

Kubota ZG222A ZG227A Service Manual

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WORKSHOP MANUAL

ZG222A, ZG227A

Kubota

TO THE READER

This Workshop Manual tells the servicing personnel about the mechanism, servicing and maintenance of the ZG222A and ZG227A. 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. 9Y021-18200) for 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.

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

November 2010

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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 Measures {Search word} | Reference Page |
|----------------------------|-------------------|---|----------------|
| 1 | 2016.08 | Revised Maintenance Intervals | G-13 |
| 2 | 2019.02 | Added proposition 65 label starting with serial numbers: ZG222SA:57577, ZG222A: 57577, ZG227A: 55464, ZG227LA: A2887 | I-6 |
| | | Added battery label starting with serial numbers: ZG222SA: 57409, ZG222A: 57409, ZG227A: 55230, ZG227LA: A2782 | I-11 |
| 3 | 2019.03 | Changed engine gross power and SAE specification | I-14 |
| | | ZG222A-AU, ZG227A-AU information added | I-16 |
| 4 | 2019.10 | Added periodic service chart label | G-15 |

I INFORMATION

INFORMATION

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| [1] NORTH AMERICA AND CANADA MODELS..... | I-18 |
| [2] AUSTRALIA MODELS | I-19 |

1. SAFETY FIRST

SAFETY FIRST

- This symbol, the industry's "Safety Alert Symbol", is used throughout this manual and on labels on the machine itself to warn of the possibility of personal injury. Read these instructions carefully.
- It is essential that you read the instructions and safety regulations before you try to repair or use this unit.

DANGER

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

WARNING

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

CAUTION

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

■ IMPORTANT

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

■ NOTE

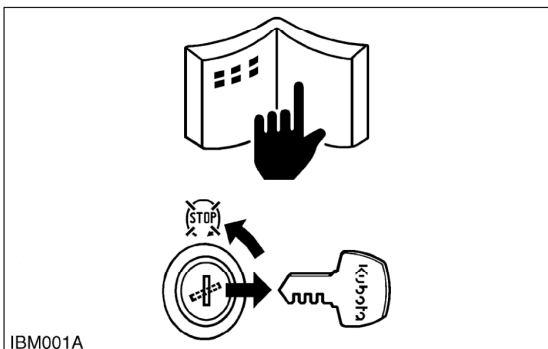
- Gives helpful information.

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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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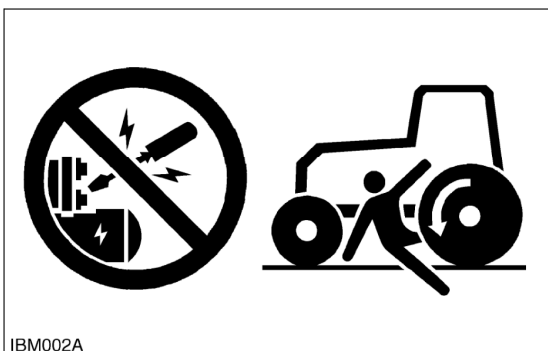


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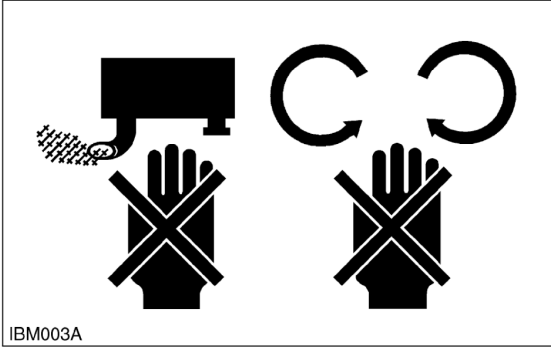
START SAFELY

- 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.

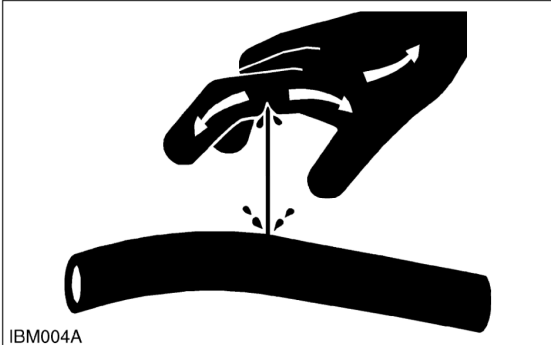
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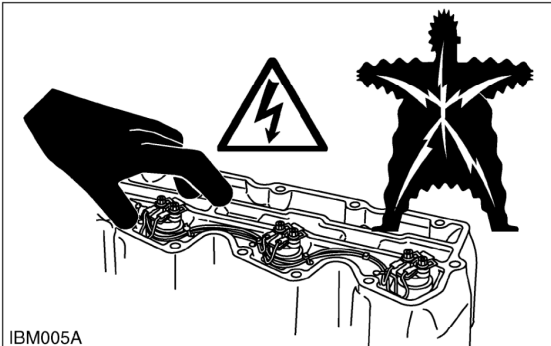
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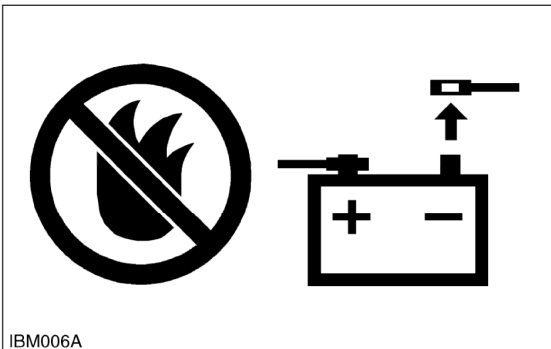
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OPERATE SAFELY

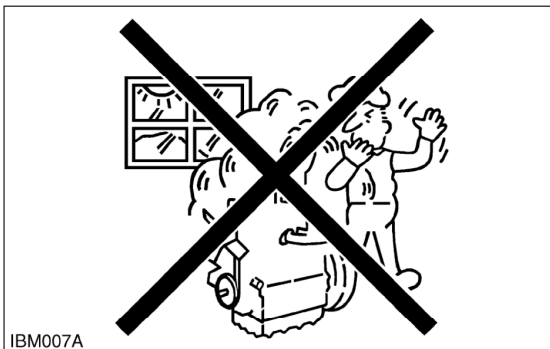
- Do not use the machine after you consume alcohol or medication or when you are tired.
- Put on applicable clothing and safety equipment.
- Use applicable tools only. Do not use alternative tools or parts.
- When 2 or more persons do servicing, make sure that you do it safely.
- Do not operate below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

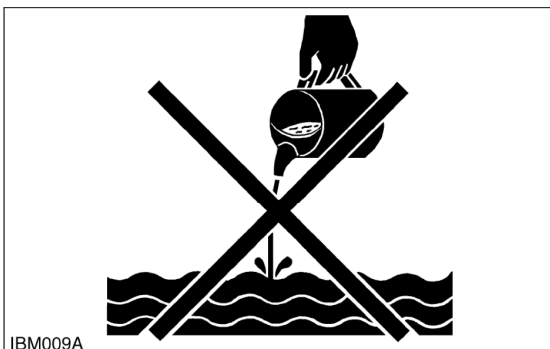
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KEEP A GOOD AIRFLOW IN THE WORK AREA

- 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.

