

WSM

WORKSHOP MANUAL **UTILITY VEHICLE**

RTV400Ci

Kubota

TO THE READER

This Workshop Manual tells the servicing personnel about the mechanism, servicing and maintenance of the RTV400Ci. It contains 4 parts: **"Information"**, **"General"**, **"Mechanism"** and **"Servicing"**.

■ Information

This section primarily contains information below.

- Safety First
- Safety Decal
- Specification
- Dimension

■ General

This section primarily contains information below.

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

■ Mechanism

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

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

■ Servicing

This section primarily contains information below.

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

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.

February, 2012

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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.

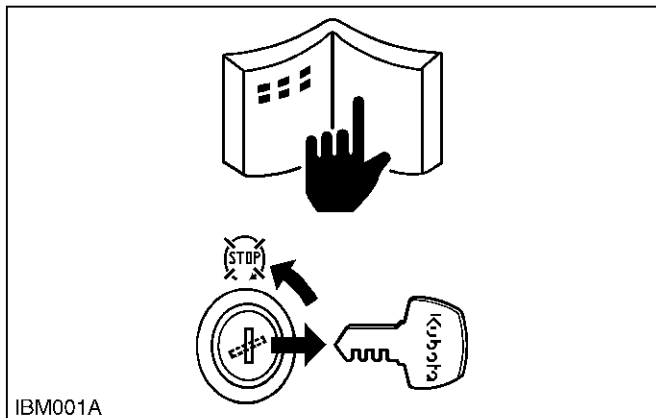
■ IMPORTANT

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

■ NOTE

- Gives helpful information.

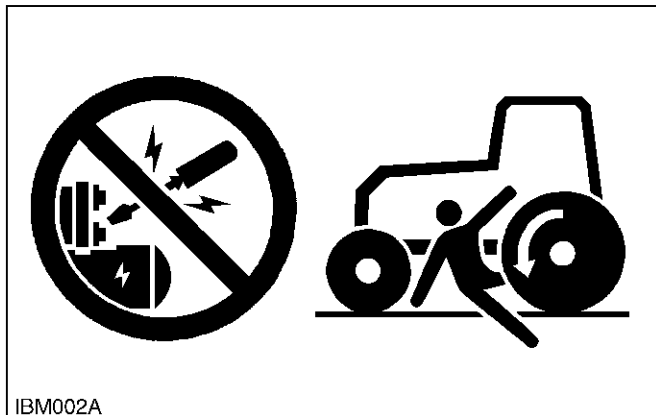
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BEFORE YOU START SERVICE

- 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.

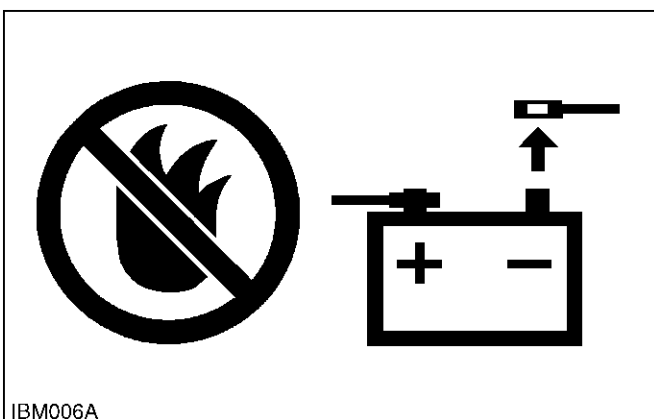
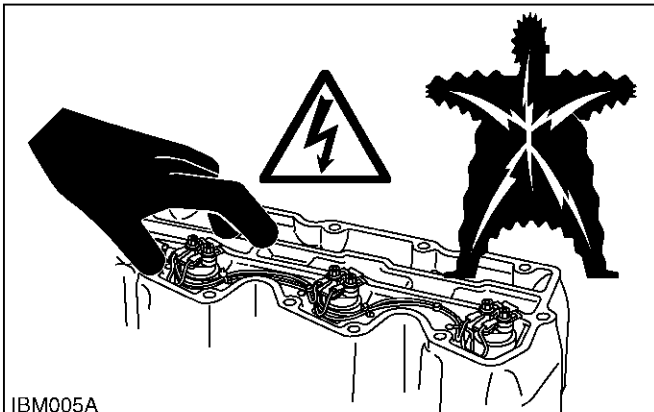
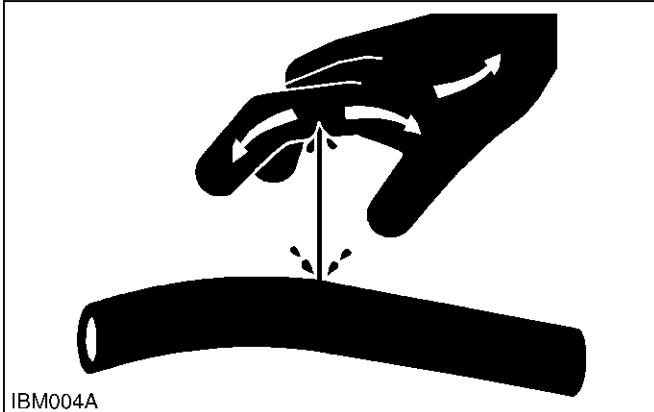
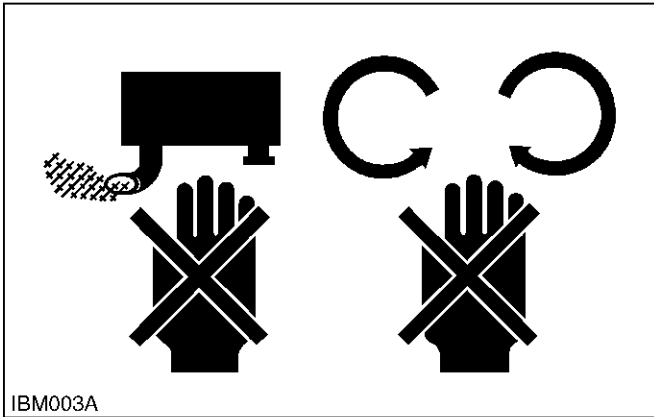
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START SAFELY

