

Product: Kubota RTV520 Service Manual

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WSM

WORKSHOP MANUAL UTILITY VEHICLE

RTV520

Kubota

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KiSC issued 04, 2021 A

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TO THE READER

This workshop manual provides safety information for service activity, general information such as specifications and dimensions of the machine, mechanisms and structure descriptions of the machine, and service procedures.

Safety

This section contains safety service descriptions and safety label information.

General

This section contains general instructions, tightening torques, general machine information and special tools.

Maintenance

This section contains information for the recommended oil and general maintenance procedures.

Each section basically consists of mechanism and servicing.

Mechanism

Mechanism part contains information and explanations for the structure, functions, and specifications of the machine or component parts. This part should be comprehended before proceeding with troubleshooting, disassembling, assembling, and servicing works.

Servicing

Servicing part contains information and procedures for maintenance, troubleshooting and repair works. The reader should follow these instructions in order to satisfy any servicing work safely, correctly and quickly.

In this WSM, service specifications and service limits are defined as followings.

Service specifications:

Specification which corresponds to new machine's ex-factory. It is based on quality standard, drawings, or actual measurements conducted by Kubota. This value is used to determine whether there is a problem with the machine in the event of a troubleshooting. However, it is necessary to consider degradation due to wear, based on the operating time of the machine, application or maintenance condition.

Service limits:

Service limit is a value corresponding to the recommended performance limit by taking long term-use wear into account. When the service limit is reached, the machine is required to have proper repair, overhaul or replacement in order to keep safe and adequate performance.

All of the illustrations, photographs, specifications, and other information in this manual were created based on the latest model at the time of publication.

The parts names used in this manual are unified into names representing the functions of the parts. Therefore, it does not necessarily correspond to the names used in other materials (parts list, operators manual etc.) and the name on the label / identification plates on the product.

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

December 2020

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SUPPLEMENTARY INFORMATION

Model name and related manuals

This manual applies to the following model.

Model name
RTV520

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RECORD OF REVISIONS

For pdf, use search function [Search word] to find all the revised locations.

Last digit of the code No.	Month of revision	Main revised point and corrective measure [Search word]	Reference page
1	2021 March	Added aluminum wheel bolt torque	2-17 3-14 3-30 4-28 4-39 5-39 6-3 6-6 7-10 7-14 8-5 9-4
		Added torque value for master cylinder to frame	7-10 7-16
		Added torque value for ground cable to frame	4-28 4-40 5-39
		Added torque value for ignition coil plate to transaxle	4-28 4-45 5-39
		Added torque value for battery cable to terminal	4-28 4-39 5-39 6-3
		Revised wire color V to P in electric circuit	—
2	2021 April	Added condition table and updated valve operating pressure	5-10 5-11 5-15 5-38 5-41 5-42 5-44
		Deleted the use of liquid gasket	9-8
		Update ignition coil resistance value with spark plug caps installed	10-20 10-42

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1. SAFETY

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 assemble 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.

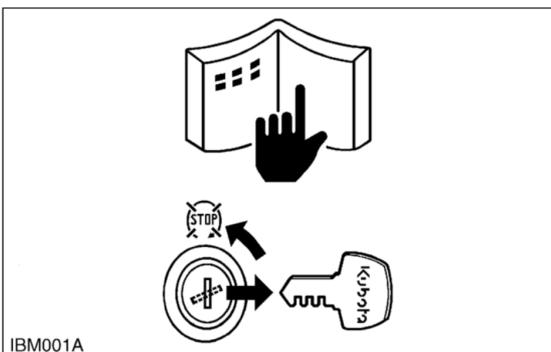
■ IMPORTANT

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

■ NOTE

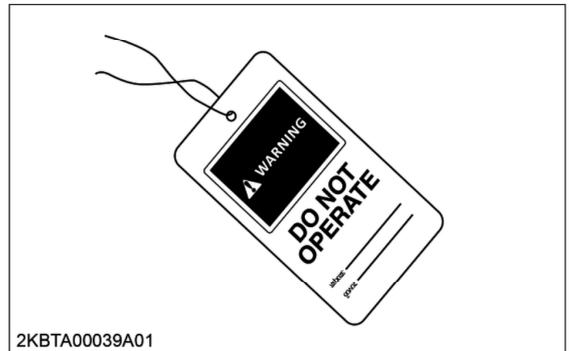
- Gives helpful information.

