-	to 304	to 31.0	to 224
<b>M18</b> (18 mm, 0.71 in.)	246	25.0	181	-	-	-	275	28.0	203	-	-	-	344	35.0	254
	to 284	to 29.0	to 209	-	-	-	to 318	to 32.5	to 235	-	-	-	to 402	to 41.0	to 296
<b>M20</b> (20 mm, 0.79 in.)	334	34.0	246	-	-	-	368	37.5	272	-	-	-	491	50.0	362
	to 392	to 40.0	to 289	-	-	-	to 431	to 44.0	to 318	-	-	-	to 568	to 58.0	to 419

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## [2] STUD BOLTS

Material of opponent part	Ordinariness			Aluminum		
	N·m	kgf·m	lbf·ft	N·m	kgf·m	lbf·ft
<b>M8</b> (8 mm, 0.31 in.)	12	1.2	8.7	8.9	0.90	6.5
	to 15	to 1.6	to 11	to 11	to 1.2	to 8.6
<b>M10</b> (10 mm, 0.39 in.)	25	2.5	18	20	2.0	15
	to 31	to 3.2	to 23	to 25	to 2.6	to 18
<b>M12</b> (12 mm, 0.47 in.)	29.5	3.0	21.7	31.4	3.2	23.1
	to 49.0	to 5.0	to 36.1			
<b>M14</b> (14 mm, 0.55 in.)	62	6.3	46	-	-	-
	to 73	to 7.5	to 54	-	-	-
<b>M16</b> (16 mm, 0.63 in.)	98.1	10.0	72.4	-	-	-
	to 112	to 11.5	to 83.1	-	-	-
<b>M18</b> (18 mm, 0.71 in.)	172	17.5	127	-	-	-
	to 201	to 20.5	to 148	-	-	-

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