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

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OPERATE SAFELY

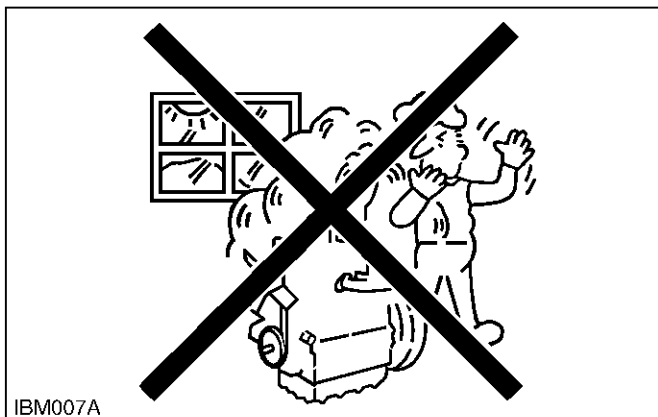
- Do not use the machine after you consume alcohol or medication or when you are tired.
- Put on applicable clothing and safety equipment.
- Use applicable tools only. Do not use alternative tools or parts.
- When 2 or more persons do servicing, make sure that you do it safely.
- Do not operate below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

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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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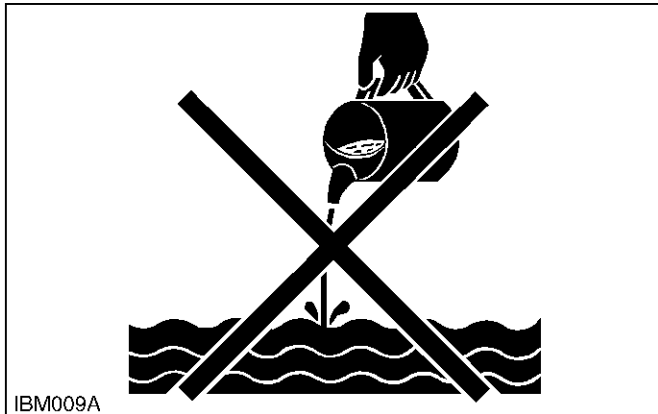


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KEEP A GOOD AIRFLOW IN THE WORK AREA

- 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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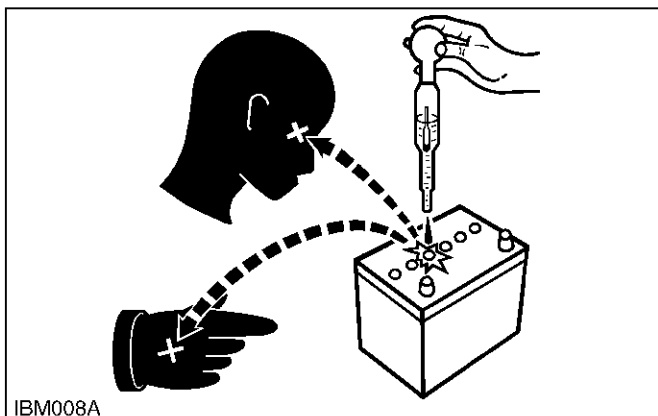


