"Required reading" Read this manual and the Owner's Manual for the engine before using the machine.
Thank you for purchasing the Baroness machine. This manual explains proper handling, adjustment, and inspection of your machine. Prior to use, carefully read this manual to thoroughly understand the contents for safe and correct operation. We hope you will use the machine safely, and take advantage of its best performance.

**Keeping the Owner's Operating Manual**

Keep this Owner's Operating Manual in the box located in the rear of the seat.
Introduction

Read this manual carefully to ensure that you thoroughly understand how to properly operate and maintain this machine, and to avoid causing injury to yourself or others.

The operator is responsible for operating the machine properly and safely.

Do not perform maintenance on the machine other than that described in this manual.

Be sure to also read the operating manuals for the engine, battery, etc.

Maintenance should only be performed by a certified specialist.

If you have any questions concerning maintenance or genuine parts, please contact Kyoeisha or your local Baroness dealer.

When making inquiries about this machine, please specify the machine's model designation and serial number.

When loaning or transferring this machine, please also provide the Owner's Operating Manual together with the machine.

Kyoeisha Co., Ltd.

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Caution

The information described in this manual is subject to change for improvement without prior notice.

When replacing parts, be sure to use genuine Baroness parts or parts designated by Kyoeisha.

Note that the Baroness product warranty may not apply to defects caused by the use of parts from other companies.

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Warning Symbols

This manual uses the following warning symbols for handling precautions that are important for your safety.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Danger" /></td>
<td>This symbol indicates that serious injury or death will occur if the warning is ignored.</td>
</tr>
<tr>
<td><img src="image" alt="Warning" /></td>
<td>This symbol indicates that serious injury or death may occur if the warning is ignored.</td>
</tr>
<tr>
<td><img src="image" alt="Caution" /></td>
<td>This symbol indicates that injury or damage to property may occur if the warning is ignored.</td>
</tr>
<tr>
<td><img src="image" alt="Important" /></td>
<td>This symbol indicates precautions on the mechanism of the machine.</td>
</tr>
</tbody>
</table>
Purpose

This machine is intended for cutting turf grass at golf courses. Do not use this machine in any way other than its intended purpose, and do not modify the machine. Operating this machine for other purposes and modifying it may be very dangerous and may cause damage to the machine. In addition, this machine is not authorized for operation as a special motor vehicle. Do not operate it on public roads.
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Failure to adequately follow these safety precautions may cause an accident resulting in injury or death.

**Danger**

This machine is designed to ensure safe operation and has been tested and inspected thoroughly before shipment from the factory. The machine is equipped with safety devices to prevent accidents. However, whether the machine demonstrates its original performance level depends on the manner in which it is operated and handled, as well as the manner in which it is managed on a daily basis. Inappropriate use or management of the machine may result in injury or death. Observe the following safety instructions to ensure safe operation.

**Safe Operating Practices**

The following instructions include the ones from CEN standard EN 836: 1997, ISO standard 5395: 1990, and ANSI B71.4-2004.

**Training**

1. Read the Owner's operating Manual and other training material carefully. Be familiar with the controls, safety signs, and the proper use of the equipment.
2. If the operator or mechanic can not read English it is the owner's responsibility to explain this material to them.
3. All operators and mechanics should seek and obtain professional and practical instruction.
   The owner is responsible for training the users.
   Such instruction should emphasize.
   [1] The need for care and concentration when working with ride-on machines.
   [2] Control of a ride-on machine sliding on a slope will not be regained by the application of the brake. The main reasons for loss of control are
   - Insufficient wheel grip
   - Being driven too fast
   - Inadequate braking
   - The type of machine is unsuitable for its task

4. Never allow children or people unfamiliar with these instructions to use or service the machine.
   Local regulations may restrict the age of the operator.

5. The owner/use can prevent and is responsible for accidents or injuries occurring to themselves, other people, or property.

6. Keep in mind that the owner, operator, and mechanic are responsible for accidents or hazards occurring to other people or their property.

**Preparation**

1. Evaluate the terrain to determine what accessories and attachments are needed to properly and safely perform the job.
   Only use accessories and attachments approved by the manufacturer.
2. While operating, always wear substantial footwear, long trousers, hard hat, safety glasses, and ear protection.
   Long hair, loose clothing, or jewelry may get tangled in moving parts.
   Do not operate the equipment when barefoot or wearing open sandals.
3. Inspect the area where the equipment is to be used and remove all objects such as rocks, toys and wire which can be thrown by the machine.
4. Exercise care in the handling of fuel.

**Warning**

Warning-Fuel is highly flammable. Take the following precautions.

[1] Store fuel in containers specifically designed for this purpose.
   Never remove the cap of the fuel tank or add fuel while the engine is running or when the engine is hot.
[3] Refuel outdoors only and do not smoke while refueling.
[4] If fuel is spilled, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until petrol vapours have dissipated.

5. Check that operator’s presence controls, safety switches and shields are attached and functioning properly.
Do not operate unless they are functioning properly.

6. If the brake operation is faulty or the parking brake lever has noticeable play, be sure to adjust or repair them before operating the machine.

7. Replace faulty mufflers.

8. Before using, always visually inspect to see that the blades, blade bolts, and cutting assembly are not worn or damaged.
Replace worn or damaged blades and bolts in sets to preserve balance.

9. On multi-blanded machines, take care as rotating one blade can cause other blades to rotate.

**Operation**

1. Do not operate the engine in a confined space where dangerous carbon monoxide fumes can collect.

2. Only operate in good light, keeping away from holes and hidden hazards.

3. Before attempting to start the engine, disengage all attachments, shift into neutral, and engage the parking brake.
Only start engine from the operator's position.
Use seat belts if provided.

4. Remember there is no such thing as a safe slope.
Travel on grass slopes requires particular care.
To guard against overturning:
[1] Do not stop or start suddenly when going up or downhill.


[5] Never operate across the face of the slope, unless the machine is designed for this purpose.

[6] Never drive the machine on a slope with an angle of gradient that is greater than that specified or in a place where there is a danger of the machine slipping.

5. Never raise deck with the blades running.

6. Never operate with the discharge deflector raised, removed or altered, unless using a grass catcher.
Do not crawl under the machine while it is in operation.

7. Never operate with the discharge deflector raised, removed or altered, unless using a grass catcher.

8. Do not change the engine governor settings or overspeed the engine.
Operating the engine at excessive speed may increase the hazard of personal injury.

9. Do the following before leaving the operator's position.
[1] Stop on level ground.
[2] Disengage the power take-off and lower the attachments.
[3] Change into neutral and set the parking brake.
[4] Stop the engine and remove the key.

10. Disengage the drive to attachments, stop the engine, and remove the ignition key in the following conditions:
[2] Before removing the grass catcher/catchers;
[3] Before making height adjustment unless adjustment can be made from the operator's position:
[5] Before checking, cleaning or working the machine.
[6] After striking a foreign object or if an abnormal vibration occurs.
Inspect the machine for damage and make repairs before restarting and operating the equipment.

11. Keep hands and feet away from the cutting units and the rotating parts.
12. Look behind and down before backing up to be sure of a clear path.
13. Do not carry passengers.
14. Never operate while people, especially children, or pets are nearby.
15. Slow down and use caution when making turns and crossing roads and sidewalks.
16. Stop the blades rotating before crossing surfaces other than grass.
17. Disengage drive to attachments when transporting or not in use.
18. When using any attachments, never direct discharge of material toward bystanders nor allow anyone near the machine while in operation.
19. Do not operate the machine under the influence of alcohol or drugs.
20. Take care when loading or unloading the machine into a trailer or a truck.
   Load or unload the machine in a flat and safe place.
   Before loading or unloading, set the parking brake on the truck or trailer, stop the engine, and chock the wheels.
   When transporting the machine on a truck or a trailer, set the parking brake, stop the engine, and fasten the machine to the truck with a rope or other suitable restraining device that has sufficient strength.
   When using a running board, select one with sufficient strength, length, and width and that will not cause the machine to slip.
21. Close the fuel valve before transporting the machine.
22. Use care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.
23. Do not take your eyes off the road ahead.
   Do not operate the machine with no hands.
24. Reduce the throttle setting during engine run-out and, if the engine is provided with a shut-off valve, turn the fuel off at the conclusion of operation.

Maintenance and storage

1. Disengage drives on level ground, lower the attachments, set parking brake, stop engine and remove key from ignition.
   Wait for all movement to stop before adjusting, cleaning or repairing.
2. When machine is to be parked, stored, or left unattended, lower the cutting units unless a positive mechanical lock is provided.
3. To reduce the fire hazard, keep the engine, silencer/muffler, battery compartment fuel storage area, cutting units and drives free of grass, leaves, or excessive grease.
   Clean up oil or fuel spillage.
4. Allow the engine to cool before storing in any enclosure.
5. Only cover the machine with a sheet after hot parts have sufficiently cooled down.
6. Never store the equipment with fuel in the tank inside a building where fumes may reach an open flame or spark.
7. If the engine is provided with a shut-off valve, shut off valve while storing or transporting.
8. Do not store fuel near flames.
9. Never allow untrained personnel to service machine.
10. Allow the engine/muffler to cool before checking/maintenance.
11. Appropriately manage and correctly use the tools necessary for servicing or adjusting the machine.
12. Use jack stands to support components when required.
13. Carefully release pressure from components with stored energy.
14. Be sure to depressurize the hydraulic system before performing maintenance operations on it such as removing hydraulic equipment.
15. Check whether line connectors in the hydraulic system are properly tightened.
   Before applying hydraulic pressure, check the connections of the hydraulic pressure lines and the condition of the hoses.
16. When checking the hydraulic circuit for pinhole leaks or oil leakage from nozzles, do not use your hands.
   Use items such as paper or corrugated cardboard to find leakage points.
   Be extremely careful with high-pressure oil as it may pierce your skin, result.
   If fluid is injected into the skin it must be surgically removed within a few hours by a doctor familiar with this form of injury or gangrene may result.
17. Disconnect battery before making any repairs.
   Disconnect the negative terminal first and the positive last.
   Reconnect positive first and negative last.

18. Make sure that parts such as wires are not touching each other and that their covers have not come off.

19. Use care when checking the blades.
   [1] Wrap the blades or wear gloves, and use caution when servicing them.
   [3] Never straighten or weld them.

20. Keep hands and feet away from moving parts.
    If possible, do not make adjustments with the engine running.

21. Charge batteries in an open well ventilated area, away from spark and flames.
    Unplug charger before connecting or disconnecting from battery.
    Wear protective clothing and use insulated tools.

22. Keep all parts in good working condition and all hardware tightened.
    Replace all worn or damaged decals.

23. Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.

24. Check the grass catcher frequently for wear or deterioration.

25. If the fuel tank has to be drained, do this outdoors.
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Waste Disposal

About the Waste disposal

Make sure that waste generated when servicing or repairing the machine is disposed of in accordance with local regulations.
(e.g. waste oil, antifreeze batteries, rubber products, and wires etc.)
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## Specifications

### Dimensions

| Total length | 370 cm |
| Total width | During operation 300 cm  
|             | During transport 230 cm |
| Total height | Roof 230 cm  
|              | Handle 165 cm |

| Weight (exc lipids) | 1,975 kg (incl ROPS, ROOF) |
| Minimum turning radius | 320 cm |

### Engine

| Model          | Kubota V2403-M-T |
| Type           | Vertical water-cooled 4-cycle diesel engine with turbocharger |
| Total displacement | 2,434 cm³ (2.433 L) |
| Maximum output | 41.7 kW (56.7 PS)/2,600 rpm |

| Fuel tank capacity | Diesel 51.0 dm³ (51.0 L) |
| Fuel consumption  | 272 g/kW.h (rated output) |
| Quantity of engine oil | 9.7 dm³ (9.7 L) |
| Mowing width      | 280 cm |
| Mowing height     | 20 - 91.5 mm |
| Drive             | HST, 2WD/4WD selectable |

| Speed (HST) | Forward 0 - 14.8 km/h  
|            | Reverse 0 - 6.0 km/h |
| Speed (Mechanical) | - |

| Efficiency | 20,160 m²/h (9.0 km/h x mowing width x 0.8) |
| Maximum inclination for operation | 15 degrees |

| Tire size   | Front wheel 29 x 14.00 - 15  
|            | Rear wheel 20 x 12.00 - 10 |
| Tire pneumatic pressure | Front wheel 150 kPa (1.5 kgf/cm²)  
|                       | Rear wheel 140 kPa (1.4 kgf/cm²) |

| Battery | 105D31R |

* The factory default maximum engine rpm is 2,400 rpm.