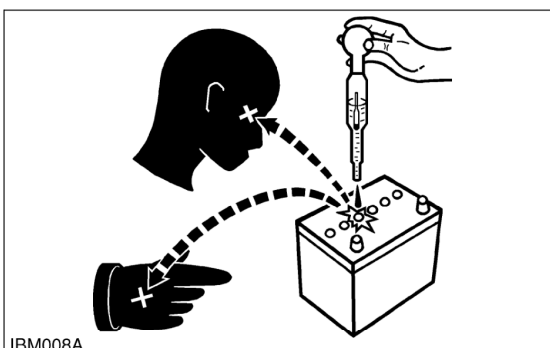
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DISCARD FLUIDS CORRECTLY

- 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

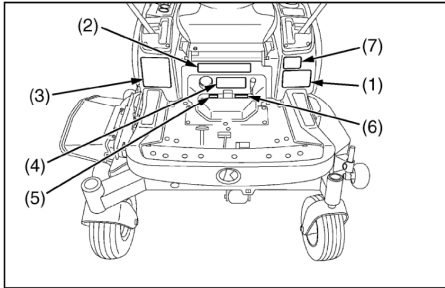
- Keep a first aid kit and fire extinguisher ready at all times.
- Keep the emergency contact telephone numbers near your telephone at all times.

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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. K3181-6585-1

| | |
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| <p>⚠ WARNING</p> <p>TO AVOID SERIOUS INJURY OR DEATH</p> <ol style="list-style-type: none"> 1. Park the machine on level ground. 2. If necessary to park on an incline, <ol style="list-style-type: none"> ① Stop the machine. ② Apply the parking brake. ③ Stop the engine. <p>If you stop the engine on an incline without applying the parking brake, the machine could move and runaway.</p> | <p>⚠ ADVERTENCIA</p> <p>PARA EVITAR LESIONES PERSONALES GRAVES O LA MUERTE</p> <ol style="list-style-type: none"> 1. Estacione la máquina en la tierra del nivel. 2. Si es necesario estacionar en una cuesta, <ol style="list-style-type: none"> ① Apagar la máquina. ② Aplique el freno de estacionamiento. ③ Luego apague el motor. <p>Si apaga el motor en una cuesta sin aplicar el freno de estacionamiento, la máquina puede moverse sin control.</p> 3. Si la máquina se detiene repentinamente durante la operación, enganche el freno de estacionamiento inmediatamente para evitar la pérdida de control. |
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(2) Part No. K3271-6585-1

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| <p>⚠ CAUTION</p> <p>TO AVOID PERSONAL INJURY</p> <ol style="list-style-type: none"> 1. Read and understand the operator's manual before operation. 2. Do not operate this machine unless you are trained. 3. Before allowing other people to use the machine, have them read the operator's manual. 4. Check the tightness of all nuts and bolts regularly. 5. Before starting the engine, make certain that everyone is at a safe distance from the machine. PTO is disengaged and motion control levers are in neutral lock. 6. Remove objects that could be thrown by the blade. 7. Do not operate the machine when children and/or others are around. 8. Do not carry children or others on the machine at any time. | <ol style="list-style-type: none"> 9. Before dismounting disengage PTO clutch, lower the implement, place motion control levers in neutral lock position, set the parking brake, stop the engine and remove the key. 10. Keep safety devices (guards, shields, and switches) in place, and working. 11. To reduce the fire hazard, keep the exhaust clear of dry grass, dry leaves or other combustible materials. 12. This machine is not for street or highway use. 13. Securely support the machine and implement before working underneath. |
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(3) Part No. K3271-6581-1

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| <p>⚠ WARNING</p> <p>TO AVOID SERIOUS INJURY OR DEATH</p> <ol style="list-style-type: none"> 1. Mow across slopes-Not up and down. 2. Use extreme caution when operating on slopes. 3. Loss of traction may occur when operating on slopes. 4. Drive slowly on slopes. 5. Do not operate on wet slopes. 6. Avoid sudden starts. 7. Execute turns slowly. | |
| <p>⚠ ADVERTENCIA</p> <p>PARA EVITAR LESIONES PERSONALES GRAVES O LA MUERTE</p> <ol style="list-style-type: none"> 1. Corte el césped de manera transversal en las colinas - No de arriba hacia abajo. 2. Tenga mucho cuidado durante la operación en colinas. 3. Se puede perder tracción durante la operación en colinas. 4. Conduzca lentamente en las colinas. 5. No use la máquina en colinas húmedas. 6. Evite arranques súbitos. 7. Realice las vueltas lentamente. | |

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(4) Part No. K3272-6587-1

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| <p>⚠ ATENCIÓN</p> <p>PARA EVITAR LESIONES PERSONALES</p> <ol style="list-style-type: none"> 1. Lea y entienda el manual del operador antes de efectuar la operación. 2. No ponga en funcionamiento la máquina a menos que esté capacitado para hacerlo. 3. Antes de permitir que otras personas usen la máquina, indíqueles que lean el manual del operador. 4. Mantenga con regularidad el ajuste de todas las tuercas y pernos. 5. Antes de arrancar el motor, asegúrese de que todos están a una distancia segura de la máquina. La toma de fuerza debe estar desactivada y las palancas de control de movimiento bloqueadas en neutro. 6. Retire los objetos que puedan ser lanzados por la cuchilla. 7. No opere la máquina cuando hayan niños u otras personas alrededor. 8. No lleve a niños ni a otras personas en la máquina en ningún momento. 9. Antes de desmontar, desenganche el embrague de la toma de fuerza, baje el implemento, cambie a neutro, aplique el freno de estacionamiento, apague el motor y retire la llave. 10. Mantenga los dispositivos de protección (guardas, barreras de protección e interruptores) en su lugar y en buen estado de funcionamiento. 11. Para reducir los riesgos de incendio, manténelo el escape exento de hierba seca, hojas secas u otros materiales combustibles. 12. Esta máquina no está diseñada para uso en calles ni carreteras. 13. Use un soporte seguro para la máquina y el implemento antes de trabajar debajo de los mismos. |
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(5) Part No. K3131-6568-1

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| <p>⚠ CAUTION</p> <p>When Engine is running, do not open this cover.</p> |
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(6) Part No. K3272-6569-1

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| <p>⚠ ATENCIÓN</p> <p>Nunca abra el capó mientras el motor está en funcionamiento.</p> |
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1BDABDNAP068A

(7) Part No. K3271-6571-1

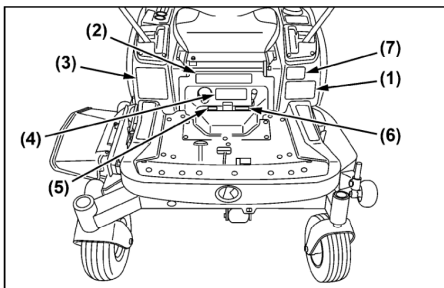
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| <p>⚠ WARNING</p> <p>Operation of this equipment may create sparks that can start fires around dry vegetation. A spark arrester may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.</p> |
| <p>⚠ ADVERTENCIA</p> <p>La operación de este equipo puede generar chispas que pueden iniciar incendios en cercanías de vegetación seca. Podría requerirse un pararrayes. El operador debería contactar a las agencias de bomberos locales para informarse de las normas relacionadas con los requisitos de prevención de incendios.</p> |