1. Working precautions



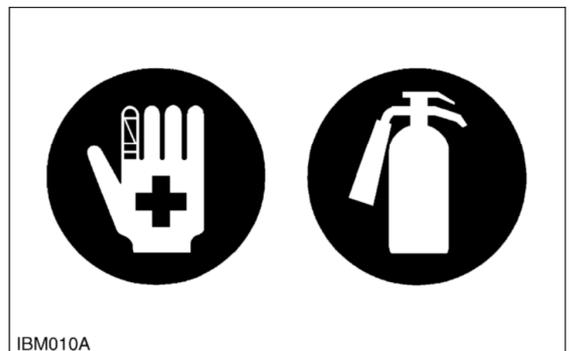
- Understand all safety instructions and safety labels in this manual.
- Park the machine on a stable and level ground then lower the attachment to check the machine safely.

- Stop the engine and remove the key when leaving the operator's seat for cleaning, maintenance, and servicing.



- Hang a DO NOT OPERATE tag near the operator's seat.
- Do not use worn or cracked tools. Use tools in a proper way with enough strength.
- In regards to the facility which is used in the workshop, follow each safety instruction.

2. Preparing for emergencies

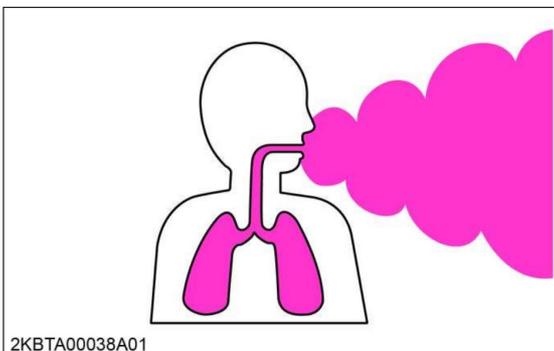


- Keep a first aid kit and fire extinguisher ready at all times.
- Keep emergency numbers near your telephone at all times.

3. Working cautions



- Wear proper service attire when performing work. Do not wear loose clothing as they could get caught on machine components.
- Wear the proper protective equipment when working around the machine. For example helmet, eye protector and protective shoes.
- Do not work around the machine if you are tired or have consumed alcohol or drugs.



- Keep the machine away from obstacles and hazardous materials.
- Ensure the working environment is properly ventilated.
- Do not allow third parties to come near the machine.

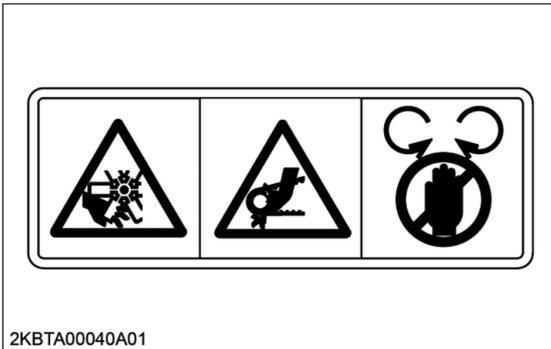


- Make sure you have the support of the 3 points with both hands holding the handle and one foot at the step when getting on and off the machine.
- When working under the machine, make sure the machine does not move back and forth or side-to-side.
- When working under the machine, provide secure support for the machine.
- When using a hydraulic jack, always use with a rigid rack to prevent the machine from falling.

4. Starting machine safely

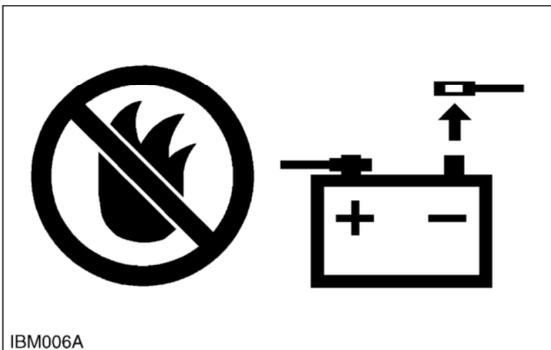


- Do not do the following work when starting the engine.
 - Short across starter terminals.
 - Bypass the safety start switch.
- Make sure there are no bystanders or obstacles present around the machine before starting the engine.
- Do not start the engine unless the operator is seated in the operator's seat.
- Make sure that the pilot levers are in neutral before starting the engine.