### Sound pressure level

This machine was confirmed to have a continuous A-weighted sound pressure level of 89 dB by measuring identical machines in accordance with the procedure specified in ISO5395-1:2013.

### Sound power level

This machine was confirmed to have a sound power level of 105 dB by measuring identical machines in accordance with the procedure specified in directive 2000/14/EC.
Vibration level

Hand-arm vibration

This machine was confirmed to transmit a maximum vibration level of less than 2.5 m/s^2 to hands and arms by measuring identical machines in accordance with the procedure specified in ISO5349-1:2001,ISO5349-2:2001.

Whole body vibration

This machine was confirmed to transmit a maximum vibration level of 1.27 m/s^2 to the whole body by measuring identical machines in accordance with the procedure specified in ISO2631-1:1997,ISO2631-2:2003.

Names of Each Section

Serial Number Plate

The serial number plate indicates the name and serial number of the machine.
**Specification Decal**

The Specification decal indicates the CE logo, model name, and weight, etc.

![Specification Decal](image1)

**Noise Emission Decal**

The noise emission decal indicates the sound power level determined by measuring identical machines in accordance with the procedure specified in the EC directives.

![Noise Emission Decal](image2)

**Year of Manufacture Decal**

The year of manufacture decal indicates the year when this machine was manufactured.

![Year of Manufacture Decal](image3)

**Maintenance Decal**

The maintenance decal indicates the necessary inspection and maintenance items for this machine.

![Maintenance Decal](image4)

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**ROPS compliance decal**

ROPS compliance decal indicates the manufacturer of the fitted machine, the model, etc. in accordance with ISO21299:2009.
**Safety Signs and Instruction Signs**

**About Safety Signs and Instruction Signs**

**Warning**

Safety decals and instruction decals are attached to this machine. Make sure that they are preserved in their entirety. If they are damaged, become dirty, or peel off, replace them with new ones.

Part numbers for decals that need to be replaced are listed in the parts catalog. Order them from a Baroness dealer or Kyoeisha.

**Positions of Safety Decals and Instruction Decals**

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**Positions of Safety Decals and Instruction Decals**

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

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**Positions of Safety Decals and Instruction Decals_001**

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**Positions of Safety Decals and Instruction Decals_002**

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**Positions of Safety Decals and Instruction Decals_003**

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**Positions of Safety Decals and Instruction Decals_004**

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**Positions of Safety Decals and Instruction Decals_005**
### Explanation about Safety Decals and Instruction Decals

<table>
<thead>
<tr>
<th>Decal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GM2800-0941Z0</td>
<td>Decal, operation</td>
</tr>
<tr>
<td><strong>1.</strong></td>
<td><strong>Danger</strong></td>
</tr>
<tr>
<td></td>
<td>Flying objects - All persons other than the operator must keep a safe distance from the machine.</td>
</tr>
<tr>
<td><strong>2.</strong></td>
<td><strong>Warning</strong></td>
</tr>
<tr>
<td></td>
<td>Apply the parking brake, stop the engine, remove the ignition key, and then leave the machine.</td>
</tr>
<tr>
<td><strong>3.</strong></td>
<td><strong>Warning</strong></td>
</tr>
<tr>
<td></td>
<td>Read the Owner's Operating Manual.</td>
</tr>
<tr>
<td><strong>4.</strong></td>
<td><strong>Danger</strong></td>
</tr>
<tr>
<td></td>
<td>May cut your hand or leg - Keep hands and feet away from moving parts.</td>
</tr>
<tr>
<td><strong>5.</strong></td>
<td><strong>Danger</strong></td>
</tr>
<tr>
<td></td>
<td>Rollover - Do not work on slopes of 15 degrees or more. When you descend a slope, fasten your seatbelt, lower the mower units, and then drive at low speed.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Decal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>K4205001630</td>
<td>Decal, start/stop engine</td>
</tr>
<tr>
<td><strong>1.</strong></td>
<td><strong>Warning</strong></td>
</tr>
<tr>
<td></td>
<td>Read the Owner's Operating Manual.</td>
</tr>
<tr>
<td><strong>2.</strong></td>
<td>Procedure to Start Engine</td>
</tr>
<tr>
<td></td>
<td>Read the Owner's Operating Manual.</td>
</tr>
<tr>
<td>[1]</td>
<td>Sit on the seat.</td>
</tr>
<tr>
<td>[2]</td>
<td>Turn the key to the &quot;GLOW&quot; position, and then wait for the thermo-start lamp to turn off.</td>
</tr>
<tr>
<td>[3]</td>
<td>Turn the key to the &quot;START&quot; position.</td>
</tr>
<tr>
<td>[4]</td>
<td>Depress the brake pedal to release the parking brake.</td>
</tr>
<tr>
<td><strong>3.</strong></td>
<td>Procedure to Stop Engine</td>
</tr>
<tr>
<td></td>
<td>Read the Owner's Operating Manual.</td>
</tr>
<tr>
<td>[1]</td>
<td>Set the knife rotation switch to the &quot;OFF&quot; position, and then raise the mower units.</td>
</tr>
<tr>
<td>[3]</td>
<td>Turn the key to the &quot;STOP&quot; position, and then remove it.</td>
</tr>
</tbody>
</table>
### Safety Signs and Instruction Signs

<table>
<thead>
<tr>
<th>Page</th>
<th>Decal</th>
<th>Description</th>
</tr>
</thead>
</table>
| 3    | K4205001600 | Decal, caution for severe injury  
> **Danger**  
May cut your hand or leg - Stop the rotation and engine. Otherwise you may get injured. |
| 4    | K4205001540 | Decal, caution for high temperature  
> **Caution**  
High temperature - Do not touch. Otherwise, you will be burned. |
| 5    | K4205001580 | Decal, caution for pinching  
> **Caution**  
May pinch - There is a risk of being pinched. |
| 6    | K4205001530 | Decal, caution for rotating object  
> **Danger**  
Watch for rotating parts - Keep your hands away from the belts while the engine is running. |
| 7    | K4209000980 | Hydraulic oil icon  
Read the Owner’s Operating Manual. |
| 8    | K4209001000 | Fuel icon  
Use No. 2 diesel fuel. (Low sulfur or ultra-low sulfur diesel fuel only) |
<table>
<thead>
<tr>
<th>Page</th>
<th>Decal Image</th>
<th>Decal Code</th>
<th>Description</th>
<th>Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td><img src="qigqnx-041.png" alt="Decal" /></td>
<td>K4205001940</td>
<td>Decal, fire prohibited</td>
<td>Keep away from fire.</td>
</tr>
<tr>
<td>10</td>
<td><img src="qigqnx-067.png" alt="Decal" /></td>
<td>K4205001900</td>
<td>Decal, caution for mower lock</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td><img src="qigqnx-045.png" alt="Decal" /></td>
<td>K4205001970</td>
<td>Decal, caution for spouting coolant</td>
<td>Caution for spouting coolant - Do not open while hot.</td>
</tr>
<tr>
<td>12</td>
<td><img src="qigqnx-072.png" alt="Decal" /></td>
<td>K4205001710</td>
<td>Decal, caution for ROPS</td>
<td>Replace a damaged ROPS. Do not repair or alter. (Only if equipped with ROPS)</td>
</tr>
<tr>
<td>13</td>
<td><img src="qigqnx-011.png" alt="Decal" /></td>
<td>K4205001650</td>
<td>Decal, caution for flying object</td>
<td>Caution for flying object - When the blades are rotating, keep away from the machine. All bystanders must keep a safe distance from the machine.</td>
</tr>
<tr>
<td></td>
<td><img src="qigqnx-034.png" alt="Decal" /></td>
<td>K4205001780</td>
<td>Decal, caution for hand or leg injury</td>
<td>May cut your hand or leg - When the blades are rotating, keep away from the machine.</td>
</tr>
</tbody>
</table>
K4205001950
Decal, caution to exhaust gas

⚠️ Warning

Be careful of exhaust emissions.
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Inspection Before Use

Be sure to perform an inspection before you start using the machine so that you will be able to take advantage of its optimum performance for a long period of time.

Rotary Knife

Inspection of Rotary Knife

**Danger**
The rotary knife is an edged tool. Handle them carefully, since they could cut your hands or legs.

**Caution**
When touching edged tools, wear gloves, since they could cut your hands.

Due to frequent use, objects crushed during mowing, or damage during transportation and so forth, the rotary knife may vibrate from imbalance or become dull. Inspect the rotary knife, and if necessary, resharpen, balance or replace it.

**Important**
Frequently inspect the rotary knife since it may become dull quickly if the machine is operated in an environment of dry soil or sand.

1. Make sure that the rotary knife is not bent.
2. Make sure that the rotary knife is not chipped.
3. Check to see how much the rotary knife is worn.
4. Make sure that the rotary knife is not worn asymmetrically.
5. Make sure that the mounting bolt for the rotary knife is not loose.

6. Make sure that there are no cracks or tears between the sail and flat part of the rotary knife.

The rotary knife is an edged tool. Handle them carefully, since they could cut your hands or legs.

When touching edged tools, wear gloves, since they could cut your hands.

<table>
<thead>
<tr>
<th>1</th>
<th>Sail</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Flat part</td>
</tr>
</tbody>
</table>

Radiator Cover

Inspection of Radiator Cover

1. Make sure that there is no damage to the radiator cover.
2. Make sure that the radiator cover is not contaminated.

Cleaning of Radiator Cover

**Important**
An unclean radiator cover may cause overheating or damage to the engine. It may also cause malfunction of the hydraulic system.

If the radiator cover has been contaminated with dust, be sure to clean it. After operating the machine in a dusty environment, it is important to remove dust from the cover as soon as possible.

1. Open the radiator cover.

| 1 | Open the radiator cover |
1 Radiator cover

2. Carefully clean the front and back of the radiator cover with water or compressed air.

Radiator

Inspection of Radiator

For details on handling the engine, please refer to the separate Engine Operating Manual.
1. Make sure that there is no damage to the radiator.
2. Make sure that the radiator is not contaminated.

Cleaning of Radiator

For details on handling the engine, please refer to the separate Engine Operating Manual.

**Important**

An unclean radiator may cause overheating or damage to the engine. It may also cause malfunction of the hydraulic system.

**Important**

Do not use solid objects, such as a spatula or screwdriver, or high-pressure water to clean the radiator or oil cooler. Otherwise, special fins or tubes may be damaged, possibly resulting in reduced cooling performance or coolant leakage.

If the radiator has been contaminated with dust, be sure to clean it. After operating the machine in a dusty environment, it is important to remove dust as soon as possible.
1. Open the radiator cover.
Coolant

Inspection of Coolant

For details on handling the engine, please refer to the separate Engine Operating Manual.

**Warning**

Do not touch the radiator or coolant during engine operation or right after the engine has been turned off. Due to high temperatures, doing so could cause burns.

**Caution**

Inspection should take place after the engine has well cooled down.

1. Make sure that the coolant level in the reserve tank is between "Full" and "Low."

![Reserve tank](image-url)  

**Coolant Supply**

For details on handling the engine, please refer to the separate Engine Operating Manual.

**Warning**

Do not touch the radiator or coolant during engine operation or right after the engine has been turned off. Due to high temperatures, doing so could cause burns. After the radiator has well cooled down, open the radiator cap.

**Caution**

Supply coolant after the engine has well cooled down.

**Caution**

The radiator cap is pressurized. If you remove the radiator cap while the engine is overheated, hot steam will burst out, possibly resulting in burns. Make sure that the water temperature and pressure are reduced, and then grab the cap with a thick cloth and gradually open the cap.

**Important**

When you supply coolant, be sure to use clean water, such as tap water. During winter, remove coolant. Alternatively, mix long-life coolant and clean water, and then pour it into the radiator and reserve tank.

### Relationship between concentration of long-life coolant (LLC) and freezing temperature

<table>
<thead>
<tr>
<th>Freezing temperature</th>
<th>LLC concentration (volume %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Down to -10 °C (14 °F)</td>
<td>20%</td>
</tr>
<tr>
<td>Down to -15 °C (5°F)</td>
<td>30%</td>
</tr>
<tr>
<td>Down to -20 °C (-4 °F)</td>
<td>35%</td>
</tr>
<tr>
<td>Down to -25 °C (-13 °F)</td>
<td>40%</td>
</tr>
</tbody>
</table>
1. If the coolant level in the reserve tank is lower than the "LOW" mark, open the reserve tank cap and fill the tank with clean water up to the "FULL" mark.

2. If no coolant is in the reserve tank, follow the steps below to fill the tank with clean water.
   [1] Open the radiator cap, and then supply clean water up to the opening.
   [2] Open the reserve tank cap, and then supply clean water up to the "FULL" mark.