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DISCARD FLUIDS CORRECTLY

- 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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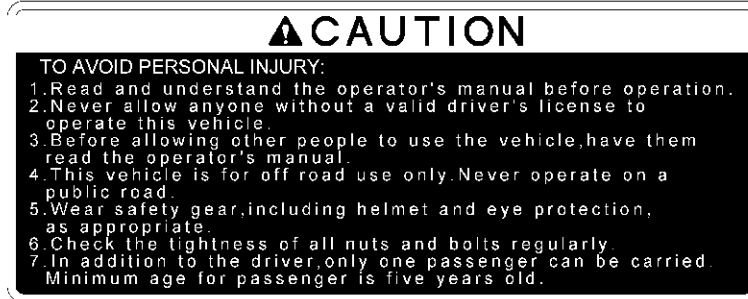
2. SAFETY DECALS

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(2) Part No. 7311-6522-1



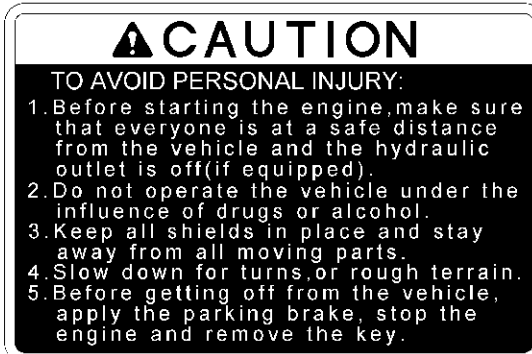
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(3) Part No. K7311-6533-4



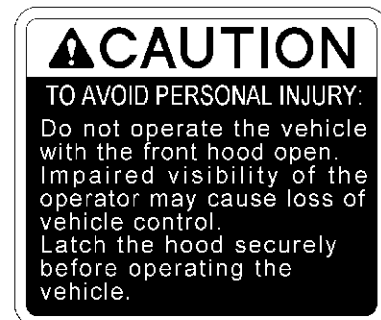
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(4) Part No. K7311-6524-1

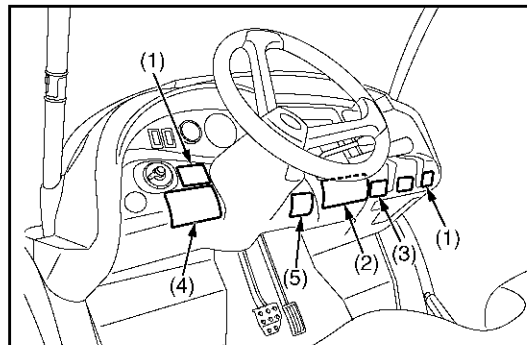


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(5) Part No. K7311-6530-1



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(1) Part No. K7211-6525-1

**⚠ 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).

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(2) Part No. K7561-6541-2

**TO AVOID PERSONAL INJURY OR DEATH:**

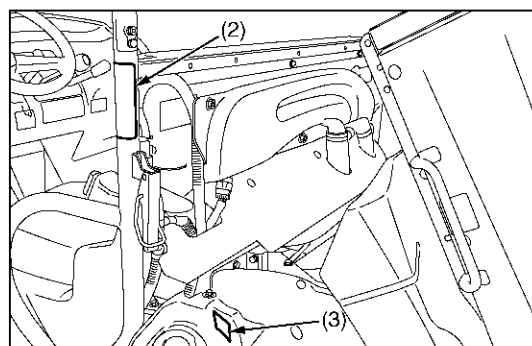
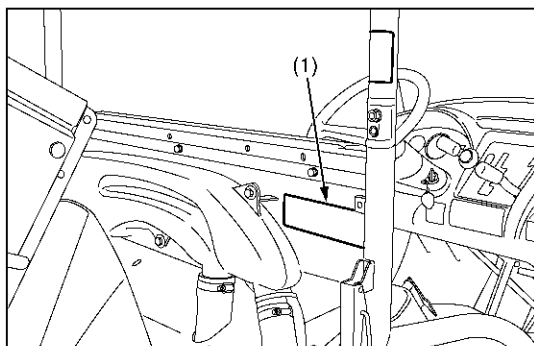
1. Do not remove Roll-Over Protective Structures (ROPS) for any application.
2. Do not modify or repair a ROPS because welding, grinding, drilling or cutting any portion may weaken the structure.