- Lock the covers before starting the machine.
- Keep away from rotating and moving objects.
- Keep tools and waste cloth away from rotating and moving objects.

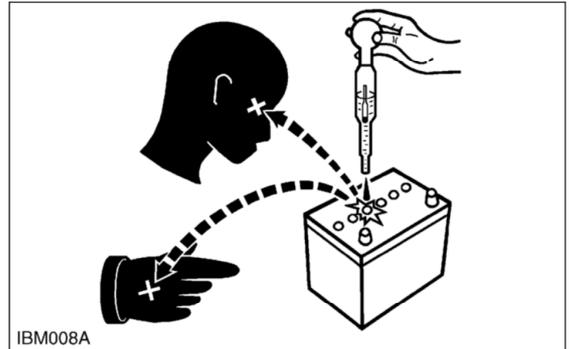
5. Preventing fires



- Keep fire (welding sparks, grinding sparks, cigarettes) away from the fuel.
- Wipe the fuel off when spilled.
- Keep fire (welding sparks, grinding sparks, cigarettes) away from the battery. The battery produces oxygen and hydrogen gas that are flammable.
- Disconnect the negative (-) terminal first when disconnecting the battery cable.

- Connect the positive (+) terminal first when connecting the battery cable.
- Do not short circuit the machine.
- Do not splash the hydraulic oil on the exhaust components.

6. Preventing acid burns



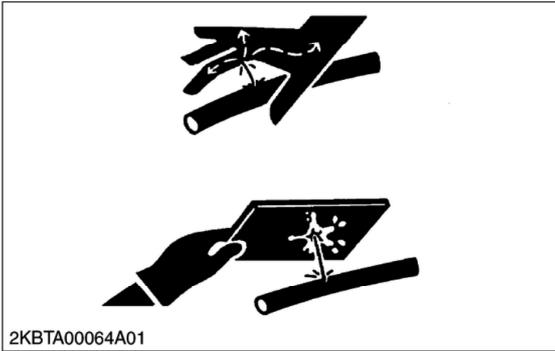
- Keep the electrolyte away from your eyes, hands, and clothes. Sulfuric acid in the battery electrolyte is poisonous: it can cause blindness and is strong enough to burn your skin and clothing. If you spill electrolyte on yourself, clean yourself with water and get a medical aid immediately.

7. Avoiding high pressure fluid



- Keep away from high pressure fluids bursting from a hose or pipe. The fluid can penetrate your skin and cause serious injuries.
- Get a medical aid immediately if an accident occurs.

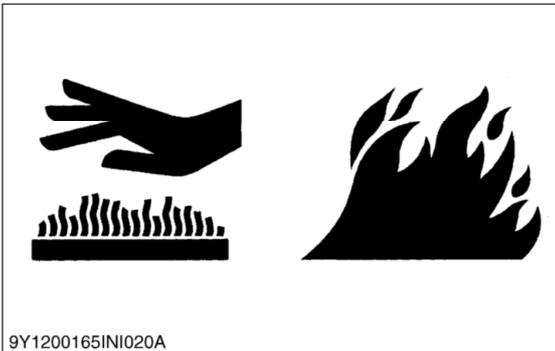
1. SAFETY



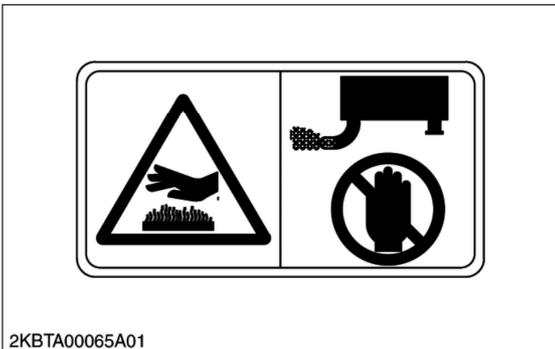
- Release residual pressure in the hydraulic circuit before removing the hydraulic components.
- Pay attention when releasing pressure in hydraulic circuit, because the machine or attachment might move unexpectedly.
- Check the coolant temperature and release the pressure before opening the radiator cap.

- Do not work immediately after stopping the engine. The engine, muffler, radiator, and hydraulic components are extremely hot.
- Do not remove caps and plugs soon after stopping the engine. The temperature and pressure of the coolant, hydraulic oil, and fuel are still high.

8. Avoiding hot exhaust



- Avoid skin exposure and contact with hot exhaust gas or components.
- Exhaust gas and components are extremely hot during operation.