**Change of Coolant**

For details on handling the engine, please refer to the separate Engine Handling Manual.

- **Warning**
  When you replace the coolant, be sure to drain it into a bowl and discard it in accordance with local laws and regulations.

- **Warning**
  Do not touch the radiator or coolant during engine operation or right after the engine has been turned off. Otherwise, you may get burned due to high temperatures. After the radiator has well cooled down, open the radiator cap.

- **Caution**
  Change coolant after the engine has well cooled down.

- **Important**
  When you change coolant, be sure to use clean water, such as tap water. During winter, remove coolant. Alternatively, mix long-life coolant and clean water, and then pour it into the radiator and reserve tank.

For details on changing coolant, please refer to the separate Engine Operating Manual. Coolant quantity, including that of the reserve tank, is 12.0 dm$^3$ (12.0 L).
Oil cooler

Inspection of Oil Cooler

1. Make sure that there is no damage to the oil cooler.
2. Make sure that the oil cooler is not contaminated.

Cleaning of Oil Cooler

**Caution**

An unclean oil cooler may cause overheating or damage to the engine. It may also cause malfunction of the hydraulic system.

**Important**

Do not use solid objects, such as a spatula or screwdriver, or high-pressure water to clean the radiator or oil cooler. Otherwise, special fins or tubes may be damaged, possibly resulting in reduced cooling performance or coolant leakage.

If the oil cooler has been contaminated with dust, be sure to clean it. After operating the machine in a dusty environment, it is important to remove dust as soon as possible.
1. Open the radiator cover.
2. Unlock the rubber catches on the left and right of the oil cooler, and then tilt the oil cooler.
3. Carefully clean the front and back of the oil cooler with water or compressed air.

Hydraulic Oil

Inspection of Hydraulic Oil

1. Raise the mower units and maintain that position on a level surface.
2. Make sure that the oil level is at the middle of the oil gauge.

3. Check underneath the machine for oil leakage.

Hydraulic Oil Supply

**Important**

Do not mix different types of oil.

**Important**

Use Shell Tellus S2M46 (or equivalent) as hydraulic oil.

1. If the oil level is low, remove the left tank cover, and then open the tank cap and supply oil.
2. Tighten the tank cap securely.
3. Start the engine, raise and lower the mower units, and turn the steering wheel left and right.
   Move forward and reverse repeatedly several times.
4. Raise the mower units and maintain that position on a level surface, and then check to see if the oil level is at the middle of the oil gauge. If necessary, supply oil.
5. Check underneath the machine for oil leakage.
6. Attach the left tank cover.

Change of Hydraulic Oil

**Warning**

When you change the hydraulic oil, be sure to drain it into a bowl and discard it in accordance with local laws and regulations.

**Caution**

If the oil emulsifies or if it becomes even slightly less transparent, change the oil immediately.

**Caution**

Be careful with hot oil, which could cause burns if it contacts your skin.

**Important**

Use Shell Tellus S2M46 (or equivalent) as hydraulic oil.

1. Follow the steps below to remove the old oil.
   [1] Start and run the engine to warm up the oil.
   [2] On a level surface, lower the mower units, and then stop the engine.
   [3] Remove the drain plug of the hydraulic tank, and then drain the old oil into a container.

4. Wind new sealing tape on the drain plug, and then attach it to the hydraulic tank.

2. Remove the left tank cover.
3. Open the tank cap, and then pour new oil from the fill port until the oil level reaches the middle of the oil gauge on the hydraulic tank.
   The hydraulic tank capacity is approximately 44.0 dm³ (44.0 L).

4. Tighten the tank cap securely.
5. Start the engine, raise and lower the mower units, and turn the steering wheel left and right.
   Move forward and reverse repeatedly several times.
6. Raise the mower units and maintain that position on a level surface, and then check to see if the oil level is at the middle of the oil gauge. If necessary, supply oil.
7. Check underneath the machine for oil leakage.
8. Attach the left tank cover.
Air Cleaner

Inspection of Air Cleaner

For details on handling the engine, please refer to the separate Engine Operating Manual.

The air cleaner is a component that removes dirt from the intake air to prevent wear of the cylinder liners and piston rings so that the engine will always operate smoothly.

A contaminated air cleaner element may cause malfunction of the engine.

1. Inspect the air cleaner by checking the vacuum indicator.
   If the air cleaner element is contaminated, the vacuum indicator will display a red ring.

2. Make sure that there is no damage to the air cleaner.
3. Make sure that the air cleaner is not contaminated.

Cleaning of Air Cleaner

For details on handling the engine, please refer to the separate Engine Operating Manual.

A contaminated air cleaner element may cause malfunction of the engine.

To maximize the life of the engine, clean the air cleaner properly.

1. Follow the steps below to clean the air cleaner.
   [1] Remove the clips from the two locations, remove the air cleaner cap, and then remove the air cleaner element.

[2] While paying close attention not to damage the air cleaner element, tap a solid portion of the air cleaner element or blow compressed air from its inside to remove dust and dirt.
   If the air cleaner element is extremely contaminated, replace it with a new one.

[3] Attach the air cleaner element to the air cleaner body.

[4] Re-place the air cleaner cap, and then affix it securely using the clips.

Press the reset button for the vacuum indicator.

[1] Remove the clips from the two locations, remove the air cleaner cap, and then remove the air cleaner element.
Change of Air Cleaner

For details on handling the engine, please refer to the separate Engine Operating Manual.
A contaminated air cleaner element may cause malfunction of the engine.
To maximize the life of the engine, replace the air cleaner element at the appropriate times.

1. The timing for replacing the air cleaner element is described below.
   [1] Replace the air cleaner element in accordance with the Maintenance Schedule.
   [2] If it is significantly contaminated, replace it, even if the hours of operation do not exceed the specified time.
   [3] Even if the hours of operation do not exceed the specified time, change it at least once per year.

2. Replace the air cleaner element in the same manner as cleaning the air cleaner.
   (See "Cleaning of Air Cleaner" (Page 4-8).)
Battery
Inspection of Battery

For details on handling the battery, please refer to the separate Battery Instruction Manual.

**Danger**
Keep away from fire while inspecting or charging the battery. The battery may explode.

**Warning**
Do not allow the battery fluid level to become lower than the LOWER LEVEL (minimum fluid level line). The battery may explode if it is used or charged while the battery fluid level is at the LOWER LEVEL (minimum fluid level line).

**Caution**
Perform operations after the muffler and engine have sufficiently cooled. Otherwise, you may suffer burns.

1. Remove the heat shield plate.

2. Clean the areas around the battery fluid level lines using a cloth damped with water.

3. Make sure that the battery fluid level is between the UPPER LEVEL (maximum fluid level line) and the LOWER LEVEL (minimum fluid level line).
Supply of Battery Fluid

For details on handling the battery, please refer to the separate Battery Instruction Manual.

**Danger**

Be careful not to let your skin, eyes or clothes, etc., come into contact with the battery fluid or accidentally swallow the fluid. Should your skin or clothes come into contact with the battery fluid, immediately wash them away with water.

**Warning**

When you supply battery fluid, wear protective garments and safety glasses, etc.

**Caution**

Implement after the engine and muffler etc. have well cooled down. Otherwise you may get burned.

1. If the battery fluid level is lower than halfway between the UPPER LEVEL (maximum) line and LOWER LEVEL (minimum) line, add purified water up to the UPPER LEVEL (maximum) line.

---

**Tire**

**Inspection of Tires**

1. Check the pneumatic pressure of the tires.
2. Make sure that there are no cracks, damage or abnormal wear.

---

**Brake**

**Inspection of Brake**

While traveling, depress the brake pedal firmly to make sure that the brake is applied effectively.

**Inspection of Parking Brake**

1. Make sure that the parking brake is applied after depressing the brake pedal and pulling the parking brake lever.
2. Make sure that the parking brake is not applied even slightly after depressing the brake pedal to release the parking brake lever.

---

**Belt**

**Inspection of Belt**

The engine must be stopped when the belt is inspected.

**Caution**

If you have removed the cover during inspection, make sure that you replace it in the original position securely. If the cover remains removed, the operator may come in contact with the rotating objects or belt, possibly resulting in injuries.

**Important**

A slacking or damaged belt or damaged fan may cause overheating or lack of a battery charge.

1. Press the middle of the belt with your finger to check the belt tension.
2. Make sure that there are no cracks, damage or abnormal wear.
Around the Engine

Inspection of Engine-Associated Parts

For details on handling the engine, please refer to the separate Engine Operating Manual.

1. Check the fuel system parts for loosenened or cracked joints and leakage. Replace the parts if necessary.
2. Blow compressed air to clean any grass or flammable materials that may be attached inside or around the muffler.

Engine Oil

Inspection of Engine Oil

<table>
<thead>
<tr>
<th>Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Securely tighten the oil level gauge and oil filler cap.</td>
</tr>
</tbody>
</table>

1. Stop the engine, wait for 10 to 20 minutes for the engine to cool down, and then check the oil level.
2. Position the machine so that the engine will be level, and then insert the oil level gauge all the way to check the oil level.

3. The appropriate oil level should be between the upper and lower limit lines on the gauge.
Supply of Engine Oil

For details on handling the engine, please refer to the separate Engine Handling Manual.

**Important**

Do not supply too much engine oil. Otherwise, the engine may be damaged.

**Important**

Do not mix different types of engine oil.

**Important**

Be sure to use engine oil that is classified as API Service Grade CF or higher, with an SAE Viscosity that is appropriate for the operating environment (ambient temperature).

**Important**

Securely tighten the oil level gauge and oil filler cap.

1. If the engine oil level is lower than the lower limit line on the oil level gauge, supply engine oil through the oil filling port. Remove the oil filler cap, and then supply new engine oil until the oil reaches a level in between the upper and lower limit lines on the oil level gauge.
2. Re-place the oil filler cap.
3. It will take a while for the supplied engine oil to descend into the oil pan. Check the oil level again 10 to 20 minutes after supplying the oil.

Change of Engine Oil

For details on handling the engine, please refer to the separate Engine Handling Manual.

**Warning**

When you change the engine oil, be sure to drain it into a bowl and discard it in accordance with local laws and regulations.

**Caution**

Be careful with hot oil, which could cause burns if it contacts your skin.

**Important**

Be sure to use engine oil that is classified as API Service Grade CF or higher, with an SAE Viscosity that is appropriate for the operating environment (ambient temperature).

**Important**

Securely tighten the oil level gauge and oil filler cap.

Change the engine oil more frequently if the engine oil is contaminated, and especially if you use the machine in dusty areas or operate the engine at high loads or in high temperatures.

1. Move the machine onto a level surface, stop the engine, remove the drain plug while the engine oil is warm, and then drain the oil into a bowl.
2. Re-place the drain plug in the engine.
3. Through the oil filling port, supply new engine oil until the oil reaches a level in between the upper and lower limit lines on the oil level gauge. Engine oil quantity is approximately 9.7 dm$^3$ (9.7 L).

4. Re-place the oil filler cap.

5. It will take a while for the supplied engine oil to descend into the oil pan. Check the oil level again 10 to 20 minutes after supplying the oil.

**Fuel**

**Inspection of Fuel Quantity**

With the machine on a level surface, observe the fuel gauge in the operation panel to check the fuel level.

**Fuel Supply**

**Danger**

Do not supply fuel above F (FULL) level of the fuel gauge. If you supply too much fuel, it might overflow from the fuel cap when you travel or work on a slope.

**Warning**

Keep fire away while refueling. Do not smoke while refueling.

If the fuel gauge located in the operation panel indicates a level close to E (EMPTY), supply fuel (diesel) at your earliest convenience. The fuel tank capacity is approximately 51.0 dm$^3$ (51.0 L).
Air Bleeding of Fuel System

Important

The air-bleed cock should normally be in the fully open position. Using the machine with the air-bleed cock in the closed position may cause the engine to stall.

Air bleeding is not a required operation since it occurs automatically.

Oil Leakage

Inspection of Oil Leakage

Caution

When performing maintenance on the hydraulic system, lower the mower units.

After approximately 50 hours of operation, some tightened portions may be loosened and oil may leak. Be sure to retighten the parts. Check the bottom of the machine for oil leakage.
Tightening torques

Standard tightening torques

Bolts and Nuts

**Important**

A number of bolts are used in each part of this machine. Be sure to re-tighten the bolts and nuts, because they may be loosened at the earlier stage of the use.

As to the bolts and nuts without any special instruction, tighten them in appropriate tightening torque with proper tool.

Too much tightening may cause the looseness or damage of the screw.