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(3) Part No. K7311-6537-1

Gasoline
fuel only No fire


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⚠ WARNING



TO AVOID PERSONAL INJURY:


1. Do not place gas container inside cargo box bed when filling.
2. Place gas container on ground when filling.

⚠ CAUTION

TO AVOID PERSONAL INJURY:

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

(1) Part No. K7211-6526-2

| | | | | | |
|---|--|---|---|---|--|
| <p>⚠ WARNING</p> <p>TO AVOID PERSONAL INJURY:</p> <ol style="list-style-type: none"> 1. Do not carry passengers in cargo bed. 2. Do not travel with the cargo bed in the raised position. | <p>⚠ WARNING</p>  <p>TO AVOID PERSONAL INJURY:</p> <ol style="list-style-type: none"> 1. Do not place gas container inside cargo box bed when filling. 2. Place gas container on ground when filling. | <p>⚠ CAUTION</p> <p>TO AVOID PERSONAL INJURY:</p> <p>Do not raise the cargo bed while the engine is running above low idle.</p> | <p>⚠ CAUTION</p> <p>TO AVOID PERSONAL INJURY:</p> <ol style="list-style-type: none"> 1. Before touching any part of an exhaust system, be absolutely sure that it has had sufficient time to cool. 2. Always wear safety goggles and a (face) mask. 3. The particulate matter contained in the muffler contains chemicals that are harmful to people, animal and marine life. 4. If you are unable to do this work, have it done by your KUBOTA Dealer. | <p>◆ Maintenance</p> <p>The green type spark arrester should be removed, cleaned and inspected after every 100 hours of use.</p> <ol style="list-style-type: none"> 1. The spark arrester is rated at 4 if any kind of use is made. 2. The muffler should be inspected after every 100 hours of use. 3. The spark arrester should be inspected after every 100 hours of use. 4. The spark arrester should be inspected after every 100 hours of use. 5. The spark arrester should be inspected after every 100 hours of use. 6. The spark arrester should be inspected after every 100 hours of use. | <p>IMPORTANT</p> <ol style="list-style-type: none"> 1. Max. cargo load should not exceed 500 kg (1100 lb). 2. To AVOID DAMAGE: Remove the rear tow hitch when the cargo bed is raised. <p>Refer to operator's manual for details.</p> |
|---|--|---|---|---|--|

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⚠ WARNING

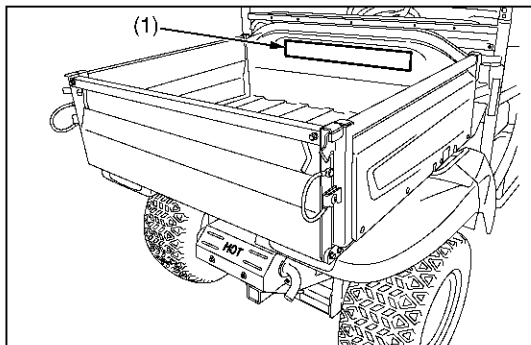
TO AVOID PERSONAL INJURY:

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

⚠ CAUTION

TO AVOID PERSONAL INJURY:

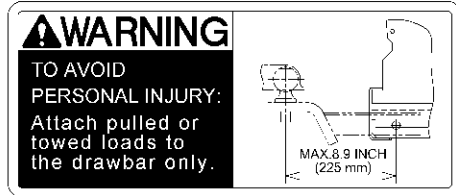
Do not raise the cargo bed while the engine is running above low idle.



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(2) Part No. K7311-6559-1



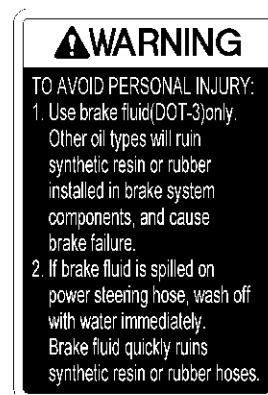
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(4) Part No. K2651-6568-1