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ZG222A-AU, ZG227A-AU



(1) Part No. K3181-6585-1

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| <p>⚠ WARNING TO AVOID SERIOUS INJURY OR DEATH</p> <ol style="list-style-type: none"> 1. Park the machine on level ground. 2. If necessary, park on an incline. <ul style="list-style-type: none"> ⓐ Stop the machine. ⓑ Apply the parking brake. ⓒ Stop the engine. 3. If you stop the engine on an incline without applying the parking brake, the machine could move and runaway. 4. If the engine stops suddenly during operation, apply the parking brake immediately to prevent machine runaway. | <p>⚠ ADVERTENCIA PARA EVITAR LESIONES PERSONALES GRAVES O LA MUERTE</p> <ol style="list-style-type: none"> 1. Estacione la máquina en la tierra del nivel. 2. Si es necesario estacionar en una cuesta. <ul style="list-style-type: none"> ⓐ Apague la máquina. ⓑ Aplique el freno de estacionamiento. ⓒ Luego apague el motor. 3. Si apaga el motor en una cuesta sin aplicar el freno de estacionamiento, la máquina puede moverse sin control. 4. Si la máquina se detiene repentinamente durante la operación, enganche el freno de estacionamiento inmediatamente para evitar la pérdida de control. |
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1BDABCQAP093A

(2) Part No. K3271-6585-1

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| <p>⚠ CAUTION TO AVOID PERSONAL INJURY</p> <ol style="list-style-type: none"> 1. Read and understand the operator's manual before operation. 2. Do not operate this machine unless you are trained. 3. Before allowing other people to use the machine, have them read the operator's manual. 4. Check that lights and all nuts and bolts regularly. 5. Before starting the engine, make certain that everyone is at a safe distance from the machine. PTO is disengaged and motion control levers are in neutral lock. 6. Remove objects that could be thrown by the blade. 7. Do not operate the machine when children and/or others are around. 8. Do not carry children or others on the machine at any time. | <ol style="list-style-type: none"> 9. Before dismounting, disengage PTO clutch, lower the implement, place motion control levers in neutral lock position, set the parking brake, stop the engine and remove the key. 10. Keep safety devices (guards, shields, and switches) in place, and working. 11. To reduce the fire hazard, keep the exhaust clear of dry grass, dry leaves or other combustible materials. 12. This machine is not for street or highway use. 13. Securely support the machine and implement before working underneath. |
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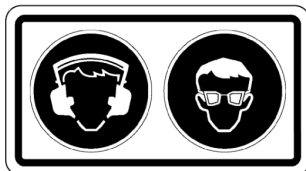
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(3) Part No. K3271-6581-1

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| <p>⚠ WARNING TO AVOID SERIOUS INJURY OR DEATH</p> <ol style="list-style-type: none"> 1. Mow across slopes-Not up and down. 2. Use extreme caution when operating on slopes. 3. Loss of traction may occur when operating on slopes. 4. Drive slowly on slopes. 5. Do not operate on wet slopes. 6. Avoid sudden starts. 7. Execute turns slowly. | |
| <p>⚠ ADVERTENCIA PARA EVITAR LESIONES PERSONALES GRAVES O LA MUERTE</p> <ol style="list-style-type: none"> 1. Corte el césped de manera transversal en las colinas - No de arriba hacia abajo. 2. Tenga mucho cuidado durante la operación en colinas. 3. Se puede perder tracción durante la operación en colinas. 4. Conduzca lentamente en las colinas. 5. No use la máquina en colinas húmedas. 6. Evite arranques súbitos. 7. Realice las vueltas lentamente. | |

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(7) Part No. K3284-6569-1



1BDABDMP011A

- Use ear protection to avoid damage to hearing.
- Always wear protective glasses.

(4) Part No. K3272-6587-1

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| <p>⚠ ATENCIÓN PARA EVITAR LESIONES PERSONALES</p> <ol style="list-style-type: none"> 1. Lea y entienda el manual del operador antes de efectuar la operación. 2. No ponga en funcionamiento la máquina a menos que esté capacitado para hacerlo. 3. Antes de permitir que otras personas usen la máquina, indíqueles que lean el manual del operador. 4. Verifique con regularidad el estado de todas las luces y pernos. 5. Antes de arrancar el motor, asegúrese de que todos estén a una distancia segura de la máquina. La toma de fuerza debe estar desactivada y las palancas de control de movimiento bloqueadas en neutro. 6. Retire los objetos que pueden ser lanzados por la cuchilla. 7. No opere la máquina cuando hayan niños u otras personas alrededor. 8. No lleve a niños ni a otras personas en la máquina en ningún momento. 9. Antes de desmontar, desenganche el embrague de la toma de fuerza, baje el implemento, cambie a neutro, aplique el freno de estacionamiento, apague el motor y retire la llave. 10. Mantenga los dispositivos de protección (guardas, barreras de protección e interruptores) en su lugar y en buen estado de funcionamiento. 11. Para reducir los riesgos de incendio, mantenga el escape exento de hierba seca, hojas secas u otros materiales combustibles. 12. Esta máquina no está diseñada para uso en calles ni carreteras. 13. Use un soporte seguro para la máquina y el implemento antes de trabajar debajo de los mismos. |
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(5) Part No. K3131-6568-1

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| <p>⚠ CAUTION When Engine is running, do not open this cover.</p> |
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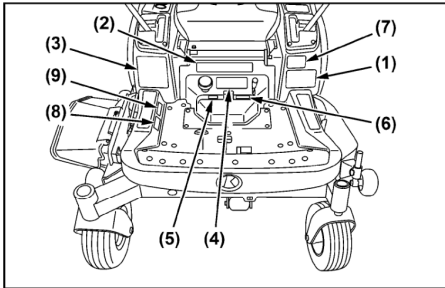
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(6) Part No. K3272-6569-1

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| <p>⚠ ATENCIÓN Nunca abra el capó mientras el motor está en funcionamiento.</p> |
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1BDABDNAP068A

Serial Number: ZG222SA: 57577, ZG222A: 57577, ZG227A: 55464, ZG227LA: A2887



(1) Part No. K3181-6585-1

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| <p>⚠ WARNING TO AVOID SERIOUS INJURY OR DEATH</p> <ol style="list-style-type: none"> 1. Park the machine on level ground. 2. If necessary to park on an incline, <ol style="list-style-type: none"> ⓐ Stop the machine. ⓑ Apply the parking brake. ⓒ Stop the engine. <p>If you stop the engine on an incline without applying the parking brake, the machine could move and runaway.</p> <ol style="list-style-type: none"> 3. If the engine stops suddenly during operation, apply the parking brake immediately to prevent machine runaway. | <p>⚠ ADVERTENCIA PARA EVITAR LESIONES PERSONALES GRAVES O LA MUERTE</p> <ol style="list-style-type: none"> 1. Estacione la máquina en la tierra del nivel. 2. Si es necesario estacionar en una cuesta, <ol style="list-style-type: none"> ⓐ Apague la máquina. ⓑ Aplique el freno de estacionamiento. ⓒ Luego apague el motor. <p>Si apaga el motor en una cuesta sin aplicar el freno de estacionamiento, la máquina puede moverse sin control.</p> <ol style="list-style-type: none"> 3. Si la máquina se detiene repentinamente durante la operación, enganche el freno de estacionamiento inmediatamente para evitar la pérdida de control. |
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(2) Part No. K3271-6585-1