The strength of tightening is determined by types of screws, strength, the friction of thread face or base face and others.

The table below is for the galvanized or parkerized bolts. In case that the strength of internal thread is weak, it is not applied.

Do not use rusty or sand attached "screw."

Otherwise, it may cause insufficient tightening even if you apply the specified tightening torque.

The friction of the screw face becomes higher and the tightening torque is canceled out by the friction, therefore sufficient tightening cannot be applied.

If "screw" is wet by water or oil, do not tighten it with normal tightening torque.

If the screw is wet, the torque coefficient will get smaller and it may result in too much tightening.

Too much tightening may cause looseness by the screw stretched or result in damage.

Do not use a bolt experienced too much burden.

Using the impact wrench requires the skill.

Do exercise as much as possible for steady tightening.

<table>
<thead>
<tr>
<th>Nominal diameter</th>
<th>General bolt</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strength classification 4.8</td>
</tr>
<tr>
<td></td>
<td>[图片]</td>
</tr>
<tr>
<td></td>
<td>N-m</td>
</tr>
<tr>
<td>M5</td>
<td>3 - 5</td>
</tr>
<tr>
<td>M6</td>
<td>7 - 9</td>
</tr>
<tr>
<td>M8</td>
<td>14 - 19</td>
</tr>
<tr>
<td>M10</td>
<td>29 - 38</td>
</tr>
<tr>
<td>M12</td>
<td>52 - 67</td>
</tr>
<tr>
<td>M14</td>
<td>70 - 94</td>
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<tr>
<td>M16</td>
<td>88 - 112</td>
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<tr>
<td>M18</td>
<td>116 - 144</td>
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<tr>
<td>M20</td>
<td>147 - 183</td>
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<tr>
<td>M22</td>
<td>295</td>
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<tr>
<td>M24</td>
<td>370</td>
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<tr>
<td>M27</td>
<td>550</td>
</tr>
<tr>
<td>M30</td>
<td>740</td>
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</tbody>
</table>
### Handling Instructions

#### Tightening torques

<table>
<thead>
<tr>
<th>Nominal diameter</th>
<th>M5</th>
<th>M6</th>
<th>M8</th>
<th>M10</th>
<th>M12</th>
<th>M14</th>
<th>M16</th>
<th>M18</th>
<th>M20</th>
<th>M22</th>
<th>M24</th>
<th>M27</th>
<th>M30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter (mm)</td>
<td>5</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
<td>14</td>
<td>16</td>
<td>18</td>
<td>20</td>
<td>22</td>
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<td>27</td>
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</tr>
<tr>
<td>Nominal diameter</td>
<td>5</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
<td>14</td>
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<td>Strength class 8.8</td>
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<tr>
<td>Heat-treated bolt</td>
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</tr>
<tr>
<td>N-m</td>
<td>50.99 - 71.38</td>
<td>81.58 - 112.17</td>
<td>234.53 - 295.71</td>
<td>458.87 - 581.23</td>
<td>683.20 - 866.75</td>
<td>1,080.88 - 1,366.40</td>
<td>1,549.94 - 1,917.04</td>
<td>2,039.40 - 2,447.28</td>
<td>2,498.27 - 3,008.12</td>
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<tr>
<td>kgf-cm</td>
<td>44.26 - 61.96</td>
<td>70.81 - 97.36</td>
<td>203.57 - 256.68</td>
<td>398.30 - 504.51</td>
<td>593.02 - 752.34</td>
<td>938.21 - 1,186.03</td>
<td>1,345.35 - 1,663.99</td>
<td>1,770.20 - 2,124.24</td>
<td>2,168.50 - 2,611.05</td>
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<tr>
<td>lb-in</td>
<td>7 - 10</td>
<td>14 - 18</td>
<td>28 - 38</td>
<td>58 - 76</td>
<td>104 - 134</td>
<td>140 - 188</td>
<td>210 - 260</td>
<td>280 - 340</td>
<td>370 - 450</td>
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<tr>
<td>Strength class 10.9</td>
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<tr>
<td>Heat-treated bolt</td>
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</tr>
<tr>
<td>N-m</td>
<td>71.38 - 101.97</td>
<td>142.76 - 183.55</td>
<td>285.52 - 387.49</td>
<td>591.43 - 774.97</td>
<td>1,060.49 - 1,366.40</td>
<td>1,427.58 - 1,917.04</td>
<td>2,141.37 - 2,651.22</td>
<td>2,855.16 - 3,466.98</td>
<td>3,772.89 - 4,588.65</td>
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<td></td>
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<tr>
<td>kgf-cm</td>
<td>61.96 - 88.51</td>
<td>123.91 - 159.32</td>
<td>247.83 - 336.34</td>
<td>513.36 - 672.68</td>
<td>920.50 - 1,186.03</td>
<td>1,239.14 - 1,663.99</td>
<td>1,858.71 - 2,301.26</td>
<td>2,478.28 - 3,009.34</td>
<td>3,274.87 - 3,982.95</td>
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<tr>
<td>lb-in</td>
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</tbody>
</table>

**Note:**
The same values are applied to "fine screw thread."
**Principal tightening torques**

**Tightening Torque by Model**

*GM2800B*

Tighten the following bolts and nuts at the torque specified in the table. For thread locking adhesive, apply a middle strength thread locker (ThreeBond 1322 anaerobic adhesives).

<table>
<thead>
<tr>
<th>Location</th>
<th>Code</th>
<th>Part name</th>
<th>Tightening torque (N-m)</th>
<th>Tightening torque (kgf-cm)</th>
<th>Tightening torque (lb-in)</th>
<th>Thread locking adhesive</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Motor housing</strong></td>
<td>K0014160402</td>
<td>Bolt, 11T, heat-treated M16-40P1.5</td>
<td>152 - 188</td>
<td>1549.94 - 1917.04</td>
<td>1345.35 - 1663.99</td>
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</tr>
<tr>
<td></td>
<td>K0013140502</td>
<td>Bolt, heat-treated M14-50</td>
<td>100</td>
<td>1019.7</td>
<td>885.1</td>
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</tr>
<tr>
<td><strong>Wheel mounting base</strong></td>
<td>1 1/4-18UNF</td>
<td>Slotted nut (Hydraulic motor)</td>
<td>200</td>
<td>2039.40</td>
<td>1770.20</td>
<td></td>
</tr>
<tr>
<td><strong>Disc brake</strong></td>
<td>K0024080401</td>
<td>Bolt, w/hexagon hole, M8-40</td>
<td>28 - 38</td>
<td>285.52 - 387.49</td>
<td>247.83 - 336.34</td>
<td></td>
</tr>
<tr>
<td><strong>Wheel</strong></td>
<td>K0014120652</td>
<td>Bolt, heat-treated M12-65P1.5</td>
<td>67 - 85</td>
<td>683.20 - 833.75</td>
<td>593.02 - 752.34</td>
<td></td>
</tr>
<tr>
<td><strong>Motor</strong></td>
<td>K0010120502</td>
<td>Bolt, 11T, heat-treated M12-50</td>
<td>52 - 67</td>
<td>530.42 - 683.20</td>
<td>460.25 - 593.02</td>
<td></td>
</tr>
<tr>
<td><strong>Wheel mounting base</strong></td>
<td>K0138240002</td>
<td>24 slotted nut high P1.5</td>
<td>180 - 200</td>
<td>1835.46 - 2039.40</td>
<td>1593.18 - 1770.20</td>
<td></td>
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<tr>
<td><strong>Wheel</strong></td>
<td>K0014120652</td>
<td>Bolt, heat-treated M12-65P1.5</td>
<td>67 - 85</td>
<td>683.20 - 866.75</td>
<td>593.02 - 752.34</td>
<td></td>
</tr>
<tr>
<td><strong>Front axle</strong></td>
<td>K0015200702</td>
<td>Bolt, heat-treated M20-70P1.5</td>
<td>370 - 450</td>
<td>3772.89 - 4588.65</td>
<td>3274.87 - 3982.95</td>
<td></td>
</tr>
<tr>
<td><strong>Brake ass'y</strong></td>
<td>K1720000190</td>
<td>Bolt, heat-treated M12P1.75</td>
<td>150 ± 15</td>
<td>1529.55 ± 152.96</td>
<td>1327.65 ± 122.77</td>
<td>O</td>
</tr>
<tr>
<td><strong>Engine</strong></td>
<td>K0012120352</td>
<td>Bolt, heat-treated M12-35P1.25</td>
<td>67 - 134</td>
<td>683.20 - 1366.40</td>
<td>593.02 - 1186.03</td>
<td></td>
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<tr>
<td></td>
<td>K0015120552</td>
<td>Bolt, heat-treated M12-55P1.25</td>
<td>67 - 134</td>
<td>683.20 - 1366.40</td>
<td>593.02 - 1186.03</td>
<td></td>
</tr>
<tr>
<td></td>
<td>K0011100502</td>
<td>Bolt, heat-treated M10-50P1.25</td>
<td>45 - 76</td>
<td>458.87 - 774.97</td>
<td>398.30 - 672.68</td>
<td></td>
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<tr>
<td></td>
<td>K0013121102</td>
<td>Bolt, heat-treated M12-110</td>
<td>67 - 134</td>
<td>683.20 - 1366.40</td>
<td>593.02 - 1186.03</td>
<td>O</td>
</tr>
<tr>
<td><strong>Flywheel adapter</strong></td>
<td>K0011100302</td>
<td>Bolt, heat-treated M10-30P1.25</td>
<td>45 - 76</td>
<td>458.87 - 774.97</td>
<td>398.30 - 672.68</td>
<td></td>
</tr>
<tr>
<td></td>
<td>K0011100202</td>
<td>Bolt, heat-treated M10-20P1.25</td>
<td>45 - 76</td>
<td>458.87 - 774.97</td>
<td>398.30 - 672.68</td>
<td>O</td>
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<tr>
<td><strong>Joint</strong></td>
<td>K0024100401</td>
<td>Bolt, 12T, w/hexagon hole, M10-40</td>
<td>80</td>
<td>815.76</td>
<td>708.08</td>
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<tr>
<td></td>
<td>K0013100352</td>
<td>Bolt, heat-treated M10-35</td>
<td>45 - 76</td>
<td>458.87 - 774.97</td>
<td>398.30 - 672.68</td>
<td>O</td>
</tr>
<tr>
<td><strong>Kingpin stopper</strong></td>
<td>K0013120552</td>
<td>Bolt, 11T, heat-treated M12-45</td>
<td>52 - 67</td>
<td>530.24 - 683.20</td>
<td>460.25 - 593.02</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Code</td>
<td>Part name</td>
<td>Tightening torque</td>
<td>Thread locking adhesive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------------</td>
<td>----------------------------------------------</td>
<td>-------------------</td>
<td>--------------------------</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>N·m</td>
<td>kgf·cm</td>
<td>lb-in</td>
<td></td>
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<tr>
<td>Tie rod</td>
<td>K1610000020</td>
<td>Tie rod end slotted nut</td>
<td>45</td>
<td>458.87</td>
<td>398.30</td>
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<td></td>
<td>K1611000020</td>
<td>Tie rod end slotted nut</td>
<td>45</td>
<td>458.87</td>
<td>398.30</td>
<td>–</td>
</tr>
<tr>
<td>Piston pump</td>
<td>K0013120502</td>
<td>Bolt, heat-treated M12-50</td>
<td>67 - 134</td>
<td>683.20 - 1366.40</td>
<td>593.02 - 1186.03</td>
<td>–</td>
</tr>
<tr>
<td>Mower rotating fitting</td>
<td>K0011100302</td>
<td>Bolt, heat-treated M10-30P1.25</td>
<td>29 - 38</td>
<td>295.71 - 387.49</td>
<td>256.68 - 336.34</td>
<td>–</td>
</tr>
<tr>
<td>Pedal stopper</td>
<td>K0013101202</td>
<td>Bolt, heat-treated M10-120</td>
<td>29 - 38</td>
<td>295.71 - 387.49</td>
<td>256.68 - 336.34</td>
<td>–</td>
</tr>
<tr>
<td>Rotation sensor</td>
<td>K0015120351</td>
<td>Bolt, heat-treated M12-35P1.25</td>
<td>67 - 134</td>
<td>683.20 - 1366.40</td>
<td>593.02 - 1186.03</td>
<td>–</td>
</tr>
<tr>
<td>Diff-lock valve</td>
<td>K0024100151</td>
<td>Bolt, w/hexagon hole, M10-15</td>
<td>29 - 38</td>
<td>295.71 - 387.49</td>
<td>256.68 - 336.34</td>
<td>–</td>
</tr>
<tr>
<td>Knife guide</td>
<td>K0010120302</td>
<td>Bolt, heat-treated M12-30</td>
<td>67 - 85</td>
<td>683.20 - 866.75</td>
<td>593.02 - 752.34</td>
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<tr>
<td>Shoulder bolt</td>
<td>GM2800-0207Z2</td>
<td>Shoulder bolt</td>
<td>52 - 67</td>
<td>530.24 - 683.20</td>
<td>460.25 - 593.02</td>
<td>–</td>
</tr>
<tr>
<td>Arm guide</td>
<td>K0013101002</td>
<td>Bolt, heat-treated M10-100</td>
<td>45 - 76</td>
<td>458.87 - 774.97</td>
<td>398.30 - 672.68</td>
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</tr>
<tr>
<td>Bumper</td>
<td>K0010120302</td>
<td>Bolt, heat-treated M12-30</td>
<td>67 - 134</td>
<td>683.20 - 1366.40</td>
<td>593.02 - 1186.03</td>
<td>–</td>
</tr>
<tr>
<td>Cover mounting bracket</td>
<td>K0000080202</td>
<td>Bolt, M8-25</td>
<td>9 - 14</td>
<td>91.77 - 142.76</td>
<td>61.96 - 123.91</td>
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</tr>
<tr>
<td>Valve V5267</td>
<td>K0013080902</td>
<td>Bolt, 11T, heat-treated M8-90</td>
<td>14 - 19</td>
<td>142.76 - 193.74</td>
<td>123.91 - 168.17</td>
<td>–</td>
</tr>
</tbody>
</table>
Adjustment Before Operating

Adjustment of Steering Wheel

**Warning**

Since it is dangerous, do not adjust the steering wheel while traveling.