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(3) Part No. K7311-6548-2

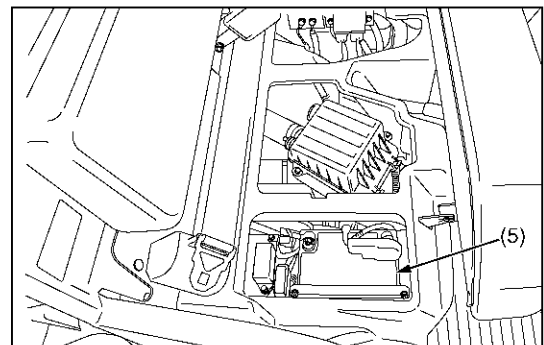
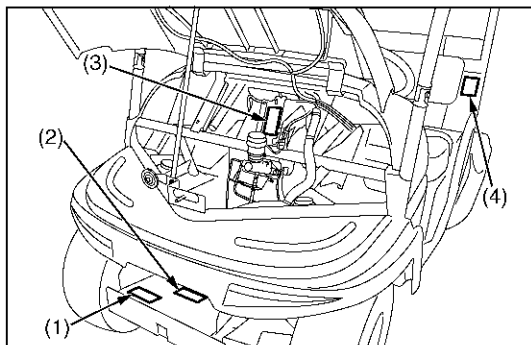


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(5) Part No. K1221-6118-1



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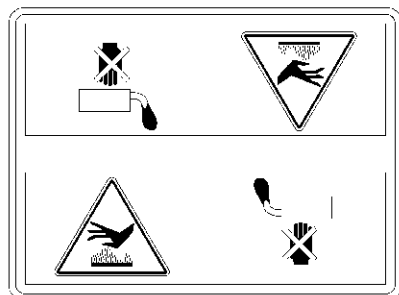
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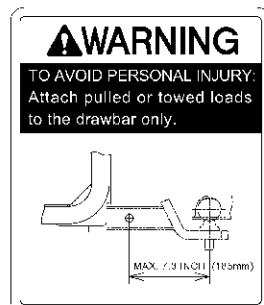
(2) Part No. K7311-6547-2

Do not touch hot surface like muffler, etc..

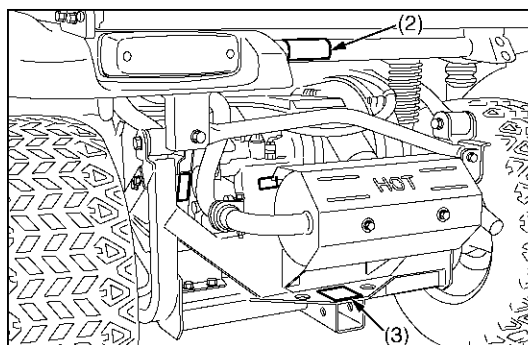
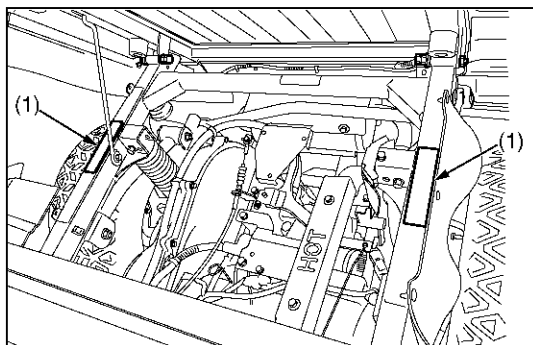


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(3) Part No. K7211-6544-1



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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 from your local KUBOTA Dealer.
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 pressing any bubbles to outside edge.