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| <p>⚠ CAUTION TO AVOID PERSONAL INJURY</p> <ol style="list-style-type: none"> 1. Read and understand the operator's manual before operation. 2. Do not operate this machine unless you are trained. 3. Before allowing other people to use the machine, have them read the operator's manual. 4. Check the tightness of all nuts and bolts regularly. 5. Before starting the engine, make certain that everyone is at a safe distance from the machine. PTO is disengaged and motion control levers are in neutral lock. 6. Remove objects that could be thrown by the blade. 7. Do not operate the machine when children and/or others are around. 8. Do not carry children or others on the machine at any time. | <ol style="list-style-type: none"> 9. Before dismounting/disengage PTO clutch, lower the implement, place motion control levers in neutral lock position, set the parking brake, stop the engine and remove the key. 10. Keep safety devices (guards, shields, and switches) in place, and working. 11. To reduce the fire hazard, keep the exhaust clear of dry grass, dry leaves or other combustible materials. 12. This machine is not for street or highway use. 13. Securely support the machine and implement before working underneath. |
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1BDABCYAP063A

(3) Part No. K3271-6581-1

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| <p>⚠ WARNING TO AVOID SERIOUS INJURY OR DEATH</p>  <ol style="list-style-type: none"> 1. Mow across slopes-Not up and down. 2. Use extreme caution when operating on slopes. 3. Loss of traction may occur when operating on slopes. 4. Drive slowly on slopes. 5. Do not operate on wet slopes. 6. Avoid sudden starts. 7. Execute turns slowly. | <p>⚠ ADVERTENCIA PARA EVITAR LESIONES PERSONALES GRAVES O LA MUERTE</p> <ol style="list-style-type: none"> 1. Corte el césped de manera transversal en las colinas -No de arriba hacia abajo. 2. Tenga mucho cuidado durante la operación en colinas. 3. Se puede perder tracción durante la operación en colinas. 4. Conduzca lentamente en las colinas. 5. No use la máquina en colinas húmedas. 6. Evite arranques súbitos. 7. Realice las vueltas lentamente. |
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1BDABCYAP064A

(6) Part No. K3272-6569-1

⚠ ATENCIÓN

Nunca abra el capó mientras el motor está en funcionamiento.

1BDABDNAP068A

(4) Part No. K3272-6587-1

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| <p>⚠ ATENCIÓN PARA EVITAR LESIONES PERSONALES</p> <ol style="list-style-type: none"> 1. Lea y entienda el manual del operador antes de elegir la operación. 2. No opere en funcionamiento la máquina a menos que esté capacitado para hacerlo. 3. Antes de permitir que otras personas usen la máquina, inclúyelas con el manual del operador. 4. Verifique con regularidad el apriete de todas las tuercas y tornillos. 5. Antes de arrancar el motor, asegúrese de que todos estén a una distancia segura de la máquina. La toma de fuerza debe estar desactivada y los salidas de control de movimiento bloqueadas en neutro. 6. Retire los objetos que puedan ser lanzados por la cuchilla. 7. No opere la máquina cuando hayan niños u otras personas alrededor. 8. No lleve a niños ni a otras personas en la máquina en ningún momento. 9. Antes de desmontar, desenganche el embrague de la toma de fuerza, baje el implemento, cambie a neutro, aplique el freno de estacionamiento, apague el motor y retire la llave. 10. Mantenga los dispositivos de protección (guardas, barreras de protección e interruptores) en su lugar y en buen estado de funcionamiento. 11. Para reducir los riesgos de incendio, mantenga el escape limpio de hierba seca, hojas secas y otros materiales combustibles. 12. Esta máquina no está diseñada para uso en calles ni carreteras. 13. Use un soporte seguro para la máquina y el implemento antes de trabajar debajo de los mismos. |
|---|

1BDABDNAP067A

(7) Part No. K3271-6571-1

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|--|--|
| <p>⚠ WARNING</p> <p>Operation of this equipment may create sparks that can start fires around dry vegetation. A spark arrester may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.</p> | <p>⚠ ADVERTENCIA</p> <p>La operación de este equipo puede generar chispas que pueden iniciar incendios en cercanías de vegetación seca. Podría requerirse un parachispas. El operador debería contactar a las agencias de bomberos locales para informarse sobre leyes o normas relacionadas con los requisitos de prevención de incendios.</p> |
|--|--|

1BDABCQAP1570

(5) Part No. K3131-6568-1

⚠ CAUTION

When Engine is running, do not open this cover.

1BDABDEAP024A

(8) Part No. K3441-6598-1

Propuesta 65 de California

⚠ ADVERTENCIA ⚠

Los gases de escape de motor, algunos de sus elementos, y unos componentes y fluidos del vehículo contienen o despiden productos químicos conocidos por el Estado de California que causan el cáncer, los defectos de nacimiento o el otro daño reproductivo.

1BDABENAP115B

(9) Part No. K3441-6596-1

California Proposition 65

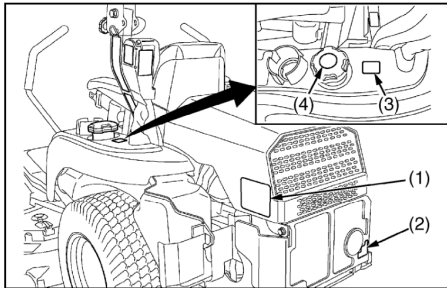
⚠ WARNING ⚠

Engine exhaust, some of its constituents, certain vehicle components and fluids, contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

1BDABENAP115A

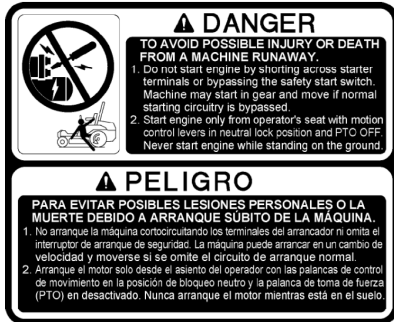
9Y12105931CI006US

9Y12105931NI009US0



(1) Part No. K3271-6583-1

(2) Part No. K3272-6532-1



1BDABCYAP066A



1BDABDNAP069A

(3) Part No. K3271-6562-2

(4) Part No. K3272-24812

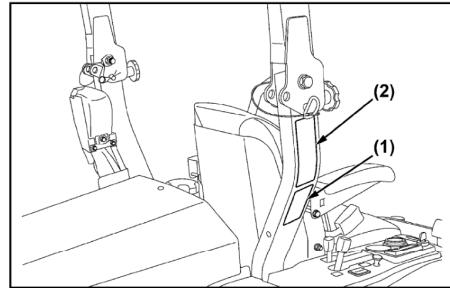
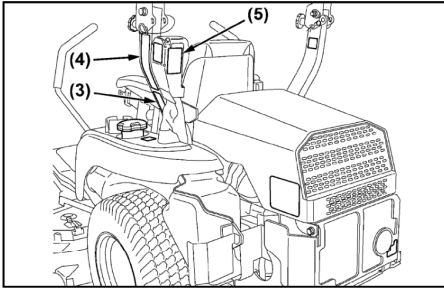
Gasoline fuel only No fire



1BDABCYAP068A



1BDAHAMAP005A



(1) Part No. K3181-6564-1

⚠ WARNING
Never modify or repair a ROPS because welding, grinding, drilling, or cutting any portion may weaken the structure.