**Caution**

Be sure the steering wheel position is securely locked.
It would be extremely dangerous if it becomes loose while traveling.

The steering wheel can be adjusted up or down.
Adjust the position according to the operator's body size.
Shift the tilt lever to the "FREE" position, move the steering wheel to the position that suits your work requirements, and then shift the tilt lever to the "LOCK" position to secure the steering wheel in place.
The tilt lever is located in the right front of the driver’s position.

Shift the tilt lever to the "FREE" position, move the steering wheel to the position that suits your work requirements, and then shift the tilt lever to the "LOCK" position to secure the steering wheel in place.

| 1 | Steering wheel |
| 2 | Tilt lever |
| A | FREE (released) |
| B | LOCK (locked) |

Adjustment of Seat

Use the seat adjustment levers to adjust the seat.
Adjust the position according to the operator's body size.

1. Use the forward/backward adjustment lever to adjust the seat back and forth.

2. Use the backrest tilt adjustment lever to adjust the angle of the backrest.
3. Turn the suspension adjustment handle to adjust the firmness of the seat suspension. Observe the suspension adjustment scale while making adjustments. (50 - 130 kg)
4. Turn the armrest adjustment knob to adjust the angle of the armrests.

5. Lift the seat to adjust its height to one of three positions.
Adjustment of Cutting Height

Cutting Height Table

The adjustment range for the cutting height is 20.0 - 91.5 mm.

<table>
<thead>
<tr>
<th>Adjusting Plate Position</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusting Collars (Number)</td>
<td>Cutting Height (mm)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>20.0</td>
<td>30.0</td>
<td>45.5</td>
<td>55.5</td>
</tr>
<tr>
<td>1</td>
<td>26.0</td>
<td>36.0</td>
<td>51.5</td>
<td>61.5</td>
</tr>
<tr>
<td>2</td>
<td>32.0</td>
<td>42.0</td>
<td>57.5</td>
<td>67.5</td>
</tr>
<tr>
<td>3</td>
<td>38.0</td>
<td>48.0</td>
<td>63.5</td>
<td>73.5</td>
</tr>
<tr>
<td>4</td>
<td>44.0</td>
<td>54.0</td>
<td>69.5</td>
<td>79.5</td>
</tr>
<tr>
<td>5</td>
<td>50.0</td>
<td>60.0</td>
<td>75.5</td>
<td>85.5</td>
</tr>
<tr>
<td>6</td>
<td>56.0</td>
<td>66.0</td>
<td>81.5</td>
<td>91.5</td>
</tr>
</tbody>
</table>

Note:
The factory default cutting height is 48 mm.

Adjustment With Adjusting Collars

Adjusting collars are installed at three locations on each mower unit.

Important:
The length of grass cut off at any one time must be no more than 30 mm.

Important:
Do not cut off more than 1/3 of the grass height.

1. Apply the parking brake, and then lower all mower units.
2. Stop the engine, and then remove the key.
3. Loosen the nuts securing the adjusting collars at the three locations.
4. Refer to the Cutting Height Table, and then adjust the number of adjusting collars at the three locations.

[1] To increase cutting height:
   Remove an upper adjusting collar and insert it below.
To decrease cutting height:
Remove a lower adjusting collar and insert it above.

Adjustment With Adjusting Collars

1. Adjusting collar

5. After adjusting the adjusting collars at the three locations, firmly tighten all nuts.

1. Adjusting collar

Adjustment With Cutting Height Adjusting Plates

Cutting height adjusting plates are installed at three locations on each mower unit.

Important
The length of grass cut off at any one time must be no more than 30 mm.

Important
Do not cut off more than 1/3 of the grass height.

1. Apply the parking brake, and then lower all mower units.
2. Stop the engine, and then remove the key.
3. Loosen the six bolts securing the cutting height adjusting plates at the three locations on the mower unit.

Adjustment With Cutting Height Adjusting Plates

1. Bolt
2. Mower unit
3. Cutting height adjusting plate

4. Refer to the Cutting Height Table, and then change the hole positions.

[1] To increase cutting height:
   a. While lifting the handle at each location on the mower unit, remove the two bolts.
   b. Raise the mower unit to change the hole positions, and then temporarily secure it with the two bolts.

[2] To decrease cutting height:
   a. While lifting the handle at each location on the mower unit, remove the two bolts.
b. Lower the mower unit to change the hole positions, and then temporarily secure it with the two bolts.

5. After making adjustments at the three locations, firmly tighten all bolts.

Procedure to Start / Stop Engine

Warning
Before starting the engine, make sure that there are no other people or obstacles around the machine.

Important
Starter operation must take 15 seconds or less.
If the engine does not start, stop using the battery for 30 to 60 seconds to avoid exhausting the battery.

1. Sit on the seat.
2. Make sure that the parking brake is applied.
3. Make sure that the knife rotation switch is in the "OFF" position.
4. Make sure that the traveling pedal is in the neutral position.
5. Shift the throttle lever from the turtle icon (low speed) halfway to the rabbit icon (high speed).
The thermo-start lamp turns off at the specified time. However, the lamp turning off is not related to the glow plug generating heat. If the ignition key is left in the "GLOW" position after the lamp is turned off, the plug will still generate heat. The lamp will stay illuminated for five seconds.

6. Switch the ignition key to the "GLOW" position.
7. Make sure that the glow plug is generating heat and the thermo-start lamp is turned on.

Quickly returning the ignition key from the "START" position to the "ON" position may result in damage to the machine.

8. After the thermo-start lamp turns off, immediately set the ignition key to the "START" position.
9. When the starter starts rotating and the engine starts, slowly return the ignition key to the "ON" position.

10. Make sure that the charge lamp and engine oil pressure lamp turn off. If they do not turn off, stop the engine and inspect the machine.

11. Shift the throttle lever to the turtle icon (low speed), and then warm up the engine for 1-2 minutes.
12. Gradually move the throttle lever to the rabbit icon (high speed).
Procedure to Stop Engine

1. Set the traveling pedal to the neutral position.
2. Apply the parking brake.
3. Set the knife rotation switch to the "OFF" position.
4. Shift the throttle lever to the turtle icon (low speed), and then idle the machine for 1-2 minutes.
5. Switch the ignition key to the "OFF" position.
6. Make sure that the engine has stopped.
7. Remove the ignition key.
8. Leave the driver's seat.

Safety Mechanisms

This machine features a safety device for starting/stopping the engine.

1. As for starting the engine, the safety device prevents the engine from starting unless it meets each of the following four conditions.
   - An operator is sitting on the seat.
   - The parking brake is applied.
   - The knife rotation switch is set to the "OFF" position.
   - The traveling pedal is set to the neutral position.

2. In the event the operator leaves the seat with the parking brake applied and the engine running, the safety device will be activated and will stop the engine under any of the following conditions:
   - The traveling pedal is not set to the neutral position. (The operator has depressed the traveling pedal.)
   - The knife rotation switch is set to the "ON" position.

Warning Mechanisms

This machine features warning mechanisms for overheating and for the hydraulic oil level.

1. If the engine water temperature exceeds 115 degrees Celsius, a buzzer will sound. (intermittent tone)
2. If the oil level in the hydraulic tank declines from the specified level by approximately 2.0 dm³ (2.0 L), a buzzer will sound. (continuous tone)
Operation of Each Section

Precautions for Operating the Machine

 следует ехать на малой скорости, чтобы остановить машину сразу в случае аварийной ситуации.

Cautions for when You Leave the Machine

 следует использовать тормоза, если тормоза не достаточно эффективны.

Instruction Decals

<table>
<thead>
<tr>
<th>Instruction Decals_001</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Ignition key</td>
</tr>
<tr>
<td>2  Knife Rotation Switch</td>
</tr>
<tr>
<td>3  2WD/4WD selector switch</td>
</tr>
<tr>
<td>4  Traction Assist Switch</td>
</tr>
<tr>
<td>5  Headlight switch</td>
</tr>
<tr>
<td>6  Pilot Lamps</td>
</tr>
<tr>
<td>7  Mower Unit Up/Down Lever</td>
</tr>
<tr>
<td>8  Throttle Lever</td>
</tr>
</tbody>
</table>

Instruction Decals_002

<table>
<thead>
<tr>
<th>Instruction Decals_002</th>
</tr>
</thead>
<tbody>
<tr>
<td>9  Parking brake decal</td>
</tr>
<tr>
<td>10  Tilt steering decal</td>
</tr>
<tr>
<td>11  Differential lock decal</td>
</tr>
<tr>
<td>Section</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>1</td>
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<td></td>
</tr>
<tr>
<td>Page</td>
</tr>
<tr>
<td>------</td>
</tr>
</tbody>
</table>
| 5    | Decal, light switch  
      It illustrates ON/OFF of the light.  
      1. ON  
      2. OFF |
| ![Decal, light switch](6noux-069) | ![Decal, light switch](6noux-069) |
| 6    | Decal, pilot lamp  
      This illustrates the positions of the pilot lamp.  
      1. Charge lamp  
      2. Thermo-start lamp  
      3. Oil pressure lamp |
| ![Decal, pilot lamp](6noux-064) | ![Decal, pilot lamp](6noux-064) |
| 7    | Decal, mower unit up/down lever  
      These indicate positions for raising and lowering the mower unit.  
      1. Lowered  
      2. Raised |
| ![Decal, mower unit up/down lever](6noux-070) | ![Decal, mower unit up/down lever](6noux-070) |
| 8    | Engine speed icons  
      These indicate positions for low and high engine speeds.  
      1. Low speed  
      2. High speed |
<p>| <img src="6noux-019" alt="Engine speed icons" /> | <img src="6noux-019" alt="Engine speed icons" /> |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
</table>
| **9** | K4203001350  
Tilt steering decal  
This shows the steering tilt directions and how to lock and release the position. |
| **10** | K4203001340  
Parking brake decal  
This shows how to lock and release the parking brake.  
1. Locked  
2. Released |
| **11** | K4203001360  
Differential lock decal  
This indicates the differential lock positions. |
Proximity Sensors

There are two proximity sensors on mower arm fulcrums #4 and #5. These sensors detect the raised or lowered positions of mower units #4 and #5 and rotate or stop the rotary knives.

Relays

The relay box is at the front of the right hood. These relays control operation of the diff-lock valve, rotation of the rotary knives, 2WD/4WD selection and traction assist selection. The operating condition can be checked by the illumination of the LEDs.

- LEDs ①, ② and ③ light up when the diff-lock valve is in the "ON" position.
- LED ④ lights up when the traction assist switch is in the "ON" position.
- LEDs ⑤ and ⑥ light up when the knife rotation switch is in the "ON" position and the mower deck is lowered.
- LED ⑦ lights up when the knife rotation switch is in the "ON" position, and then the machine enters 4WD.
- LED ⑧ lights up when the 2WD/4WD selector switch is in the "4WD" position, and then the machine enters 4WD.
Knife Rotation Switch

**Caution**
Before you start cutting work, set the knife rotation switch to the "ON" position. At all other times, make sure it is set to the "OFF" position.