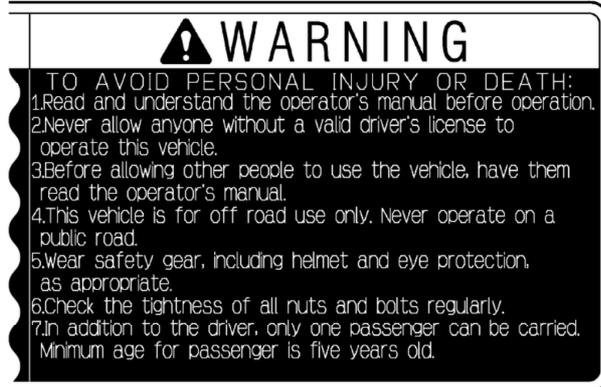


SAFETY LABELS

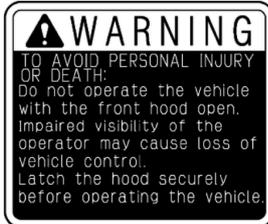
(1) Part No. K7321-6565-1



(2) Part No. K7321-6522-1



(3) Part No. K7321-6530-1



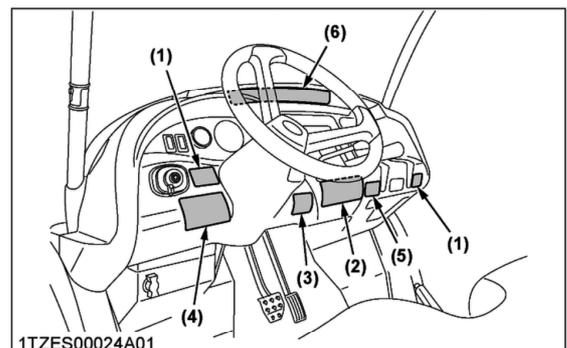
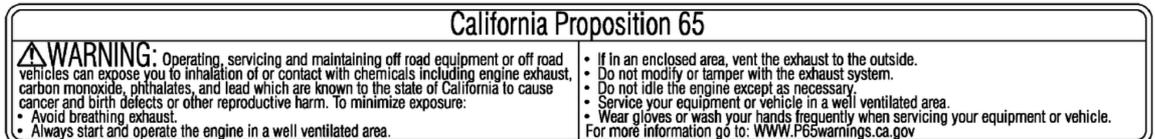
(4) Part No. K7321-6524-1



(5) Part No. K7321-6533-4



(6) Part No. K7311-6596-1



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1. SAFETY

(1) Part No. K7321-6525-1

⚠ WARNING

TO AVOID PERSONAL INJURY OR DEATH:

1. Do not carry passengers in cargo bed.
2. Do not travel with the cargo bed in the raised position.

⚠ DANGER

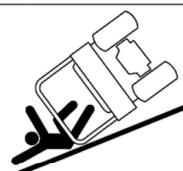


TO AVOID POSSIBLE INJURY OR DEATH FROM A MACHINE RUNAWAY:

1. 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.
2. Start engine only from operator's seat with range shift lever in neutral position and hydraulic outlet off (if equipped).

(2) Part No. K7561-6541-2

⚠ WARNING



TO AVOID PERSONAL INJURY OR DEATH:

1. Do not remove Roll-Over Protective Structures (ROPS) for any application.
2. Do not modify or repair a ROPS because welding, grinding, drilling or cutting any portion may weaken the structure.