⚠ CAUTION
TO AVOID PERSONAL INJURY WHEN RAISING OR FOLDING ROPS:

1. Set parking brake and stop engine.
2. Remove any obstruction that may prevent raising or folding of the ROPS.
3. Do not allow any bystanders.
4. Always perform function from a stable position at the rear of the tractor.
5. Hold the top of the ROPS securely when raising or folding.
6. Make sure all pins are installed and locked.

1BDABCQAP100A

(5) Part No. K3282-6574-1

⚠ ATENCIÓN
PUEDA HABER FUGAS DE COMBUSTIBLE
Abertura de ventilación del tanque de combustible situada dentro de la cubierta de la ROPS. La retirada o la modificación de la ROPS y/o la cubierta podría causar fugas de combustible y violar las normas relacionadas con las emisiones de gases.
-No retire ni modifique la ROPS y/o la cubierta de ninguna forma.

1BDABDNAP072A

(2) Part No. K3181-6563-1

⚠ WARNING

TO AVOID PERSONAL INJURY OR DEATH FROM ROLL-OVER:

1. Keep Roll-Over Protective Structures (ROPS) in the upright and locked position.
2. Fasten SEAT BELT before operating.

THERE IS NO OPERATOR PROTECTION WHEN THE ROPS IS IN THE FOLDED POSITION.

1. Check the operating area and fold the ROPS only when absolutely necessary.
2. Do not wear SEAT BELT if ROPS is folded.
3. Raise and lock ROPS as soon as vertical clearance allows.
4. Read ROPS related instructions and warnings.

1BDABCQAP101A

(3) Part No. K3282-6566-1

⚠ ADVERTENCIA
Nunca modifique ni repare una estructura de protección contra volcaduras (ROPS) por sus siglas en inglés porque soldar, esmerilar, perforar o cortar cualquier parte puede debilitar la estructura.

⚠ ATENCIÓN
PARA EVITAR LESIONES PERSONALES AL ELEVAR O PLEGAR LA ESTRUCTURA DE PROTECCIÓN CONTRA VOLCADURAS:

1. Ponga el freno de estacionamiento para detener el motor.
2. Retire cualquier obstrucción que pueda impedir la elevación o plegado de la estructura de protección contra volcaduras.
3. No permita la presencia de otras personas.
4. Siempre realice la función desde una posición estable en la parte posterior del tractor.
5. Mantenga fija de manera segura la parte superior de la estructura de protección contra volcaduras durante la elevación o plegado.
6. Asegúrese de que todos los pines estén instalados y bloqueados.

1BDABDNAP070A

(4) Part No. K3181-6565-1

⚠ ADVERTENCIA

PARA EVITAR LESIONES PERSONALES O LA MUERTE PRODUCIDAS POR VOLCADURAS:

1. Mantenga las estructuras de protección contra volcaduras (ROPS por sus siglas en inglés) en posición vertical y bloqueada.
2. Plegarse el CINTURÓN DE SEGURIDAD antes de la operación.

EL OPERADOR NO TIENE PROTECCIÓN CUANDO LA ESTRUCTURA DE PROTECCIÓN CONTRA VOLCADURAS ESTÁ EN LA POSICIÓN PLEGADA

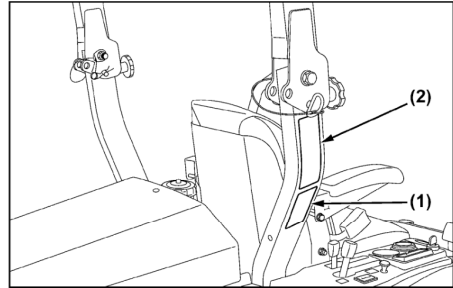
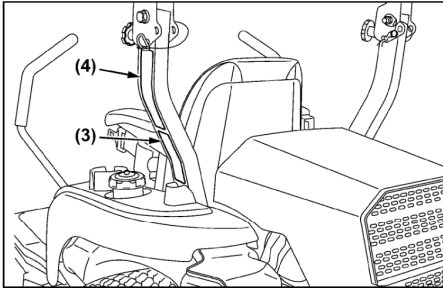
1. Revise el área de operación y pliegue la estructura de protección contra volcaduras sólo cuando sea absolutamente necesario.
2. No use el CINTURÓN DE SEGURIDAD si la estructura de protección contra volcaduras está plegada.
3. Enroje y bloquee la estructura de protección contra volcaduras tan pronto como lo permita el espacio libre vertical.
4. Lea las instrucciones y advertencias relacionadas a la estructura de protección contra volcaduras.

1BDABCQAP134A

9Y1210593ICI011US

9Y1210593INI0003US0

ZG222A-AU, ZG227A-AU



(1) Part No.
K3181-6564-1

⚠ WARNING
Never modify or repair a ROPS because welding, grinding, drilling or cutting any portion may weaken the structure.

⚠ CAUTION
TO AVOID PERSONAL INJURY WHEN RASING OR FOLDING ROPS:
1. Set parking brake and stop engine.
2. Remove any obstruction that may prevent raising or folding of the ROPS.
3. Do not allow any bystanders.
4. Always perform function from a stable position at the rear of the tractor.
5. Hold the top of the ROPS securely when raising or folding.
6. Make sure all pins are installed and locked.

1BDABCQAP100A

(2) Part No.
K3181-6563-1

⚠ WARNING

TO AVOID PERSONAL INJURY OR DEATH FROM ROLL-OVER:
1. Keep Roll-Over Protective Structures (ROPS) in the upright and locked position.
2. Fasten SEAT BELT before operating.

THERE IS NO OPERATOR PROTECTION WHEN THE ROPS IS IN THE FOLDED POSITION.
1. Check the operating area and fold the ROPS only when absolutely necessary.
2. Do not wear SEAT BELT if ROPS is folded.
3. Raise and lock ROPS as soon as vertical clearance allows.
4. Read ROPS related instructions and warnings.

1BDABCQAP101A

(3) Part No.
K3282-6566-1

⚠ ADVERTENCIA
Nunca modifique ni repare una estructura de protección contra volcaduras ROPS, por que si las se modifican o se cortan, cualquier parte puede debilitar la estructura.