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3. SPECIFICATIONS

| Model | | | RTV400Ci | |
|---------------------------------------|-----------------------|------------|--|----------------------|
| Engine | Model | | SUBARU GH4120 | |
| | Type | | 1 cylinder OHC, Air-cooled, EFI Gas | |
| | Displacement | | 0.404 L (24.7 cu. in.) | |
| Fuel Capacity | | | 20 L (5.3 U.S.gals, 4.4 Imp.gals) | |
| Transmission | | | Continuously variable transmission (CVT) | |
| Wheels, Drive system | | | 4, Rear 2WD or 4WD | |
| Differential lock | | | Standard; hand operated with mechanical holder | |
| Gear selection | | | Hi-Lo range forward, neutral, reverse | |
| Brakes | Front / Rear | | Dry disk brake | |
| | Parking brake | | Rear wheel, hand lever | |
| Steering | | | Rack and Pinion | |
| Suspension | Front | | Independent, Mac Pherson strut-type | |
| | Rear | | Semi-independent, Multi-link | |
| Dimensions | Length | | 2690 mm (105.9 in.) | |
| | Width | | 1390 mm (54.7 in.) | |
| | Height, overall | | 1829 mm (72 in.) | |
| | Front tread centers | | 1016 mm (40 in.) | |
| | Rear tread centers | | 1041 mm (41 in.) | |
| | Wheelbase | | 1800 mm (70.9 in.) | |
| | Ground clearance | front axle | 205 mm (8.1 in.) | |
| | | rear axle | 175 mm (6.9 in.) | |
| Turning diameter | | | 7 m (22.9 ft.) | |
| Max. rolling weight (Towing Capacity) | | | Rear: 500 kg (1102 lbs) / Front: 250 kg (551 lbs) | |
| Payload capacity | | | 480 kg (1058 lbs) | |
| Weight | | | 565 kg (1246 lbs) with ATV Tires / 570 kg (1257 lbs) with HDWS Tires | |
| Cargo bed | Width | | 1032 mm (40.6 in.) | |
| | Length | | 856 mm (33.7 in.) | |
| | Depth | | 290 mm (11.4 in.) | |
| | Volume | | 0.25 m³ (9 cu.ft.) | |
| | Bed height (unloaded) | | 810 mm (31.9 in.) | |
| | Max. cargo bed load | | 200 kg (441 lbs) | |
| Tires | Front | | 24 × 9-12 HDWS, 6PLY | 24 × 9-12 ATV, 6PLY |
| | Rear | | 24 × 11-12 HDWS, 6PLY | 24 × 11-12 ATV, 6PLY |
| Front deluxe guard | | | Option | |
| Body color | | | Orange / Camouflage | |
| Speedometer | | | Option | |
| Rear net | | | Option | |

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.

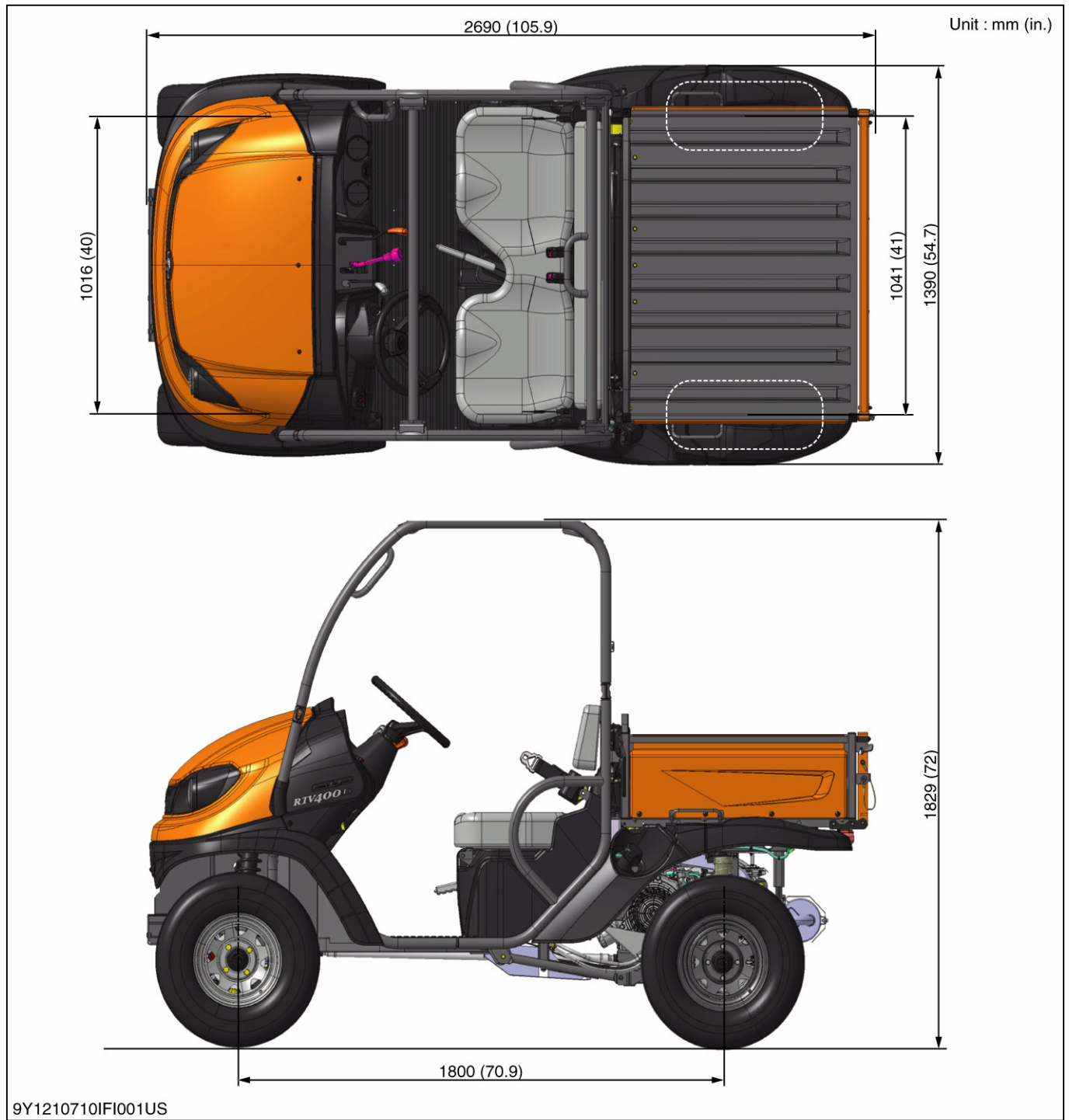
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4. TRAVELLING SPEEDS