(3) Part No. K7311-6537-1

Gasoline fuel only No fire

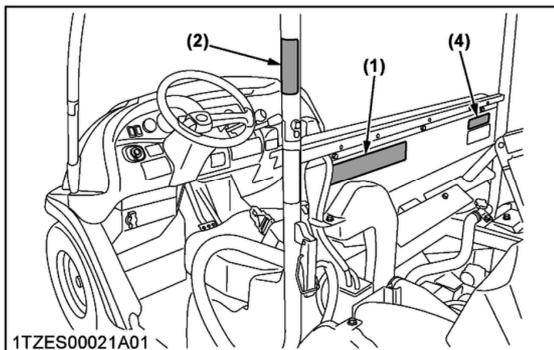


GASOLINE ONLY

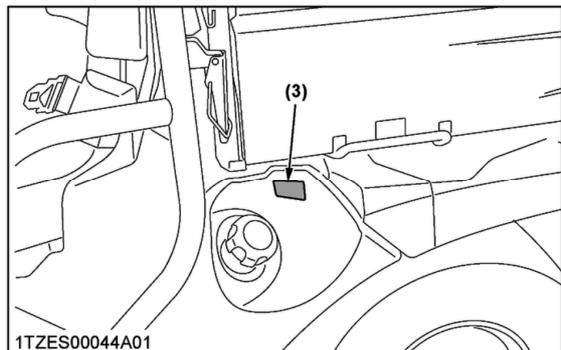
(4) Part No. K7591-6549-1

⚠ WARNING

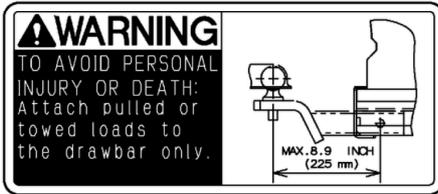
TO AVOID PERSONAL INJURY:
Do not open breather for coolant while coolant is hot.



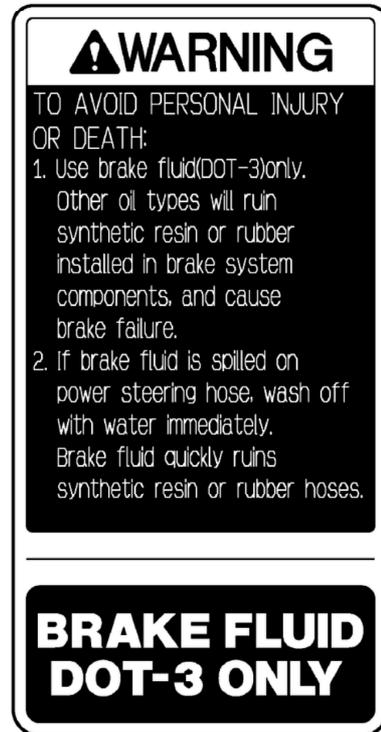
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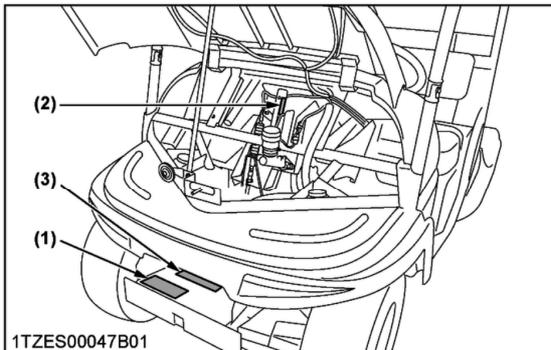
(1) Part No. K7321-6542-1



(2) Part No. K7321-6548-1



(3) Part No. K7311-6559-1

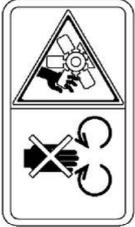


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1TZES00104A01enUS

1. SAFETY

(1) Part No. K7311-6560-1

Do not get your hands close to fan.



(2) Part No. K2601-9616-2

PROPOSITION 65 WARNING: Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Batteries also contain other chemicals known to the State of California to cause cancer. **WASH HANDS AFTER HANDLING.**

ADVERTENCIA DE LA PROPUESTA 65: Los postes de batería, terminales y accesorios relacionados pueden contener plomo y compuestos de plomo, productos químicos conocidos en el estado de California por causar cáncer y daños a la reproducción. Las baterías también contienen otros productos químicos conocidos en el estado de California por causar cáncer. **LÁVESE LAS MANOS DESPUÉS DE LA MANIPULACIÓN.**

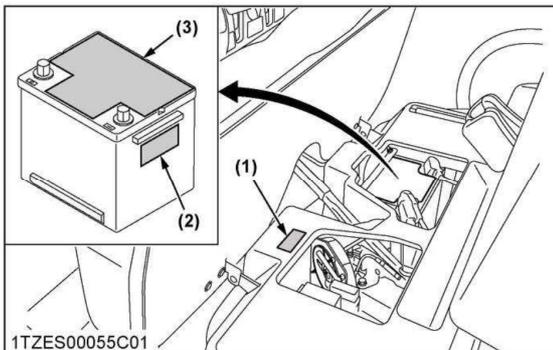
AVERTISSEMENT PROPOSITION 65 : Les bornes de batterie, les prises et les accessoires associés contiennent du plomb et des composés de plomb, des produits chimiques connus dans l'Etat de la Californie pour causer le cancer et des effets nocifs sur la reproduction. Les batteries contiennent aussi d'autres produits chimiques connus dans l'Etat de la Californie pour causer le cancer. **SE LAVER LES MAINS APRES MANIPULATION.**