The knife rotation switch is located in the operation panel and controls the rotation of the rotary knives. When the knife rotation switch is set to the "ON" position, the rotary knife in all mower units rotates. When the knife rotation switch is set to the "OFF" position, the rotary knives stop. When the mower units are raised, the rotary knives do not rotate, even if the switch is set to the "ON" position.

<table>
<thead>
<tr>
<th>1</th>
<th>Knife rotation switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>ON</td>
</tr>
<tr>
<td>B</td>
<td>OFF</td>
</tr>
</tbody>
</table>

Note:
When the knife rotation switch is set to the "ON" position, the machine enters 4WD, regardless of the position that the 2WD/4WD selector switch is set to.

2WD/4WD Selector Switch

**Caution**
When working on a slope, be sure to use the machine in 4WD.

When traveling, be sure to stop the knives and raise the mower units.

The 2WD/4WD selector switch is located in the operation panel. When the switch is set to the "2WD" position, the machine will be in two-wheel drive (front-wheel drive). When it is set to the "4WD" position, the machine will be in four-wheel drive.

<table>
<thead>
<tr>
<th>1</th>
<th>2WD/4WD selector switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4WD</td>
</tr>
<tr>
<td>B</td>
<td>2WD</td>
</tr>
</tbody>
</table>

Note:
When the knife rotation switch is set to the "ON" position, the machine enters 4WD, regardless of the position that the 2WD/4WD selector switch is set to.
Light Switch

**Warning**
The lights provide auxiliary lighting. Do not travel or operate the machine at night or under poor visibility.

The light switch is located in the operation panel. When the switch is set to the "ON" position, the lights turn on. When it is set to the "OFF" position, the lights turn off.

Traction Assist Switch

The traction assist switch is located in the operation panel. Under the following conditions with the switch set to the "ON" position, the mode is automatically switched so that the power lifting the mower units and climbing ability are increased.

- 4WD operation
- Slope of about 13 degrees

**Important**
The cylinders are pressurized even with the switch set to the "OFF" position and so the mower units are a little raised.

Mower Lock Lever (Latch)

When the mower lock levers (latches) are engaged, do not operate the mower unit up/down lever.

The mower lock levers (latches) are located in the foot area on the left and right sides and are used when storing the machine with mower units #4 and #5 raised. When storing the machine, hook the mower lock levers (latches) on the arms.
Mower Unit Up/Down Lever

**Caution**

Before raising or lowering the mower units, make sure that there are no people around the machine.

**Caution**

When the mower lock levers (latches) are engaged, do not operate the mower unit up/down lever.

The mower unit up/down lever is located in the operation panel and raises or lowers the mower units. When the lever is shifted to the "DOWN" position, the mower units are lowered. When the lever is shifted to the "UP" position, the mower units are raised. Release the lever to return it to the neutral position.

Note:
When the mower units are raised, the knives stop rotating, even if the knife rotation switch is set to the "ON" position.

Throttle Lever

The throttle lever is located to the right of the driver's seat and enables you to adjust the engine rpm. Move the throttle lever toward the rabbit icon (high speed) to increase the engine rpm, and toward the turtle icon (low speed) to reduce the rpm.

Note:
The factory default engine rpm (maximum) is set to 2,600 rpm.
**Diff-Lock Switch**

- **Caution**
  Do not operate the diff-lock switch unless it is necessary. It may result in the hydraulic system malfunction.

  The diff-lock switch is located below the right side of the steering wheel and engages the differential lock for the left and right front wheels.
  Tilt the switch lever up or down to turn "ON" to engage the differential lock for the front wheels.
  Release the switch lever to return it to the neutral position ("OFF" position) and disengage the differential lock.

---

**Traveling Pedal**

- **Warning**
  This machine is not authorized as a special motor vehicle. Do not drive it on public roads.

  **Caution**
  When the machine is traveling at a high speed, it will not stop immediately after you take your foot off the traveling pedal. If necessary, also use the brake.

  The traveling pedals are located in the right foot area and control forward and reverse operation of the machine.
  When the forward pedal (inside) is depressed, the machine travels forward. When the reverse pedal (outside) is depressed, the machine travels in reverse.
  The speed changes in accordance with how much the pedal is depressed.
  When you take your foot off the pedal, the machine stops automatically.
Brake Pedal

Warning
Link the brake pedals, except when operating the machine. Using the brake pedals without linking them may result in the machine overturning.

Warning
When depressing the brake pedals to make turns with a small radius, obtain a sufficient awareness of the lawn and ground conditions. This may damage the lawn.

The brake pedals are located in the left foot area and operate the left and right brakes independently. By depressing the brake pedal on the side in which the turn will be made, the machine can make turns with a small radius. If the front wheel on the upward side of a slope slips, depress the brake pedal for the wheel on the upward side in order to increase the traction of the wheel on the downward side and stabilize travel.

Change of Braking Method

Follow the procedure below to change the braking method from linked to independent.
1. Swing up the pedal link bar, and then pull it out from the right brake pedal.

2. Secure the pedal link bar in the holder on the left brake pedal.

Handling Instructions

<table>
<thead>
<tr>
<th>1</th>
<th>Brake pedals</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Parking brake lever</td>
</tr>
</tbody>
</table>
Parking Brake Lever

**Caution**
Be sure to release the parking brake before driving.
It may result in the brakes or hydraulic system malfunction.

**Caution**
Never park the machine on a slope.

The parking brake lever is located to the left of the front cover.
When parking, link the left and right brake pedals by using the pedal link bar, depress both brake pedals, and then pull the parking brake lever completely.
To release the parking brake, depress the brake pedals.

---

Hood

**Caution**
Do not open the hood in strong winds.

**Caution**
Be careful not to pinch your fingers when you open or close the hood.

1. Unlock the rubber catch, and then lift up the hood.
2. Hook the hood support rod onto the latch inside the hood.
   Make sure that the hood will not close, and then remove your hands.
3. To close the hood, release the hood support rod from the latch, and then lower the hood slowly.
4. Lock the rubber catch securely.
Underseat Cover

Caution
Be careful not to pinch your fingers when you open or close the underseat cover.

1. Make sure that the steering wheel is raised completely.
2. Bring the seat to the backmost position.
3. Pull up the lever behind the seat to unlock it.

4. Tilt the seat forward to open the cover.
To close the cover, slowly lower the seat.

Instruments

Instruments on the Operation Panel

<table>
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<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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</thead>
<tbody>
<tr>
<td>Lever</td>
<td>Seat</td>
<td>Pull up</td>
<td>Tilt forward</td>
</tr>
</tbody>
</table>

Tachometer/Hour Meter

The tachometer and hour meter are located in the operation panel.
The tachometer indicates the engine rpm. It is connected to a rotation sensor in the engine flywheel area, and converts the signal output from the rotation sensor into an rpm value.
The hour meter indicates total operation time of the engine.
Every six minutes of engine operation will increase the number at the first digit (black number on a white background) by one. Every one hour of engine operation will increase the number at the next digit (white number on a black background) by one.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tachometer</td>
<td>Hour meter</td>
</tr>
</tbody>
</table>
Water Temperature Gauge

The water temperature gauge is located in the operation panel. This instrument indicates the water temperature inside the engine. If the water temperature gauge indicates a level close to "H" during operation, the machine is overheated. Remove the load from the engine, idle the machine for five minutes, stop the engine, and then inspect the machine and perform any necessary maintenance. If the water temperature exceeds 115 degrees Celsius, a buzzer will sound. (intermittent tone)

Fuel Gauge

The fuel gauge is located in the operation panel. This instrument indicates the quantity of fuel inside the fuel tank.

Pilot Lamps

Charge Lamp

The charge lamp is the left pilot lamp located in the operation panel. It turns on when the ignition key is set to the "ON" position before the engine starts. It turns off when the engine starts and the alternator starts operating properly. If this lamp illuminates while you are operating the machine, stop the engine immediately, and then inspect the machine and perform any necessary maintenance.
Thermo-start Lamp

The thermo-start lamp is the middle pilot lamp located in the operation panel. When the ignition key is set to the "GLOW" position, it illuminates as the glow plug generates heat. Illumination of the thermo-start lamp is controlled by the glow lamp timer, and the lamp is turned off after a specified amount of time passes. The duration of illumination indicates an approximate period of time required for warm-up, and has been fixed at five seconds.

Oil Pressure Lamp

The oil pressure lamp is the right pilot lamp located in the operation panel. It turns on when the ignition key is set to the "ON" position before the engine starts. It turns off when the engine starts and engine oil pressure is generated properly. If this lamp illuminates while you are operating the machine, stop the engine immediately, and then inspect the machine and perform any necessary maintenance.
Travel of Machine

Moving the Machine

1. Start the engine. (See "Procedure to Start Engine" (Page 4-23).)
2. Raise all mower units, and then engage the mower lock levers (latches) for mower units #4 and #5.
3. Depress the brake pedal to release the parking brake.
4. Slowly depress the traveling pedal.
5. The machine will start to move.

Towing the Machine

If the machine does not travel due to engine trouble, etc., you can move it by towing it.

⚠️ Caution

Tow the machine at a low speed while paying close attention.

⚠️ Caution

Do not touch the unload valve except when towing the machine.

⚠️ Caution

Before restarting the engine, be sure to close the unload valve.

1. Stop the engine. (See "Procedure to Stop Engine" (Page 4-25).)
2. Apply the parking brake and chock the wheels.
3. Make sure that the steering wheel is raised completely, and then bring the seat to the backmost position.

4. Pull up the lever behind the seat to unlock it, and then tilt the seat forward to open the cover.

5. Turn the unload valve, located beside the hydraulic pump, 90 degrees (so that it is vertical) to open it.

6. Remove the wheel stopper, and then depress the brake pedal to release the parking brake.
7. Tow the machine slowly.
**Cutting Work**

**Cutting Operation**

**Warning**

Do NOT start to move or stop the machine abruptly. To do so is very dangerous. In addition, it may damage the hydraulic system or result in oil leakage.

**Caution**

Cutting work must be performed at an appropriate speed for the site and location. When cutting bumpy surfaces, keep the engine rpm steady, and slow down the cutting speed.

**Caution**

Knife rotation will be turned on or off based on the sensor-detected position of the mower units. Please note that if you stop operating the mower unit up/down lever before the mower units are raised completely, knife rotation may not stop.

1. Start the engine. (See "Procedure to Start Engine" (Page 4-23).)
2. Raise all mower units.
3. Depress the brake pedal to release the parking brake.
4. Shift the throttle lever to the rabbit icon (high speed) to run the engine at the maximum rpm.
5. Right before starting cutting work, release the mower lock levers for mower units #4 and #5.
6. Shift the mower unit up/down lever to the "DOWN" position to lower the mower units.
7. Set the knife rotation switch to the "ON" position to rotate the knives of all mower units.
8. Depress the traveling pedal to start cutting work.

Note: During the work, the knives will rotate or stop in sync with the up and down motion of the mower units.
Transporting

Transporting Procedure

When loading the machine into a trailer or a truck to transport it, drive the machine forward. When unloading, drive the machine in reverse. If the roof is installed on the machine, remove it. The roof may be damaged by wind pressure.
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Maintenance Precautions

⚠️ Caution
First, learn well the maintenance operations you plan to perform.

⚠️ Caution
Use tools appropriate for each maintenance operation.

⚠️ Caution
For the safe and best performance of your machine, use Baroness genuine parts for replacement and accessories. Please note that our product warranty may be void if you use non-genuine parts for replacement or accessories.
## Maintenance Schedule

**GM2800B**  
Follow the maintenance schedule below.  
〇 ･･･ Inspect, adjust, supply, clean  
● ･･･ Replace (first time)  
△ ･･･ Replace

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<tr>
<th>Maintenance Item</th>
<th>Before work</th>
<th>After work</th>
<th>Every 8 hrs.</th>
<th>Every 50 hrs.</th>
<th>Every 100 hrs.</th>
<th>Every 200 hrs.</th>
<th>Every 400 hrs.</th>
<th>Every 500 hrs.</th>
<th>Every 1 year</th>
<th>Every 2 years</th>
<th>Every 4 years</th>
<th>Remarks</th>
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*Remarks: (first time) implies the maintenance should be performed for the first time.*
### Maintenance Schedule

<table>
<thead>
<tr>
<th>Maintenance Item</th>
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<th>After work</th>
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<th>Every 1 year</th>
<th>Every 2 years</th>
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<td>Cleaning the exterior</td>
<td>○</td>
<td></td>
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</tr>
<tr>
<td><strong>By model</strong></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Engine Oil</td>
<td>○</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>50 hrs (first time)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engine oil filter</td>
<td>○</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>50 hrs (first time)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sedimenter</td>
<td>○</td>
<td></td>
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<tr>
<td>Air cleaner</td>
<td>○</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air cleaner element</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Whichever comes first</td>
<td></td>
</tr>
</tbody>
</table>

The values for consumables are not guaranteed.
Replace the steering cylinder hoses every 2 years.