⚠ ATENCIÓN
PARA EVITAR LESIONES PERSONALES AL ELEVAR O PLEGAR LA ESTRUCTURA DE PROTECCIÓN CONTRA VOLCADURAS:
1. Poner el freno de estacionamiento para detener el motor.
2. Retirar cualquier obstrucción que pueda impedir la elevación o plegado de la estructura de protección contra volcaduras.
3. No permitir la presencia de otras personas.
4. Siempre realice la función desde una posición estable en la parte posterior del tractor.
5. Mantenga fija de manera segura la parte superior de la estructura de protección contra volcaduras durante la elevación o plegado.
6. Asegúrese de que todos los pines estén instalados y bloqueados.

1BDABDNAP070A

(4) Part No.
K3181-6565-1

⚠ ADVERTENCIA

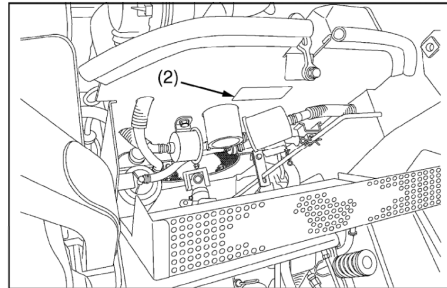
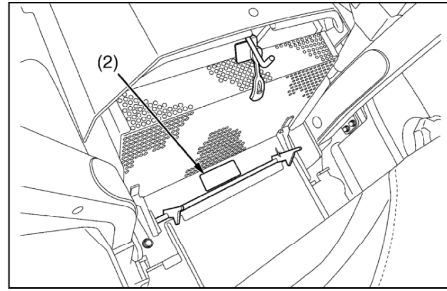
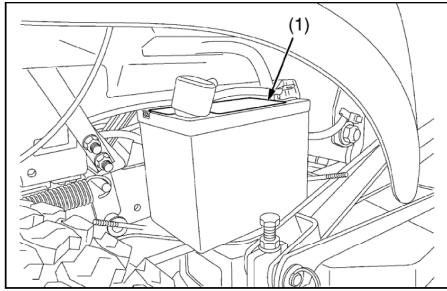
PARA EVITAR LESIONES PERSONALES O LA MUERTE PRODUCIDAS POR VOLCADURAS:
1. Mantenga las estructuras de protección contra volcaduras (ROPS) por sus ligas en ángulo en posición vertical y bloqueada.
2. Póngase el CINTURÓN DE SEGURIDAD antes de la operación.

EL OPERADOR NO TIENE PROTECCIÓN CUANDO LA ESTRUCTURA DE PROTECCIÓN CONTRA VOLCADURAS ESTÁ EN LA POSICIÓN PLEGADA.
1. Revise el área de operación y limpie la estructura de protección contra volcaduras solo cuando sea absolutamente necesario.
2. No use el CINTURÓN DE SEGURIDAD si la estructura de protección contra volcaduras no está en posición vertical.
3. Evite y bloquee la estructura de protección contra volcaduras por su parte superior en posición firme vertical.
4. Lea los instructivos y advertencias relacionadas a la estructura de protección contra volcaduras.

1BDABCQAP134A

9Y1210119ICI009US

9Y12105931INI0013US0



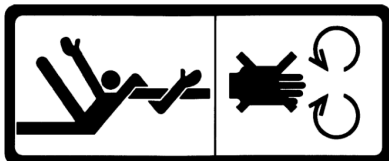
(1) Part No. K1221-6118-1

| | | |
|--|--|--|
| <p>MAINTENANCE FREE • SANS ENTRETIEN • LIBRE DE MANTENIMIENTO</p> <p>⚠ DANGER/POISON ¡PELIGRO/VENENO!</p> | | |
| <p>SHIELD EYES. EXPLOSIVE GASES CAN CAUSE BLINDNESS OR INJURY.</p> | <p>NO SPARKS, FLAMES, OR SMOKING.</p> | <p>SULFURIC ACID CAN CAUSE BLINDNESS OR SEVERE BURNS.</p> |
| <p>PROTÉGEZ LES YEUX. LES GAZ EXPLOSIFS PEUVENT BLESSEZ OU RENDRE AVEUGLE.</p> | <p>ÉVITER LES ÉTINCELLES, LES FLAMMES, L'ACIDE, LE TABAC.</p> | <p>FLUSH EYES IMMEDIATELY WITH WATER. GET MEDICAL HELP FAST.</p> |
| <p>PROTEJA LOS OJOS. LOS GASES EXPLOSIVOS PUEDEN CAUSAR DAÑOS O CEGUERA.</p> | <p>NO CHISPAS, FLAMAS, CIGARROS, NI FUMAR.</p> | <p>ENJUAGUE LOS OJOS INMEDIATAMENTE CON AGUA. ACUDA RÁPIDO CON EL MÉDICO.</p> |
| <p>KEEP OUT OF THE REACH OF CHILDREN. DO NOT TIP. DO NOT OPEN BATTERY! TENIR FORA DE LA PORTÉE DES ENFANTS. NE PAS RENVERSER. NE PAS OUVRIR LA BATTERIE! ALÉJASE DEL ALCANCE DE LOS NIÑOS. NO VOLTEAR. (NO ABRIR LA BATERIA)</p> | | |
| <p>CALIFORNIA PROPOSITION 65 WARNING: Batteries, battery posts, terminals and related accessories contain lead and lead compounds and other chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. WASH HANDS AFTER HANDLING.</p> | | |
| <p>1BDABDMAP013A</p> | | <p>PART NO. CCA CA Pb</p> |

DANGER / POISON

- SHIELD EYES
- EXPLOSIVE GASES can cause blindness or injury.
- NO SPARKS / FLAMES / SMOKING
- SULFURIC ACID can cause blindness or severe burns.
- Flush eyes immediately with water.
- Get medical help fast.

(2) Part No. K3271-6586-1



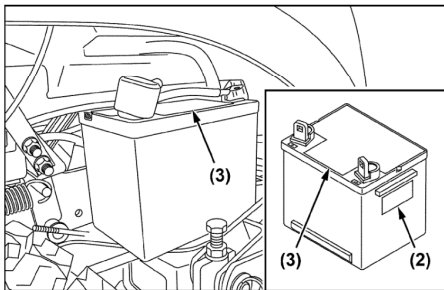
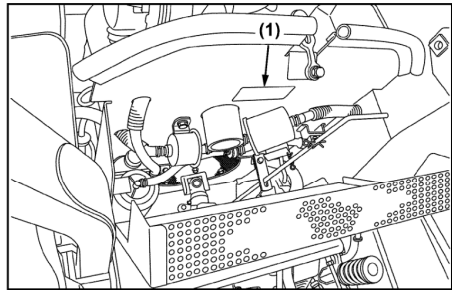
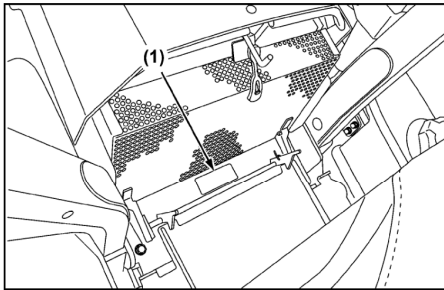
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9Y1210593IC1004US