4-3121

(3) Part No. K7311-6114-2

⚠ DANGER/POISON ⚠		⚠ PELIGRO/VENENO ⚠	
<p>SHIELD EYES. EXPLOSIVE GASES CAN CAUSE BLINDNESS OR INJURY. PROTÉGEZ LES YEUX. LES GAZ EXPLOSIFS PEUVENT BLESSER OU RENDRE AVEUGLE. PROTEJA LOS OJOS. LOS GASES EXPLOSIVOS PUEDEN CAUSAR DAÑOS O CEGUERA.</p>	<p>NO EVITER</p> <ul style="list-style-type: none"> • SPARKS • FLAMES • SMOKING • LES ÉTINCELLES • LES FLAMMES • DE FUMER • CHISPAS • FLAMAS • CIGARROS 	<p>SULFURIC ACID CAN CAUSE BLINDNESS OR SEVERE BURNS. L'ACIDE SULFURIQUE PEUT CAUSER LA CÉCITÉ OU DES BRÛLURES GRAVES. ÁCIDO SULFÚRICO PUEDE CAUSAR CEGUERA O QUEMADURAS FUERTES.</p>	<p>FLUSH EYES IMMEDIATELY WITH WATER. GET MEDICAL HELP FAST. RINCEZ LES YEUX À L'EAU IMMÉDIATEMENT. CONSULTEZ UN MÉDECIN RAPIDEMENT. ENJUAGUE LOS OJOS INMEDIATAMENTE CON AGUA. ACUDA RÁPIDO CON EL MÉDICO.</p>
<p>If battery is put into service after date shown, charge for minimum of 1 hour at 5-10 amps.</p>	<p>KEEP OUT OF THE REACH OF CHILDREN. TENIR HORS DE LA PORTEE DES ENFANTS. ALEJEBE DEL ALCANCE DE LOS NIÑOS.</p>	<p>READ ALL INSTRUCTIONS. LIRE TOUTES LES INSTRUCTIONS. LEA TODAS LAS INSTRUCCIONES.</p>	<p>DO NOT OPEN BATTERY! DO NOT TIP! NE PAS OUVRIR LA BATTERIE! NE PAS RENVERSER. ¡NO ABRIR LA BATERIA! NO VOLTEAR.</p>
<p>Si la mise en service de cette batterie s'effectue après la date indiquée, veuillez recharger de 6 à 10 ampères pendant 1 heure.</p> <p>Si la batterie est posée en service dès que de la fecha que se muestra, cárguela durante un mínimo de 1 hora a 5-10 amperes.</p>	<p>WARNING: RISK OF FIRE, EXPLOSION OR BURNS. DO NOT DISASSEMBLE OR INCINERATE. NOT RECOMMENDED FOR INVERTED USE. FOLLOW PROPER CHARGING INSTRUCTIONS.</p>	<p>AVERTISSEMENT : RISQUE D'INCENDIE, D'EXPLOSION OU DE BRÛLURES. NE PAS DÉMONTÉ OU INCINÉRER. NON RECOMMANDÉ POUR UNE UTILISATION INVERSEE. SUIVEZ ATTENTIVEMENT LES INSTRUCTIONS DE CHARGEMENT.</p>	<p>ADVERTENCIA: RIESGO DE INCENDIO, EXPLOSIÓN O QUEMADURAS. NO DESMONTÉ NI INCINERE. NO RECOMENDADO PARA USO INVERTIDO. SIGA LAS INSTRUCCIONES CORRECTAS DE CARGA.</p>
<p>Dist. by/por/par: EPM Products, 9108 Yellowbrick Rd. Baltimore, MD 21237 610-682-6361</p>	<p>12V Made in USA with US and imported materials Fabricado en los EE. UU con materiales estadounidenses e importados. Fabricado aux États-Unis avec des matériaux américains et importés</p>	<p>NO. / Nº K7311-61113 CCA (A) @ 0°F (-18°C) 450 RES. 20 HR Ah 32</p>	