### Specified Values

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel tank capacity</td>
<td>51.0 dm³ (51.0 L)</td>
</tr>
<tr>
<td>Hydraulic tank capacity</td>
<td>44.0 dm³ (44.0 L)</td>
</tr>
<tr>
<td>Quantity of engine oil</td>
<td>9.7 dm³ (9.7 L)</td>
</tr>
<tr>
<td>Coolant volume</td>
<td>12.0 dm³ (12.0 L)</td>
</tr>
<tr>
<td>Incl. reserve tank</td>
<td>Including reserve tank (1.0 L)</td>
</tr>
<tr>
<td>Front tires</td>
<td>150 kPa (1.5 kgf/cm²)</td>
</tr>
<tr>
<td>Rear tires</td>
<td>140 kPa (1.4 kgf/cm²)</td>
</tr>
</tbody>
</table>
### Main Consumable Parts

<table>
<thead>
<tr>
<th>Part Name</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fan belt</td>
<td>PF17112-9701-2</td>
</tr>
<tr>
<td>Oil element</td>
<td>PF16414-3243-4</td>
</tr>
<tr>
<td>Air cleaner element</td>
<td>PFR1401-4227-0</td>
</tr>
<tr>
<td>ELEMENT, FUEL FILTER</td>
<td>PF15221-4317-0</td>
</tr>
<tr>
<td>Suction filter</td>
<td>K3413000040</td>
</tr>
<tr>
<td>Hydraulic cartridge filter</td>
<td>K3410000030</td>
</tr>
<tr>
<td>Hydraulic oil (20 L can)</td>
<td>K2913100200</td>
</tr>
<tr>
<td>Throttle wire</td>
<td>K1110168020</td>
</tr>
<tr>
<td>Brake wire, right</td>
<td>K1120238000</td>
</tr>
<tr>
<td>Brake wire, left</td>
<td>K1120205500</td>
</tr>
<tr>
<td>PAD KIT, FOR RT BRAKE</td>
<td>Y328-2845</td>
</tr>
</tbody>
</table>

### Jacking up the machine

#### About the Jacking up the machine

**Warning**

When replacing a tire or beginning any other maintenance or repairs, be sure to chock the wheels to prevent the machine from moving. Before jacking up the machine, park it on a hard, flat surface such as a concrete floor and remove any obstacles that could prevent you from performing the work safely. When necessary, use an appropriate chain block, hoist, or jack. Support the machine securely with jack stands or appropriate blocks. Failure to do so may cause the machine to move or fall, resulting in injury or death.

Use the jack-up points identified in this manual when jacking up the machine. Only place a jack under the jack-up points specified. Placing a jack at any other point could result in damage to the frame or other parts.

<table>
<thead>
<tr>
<th>Jack-up points</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front right frame</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Front left frame</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Center of pivot</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Below rear wheel motors</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>
1. Front right frame

Greasing

About Greasing
Since there may be adhesion or damage due to lack of grease on moving parts, they must be greased.
Add urea-based No. 2 grease in accordance with the Maintenance Schedule.
Other locations where the specified grease or lubricant is used are indicated in "Greasing Points".
Add grease using the specified grease or lubricant.

2. Front left frame

3. Center of pivot

4. Below rear wheel motors
   Two locations
Greasing Points

Grease nipples are installed in the following locations.
Add grease every 50 hours of operation.

<table>
<thead>
<tr>
<th>Portion</th>
<th>No. of Greasing Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Rear roller</td>
<td>10</td>
</tr>
<tr>
<td>2 Mower arm fulcrum</td>
<td>5</td>
</tr>
<tr>
<td>3 Lift arm fulcrum</td>
<td>5</td>
</tr>
<tr>
<td>4 Lift arm cylinder fulcrum</td>
<td>12</td>
</tr>
<tr>
<td>5 Pivot</td>
<td>3</td>
</tr>
<tr>
<td>6 Neutral position area</td>
<td>2</td>
</tr>
<tr>
<td>7 Traveling pedal shaft fulcrum</td>
<td>2</td>
</tr>
<tr>
<td>8 Foot brake</td>
<td>3</td>
</tr>
</tbody>
</table>

1. Rear roller
There is one greasing point each on the left and right of each mower unit.

2. Mower arm fulcrum
There is one greasing point on the arm connected to each mower unit.
Mower units #1, #4 and #5
3. Lift arm fulcrum
There is one greasing point on the arm connected to each mower unit. Lower the mower units before greasing the lift arm fulcrums.
Mower units #1 and #4

4. Lift arm cylinder fulcrum
This is on each cylinder of the arms connected to each mower unit.
Mower units #1, #4 and #5
There are two greasing points on each cylinder.

Mower units #2 and #3
There are three greasing points on each cylinder.
5. Pivot
Middle between the rear wheels

6. Neutral position area
There are two locations.

7. Traveling pedal shaft fulcrum
There are two locations.

8. Foot brake
There are three locations.
Maintenance (Mower)

Change of Rotary Knife

⚠️ Danger
The rotary knife is an edged tool. Take extra care in handling since they could cut your hands or legs.

⚠️ Danger
If the rotary knife becomes worn or damaged, a crack or tear between the sail and flat part will result. Take extra care since a broken piece of the rotary knife may fly off while it is rotating.

⚠️ Caution
When touching edged tools, wear gloves, since they could cut your hands.

⚠️ Caution
The rotary knife has a specific installation direction. Do not install it facing the wrong direction.

Important
Before installing the rotary knife, make sure that it is balanced.

If the edge of the rotary knife becomes chipped or thin, replace it with a new one. The criteria for replacing the rotary knife are described below.

1. When the narrowest part of the rotary knife has a width of less than 2/3 of the width of a new knife

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Total width</td>
</tr>
<tr>
<td>2</td>
<td>Blade edge</td>
</tr>
<tr>
<td>3</td>
<td>Blade base</td>
</tr>
<tr>
<td>4</td>
<td>Sail</td>
</tr>
<tr>
<td>A</td>
<td>less than 2/3</td>
</tr>
<tr>
<td>B</td>
<td>30 - 40°</td>
</tr>
<tr>
<td>C</td>
<td>0.5 - 1.0 mm</td>
</tr>
</tbody>
</table>

2. When the thinnest part of the rotary knife has a thickness of less than 1/3 of the thickness of a new knife

![Diagram of rotary knife criteria](image1)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Thickness</td>
</tr>
<tr>
<td>A</td>
<td>less than 1/3</td>
</tr>
</tbody>
</table>

Mower unit #1

1. Start the engine, and then raise the mower units.
2. Stop the engine, and then remove the key.
3. Lift the mower unit at the front.

![Diagram of mower unit](image2)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mower unit</td>
</tr>
</tbody>
</table>

Replacement of Rotary Knife_001

Replacement of Rotary Knife_002
4. Remove the cotter pin and hardened roundhead pin inserted at a, and then insert them at b.

5. Follow the steps below to remove the rotary knife.
   [1] Use the square pipe from the included tools to secure the rotary knife so that it does not turn.
   [2] Remove the two bolts, spring washers and washers used to install the rotary knife.

**Important**
The tightening torque for the knife mounting bolt is 67 - 85 N-m (683.20 - 866.75 kgf-cm).

6. Install the rotary knife.
   For installing the rotary knife, reverse the removing procedure.

**Mower Units #2/#3**

1. Remove the clip pin installed on the mower arm, and then pull out the grip pin.

2. Pull out the mower unit.
3. Install the grip pin and clip pin in the mounting hole for maintenance.

4. Start the engine, and then raise the mower units.

5. Stop the engine, and then remove the key.

6. Lift the mower unit at the front.

7. Remove the cotter pin and hardened roundhead pin inserted at a, and then insert them at b.

8. Follow the steps below to remove the rotary knife.
   [1] Use the square pipe from the included tools to secure the rotary knife so that it does not turn.
   [2] Remove the two bolts, spring washers and washers used to install the rotary knife.

9. Install the rotary knife.
   For installing the rotary knife, reverse the removing procedure.

---

**Important**

The tightening torque for the knife mounting bolt is 67 - 85 N-m (683.20 - 866.75 kgf-cm).
Mower Units #4/#5

1. Start the engine, and then raise the mower units.

2. Stop the engine, and then remove the key.
3. Remove the cotter pin and hardened roundhead pin inserted at a, and then insert them at b.

4. Follow the steps below to remove the rotary knife.
   [1] Use the square pipe from the included tools to secure the rotary knife so that it does not turn.
   [2] Remove the two bolts, spring washers and washers used to install the rotary knife.

5. Install the rotary knife. For installing the rotary knife, reverse the removing procedure.

**Important**
The tightening torque for the knife mounting bolt is 67 - 85 N-m (683.20 - 866.75 kgf-cm).
Grinding of Rotary Knife

![Danger]

The rotary knife is an edged tool. Take extra care in handling since they could cut your hands or legs.

![Danger]

If the rotary knife becomes worn or damaged, a crack or tear between the sail and flat part will result. Take extra care since a broken piece of the rotary knife may fly off while it is rotating.

![Warning]

Using an imbalanced rotary knife may cause vibrations, resulting in damage to the machine.

![Caution]

When grinding the rotary knife, be sure to wear safety glasses and gloves.

When the edge of the rotary knife becomes rounded and no longer cuts well, sharpen the worn cutting edge with a grinder or sander. If the edge of the rotary knife becomes chipped or thin, replace it with a new one. The criteria for grinding the rotary knife is described below.

1. When, after grinding, the width of the rotary knife to the blade edge is 2/3 or more of the total width of a new knife
2. When, after grinding, the blade base of the rotary knife does not reach the sail
3. When the thinnest part of the rotary knife has a thickness of 1/3 or more of the thickness of a new knife
Follow the steps below to grind the rotary knife.
1. Remove the rotary knife from the machine.
   (See "Change of Rotary Knife" (Page 5-10).)

   **Important**
   Grind only the top surface of the edge, and be sure to maintain the original angle. By equally grinding the left and right ends of the rotary knife, it can be sharpened without becoming imbalanced.

2. Grind the cutting edge of the rotary knife with a grinder.
   Grind so that the edge angle is 30 - 40 degrees, the point thickness is 0.5 - 1.0 mm, and the blade base does not reach the sail.

3. Balance the rotary knife. (See "Balancing of Rotary Knife" (Page 5-15).)
4. If it is not balanced, repeat steps 2. - 3.

### Balancing of Rotary Knife

**Danger**
The rotary knife is an edged tool. Take extra care in handling since they could cut your hands or legs.

**Danger**
Using an imbalanced rotary knife may cause vibrations, resulting in damage to the machine.

**Caution**
When touching edged tools, wear gloves, since they could cut your hands.

When the rotary knife is worn asymmetrically, causing vibrations, or when it becomes dull or worn, remove the rotary knife from the machine and balance it.

Follow the steps below to balance the rotary knife.
1. Remove the rotary knife from the machine.
   (See "Change of Rotary Knife" (Page 5-10).)
2. Install the balancer equipment in an appropriate location.
3. Fit the hole at the center of the rotary knife onto the balancer equipment, and then balance the left and right ends so that the rotary knife is level.
Removing/Installing Tires

Front Tires

Follow the steps below to remove the front tires:
1. Loosen the bolts.

2. Securely place the jack beneath the jack-up point of the front left/right frame area, and then raise it until the tire lifts off the ground. (See "Jack-up Points" (Page 5-5).)
3. Remove the bolts.
4. Remove the tire from the wheel mounting seat.

Caution
Refer to the Tightening Torque table. Note that the Baroness product warranty may not apply to defects caused by incorrect or overtorque tightening, etc.

Important
Tighten the bolts in the tightening order (crosswise).

For installing the front tires, reverse the removing procedure.

Rear tire

Follow the steps below to remove the rear tire.
1. Loosen the bolts.

2. Securely place the jack beneath the jack-up point below the rear wheel motor, and then raise it until the tire lifts off the ground. (See "Jack-up Points" (Page 5-5).)
3. Remove the bolts.
4. Remove the tire from the wheel mounting base.

Caution
Refer to the Tightening Torque table. Note that the Baroness product warranty may not apply to defects caused by incorrect or overtorque tightening, etc.

Important
Tighten the bolts in the tightening order (diagonally).