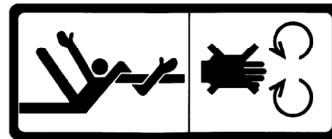
9Y1210593INI0004US0

ZG222A-AU, ZG227A-AU

Serial Number: ZG222SA: 57409, ZG222A: 57409, ZG227A: 55230, ZG227LA: A2782



(1) Part No. K3271-6586-1



1BDABBSAP0110

(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. **LÁVASE 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

1A1AACPA080A

(3) Part No. K1221-6113-2

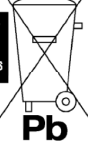
| | |
|--|--|
| ▲ DANGER/POISON ▲ PELIGRO/VENENO ▲ | |
| <p>SHIELD EYES. EXPLOSIVE GASES CAN CAUSE BLINDNESS OR INJURY. PROTÉGEZ LES YEUX. LES GAZ EXPLOSIFS PEUVENT BLESSER OU ENDRENDRE VOTRE VUE. PROTEJA LOS OJOS. LOS GASES EXPLOSIVOS PUEDEN CAUSAR DAÑOS O CEGUEZA.</p> | <p>NO SPARKS / FLAMES / SMOKING LES ÉTINCELLES / LES FLAMMES / DE FUMER CHISPAS / FLAMAS / CIGARRITOS</p> |
| <p>KEEP OUT OF THE REACH OF CHILDREN. TENIR HORS DE LA PORTÉE DES ENFANTS. ALÉJASE DEL ALCANCE DE LOS NIÑOS.</p> | <p>READ ALL INSTRUCTIONS. LIRE TOUTES LES INSTRUCTIONS. LES TODAS LAS INSTRUCCIONES.</p> |
| <p>WARNING: RISK OF FIRE EXPLOSION OR BURST. DO NOT DISASSEMBLE OR INCINERATE. NOT RECOMMENDED FOR INVERTED USE. FOLLOW PROPER CHARGING INSTRUCTIONS.</p> | <p>ADVERTISSEMENT: RISQUE D'INCENDIE, D'EXPLOSION OU DE BRÛLURES. NE PAS DÉMONTÉ OU INCINÉRER. NON RECOMMANDÉ POUR UNE UTILISATION INVERTIE. SUIVEZ ATTENTIVEMENT LES INSTRUCTIONS DE CHARGEMENT.</p> |
| <p>DO NOT OPEN BATTERY! DO NOT TIP! NE PAS OUVRIR LA BATTERIE! NE PAS RENVERSER. (NO ABRIR LA BATERIA! NO VOLTAR.</p> | <p>FLUSH EYES IMMEDIATELY WITH WATER. GET MEDICAL HELP FAST. RINCEZ LES YEUX À L'EAU IMMÉDIATEMENT. CONSULTEZ UN MÉDECIN RAPIDEMENT. EXUJABE LOS OJOS INMEDIATAMENTE CON AGUA. ACUDA RÁPIDO CON EL MÉDICO.</p> |
| <p>Dist. by Apco/Par EPM Products, 9105 Yellowbrick Rd. Baltimore, MD 21237 410-682-6361</p> | <p>Made in USA with 100% recycled materials. Fabricado en los EE. UU. con materiales 100% reciclados y recuperados. Fabricado nos Estados Unidos con 100% materiales reciclados y recuperados.</p> |

1A1AACPA081A

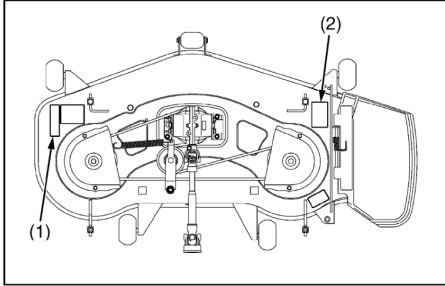
9Y1210593ICI007US

DANGER / POISON

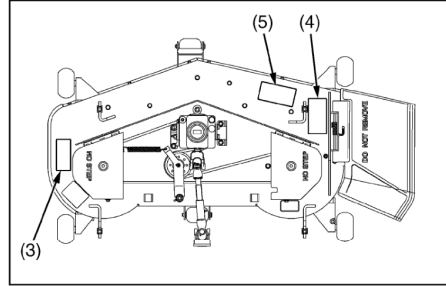
- SHIELD EYES
EXPLOSIVE GASES can cause blindness or injury.
- NO SPARKS / FLAMES / SMOKING
- SULFURIC ACID can cause blindness or severe burns.
- Flush eyes immediately with water.
- Get medical help fast.



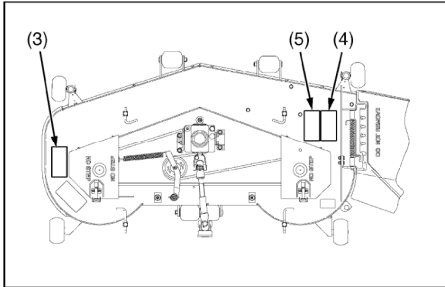
[RCK48S]



[RCK48P, RCK54P]



[RCK60P]