| | Model | RTV400Ci |
|---------------------------|---------------|------------|
| | Gear position | km/h (mph) |
| Range gear shift lever | Low | 24 (15) |
| | High | 40 (25) |
| | Reverse | 24 (15) |

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5. DIMENSIONS



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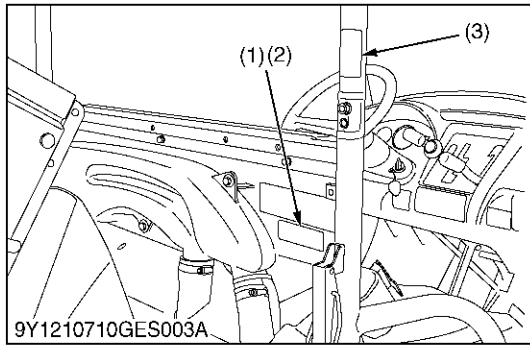
G GENERAL

GENERAL

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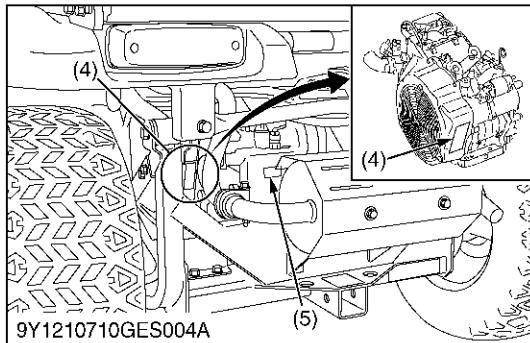
1. PRODUCT IDENTIFICATION



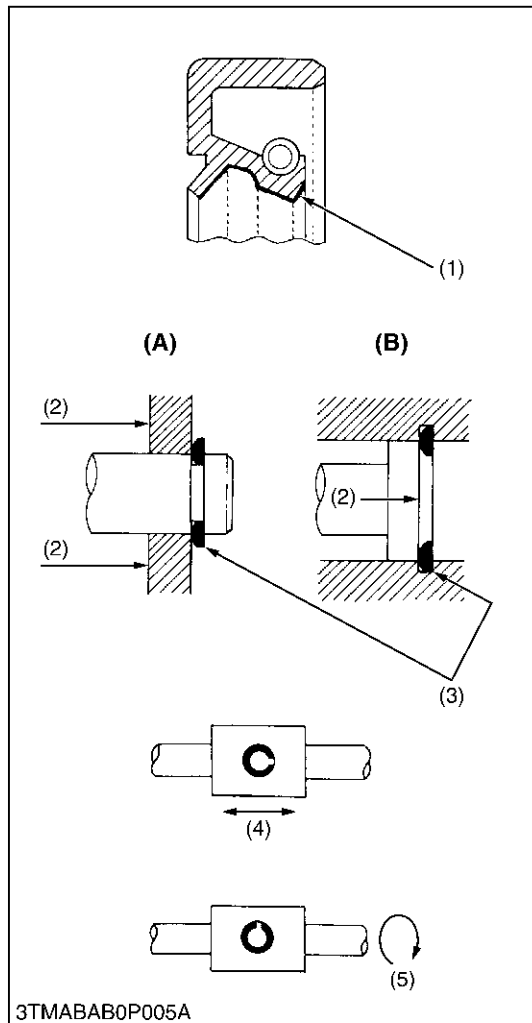
When contacting your local KUBOTA distributor, always specify engine serial number, product serial number and hour meter reading.