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(1) Part No. K2651-6568-1



(2) Part No. K2871-6582-1



(3) Part No. K7321-6558-1



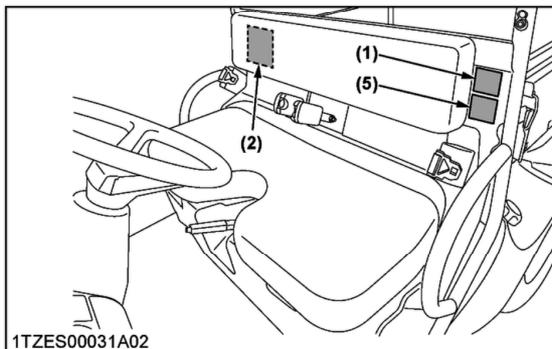
(4) Part No. K7321-6557-1



(5) Part No. K7814-6594-1 (Only for Oceania model)

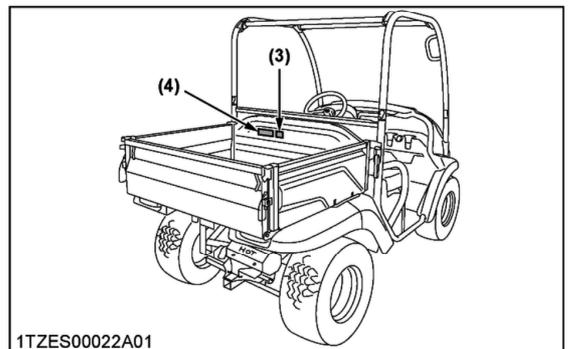


- Use ear protection to avoid damage to hearing.



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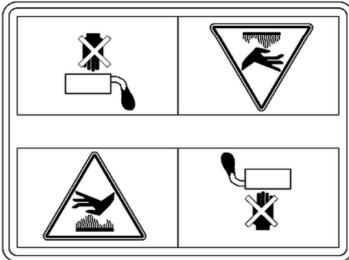
1. SAFETY

(1) Part No. K7321-6546-1



(2) Part No. K7311-6547-2

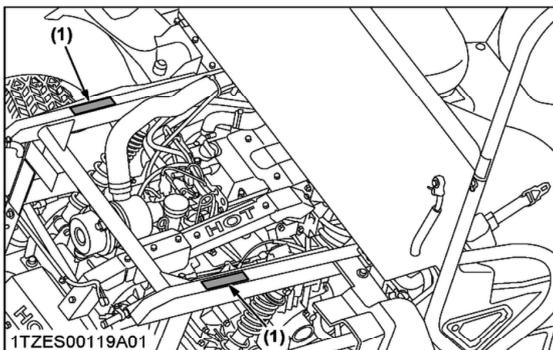
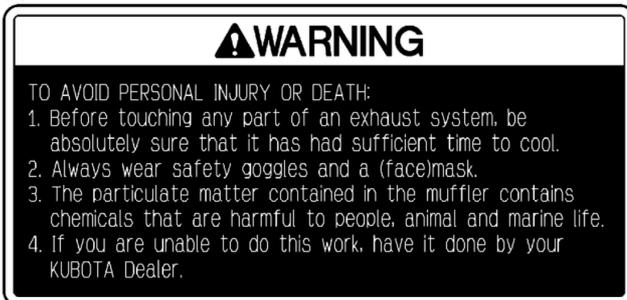
Do not touch hot surface like muffler, and so on.



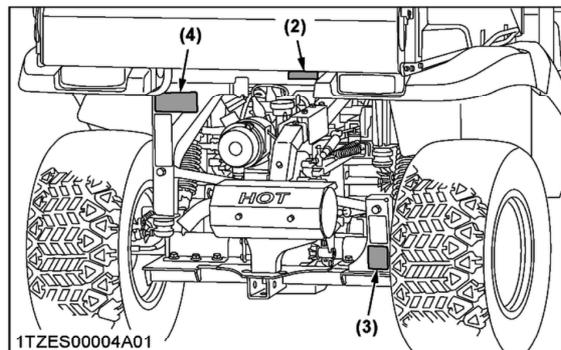
(3) Part No. K7321-6544-1



(4) Part No. K7321-6554-1



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1. Care of safety labels

- Keep danger, warning and caution labels clean and free from obstructing material.
- Clean danger, warning and caution labels with soap and water, dry with a soft cloth.
- Replace damaged or missing danger, warning and caution labels with new labels.
- 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.
- Mount new danger, warning and caution labels by applying on a clean dry surface and pressing any bubbles to outside edge.