For installing the rear tire, reverse the removing procedure.
Adjustment of Belt Tension

Caution
Be sure to stop the engine before adjusting the belts.

Important
Make sure that the belt has the specified amount of tension.

If the belt becomes slack due to frequent use, it may jump or slip.
In addition, if it is overtightened, it may wear prematurely.
If necessary, adjust it, and always check the belt for appropriate tension.

Fan Belt

Caution
Be sure to stop the engine before adjusting the belts.

For details on handling the engine, please refer to the separate Engine Operating Manual.

1. Press the middle of the belt with your finger to check the belt tension.
2. If the belt is too slack, loosen bolts A and B (that affix the alternator), and then move the alternator to adjust the tension.

Adjustment of Brake

Danger
Make sure that the brake wire is not cracked or damaged.

Important
If the brake is not sufficiently effective due to a wider clearance gap between the brake disc and the brake lining, adjust the clearance. The wire is used for fine adjustments.

Important
Adjust the brake with the brake lining.

The brake lining wear limit is 3.0 mm (0.12 in).
**Caution**

Make sure that the lever is maintained in the open position (neutral).

1. For each wheel, fully tighten the adjustment bolt on the brake disc side.

2. Reduce the clearance by loosening the lock nut, then tightening the adjustment nut. Tighten the adjustment nut until the brake lining contacts the friction surface of the disc.

**Danger**

Too narrow clearance gap between the brake disc and brake lining may cause heat generation and fire.

3. Loosen the adjustment nut to adjust the clearance gap between the brake disc and brake lining to about 0.2 mm (0.0079 in).

4. Securely place the jack beneath the jack-up point of the front left/right frame area, and then raise it until both tires lift off the ground.

5. Check that the disc rotates freely.

6. Fully tighten the lock nut while holding the adjustment nut in place.

7. With the brake pedal released, obtain a play of 1.0 mm (0.039 in) at the connection of the pedal and inner wire.

8. Use a wrench to loosen the lock nut and tighten it after making the adjustment with the adjustment bolt.

9. Link the left and right brake pedals.

10. Drive, and then check the following.

    - Make sure that heat is not generated in the brake area.
    - Make sure that the left and right brakes are equally effective.
It would be extremely dangerous and may result in an unexpected accident if the left and right brakes are not equally effective.

If the left and right brakes are not equally effective, make fine adjustments with the adjustment bolt on the brake disc side.

Break-in of Brakes

If the brake shoes or brake pads are worn, replace them with new ones.
Immediately after replacement, drive to break in the brakes if the effectiveness of the brakes is low.
While driving, lightly operate the brakes to break in the contact areas.

Adjusting the Neutral Position of the Piston Pump

Make sure not to touch rotating tires.

When adjusting the neutral position, pay close attention to abrupt start of the machine.
Place the jacks beneath the jack-up points, and then lift the machine until all the tires get off the ground.

If the machine moves forward or backward while the traveling pedals are released, they are not set to the neutral position.
Follow the steps below to make adjustments:
1. Stop the engine.
2. Place the jacks beneath the jack-up points, and then lift the machine off the ground.
3. Make sure that no tires come into contact with the jack stand.
4. Pull up the forward/backward adjustment lever, and then slide the seat backward completely.
5. While pulling up the lever, tilt the seat upward.
6. Start the engine, and rev it up to the maximum rpm.
7. Set the 2WD/4WD selector switch to the "2WD" position.
8. Adjust the neutral position.
   [1] If the front tires rotate forward, loosen the lock nuts, and then turn the neutral adjustment rod to shorten it.
[2] If the front tires rotate in reverse, loosen the lock nuts, and then turn the neutral adjustment rod to extend it.

9. Find the position where the front wheels stop, and then tighten the lock nuts.

**Change of Fuse**

**Fuse Box**

The fuse box includes spare fuses and tools.

The machine uses a mini fuse for automobiles. Replace an old fuse with a new fuse of the specified capacity.

**Fuse Box**

<table>
<thead>
<tr>
<th>Fuse Box_001</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Fuse box</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fuse Box_002</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 5 A Timer</td>
</tr>
<tr>
<td>B 5 A Thermo-start lamp</td>
</tr>
<tr>
<td>C 5 A Tachometer, fuel gauge, water temperature gauge, charge lamp, oil pressure (engine oil pressure) lamp, water temperature buzzer, hydraulic oil buzzer</td>
</tr>
<tr>
<td>D 15 A Relay box 1, differential lock, (assist switch)</td>
</tr>
<tr>
<td>E 15 A Relay box 2, 2WD/4WD selection, #4/#5 proximity switches</td>
</tr>
<tr>
<td>F - -</td>
</tr>
<tr>
<td>G 5 A Timer</td>
</tr>
<tr>
<td>H 5 A Alternator</td>
</tr>
<tr>
<td>I 5 A Fuel pump, safety relay, stop solenoid</td>
</tr>
<tr>
<td>J 5 A Relay (starter)</td>
</tr>
<tr>
<td>K 5 A</td>
</tr>
<tr>
<td>L 5 A Spare</td>
</tr>
<tr>
<td>M 15 A</td>
</tr>
<tr>
<td>N 15 A</td>
</tr>
<tr>
<td>O 15 A Fuse removal tool</td>
</tr>
</tbody>
</table>

**Fusible Link**

Fuse capacity of the fusible link is 50 A.
Long-Term Storage

Before Long-Term Storage

- Remove dirt, grass clippings, debris, oil stains etc. completely.
- Supply oil and apply grease to appropriate parts.
- Remove the battery.
EU Declaration of Conformity

Product Identification
Product: Ride-on lawn mower
Make: BARONESS
Type: GM2800
Version(s): B

Starting Serial No.: 12056

Measured Sound Power Level:
LWA 102.51 dB
LWA 105 dB

Guaranteed Sound Power Level:
Manufacturer: Kyoeisha Co., Ltd.
Address: 1-26 Miyuki-cho, Toyokawa, Aichi-pref, Japan

Conforms to the following Directives
2006/42/EC: Machinery (MD)
2004/108/EC: Electromagnetic compatibility (EMC)
2000/14/EC: Noise emissions from outdoor equipment

We have been designed and manufactured using the following specifications
ISO 5395-1: 2013 (2006/42/EC)
ISO 5395-3: 2013 (2006/42/EC)

Technical Documentation
Keeper’s Name: Kyoeisha Co., Ltd.
Keeper’s Address: 1-26 Miyuki-cho, Toyokawa, Aichi- pref, Japan

Compiler of the technical file (2006/42/EC)
Name: Kyoeisha U.K.Ltd.
Address: Unit 5 Hatch Industrial Park Grewell Road, Basingstoke Hampshire RG24 7NG, the United Kingdom

Conformity assessment procedures
Internal production control: Module A (2006/42/EC)
EC-type examination: Module B (2000/14/EC)
Internal control of production with assessment of technical documentation and periodical checking (2000/14/EC)

Involved Notified Body (2000/14/EC)
Name: SNCH
Address: 11, Route de Sandweiler 5230 Sandweiler Luxembourg

Place: Japan
Date: 20 July, 2015 (20 / 07 / 2015)
Signature: [Signature]
Name: Kimiya Kaneko
Position: Quality Dept. Manager

Déclaration de conformité UE

Identification du produit
Produit: Tondeuse à gazon autopropulsée
Fabriquant: BARONESS
Type: GM2800
Version(s): B

Numéro de série de début: 12056
Niveau de puissance acoustique mesuré: LWA 102.51 dB
Niveau de puissance acoustique garantie: LWA 105 dB
Fabricant Nom: Kyoeisha Co., Ltd.
Adresse: 1-26, Miyuki-cho, Toyokawa, préfecture d’Aichi, Japon

Conforme aux directives suivantes:
2006/42/CE: Machine (MD)
2004/108/CE: Compatibilité électromagnétique (CEM)
2000/14/CE: Emissions sonores de l’équipement de plein air

Conception et fabrication en respect des spécifications suivantes:
ISO 5395-1: 2013 (2006/42/CE)

Fiche technique
Marque: Kyoeisha Co., Ltd.
Adresse de la marque: 1-26, Miyuki-cho, Toyokawa, préfecture d’Aichi, Japon

Compiler de la fiche technique (2006/42/CE)
Nom: Kyoeisha U.K. Ltd.
Adresse: Unit 5 Hatch Industrial Park Grewell Road, Basingstoke Hampshire RG24 7NG, Royaume-Uni

Procedures d’évaluation de la conformité
Contrôle de production interne: module A (2006/42/CE)
Examen de type CE: module B (2000/14/CE)
Contrôle interne de la production avec évaluation de la fiche technique et vérification périodique (2000/14/CE)

Organisme notifié impliqué (2000/14/CE)
Nom: SNCH
Adresse: 11, Route de Sandweiler 5230 Sandweiler, Luxembourg
N° de certificat/rapport: SNCH*2000/14*2005/88*1983*01/TCGM2800-01

EU – 1
Declaración de conformidad de la UE

Identificación del producto
Producto: Cortacésped con conductor
Marca: BARONESS
Tipo: GM2800
Versión: B
N.º de serie inicial: 12056
Nivel de potencia sonora medido: Lwa 102.51 dB
Nivel de potencia sonora garantizado: Lwa 105 dB
Fabricante Nombre: Kyoeisha Co., Ltd.
Dirección: 1-26 Miyuki-cho, Toyokawa, Aichi-pref., Japón

Cumple las siguientes Directivas:
2006/42/CE Maquinaria (MD)
2004/108/CE Compatibilidad electromagnética (EMC)
2000/14/CE Emisiones sonoras de máquinas de uso al aire libre

Se ha diseñado y fabricado utilizando las siguientes especificaciones
ISO 5395-1 : 2013 (2006/42/CE)

Documentación técnica
Nombre del responsable: Kyoeisha Co., Ltd.
Dirección del responsable: 1-26 Miyuki-cho, Toyokawa, Aichi-pref., Japón

Compilador del archivo técnico (2006/42/CE)
Nombre: Kyoeisha U.K. Ltd.
DIRECCIÓN: Unit 5 Hatch Industrial Park Greywell Road, Basingstoke Hampshire RG24 7NG, Reino Unido

Procedimientos de evaluación de conformidad
Control de fabricación interno: Módulo A (2006/42/CE)
Control interno de fabricación con evaluación de documentación técnica y comprobaciones periódicas (2000/14/CE)

Organismo notificado implicado (2000/14/CE)
Nombre: SNCH
DIRECCIÓN: 11, Route de Sandweiler 5230 Sandweiler Luxemburgo
Certificado/Informe n.º: SNCH*2000/14*2005/88*1983*01/TCGM2800-01

EU-Konformitätserklärung

Produktbeschreibung
Produkt: Aufsitzrasenmäher
Marke: BARONESS
Modell: GM2800
Version(en): B
Startseriennummer: 12056

Vermessener Schalleistungspegel: Lwa 102.51 dB
Garantieter Schalleistungspegel: Lwa 105 dB
Hersteller Name: Kyoeisha Co., Ltd.
Adresse: 1-26 Miyuki-cho, Toyokawa, Aichi-pref., Japan

Entspricht den folgenden Richtlinien
2006/42/EG Maschinenrichtlinie
2004/108/EG Elektromagnetische Verträglichkeit (EMV)
2000/14/EG Geräuschemission von im Freien betriebenen Geräten

Unter Anwendung der folgenden Bestimmungen entwickelt und hergestellt
ISO 12100 : 2010 (2006/42/EG)
ISO 5395-1 : 2013 (2006/42/EG)
ISO 5395-3 : 2013 (2006/42/EG)

Technische Dokumentation
Name des Halters: Kyoeisha Co., Ltd.
Adresse des Halters: 1-26 Miyuki-cho, Toyokawa, Aichi-pref., Japan

Technische Unterlagen erstellt von (2006/42/EG)
Name: Kyoeisha U.K.Ltd.
Adresse: Unit 5 Hatch Industrial Park Greywell Road,Basingstoke Hampshire RG24 7NG, Großbritannien

Konformitätsbewertungsverfahren
Interne Produktionskontrolle : Modul A (2006/42/EG)
EG-Baumusterprüfung : Modul B (2004/108/EG)
Interne Produktionskontrolle mit Bewertung der technischen Unterlagen und regelmäßiger Überprüfung (2000/14/EG)

Beteiligte benannte Stelle (2000/14/EG)
Name: SNCH
Adresse: 11, Route de Sandweiler 5230 Sandweiler Luxemburgo

Bescheinigung/Bericht Nr.: SNCH*2000/14*2005/88*1983*01/TCGM2800-01