- | | |
|-----------------------------------|---|
| (1) Vehicle Serial Number | (4) Engine Serial Number |
| (2) Vehicle Identification Number | (5) Transmission Assembly Serial Number |
| (3) ROPS Serial Number | |

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2. GENERAL PRECAUTIONS



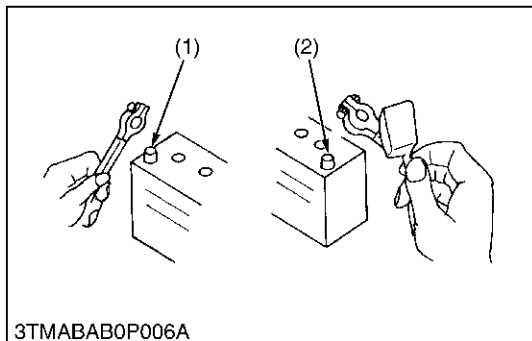
- When you disassemble, carefully put the parts in a clean area to make it easy to find the parts. You must install the screws, bolts and nuts in their initial position to prevent the reassembly errors.
- When it is necessary to use special tools, use KUBOTA special tools. Refer to the drawings when you make special tools that you do not use frequently.
- Before you disassemble or repair machine, make sure that you always disconnect the ground cable from the battery first.
- Remove oil and dirt from parts before you measure.
- Use 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 nipples to the specified torque. Too much torque can cause damage to the hydraulic units or the nipples. 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 taper s of hoses are free of dust and scratches.
- After you tighten the nipples, 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 Snap Ring
 (B) Internal Snap Ring

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3. HANDLING PRECAUTIONS FOR ELECTRICAL



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

■ IMPORTANT

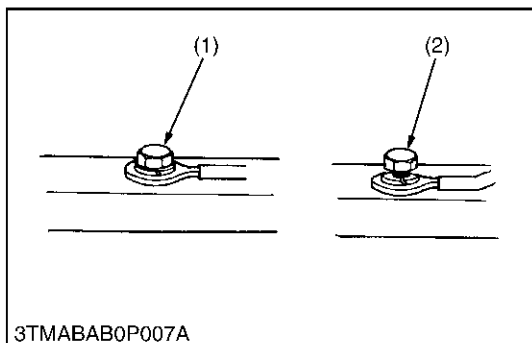
- Check electrical wiring for damage and loosened connection every year. To this end, educate the customer to do his or her own check and at the same time recommend the dealer to perform periodic check for a fee.
- Do not attempt to modify or remodel any electrical parts and wiring.
- When removing the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

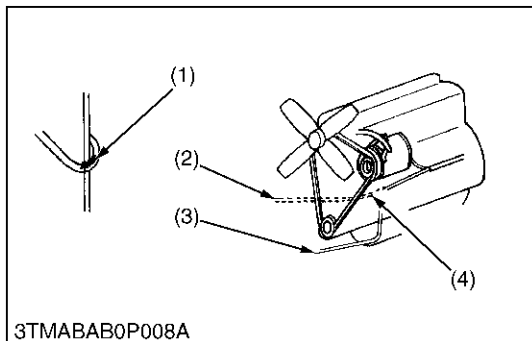


- Securely tighten wiring terminals.

(1) Correct
(Securely Tighten)

(2) Incorrect
(Loosening Leads to Faulty Contact)

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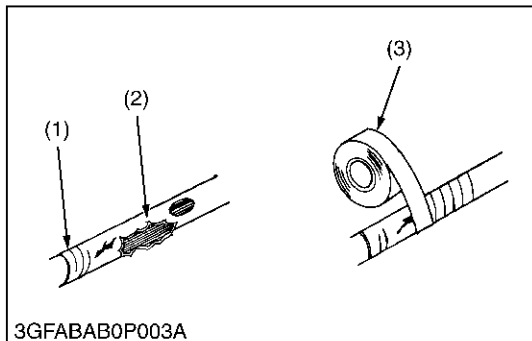


- Do not let wiring contact dangerous part.

(1) Dangerous Part (Sharp Edge)
(2) Wiring (Incorrect)

(3) Wiring (Correct)
(4) Dangerous Part

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- Repair or change torn or aged wiring immediately.

(1) Aged
(2) Torn

(3) Insulating Vinyl Tape

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