(1) Part No. K5617-7311-1



1BDABBSAP0030

(2) Part No. K5617-7312-1



1BDABBSAP0020

(3) Part No. K5681-7312-2



1BDACAEAP015B

(4) Part No. K5681-7311-2



1BDACAEAP016B

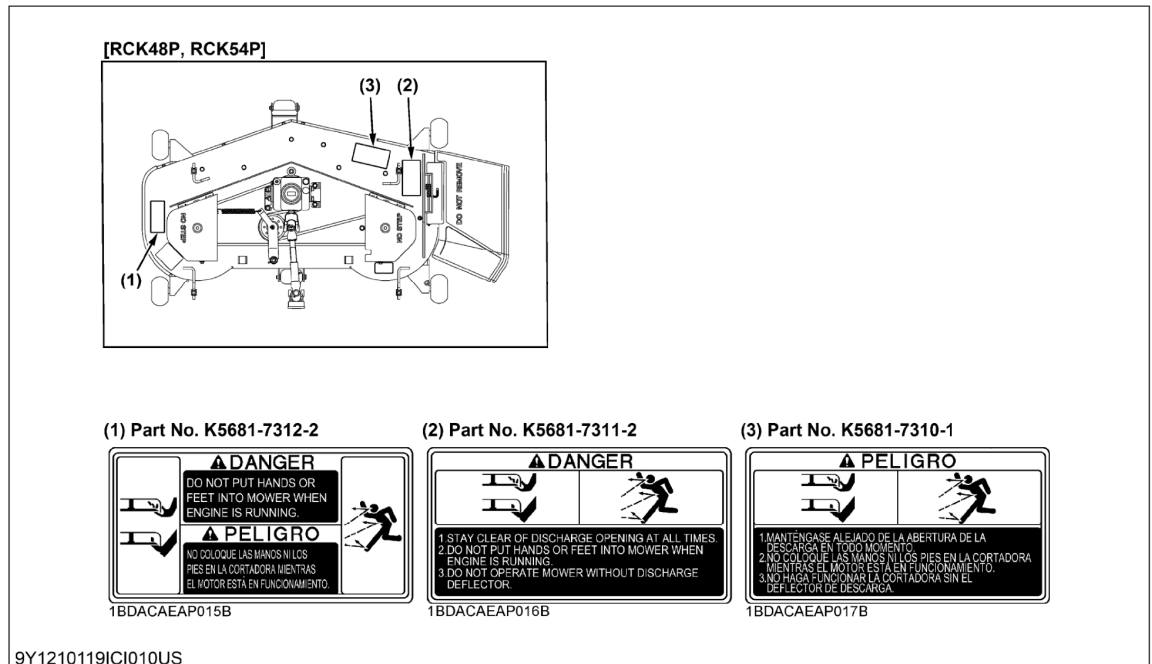
(5) Part No. K5681-7310-1



1BDACAEAP017B

9Y1210593ICI005US

9Y1210593INI0005US0

ZG222A-AU, ZG227A-AU**CARE OF THE SAFETY LABELS**

1. Keep the safety labels clean and free from obstructing material.
2. Clean the safety labels with soap and water, dry with a soft cloth.
3. Replace damaged or missing safety labels with new labels
4. If a component with safety 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 safety labels by applying on a clean dry surface and pressing any bubbles to outside edge.

9Y1210365INI0005US0

3. SPECIFICATIONS

[1] NORTH AMERICA AND CANADA MODELS

| Model | | ZG222SA | ZG222A | ZG227A | ZG227LA | |
|--------------------------|---|---|--|----------------------------------|----------------------------|-------------------|
| Engine | Model | KGZ770-E2-MA3 | | KGZ770-E2-MA2 | | |
| | Maximum engine power (Gross) | 16.4 kW (22 HP)* ¹ | | 20.1 kW (27 HP)* ¹ | | |
| | Type | Air-cooled gasoline engine | | | | |
| | Number of cylinders | 2 (V-Twin) | | | | |
| | Bore and stroke | 84.2 × 69 mm (3.31 × 2.72 in.) | | | | |
| | Total displacement | 768 cm ³ (46.9 cu.in.) | | | | |
| | Rated revolution | 3200 min ⁻¹ (rpm) | | | | |
| | Fuel | Automobile unleaded or regular gasoline | | | | |
| | Starter | Electric starter with battery | | | | |
| | Lubrication | Full pressure lubrication | | | | |
| | Cooling | Forced air cooled | | | | |
| Battery | U1-10 (12 V, RC: 22 min, CCA: 300, CA: 365) | | | | | |
| Capacities | Fuel tank | 27 L (7.1 U.S.gals, 5.9 Imp.gals) | | | | |
| | Engine crankcase (with filter) | 1.8 L (1.9 U.S.qts, 1.6 Imp.qts) | | 2.0 L (2.1 U.S.qts, 1.8 Imp.qts) | | |
| | Transmission including rear axle gear case | 7.5 L (7.9 U.S.qts, 6.6 Imp.qts) ³ | | | | |
| Dimensions | Overall length | 2096 mm (82.5 in.) | | | 2126 mm (83.7 in.) | |
| | Overall width Without mower deck | 1210 mm (47.7 in.) | | | | |
| | Overall height | With ROPS upright | 1775 mm (69.9 in.) | | | |
| | | With ROPS folded | 1340 mm (51.9 in.) | | | |
| | Wheel base | 1295 mm (51.0 in.) | | | 1325 mm (52.2 in.) | |
| | Minimum ground clearance | 130 mm (5.12 in.) with 48S, 48P | | 130 mm (5.12 in.) with 54P | 130 mm (5.12 in.) with 60P | |
| | Tread | Front | 870 mm (34.3 in.) | | | 905 mm (35.6 in.) |
| Rear | | 930 mm (36.3 in.) | | | | |
| Weight (with Mower Deck) | | 500 kg (1102 lbs) with 48S | 530 kg (1168 lbs) with 48P | 540 kg (1190 lbs) with 54P | 560 kg (1235 lbs) with 60P | |
| Travelling system | Tires | Front | 13 × 5.0-6 (4PR) Rib | | | |
| | | Rear | 23 × 10.5-12 (4PR) Turf | | | |
| | Travelling speeds | Forward | 0 to 9.0 km/h (0 to 14.5 mph) ² | | | |
| | | Reverse | 0 to 5.0 km/h (0 to 8.0 mph) ² | | | |
| | Steering | 2-Hand levers | | | | |
| | Transmission | 2-Hydrostatic transmission with gear | | | | |
| | Parking brake | Wet multi disc / foot applied, released | | | | |
| Min. turning radius | 0 mm (0 in.) | | | | | |
| PTO | Revolution | 1 speed (2530 rpm at 3200 engine rpm) | | | | |
| | Drive system | Shaft drive, KUBOTA 10 tooth in involute spline | | | | |
| | Clutch type | Wet multi discs | | | | |
| | PTO brake | Wet single disc | | | | |

■ NOTE

- Specifications and design subject to change without notice.

*1: Power (HP) specifications for individual gasoline engine models are rated pursuant to Society of Automobile Engineers (SAE) J1940 based on gross output testing performed in accordance with SAE J1995 without the air cleaner and muffler.

*2: At 3200 min⁻¹ (rpm)

*3: Oil amount when the oil level is at the upper level.

| Model | | RCK48S-222Z | RCK48P-222Z | RCK54P-227Z | RCK54P-227Z |
|---|------------------------------|--|--|--|--|
| PRO commercial deck (fabricated deck) | Suitable machine | ZG222SA | ZG222A | ZG227A | ZG227LA |
| | Mounting method | Quick joint, parallel linkage | | | |
| | Adjustment of cutting height | Dial gauge | | | |
| | Cutting width | 1225 mm (48 in.) | | 1375 mm (54 in.) | 1524 mm (60 in.) |
| | Cutting height | 25 to 127 mm (1.0 to 5.0 in.) | | | |
| | Weight (approx.) | 83 kg (183 lbs) | 106 kg (234 lbs) | 119 kg (262 lbs) | 134 kg (295 lbs) |
| | Blade spindle speed | 58.0 r/s (3480 min ⁻¹ (rpm)) ^{*4} | 64.8 r/s (3890 min ⁻¹ (rpm)) ^{*4} | 58.0 r/s (3480 min ⁻¹ (rpm)) ^{*4} | 56 r/s (3360 min ⁻¹ (rpm)) ^{*4} |
| | Blade tip velocity | 77.3 m/s (15200 fpm) ^{*4} | 86.4 m/s (17000 fpm) ^{*4} | 86.6 m/s (17000 fpm) ^{*4} | 92 m/s (18100 fpm) ^{*4} |
| | Blade length | 424 mm (16.7 in.) | | 475 mm (18.7 in.) | 523 mm (20.6 in.) |
| | Number of blades | 3 | | | |
| | Dimensions | Total length | 890 mm (35.0 in.) | 880 mm (34.6 in.) | 925 mm (36.4 in.) |
| Total width | | 1550 mm (61.0 in.) | 1552 mm (61.1 in.) | 1710 mm (67.3 in.) | 1911 mm (75.2 in.) |
| Total height | | 340 mm (13.3 in.) | | | |

■ **NOTE**

- ***4: Engine max rpm.**

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